



COAL CONCEPTS PROFICIENCY TESTING

GENERAL ANALYSIS SAMPLE

REPORT – ONE HUNDRED AND FIFTY-SIX

Revision 00

Final report

DATE ISSUED 31 OCTOBER 2024

PARTICIPANT

LABORATORY CODE: a

R BABOOLAL (SCHEME MANAGER)

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 seventeen samples were sent to participants with 116 results submitted timeously.
2. The total number of outliers detected were as follows (dry base):
 - ISO Ash x 1
 - Quick Ash x 2
 - Volatile matter x 6
 - Calorific value x 2
 - Total Sulphur x 2
 - Phos x 1
 - Carbon x 1
 - Hydrogen x 1
3. Chlorine, Fluorine, ASTM Ash, ASTM Volatile Matter participants were insufficient to apply robust statistical calculations.
4. Trending for your laboratory is as follows:

TABLE OF CONTENTS

ITEM	PAGE NUMBER
Letter to participant	4
List of participants	5
Type of sample used	6
Preparation of sample	6
Homogeneity check	6
Stability check	7
ISO Ash data	8
ISO Ash z-score trend	9
Quick Ash data	10
Quick Ash trend	11
ISO Volatile matter data	12
ISO Volatile matter z-score trend	13
Calorific value data	14
Calorific value z-score trend	15
Total sulphur data	16
Total sulphur z-score trend	17
Phosphorous data and Z-Score trend	18
Carbon data / Hydrogen data / Nitrogen data	19
AFT data and z-scores	20
ASTM Ash, ASTM Volatile, Chlorine & Fluorine	21
Conclusion	22
Terms & Conditions	23

Dear Participant

RE: PROFICIENCY TESTING RESULTS FOR THE MONTH OF OCTOBER 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 – Phalandwa
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 Grootegeluk	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 Main Lab
Gölbası Kimya Laboratuvarı İşletme Müdürlüğü	UAS Botswana
HighVeld Lab	UAS Overlooked
Hwange Colliery	UAS Sasol SCS
Idwala Lime	UAS Sudor
Imbally (Pty) Ltd	UAS Twistdraai
Imbally (Pty) Ltd Mooiplaats Colliery	UAS Witbank
İZMİR KÖMÜR LABORATUVARI	UIS
Jindal Kiepersol	Universal Geominerals Sdn Bhd - Malaysia
Jindal Mozambique	Vitrovian
Jugoinspekt Belgrade AD Serbia	Yatagan Termik
Laboratory for solid fuels-Mining Institute Belgrade	Yildiz Labs - Turkey
Labrite Lab	Ykenerji
Labrite highveld	

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 123 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	21,62	21,94	21,78	0,32	0,1024
2	21,53	21,83	21,68	0,30	0,0900
3	21,70	21,59	21,65	0,11	0,0121
4	21,77	21,88	21,83	0,11	0,0121
5	21,67	21,75	21,71	0,08	0,0064
6	21,62	21,77	21,70	0,15	0,0225
7	21,77	21,77	21,77	0,00	0,0000
8	21,82	21,83	21,83	0,01	0,0001
9	21,68	21,58	21,63	0,10	0,0100
10	21,83	21,61	21,72	0,22	0,0484
GENERAL AVERAGE			21,73		
STANDARD DEVIATION			0,070		
WITHIN SAMPLE STANDARD DEVIATION			0,123		
BETWEEN SAMPLE STANDARD DEVIATION			0,053		

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

(σ = std deviation for the proficiency assessment)

$\sigma = 0.435$ was used, which is the repeatability for ISO ash (Ash % > 10%)
Hence = $0.435 \times 0.3 = 0.130$

Since 0.053 < 0.130, 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	21,48	21,92	21,70	0,44	0,1936
2	21,69	21,91	21,80	0,22	0,0484
3	21,78	21,96	21,87	0,18	0,0324
4	21,80	21,96	21,88	0,16	0,0256
5	21,59	21,90	21,75	0,31	0,0961
6	21,68	21,95	21,82	0,27	0,0729
7	21,87	22,00	21,94	0,13	0,0169
8	21,83	21,97	21,90	0,14	0,0196
9	21,85	21,82	21,84	0,03	0,0009
10	21,82	21,80	21,81	0,02	0,0004
GENERAL AVERAGE			21,83		
STANDARD DEVIATION			0,071		
WITHIN SAMPLE STANDARD DEVIATION			0,159		
BETWEEN SAMPLE STANDARD DEVIATION			0,087		

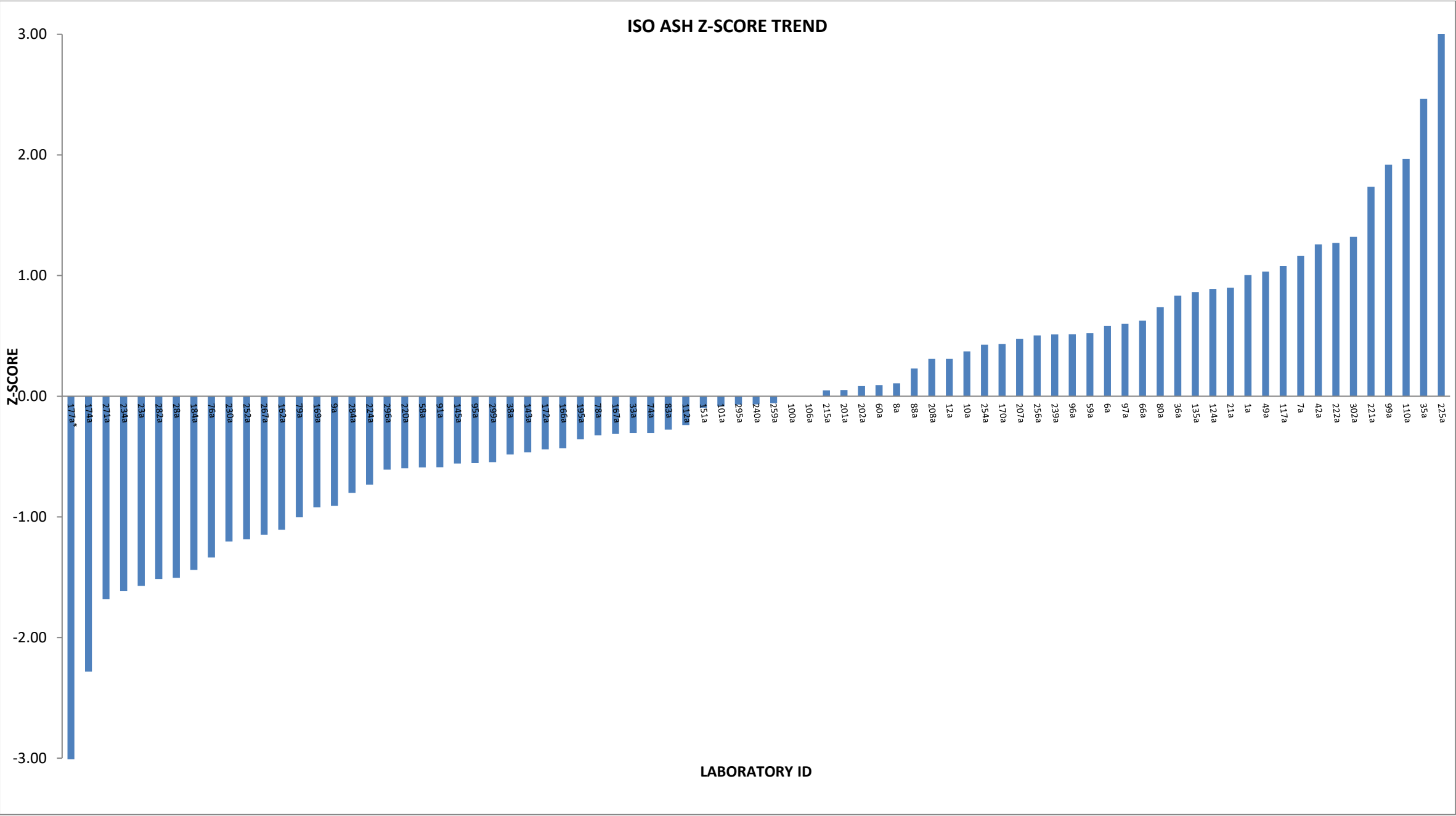
($\sigma = 0.689$ was used)

For this report $0.3 \times 0.435 = 0.130$

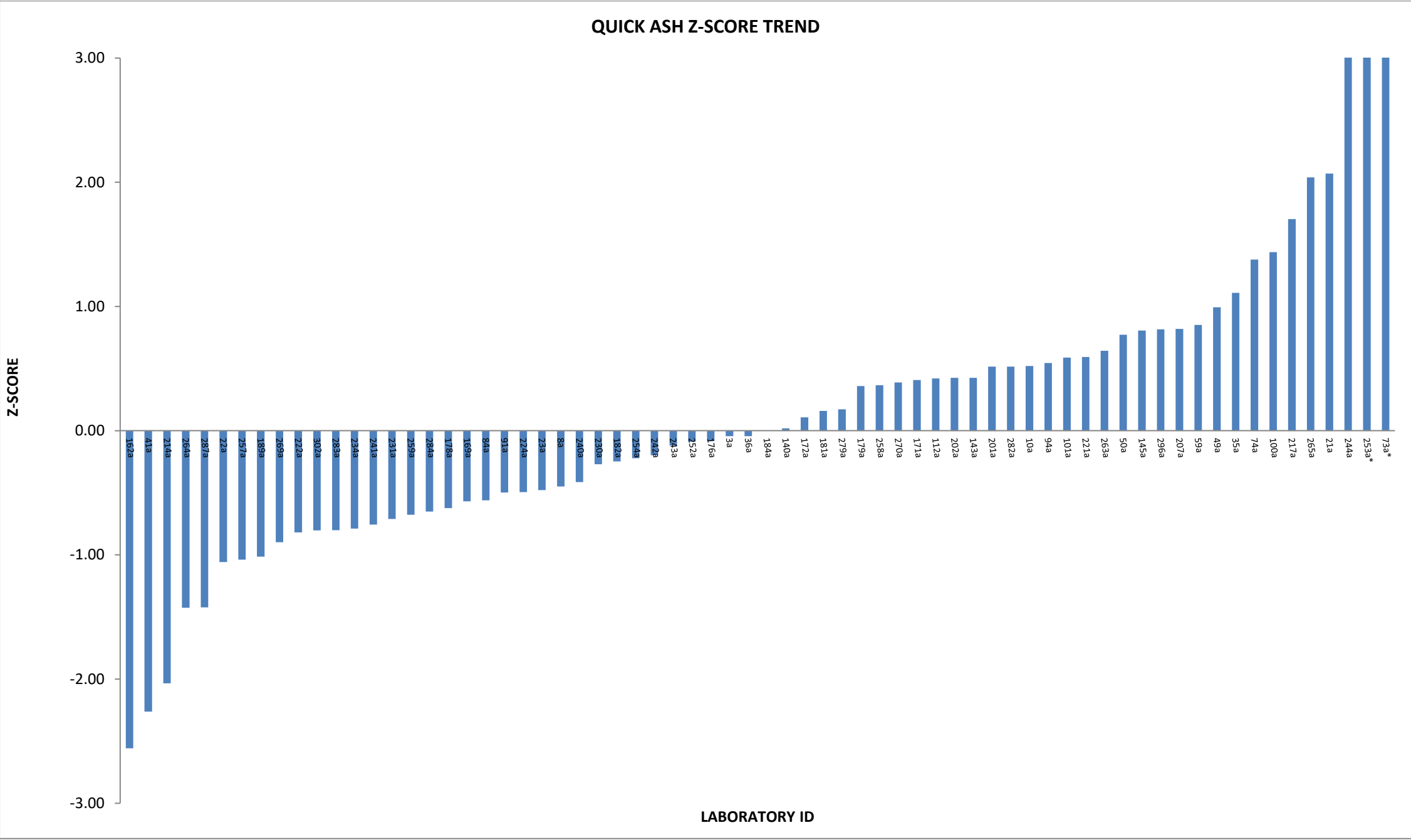
Absolute value of $(21.83 - 21.73) = 0.010$

Since $0.010 < 0.130$ the proficiency testing samples were stable

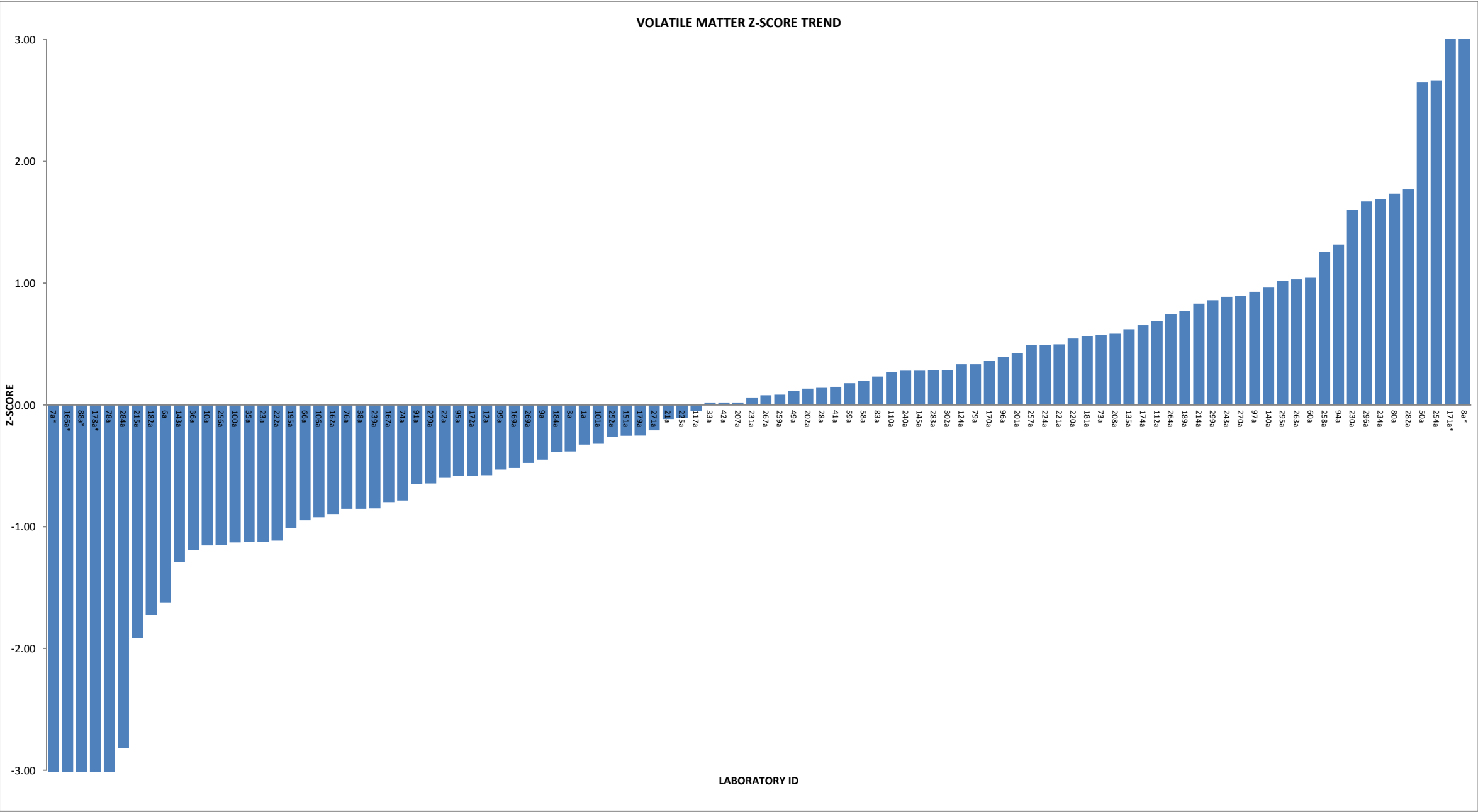
COAL CONCEPTS - PROFICIENCY TESTING -OCTOBER 2024					
ANALYTICAL PARAMETER: ISO ASH (%)					
	LAB ID	MOISTURE IN ANALYSIS SAMPLE (%)	AIR DRY (%)	DRY BASE (%)	Z-SCORE (DRY BASE)
	1a	4,38	21,92	22,92	1,00
	6a	3,01	22,18	22,87	0,58
	7a	3,77	22,08	22,95	1,16
	8a	3,18	22,08	22,81	0,11
	9a	3,40	21,90	22,67	-0,91
	10a	3,11	22,13	22,84	0,37
	12a	4,17	21,88	22,83	0,31
	21a	3,10	22,20	22,91	0,90
	23a	3,60	21,77	22,58	-1,57
	28a	3,24	21,86	22,59	-1,50
	33a	3,30	22,00	22,75	-0,30
	35a	4,40	22,10	23,12	2,46
	36a	3,50	22,10	22,90	0,83
	38a	3,20	22,00	22,73	-0,48
	42a	3,30	22,20	22,96	1,26
	49a	3,00	22,24	22,93	1,03
	58a	3,80	21,85	22,71	-0,59
	59a	3,85	21,98	22,86	0,52
	60a	4,40	21,80	22,80	0,09
	66a	3,34	22,11	22,87	0,63
	74a	3,30	22,00	22,75	-0,30
	76a	3,60	21,80	22,61	-1,34
	78a	2,41	22,20	22,75	-0,32
	79a	3,92	21,77	22,66	-1,00
	80a	3,49	22,09	22,89	0,74
	83a	3,14	22,04	22,75	-0,28
	88a	3,60	22,00	22,82	0,23
	91a	2,70	22,10	22,71	-0,59
	95a	3,60	21,90	22,72	-0,55
	96a	3,89	21,97	22,86	0,51
	97a	2,67	22,26	22,87	0,60
	99a	3,32	22,28	23,05	1,92
	100a	3,39	22,02	22,79	0,00
	101a	4,39	21,78	22,78	-0,08
	106a	3,90	21,90	22,79	0,00
	110a	3,39	22,27	23,05	1,97
	112a	4,04	21,84	22,76	-0,24
	117a	3,20	22,20	22,93	1,08
	124a	3,88	22,02	22,91	0,89
	135a	3,08	22,20	22,91	0,86
	143a	3,43	21,95	22,73	-0,46
	145a	3,29	21,97	22,72	-0,56
	151a	2,10	22,30	22,78	-0,10
	162a	3,73	21,80	22,64	-1,11
	166a	3,80	21,87	22,73	-0,43
	167a	3,12	22,04	22,75	-0,31
	169a	2,82	22,03	22,67	-0,92
	170a	3,80	21,98	22,85	0,43
	172a	2,96	22,06	22,73	-0,44
	174a	4,62	21,45	22,49	-2,28
	177a*	4,82	20,91	21,97	-6,21
	184a	3,10	21,90	22,60	-1,44
	195a	3,93	21,85	22,74	-0,36
	201a	3,50	22,00	22,80	0,05
	202a	4,22	21,84	22,80	0,08
	207a	3,30	22,10	22,85	0,48
	208a	4,52	21,80	22,83	0,31
	215a	4,20	21,84	22,80	0,05
	220a	3,40	21,94	22,71	-0,60
	221a	4,00	22,10	23,02	1,74
	222a	2,00	22,50	22,96	1,27
	224a	3,72	21,85	22,69	-0,73
	225a	4,30	22,20	23,20	3,07
	230a	3,41	21,86	22,63	-1,20
	234a	3,00	21,90	22,58	-1,62
	239a	4,37	21,86	22,86	0,51
	240a	3,96	21,88	22,78	-0,07
	252a	3,20	21,91	22,63	-1,18
	254a	3,36	22,08	22,85	0,43
	256a	3,84	21,98	22,86	0,50
	259a	3,00	22,10	22,78	-0,06
	267a	4,06	21,72	22,64	-1,15
	271a	3,36	21,81	22,57	-1,68
	282a	3,50	21,80	22,59	-1,51
	284a	3,02	22,00	22,69	-0,80
	295a	3,74	21,93	22,78	-0,07
	296a	2,16	22,22	22,71	-0,61
	299a	3,78	21,86	22,72	-0,55
	302a	2,90	22,30	22,97	1,32
Number of results	-	79	79	79	-
OUTLIERS	-	-	1	1	-
AVERAGE	-	3,51	21,99	22,79	-
STD DEVIATION	-	-	0,17	0,13	-
MEDIAN			21,99	22,78	-
%RSD	-	-	0,78	0,58	-
ROBUST AVERAGE	-	-	22,00	22,79	-
ROBUST STD DEVIATION	-	-	0,18	0,14	-
UoM			0,02	0,02	-



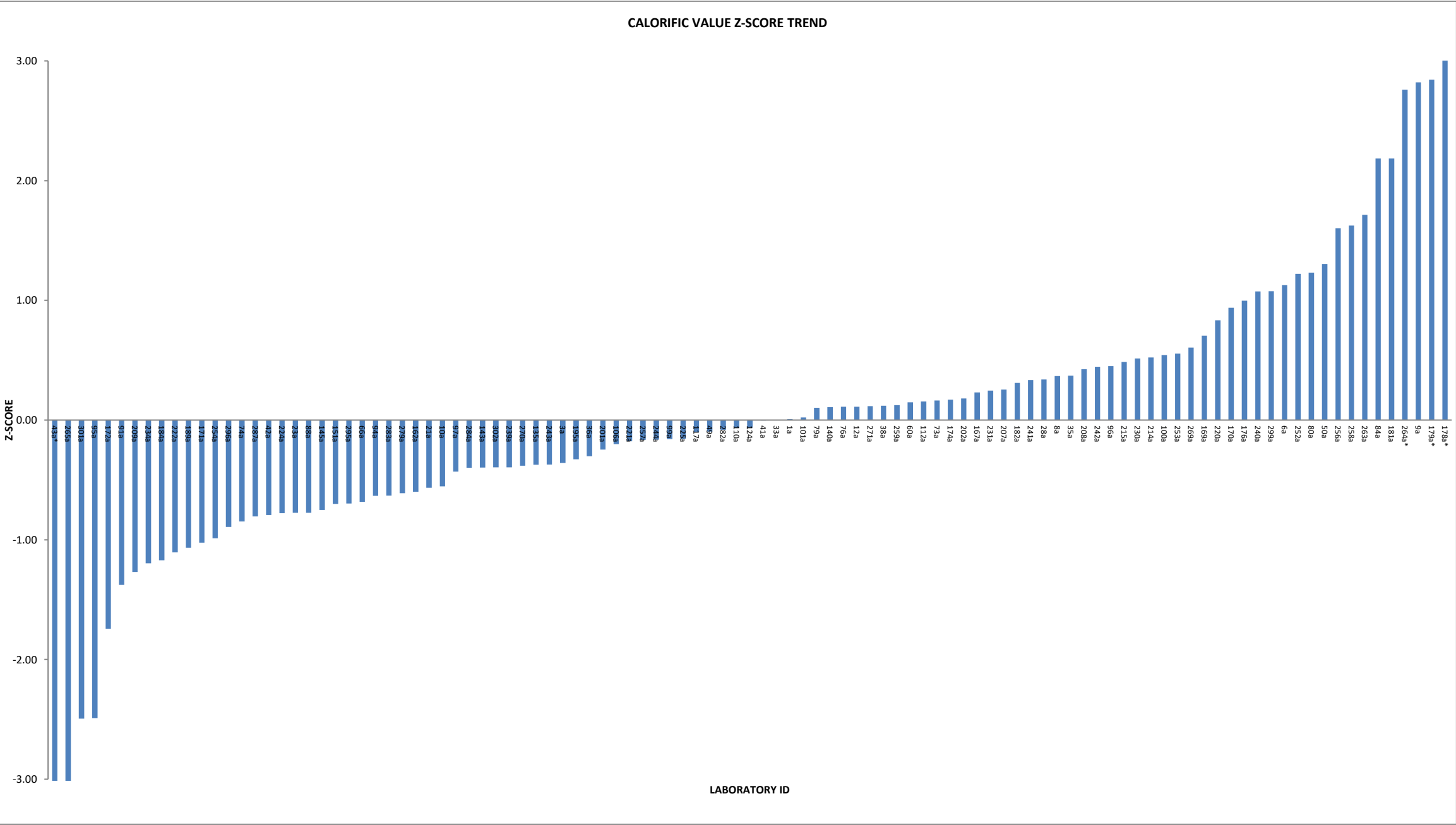
COAL CONCEPTS - PROFICIENCY TESTING -OCTOBER 2024					
ANALYTICAL PARAMETER: QUICK ASH (%)					
	LAB ID	MOISTURE IN ANALYSIS SAMPLE (%)	AIR DRY (%)	DRY BASE (%)	Z-SCORE (DRY BASE)
	3a	3,50	21,90	22,69	-0,04
	8a	3,18	21,90	22,62	-0,45
	10a	3,11	22,09	22,80	0,52
	21a	3,10	22,37	23,09	2,07
	22a	2,34	21,98	22,51	-1,06
	23a	3,60	21,80	22,61	-0,48
	35a	4,40	21,90	22,91	1,11
	36a	3,50	21,90	22,69	-0,04
	41a	2,62	21,70	22,28	-2,26
	49a	3,00	22,20	22,89	0,99
	50a	3,22	22,11	22,85	0,77
	59a	3,85	21,98	22,86	0,85
	<u>73a*</u>	2,50	<u>23,89</u>	<u>24,50</u>	<u>9,72</u>
	74a	3,30	22,20	22,96	1,38
	84a	4,42	21,60	22,60	-0,56
	91a	2,70	22,00	22,61	-0,50
	94a	4,40	21,80	22,80	0,54
	100a	3,39	22,19	22,97	1,44
	101a	4,39	21,81	22,81	0,59
	112a	4,04	21,86	22,78	0,42
	140a	3,11	22,00	22,71	0,02
	143a	3,43	22,00	22,78	0,43
	145a	3,29	22,10	22,85	0,81
	162a	3,73	21,40	22,23	-2,56
	169a	2,82	21,96	22,60	-0,57
	171a	4,03	21,86	22,78	0,41
	172a	2,96	22,05	22,72	0,11
	176a	3,38	21,92	22,69	-0,09
	178a	2,60	22,00	22,59	-0,62
	179a	2,50	22,20	22,77	0,36
	181a	4,10	21,80	22,73	0,16
	182a	3,34	21,90	22,66	-0,25
	184a	3,10	22,00	22,70	0,00
	189a	3,22	21,79	22,51	-1,01
	201a	3,50	22,00	22,80	0,51
	202a	4,22	21,82	22,78	0,43
	207a	3,30	22,10	22,85	0,82
	214a	3,70	21,50	22,33	-2,03
	217a	3,38	22,24	23,02	1,70
	221a	4,00	21,90	22,81	0,59
	222a	2,00	22,10	22,55	-0,82
	224a	3,72	21,77	22,61	-0,49
	230a	3,41	21,88	22,65	-0,27
	231a	4,39	21,58	22,57	-0,71
	234a	3,00	21,88	22,56	-0,79
	240a	3,96	21,73	22,63	-0,41
	241a	3,38	21,80	22,56	-0,76
	242a	3,38	21,90	22,67	-0,20
	243a	3,00	22,00	22,68	-0,12
	244a	3,38	22,50	23,29	3,16
	252a	3,20	21,96	22,69	-0,09
	<u>253a*</u>	3,38	<u>22,80</u>	<u>23,60</u>	<u>4,83</u>
	254a	3,36	21,90	22,66	-0,22
	257a	3,60	21,70	22,51	-1,04
	258a	4,70	21,70	22,77	0,37
	259a	3,00	21,90	22,58	-0,68
	263a	3,60	22,00	22,82	0,64
	264a	2,40	21,90	22,44	-1,43
	265a	3,38	22,30	23,08	2,04
	269a	3,80	21,68	22,54	-0,90
	270a	3,40	22,00	22,77	0,39
	279a	3,23	22,00	22,73	0,17
	282a	3,50	22,00	22,80	0,51
	283a	4,32	21,58	22,55	-0,80
	284a	3,02	21,90	22,58	-0,65
	287a	3,25	21,71	22,44	-1,42
	296a	2,16	22,36	22,85	0,82
	302a	2,90	21,90	22,55	-0,80
Number of results	-	68	68	68	-
OUTLIERS	-	-	2	2	-
AVERAGE	-	3,38	21,93	22,70	-
STD DEVIATION	-	-	0,21	0,19	-
MEDIAN			21,90	22,69	
%RSD	-	-	0,94	0,82	
ROBUST AVERAGE	-	-	21,93	22,70	
ROBUST STD DEVIATION	-	-	0,22	0,19	
UoM			0,03	0,03	



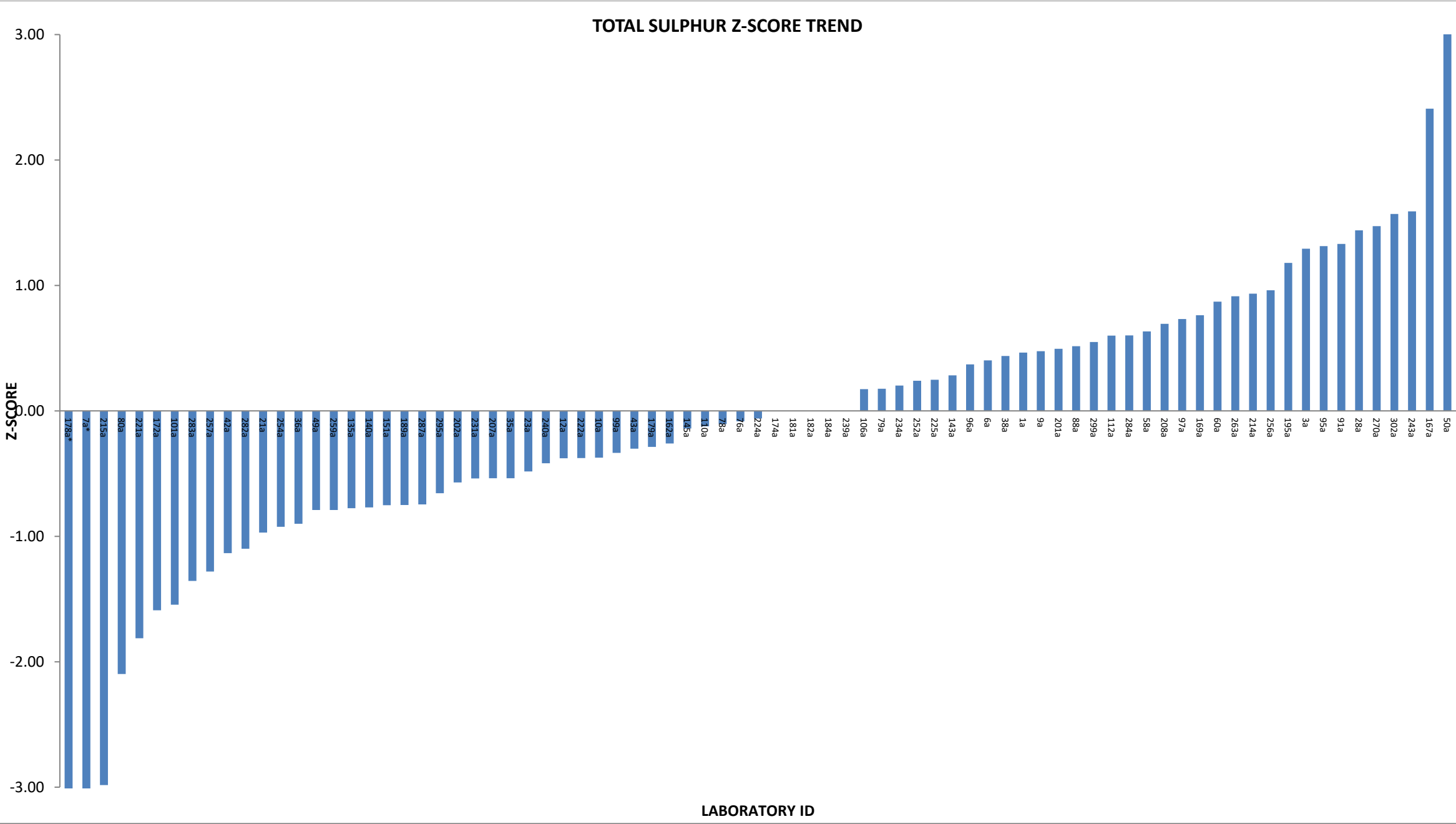
COAL CONCEPTS - PROFICIENCY TESTING -OCTOBER 2024					
ANALYTICAL PARAMETER: ISO VOLATILE MATTER (%)					
	LAB ID	MOISTURE IN ANALYSIS SAMPLE (%)	AIR DRY	DRY BASE	Z-SCORE (DRY BASE)
	1a	4,38	24,00	25,10	-0,33
	3a	3,50	24,20	25,08	-0,38
	6a	3,01	23,86	24,60	-1,62
	7a*	3,77	19,15	19,90	-13,82
	8a*	3,18	27,14	28,03	7,29
	9a	3,40	24,20	25,05	-0,45
	10a	3,11	24,01	24,78	-1,15
	12a	4,17	23,96	25,00	-0,58
	21a	3,10	24,40	25,18	-0,11
	22a	2,34	24,41	24,99	-0,60
	23a	3,60	23,90	24,79	-1,12
	28a	3,24	24,46	25,28	0,14
	33a	3,30	24,40	25,23	0,02
	35a	4,40	23,70	24,79	-1,13
	36a	3,50	23,90	24,77	-1,19
	38a	3,20	24,10	24,90	-0,85
	41a	2,62	24,62	25,28	0,15
	42a	3,30	24,40	25,23	0,02
	49a	3,00	24,51	25,27	0,11
	50a	3,22	25,40	26,25	2,65
	58a	3,80	24,34	25,30	0,20
	59a	3,85	24,32	25,29	0,18
	60a	4,40	24,50	25,63	1,05
	66a	3,34	24,03	24,86	-0,95
	73a	2,50	24,81	25,45	0,57
	74a	3,30	24,10	24,92	-0,78
	76a	3,60	24,00	24,90	-0,85
	78a	2,41	23,40	23,98	-3,24
	79a	3,92	24,36	25,35	0,34
	80a	3,49	24,99	25,89	1,74
	83a	3,14	24,52	25,31	0,23
	88a*	3,60	20,82	21,60	-9,42
	91a	2,70	24,30	24,97	-0,65
	94a	4,40	24,60	25,73	1,32
	95a	3,60	24,10	25,00	-0,58
	96a	3,89	24,39	25,38	0,40
	97a	2,67	24,90	25,58	0,93
	99a	3,32	24,19	25,02	-0,53
	100a	3,39	23,95	24,79	-1,13
	101a	4,39	24,00	25,10	-0,32
	106a	3,90	23,90	24,87	-0,92
	110a	3,39	24,47	25,33	0,27
	112a	4,04	24,46	25,49	0,69
	117a	3,20	24,40	25,21	-0,05
	124a	3,88	24,37	25,35	0,33
	135a	3,08	24,68	25,46	0,62
	140a	3,11	24,80	25,60	0,96
	143a	3,43	23,88	24,73	-1,29
	145a	3,29	24,50	25,33	0,28
	151a	2,10	24,60	25,13	-0,25
	162a	3,73	23,95	24,88	-0,90
	166a*	3,80	20,18	20,98	-11,03
	167a	3,12	24,14	24,92	-0,80
	169a	2,82	24,32	25,03	-0,52
	170a	3,80	24,40	25,36	0,36
	171a*	4,03	26,89	28,02	7,25
	172a	2,96	24,26	25,00	-0,58
	174a	4,62	24,30	25,48	0,65
	178a*	2,60	21,81	22,39	-7,35
	179a	2,50	24,50	25,13	-0,25
	181a	4,10	24,40	25,44	0,57
	182a	3,34	23,74	24,56	-1,73
	184a	3,10	24,30	25,08	-0,38
	189a	3,22	24,70	25,52	0,77
	195a	3,93	23,86	24,84	-1,01
	201a	3,50	24,50	25,39	0,43
	202a	4,22	24,21	25,28	0,13
	207a	3,30	24,40	25,23	0,02
	208a	4,52	24,30	25,45	0,59
	214a	3,70	24,60	25,55	0,83
	215a	4,20	23,46	24,49	-1,91
	220a	3,40	24,57	25,43	0,55
	221a	4,00	24,40	25,42	0,50
	222a	2,00	24,30	24,80	-1,11
	224a	3,72	24,47	25,42	0,49
	225a	4,30	24,10	25,18	-0,11
	230a	3,41	24,96	25,84	1,60
	231a	4,39	24,14	25,25	0,06
	234a	3,00	25,10	25,88	1,69
	239a	4,37	23,81	24,90	-0,85
	240a	3,96	24,33	25,33	0,28
	243a	3,00	24,80	25,57	0,89
	252a	3,20	24,32	25,12	-0,26
	254a	3,36	25,37	26,25	2,67
	256a	3,84	23,83	24,78	-1,15
	257a	3,60	24,50	25,41	0,49
	258a	4,70	24,50	25,71	1,26
	259a	3,00	24,50	25,26	0,09
	263a	3,60	24,70	25,62	1,03
	264a	2,40	24,90	25,51	0,75
	267a	4,06	24,23	25,26	0,08
	269a	3,80	24,09	25,04	-0,48
	270a	3,40	24,70	25,57	0,89
	271a	3,36	24,30	25,14	-0,21
	279a	3,23	24,17	24,98	-0,64
	282a	3,50	25,00	25,91	1,77
	283a	4,32	24,24	25,33	0,28
	284a	3,02	23,41	24,14	-2,82
	295a	3,74	24,66	25,62	1,02
	296a	2,16	25,31	25,87	1,67
	299a	3,78	24,59	25,56	0,86
	302a	2,90	24,60	25,33	0,29
NUMBER OF RESULTS	-	102	102	102	-
OUTLIERS	-	-	6	6	-
AVERAGE	-	3,47	24,35	25,22	-
STD DEVIATION	-		0,39	0,39	-
MEDIAN			24,37	25,26	
%RSD	-	-	1,59	1,53	
ROBUST AVERAGE	-	-	24,35	25,23	-
ROBUST STD DEVIATION	-	-	0,42	0,41	-
UoM	-	-	0,05	0,05	-



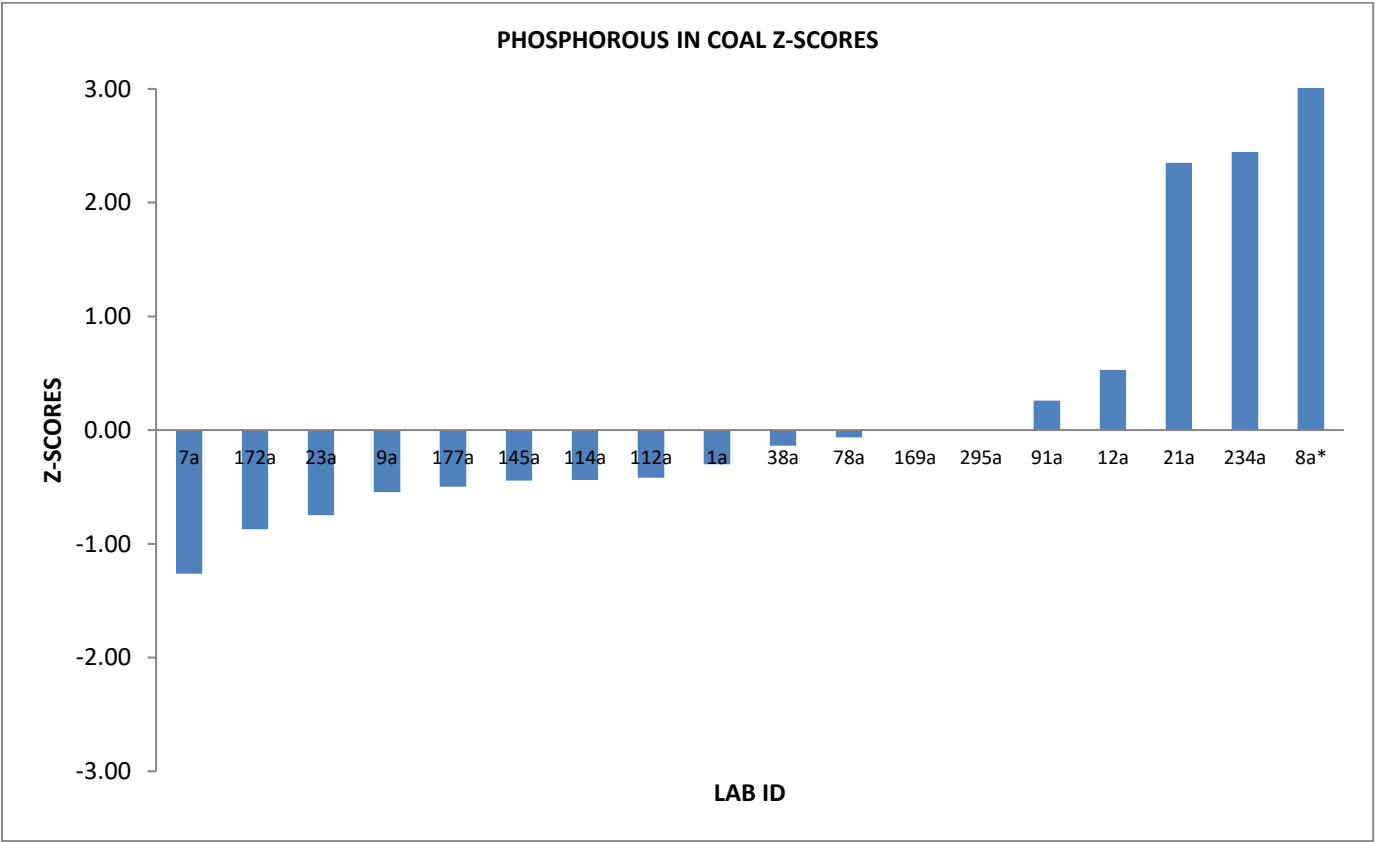
COAL CONCEPTS - PROFICIENCY TESTING -OCTOBER 2024					
ANALYTICAL PARAMETER: CALORIFIC VALUE (MJ/kg)					
	LAB ID	MOISTURE IN ANALYSIS SAMPLE (%)	AIR DRY (MJ/kg)	DRY BASE (MJ/kg)	Z-SCORE (DRY BASE)
	1a	4,38	23,49	24,57	0,01
	3a	3,50	23,64	24,50	-0,36
	6a	3,01	24,03	24,78	1,13
	8a	3,18	23,85	24,63	0,37
	9a	3,40	24,24	25,09	2,82
	10a	3,11	23,70	24,46	-0,55
	12a	4,17	23,56	24,59	0,11
	21a	3,10	23,70	24,46	-0,57
	23a	3,60	23,54	24,42	-0,77
	28a	3,24	23,83	24,63	0,34
	33a	3,30	23,75	24,56	0,00
	35a	4,40	23,55	24,63	0,37
	36a	3,50	23,65	24,51	-0,30
	38a	3,20	23,80	24,59	0,12
	41a	2,62	23,92	24,56	0,00
	42a	3,30	23,61	24,42	-0,79
	<u>43a*</u>	3,48	<u>22,83</u>	<u>23,65</u>	<u>-4,86</u>
	49a	3,00	23,81	24,55	-0,10
	50a	3,22	24,01	24,81	1,30
	60a	4,40	23,51	24,59	0,15
	66a	3,34	23,62	24,44	-0,68
	73a	2,50	23,98	24,59	0,16
	74a	3,30	23,60	24,41	-0,85
	76a	3,60	23,70	24,59	0,11
	79a	3,92	23,62	24,58	0,10
	80a	3,49	23,93	24,80	1,23
	84a	4,42	23,87	24,97	2,18
	88a	3,60	23,54	24,42	-0,77
	91a	2,70	23,65	24,31	-1,38
	94a	4,40	23,37	24,45	-0,63
	95a	3,60	23,23	24,10	-2,49
	96a	3,89	23,69	24,65	0,45
	97a	2,67	23,83	24,48	-0,43
	99a	3,32	23,72	24,53	-0,16
	100a	3,39	23,83	24,67	0,54
	101a	4,39	23,49	24,57	0,02
	106a	3,90	23,57	24,53	-0,20
	110a	3,39	23,72	24,55	-0,06
	112a	4,04	23,60	24,59	0,16
	117a	3,20	23,76	24,55	-0,10
	124a	3,88	23,60	24,55	-0,06
	135a	3,08	23,74	24,49	-0,37
	140a	3,11	23,82	24,58	0,11
	143a	3,43	23,65	24,49	-0,40
	145a	3,29	23,62	24,42	-0,75
	151a	2,10	23,92	24,43	-0,70
	162a	3,73	23,54	24,45	-0,60
	167a	3,12	23,84	24,61	0,23
	169a	2,82	24,00	24,70	0,70
	170a	3,80	23,80	24,74	0,94
	171a	4,03	23,39	24,37	-1,02
	172a	2,96	23,52	24,24	-1,74
	174a	4,62	23,46	24,60	0,17
	176a	3,48	23,89	24,75	1,00
	<u>178a*</u>	2,60	<u>29,93</u>	<u>30,73</u>	<u>32,88</u>
	<u>179a*</u>	2,50	<u>24,47</u>	25,10	2,84
	181a	4,10	23,95	24,97	2,18
	182a	3,34	23,80	24,62	0,31
	184a	3,10	23,59	24,34	-1,17
	189a	3,22	23,58	24,36	-1,07
	195a	3,93	23,54	24,50	-0,33
	201a	3,50	23,66	24,52	-0,25
	202a	4,22	23,56	24,60	0,18
	207a	3,30	23,80	24,61	0,26
	208a	4,52	23,53	24,64	0,42
	209a	3,48	23,48	24,33	-1,27
	214a	3,70	23,75	24,66	0,52
	215a	4,20	23,62	24,66	0,49
	220a	3,40	23,88	24,72	0,83
	221a	4,00	23,55	24,53	-0,18
	222a	2,00	23,87	24,36	-1,11
	224a	3,72	23,51	24,42	-0,78
	225a	4,30	23,48	24,54	-0,16
	230a	3,41	23,82	24,66	0,52
	231a	4,39	23,53	24,61	0,25
	234a	3,00	23,61	24,34	-1,20
	239a	4,37	23,42	24,49	-0,40
	240a	3,96	23,79	24,77	1,07
	241a	3,48	23,77	24,63	0,33
	242a	3,48	23,79	24,65	0,44
	243a	3,00	23,76	24,49	-0,37
	244a	3,48	23,68	24,53	-0,16
	252a	3,20	24,00	24,79	1,22
	253a	3,48	23,81	24,67	0,56
	254a	3,36	23,56	24,38	-0,99
	256a	3,84	23,91	24,86	1,60
	257a	3,60	23,65	24,53	-0,17
	258a	4,70	23,70	24,87	1,62
	259a	3,00	23,85	24,59	0,12
	263a	3,60	23,99	24,89	1,71
	<u>264a*</u>	2,40	<u>24,48</u>	25,08	2,76
	265a	3,48	23,16	24,00	-3,04
	269a	3,80	23,74	24,68	0,60
	270a	3,40	23,66	24,49	-0,38
	271a	3,36	23,76	24,59	0,12
	279a	3,23	23,66	24,45	-0,61
	282a	3,50	23,69	24,55	-0,08
	283a	4,32	23,39	24,45	-0,63
	284a	3,02	23,75	24,49	-0,40
	287a	3,25	23,62	24,41	-0,81
	295a	3,74	23,52	24,43	-0,70
	296a	2,16	23,87	24,40	-0,89
	299a	3,78	23,83	24,77	1,08
	301a	2,85	23,41	24,10	-2,49
	302a	2,90	23,78	24,49	-0,40
NUMBER OF RESULTS	-	105	105	105	-
OUTLIERS	-	-	4	2	-
AVERAGE	-	3,48	23,69	24,56	-
STD DEVIATION	-	-	0,18	0,19	-
MEDIAN	-	-	23,69	24,55	-
%RSD	-	-	0,76	0,76	-
ROBUST AVERAGE	-	-	23,69	24,56	-
ROBUST STD DEVIATION	-	-	0,19	0,20	-
UoM	-	-	0,02	0,02	-



COAL CONCEPTS - PROFICIENCY TESTING -OCTOBER 2024					
ANALYTICAL PARAMETER: TOTAL SULPHUR (%)					
	LAB ID	MOISTURE IN ANALYSIS SAMPLE (%)	AIR DRY	DRY BASE	Z-SCORE (DRY BASE)
	1a	4,38	0,92	0,96	0,47
	3a	3,50	0,97	1,01	1,29
	6a	3,01	0,93	0,96	0,40
	7a*	3,77	0,69	0,72	-4,21
	9a	3,40	0,93	0,96	0,48
	10a	3,11	0,89	0,92	-0,37
	12a	4,17	0,88	0,92	-0,38
	21a	3,10	0,86	0,89	-0,97
	23a	3,60	0,88	0,91	-0,48
	28a	3,24	0,98	1,01	1,44
	35a	4,40	0,87	0,91	-0,54
	36a	3,50	0,86	0,89	-0,90
	38a	3,20	0,93	0,96	0,44
	42a	3,30	0,85	0,88	-1,13
	43a	3,50	0,89	0,92	-0,30
	49a	3,00	0,87	0,90	-0,79
	50a	3,22	1,06	1,10	3,03
	58a	3,80	0,93	0,97	0,63
	60a	4,40	0,94	0,98	0,87
	76a	3,60	0,90	0,93	-0,08
	78a	2,41	0,91	0,93	-0,11
	79a	3,92	0,91	0,95	0,18
	80a	3,49	0,80	0,83	-2,10
	88a	3,60	0,93	0,96	0,51
	91a	2,70	0,98	1,01	1,33
	95a	3,60	0,97	1,01	1,31
	96a	3,89	0,92	0,96	0,37
	97a	2,67	0,95	0,98	0,73
	99a	3,32	0,89	0,92	-0,33
	101a	4,39	0,82	0,86	-1,54
	106a	3,90	0,91	0,95	0,17
	110a	3,39	0,90	0,93	-0,12
	112a	4,04	0,93	0,97	0,60
	135a	3,08	0,87	0,90	-0,78
	140a	3,11	0,87	0,90	-0,77
	143a	3,43	0,92	0,95	0,28
	145a	3,29	0,90	0,93	-0,14
	151a	2,10	0,88	0,90	-0,75
	162a	3,73	0,89	0,92	-0,26
	167a	3,12	1,03	1,06	2,41
	169a	2,82	0,95	0,98	0,76
	172a	2,96	0,83	0,86	-1,59
	174a	4,62	0,90	0,94	0,00
	178a*	2,60	0,64	0,66	-5,40
	179a	2,50	0,90	0,92	-0,29
	181a	4,10	0,90	0,94	0,00
	182a	3,34	0,91	0,94	0,00
	184a	3,10	0,91	0,94	0,00
	189a	3,22	0,87	0,90	-0,75
	195a	3,93	0,96	1,00	1,18
	201a	3,50	0,93	0,96	0,50
	202a	4,22	0,87	0,91	-0,57
	207a	3,30	0,88	0,91	-0,54
	208a	4,52	0,93	0,97	0,69
	214a	3,70	0,95	0,99	0,93
	215a	4,20	0,75	0,78	-2,98
	221a	4,00	0,81	0,84	-1,81
	222a	2,00	0,90	0,92	-0,38
	224a	3,72	0,90	0,93	-0,06
	225a	4,30	0,91	0,95	0,25
	231a	4,39	0,87	0,91	-0,54
	234a	3,00	0,92	0,95	0,20
	239a	4,37	0,90	0,94	0,00
	240a	3,96	0,88	0,92	-0,42
	243a	3,00	0,99	1,02	1,59
	252a	3,20	0,92	0,95	0,24
	254a	3,36	0,86	0,89	-0,92
	256a	3,84	0,95	0,99	0,96
	257a	3,60	0,84	0,87	-1,28
	259a	3,00	0,87	0,90	-0,79
	263a	3,60	0,95	0,99	0,91
	270a	3,40	0,98	1,01	1,47
	282a	3,5	0,85	0,88	-1,10
	283a	4,32	0,83	0,87	-1,36
	284a	3,02	0,94	0,97	0,60
	287a	3,25	0,87	0,90	-0,75
	295a	3,74	0,87	0,90	-0,66
	299a	3,78	0,93	0,97	0,55
	302a	2,90	0,99	1,02	1,57
NUMBER OF RESULTS		79	79	79	-
OUTLIERS	-	-	2	2	-
AVERAGE	-	3,50	0,91	0,94	
MEDIAN		-	0,90	0,94	
STD DEVIATION	-	-	0,05	0,05	
%RSD	-	-	5,63	5,54	
ROBUST AVERAGE	-	-	0,91	0,94	-
ROBUST STD DEVIATION	-	-	0,05	0,05	-
UoM	-	-	0,01	0,01	-



COAL CONCEPTS - PROFICIENCY TESTING -OCTOBER 2024					
ANALYTICAL PARAMETER: PHOSPHOROUS IN COAL (%)					
	LAB ID	MOISTURE IN ANALYSIS SAMPLE (%)	AIR DRY	DRY BASE	Z-SCORE (DRY BASE)
	1a	4,38	0,033	0,035	-0,30
	7a	3,77	0,024	0,025	-1,26
	<u>8a*</u>	3,18	<u>0,170</u>	<u>0,176</u>	<u>13,88</u>
	9a	3,40	0,031	0,032	-0,55
	12a	4,17	0,041	0,043	0,53
	21a	3,10	0,059	0,061	2,35
	23a	3,60	0,029	0,030	-0,75
	38a	3,20	0,035	0,036	-0,14
	78a	2,41	0,036	0,037	-0,06
	91a	2,70	0,039	0,040	0,26
	112a	4,04	0,032	0,033	-0,42
	114a	3,45	0,032	0,033	-0,44
	145a	3,29	0,032	0,033	-0,45
	169a	2,82	0,037	0,038	0,00
	172a	2,96	0,028	0,029	-0,87
	177a	4,82	0,031	0,033	-0,50
	234a	3,00	0,060	0,062	2,45
	295a	3,74	0,037	0,038	0,00
Number of results	-	18	18	18	-
OUTLIERS	-	-	1	1	-
AVERAGE	-	3,45	0,036	0,038	-
STD DEVIATION	-	-	0,010	0,010	-
MEDIAN		-	0,033	0,035	
ROBUST AVERAGE	-	-	0,035	0,037	
ROBUST STD DEVIATION	-	-	0,010	0,010	
UoM	-	-	0,003	0,003	



COAL CONCEPTS - PROFICIENCY TESTING -OCTOBER 2024					
ANALYTICAL PARAMETER: TOTAL CARBON (%)					
	LAB ID	MOISTURE IN ANALYSIS SAMPLE (%)	AIR DRY	DRY BASE	Z-SCORE (DRY BASE)
	1a	4,38	59,70	62,43	-0,42
	12a	4,17	58,86	61,42	-2,11
	21a	3,10	60,20	62,13	-0,94
	42a	3,30	60,46	62,52	-0,27
	79a	3,92	60,78	63,26	0,96
	88a	3,60	60,93	63,21	0,87
	174a	4,62	60,29	63,21	0,87
	177a	4,82	59,80	62,83	0,24
	202a	4,22	60,22	62,87	0,31
	224a	3,72	60,34	62,67	-0,03
	<u>234a*</u>	3,00	<u>63,50</u>	<u>65,46</u>	<u>4,64</u>
	239a	4,37	60,13	62,88	0,32
	240a	3,96	60,16	62,64	-0,08
	295a	3,74	59,54	61,85	-1,39
	299a	3,78	61,28	63,69	1,67
Number of results	-	15	15	15	-
OUTLIERS	-	-	1	1	-
AVERAGE	-	3,91	60,19	62,69	-
MEDIAN	-	-	60,21	62,75	-
STD DEVIATION	-	-	0,61	0,60	-
%RSD	-	-	1,01	0,96	-
ROBUST AVERAGE	-	-	60,21	62,71	-
ROBUST STD DEVIATION	-	-	0,57	0,61	-
UoM	-	-	0,19	0,20	-

COAL CONCEPTS - PROFICIENCY TESTING -OCTOBER 2024					
ANALYTICAL PARAMETER: HYDROGEN (%)					
	LAB ID	MOISTURE IN ANALYSIS SAMPLE (%)	AIR DRY	DRY BASE	Z-SCORE (DRY BASE)
	1a	4,38	3,29	3,44	-0,22
	12a	4,17	3,47	3,62	0,83
	21a	3,10	3,00	3,10	-2,23
	42a	3,30	3,43	3,55	0,40
	79a	3,92	3,42	3,56	0,47
	88a	3,60	3,22	3,34	-0,81
	174a	4,62	3,28	3,44	-0,23
	177a	4,82	3,36	3,53	0,30
	202a	4,22	3,49	3,64	0,96
	215a	4,20	3,43	3,58	0,59
	224a	3,72	3,47	3,60	0,73
	234a	3,00	3,20	3,30	-1,05
	239a	4,37	3,14	3,28	-1,14
	<u>240a*</u>	3,96	<u>4,04</u>	<u>4,21</u>	<u>4,23</u>
	295a	3,74	3,58	3,72	1,40
Number of results	-	15	15	15	-
OUTLIERS	-	-	1	1	-
AVERAGE	-	3,94	3,34	3,48	-
MEDIAN	-	-	3,39	3,54	-
STD DEVIATION	-	-	0,16	0,17	-
%RSD	-	-	4,79	4,94	-
ROBUST AVERAGE	-	-	3,33	3,49	-
ROBUST STD DEVIATION	-	-	0,22	0,18	-
UoM	-	-	0,07	0,06	-

COAL CONCEPTS - PROFICIENCY TESTING -OCTOBER 2024					
ANALYTICAL PARAMETER: NITROGEN (%)					
	LAB ID	MOISTURE IN ANALYSIS SAMPLE (%)	AIR DRY	DRY BASE	Z-SCORE (DRY BASE)
	1a	4,38	1,47	1,54	0,20
	12a	4,17	1,38	1,44	-1,09
	42a	3,30	1,46	1,51	-0,16
	79a	3,92	1,47	1,53	0,11
	88a	3,60	1,50	1,56	0,45
	174a	4,62	1,50	1,57	0,68
	177a	4,82	1,59	1,67	1,98
	202a	4,22	1,42	1,48	-0,53
	224a	3,72	1,45	1,51	-0,21
	239a	4,37	1,43	1,50	-0,36
	240a	3,96	1,32	1,37	-1,97
	295a	3,74	1,53	1,59	0,90
Number of results	-	12	12	12	-
OUTLIERS	-	-	0	0	-
AVERAGE	-	4,07	1,46	1,52	-
MEDIAN	-	-	1,47	1,52	-
STD DEVIATION	-	-	0,07	0,07	-
%RSD	-	-	4,79	4,92	-
ROBUST AVERAGE	-	-	1,46	1,52	-
ROBUST STD DEVIATION	-	-	0,07	0,07	-
UoM	-	-	0,02	0,02	-

COAL CONCEPTS - PROFICIENCY TESTING -OCTOBER 2024					
ANALYTICAL PARAMETER: ASH FUSION TEMPERATURES (oC)					
LAB ID	DEFORMATION	SOFTENING	HEMISPHERE	FLOW	
1a	1390	1410	1420	1430	
9a	1400	1420	1450	1470	
10a	1390	1420	1460	1500	
21a	1500	1500	1500	1500	
28a	1410	1440	1460	1480	
36a	1370	1410	1440	1470	
38a	1360	1380	1400	1420	
42a	1450	1470	1490	1500	
49a	1400	1430	1470	1500	
80a	1400	1430	1460	1500	
88a	1430	1440	1460	1500	
95a	1400	1420	1450	1470	
99a	1424	1458	1484	1500	
106a	1360	1380	1410	1470	
110a	1420	1450	1480	1500	
112a	1330	1360	1410	1450	
145a	1375	1400	1430	1460	
151a	1320	1360	1430	1450	
174a	1370	1420	1450	1510	
224a	1370	1420	1450	1500	
234a	1500	1500	1500	1500	
240a	1460	1470	1480	1500	
Number of results	22	22	22	22	
Outliers	0	0	0	0	
AVERAGE	1401	1427	1454	1481	
MEDIAN	1400	1420	1455	1500	
STDEV	47	39	29	26	

Z-SCORES				
LAB ID	DEFORMATION	SOFTENING	HEMISPHERE	FLOW
1a	-0,24	-0,43	-1,17	-1,97
9a	-0,03	-0,17	-0,13	-0,42
10a	-0,24	-0,17	0,21	0,74
21a	2,11	1,90	1,60	0,74
28a	0,19	0,34	0,21	-0,04
36a	-0,67	-0,43	-0,48	-0,42
38a	-0,88	-1,21	-1,86	-2,36
42a	1,04	1,12	1,25	0,74
49a	-0,03	0,08	0,56	0,74
80a	-0,03	0,08	0,21	0,74
88a	0,61	0,34	0,21	0,74
95a	-0,03	-0,17	-0,13	-0,42
99a	0,48	0,81	1,04	0,74
106a	-0,88	-1,21	-1,52	-0,42
110a	0,40	0,60	0,91	0,74
112a	-1,52	-1,73	-1,52	-1,20
145a	-0,56	-0,69	-0,82	-0,81
151a	-1,74	-1,73	-0,82	-1,20
174a	-0,67	-0,17	-0,13	1,13
224a	-0,67	-0,17	-0,13	0,74
234a	2,11	1,90	1,60	0,74
240a	1,25	1,12	0,91	0,74

COAL CONCEPTS - PROFICIENCY TESTING -OCTOBER 2024					
ANALYTICAL PARAMETER: CHLORINE (ppm)					
	LAB ID	MOISTURE IN ANALYSIS SAMPLE (%)	AIR DRY	DRY BASE	Z-SCORE (DRY BASE)
	1a	4,38	100	105	-
	12a	4,17	162	169	-
	177a	4,82	111	117	-
Number of results	-	3	3	3	-
OUTLIERS	-	-	-	-	-
AVERAGE	-	4,46	124	130	-
STD DEVIATION	-	-	-	-	-
MEDIAN	-	-	-	-	-

COAL CONCEPTS - PROFICIENCY TESTING -OCTOBER 2024					
ANALYTICAL PARAMETER: FLUORINE (ppm)					
	LAB ID	MOISTURE IN ANALYSIS SAMPLE (%)	AIR DRY	DRY BASE	Z-SCORE (DRY BASE)
	1a	4,38	200	209	-
	12a	4,17	335	350	-
	177a	4,82	130	137	-
Number of results	-	3	3	3	-
OUTLIERS	-	-	-	-	-
AVERAGE	-	4,46	222	232	-
STD DEVIATION	-	-	na	na	-
MEDIAN	-	-	na	na	-

COAL CONCEPTS - PROFICIENCY TESTING -OCTOBER 2024					
ANALYTICAL PARAMETER: ASTM ASH (%)					
	LAB ID	MOISTURE IN ANALYSIS SAMPLE (%)	AIR DRY (%)	DRY BASE (%)	Z-SCORE (DRY BASE)
	1a	4,38	22,00	23,01	1,67
	12a	4,17	21,89	22,84	0,56
	202a	4,22	21,66	22,61	-0,98
	224a	3,72	21,93	22,78	0,12
	239a	4,37	21,66	22,65	-0,74
	301a	2,85	22,02	22,67	-0,63
Number of results	-	6	6	6	-
OUTLIERS	-	-	0	0	-
AVERAGE	-	3,95	21,86	22,76	-
STD DEVIATION	-	-	0,16	0,15	-
MEDIAN	-	-	21,91	22,72	
%RSD	-	-	0,74	0,65	-

COAL CONCEPTS - PROFICIENCY TESTING -OCTOBER 2024					
ANALYTICAL PARAMETER: ASTM VOLS (%)					
	LAB ID	MOISTURE IN ANALYSIS SAMPLE (%)	AIR DRY (%)	DRY BASE (%)	Z-SCORE (DRY BASE)
	1a	4,38	24,27	25,38	-1,27
	12a	4,17	24,67	25,74	-0,67
	202a	4,22	25,07	26,17	0,04
	224a	3,72	24,97	25,93	-0,36
	239a	4,37	25,47	26,63	0,80
	301a	2,85	26,27	27,04	1,47
Number of results	-	6	6	6	-
OUTLIERS	-	-	0	0	-
AVERAGE	-	3,95	25,12	26,15	-
STD DEVIATION	-	-	0,69	0,60	-
MEDIAN	-	-	25,02	26,05	
%RSD	-	-	2,76	2,31	-

GENERAL CONCLUSIONS

1. The ISO Ash z-score trend is evenly distributed. The Robust average, Average and Median are similar. One outlier was detected.
2. The overall ISO volatile trend is evenly distributed. Six outliers were detected. These were due to analytical errors. An RSD of 1.53% indicated a high precision of results received.
3. Calorific value trend is evenly distributed. Two outliers were 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. Two outliers were 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. One outlier was detected.
6. Generally acceptable results were obtained on Carbon, Hydrogen and Nitrogen. One outlier was detected on Carbon and One outlier were detected on Hydrogen.
7. Ash fusion: Generally, well done. No outliers detected.

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