



# COAL CONCEPTS PROFICIENCY TESTING

## GENERAL ANALYSIS SAMPLE

### REPORT – ONE HUNDRED AND FIFTY-SEVEN

Revision 00

## Final report

DATE ISSUED 30 NOVEMBER 2024

### PARTICIPANT

LABORATORY CODE: a

R BABOOLAL (SCHEME MANAGER)

SCHEME COORDINATOR: S MAMABOLO

*Disclaimer: Opinions and interpretations expressed herein are outside the scope of SANAS accreditation*  
*\*Moisture in the analysis sample is not included in the SANAS schedule of accreditation as robust statistics cannot be applied.*  
*Chlorine, Fluorine, Quick ash, ASTM ash and ASTM Volatiles is not included in the scope of accreditation.*

THINKING QUALITY, QUALITY THINKING

REGISTRATION NUMBER: 2006/149731/23 (RMB INDUSTRIAL STATIONERS cc t/a)

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**EXECUTIVE SUMMARY**

1. One hundred and fifteen samples were sent to participants with 114 results submitted timeously.
2. The total number of outliers detected were as follows (dry base):
  - ISO Ash x 3
  - Quick Ash x 1
  - Volatile matter x 7
  - Calorific value x 1
  - Total Sulphur x 1
  - Phos x 2
  - Nitrogen x 1
  - Def x 2, Soft x 2
3. Chlorine, Fluorine, ASTM Ash, ASTM Volatile Matter participants were insufficient to apply robust statistical calculations.
4. Trending for your laboratory is as follows:

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Dear Participant

**RE: PROFICIENCY TESTING RESULTS FOR THE MONTH OF NOVEMBER 2024**

Thank you for your participation in the Coal Concepts proficiency testing scheme.

Your laboratory code is as per the cover page.

All results are totally confidential. Any results in ***Bold, Italics and Underlined*** are outliers. Where applicable, the most extreme outliers have been eliminated from calculations using the Grubbs estimate for outliers. Robust statistics has been applied where possible. Analysis results have been reported on air dry and dry base. The dry base results have been used to calculate the z-scores. The z-scores are calculated by subtracting the average from the participant result then dividing by the standard deviation. **Note: All decimals are carried in the z-score calculation and only rounded off at the end of the calculation.**

Please take note of the following:

1. Z-scores between -1 and +1 is deemed acceptable
2. Z-scores between -2 and -3 should serve as a warning that the analysis result could get worse
3. Z-scores between +2 and +3 should also serve as a warning that analysis results could get worse.
4. Z- scores lower than -3 and exceeding +3 should warrant an investigation
5. Compare your result to the robust average which will be the assigned value. The measurement of uncertainty (UoM) of the results is also stated.
6. Z-Score calculations can be made available upon request

The Coal Concepts scheme adheres to the requirements of ISO/IEC 17043:2010 – Conformity assessment – General requirements for proficiency testing.

Statistical analysis has been carried out using ISO/IEC 13528:2022-Statistical methods for use in proficiency testing by interlaboratory comparisons.

Please find results attached together with Z-score trends.

Best Regards

R Baboolal

LIST OF PARTICIPANTS

|                                                       |                                                              |
|-------------------------------------------------------|--------------------------------------------------------------|
| Afisam Dudfield                                       | Leon Testing Pakistan                                        |
| Africoal                                              | Mafube Coal                                                  |
| AH Knight                                             | Matil Lab                                                    |
| Anglo Coal Goedehoop North Plant                      | Mfulawamanzi                                                 |
| Anglo Greenside (Thungela)                            | Ministry of Energy and Mineral Resources - Kingdom of Jordan |
| Anglo Landau                                          | Mitra SK Morocco                                             |
| Aqua Specto                                           | Mitra SK Richards Bay                                        |
| ArcelorMittal VDP                                     | ML Coal                                                      |
| Best enough - NCC                                     | Moruple                                                      |
| Best enough - 2 Seam                                  | Msobo Coal                                                   |
| Best enough Laboratory -Springs                       | Nelson Mandela University                                    |
| Bestech Anthra Siding- Ermelo                         | Noko Analytical laboratories (Witbank)                       |
| Bestech Madini Mining Witbank                         | Noko Ntshovelo                                               |
| Bestech Vlakfontein Mine-Ogies                        | Noko Piet Retief                                             |
| Bestech Zomhlaba Resource Mine -Delmas                | Noko Welgemeend                                              |
| Botswana Power Corp - B Power Station                 | PJS Laboratory services Middelburg                           |
| Botswana Power Corporation - A Power Station          | PJS Laboratory services Salaria                              |
| Bureau Veritas Beira                                  | PJS Laboratory services Weostellen                           |
| Bureau Veritas Inspectorate Laboratories - Alton      | PSB Analytical Services Netherlands                          |
| Bureau Veritas Inspectorate Laboratories - Middelburg | Profi Lab Doo                                                |
| BV Matola Laboratory                                  | RC Inspection                                                |
| BV Moatize                                            | Richards Bay Minerals                                        |
| BV Nacala                                             | Ronewa Lab                                                   |
| BVTISA -PTA                                           | Ronewa Lab Gugulethu                                         |
| Castle Peak Power Station                             | Ronewa Wescoal                                               |
| CCIC Richards Bay                                     | Rovumo (Pty) Ltd                                             |
| celiklerholding                                       | SA Labs Ihtuba – Kangra                                      |
| Coal Concepts Richards Bay Lab                        | SA Labs Ihtuba – Khanye                                      |
| Cotecna Phola                                         | SA Labs Ihtuba – Middelburg                                  |
| Cotecna Lurco                                         | SA Labs Ihtuba – Ruvuma Coal LTD                             |
| Cotecna Middelburg                                    | SA Labs Ihtuba – Ukufisa                                     |
| Cotecna Mimosa                                        | SA Labs Ihtuba – ZAC                                         |
| Cotecna Nasonti                                       | SABS CSIR                                                    |
| Cotecna Richards Bay Lab                              | SABS Richards Bay                                            |
| Department of Energy Philippines                      | SABS Secunda                                                 |
| Dicem                                                 | SABS Uitkomst                                                |
| Ensayos técnicos Labmin SRL-Peru                      | Sappi                                                        |
| Eskom Arnot                                           | SB Mining Solutions - Belfast                                |
| Eskom Duvha                                           | Seriti Kriel Colliery                                        |
| Eskom Erid                                            | Seriti New Denmark                                           |
| Eskom Erid TGA                                        | Seriti New Vaal                                              |
| Eskom Grootvlei                                       | Sibonisiwe Clewer                                            |
| Eskom Hendrina                                        | Sibonisiwe Middelburg                                        |
| Eskom Kendal                                          | Sibonisiwe Ritvlei                                           |
| Eskom Kriel                                           | Sibonisiwe WCP                                               |
| Eskom Lethabo                                         | Sibonisiwe-Arnot OPCO                                        |
| Eskom Majuba                                          | Sibonisiwe-Piet Retief                                       |
| Eskom Matimba                                         | Siboniswe Mzimkhulu                                          |
| Eskom Matla                                           | Siza Arnotopco                                               |
| Eskom Medupi                                          | Siza Dundee Lab                                              |
| Eskom Tutuka                                          | Siza Coal Services - Botswana                                |
| Exxaro Grootegeeluk                                   | Siza Coal Services - Kinross                                 |
| Exxaro Matla                                          | Siza Labs sampling & Testing Pty Ltd Zambezi Gas & Coal Mine |
| Fauji Fertilizer Bin Qasim Limited                    | Siza Leeuwpan                                                |
| G & W Minerals                                        | Siza Middelburg                                              |
| General Directorate of Coal Enterprises of Turkey     | Siza Minerals Lab - Gaborone                                 |
| Genet Inyanda                                         | Siza NBC                                                     |
| Genet Klipfontein                                     | Siza Sasol                                                   |
| Geoscience                                            | Siza WestCoal                                                |
| Glencore Boshoeck                                     | South 32 Khutala                                             |
| Glencore Lion                                         | SPTE                                                         |
| Glencore Rustenburg                                   | Turkey ELI                                                   |
| Glencore Wonderkop                                    | UAS Areshomeng                                               |
| Gölbası Kimya Laboratuvarı İşletme Müdürlüğü          | UAS Botswana                                                 |
| HighVeld Lab                                          | UAS Main Lab                                                 |
| Hwange Colliery                                       | UAS Overlooked                                               |
| Idwala Lime                                           | UAS Sasol SCS                                                |
| Imbally (Pty) Ltd                                     | UAS Sudor                                                    |
| Imbally (Pty) Ltd Mooiplaats Colliery                 | UAS Twistdraai                                               |
| İZMİR KÖMÜR LABORATUVARI                              | UAS Witbank                                                  |
| Jindal Kiepersol                                      | UIS                                                          |
| Jindal Mozambique                                     | Universal Geominerals Sdn Bhd - Malaysia                     |
| Jugoinspekt Belgrade AD Serbia                        | Vitroviaan                                                   |
| Laboratory for solid fuels-Mining Institute Belgrade  | Yatagan Termik                                               |
| Labrite Lab                                           | Yildiz Labs - Turkey                                         |
| Labrite highveld                                      | Ykenerji                                                     |

1. TYPE OF SAMPLE USED

The coal used in this proficiency testing round was bituminous coal.

2. PREPARATION OF SAMPLE

Approximately 1000kg’s of coal with an approximate top size of 50mm was sourced. This was crushed to -4mm using a jaw crusher. The -4mm material was reduced to -212um using a cross-beat pulveriser. The 212 material was sieved using a 212um screen. Any +212um material was pulverised and sieved until all material passed through the 212-um sieve.  
All the -212um material was then mixed in a mixing drum for 4 hours.

3. HOMOGENEITY CHECK

There were approximately 115 participants in this round, 10 portions of sample were randomly extracted. These were packaged in their final form i.e. in 200ml sample bottles. The bottles were labelled 1 to 10. The results were as follows:

| SAMPLE NO.                        | TEST PORTION 1 | TEST PORTION 2 | sample av (Xt) | range (Wt) | range sqd |
|-----------------------------------|----------------|----------------|----------------|------------|-----------|
| 1                                 | 14,82          | 15,17          | 15,00          | 0,35       | 0,1225    |
| 2                                 | 14,97          | 15,17          | 15,07          | 0,20       | 0,0400    |
| 3                                 | 14,95          | 15,02          | 14,99          | 0,07       | 0,0049    |
| 4                                 | 14,99          | 15,11          | 15,05          | 0,12       | 0,0144    |
| 5                                 | 15,02          | 15,09          | 15,06          | 0,07       | 0,0049    |
| 6                                 | 15,00          | 15,05          | 15,03          | 0,05       | 0,0025    |
| 7                                 | 15,06          | 15,10          | 15,08          | 0,04       | 0,0016    |
| 8                                 | 15,14          | 15,23          | 15,19          | 0,09       | 0,0081    |
| 9                                 | 15,00          | 15,24          | 15,12          | 0,24       | 0,0576    |
| 10                                | 14,88          | 15,23          | 15,06          | 0,35       | 0,1225    |
| GENERAL AVERAGE                   |                |                | 15,06          |            |           |
| STANDARD DEVIATION                |                |                | 0,059          |            |           |
| WITHIN SAMPLE STANDARD DEVIATION  |                |                | 0,138          |            |           |
| BETWEEN SAMPLE STANDARD DEVIATION |                |                | 0,078          |            |           |

The between sample standard deviation must be  $\leq 0.3 \times \sigma$

( $\sigma$  = std deviation for the proficiency assessment)

$\sigma = 0.303$  was used, which is the repeatability for ISO ash (Ash % > 10%)  
Hence =  $0.303 \times 0.3 = 0.091$

Since  $0.078 < 0.091$  the samples are homogenous.

4. STABILITY CHECK

Samples were retained for sales as reference material. Ten of them were randomly chosen for stability testing. In order for the proficiency testing samples to be declared stable the general average from the homogeneity check and that of the stability check the difference in the general average should not differ by more than 0.3 X precision.

This test has been carried out about a month after the samples were received by the participating laboratories.

| SAMPLE NO.                        | TEST PORTION 1 | TEST PORTION 2 | sample av (Xt) | range (Wt) | range sqd |
|-----------------------------------|----------------|----------------|----------------|------------|-----------|
| 1                                 | 15,02          | 15,11          | 15,07          | 0,09       | 0,0081    |
| 2                                 | 15,06          | 15,25          | 15,16          | 0,19       | 0,0361    |
| 3                                 | 15,13          | 15,00          | 15,07          | 0,13       | 0,0169    |
| 4                                 | 15,12          | 14,96          | 15,04          | 0,16       | 0,0256    |
| 5                                 | 15,20          | 15,15          | 15,18          | 0,05       | 0,0025    |
| 6                                 | 15,02          | 15,15          | 15,09          | 0,13       | 0,0169    |
| 7                                 | 15,18          | 15,23          | 15,21          | 0,05       | 0,0025    |
| 8                                 | 15,15          | 15,32          | 15,24          | 0,17       | 0,0289    |
| 9                                 | 15,20          | 15,24          | 15,22          | 0,04       | 0,0016    |
| 10                                | 15,13          | 15,07          | 15,10          | 0,06       | 0,0036    |
| GENERAL AVERAGE                   |                |                | 15,13          |            |           |
| STANDARD DEVIATION                |                |                | 0,072          |            |           |
| WITHIN SAMPLE STANDARD DEVIATION  |                |                | 0,084          |            |           |
| BETWEEN SAMPLE STANDARD DEVIATION |                |                | 0,040          |            |           |

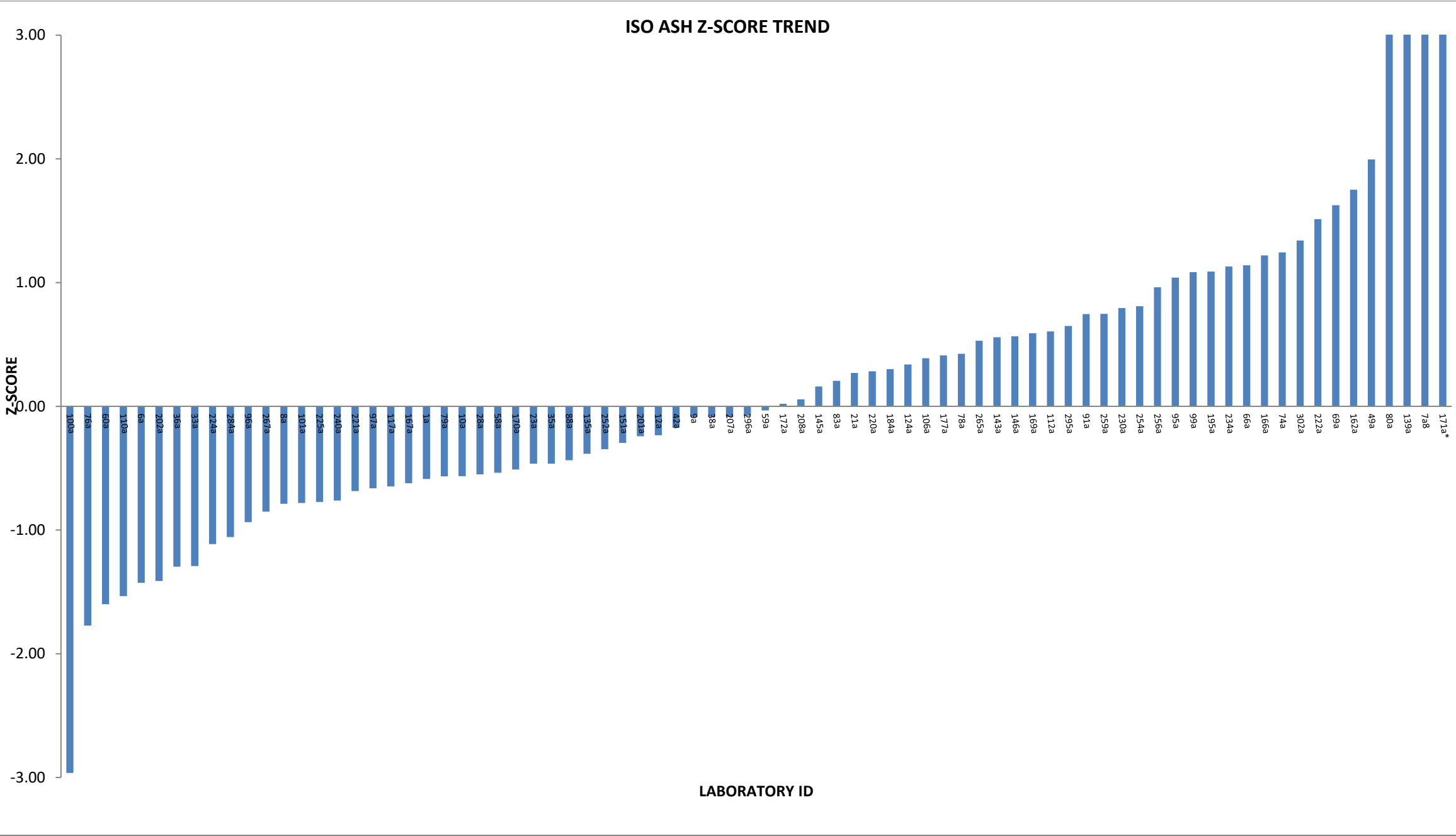
(σ = 0. was used)

For this report  $0.3 \times 0.303 = 0.091$

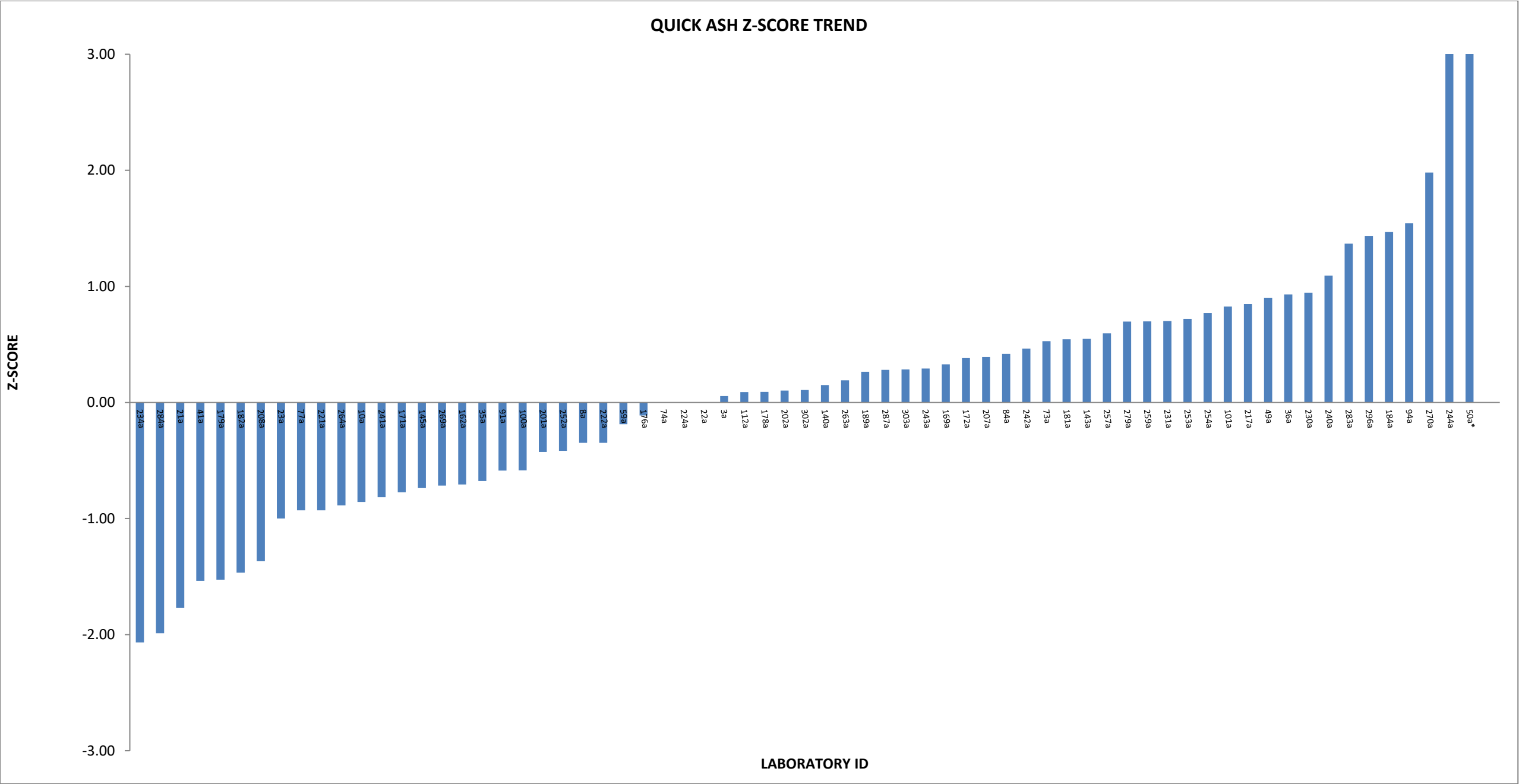
Absolute value of  $(15.13 - 15.06) = 0.070$

Since  $0.070 < 0.091$  the proficiency testing samples were stable

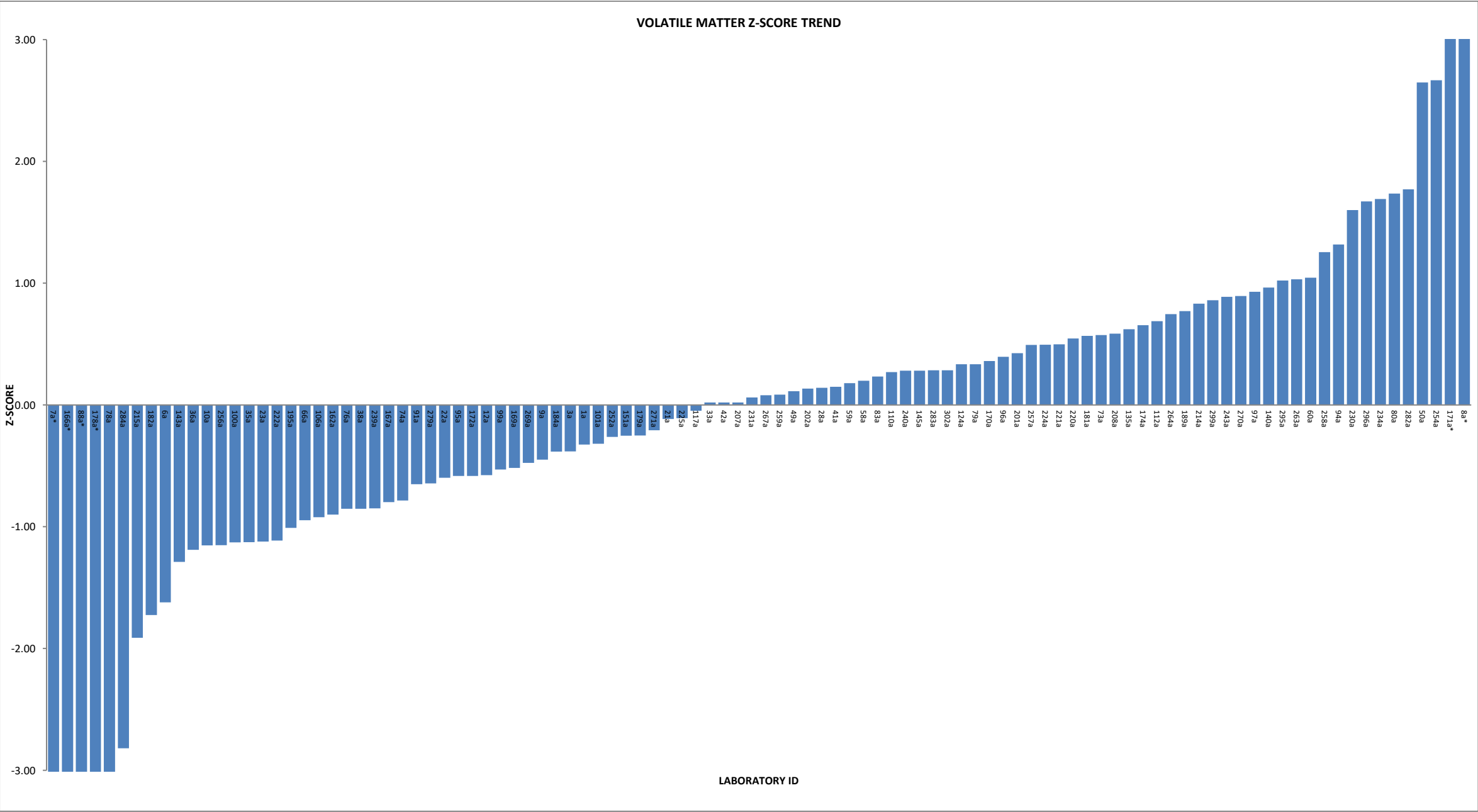
| COAL CONCEPTS - PROFICIENCY TESTING - NOVEMBER 2024 |              |                                    |              |              |                    |
|-----------------------------------------------------|--------------|------------------------------------|--------------|--------------|--------------------|
| ANALYTICAL PARAMETER: ISO ASH (%)                   |              |                                    |              |              |                    |
|                                                     | LAB ID       | MOISTURE IN ANALYSIS<br>SAMPLE (%) | AIR DRY (%)  | DRY BASE (%) | Z-SCORE (DRY BASE) |
|                                                     | 1a           | 3,39                               | 15,05        | 15,58        | -0,59              |
|                                                     | 6a           | 3,01                               | 14,96        | 15,42        | -1,43              |
|                                                     | <u>7a8</u>   | 2,63                               | <u>17,28</u> | <u>17,74</u> | <u>11,22</u>       |
|                                                     | 8a           | 2,26                               | 15,19        | 15,54        | -0,79              |
|                                                     | 9a           | 3,00                               | 15,20        | 15,67        | -0,08              |
|                                                     | 10a          | 3,03                               | 15,11        | 15,58        | -0,56              |
|                                                     | 12a          | 3,47                               | 15,10        | 15,64        | -0,23              |
|                                                     | 21a          | 3,40                               | 15,20        | 15,73        | 0,27               |
|                                                     | 23a          | 3,53                               | 15,05        | 15,60        | -0,46              |
|                                                     | 28a          | 2,79                               | 15,15        | 15,58        | -0,55              |
|                                                     | 33a          | 3,10                               | 14,97        | 15,45        | -1,29              |
|                                                     | 35a          | 3,21                               | 15,10        | 15,60        | -0,46              |
|                                                     | 36a          | 2,90                               | 15,00        | 15,45        | -1,30              |
|                                                     | 38a          | 3,00                               | 15,20        | 15,67        | -0,08              |
|                                                     | 42a          | 2,90                               | 15,20        | 15,65        | -0,17              |
|                                                     | 49a          | 3,31                               | 15,52        | 16,05        | 2,00               |
|                                                     | 58a          | 2,87                               | 15,14        | 15,59        | -0,54              |
|                                                     | 59a          | 3,25                               | 15,17        | 15,68        | -0,03              |
|                                                     | 60a          | 3,20                               | 14,90        | 15,39        | -1,60              |
|                                                     | 66a          | 2,86                               | 15,44        | 15,89        | 1,14               |
|                                                     | 69a          | 2,40                               | 15,60        | 15,98        | 1,63               |
|                                                     | 74a          | 2,60                               | 15,50        | 15,91        | 1,24               |
|                                                     | 76a          | 3,00                               | 14,90        | 15,36        | -1,77              |
|                                                     | 78a          | 2,56                               | 15,36        | 15,76        | 0,43               |
|                                                     | 79a          | 3,22                               | 15,08        | 15,58        | -0,57              |
|                                                     | 80a          | 2,97                               | 15,77        | 16,25        | 3,09               |
|                                                     | 83a          | 3,01                               | 15,25        | 15,72        | 0,21               |
|                                                     | 88a          | 2,60                               | 15,20        | 15,61        | -0,44              |
|                                                     | 91a          | 3,30                               | 15,30        | 15,82        | 0,74               |
|                                                     | 95a          | 3,00                               | 15,40        | 15,88        | 1,04               |
|                                                     | 96a          | 3,25                               | 15,01        | 15,51        | -0,94              |
|                                                     | 97a          | 2,79                               | 15,13        | 15,56        | -0,66              |
|                                                     | 99a          | 3,05                               | 15,40        | 15,88        | 1,09               |
|                                                     | 100a         | 2,79                               | 14,72        | 15,14        | -2,96              |
|                                                     | 101a         | 3,49                               | 15,00        | 15,54        | -0,78              |
|                                                     | 106a         | 2,90                               | 15,30        | 15,76        | 0,39               |
|                                                     | 110a         | 2,95                               | 14,95        | 15,40        | -1,53              |
|                                                     | 112a         | 3,27                               | 15,28        | 15,80        | 0,61               |
|                                                     | 117a         | 3,00                               | 15,10        | 15,57        | -0,65              |
|                                                     | 124a         | 3,16                               | 15,25        | 15,75        | 0,34               |
|                                                     | 135a         | 3,30                               | 15,10        | 15,62        | -0,38              |
|                                                     | <u>139a</u>  | 2,90                               | <u>15,90</u> | <u>16,37</u> | <u>3,76</u>        |
|                                                     | 143a         | 2,71                               | 15,36        | 15,79        | 0,56               |
|                                                     | 145a         | 3,15                               | 15,22        | 15,72        | 0,16               |
|                                                     | 146a         | 3,10                               | 15,30        | 15,79        | 0,57               |
|                                                     | 151a         | 3,40                               | 15,10        | 15,63        | -0,30              |
|                                                     | 162a         | 2,54                               | 15,60        | 16,01        | 1,75               |
|                                                     | 166a         | 3,20                               | 15,40        | 15,91        | 1,22               |
|                                                     | 167a         | 2,90                               | 15,12        | 15,57        | -0,62              |
|                                                     | 169a         | 3,19                               | 15,29        | 15,79        | 0,59               |
|                                                     | 170a         | 2,77                               | 15,16        | 15,59        | -0,51              |
|                                                     | <u>171a*</u> | 3,05                               | <u>31,92</u> | <u>32,92</u> | <u>94,07</u>       |
|                                                     | 172a         | 2,61                               | 15,28        | 15,69        | 0,02               |
|                                                     | 177a         | 3,56                               | 15,20        | 15,76        | 0,41               |
|                                                     | 184a         | 2,80                               | 15,30        | 15,74        | 0,30               |
|                                                     | 195a         | 3,18                               | 15,38        | 15,89        | 1,09               |
|                                                     | 201a         | 4,10                               | 15,00        | 15,64        | -0,24              |
|                                                     | 202a         | 3,22                               | 14,93        | 15,43        | -1,41              |
|                                                     | 207a         | 3,00                               | 15,20        | 15,67        | -0,08              |
|                                                     | 208a         | 3,16                               | 15,20        | 15,70        | 0,06               |
|                                                     | 220a         | 3,67                               | 15,16        | 15,74        | 0,28               |
|                                                     | 221a         | 3,60                               | 15,00        | 15,56        | -0,68              |
|                                                     | 222a         | 2,90                               | 15,50        | 15,96        | 1,51               |
|                                                     | 224a         | 2,40                               | 15,11        | 15,48        | -1,11              |
|                                                     | 225a         | 3,50                               | 15,00        | 15,54        | -0,77              |
|                                                     | 230a         | 3,86                               | 15,22        | 15,83        | 0,79               |
|                                                     | 234a         | 3,10                               | 15,40        | 15,89        | 1,13               |
|                                                     | 240a         | 2,87                               | 15,10        | 15,55        | -0,76              |
|                                                     | 252a         | 3,15                               | 15,13        | 15,62        | -0,35              |
|                                                     | 254a         | 3,12                               | 15,34        | 15,83        | 0,81               |
|                                                     | 256a         | 3,29                               | 15,34        | 15,86        | 0,96               |
|                                                     | 259a         | 2,67                               | 15,40        | 15,82        | 0,75               |
|                                                     | 265a         | 3,06                               | 15,30        | 15,78        | 0,53               |
|                                                     | 267a         | 3,41                               | 15,00        | 15,53        | -0,85              |
|                                                     | 284a         | 2,53                               | 15,10        | 15,49        | -1,06              |
|                                                     | 295a         | 2,94                               | 15,34        | 15,80        | 0,65               |
|                                                     | 296a         | 3,52                               | 15,12        | 15,67        | -0,08              |
|                                                     | 302a         | 2,08                               | 15,60        | 15,93        | 1,34               |
| Number of results                                   | -            | 78                                 | 78           | 78           | -                  |
| OUTLIERS                                            | -            | -                                  | 3            | 3            | -                  |
| AVERAGE                                             | -            | 3,05                               | 15,21        | 15,69        | -                  |
| STD DEVIATION                                       | -            | -                                  | 0,19         | 0,18         | -                  |
| MEDIAN                                              |              |                                    | 15,20        | 15,67        | -                  |
| %RSD                                                | -            | -                                  | 1,25         | 1,17         | -                  |
| ROBUST AVERAGE                                      | -            | -                                  | 15,20        | 15,69        | -                  |
| ROBUST STD DEVIATION                                | -            | -                                  | 0,20         | 0,19         | -                  |
| UoM                                                 | -            | -                                  | 0,03         | 0,03         | -                  |



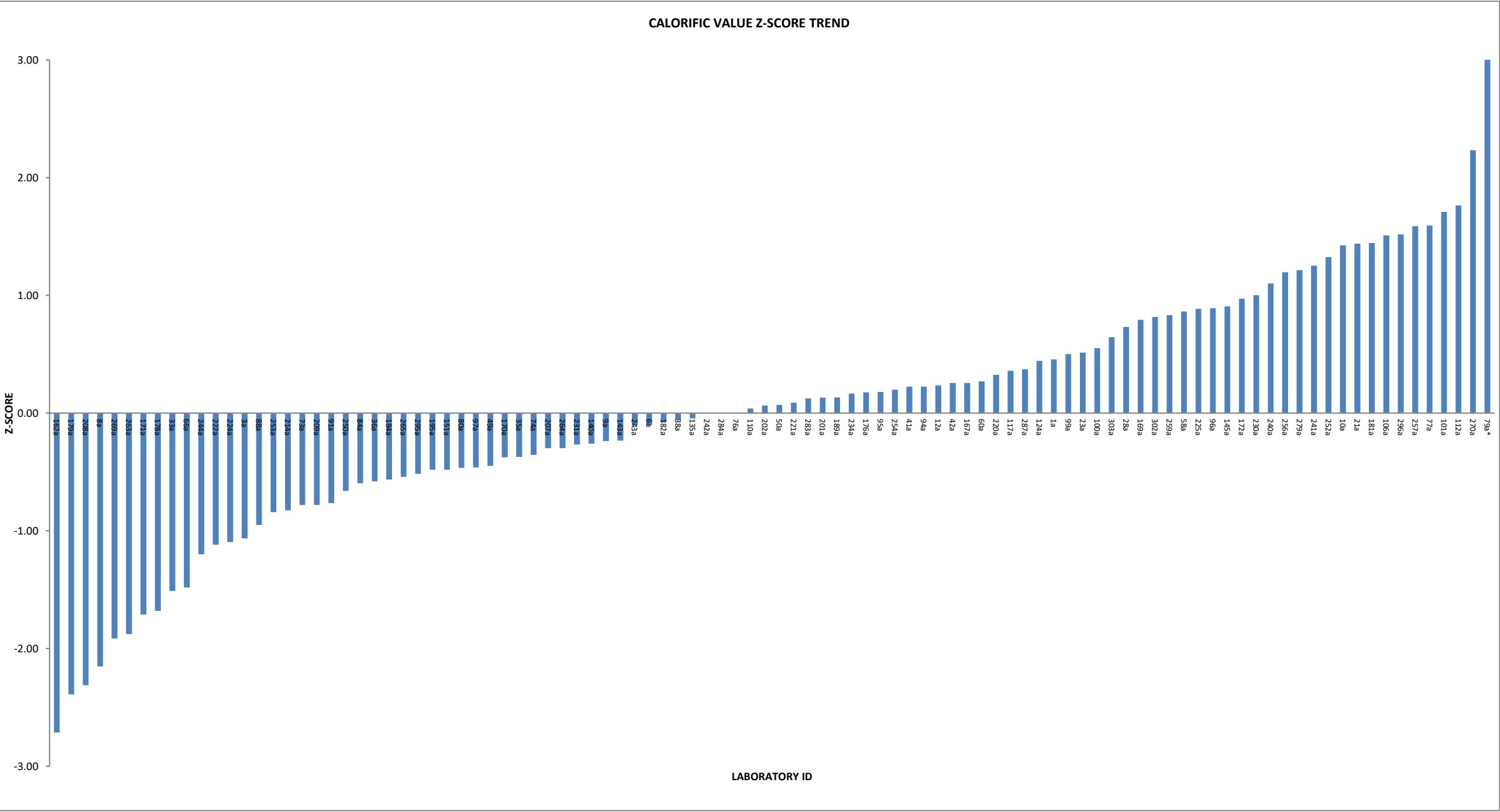
| COAL CONCEPTS - PROFICIENCY TESTING -NOVEMBER 2024 |             |                                    |              |              |                       |
|----------------------------------------------------|-------------|------------------------------------|--------------|--------------|-----------------------|
| ANALYTICAL PARAMETER: QUICK ASH (%)                |             |                                    |              |              |                       |
| LAB ID                                             | LAB ID      | MOISTURE IN<br>ANALYSIS SAMPLE (%) | AIR DRY (%)  | DRY BASE (%) | Z-SCORE (DRY<br>BASE) |
|                                                    | 3a          | 3,30                               | 15,20        | 15,72        | 0,06                  |
|                                                    | 8a          | 2,26                               | 15,30        | 15,65        | -0,35                 |
|                                                    | 10a         | 3,03                               | 15,10        | 15,57        | -0,86                 |
|                                                    | 21a         | 3,40                               | 14,90        | 15,42        | -1,77                 |
|                                                    | 22a         | 2,76                               | 15,28        | 15,71        | 0,00                  |
|                                                    | 23a         | 3,53                               | 15,00        | 15,55        | -1,00                 |
|                                                    | 35a         | 3,21                               | 15,10        | 15,60        | -0,68                 |
|                                                    | 36a         | 2,90                               | 15,40        | 15,86        | 0,93                  |
|                                                    | 41a         | 2,99                               | 15,00        | 15,46        | -1,54                 |
|                                                    | 49a         | 3,31                               | 15,33        | 15,85        | 0,90                  |
|                                                    | <u>50a*</u> | 3,88                               | <u>31,52</u> | <u>32,79</u> | <u>106,00</u>         |
|                                                    | 59a         | 3,25                               | 15,17        | 15,68        | -0,19                 |
|                                                    | 73a         | 3,07                               | 15,31        | 15,79        | 0,53                  |
|                                                    | 74a         | 2,60                               | 15,30        | 15,71        | 0,00                  |
|                                                    | 77a         | 3,60                               | 15,00        | 15,56        | -0,93                 |
|                                                    | 84a         | 3,66                               | 15,20        | 15,78        | 0,42                  |
|                                                    | 91a         | 3,30                               | 15,10        | 15,62        | -0,59                 |
|                                                    | 94a         | 3,50                               | 15,40        | 15,96        | 1,54                  |
|                                                    | 100a        | 2,79                               | 15,18        | 15,62        | -0,58                 |
|                                                    | 101a        | 3,49                               | 15,29        | 15,84        | 0,83                  |
|                                                    | 112a        | 3,27                               | 15,21        | 15,72        | 0,09                  |
|                                                    | 140a        | 2,95                               | 15,27        | 15,73        | 0,15                  |
|                                                    | 143a        | 2,71                               | 15,37        | 15,80        | 0,55                  |
|                                                    | 145a        | 3,15                               | 15,10        | 15,59        | -0,74                 |
|                                                    | 162a        | 2,54                               | 15,20        | 15,60        | -0,71                 |
|                                                    | 169a        | 3,19                               | 15,26        | 15,76        | 0,33                  |
|                                                    | 171a        | 3,05                               | 15,11        | 15,59        | -0,77                 |
|                                                    | 172a        | 2,61                               | 15,36        | 15,77        | 0,38                  |
|                                                    | 176a        | 3,07                               | 15,21        | 15,69        | -0,11                 |
|                                                    | 178a        | 2,70                               | 15,30        | 15,72        | 0,09                  |
|                                                    | 179a        | 3,00                               | 15,00        | 15,46        | -1,53                 |
|                                                    | 181a        | 3,15                               | 15,30        | 15,80        | 0,54                  |
|                                                    | 182a        | 3,06                               | 15,00        | 15,47        | -1,47                 |
|                                                    | 184a        | 2,80                               | 15,50        | 15,95        | 1,47                  |
|                                                    | 189a        | 3,19                               | 15,25        | 15,75        | 0,26                  |
|                                                    | 201a        | 4,10                               | 15,00        | 15,64        | -0,43                 |
|                                                    | 202a        | 3,22                               | 15,22        | 15,73        | 0,10                  |
|                                                    | 207a        | 3,00                               | 15,30        | 15,77        | 0,39                  |
|                                                    | 208a        | 3,16                               | 15,00        | 15,49        | -1,37                 |
|                                                    | 214a        | 2,20                               | 15,00        | 15,34        | -2,31                 |
|                                                    | 217a        | 3,07                               | 15,36        | 15,85        | 0,85                  |
|                                                    | 221a        | 3,60                               | 15,00        | 15,56        | -0,93                 |
|                                                    | 222a        | 2,90                               | 15,20        | 15,65        | -0,35                 |
|                                                    | 224a        | 2,40                               | 15,33        | 15,71        | 0,00                  |
|                                                    | 230a        | 3,86                               | 15,25        | 15,86        | 0,95                  |
|                                                    | 231a        | 2,80                               | 15,38        | 15,82        | 0,70                  |
|                                                    | 234a        | 3,10                               | 14,90        | 15,38        | -2,07                 |
|                                                    | 240a        | 2,87                               | 15,43        | 15,89        | 1,09                  |
|                                                    | 241a        | 3,07                               | 15,10        | 15,58        | -0,82                 |
|                                                    | 242a        | 3,07                               | 15,30        | 15,78        | 0,46                  |
|                                                    | 243a        | 2,90                               | 15,30        | 15,76        | 0,29                  |
|                                                    | 244a        | 3,07                               | 15,70        | 16,20        | 3,02                  |
|                                                    | 252a        | 3,15                               | 15,15        | 15,64        | -0,42                 |
|                                                    | 253a        | 3,07                               | 15,34        | 15,83        | 0,72                  |
|                                                    | 254a        | 3,12                               | 15,34        | 15,83        | 0,77                  |
|                                                    | 257a        | 3,20                               | 15,30        | 15,81        | 0,60                  |
|                                                    | 259a        | 2,67                               | 15,40        | 15,82        | 0,70                  |
|                                                    | 263a        | 2,80                               | 15,30        | 15,74        | 0,19                  |
|                                                    | 264a        | 3,00                               | 15,10        | 15,57        | -0,89                 |
|                                                    | 269a        | 2,85                               | 15,15        | 15,59        | -0,72                 |
|                                                    | 270a        | 3,30                               | 15,50        | 16,03        | 1,98                  |
|                                                    | 279a        | 3,30                               | 15,30        | 15,82        | 0,70                  |
|                                                    | 283a        | 3,33                               | 15,40        | 15,93        | 1,37                  |
|                                                    | 284a        | 2,53                               | 15,00        | 15,39        | -1,99                 |
|                                                    | 287a        | 3,08                               | 15,27        | 15,76        | 0,28                  |
|                                                    | 296a        | 3,52                               | 15,38        | 15,94        | 1,44                  |
|                                                    | 302a        | 2,08                               | 15,40        | 15,73        | 0,11                  |
|                                                    | 303a        | 3,21                               | 15,25        | 15,76        | 0,28                  |
| Number of results                                  | -           | 68                                 | 68           | 68           | -                     |
| OUTLIERS                                           | -           | -                                  | 1            | 1            | -                     |
| AVERAGE                                            | -           | 3,07                               | 15,23        | 15,71        | -                     |
| STD DEVIATION                                      | -           | -                                  | 0,16         | 0,16         | -                     |
| MEDIAN                                             |             |                                    | 15,26        | 15,73        |                       |
| %RSD                                               | -           | -                                  | 1,04         | 1,03         |                       |
| ROBUST AVERAGE                                     | -           | -                                  | 15,23        | 15,71        |                       |
| ROBUST STD DEVIATION                               | -           | -                                  | 0,17         | 0,17         |                       |
| UoM                                                |             |                                    | 0,03         | 0,03         |                       |



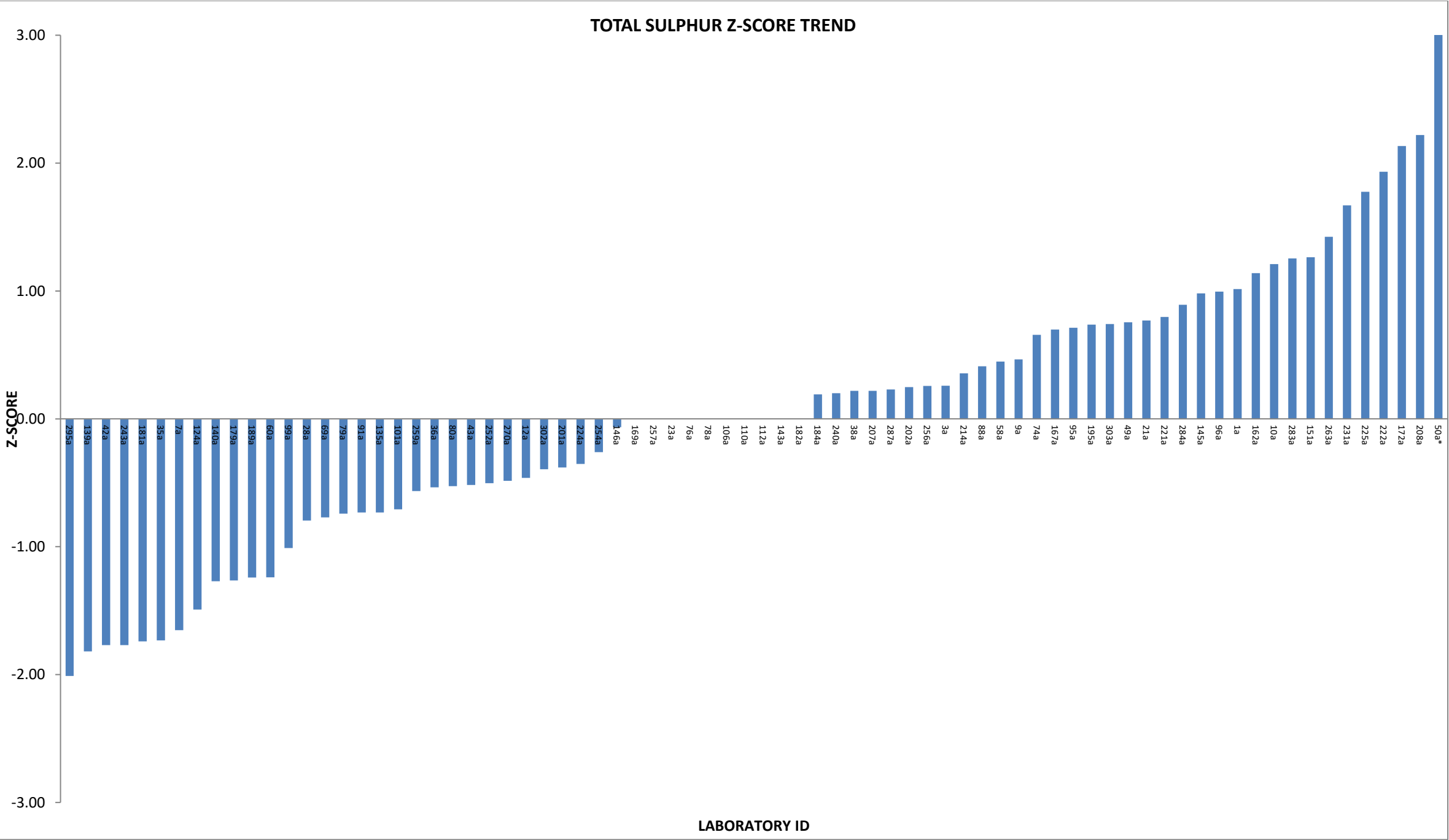
| COAL CONCEPTS - PROFICIENCY TESTING - NOVEMBER 2024 |              |                                    |              |              |                    |
|-----------------------------------------------------|--------------|------------------------------------|--------------|--------------|--------------------|
| ANALYTICAL PARAMETER: ISO VOLATILE MATTER (%)       |              |                                    |              |              |                    |
|                                                     | LAB ID       | MOISTURE IN ANALYSIS<br>SAMPLE (%) | AIR DRY      | DRY BASE     | Z-SCORE (DRY BASE) |
|                                                     | 1a           | 3,39                               | 27,40        | 28,36        | -0,02              |
|                                                     | 3a           | 3,30                               | 26,80        | 27,71        | -1,54              |
|                                                     | 6a           | 3,01                               | 27,20        | 28,04        | -0,76              |
|                                                     | <b>7a*</b>   | 2,63                               | <b>22,20</b> | <b>22,80</b> | <b>-13,12</b>      |
|                                                     | 8a           | 2,26                               | 28,50        | 29,16        | 1,86               |
|                                                     | <b>9a*</b>   | 3,00                               | <b>30,60</b> | <b>31,55</b> | <b>7,48</b>        |
|                                                     | 10a          | 3,03                               | 27,64        | 28,50        | 0,32               |
|                                                     | 12a          | 3,47                               | 26,82        | 27,78        | -1,38              |
|                                                     | <b>21a*</b>  | 3,40                               | <b>24,23</b> | <b>25,08</b> | <b>-7,74</b>       |
|                                                     | 22a          | 2,76                               | 27,28        | 28,05        | -0,74              |
|                                                     | 23a          | 3,53                               | 27,36        | 28,36        | -0,02              |
|                                                     | 28a          | 2,79                               | 27,47        | 28,26        | -0,26              |
|                                                     | 33a          | 3,10                               | 27,22        | 28,09        | -0,65              |
|                                                     | 35a          | 3,21                               | 27,50        | 28,41        | 0,10               |
|                                                     | 36a          | 2,90                               | 27,60        | 28,42        | 0,13               |
|                                                     | 38a          | 3,00                               | 27,20        | 28,04        | -0,77              |
|                                                     | 41a          | 2,99                               | 27,86        | 28,72        | 0,82               |
|                                                     | 42a          | 2,90                               | 28,20        | 29,04        | 1,59               |
|                                                     | 49a          | 3,31                               | 27,56        | 28,50        | 0,32               |
|                                                     | <b>50a*</b>  | 3,88                               | <b>11,70</b> | <b>12,17</b> | <b>-38,14</b>      |
|                                                     | 58a          | 2,87                               | 27,65        | 28,47        | 0,23               |
|                                                     | 59a          | 3,25                               | 27,29        | 28,21        | -0,38              |
|                                                     | 60a          | 3,20                               | 27,50        | 28,41        | 0,10               |
|                                                     | 66a          | 2,86                               | 27,38        | 28,19        | -0,43              |
|                                                     | 69a          | 2,40                               | 27,20        | 27,87        | -1,18              |
|                                                     | 73a          | 3,07                               | 27,62        | 28,49        | 0,30               |
|                                                     | 74a          | 2,60                               | 27,70        | 28,44        | 0,17               |
|                                                     | 76a          | 3,00                               | 26,70        | 27,53        | -1,98              |
|                                                     | 77a          | 3,60                               | 26,20        | 27,18        | -2,80              |
|                                                     | 78a          | 2,56                               | 26,54        | 27,24        | -2,66              |
|                                                     | 79a          | 3,22                               | 27,24        | 28,15        | -0,52              |
|                                                     | 80a          | 2,97                               | 27,31        | 28,15        | -0,52              |
|                                                     | 83a          | 3,01                               | 27,71        | 28,57        | 0,47               |
|                                                     | 88a          | 2,60                               | 27,80        | 28,54        | 0,41               |
|                                                     | 91a          | 3,30                               | 27,90        | 28,85        | 1,14               |
|                                                     | 94a          | 3,50                               | 27,70        | 28,70        | 0,79               |
|                                                     | 95a          | 3,00                               | 28,70        | 29,59        | 2,87               |
|                                                     | 96a          | 3,25                               | 27,24        | 28,16        | -0,50              |
|                                                     | 97a          | 2,79                               | 28,14        | 28,95        | 1,36               |
|                                                     | 99a          | 3,05                               | 27,53        | 28,40        | 0,06               |
|                                                     | 100a         | 2,79                               | 26,97        | 27,74        | -1,47              |
|                                                     | 101a         | 3,49                               | 27,01        | 27,99        | -0,90              |
|                                                     | 106a         | 2,90                               | 27,10        | 27,91        | -1,08              |
|                                                     | 110a         | 2,95                               | 27,83        | 28,68        | 0,72               |
|                                                     | 112a         | 3,27                               | 27,61        | 28,54        | 0,41               |
|                                                     | 117a         | 3,00                               | 27,20        | 28,04        | -0,77              |
|                                                     | 124a         | 3,16                               | 27,59        | 28,49        | 0,29               |
|                                                     | 135a         | 3,30                               | 27,70        | 28,65        | 0,65               |
|                                                     | <b>139a*</b> | 2,90                               | <b>25,20</b> | <b>25,95</b> | <b>-5,69</b>       |
|                                                     | 140a         | 2,95                               | 27,80        | 28,65        | 0,65               |
|                                                     | 143a         | 2,71                               | 27,69        | 28,46        | 0,22               |
|                                                     | 145a         | 3,15                               | 27,26        | 28,15        | -0,52              |
|                                                     | 146a         | 3,10                               | 27,90        | 28,79        | 1,00               |
|                                                     | 151a         | 3,40                               | 27,40        | 28,36        | -0,01              |
|                                                     | 162a         | 2,54                               | 28,56        | 29,30        | 2,20               |
|                                                     | 166a         | 3,20                               | 27,00        | 27,89        | -1,12              |
|                                                     | 167a         | 2,90                               | 27,77        | 28,60        | 0,54               |
|                                                     | 169a         | 3,19                               | 27,35        | 28,25        | -0,28              |
|                                                     | 170a         | 2,77                               | 27,44        | 28,22        | -0,35              |
|                                                     | 172a         | 2,61                               | 27,37        | 28,10        | -0,62              |
|                                                     | 179a         | 3,00                               | 27,50        | 28,35        | -0,04              |
|                                                     | 181a         | 3,15                               | 27,50        | 28,39        | 0,06               |
|                                                     | 182a         | 3,06                               | 27,94        | 28,82        | 1,07               |
|                                                     | 184a         | 2,80                               | 27,40        | 28,19        | -0,42              |
|                                                     | 189a         | 3,19                               | 27,70        | 28,61        | 0,58               |
|                                                     | 195a         | 3,18                               | 27,01        | 27,90        | -1,11              |
|                                                     | 201a         | 4,10                               | 27,10        | 28,26        | -0,26              |
|                                                     | 202a         | 3,22                               | 27,39        | 28,30        | -0,16              |
|                                                     | 207a         | 3,00                               | 27,40        | 28,25        | -0,29              |
|                                                     | 208a         | 3,16                               | 27,10        | 27,98        | -0,90              |
|                                                     | 214a         | 2,20                               | 28,30        | 28,94        | 1,34               |
|                                                     | 220a         | 3,67                               | 27,45        | 28,50        | 0,30               |
|                                                     | 221a         | 3,60                               | 27,30        | 28,32        | -0,12              |
|                                                     | 222a         | 2,90                               | 27,30        | 28,12        | -0,60              |
|                                                     | 224a         | 2,40                               | 27,93        | 28,62        | 0,58               |
|                                                     | 225a         | 3,50                               | 26,50        | 27,46        | -2,14              |
|                                                     | 230a         | 3,86                               | 28,26        | 29,39        | 2,42               |
|                                                     | 231a         | 2,80                               | 27,29        | 28,08        | -0,69              |
|                                                     | <b>234a*</b> | 3,10                               | <b>24,55</b> | <b>25,34</b> | <b>-7,14</b>       |
|                                                     | 240a         | 2,87                               | 27,88        | 28,70        | 0,79               |
|                                                     | 243a         | 2,90                               | 27,90        | 28,73        | 0,86               |
|                                                     | 252a         | 3,15                               | 27,36        | 28,25        | -0,28              |
|                                                     | 254a         | 3,12                               | 27,57        | 28,46        | 0,21               |
|                                                     | 256a         | 3,29                               | 27,02        | 27,94        | -1,01              |
|                                                     | 257a         | 3,20                               | 27,30        | 28,20        | -0,39              |
|                                                     | 259a         | 2,67                               | 28,20        | 28,97        | 1,42               |
|                                                     | 263a         | 2,80                               | 27,80        | 28,60        | 0,55               |
|                                                     | 264a         | 3,00                               | 27,80        | 28,66        | 0,69               |
|                                                     | 267a         | 3,41                               | 27,41        | 28,38        | 0,02               |
|                                                     | 269a         | 2,85                               | 27,23        | 28,03        | -0,80              |
|                                                     | 270a         | 3,30                               | 27,50        | 28,44        | 0,16               |
|                                                     | 279a         | 3,30                               | 27,80        | 28,75        | 0,90               |
|                                                     | 283a         | 3,33                               | 27,23        | 28,17        | -0,47              |
|                                                     | <b>284a*</b> | 2,53                               | <b>24,43</b> | <b>25,06</b> | <b>-7,78</b>       |
|                                                     | 295a         | 2,94                               | 27,64        | 28,48        | 0,26               |
|                                                     | 296a         | 3,52                               | 28,10        | 29,13        | 1,78               |
|                                                     | 302a         | 2,08                               | 27,70        | 28,29        | -0,19              |
|                                                     | 303a         | 3,21                               | 27,62        | 28,54        | 0,39               |
| NUMBER OF RESULTS                                   | -            | 98                                 | 98           | 98           | -                  |
| OUTLIERS                                            | -            | -                                  | 7            | 7            | -                  |
| AVERAGE                                             | -            | 3,06                               | 27,50        | 28,37        | -                  |
| STD DEVIATION                                       | -            | -                                  | 0,43         | 0,42         | -                  |
| MEDIAN                                              | -            | -                                  | 27,50        | 28,38        | -                  |
| %RSD                                                | -            | -                                  | 1,57         | 1,50         | -                  |
| ROBUST AVERAGE                                      | -            | -                                  | 27,50        | 28,37        | -                  |
| ROBUST STD DEVIATION                                | -            | -                                  | 0,46         | 0,45         | -                  |
| UoM                                                 | -            | -                                  | 0,06         | 0,06         | -                  |



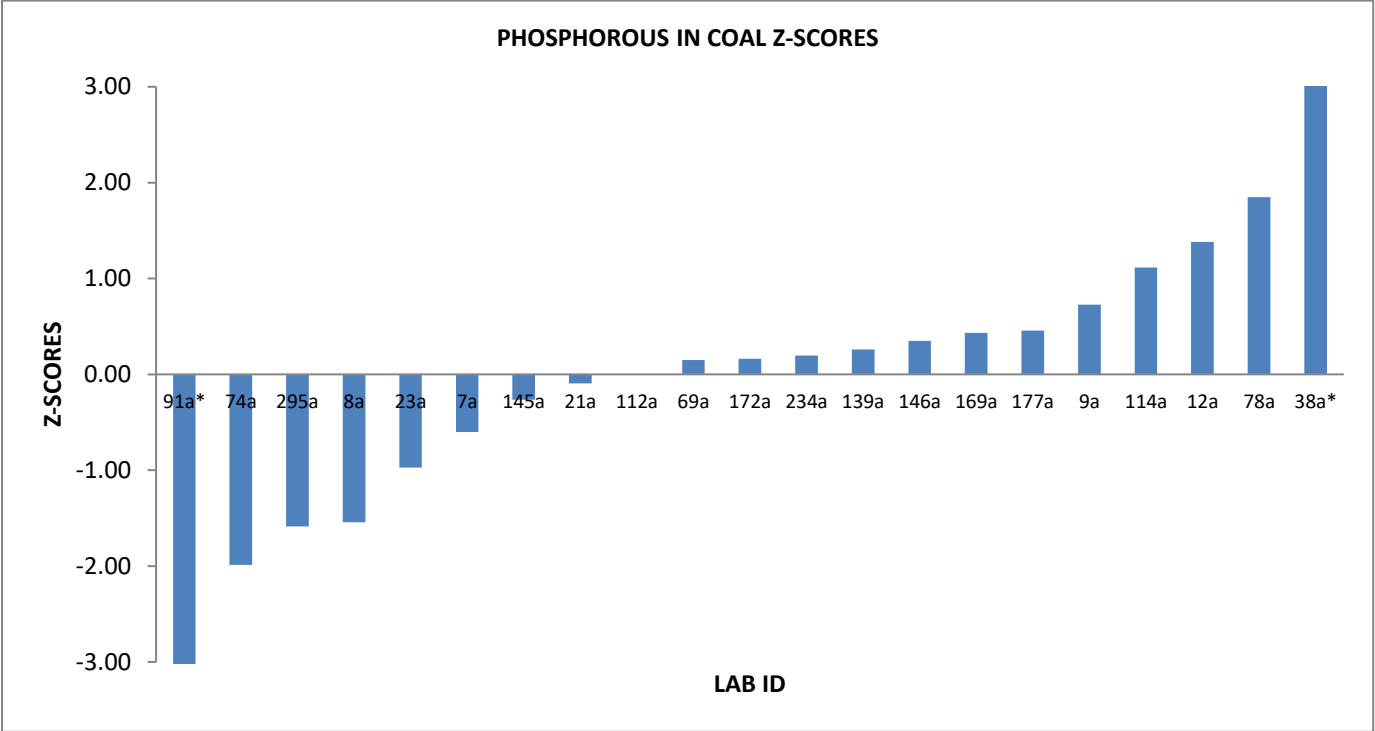
| COAL CONCEPTS - PROFICIENCY TESTING - NOVEMBER 2024 |        |                                    |                 |                  |                    |
|-----------------------------------------------------|--------|------------------------------------|-----------------|------------------|--------------------|
| ANALYTICAL PARAMETER: CALORIFIC VALUE (MJ/kg)       |        |                                    |                 |                  |                    |
|                                                     | LAB ID | MOISTURE IN ANALYSIS<br>SAMPLE (%) | AIR DRY (MJ/kg) | DRY BASE (MJ/kg) | Z-SCORE (DRY BASE) |
|                                                     | 1a     | 3,39                               | 26,57           | 27,50            | 0,46               |
|                                                     | 3a     | 3,30                               | 26,34           | 27,24            | -1,06              |
|                                                     | 6a     | 3,01                               | 26,58           | 27,40            | -0,10              |
|                                                     | 8a     | 2,26                               | 26,44           | 27,05            | -2,15              |
|                                                     | 9a     | 3,00                               | 26,56           | 27,38            | -0,24              |
|                                                     | 10a    | 3,03                               | 26,83           | 27,67            | 1,43               |
|                                                     | 12a    | 3,47                               | 26,51           | 27,46            | 0,23               |
|                                                     | 21a    | 3,40                               | 26,73           | 27,67            | 1,44               |
|                                                     | 23a    | 3,53                               | 26,54           | 27,51            | 0,51               |
|                                                     | 28a    | 2,79                               | 26,78           | 27,55            | 0,73               |
|                                                     | 33a    | 3,10                               | 26,32           | 27,16            | -1,51              |
|                                                     | 35a    | 3,21                               | 26,48           | 27,36            | -0,37              |
|                                                     | 36a    | 2,90                               | 26,53           | 27,32            | -0,58              |
|                                                     | 38a    | 3,00                               | 26,59           | 27,41            | -0,06              |
|                                                     | 41a    | 2,99                               | 26,64           | 27,46            | 0,22               |
|                                                     | 42a    | 2,90                               | 26,67           | 27,47            | 0,26               |
|                                                     | 49a    | 3,31                               | 26,44           | 27,35            | -0,45              |
|                                                     | 50a    | 3,88                               | 26,37           | 27,43            | 0,07               |
|                                                     | 58a    | 2,87                               | 26,78           | 27,57            | 0,86               |
|                                                     | 60a    | 3,20                               | 26,59           | 27,47            | 0,27               |
|                                                     | 66a    | 2,86                               | 26,39           | 27,17            | -1,48              |
|                                                     | 73a    | 3,07                               | 26,45           | 27,29            | -0,78              |
|                                                     | 74a    | 2,60                               | 26,65           | 27,36            | -0,35              |
|                                                     | 76a    | 3,00                               | 26,60           | 27,42            | 0,00               |
|                                                     | 77a    | 3,60                               | 26,70           | 27,70            | 1,59               |
|                                                     | 79a*   | 3,22                               | 29,66           | 30,65            | 18,69              |
|                                                     | 80a    | 2,97                               | 26,53           | 27,34            | -0,47              |
|                                                     | 84a    | 3,66                               | 26,32           | 27,32            | -0,59              |
|                                                     | 88a    | 2,60                               | 26,55           | 27,26            | -0,95              |
|                                                     | 91a    | 3,30                               | 26,39           | 27,29            | -0,76              |
|                                                     | 94a    | 3,50                               | 26,50           | 27,46            | 0,22               |
|                                                     | 95a    | 3,00                               | 26,63           | 27,45            | 0,18               |
|                                                     | 96a    | 3,25                               | 26,68           | 27,58            | 0,89               |
|                                                     | 97a    | 2,79                               | 26,58           | 27,34            | -0,46              |
|                                                     | 99a    | 3,05                               | 26,67           | 27,51            | 0,50               |
|                                                     | 100a   | 2,79                               | 26,75           | 27,52            | 0,55               |
|                                                     | 101a   | 3,49                               | 26,75           | 27,72            | 1,71               |
|                                                     | 106a   | 2,90                               | 26,88           | 27,68            | 1,51               |
|                                                     | 110a   | 2,95                               | 26,62           | 27,43            | 0,04               |
|                                                     | 112a   | 3,27                               | 26,82           | 27,73            | 1,76               |
|                                                     | 117a   | 3,00                               | 26,66           | 27,48            | 0,36               |
|                                                     | 124a   | 3,16                               | 26,63           | 27,50            | 0,44               |
|                                                     | 135a   | 3,30                               | 26,51           | 27,41            | -0,04              |
|                                                     | 140a   | 2,95                               | 26,57           | 27,38            | -0,26              |
|                                                     | 143a   | 2,71                               | 26,64           | 27,38            | -0,23              |
|                                                     | 145a   | 3,15                               | 26,71           | 27,58            | 0,91               |
|                                                     | 151a   | 3,40                               | 26,41           | 27,34            | -0,48              |
|                                                     | 162a   | 2,54                               | 26,27           | 26,95            | -2,71              |
|                                                     | 167a   | 2,90                               | 26,67           | 27,47            | 0,26               |
|                                                     | 169a   | 3,19                               | 26,68           | 27,56            | 0,79               |
|                                                     | 170a   | 2,77                               | 26,60           | 27,36            | -0,37              |
|                                                     | 171a   | 3,05                               | 26,30           | 27,13            | -1,71              |
|                                                     | 172a   | 2,61                               | 26,87           | 27,59            | 0,97               |
|                                                     | 176a   | 3,07                               | 26,61           | 27,45            | 0,18               |
|                                                     | 178a   | 2,70                               | 26,40           | 27,13            | -1,68              |
|                                                     | 179a   | 3,00                               | 26,20           | 27,01            | -2,39              |
|                                                     | 181a   | 3,15                               | 26,80           | 27,67            | 1,44               |
|                                                     | 182a   | 3,06                               | 26,57           | 27,41            | -0,08              |
|                                                     | 184a   | 2,80                               | 26,56           | 27,33            | -0,56              |
|                                                     | 189a   | 3,19                               | 26,57           | 27,45            | 0,13               |
|                                                     | 195a   | 3,18                               | 26,47           | 27,34            | -0,48              |
|                                                     | 201a   | 4,10                               | 26,32           | 27,45            | 0,13               |
|                                                     | 202a   | 3,22                               | 26,55           | 27,43            | 0,06               |
|                                                     | 207a   | 3,00                               | 26,55           | 27,37            | -0,30              |
|                                                     | 208a   | 3,16                               | 26,17           | 27,02            | -2,31              |
|                                                     | 209a   | 3,07                               | 26,45           | 27,29            | -0,78              |
|                                                     | 214a   | 2,20                               | 26,68           | 27,28            | -0,82              |
|                                                     | 220a   | 3,67                               | 26,47           | 27,48            | 0,32               |
|                                                     | 221a   | 3,60                               | 26,45           | 27,44            | 0,09               |
|                                                     | 222a   | 2,90                               | 26,44           | 27,23            | -1,12              |
|                                                     | 224a   | 2,40                               | 26,58           | 27,23            | -1,09              |
|                                                     | 225a   | 3,50                               | 26,61           | 27,58            | 0,89               |
|                                                     | 230a   | 3,86                               | 26,53           | 27,60            | 1,00               |
|                                                     | 231a   | 2,80                               | 26,61           | 27,38            | -0,27              |
|                                                     | 234a   | 3,10                               | 26,60           | 27,45            | 0,17               |
|                                                     | 240a   | 2,87                               | 26,82           | 27,61            | 1,10               |
|                                                     | 241a   | 3,07                               | 26,79           | 27,64            | 1,25               |
|                                                     | 242a   | 3,07                               | 26,58           | 27,42            | 0,00               |
|                                                     | 243a   | 2,90                               | 26,61           | 27,40            | -0,10              |
|                                                     | 244a   | 3,07                               | 26,38           | 27,22            | -1,20              |
|                                                     | 250a   | 3,07                               | 26,47           | 27,31            | -0,66              |
|                                                     | 252a   | 3,15                               | 26,78           | 27,65            | 1,33               |
|                                                     | 253a   | 3,07                               | 26,44           | 27,28            | -0,84              |
|                                                     | 254a   | 3,12                               | 26,60           | 27,46            | 0,20               |
|                                                     | 256a   | 3,29                               | 26,72           | 27,63            | 1,20               |
|                                                     | 257a   | 3,20                               | 26,81           | 27,70            | 1,59               |
|                                                     | 259a   | 2,67                               | 26,83           | 27,57            | 0,83               |
|                                                     | 263a   | 2,80                               | 26,34           | 27,10            | -1,88              |
|                                                     | 264a   | 3,00                               | 26,55           | 27,37            | -0,30              |
|                                                     | 265a   | 3,07                               | 26,49           | 27,33            | -0,54              |
|                                                     | 269a   | 2,85                               | 26,32           | 27,09            | -1,91              |
|                                                     | 270a   | 3,30                               | 26,89           | 27,81            | 2,23               |
|                                                     | 279a   | 3,30                               | 26,72           | 27,63            | 1,21               |
|                                                     | 283a   | 3,33                               | 26,53           | 27,44            | 0,12               |
|                                                     | 284a   | 2,53                               | 26,73           | 27,42            | 0,00               |
|                                                     | 287a   | 3,08                               | 26,64           | 27,49            | 0,37               |
|                                                     | 295a   | 2,94                               | 26,53           | 27,33            | -0,51              |
|                                                     | 296a   | 3,52                               | 26,71           | 27,68            | 1,52               |
|                                                     | 302a   | 2,08                               | 26,99           | 27,56            | 0,82               |
|                                                     | 303a   | 3,21                               | 26,65           | 27,53            | 0,65               |
| NUMBER OF RESULTS                                   | -      | 100                                | 100             | 100              | -                  |
| OUTLIERS                                            | -      | -                                  | 1               | 1                | -                  |
| AVERAGE                                             | -      | 3,07                               | 26,58           | 27,42            | -                  |
| STD DEVIATION                                       | -      | -                                  | 0,16            | 0,17             | -                  |
| MEDIAN                                              | -      | -                                  | 26,58           | 27,43            | -                  |
| %RSD                                                | -      | -                                  | 0,61            | 0,63             | -                  |
| ROBUST AVERAGE                                      | -      | -                                  | 26,58           | 27,42            | -                  |
| ROBUST STD DEVIATION                                | -      | -                                  | 0,18            | 0,19             | -                  |
| UoM                                                 | -      | -                                  | 0,02            | 0,02             | -                  |



| COAL CONCEPTS - PROFICIENCY TESTING - NOVEMBER 2024 |        |                                 |         |          |                    |
|-----------------------------------------------------|--------|---------------------------------|---------|----------|--------------------|
| ANALYTICAL PARAMETER: TOTAL SULPHUR (%)             |        |                                 |         |          |                    |
|                                                     | LAB ID | MOISTURE IN ANALYSIS SAMPLE (%) | AIR DRY | DRY BASE | Z-SCORE (DRY BASE) |
|                                                     | 1a     | 3,39                            | 0,56    | 0,58     | 1,02               |
|                                                     | 3a     | 3,30                            | 0,53    | 0,55     | 0,26               |
|                                                     | 7a     | 2,63                            | 0,46    | 0,47     | -1,65              |
|                                                     | 9a     | 3,00                            | 0,54    | 0,56     | 0,47               |
|                                                     | 10a    | 3,03                            | 0,57    | 0,59     | 1,21               |
|                                                     | 12a    | 3,47                            | 0,50    | 0,52     | -0,46              |
|                                                     | 21a    | 3,40                            | 0,55    | 0,57     | 0,77               |
|                                                     | 23a    | 3,53                            | 0,52    | 0,54     | 0,00               |
|                                                     | 28a    | 2,79                            | 0,49    | 0,50     | -0,80              |
|                                                     | 35a    | 3,21                            | 0,45    | 0,46     | -1,73              |
|                                                     | 36a    | 2,90                            | 0,50    | 0,51     | -0,54              |
|                                                     | 38a    | 3,00                            | 0,53    | 0,55     | 0,22               |
|                                                     | 42a    | 2,90                            | 0,45    | 0,46     | -1,77              |
|                                                     | 43a    | 3,04                            | 0,50    | 0,52     | -0,52              |
|                                                     | 49a    | 3,31                            | 0,55    | 0,57     | 0,76               |
|                                                     | 50a*   | 3,88                            | 1,04    | 1,08     | 13,05              |
|                                                     | 58a    | 2,87                            | 0,54    | 0,56     | 0,45               |
|                                                     | 60a    | 3,20                            | 0,47    | 0,49     | -1,24              |
|                                                     | 69a    | 2,40                            | 0,49    | 0,51     | -0,77              |
|                                                     | 74a    | 2,60                            | 0,55    | 0,56     | 0,66               |
|                                                     | 76a    | 3,00                            | 0,52    | 0,54     | 0,00               |
|                                                     | 78a    | 2,56                            | 0,53    | 0,54     | 0,00               |
|                                                     | 79a    | 3,22                            | 0,49    | 0,51     | -0,74              |
|                                                     | 80a    | 2,97                            | 0,50    | 0,52     | -0,53              |
|                                                     | 88a    | 2,60                            | 0,54    | 0,55     | 0,41               |
|                                                     | 91a    | 3,30                            | 0,49    | 0,51     | -0,73              |
|                                                     | 95a    | 3,00                            | 0,55    | 0,57     | 0,71               |
|                                                     | 96a    | 3,25                            | 0,56    | 0,58     | 0,99               |
|                                                     | 99a    | 3,05                            | 0,48    | 0,50     | -1,01              |
|                                                     | 101a   | 3,49                            | 0,49    | 0,51     | -0,71              |
|                                                     | 106a   | 2,90                            | 0,52    | 0,54     | 0,00               |
|                                                     | 110a   | 2,95                            | 0,52    | 0,54     | 0,00               |
|                                                     | 112a   | 3,27                            | 0,52    | 0,54     | 0,00               |
|                                                     | 124a   | 3,16                            | 0,46    | 0,48     | -1,49              |
|                                                     | 135a   | 3,30                            | 0,49    | 0,51     | -0,73              |
|                                                     | 139a   | 2,90                            | 0,45    | 0,46     | -1,82              |
|                                                     | 140a   | 2,95                            | 0,47    | 0,48     | -1,27              |
|                                                     | 143a   | 2,71                            | 0,53    | 0,54     | 0,00               |
|                                                     | 145a   | 3,15                            | 0,56    | 0,58     | 0,98               |
|                                                     | 146a   | 3,10                            | 0,52    | 0,53     | -0,06              |
|                                                     | 151a   | 3,40                            | 0,57    | 0,59     | 1,26               |
|                                                     | 162a   | 2,54                            | 0,57    | 0,58     | 1,14               |
|                                                     | 167a   | 2,90                            | 0,55    | 0,57     | 0,70               |
|                                                     | 169a   | 3,19                            | 0,52    | 0,54     | 0,00               |
|                                                     | 172a   | 2,61                            | 0,61    | 0,63     | 2,13               |
|                                                     | 179a   | 3,00                            | 0,47    | 0,48     | -1,26              |
|                                                     | 181a   | 3,15                            | 0,45    | 0,46     | -1,74              |
|                                                     | 182a   | 3,06                            | 0,52    | 0,54     | 0,00               |
|                                                     | 184a   | 2,80                            | 0,53    | 0,55     | 0,19               |
|                                                     | 189a   | 3,19                            | 0,47    | 0,49     | -1,24              |
|                                                     | 195a   | 3,18                            | 0,55    | 0,57     | 0,74               |
|                                                     | 201a   | 4,10                            | 0,50    | 0,52     | -0,38              |
|                                                     | 202a   | 3,22                            | 0,53    | 0,55     | 0,25               |
|                                                     | 207a   | 3,00                            | 0,53    | 0,55     | 0,22               |
|                                                     | 208a   | 3,16                            | 0,61    | 0,63     | 2,22               |
|                                                     | 214a   | 2,20                            | 0,54    | 0,55     | 0,36               |
|                                                     | 221a   | 3,60                            | 0,55    | 0,57     | 0,80               |
|                                                     | 222a   | 2,90                            | 0,60    | 0,62     | 1,93               |
|                                                     | 224a   | 2,40                            | 0,51    | 0,52     | -0,35              |
|                                                     | 225a   | 3,50                            | 0,59    | 0,61     | 1,78               |
|                                                     | 231a   | 2,80                            | 0,59    | 0,61     | 1,67               |
|                                                     | 240a   | 2,87                            | 0,53    | 0,55     | 0,20               |
|                                                     | 243a   | 2,90                            | 0,45    | 0,46     | -1,77              |
|                                                     | 252a   | 3,15                            | 0,50    | 0,52     | -0,50              |
|                                                     | 254a   | 3,12                            | 0,51    | 0,53     | -0,26              |
|                                                     | 256a   | 3,29                            | 0,53    | 0,55     | 0,26               |
|                                                     | 257a   | 3,20                            | 0,52    | 0,54     | 0,00               |
|                                                     | 259a   | 2,67                            | 0,50    | 0,51     | -0,56              |
|                                                     | 263a   | 2,80                            | 0,58    | 0,60     | 1,42               |
|                                                     | 270a   | 3,30                            | 0,50    | 0,52     | -0,48              |
|                                                     | 283a   | 3,33                            | 0,57    | 0,59     | 1,25               |
|                                                     | 284a   | 2,53                            | 0,56    | 0,57     | 0,89               |
|                                                     | 287a   | 3,08                            | 0,53    | 0,55     | 0,23               |
|                                                     | 295a   | 2,94                            | 0,44    | 0,45     | -2,01              |
|                                                     | 302a   | 2,08                            | 0,51    | 0,52     | -0,39              |
|                                                     | 303a   | 3,21                            | 0,55    | 0,57     | 0,74               |
| NUMBER OF RESULTS                                   |        | 76                              | 76      | 76       | -                  |
| OUTLIERS                                            | -      | -                               | 1       | 1        | -                  |
| AVERAGE                                             | -      | 3,04                            | 0,52    | 0,54     | -                  |
| MEDIAN                                              |        | -                               | 0,52    | 0,54     | -                  |
| STD DEVIATION                                       | -      | -                               | 0,04    | 0,04     | -                  |
| %RSD                                                | -      | -                               | 7,77    | 7,77     | -                  |
| ROBUST AVERAGE                                      | -      | -                               | 0,52    | 0,54     | -                  |
| ROBUST STD DEVIATION                                | -      | -                               | 0,05    | 0,05     | -                  |
| UoM                                                 | -      | -                               | 0,01    | 0,01     | -                  |



| COAL CONCEPTS - PROFICIENCY TESTING -NOVEMBER 2024 |             |                                 |              |              |                    |
|----------------------------------------------------|-------------|---------------------------------|--------------|--------------|--------------------|
| ANALYTICAL PARAMETER: PHOSPHOROUS IN COAL (%)      |             |                                 |              |              |                    |
|                                                    | LAB ID      | MOISTURE IN ANALYSIS SAMPLE (%) | AIR DRY      | DRY BASE     | Z-SCORE (DRY BASE) |
|                                                    | 7a          | 2,63                            | 0,071        | 0,073        | -0,60              |
|                                                    | 8a          | 2,26                            | 0,059        | 0,060        | -1,54              |
|                                                    | 9a          | 3,00                            | 0,088        | 0,091        | 0,73               |
|                                                    | 12a         | 3,47                            | 0,096        | 0,099        | 1,38               |
|                                                    | 21a         | 3,40                            | 0,077        | 0,080        | -0,10              |
|                                                    | 23a         | 3,53                            | 0,066        | 0,068        | -0,97              |
|                                                    | <u>38a*</u> | 3,00                            | <u>0,900</u> | <u>0,928</u> | <u>63,33</u>       |
|                                                    | 69a         | 2,40                            | 0,081        | 0,083        | 0,15               |
|                                                    | 74a         | 2,60                            | 0,053        | 0,054        | -1,99              |
|                                                    | 78a         | 2,56                            | 0,103        | 0,106        | 1,85               |
|                                                    | <u>91a*</u> | 3,30                            | <u>0,024</u> | <u>0,025</u> | <u>-4,20</u>       |
|                                                    | 112a        | 3,27                            | 0,078        | 0,081        | 0,00               |
|                                                    | 114a        | 3,00                            | 0,093        | 0,096        | 1,11               |
|                                                    | 139a        | 2,90                            | 0,082        | 0,084        | 0,26               |
|                                                    | 145a        | 3,15                            | 0,075        | 0,077        | -0,27              |
|                                                    | 146a        | 3,10                            | 0,083        | 0,086        | 0,35               |
|                                                    | 169a        | 3,19                            | 0,084        | 0,087        | 0,43               |
|                                                    | 172a        | 2,61                            | 0,081        | 0,083        | 0,16               |
|                                                    | 177a        | 3,56                            | 0,084        | 0,087        | 0,46               |
|                                                    | 234a        | 3,10                            | 0,081        | 0,084        | 0,19               |
|                                                    | 295a        | 2,94                            | 0,058        | 0,060        | -1,59              |
| Number of results                                  | -           | 21                              | 21           | 21           | -                  |
| OUTLIERS                                           | -           | -                               | 2            | 2            | -                  |
| AVERAGE                                            | -           | 3,00                            | 0,079        | 0,081        | -                  |
| STD DEVIATION                                      | -           | -                               | 0,013        | 0,013        | -                  |
| MEDIAN                                             |             | -                               | 0,081        | 0,083        | -                  |
| ROBUST AVERAGE                                     | -           | -                               | 0,079        | 0,081        |                    |
| ROBUST STD DEVIATION                               | -           | -                               | 0,013        | 0,014        |                    |
| UoM                                                | -           | -                               | 0,004        | 0,004        |                    |



| COAL CONCEPTS - PROFICIENCY TESTING -NOVEMBER 2024 |                   |                                 |         |          |                    |
|----------------------------------------------------|-------------------|---------------------------------|---------|----------|--------------------|
| ANALYTICAL PARAMETER: TOTAL CARBON (%)             |                   |                                 |         |          |                    |
|                                                    | LAB ID            | MOISTURE IN ANALYSIS SAMPLE (%) | AIR DRY | DRY BASE | Z-SCORE (DRY BASE) |
|                                                    | 1a                | 3,39                            | 66,29   | 68,62    | -0,68              |
|                                                    | 12a               | 3,47                            | 66,12   | 68,50    | -0,82              |
|                                                    | 21a               | 3,40                            | 66,40   | 68,74    | -0,53              |
|                                                    | 42a               | 2,90                            | 67,35   | 69,36    | 0,22               |
|                                                    | 74a               | 2,60                            | 66,70   | 68,48    | -0,84              |
|                                                    | 79a               | 3,22                            | 66,18   | 68,38    | -0,96              |
|                                                    | 88a               | 2,60                            | 68,06   | 69,88    | 0,84               |
|                                                    | 177a              | 3,56                            | 68,40   | 70,92    | 2,10               |
|                                                    | 202a              | 3,22                            | 68,33   | 70,60    | 1,71               |
|                                                    | 224a              | 2,40                            | 67,56   | 69,22    | 0,05               |
|                                                    | 234a              | 3,10                            | 66,40   | 68,52    | -0,79              |
|                                                    | 240a              | 2,87                            | 67,35   | 69,34    | 0,19               |
|                                                    | 295a              | 2,94                            | 66,75   | 68,77    | -0,49              |
|                                                    | Number of results | -                               | 13      | 13       | -                  |
|                                                    | OUTLIERS          | -                               | 0       | 0        | -                  |
| AVERAGE                                            | -                 | 3,05                            | 67,07   | 69,18    | -                  |
| MEDIAN                                             | -                 | -                               | 66,75   | 68,77    | -                  |
| STD DEVIATION                                      | -                 | -                               | 0,83    | 0,83     | -                  |
| %RSD                                               | -                 | -                               | 1,23    | 1,20     | -                  |
| ROBUST AVERAGE                                     | -                 | -                               | 67,03   | 69,09    | -                  |
| ROBUST STD DEVIATION                               | -                 | -                               | 1,07    | 0,97     | -                  |
| UoM                                                | -                 | -                               | 0,37    | 0,34     | -                  |

| COAL CONCEPTS - PROFICIENCY TESTING -NOVEMBER 2024 |                   |                                 |         |          |                    |
|----------------------------------------------------|-------------------|---------------------------------|---------|----------|--------------------|
| ANALYTICAL PARAMETER: HYDROGEN (%)                 |                   |                                 |         |          |                    |
|                                                    | LAB ID            | MOISTURE IN ANALYSIS SAMPLE (%) | AIR DRY | DRY BASE | Z-SCORE (DRY BASE) |
|                                                    | 1a                | 3,39                            | 3,92    | 4,06     | 0,80               |
|                                                    | 12a               | 3,47                            | 3,87    | 4,01     | 0,62               |
|                                                    | 21a               | 3,40                            | 3,20    | 3,31     | -1,91              |
|                                                    | 42a               | 2,90                            | 3,75    | 3,86     | 0,09               |
|                                                    | 79a               | 3,22                            | 3,61    | 3,73     | -0,39              |
|                                                    | 88a               | 2,60                            | 3,72    | 3,82     | -0,07              |
|                                                    | 177a              | 3,56                            | 4,00    | 4,15     | 1,13               |
|                                                    | 202a              | 3,22                            | 3,84    | 3,97     | 0,47               |
|                                                    | 224a              | 2,40                            | 3,95    | 4,05     | 0,76               |
|                                                    | 234a              | 3,10                            | 3,20    | 3,30     | -1,95              |
|                                                    | 240a              | 2,87                            | 3,70    | 3,81     | -0,10              |
|                                                    | 295a              | 2,94                            | 3,87    | 3,99     | 0,54               |
|                                                    | Number of results | -                               | 12      | 12       | -                  |
|                                                    | OUTLIERS          | -                               | 0       | 0        | -                  |
| AVERAGE                                            | -                 | 3,09                            | 3,72    | 3,84     | -                  |
| MEDIAN                                             | -                 | -                               | 3,80    | 3,91     | -                  |
| STD DEVIATION                                      | -                 | -                               | 0,27    | 0,28     | -                  |
| %RSD                                               | -                 | -                               | 7,18    | 7,17     | -                  |
| ROBUST AVERAGE                                     | -                 | -                               | 3,74    | 3,86     | -                  |
| ROBUST STD DEVIATION                               | -                 | -                               | 0,33    | 0,33     | -                  |
| UoM                                                | -                 | -                               | 0,12    | 0,12     | -                  |

| COAL CONCEPTS - PROFICIENCY TESTING -NOVEMBER 2024 |                    |                                 |                    |                    |                     |
|----------------------------------------------------|--------------------|---------------------------------|--------------------|--------------------|---------------------|
| ANALYTICAL PARAMETER: NITROGEN (%)                 |                    |                                 |                    |                    |                     |
|                                                    | LAB ID             | MOISTURE IN ANALYSIS SAMPLE (%) | AIR DRY            | DRY BASE           | Z-SCORE (DRY BASE)  |
|                                                    | 1a                 | 3,39                            | 1,67               | 1,73               | 0,50                |
|                                                    | 12a                | 3,47                            | 1,59               | 1,65               | -0,90               |
|                                                    | 42a                | 2,90                            | 1,68               | 1,73               | 0,53                |
|                                                    | 79a                | 3,22                            | 1,72               | 1,78               | 1,34                |
|                                                    | <b><u>88a*</u></b> | 2,60                            | <b><u>1,37</u></b> | <b><u>1,41</u></b> | <b><u>-5,05</u></b> |
|                                                    | 177a               | 3,56                            | 1,58               | 1,64               | -1,05               |
|                                                    | 202a               | 3,22                            | 1,59               | 1,64               | -0,98               |
|                                                    | 224a               | 2,40                            | 1,61               | 1,65               | -0,86               |
|                                                    | 240a               | 2,87                            | 1,65               | 1,70               | 0,00                |
|                                                    | 295a               | 2,94                            | 1,73               | 1,78               | 1,43                |
|                                                    | Number of results  | -                               | 10                 | 10                 | -                   |
|                                                    | OUTLIERS           | -                               | 1                  | 1                  | -                   |
| AVERAGE                                            | -                  | 3,06                            | 1,65               | 1,70               | -                   |
| MEDIAN                                             | -                  | -                               | 1,65               | 1,70               | -                   |
| STD DEVIATION                                      | -                  | -                               | 0,06               | 0,06               | -                   |
| %RSD                                               | -                  | -                               | 3,48               | 3,41               | -                   |
| ROBUST AVERAGE                                     | -                  | -                               | -                  | -                  | -                   |
| ROBUST STD DEVIATION                               | -                  | -                               | -                  | -                  | -                   |
| UoM                                                | -                  | -                               | -                  | -                  | -                   |

| COAL CONCEPTS - PROFICIENCY TESTING -NOVEMBER 2024 |                    |                    |            |      |  |
|----------------------------------------------------|--------------------|--------------------|------------|------|--|
| ANALYTICAL PARAMETER: ASH FUSION TEMPERATURES (oC) |                    |                    |            |      |  |
| LAB ID                                             | DEFORMATION        | SOFTENING          | HEMISPHERE | FLOW |  |
| 1a                                                 | 1410               | 1430               | 1440       | 1470 |  |
| 9a                                                 | 1420               | 1440               | 1460       | 1490 |  |
| 10a                                                | 1360               | 1390               | 1430       | 1460 |  |
| 21a                                                | 1340               | 1390               | 1420       | 1450 |  |
| 23a                                                | 1380               | 1410               | 1440       | 1500 |  |
| 28a                                                | 1370               | 1400               | 1420       | 1440 |  |
| 36a                                                | 1380               | 1400               | 1430       | 1450 |  |
| 38a                                                | 1390               | 1410               | 1430       | 1450 |  |
| <b><u>42a*</u></b>                                 | <b><u>1460</u></b> | <b><u>1480</u></b> | 1500       | 1500 |  |
| 49a                                                | 1350               | 1390               | 1450       | 1500 |  |
| 60a                                                | 1413               | 1423               | 1440       | 1455 |  |
| <b><u>80a*</u></b>                                 | <b><u>1500</u></b> | <b><u>1500</u></b> | 1500       | 1500 |  |
| 88a                                                | 1370               | 1400               | 1430       | 1470 |  |
| 95a                                                | 1370               | 1390               | 1420       | 1440 |  |
| 99a                                                | 1411               | 1452               | 1479       | 1500 |  |
| 106a                                               | 1390               | 1420               | 1450       | 1490 |  |
| 110a                                               | 1400               | 1420               | 1450       | 1490 |  |
| 112a                                               | 1380               | 1410               | 1440       | 1480 |  |
| 145a                                               | 1380               | 1400               | 1430       | 1470 |  |
| 151a                                               | 1370               | 1440               | 1470       | 1500 |  |
| 224a                                               | 1390               | 1420               | 1440       | 1500 |  |
| 234a                                               | 1380               | 1400               | 1440       | 1500 |  |
| 240a                                               | 1380               | 1410               | 1430       | 1460 |  |
| 295a                                               | 1410               | 1420               | 1430       | 1460 |  |
| Number of results                                  | 24                 | 24                 | 24         | 24   |  |
| Outliers                                           | 2                  | 2                  | 0          | 0    |  |
| AVERAGE                                            | 1384               | 1412               | 1445       | 1476 |  |
| MEDIAN                                             | 1380               | 1410               | 1440       | 1475 |  |
| STDEV                                              | 21                 | 18                 | 23         | 22   |  |

| Z-SCORES           |                    |                    |            |       |
|--------------------|--------------------|--------------------|------------|-------|
| LAB ID             | DEFORMATION        | SOFTENING          | HEMISPHERE | FLOW  |
| 1a                 | 1,26               | 1,02               | -0,20      | -0,27 |
| 9a                 | 1,74               | 1,58               | 0,68       | 0,63  |
| 10a                | -1,14              | -1,25              | -0,64      | -0,73 |
| 21a                | -2,10              | -1,25              | -1,09      | -1,18 |
| 23a                | -0,18              | -0,12              | -0,20      | 1,09  |
| 28a                | -0,66              | -0,68              | -1,09      | -1,64 |
| 36a                | -0,18              | -0,68              | -0,64      | -1,18 |
| 38a                | 0,30               | -0,12              | -0,64      | -1,18 |
| <b><u>42a*</u></b> | <b><u>3,65</u></b> | <b><u>3,85</u></b> | 2,46       | 1,09  |
| 49a                | -1,62              | -1,25              | 0,24       | 1,09  |
| 60a                | 1,40               | 0,62               | -0,20      | -0,96 |
| <b><u>80a*</u></b> | <b><u>5,57</u></b> | <b><u>4,98</u></b> | 2,46       | 1,09  |
| 88a                | -0,66              | -0,68              | -0,64      | -0,27 |
| 95a                | -0,66              | -1,25              | -1,09      | -1,64 |
| 99a                | 1,30               | 2,26               | 1,53       | 1,09  |
| 106a               | 0,30               | 0,45               | 0,24       | 0,63  |
| 110a               | 0,78               | 0,45               | 0,24       | 0,63  |
| 112a               | -0,18              | -0,12              | -0,20      | 0,18  |
| 145a               | -0,18              | -0,68              | -0,64      | -0,27 |
| 151a               | -0,66              | 1,58               | 1,13       | 1,09  |
| 224a               | 0,30               | 0,45               | -0,20      | 1,09  |
| 234a               | -0,18              | -0,68              | -0,20      | 1,09  |
| 240a               | -0,18              | -0,12              | -0,64      | -0,73 |
| 295a               | 1,26               | 0,45               | -0,64      | -0,73 |

| COAL CONCEPTS - PROFICIENCY TESTING -NOVEMBER 2024 |        |                                 |         |          |                    |
|----------------------------------------------------|--------|---------------------------------|---------|----------|--------------------|
| ANALYTICAL PARAMETER: CHLORINE (ppm)               |        |                                 |         |          |                    |
|                                                    | LAB ID | MOISTURE IN ANALYSIS SAMPLE (%) | AIR DRY | DRY BASE | Z-SCORE (DRY BASE) |
|                                                    | 1a     | 3,39                            | 250     | 259      | -                  |
|                                                    | 12a    | 3,47                            | 87      | 90       | -                  |
|                                                    | 177a   | 3,56                            | 153     | 159      | -                  |
| Number of results                                  | -      | 3                               | 3       | 3        | -                  |
| OUTLIERS                                           | -      | -                               | -       | -        | -                  |
| AVERAGE                                            | -      | 3,47                            | 163     | 169      | -                  |
| STD DEVIATION                                      | -      | -                               | -       | -        | -                  |
| MEDIAN                                             | -      | -                               | -       | -        | -                  |

| COAL CONCEPTS - PROFICIENCY TESTING -NOVEMBER 2024 |        |                                 |         |          |                    |
|----------------------------------------------------|--------|---------------------------------|---------|----------|--------------------|
| ANALYTICAL PARAMETER: FLUORINE (ppm)               |        |                                 |         |          |                    |
|                                                    | LAB ID | MOISTURE IN ANALYSIS SAMPLE (%) | AIR DRY | DRY BASE | Z-SCORE (DRY BASE) |
|                                                    | 1a     | 3,39                            | 100     | 104      | -                  |
|                                                    | 12a    | 3,47                            | 232     | 240      | -                  |
|                                                    | 169a   | 3,19                            | 263     | 272      | -                  |
|                                                    | 177a   | 3,56                            | 214     | 222      | -                  |
| Number of results                                  | -      | 4                               | 4       | 4        | -                  |
| OUTLIERS                                           | -      | -                               | -       | -        | -                  |
| AVERAGE                                            | -      | 3,40                            | 202     | 209      | -                  |
| STD DEVIATION                                      | -      | -                               | na      | na       | -                  |
| MEDIAN                                             | -      | -                               | na      | na       | -                  |

| COAL CONCEPTS - PROFICIENCY TESTING -NOVEMBER 2024 |        |                                 |             |              |                    |
|----------------------------------------------------|--------|---------------------------------|-------------|--------------|--------------------|
| ANALYTICAL PARAMETER: ASTM ASH (%)                 |        |                                 |             |              |                    |
|                                                    | LAB ID | MOISTURE IN ANALYSIS SAMPLE (%) | AIR DRY (%) | DRY BASE (%) | Z-SCORE (DRY BASE) |
|                                                    | 1a     | 3,39                            | 15,17       | 15,70        | 1,23               |
|                                                    | 12a    | 3,47                            | 15,08       | 15,62        | -0,37              |
|                                                    | 202a   | 3,22                            | 15,15       | 15,65        | 0,27               |
|                                                    | 224a   | 2,40                            | 15,21       | 15,58        | -1,13              |
| Number of results                                  | -      | 4                               | 4           | 4            | -                  |
| OUTLIERS                                           | -      | -                               | 0           | 0            | -                  |
| AVERAGE                                            | -      | 3,12                            | 15,15       | 15,64        | -                  |
| STD DEVIATION                                      | -      | -                               | 0,05        | 0,05         | -                  |
| MEDIAN                                             | -      | -                               | 15,16       | 15,64        | -                  |
| %RSD                                               | -      | -                               | 0,36        | 0,32         | -                  |

| COAL CONCEPTS - PROFICIENCY TESTING -NOVEMBER 2024 |        |                                 |             |              |                    |
|----------------------------------------------------|--------|---------------------------------|-------------|--------------|--------------------|
| ANALYTICAL PARAMETER: ASTM VOLS (%)                |        |                                 |             |              |                    |
|                                                    | LAB ID | MOISTURE IN ANALYSIS SAMPLE (%) | AIR DRY (%) | DRY BASE (%) | Z-SCORE (DRY BASE) |
|                                                    | 1a     | 3,39                            | 27,52       | 28,49        | -1,23              |
|                                                    | 12a    | 3,47                            | 28,63       | 29,66        | 1,20               |
|                                                    | 202a   | 3,22                            | 28,23       | 29,17        | 0,18               |
|                                                    | 224a   | 2,40                            | 28,31       | 29,01        | -0,15              |
| Number of results                                  | -      | 4                               | 4           | 4            | -                  |
| OUTLIERS                                           | -      | -                               | 0           | 0            | -                  |
| AVERAGE                                            | -      | 3,12                            | 28,17       | 29,08        | -                  |
| STD DEVIATION                                      | -      | -                               | 0,47        | 0,48         | -                  |
| MEDIAN                                             | -      | -                               | 28,27       | 29,09        | -                  |
| %RSD                                               | -      | -                               | 1,66        | 1,66         | -                  |

**GENERAL CONCLUSIONS**

1. The ISO Ash z-score trend is evenly distributed. The Robust average, Average and Median are similar. Three outliers were detected.
2. The overall ISO volatile trend is evenly distributed. Seven outliers were detected. These were due to analytical errors. An RSD of 1.50% indicated a high precision of results received.
3. Calorific value trend is evenly distributed. One outlier was detected. These seemed to be due to calibration errors. The Average, Median and Robust Average are similar.
4. The sulphur z-score trend is evenly distributed. One outlier was detected. The Average, Median and Robust Average are the similar. A high precision of results received.
5. The phosphorous analysis results show a wide scatter, indicating significant data variability. Two outliers were detected.
6. Generally acceptable results were obtained on Carbon, Hydrogen and Nitrogen. One outlier was detected on Nitrogen.
7. Ash fusion: Generally, well done. Two outliers were detected on Def & Two outliers detected were on Soft.

## COAL CONCEPTS: Terms and Conditions

### Return of results:

Laboratories participate in proficiency testing programs on the understanding that they will be sharing their results and information **anonymously** with other laboratories performing the same analysis. No return of results compromises the spirit of the programs, and reports will not be sent to laboratories unless they return results. Payment in full is required from all laboratories enrolling whether they return results or not.

### Errors in Participant Proficiency Testing Results:

Proficiency testing reports should reflect the level of accuracy that a regular testing client would receive.

If a participant finds an error in their proficiency testing results, they may notify us in writing and change their submission **PRIOR** to the due date for return. Changes after this time will not be accepted.

Coal Concepts' reports result *as submitted* by participants.

On occasion, it seems as though participants have mixed up the samples or not processed the samples according to the instructions. Coal Concepts cannot make assumptions of this nature and change results 'to suit'. We also cannot compromise the integrity of the programs by suggesting to some participants that they should review their results prior to the due date. (This is unfair to other participants) It is the responsibility of the participants to check all aspects of the program, including sample identification, preparation, testing instructions, calculations and reporting of the results prior to results submission.

If samples are not in good condition on arrival to the participant laboratory, Coal Concepts must be notified in writing IMMEDIATELY, as often samples can be replaced in good time. Claims about samples received in bad condition will not be accepted after the report has been issued.

### Late Enrolments and Late Results:

Late enrolment requests cannot always be accommodated, as sample manufacture must be scheduled well in advance to the shipping date of the program to allow all necessary quality assurance activities to be carried out.

Shipping of PT materials and evaluating test results from PTPs out of cycle with the mainstream programs is considerably time consuming and therefore costly.

In order not to disadvantage participants able to comply with time frames, Coal Concepts may charge a late fee in the following circumstances:

Requests that Coal concepts staff enters results on behalf of participants.

Requests to record results after the due date.

Requests for PTP participation that is out of cycle with the scheduled dates.

### Shipping fees and Customs clearance:

Costs incurred for shipping samples and clearance of same through customs are the responsibility of the participating laboratory unless otherwise indicated.

### Non-payment of fees:

Coal Concepts retains the right to withhold reports and/or test materials and services when invoices are outstanding.

### Confidentiality of results:

All data and information received by Coal Concepts from its clients are considered confidential unless the client has given express permission to pass on information.

### Definitions:

The dictionary definitions of "collusion" and "falsification" are as follows.

· *Collusion*: A secret agreement or cooperation for a fraudulent or deceitful purpose.

· *Falsification*: Deliberately changing something to be false. In proficiency testing terms, collusion is comparing data (and perhaps changing data) to fit in with a believed "correct" result. This is contrary to the spirit of proficiency testing programs, which are issued with the intention of providing an objective comparison of a laboratory's performance with others. Coal Concepts tries to minimise the occurrence of collusion by being aware that laboratories should be objective when they report their results and should therefore not know the intended results at the time, they are reporting to us.

Answers are not provided to clients until results have been submitted.

To prevent collusion and falsification our advice to clients is:

DON'T confer with others about PT samples or results.

DO accept the fact that everyone makes errors.

DON'T average the results or opinions of every person in the laboratory before selecting the answer to be submitted. Instead, use one of the answers AS SUBMITTED to you and take advantage of the Coal Concepts internal QA services and submit all answers generated by the technicians.

DO have confidence in your own results.

Proficiency Testing (PT) is a compulsory part of laboratory accreditation, but it is also an important tool for giving you confidence in your results. "Enhancing" your PT results with assistance from another participant cannot increase confidence in your laboratory's performance.

Coal concepts' testing staff are not told what the expected results are, nor what we are expecting.

We subject ALL results to analysis, even if they are different.

The staff have the right to check that the results we enter on their behalf are correctly transcribed.

Clients are always welcome to contact Coal Concepts to seek advice or information about collusion or falsification of data.

### Policy for Participant Appeal of PT Performance Assessment:

If participants disagree with their performance assessment in a proficiency report, they should inform Coal Concepts in writing.

The response will include Coal Concepts interpretation of the outcome of the reassessment and an explanation of that outcome.

(For example, explanation of a calculation, or the rationale for the outcome of the evaluation.)

If a mistake has been made by Coal Concepts, it will be dealt with via Coal Concepts' non-conformance system.

### Liability

In no event shall a party's liability to the other party for direct damages exceed an amount equal to the value of the amount for the PT Programme, under that specific month.

### **End of report**