



COAL CONCEPTS PROFICIENCY TESTING

GENERAL ANALYSIS SAMPLE

REPORT – ONE HUNDRED AND FIFTY-TWO

Revision 00

Final report

DATE ISSUED 31st JULY 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 112 results submitted timeously.
2. The total number of outliers detected were as follows (dry base):
 - ISO Ash x 1
 - Volatile matter x 3
 - Calorific value x 5
 - Total Sulphur x 2
 - Carbon x 2
 - Def x 2, Soft x 1 & Hem x 1
 - ASTM Ash 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 JULY 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	Laboratory for solid fuels-Mining Institute Belgrade
Africoal	Labrite Lab
Afrisam Ulco	Leon Testing Pakistan
AH Knight	Mafube Coal
Anglo Coal Goedehoop North Plant	Mfulawamanzi
Anglo Greenside (Thungela)	Ministry of Energy and Mineral Resources - Kingdom of Jordan
Anglo Landau	Mitra SK Richards Bay
Aqua Specto	ML Coal
ArcelorMittal VDP	Moruple
Best enough - NCC	Msobo Coal
Best enough - 2 Seam	Nelson Mandela University
Best enough Laboratory -Springs	Noko Analytical laboratories (Witbank)
Bestech Anthra Siding- Ermelo	Noko Ntshovelo
Bestech Madini Mining Witbank	Noko Piet Retief
Bestech Vlaktefontein Mine-Ogies	Noko Welgemeend
Bestech Zomhlaba Resource Mine -Delmas	PJS Laboratory services Middelburg
Botswana Power Corp - B Power Station	PJS Laboratory services Salaria
Botswana Power Corporation - A Power Station	PJS Laboratory services Weostellen
Bureau Veritas Beira	PSB Analytical Services Netherlands
Bureau Veritas Inspectorate Laboratories - Alton	Profi Lab Doo
Bureau Veritas Inspectorate Laboratories - Middelburg	RC Inspection
BV Matola Laboratory	Richards Bay Minerals
BV Moatize	Ronewa Lab
BV Nacala	Ronewa Lab Gugulethu
BV Tendele	Ronewa Wescoal
BVTISA -PTA	Rovumo (Pty) Ltd
Castle Peak Power Station	SA Labs Ihtuba – Kangra
CCIC Richards Bay	SA Labs Ihtuba – Khanye
celiklerholding	SA Labs Ihtuba – Phalandwa
Coal Concepts Richards Bay Lab	SA Labs Ihtuba – Ruvuma Coal LTD
Cotecna Phola	SA Labs Ihtuba – Ukufisa
Cotecna Lurco	SA Labs Ihtuba – ZAC
Cotecna Middelburg	SABS CSIR
Cotecna Mimosa	SABS Newcastle (RETAINED SPRINGLAKES LAB CODE)
Cotecna Nasonti	SABS Richards Bay
Cotecna OLF	SABS Secunda
Cotecna Richards Bay Lab	SABS Uitkomst
Cotecna VDD	Sappi
Department of Energy Philippines	SB Mining Solutions - Belfast
Dicem	Seriti Kriel Colliery
Ensayos técnicos Labmin SRL-Peru	Seriti New Denmark
Eskom Arnot	Seriti New Vaal
Eskom Duvha	Sibonisiwe Clewer
Eskom Erid	Sibonisiwe Middelburg
Eskom Erid TGA	Sibonisiwe Ritvlei
Eskom Grootvlei	Sibonisiwe WCP
Eskom Hendrina	Sibonisiwe-Arnot OPCO
Eskom Kendal	Sibonisiwe-Piet Retief
Eskom Kriel	Sibonisiwe Mzimkhulu
Eskom Lethabo	Siza Arnotopco
Eskom Majuba	Siza Dundee Lab
Eskom Matimba	Siza Coal Services - Botswana
Eskom Matla	Siza Coal Services - Kinross
Eskom Medupi	Siza Labs sampling & Testing Pty Ltd Zambezi Gas & Coal Mine
Eskom Tutuka	Siza Leeuwpan
Exxaro Grootegeeluk	Siza Middelburg
Exxaro Matla	Siza Minerals Lab - Gaborone
Fauji Fertilizer Bin Qasim Limited	Siza NBC
G & W Minerals	Siza Sasol
General Directorate of Coal Enterprises of Turkey	Siza WestCoal
Genet Inyanda	South 32 Khutala
Genet Klipfontein	SPTE
Geoscience	Turkey ELI
Glencore Boshoeck	UAS Main Lab
Glencore Lion	UAS Botswana
Glencore Rustenburg	UAS Overlooked
Glencore Wonderkop	UAS Sasol SCS
Gölbasi Kimya Laboratuvarı İşletme Müdürlüğü	UAS Sudor
HighVeld Lab	UAS Twistdraai
Hwange Colliery	UAS Witbank
Idwala Lime	UIS
Imbally (Pty) Ltd	Universal Geominerals Sdn Bhd - Malaysia
Imbally (Pty) Ltd Mooiplaats Colliery	Vitroviaan
Jindal Kiepersol	Yatagan Termik
Jindal Mozambique	Yildiz Labs - Turkey
Jugoinspekt Belgrade AD Serbia	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 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	19,05	19,10	19,08	0,05	0,0025
2	19,13	19,16	19,15	0,03	0,0009
3	19,12	19,07	19,10	0,05	0,0025
4	19,24	19,15	19,20	0,09	0,0081
5	19,00	19,11	19,06	0,11	0,0121
6	19,20	19,17	19,19	0,03	0,0009
7	19,13	19,35	19,24	0,22	0,0484
8	19,14	19,17	19,16	0,03	0,0009
9	19,16	19,11	19,14	0,05	0,0025
10	19,06	19,18	19,12	0,12	0,0144
GENERAL AVERAGE			19,14		
STANDARD DEVIATION			0,057		
WITHIN SAMPLE STANDARD DEVIATION			0,068		
BETWEEN SAMPLE STANDARD DEVIATION			0,030		

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

(σ = std deviation for the proficiency assessment)

$\sigma = 0.574$ was used, which is the repeatability for ISO ash (Ash % > 10%)
Hence = $0.574 \times 0.3 = 0.172$

Since $0.030 < 0.172$, 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	19,00	19,18	19,09	0,18	0,0324
2	19,02	19,19	19,11	0,17	0,0289
3	19,00	19,22	19,11	0,22	0,0484
4	18,97	19,05	19,01	0,08	0,0064
5	18,97	19,14	19,06	0,17	0,0289
6	19,00	19,05	19,03	0,05	0,0025
7	19,00	19,02	19,01	0,02	0,0004
8	19,01	19,14	19,08	0,13	0,0169
9	19,00	19,12	19,06	0,12	0,0144
10	19,03	19,14	19,09	0,11	0,0121
GENERAL AVERAGE			19,06		
STANDARD DEVIATION			0,037		
WITHIN SAMPLE STANDARD DEVIATION			0,098		
BETWEEN SAMPLE STANDARD DEVIATION			0,058		

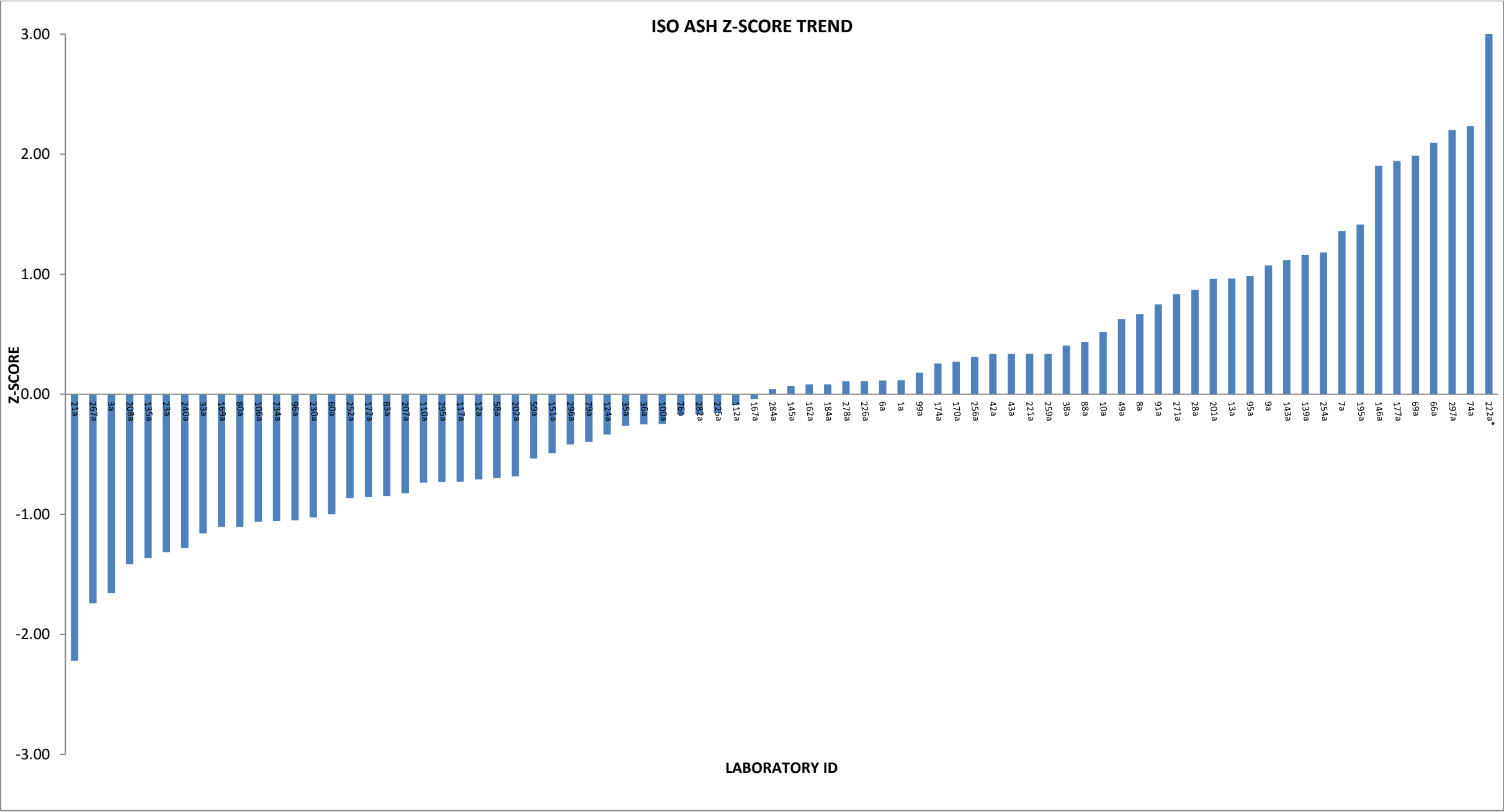
($\sigma = 0.574$ was used)

For this report $0.3 \times 0.574 = 0.172$

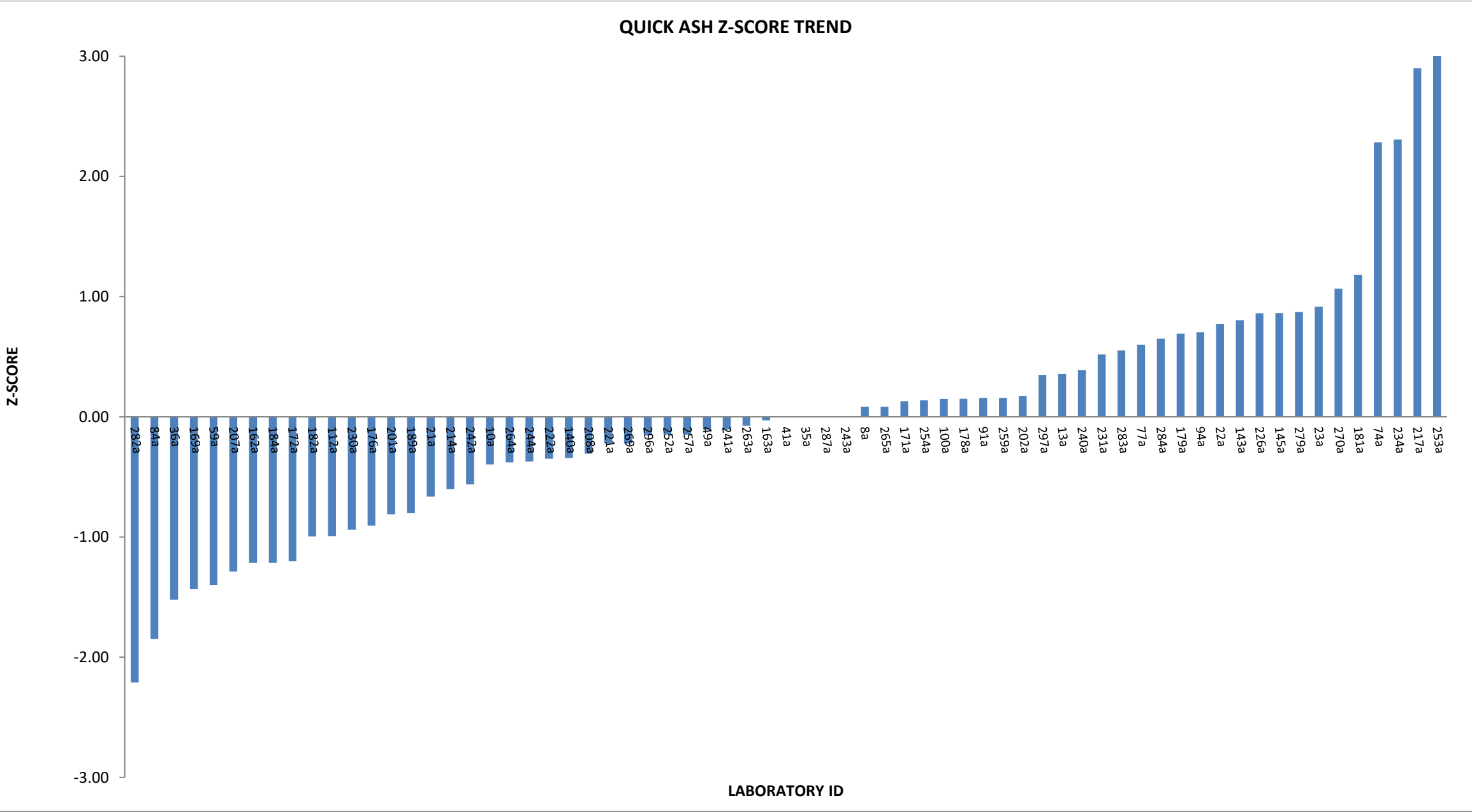
Absolute value of $(19.06 - 19.14) = 0.080$

Since $0.080 < 0.172$ the proficiency testing samples were stable

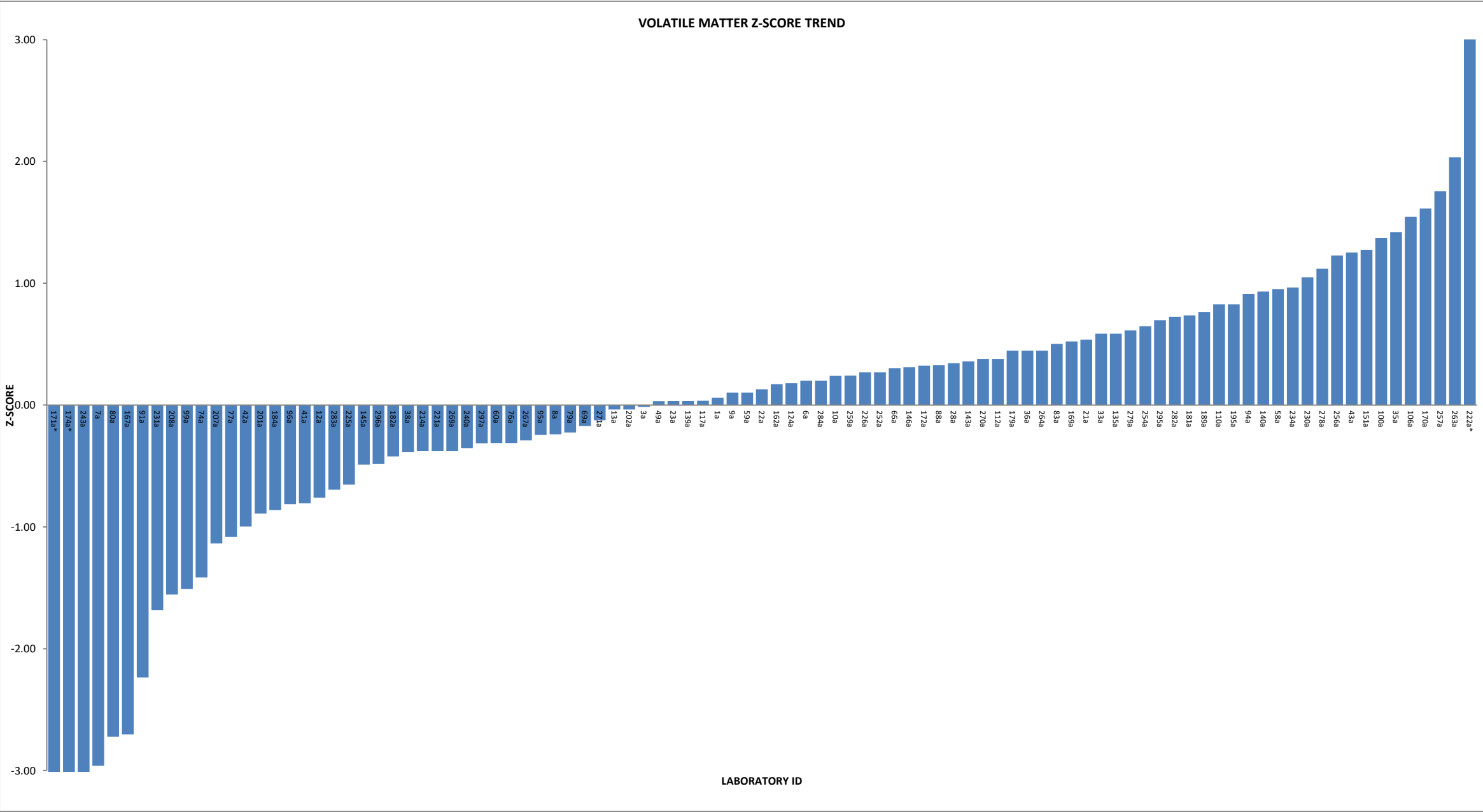
COAL CONCEPTS - PROFICIENCY TESTING - JULY 2024					
ANALYTICAL PARAMETER: ISO ASH (%)					
	LAB ID	MOISTURE IN ANALYSIS SAMPLE (%)	AIR DRY (%)	DRY BASE (%)	Z-SCORE (DRY BASE)
	1a	1,95	19,04	19,42	0,12
	3a	2,02	18,60	18,98	-1,66
	6a	1,64	19,10	19,42	0,12
	7a	1,49	19,43	19,72	1,36
	8a	1,30	19,30	19,55	0,67
	9a	1,80	19,30	19,65	1,07
	10a	1,73	19,18	19,52	0,52
	12a	2,27	18,78	19,22	-0,71
	13a	1,87	19,26	19,63	0,96
	21a	1,83	18,50	18,84	-2,22
	23a	1,40	18,80	19,07	-1,32
	28a	1,55	19,30	19,60	0,87
	33a	1,60	18,80	19,11	-1,16
	35a	2,20	18,90	19,33	-0,26
	36a	1,70	19,00	19,33	-0,25
	38a	2,00	19,10	19,49	0,41
	42a	1,40	19,20	19,47	0,34
	43a	1,40	19,20	19,47	0,34
	49a	2,12	19,13	19,54	0,63
	58a	1,71	18,89	19,22	-0,70
	59a	1,50	18,97	19,26	-0,53
	60a	1,80	18,80	19,14	-1,00
	66a	1,43	19,62	19,90	2,10
	69a	1,40	19,60	19,88	1,99
	74a	1,70	19,60	19,94	2,24
	76a	1,80	19,00	19,35	-0,17
	79a	2,14	18,88	19,29	-0,40
	80a	1,98	18,74	19,12	-1,11
	83a	1,78	18,84	19,18	-0,85
	88a	1,53	19,20	19,50	0,44
	91a	1,40	19,30	19,57	0,75
	95a	2,20	19,20	19,63	0,98
	96a	1,58	18,83	19,13	-1,05
	99a	2,70	18,91	19,43	0,18
	100a	0,98	19,14	19,33	-0,25
	106a	1,20	18,90	19,13	-1,06
	110a	1,56	18,91	19,21	-0,73
	112a	1,90	19,00	19,37	-0,09
	117a	1,10	19,00	19,21	-0,73
	124a	1,49	19,02	19,31	-0,34
	135a	1,81	18,71	19,05	-1,37
	139a	1,40	19,40	19,68	1,16
	143a	2,11	19,25	19,66	1,12
	145a	1,48	19,12	19,41	0,07
	146a	1,80	19,50	19,86	1,90
	151a	1,40	19,00	19,27	-0,49
	162a	1,60	19,10	19,41	0,08
	167a	1,19	19,15	19,38	-0,04
	169a	1,30	18,87	19,12	-1,11
	170a	1,68	19,13	19,46	0,27
	172a	1,67	18,86	19,18	-0,85
	174a	2,33	19,00	19,45	0,26
	177a	1,95	19,48	19,87	1,94
	184a	1,60	19,10	19,41	0,08
	195a	1,71	19,40	19,74	1,41
	201a	3,70	18,90	19,63	0,96
	202a	1,78	18,88	19,22	-0,68
	207a	1,50	18,90	19,19	-0,82
	208a	1,80	18,70	19,04	-1,41
	221a	1,40	19,20	19,47	0,34
	222a*	3,80	20,50	21,31	7,82
	225a	1,30	19,10	19,35	-0,16
	226a	1,53	19,12	19,42	0,11
	230a	1,82	18,79	19,14	-1,03
	234a	1,73	18,80	19,13	-1,06
	240a	1,71	18,75	19,08	-1,28
	252a	1,50	18,89	19,18	-0,87
	254a	1,78	19,33	19,68	1,18
	256a	1,78	19,12	19,47	0,31
	259a	1,40	19,20	19,47	0,34
	267a	1,65	18,65	18,96	-1,74
	271a	1,71	19,26	19,60	0,83
	278a	1,89	19,05	19,42	0,11
	282a	1,80	19,00	19,35	-0,17
	284a	1,55	19,10	19,40	0,04
	295a	1,67	18,89	19,21	-0,73
	296a	1,49	19,00	19,29	-0,42
	297a	1,86	19,56	19,93	2,20
Number of results	-	78	78	78	-
OUTLIERS	-	-	1	1	-
AVERAGE	-	1,73	19,06	19,39	-
STD DEVIATION	-	-	0,24	0,25	-
MEDIAN			19,04	19,40	
%RSD	-	-	1,29	1,27	-
ROBUST AVERAGE	-	-	19,06	19,39	-
ROBUST STD DEVIATION	-	-	0,27	0,27	-
UoM			0,04	0,04	-



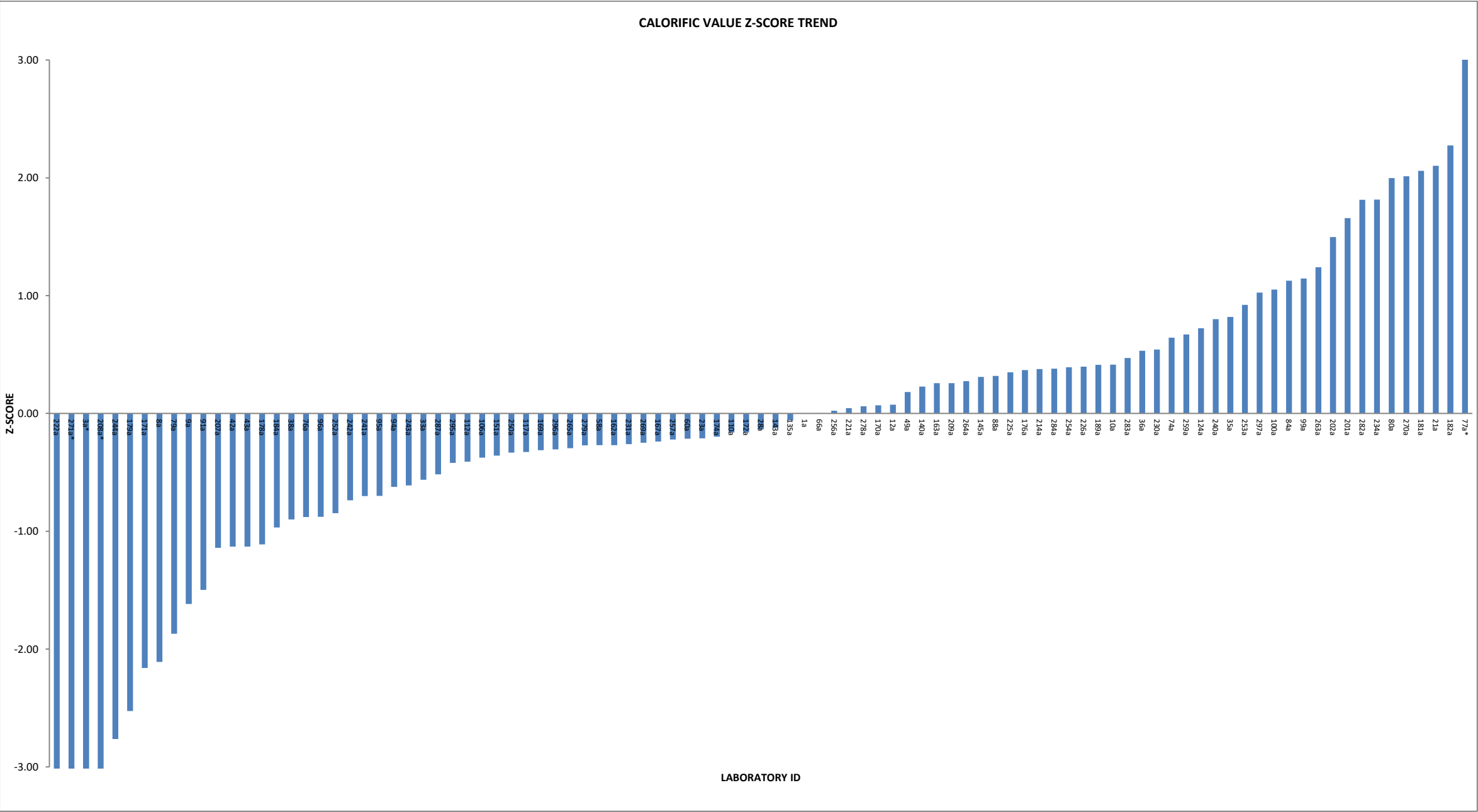
COAL CONCEPTS - PROFICIENCY TESTING -JULY 2024					
ANALYTICAL PARAMETER: QUICK ASH (%)					
	LAB ID	MOISTURE IN ANALYSIS SAMPLE (%)	AIR DRY (%)	DRY BASE (%)	Z-SCORE (DRY BASE)
	8a	1,30	19,30	19,55	0,08
	10a	1,73	19,09	19,43	-0,40
	13a	1,87	19,26	19,63	0,36
	21a	1,83	19,00	19,35	-0,66
	22a	2,02	19,34	19,74	0,77
	23a	1,40	19,50	19,78	0,92
	35a	2,20	19,10	19,53	0,00
	36a	1,70	18,80	19,13	-1,52
	41a	1,53	19,23	19,53	0,00
	49a	2,12	19,09	19,50	-0,11
	59a	1,50	18,87	19,16	-1,40
	74a	1,70	19,80	20,14	2,28
	77a	2,50	19,20	19,69	0,60
	84a	2,14	18,63	19,04	-1,85
	91a	1,40	19,30	19,57	0,16
	94a	2,13	19,30	19,72	0,70
	100a	0,98	19,38	19,57	0,15
	112a	1,90	18,90	19,27	-0,99
	140a	1,80	19,09	19,44	-0,34
	143a	2,11	19,33	19,75	0,80
	145a	1,48	19,47	19,76	0,86
	162a	1,60	18,90	19,21	-1,21
	163a	1,71	19,19	19,52	-0,03
	169a	1,30	18,90	19,15	-1,43
	171a	1,21	19,33	19,57	0,13
	172a	1,67	18,89	19,21	-1,20
	176a	1,71	18,96	19,29	-0,90
	178a	1,90	19,20	19,57	0,15
	179a	1,10	19,50	19,72	0,69
	181a	1,25	19,60	19,85	1,18
	182a	1,64	18,95	19,27	-0,99
	184a	1,60	18,90	19,21	-1,21
	189a	1,80	18,97	19,32	-0,80
	201a	3,70	18,60	19,31	-0,81
	202a	1,78	19,23	19,58	0,17
	207a	1,50	18,90	19,19	-1,29
	208a	1,80	19,10	19,45	-0,31
	214a	1,40	19,10	19,37	-0,60
	217a	1,71	19,96	20,31	2,90
	221a	1,40	19,20	19,47	-0,22
	222a	3,80	18,70	19,44	-0,35
	226a	1,53	19,46	19,76	0,86
	230a	1,82	18,93	19,28	-0,94
	231a	1,02	19,47	19,67	0,52
	234a	1,73	19,80	20,15	2,31
	240a	1,71	19,30	19,64	0,39
	241a	1,71	19,17	19,50	-0,11
	242a	1,71	19,05	19,38	-0,56
	243a	1,70	19,20	19,53	0,00
	244a	1,71	19,10	19,43	-0,37
	252a	1,50	19,20	19,49	-0,15
	253a	1,71	20,01	20,36	3,09
	254a	1,78	19,22	19,57	0,14
	257a	1,50	19,20	19,49	-0,15
	259a	1,40	19,30	19,57	0,16
	263a	1,60	19,20	19,51	-0,07
	264a	1,70	19,10	19,43	-0,38
	265a	1,71	19,22	19,55	0,08
	269a	1,40	19,20	19,47	-0,22
	270a	1,60	19,50	19,82	1,07
	279a	1,34	19,50	19,76	0,87
	282a	1,80	18,60	18,94	-2,21
	283a	1,42	19,40	19,68	0,55
	284a	1,55	19,40	19,71	0,65
	287a	1,71	19,20	19,53	0,00
	296a	1,49	19,20	19,49	-0,15
	297a	1,86	19,26	19,63	0,35
Number of results	-	67	67	67	-
OUTLIERS	-	-	0	0	-
AVERAGE	-	1,71	19,20	19,53	-
STD DEVIATION	-	-	0,29	0,27	-
MEDIAN			19,20	19,53	
%RSD	-	-	1,49	1,37	
ROBUST AVERAGE	-	-	19,19	19,53	
ROBUST STD DEVIATION	-	-	0,31	0,28	
UoM			0,05	0,04	



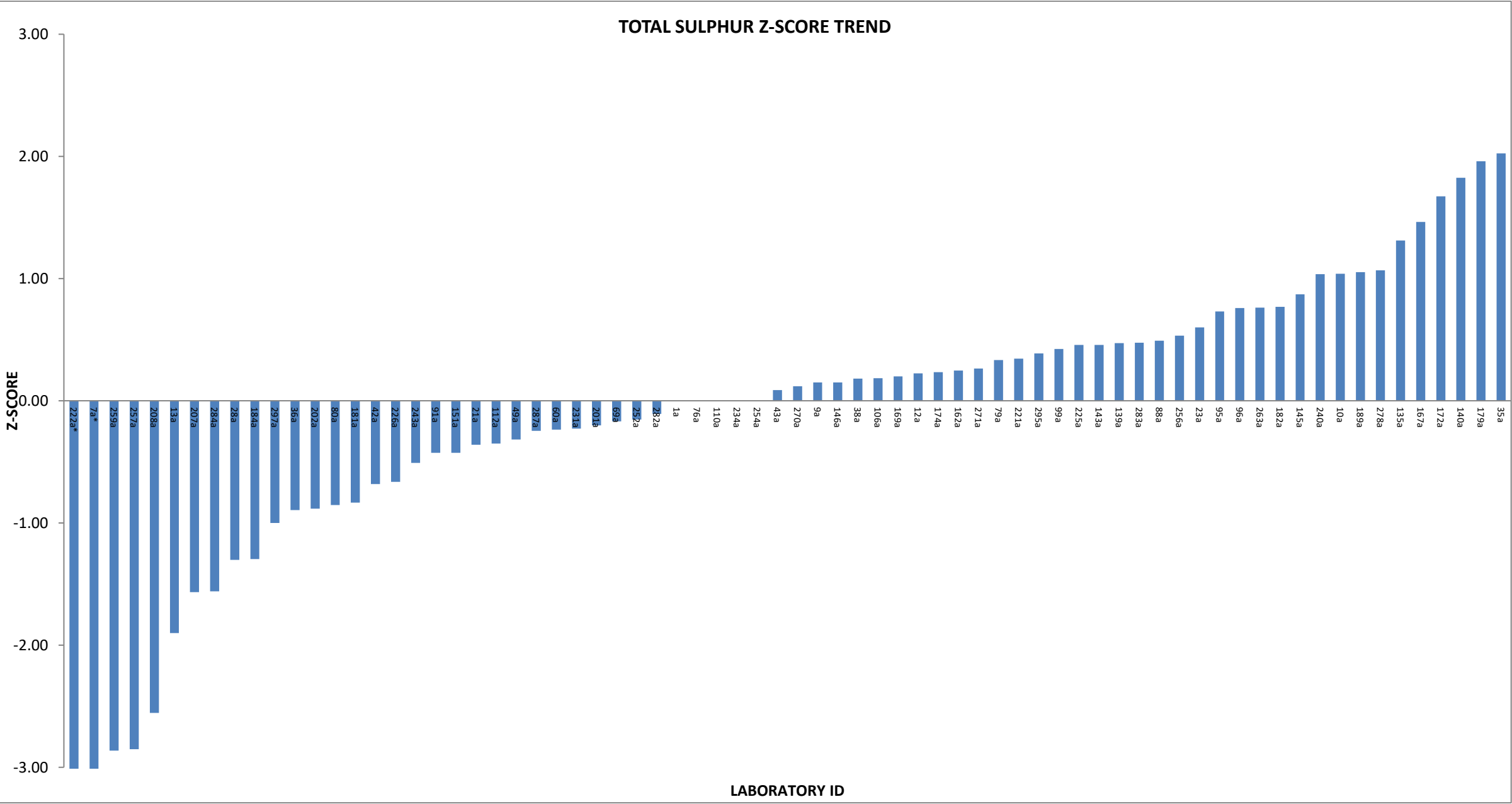
COAL CONCEPTS - PROFICIENCY TESTING - JULY 2024					
ANALYTICAL PARAMETER: ISO VOLATILE MATTER (%)					
	LAB ID	MOISTURE IN ANALYSIS SAMPLE (%)	AIR DRY	DRY BASE	Z-SCORE (DRY BASE)
	1a	1,95	32,53	33,18	0,06
	3a	2,02	32,47	33,14	-0,02
	6a	1,64	32,70	33,25	0,20
	7a	1,49	31,22	31,69	-2,96
	8a	1,30	32,60	33,03	-0,24
	9a	1,80	32,60	33,20	0,10
	10a	1,73	32,69	33,27	0,24
	12a	2,27	32,03	32,77	-0,76
	13a	1,87	32,51	33,13	-0,04
	21a	1,83	32,80	33,41	0,54
	22a	2,02	32,54	33,21	0,13
	23a	1,40	32,70	33,16	0,03
	28a	1,55	32,80	33,32	0,34
	33a	1,60	32,90	33,43	0,59
	35a	2,20	33,10	33,84	1,42
	36a	1,70	32,80	33,37	0,45
	38a	2,00	32,30	32,96	-0,38
	41a	1,53	32,25	32,75	-0,81
	42a	1,40	32,20	32,66	-1,00
	43a	1,40	33,29	33,76	1,25
	49a	2,12	32,46	33,16	0,03
	58a	1,71	33,04	33,61	0,95
	59a	1,50	32,70	33,20	0,10
	60a	1,80	32,40	32,99	-0,31
	66a	1,43	32,82	33,30	0,30
	69a	1,40	32,60	33,06	-0,17
	74a	1,70	31,90	32,45	-1,42
	76a	1,80	32,40	32,99	-0,31
	77a	2,50	31,80	32,62	-1,08
	79a	2,14	32,33	33,04	-0,22
	80a	1,98	31,18	31,81	-2,72
	83a	1,78	32,80	33,39	0,50
	88a	1,53	32,80	33,31	0,33
	91a	1,40	31,60	32,05	-2,24
	94a	2,13	32,88	33,60	0,91
	95a	2,20	32,30	33,03	-0,25
	96a	1,58	32,23	32,75	-0,81
	99a	2,70	31,53	32,40	-1,51
	100a	0,98	33,49	33,82	1,37
	106a	1,20	33,50	33,91	1,55
	110a	1,56	33,03	33,55	0,83
	112a	1,90	32,70	33,33	0,38
	117a	1,10	32,80	33,16	0,04
	124a	1,49	32,74	33,24	0,18
	135a	1,81	32,83	33,44	0,59
	139a	1,40	32,70	33,16	0,03
	140a	1,80	33,00	33,60	0,93
	143a	2,11	32,62	33,32	0,36
	145a	1,48	32,42	32,91	-0,49
	146a	1,80	32,70	33,30	0,31
	151a	1,40	33,30	33,77	1,27
	162a	1,60	32,70	33,23	0,17
	167a	1,19	31,44	31,82	-2,70
	169a	1,30	32,97	33,40	0,52
	170a	1,68	33,37	33,94	1,61
	171a*	1,21	27,38	27,72	-11,06
	172a	1,67	32,75	33,31	0,32
	174a*	2,33	30,37	31,09	-4,18
	179a	1,10	33,00	33,37	0,45
	181a	1,25	33,09	33,51	0,74
	182a	1,64	32,40	32,94	-0,42
	184a	1,60	32,20	32,72	-0,86
	189a	1,80	32,92	33,52	0,77
	195a	1,71	32,98	33,55	0,83
	201a	3,70	31,50	32,71	-0,89
	202a	1,78	32,54	33,13	-0,04
	207a	1,50	32,10	32,59	-1,14
	208a	1,80	31,80	32,38	-1,56
	214a	1,40	32,50	32,96	-0,38
	221a	1,40	32,50	32,96	-0,38
	222a*	3,80	35,50	36,90	7,64
	225a	1,30	32,40	32,83	-0,65
	226a	1,53	32,77	33,28	0,27
	230a	1,82	33,05	33,66	1,05
	231a	1,02	31,99	32,32	-1,68
	234a	1,73	33,04	33,62	0,97
	240a	1,71	32,41	32,97	-0,35
	243a	1,70	31,00	31,54	-3,28
	252a	1,50	32,78	33,28	0,27
	254a	1,78	32,87	33,47	0,65
	256a	1,78	33,15	33,75	1,23
	257a	1,50	33,50	34,01	1,76
	259a	1,40	32,80	33,27	0,24
	263a	1,60	33,60	34,15	2,03
	264a	1,7	32,80	33,37	0,45
	267a	1,65	32,46	33,00	-0,29
	269a	1,40	32,50	32,96	-0,38
	270a	1,60	32,80	33,33	0,38
	271a	1,71	32,52	33,09	-0,13
	278a	1,89	33,06	33,70	1,12
	279a	1,34	33,00	33,45	0,61
	282a	1,80	32,90	33,50	0,72
	283a	1,42	32,34	32,81	-0,70
	284a	1,55	32,73	33,25	0,20
	295a	1,67	32,93	33,49	0,70
	296a	1,49	32,42	32,91	-0,48
	297a	1,86	32,38	32,99	-0,31
NUMBER OF RESULTS	-	97	97	97	-
OUTLIERS	-	-	3	3	-
AVERAGE	-	1,70	32,59	33,15	-
STD DEVIATION	-		0,51	0,49	-
MEDIAN			32,70	33,22	
%RSD	-	-	1,56	1,48	
ROBUST AVERAGE	-	-	32,59	33,15	-
ROBUST STD DEVIATION	-	-	0,59	0,53	-
UoM	-	-	0,08	0,07	-



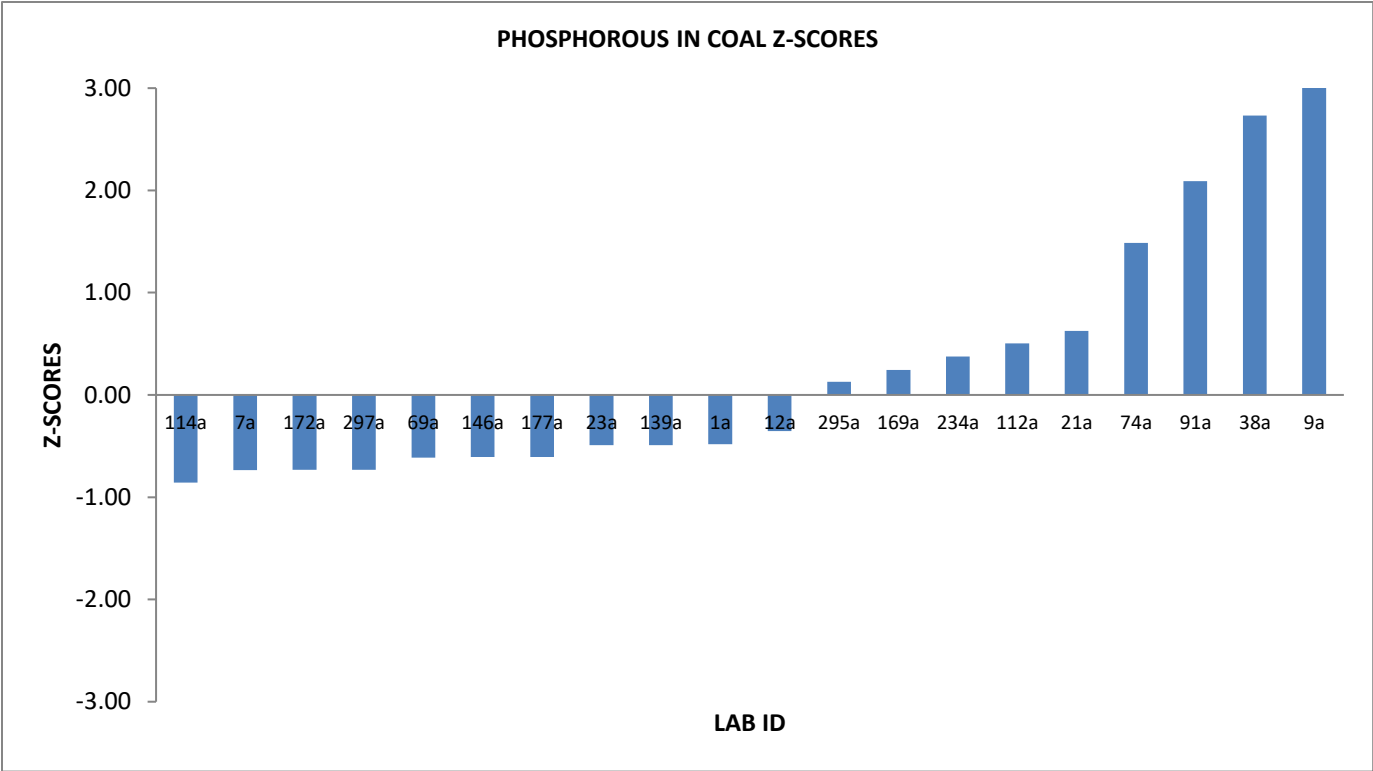
COAL CONCEPTS - PROFICIENCY TESTING - JULY 2024					
ANALYTICAL PARAMETER: CALORIFIC VALUE (MJ/kg)					
	LABORATORY DATA				
	LAB ID	MOISTURE IN ANALYSIS SAMPLE (%)	AIR DRY (MJ/kg)	DRY BASE (MJ/kg)	Z-SCORE (DRY BASE)
	1a	1,95	26,80	27,33	0,00
	3a*	2,02	25,46	25,98	-4,87
	8a	1,30	26,40	26,75	-2,11
	9a	1,80	26,40	26,88	-1,62
	10a	1,73	26,97	27,44	0,41
	12a	2,27	26,73	27,35	0,07
	21a	1,83	27,40	27,91	2,10
	23a	1,40	26,89	27,27	-0,21
	28a	1,55	26,87	27,29	-0,13
	33a	1,60	26,74	27,17	-0,56
	35a	2,20	26,95	27,56	0,82
	36a	1,70	27,01	27,48	0,53
	38a	2,00	26,54	27,08	-0,90
	42a	1,40	26,64	27,02	-1,13
	43a	1,40	26,64	27,02	-1,13
	49a	2,12	26,80	27,38	0,18
	58a	1,71	26,79	27,26	-0,27
	60a	1,80	26,78	27,27	-0,21
	66a	1,43	26,94	27,33	0,00
	74a	1,70	27,04	27,51	0,64
	76a	1,80	26,60	27,09	-0,88
	77a*	2,50	28,56	29,29	2,10
	79a	2,14	26,24	26,81	-1,87
	80a	1,98	27,33	27,88	2,00
	84a	2,14	27,05	27,64	1,13
	88a	1,53	27,00	27,42	0,32
	91a	1,40	26,54	26,92	-1,50
	94a	2,13	26,58	27,16	-0,62
	95a	2,20	26,54	27,14	-0,70
	96a	1,58	26,66	27,09	-0,88
	99a	2,70	26,90	27,65	1,15
	100a	0,98	27,35	27,62	1,05
	106a	1,20	26,90	27,23	-0,37
	110a	1,56	26,86	27,29	-0,16
	112a	1,90	26,70	27,22	-0,41
	117a	1,10	26,94	27,24	-0,33
	124a	1,49	27,12	27,53	0,72
	135a	1,81	26,82	27,31	-0,06
	140a	1,80	26,90	27,39	0,23
	143a	2,11	26,72	27,30	-0,12
	145a	1,48	27,01	27,42	0,31
	151a	1,40	26,85	27,23	-0,36
	162a	1,60	26,82	27,26	-0,27
	163a	1,72	26,93	27,40	0,26
	167a	1,19	26,94	27,26	-0,24
	169a	1,30	26,89	27,24	-0,31
	170a	1,68	26,89	27,35	0,07
	171a	1,21	26,41	26,73	-2,16
	172a	1,67	26,83	27,29	-0,16
	174a	2,33	26,64	27,28	-0,20
	176a	1,72	26,96	27,43	0,37
	178a	1,90	26,51	27,02	-1,11
	179a	1,10	26,34	26,63	-2,52
	181a	1,25	27,55	27,90	2,06
	182a	1,64	27,50	27,96	2,28
	184a	1,60	26,63	27,06	-0,97
	189a	1,80	26,95	27,44	0,41
	201a	3,70	26,76	27,79	1,66
	202a	1,78	27,25	27,74	1,50
	207a	1,50	26,61	27,02	-1,14
	208a*	1,80	25,84	26,31	-3,68
	209a	1,72	26,93	27,40	0,26
	214a	1,40	27,05	27,43	0,38
	221a	1,40	26,96	27,34	0,05
	222a	3,80	21,79	22,65	-16,94
	225a	1,30	27,07	27,43	0,35
	226a	1,53	27,02	27,44	0,40
	230a	1,82	26,98	27,48	0,54
	231a	1,02	26,98	27,26	-0,26
	234a	1,73	27,35	27,83	1,82
	240a	1,71	27,08	27,55	0,80
	241a	1,72	26,67	27,14	-0,70
	242a	1,72	26,66	27,13	-0,74
	243a	1,70	26,70	27,16	-0,61
	244a	1,72	26,11	26,57	-2,76
	250a	1,72	26,77	27,24	-0,33
	252a	1,50	26,69	27,10	-0,85
	253a	1,72	27,11	27,58	0,92
	254a	1,78	26,95	27,44	0,39
	256a	1,78	26,85	27,34	0,02
	257a	1,50	26,86	27,27	-0,22
	259a	1,40	27,13	27,52	0,67
	263a	1,60	27,23	27,67	1,24
	264a	1,70	26,94	27,41	0,27
	265a	1,72	26,78	27,25	-0,30
	269a	1,40	26,88	27,26	-0,25
	270a	1,60	27,44	27,89	2,01
	271a*	1,71	25,53	25,97	-4,91
	278a	1,89	26,83	27,35	0,06
	279a	1,34	26,89	27,26	-0,27
	282a	1,80	27,33	27,83	1,81
	283a	1,42	27,07	27,46	0,47
	284a	1,55	27,01	27,44	0,38
	287a	1,72	26,72	27,19	-0,52
	295a	1,67	26,76	27,21	-0,42
	296a	1,49	26,84	27,25	-0,31
	297a	1,86	27,10	27,61	1,03
NUMBER OF RESULTS	-	97	97	97	-
OUTLIERS	-	-	5	5	-
AVERAGE	-	1,72	26,87	27,33	-
STD DEVIATION	-	-	0,27	0,28	-
MEDIAN	-	-	26,89	27,31	-
%RSD	-	-	0,99	1,01	-
ROBUST AVERAGE	-	-	26,87	27,33	-
ROBUST STD DEVIATION	-	-	0,28	0,30	-
UoM	-	-	0,04	0,04	-



COAL CONCEPTS - PROFICIENCY TESTING -JULY 2024					
ANALYTICAL PARAMETER: TOTAL SULPHUR (%)					
	LAB ID	MOISTURE IN ANALYSIS SAMPLE (%)	AIR DRY	DRY BASE	Z-SCORE (DRY BASE)
	1a	1,95	1,19	1,21	0,00
	7a*	1,49	0,65	0,66	-6,92
	9a	1,80	1,20	1,22	0,15
	10a	1,73	1,27	1,29	1,04
	12a	2,27	1,20	1,23	0,22
	13a	1,87	1,04	1,06	-1,90
	21a	1,83	1,16	1,18	-0,36
	23a	1,40	1,24	1,26	0,60
	28a	1,55	1,09	1,11	-1,30
	35a	2,20	1,34	1,37	2,02
	36a	1,70	1,12	1,14	-0,90
	38a	2,00	1,20	1,22	0,18
	42a	1,40	1,14	1,16	-0,68
	43a	1,40	1,20	1,22	0,09
	49a	2,12	1,16	1,19	-0,32
	60a	1,80	1,17	1,19	-0,24
	69a	1,40	1,18	1,20	-0,17
	76a	1,80	1,19	1,21	0,00
	79a	2,14	1,21	1,24	0,33
	80a	1,98	1,12	1,14	-0,85
	88a	1,53	1,23	1,25	0,49
	91a	1,40	1,16	1,18	-0,43
	95a	2,20	1,24	1,27	0,73
	96a	1,58	1,25	1,27	0,76
	99a	2,70	1,21	1,24	0,42
	106a	1,20	1,21	1,22	0,18
	110a	1,56	1,19	1,21	0,00
	112a	1,90	1,16	1,18	-0,35
	135a	1,81	1,29	1,31	1,31
	139a	1,40	1,23	1,25	0,47
	140a	1,80	1,33	1,35	1,83
	143a	2,11	1,22	1,25	0,46
	145a	1,48	1,26	1,28	0,87
	146a	1,80	1,20	1,22	0,15
	151a	1,40	1,16	1,18	-0,43
	162a	1,60	1,21	1,23	0,25
	167a	1,19	1,31	1,33	1,46
	169a	1,30	1,21	1,23	0,20
	172a	1,67	1,32	1,34	1,67
	174a	2,33	1,20	1,23	0,23
	179a	1,10	1,35	1,37	1,96
	181a	1,25	1,13	1,14	-0,83
	182a	1,64	1,25	1,27	0,77
	184a	1,60	1,09	1,11	-1,30
	189a	1,80	1,27	1,29	1,05
	201a	3,70	1,15	1,19	-0,20
	202a	1,78	1,12	1,14	-0,88
	207a	1,50	1,07	1,09	-1,57
	208a	1,80	0,99	1,01	-2,56
	221a	1,40	1,22	1,24	0,34
	222a*	3,80	0,38	0,40	-10,31
	225a	1,30	1,23	1,25	0,46
	226a	1,53	1,14	1,16	-0,66
	231a	1,02	1,18	1,19	-0,23
	234a	1,73	1,19	1,21	0,00
	240a	1,71	1,27	1,29	1,04
	243a	1,70	1,15	1,17	-0,51
	252a	1,50	1,18	1,20	-0,15
	254a	1,78	1,19	1,21	0,00
	256a	1,78	1,23	1,25	0,53
	257a	1,50	0,97	0,98	-2,85
	259a	1,40	0,97	0,98	-2,86
	263a	1,60	1,25	1,27	0,76
	270a	1,60	1,20	1,22	0,12
	271a	1,71	1,21	1,23	0,26
	278a	1,89	1,27	1,29	1,07
	282a	1,80	1,18	1,20	-0,11
	283a	1,42	1,23	1,25	0,48
	284a	1,55	1,07	1,09	-1,56
	287a	1,74	1,17	1,19	-0,25
	295a	1,67	1,22	1,24	0,39
	297a	1,86	1,11	1,13	-1,00
NUMBER OF RESULTS		72	72	72	-
OUTLIERS	-	-	2	2	-
AVERAGE	-	1,74	1,19	1,21	
MEDIAN		-	1,20	1,22	
STD DEVIATION	-	-	0,08	0,08	
%RSD	-	-	6,53	6,53	
ROBUST AVERAGE	-	-	1,19	1,21	-
ROBUST STD DEVIATION	-	-	0,08	0,09	-
UoM	-	-	0,01	0,01	-



COAL CONCEPTS - PROFICIENCY TESTING -JULY 2024					
ANALYTICAL PARAMETER: PHOSPHOROUS IN COAL (%)					
	LAB ID	MOISTURE IN ANALYSIS SAMPLE (%)	AIR DRY	DRY BASE	Z-SCORE (DRY BASE)
	1a	1,95	0,011	0,011	-0,48
	7a	1,49	0,009	0,009	-0,74
	9a	1,80	0,044	0,045	3,59
	12a	2,27	0,012	0,012	-0,35
	21a	1,83	0,020	0,020	0,63
	23a	1,40	0,011	0,011	-0,49
	38a	2,00	0,037	0,038	2,73
	69a	1,40	0,010	0,010	-0,61
	74a	1,70	0,027	0,027	1,49
	91a	1,40	0,032	0,032	2,09
	112a	1,90	0,019	0,019	0,50
	114a	1,71	0,008	0,008	-0,86
	139a	1,40	0,011	0,011	-0,49
	146a	1,80	0,010	0,010	-0,61
	169a	1,30	0,017	0,017	0,24
	172a	1,67	0,009	0,009	-0,73
	177a	1,95	0,010	0,010	-0,61
	234a	1,73	0,018	0,018	0,38
	295a	1,67	0,016	0,016	0,13
	297a	1,86	0,009	0,009	-0,73
Number of results	-	20	20	20	-
OUTLIERS	-	-	0	0	-
AVERAGE	-	1,71	0,015	0,015	-
STD DEVIATION	-	-	0,008	0,008	-
MEDIAN		-	0,011	0,011	
ROBUST AVERAGE	-	-	0,016	0,016	
ROBUST STD DEVIATION	-	-	0,011	0,011	
UoM	-	-	0,003	0,003	



COAL CONCEPTS - PROFICIENCY TESTING -JULY 2024					
ANALYTICAL PARAMETER: TOTAL CARBON (%)					
	LAB ID	MOISTURE IN ANALYSIS SAMPLE (%)	AIR DRY	DRY BASE	Z-SCORE (DRY BASE)
	1a	1,95	65,82	67,13	0,04
	12a	2,27	65,00	66,51	-0,40
	21a*	1,83	59,00	60,10	-4,93
	88a	1,53	64,81	65,81	-0,89
	174a	2,33	67,61	69,22	1,52
	177a	1,95	65,30	66,60	-0,34
	202a	1,78	66,28	67,48	0,29
	234a*	1,73	55,77	56,75	-7,30
	240a	1,71	65,33	66,47	-0,43
	278a	1,89	68,51	69,83	1,95
	295a	1,67	64,99	66,09	-0,69
	297a	1,86	64,39	65,61	-1,04
	Number of results	-	12	12	-
OUTLIERS	-	-	2	2	-
AVERAGE	-	1,87	65,80	67,08	-
MEDIAN	-	-	65,32	66,55	-
STD DEVIATION	-	-	1,32	1,41	-
%RSD	-	-	2,00	2,11	-
ROBUST AVERAGE	-	-	65,64	66,91	-
ROBUST STD DEVIATION	-	-	1,56	1,79	-
UoM	-	-	0,62	0,71	-

COAL CONCEPTS - PROFICIENCY TESTING - JULY 2024					
ANALYTICAL PARAMETER: HYDROGEN (%)					
	LAB ID	MOISTURE IN ANALYSIS SAMPLE (%)	AIR DRY	DRY BASE	Z-SCORE (DRY BASE)
	1a	1,95	4,32	4,41	0,24
	12a	2,27	4,41	4,51	0,46
	21a	1,83	3,17	3,23	-2,16
	88a	1,53	4,57	4,64	0,72
	174a	2,33	4,30	4,40	0,23
	177a	1,95	4,54	4,63	0,70
	202a	1,78	4,35	4,43	0,29
	234a	1,73	3,34	3,40	-1,82
	240a	1,71	4,43	4,51	0,45
	295a	1,67	4,49	4,57	0,57
	297a	1,86	4,37	4,45	0,33
Number of results		11	11	11	
OUTLIERS	-	-	0	0	-
AVERAGE	-	1,87	4,21	4,29	-
MEDIAN		-	4,37	4,45	-
STD DEVIATION	-	-	0,48	0,49	-
%RSD	-	-	11,42	11,43	
ROBUST AVERAGE	-	-	4,28	4,37	
ROBUST STD DEVIATION	-	-	0,57	0,58	
UoM	-	-	0,21	0,22	

COAL CONCEPTS - PROFICIENCY TESTING -JULY 2024					
ANALYTICAL PARAMETER: NITROGEN (%)					
	LAB ID	MOISTURE IN ANALYSIS SAMPLE (%)	AIR DRY	DRY BASE	Z-SCORE (DRY BASE)
	1a	1,95	1,52	1,55	0,88
	12a	2,27	1,38	1,41	-0,68
	88a	1,53	1,57	1,59	1,38
	174a	2,33	1,46	1,49	0,26
	177a	1,95	1,37	1,40	-0,85
	202a	1,78	1,43	1,46	-0,19
	240a	1,71	1,29	1,31	-1,81
	295a	1,67	1,52	1,55	0,83
	297a	1,86	1,46	1,49	0,17
Number of results		9	9	9	-
OUTLIERS	-	-	0	0	-
AVERAGE	-	1,89	1,44	1,47	-
MEDIAN		-	1,46	1,49	-
STD DEVIATION	-	-	0,09	0,09	-
%RSD	-	-	6,07	5,99	-
ROBUST AVERAGE	-	-	-	-	-
ROBUST STD DEVIATION	-	-	-	-	-
UoM	-	-	-	-	-

COAL CONCEPTS - PROFICIENCY TESTING -JULY 2024					
ANALYTICAL PARAMETER: ASH FUSION TEMPERATURES (oC)					
LAB ID	DEFORMATION	SOFTENING	HEMISPHERE	FLOW	
1a	1250	1290	1320	1350	
9a	1310	1320	1330	1350	
10a	1210	1240	1280	1310	
21a	1310	1330	1360	1400	
23a	1220	1260	1310	1440	
28a	1280	1310	1340	1370	
36a	1270	1290	1320	1350	
38a	1300	1310	1330	1350	
42a	1300	1320	1340	1360	
49a	1220	1270	1320	1370	
<u>80a*</u>	<u>1500</u>	<u>1500</u>	<u>1500</u>	1500	
83a	1220	1260	1300	1340	
95a	1280	1300	1320	1340	
99a	1280	1301	1316	1367	
106a	1280	1310	1350	1450	
110a	1260	1290	1320	1350	
112a	1294	1338	1380	1428	
145a	1260	1300	1310	1340	
151a	1280	1310	1350	1450	
<u>174a*</u>	<u>1095</u>	1280	1305	1350	
234a	1310	1340	1360	1400	
240a	1280	1300	1330	1360	
295a	1230	1250	1300	1350	
297a	1258	1304	1334	1352	
Number of results	24	24	24	24	
Outliers	2	1	1	0	
AVERAGE	1268	1297	1327	1376	
MEDIAN	1280	1300	1320	1356	
STDEV	32	27	23	46	

Z-SCORES				
LAB ID	DEFORMATION	SOFTENING	HEMISPHERE	FLOW
1a	-0,58	-0,25	-0,31	-0,57
9a	1,31	0,87	0,12	-0,57
10a	-1,84	-2,11	-2,06	-1,44
21a	1,31	1,24	1,43	0,52
23a	-1,52	-1,37	-0,75	1,39
28a	0,37	0,50	0,56	-0,13
36a	0,05	-0,25	-0,31	-0,57
38a	1,00	0,50	0,12	-0,57
42a	1,00	0,87	0,56	-0,35
49a	-1,52	-0,99	-0,31	-0,13
<u>80a*</u>	<u>7,30</u>	<u>7,59</u>	<u>7,54</u>	2,70
83a	-1,52	-1,37	-1,19	-0,79
95a	0,37	0,12	-0,31	-0,79
99a	0,37	0,16	-0,49	-0,20
106a	0,37	0,50	1,00	1,61
110a	-0,26	-0,25	-0,31	-0,57
112a	0,81	1,54	2,31	1,13
145a	-0,26	0,12	-0,75	-0,79
151a	0,37	0,50	1,00	1,61
<u>174a*</u>	<u>-5,46</u>	-0,62	-0,97	-0,57
234a	1,31	1,62	1,43	0,52
240a	0,37	0,12	0,12	-0,35
295a	-1,21	-1,74	-1,19	-0,57
297a	-0,32	0,27	0,30	-0,53

COAL CONCEPTS - PROFICIENCY TESTING -JULY 2024					
ANALYTICAL PARAMETER: CHLORINE (ppm)					
	LAB ID	MOISTURE IN ANALYSIS SAMPLE (%)	AIR DRY	DRY BASE	Z-SCORE (DRY BASE)
	12a	2,27	491	502	-
	177a	1,95	316	322	-
	297a	1,86	325	331	-
Number of results	-	3	3	3	-
OUTLIERS	-	-	-	-	-
AVERAGE	-	2,03	377	385	-
STD DEVIATION	-	-	-	-	-
MEDIAN	-	-	-	-	-

COAL CONCEPTS - PROFICIENCY TESTING -JULY 2024					
ANALYTICAL PARAMETER: FLUORINE (ppm)					
	LAB ID	MOISTURE IN ANALYSIS SAMPLE (%)	AIR DRY	DRY BASE	Z-SCORE (DRY BASE)
	12a	2,27	126	129	-
	169a	1,3	138	140	-
	177a	1,95	113	115	-
	297a	1,86	171	174	-
Number of results	-	4	4	4	-
OUTLIERS	-	-	-	-	-
AVERAGE	-	1,85	137	140	-
STD DEVIATION	-	-	na	na	-
MEDIAN	-	-	na	na	-

COAL CONCEPTS - PROFICIENCY TESTING -JULY 2024					
ANALYTICAL PARAMETER: ASTM ASH (%)					
	LAB ID	MOISTURE IN ANALYSIS SAMPLE (%)	AIR DRY (%)	DRY BASE (%)	Z-SCORE (DRY BASE)
	1a	1,95	18,93	19,31	-1,10
	12a	2,27	18,88	19,32	0,89
	202a	1,78	18,97	19,31	0,11
	<u>297a*</u>	1,86	<u>19,56</u>	<u>19,93</u>	<u>101,70</u>
Number of results	-	4	4	4	-
OUTLIERS	-	-	1	2	-
AVERAGE	-	1,97	18,93	19,31	-
STD DEVIATION	-	-	0,05	0,01	-
MEDIAN	-	-	18,93	19,31	
%RSD	-	-	0,24	0,03	-

COAL CONCEPTS - PROFICIENCY TESTING -JULY 2024					
ANALYTICAL PARAMETER: ASTM VOLS (%)					
	LAB ID	MOISTURE IN ANALYSIS SAMPLE (%)	AIR DRY (%)	DRY BASE (%)	Z-SCORE (DRY BASE)
	1a	1,95	32,62	33,27	-0,36
	12a	2,27	32,85	33,61	0,24
	202a	1,78	33,58	34,19	1,24
	297a	1,86	32,22	32,83	-1,12
Number of results	-	4	4	4	-
OUTLIERS	-	-	0	0	-
AVERAGE	-	1,97	32,82	33,48	-
STD DEVIATION	-	-	0,57	0,57	-
MEDIAN	-	-	32,74	33,44	
%RSD	-	-	1,74	1,71	-

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. Three outliers were detected. These were due to analytical errors. An RSD of 1.48% indicated a high precision of results received.
3. Calorific value trend is evenly distributed. Five 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 same. A high precision of results received.
5. The phosphorous analysis results show a wide scatter, indicating significant data variability. No outliers were detected.
6. Generally acceptable results were obtained on Carbon, Hydrogen and Nitrogen. Two outliers were detected on Carbon.
7. Ash fusion: Generally, well done. Two outliers were detected on Def, one outlier on Soft and one outlier on Hemisphere.

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