



COAL CONCEPTS PROFICIENCY TESTING

GENERAL ANALYSIS SAMPLE

REPORT – ONE HUNDRED AND FIFTY-ONE

Revision 00

Final report

DATE ISSUED 31ST MAY 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)

81 CERAMIC CURVE, ALTON, RICHARDS BAY 3900 | TEL: +27(0)35 751 2446 | CEL: +27(0)83 6500151 | FAX: 0862605793

E-MAIL: ravi@coalconcepts.co.za | labsup@coalconcepts.co.za

EXECUTIVE SUMMARY

1. One hundred and seventeen samples were sent to participants with 115 results submitted timeously.
2. The total number of outliers detected were as follows (dry base):
 - ISO Ash x 4
 - Quick Ash x 2
 - Volatile matter x 3
 - Calorific value x 5
 - Total Sulphur x 1
 - ASTM Ash x 1
 - ASTM Volatile matter 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 MAY 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 Vlakfontein 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	RC Inspection
Bureau Veritas Inspectorate Laboratories - Middelburg	Richards Bay Minerals
BV Matola Laboratory	Ronewa Lab
BV Moatize	Ronewa Lab Gugulethu
BV Nacala	Ronewa Wescoal
BV Tendele	Rovumo (Pty) Ltd
BVTISA -PTA	SA Labs Ihtuba – Kangra
Castle Peak Power Station	SA Labs Ihtuba – Khanye
CCIC Richards Bay	SA Labs Ihtuba – Phalandwa
celiklerholding	SA Labs Ihtuba – Ruvuma Coal LTD
Coal Concepts Richards Bay Lab	SA Labs Ihtuba – Ukufisa
Cotecna Phola	SA Labs Ihtuba – ZAC
Cotecna Lurco	SABS CSIR
Cotecna Middelburg	SABS Newcastle (RETAINED SPRINGLAKES LAB CODE)
Cotecna Mimosa	SABS Richards Bay
Cotecna Nasonti	SABS Secunda
Cotecna OLF	SABS Uitkomst
Cotecna Richards Bay Lab	Sappi
Cotecna VDD	SB Mining Solutions - Belfast
Department of Energy Philippines	Seriti Kriel Colliery
Dicem	Seriti New Denmark
Ensayos técnicos Labmin SRL-Peru	Seriti New Vaal
Eskom Arnot	Sibonisiwe Clewer
Eskom Duvha	Sibonisiwe Middelburg
Eskom Erid	Sibonisiwe Ritvlei
Eskom Erid TGA	Sibonisiwe WCP
Eskom Grootvlei	Sibonisiwe-Arnot OPCO
Eskom Hendrina	Sibonisiwe-Piet Retief
Eskom Kendal	Sibonisiwe Mzimkhulu
Eskom Kriel	Siza Arnotopco
Eskom Lethabo	Siza Carolina
Eskom Majuba	Siza Coal Services - Botswana
Eskom Matimba	Siza Coal Services - Kinross
Eskom Matla	Siza Leeuwpan
Eskom Medupi	Siza Middelburg
Eskom Tutuka	Siza Minerals Lab - Gaborone
Exxaro Grootegeeluk	Siza NBC
Exxaro Matla	Siza Sasol
Fauji Fertilizer Bin Qasim Limited	Siza WestCoal
G & W Minerals	South 32 Khutala
General Directorate of Coal Enterprises of Turkey	SPTE
Genet Inyanda	
Genet Klipfontein	Turkey ELI
Geoscience	UAS Main Lab
Glencore Boshoeck	UAS Botswana
Glencore Lion	UAS Overlooked
Glencore Rustenburg	UAS Sudor
Glencore Wonderkop	UAS Twistdraai
Gölbasi Kimya Laboratuvarı İşletme Müdürlüğü	UAS Witbank
HighVeld Lab	UIS
Hwange Colliery	Universal Geominerals Sdn Bhd - Malaysia
Idwala Lime	Vitrovian
Imbally (Pty) Ltd	Yatagan Termik
Imbally (Pty) Ltd Mooiplaats Colliery	Yildiz Labs - Turkey
Jindal Kiepersol	Ykenerji
Jindal Mozambique	
Jugoinspekt Belgrade AD Serbia	

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	22.64	22.90	22.77	0.26	0.0676
2	22.68	22.70	22.69	0.02	0.0004
3	22.67	22.94	22.81	0.27	0.0729
4	22.56	22.97	22.77	0.41	0.1681
5	22.70	23.04	22.87	0.34	0.1156
6	22.83	22.88	22.86	0.05	0.0025
7	22.97	22.91	22.94	0.06	0.0036
8	22.91	22.93	22.92	0.02	0.0004
9	22.92	22.91	22.92	0.01	0.0001
10	22.87	22.85	22.86	0.02	0.0004
GENERAL AVERAGE			22.84		
STANDARD DEVIATION			0.080		
WITHIN SAMPLE STANDARD DEVIATION			0.147		
BETWEEN SAMPLE STANDARD DEVIATION			0.066		

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

(σ = std deviation for the proficiency assessment)

$\sigma = 0.457$ was used, which is the repeatability for ISO ash (Ash % > 10%)
Hence = $0.457 \times 0.3 = 0.137$

Since 0.066 < 0.137, 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	22.61	22.77	22.69	0.16	0.0256
2	22.77	22.70	22.74	0.07	0.0049
3	22.70	22.72	22.71	0.02	0.0004
4	22.63	22.81	22.72	0.18	0.0324
5	22.71	22.81	22.76	0.10	0.0100
6	22.73	22.84	22.79	0.11	0.0121
7	22.72	22.75	22.74	0.03	0.0009
8	22.74	22.92	22.83	0.18	0.0324
9	22.73	22.65	22.69	0.08	0.0064
10	22.85	22.61	22.73	0.24	0.0576
GENERAL AVERAGE			22.74		
STANDARD DEVIATION			0.043		
WITHIN SAMPLE STANDARD DEVIATION			0.096		
BETWEEN SAMPLE STANDARD DEVIATION			0.052		

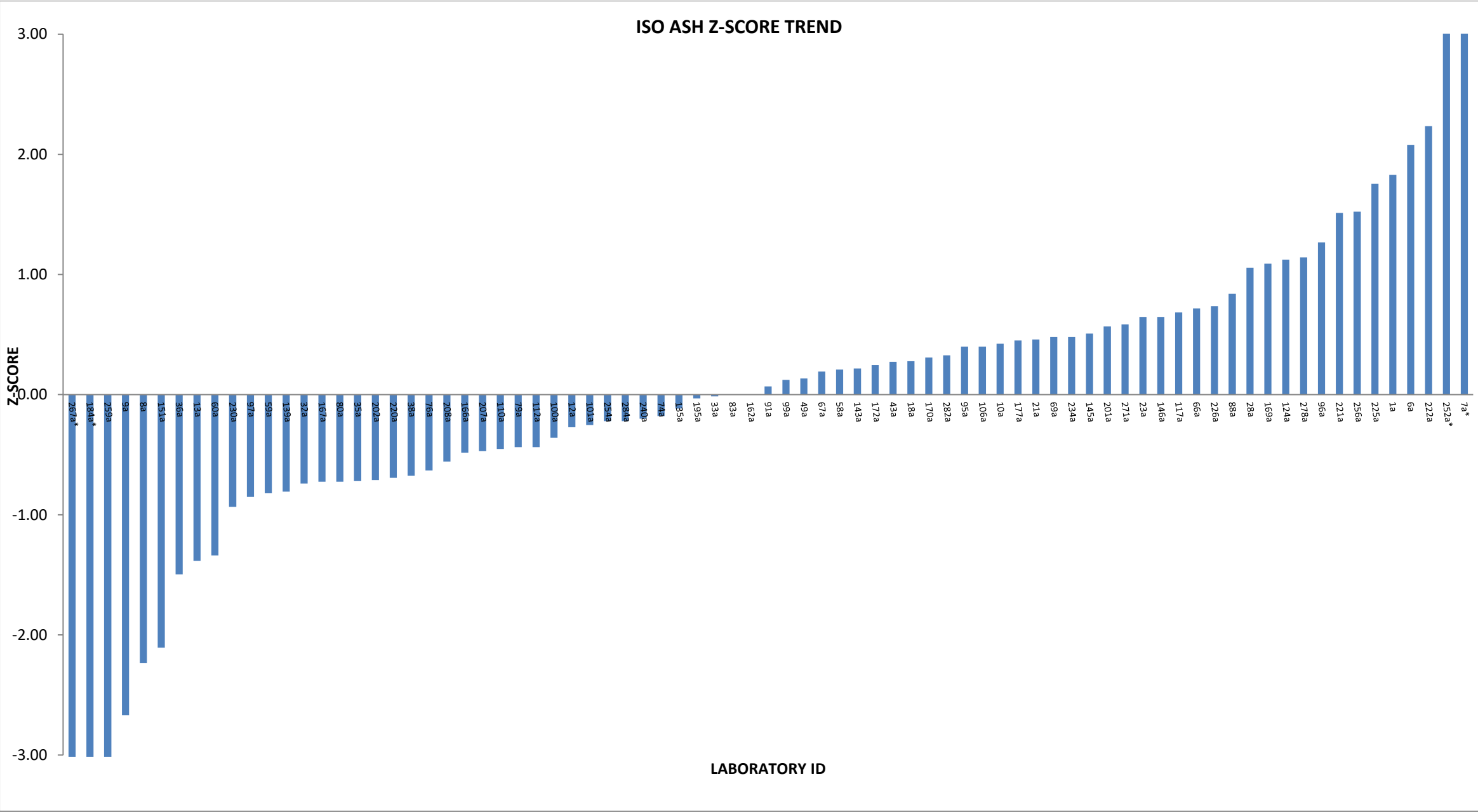
(O' = 0.457 was used)

For this report 0.3 x 0.457 = 0.137

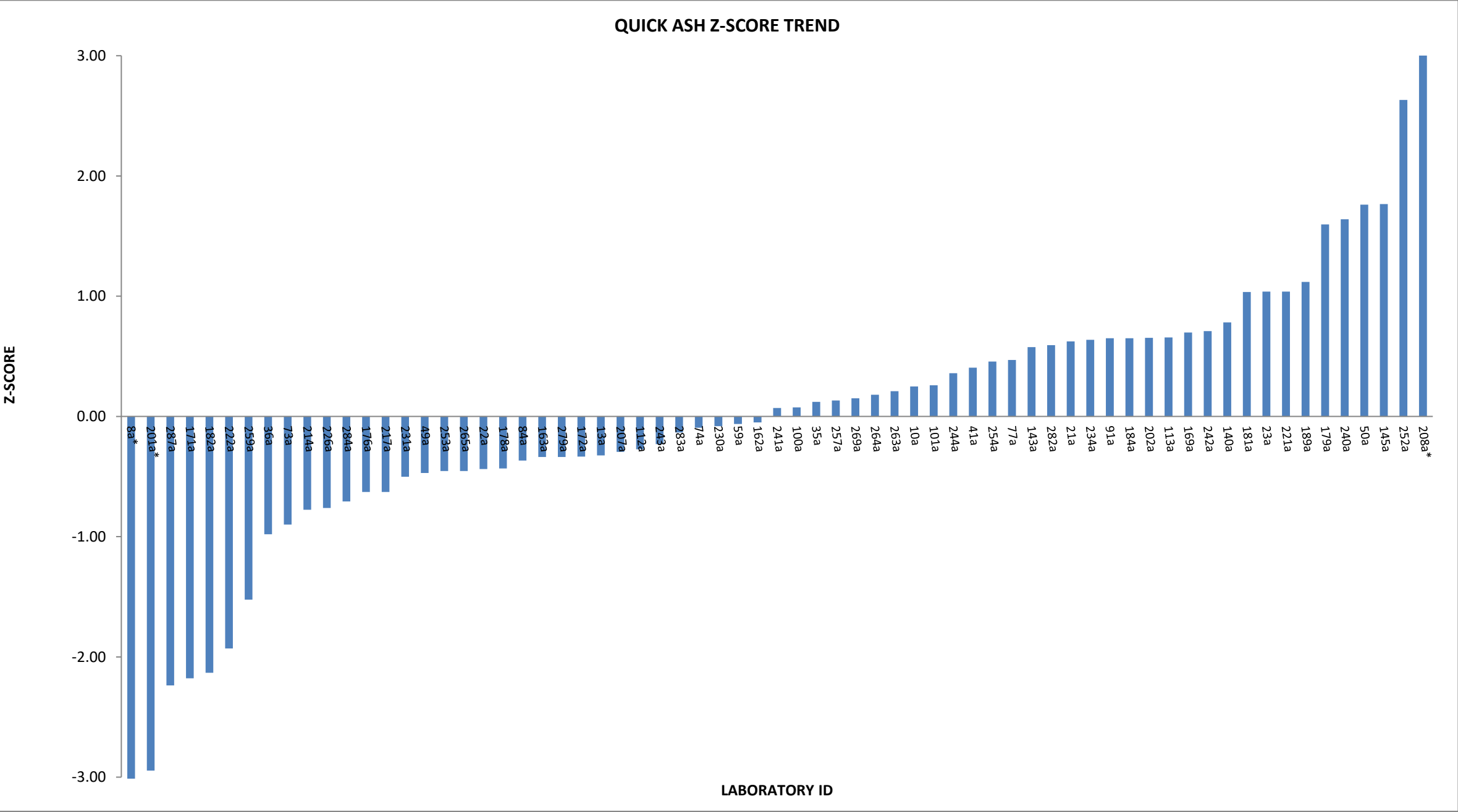
Absolute value of (22.74 – 22.84) = 0.10

Since 0.010 < 0.137 the proficiency testing samples were stable

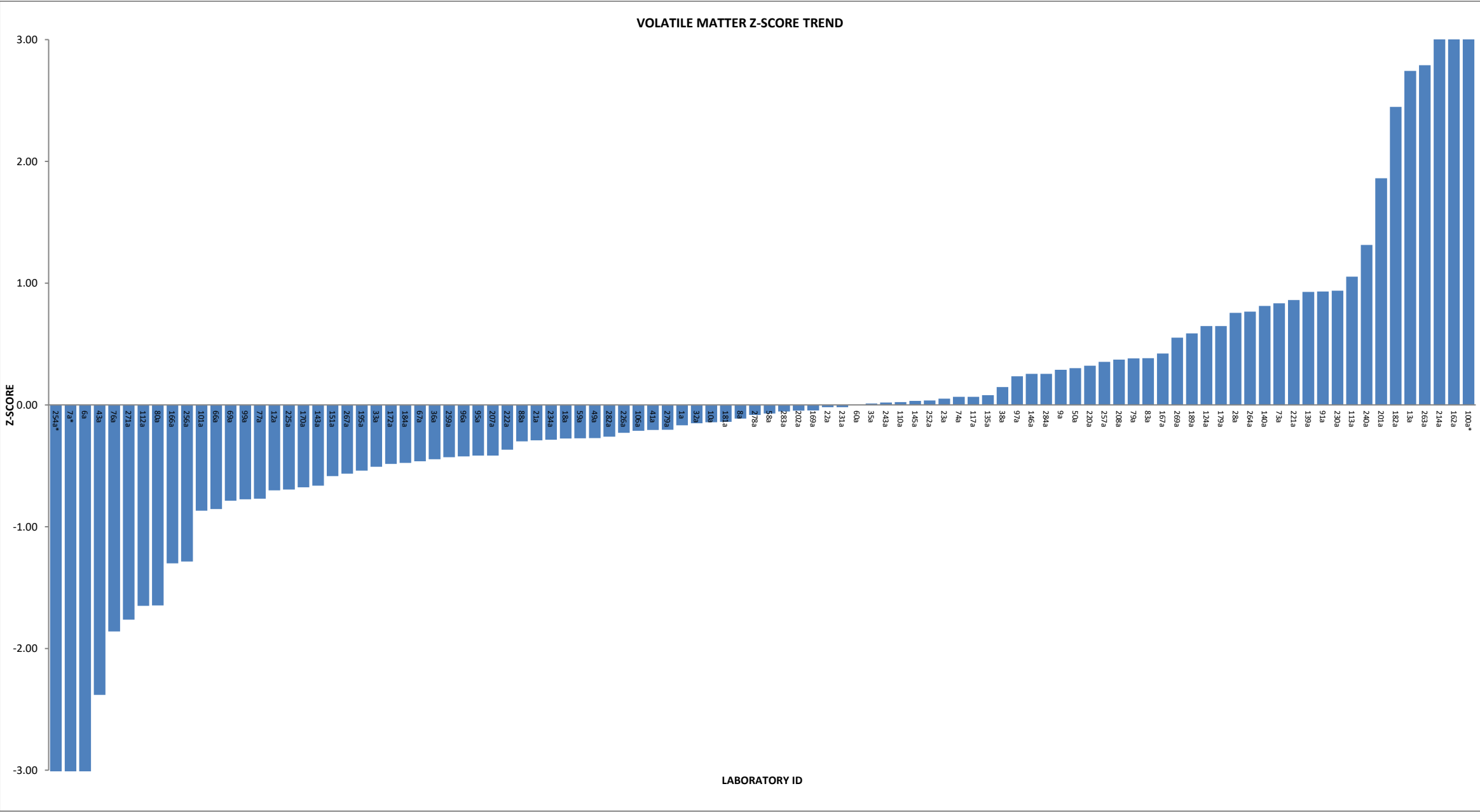
COAL CONCEPTS - PROFICIENCY TESTING -MAY 2024					
ANALYTICAL PARAMETER: ISO ASH (%)					
	LAB ID	MOISTURE IN ANALYSIS SAMPLE (%)	AIR DRY (%)	DRY BASE (%)	Z-SCORE (DRY BASE)
	1a	4.31	22.99	24.03	1.83
	6a	4.72	22.92	24.06	2.08
	7a*	3.71	23.44	24.34	4.48
	8a	3.35	22.75	23.54	-2.23
	9a	4.20	22.50	23.49	-2.67
	10a	3.76	22.96	23.86	0.42
	12a	4.39	22.73	23.77	-0.27
	13a	4.02	22.69	23.64	-1.38
	18a	3.69	22.96	23.84	0.28
	21a	3.40	23.05	23.86	0.46
	23a	3.70	23.00	23.88	0.65
	28a	3.48	23.10	23.93	1.06
	32a	3.70	22.84	23.72	-0.74
	33a	3.80	22.90	23.80	-0.01
	35a	4.30	22.70	23.72	-0.72
	36a	3.50	22.80	23.63	-1.50
	38a	3.90	22.80	23.73	-0.68
	43a	3.10	23.10	23.84	0.27
	49a	3.83	22.91	23.82	0.13
	58a	3.74	22.94	23.83	0.21
	59a	4.04	22.75	23.71	-0.82
	60a	4.00	22.70	23.65	-1.34
	66a	3.40	23.08	23.89	0.72
	67a	3.90	22.90	23.83	0.19
	69a	3.20	23.10	23.86	0.48
	74a	3.30	23.00	23.78	-0.18
	76a	3.50	22.90	23.73	-0.63
	79a	4.31	22.73	23.75	-0.44
	80a	3.75	22.83	23.72	-0.72
	83a	3.46	22.99	23.81	0.00
	88a	3.25	23.13	23.91	0.84
	91a	3.00	23.10	23.81	0.07
	95a	4.00	22.90	23.85	0.40
	96a	3.29	23.17	23.96	1.27
	97a	2.76	23.05	23.70	-0.85
	99a	3.53	22.98	23.82	0.12
	100a	2.58	23.15	23.76	-0.36
	101a	3.81	22.87	23.78	-0.25
	106a	4.00	22.90	23.85	0.40
	110a	3.25	22.98	23.75	-0.45
	112a	4.10	22.78	23.75	-0.44
	117a	3.30	23.10	23.89	0.68
	124a	3.93	23.00	23.94	1.12
	135a	3.33	23.00	23.79	-0.12
	139a	3.33	22.92	23.71	-0.81
	143a	4.08	22.86	23.83	0.22
	145a	4.22	22.86	23.87	0.51
	146a	3.70	23.00	23.88	0.65
	151a	3.20	22.80	23.55	-2.11
	162a	3.67	22.94	23.81	0.00
	166a	3.53	22.91	23.75	-0.48
	167a	3.37	22.92	23.72	-0.73
	169a	3.58	23.08	23.94	1.09
	170a	3.83	22.93	23.84	0.31
	172a	3.59	22.98	23.84	0.25
	177a	4.36	22.82	23.86	0.45
	184a*	3.00	22.60	23.30	-4.23
	195a	4.17	22.81	23.80	-0.03
	201a	4.50	22.80	23.87	0.57
	202a	4.22	22.72	23.72	-0.71
	207a	4.00	22.80	23.75	-0.47
	208a	4.80	22.60	23.74	-0.56
	220a	4.44	22.67	23.72	-0.69
	221a	3.70	23.10	23.99	1.51
	222a	2.80	23.40	24.07	2.23
	225a	3.40	23.20	24.02	1.75
	226a	3.66	23.02	23.89	0.74
	230a	3.31	22.91	23.69	-0.93
	234a	3.41	23.05	23.86	0.48
	240a	4.13	22.80	23.78	-0.20
	252a*	3.84	23.32	24.25	3.71
	254a	3.70	22.90	23.78	-0.22
	256a	3.83	23.07	23.99	1.52
	259a	3.10	22.70	23.43	-3.17
	267a*	4.55	17.59	18.43	-44.87
	271a	3.67	23.00	23.88	0.58
	278a	4.19	22.94	23.94	1.14
	282a	3.42	23.03	23.85	0.33
	284a	3.70	22.90	23.78	-0.22
Number of results	-	79	79	79	-
OUTLIERS	-	-	1	4	-
AVERAGE	-	3.72	22.93	23.81	-
STD DEVIATION	-	-	0.17	0.12	-
MEDIAN			22.92	23.81	
%RSD	-	-	0.75	0.50	
ROBUST AVERAGE	-	-	22.93	23.81	-
ROBUST STD DEVIATION	-	-	0.18	0.13	-
UoM			0.03	0.02	-



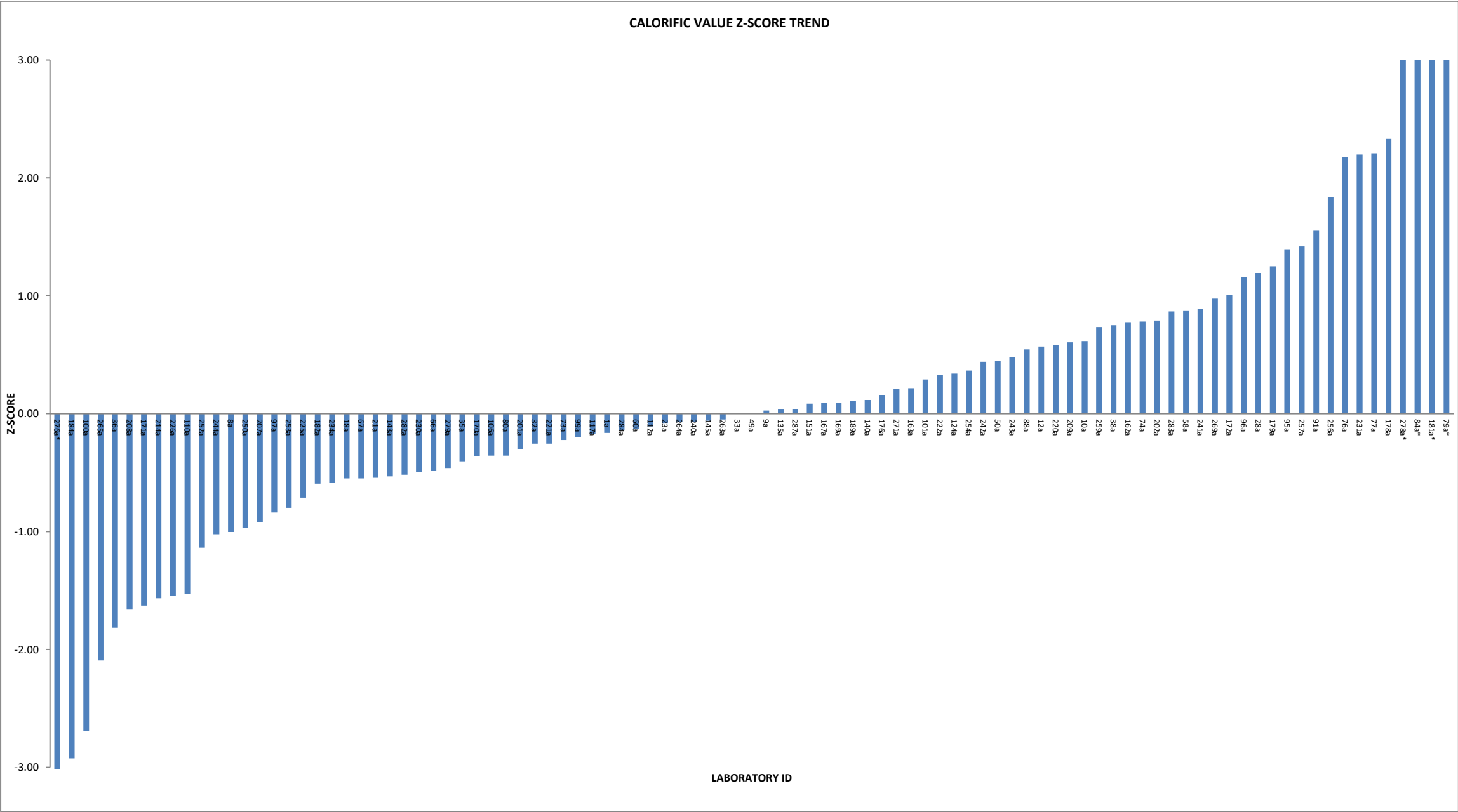
COAL CONCEPTS - PROFICIENCY TESTING -MAY 2024					
ANALYTICAL PARAMETER: QUICK ASH (%)					
	LAB ID	MOISTURE IN ANALYSIS SAMPLE (%)	AIR DRY (%)	DRY BASE (%)	Z-SCORE (DRY BASE)
	<u>8a*</u>	3,35	<u>22,13</u>	<u>22,90</u>	<u>-4,49</u>
	10a	3,76	22,85	23,74	0,25
	13a	4,02	22,69	23,64	-0,32
	21a	3,40	23,00	23,81	0,62
	22a	3,98	22,68	23,62	-0,44
	23a	3,70	23,00	23,88	1,04
	35a	4,30	22,70	23,72	0,12
	36a	3,50	22,70	23,52	-0,98
	41a	3,41	22,96	23,77	0,41
	49a	3,83	22,71	23,61	-0,47
	50a	3,80	23,10	24,01	1,76
	59a	4,04	22,73	23,69	-0,06
	73a	3,22	22,78	23,54	-0,90
	74a	3,30	22,90	23,68	-0,09
	77a	4,55	22,70	23,78	0,47
	84a	4,92	22,47	23,63	-0,37
	91a	3,00	23,10	23,81	0,65
	100a	2,58	23,10	23,71	0,08
	101a	3,81	22,84	23,74	0,26
	112a	4,10	22,68	23,65	-0,27
	113a	4,18	22,82	23,82	0,66
	140a	3,64	22,97	23,84	0,78
	143a	4,08	22,83	23,80	0,58
	145a	4,22	23,00	24,01	1,77
	162a	3,67	22,82	23,69	-0,05
	163a	3,63	22,78	23,64	-0,34
	169a	3,58	22,97	23,82	0,70
	171a	3,43	22,51	23,31	-2,18
	172a	3,59	22,79	23,64	-0,33
	176a	3,63	22,73	23,59	-0,63
	178a	3,90	22,70	23,62	-0,43
	179a	4,10	23,00	23,98	1,60
	181a	2,86	23,20	23,88	1,04
	182a	2,65	22,70	23,32	-2,13
	184a	3,00	23,10	23,81	0,65
	189a	3,59	23,04	23,90	1,12
	<u>201a*</u>	4,50	<u>22,13</u>	23,17	-2,94
	202a	4,22	22,81	23,81	0,65
	207a	4,00	22,70	23,65	-0,29
	<u>208a*</u>	4,80	23,20	<u>24,37</u>	<u>3,76</u>
	214a	2,80	22,90	23,56	-0,78
	217a	3,63	22,73	23,59	-0,63
	221a	3,70	23,00	23,88	1,04
	222a	2,80	22,70	23,35	-1,93
	226a	3,66	22,70	23,56	-0,76
	230a	3,31	22,90	23,68	-0,08
	231a	3,68	22,74	23,61	-0,50
	234a	3,41	23,00	23,81	0,64
	240a	4,13	23,00	23,99	1,64
	241a	3,63	22,85	23,71	0,07
	242a	3,63	22,96	23,82	0,71
	243a	3,20	22,90	23,66	-0,23
	244a	3,63	22,90	23,76	0,36
	252a	3,84	23,24	24,17	2,63
	253a	3,63	22,76	23,62	-0,45
	254a	3,70	22,90	23,78	0,46
	257a	2,20	23,20	23,72	0,13
	259a	3,10	22,70	23,43	-1,52
	263a	3,10	23,00	23,74	0,21
	264a	3,50	22,90	23,73	0,18
	265a	3,63	22,76	23,62	-0,45
	269a	3,90	22,80	23,73	0,15
	279a	3,63	22,78	23,64	-0,34
	282a	3,42	22,99	23,80	0,59
	283a	3,82	22,77	23,67	-0,13
	284a	3,70	22,70	23,57	-0,71
	287a	3,00	22,60	23,30	-2,24
Number of results	-	67	67	67	-
OUTLIERS	-	-	2	2	-
AVERAGE	-	3,63	22,86	23,70	-
STD DEVIATION	-	-	0,17	0,18	-
MEDIAN			22,83	23,71	
%RSD	-	-	0,74	0,75	
ROBUST AVERAGE	-	-	22,86	23,70	
ROBUST STD DEVIATION	-	-	0,18	0,18	
UoM			0,03	0,03	



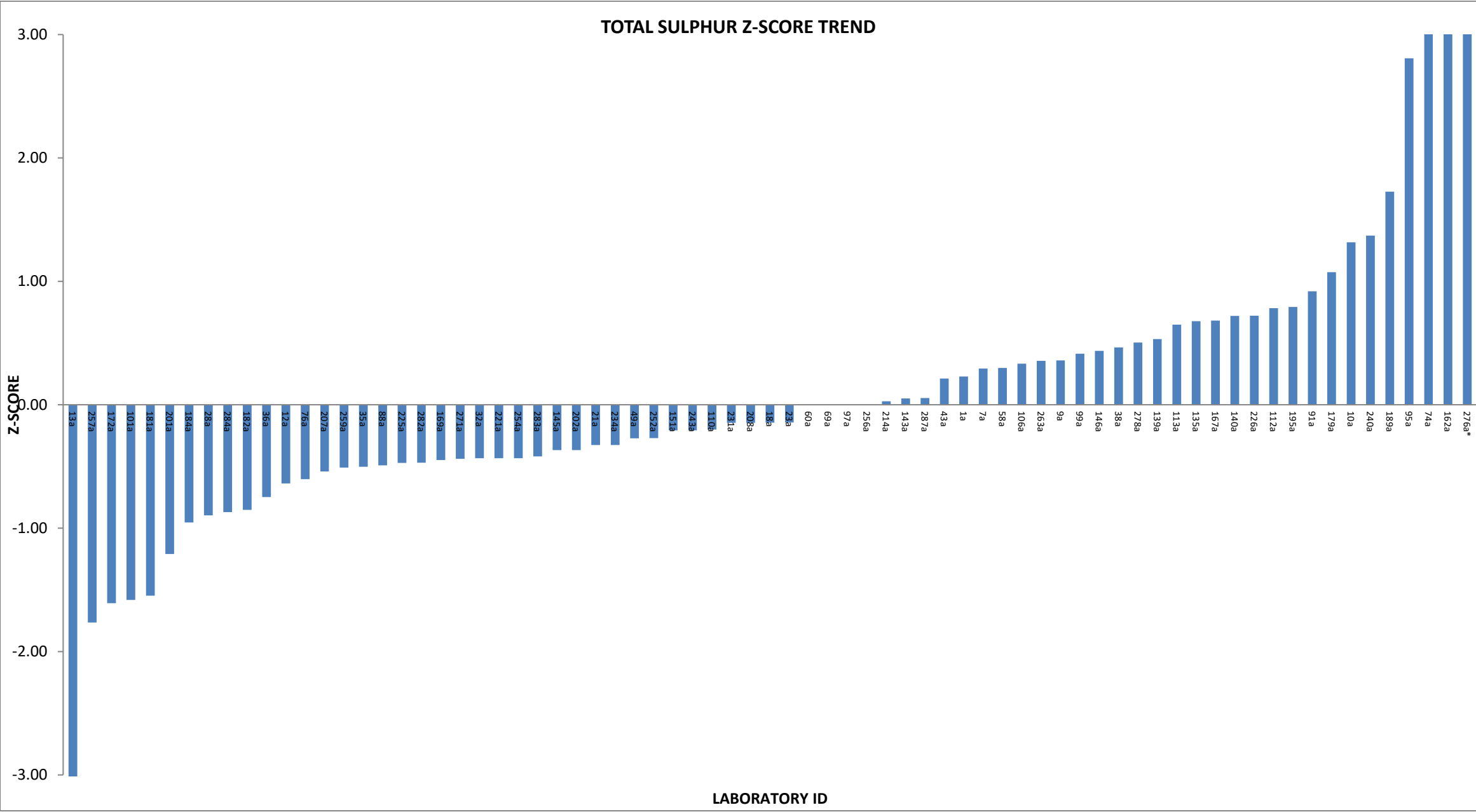
COAL CONCEPTS - PROFICIENCY TESTING -MAY 2024					
ANALYTICAL PARAMETER: ISO VOLATILE MATTER (%)					
	LAB ID	MOISTURE IN ANALYSIS SAMPLE (%)	AIR DRY	DRY BASE	Z-SCORE (DRY BASE)
	1a	4.31	22.15	23.15	-0.17
	6a	4.72	20.66	21.68	-3.02
	7a*	3.71	19.01	19.74	-6.81
	8a	3.35	22.40	23.18	-0.11
	9a	4.20	22.40	23.38	0.29
	10a	3.76	22.29	23.16	-0.14
	12a	4.39	21.87	22.87	-0.70
	13a	4.02	23.65	24.64	2.74
	18a	3.69	22.24	23.09	-0.28
	21a	3.40	22.30	23.08	-0.29
	22a	3.98	22.30	23.22	-0.02
	23a	3.70	22.40	23.26	0.05
	28a	3.48	22.80	23.62	0.76
	32a	3.70	22.30	23.16	-0.15
	33a	3.80	22.10	22.97	-0.51
	35a	4.30	22.24	23.24	0.01
	36a	3.50	22.20	23.01	-0.45
	38a	3.90	22.40	23.31	0.15
	41a	3.41	22.34	23.13	-0.21
	43a	3.10	21.33	22.01	-2.38
	49a	3.83	22.21	23.09	-0.27
	50a	3.80	22.50	23.39	0.30
	58a	3.74	22.33	23.20	-0.07
	59a	4.04	22.16	23.09	-0.27
	60a	4.00	22.30	23.23	0.00
	66a	3.40	22.02	22.80	-0.86
	67a	3.90	22.10	23.00	-0.46
	69a	3.20	22.10	22.83	-0.79
	73a	3.22	22.90	23.66	0.83
	74a	3.30	22.50	23.27	0.07
	76a	3.50	21.50	22.28	-1.86
	77a	4.55	21.80	22.84	-0.77
	79a	4.31	22.42	23.43	0.38
	80a	3.75	21.55	22.39	-1.65
	83a	3.46	22.62	23.43	0.38
	88a	3.25	22.33	23.08	-0.30
	91a	3.00	23.00	23.71	0.93
	95a	4.00	22.10	23.02	-0.42
	96a	3.29	22.26	23.02	-0.42
	97a	2.76	22.71	23.35	0.24
	99a	3.53	22.03	22.84	-0.78
	100a*	2.58	24.91	25.57	4.55
	101a	3.81	21.92	22.79	-0.87
	106a	4.00	22.20	23.13	-0.21
	110a	3.25	22.49	23.25	0.02
	112a	4.10	21.47	22.39	-1.65
	113a	4.18	22.78	23.77	1.05
	117a	3.30	22.50	23.27	0.07
	124a	3.93	22.64	23.57	0.65
	135a	3.33	22.50	23.28	0.08
	139a	3.33	22.92	23.71	0.93
	140a	3.64	22.79	23.65	0.81
	143a	4.08	21.96	22.89	-0.66
	145a	4.22	22.27	23.25	0.03
	146a	3.70	22.50	23.36	0.25
	151a	3.20	22.20	22.93	-0.58
	162a	3.67	23.90	24.81	3.07
	166a	3.53	21.77	22.57	-1.30
	167a	3.37	22.66	23.45	0.42
	169a	3.58	22.38	23.21	-0.04
	170a	3.83	22.01	22.89	-0.68
	172a	3.59	22.16	22.99	-0.48
	179a	4.10	22.60	23.57	0.65
	181a	2.86	22.50	23.16	-0.14
	182a	2.65	23.84	24.49	2.45
	184a	3.00	22.30	22.99	-0.48
	189a	3.59	22.69	23.53	0.59
	195a	4.17	22.00	22.96	-0.54
	201a	4.50	23.10	24.19	1.86
	202a	4.22	22.23	23.21	-0.05
	207a	4.00	22.10	23.02	-0.42
	208a	4.80	22.30	23.42	0.37
	214a	2.80	24.10	24.79	3.04
	220a	4.44	22.36	23.40	0.32
	221a	3.70	22.80	23.68	0.86
	222a	2.80	22.40	23.05	-0.37
	225a	3.40	22.10	22.88	-0.69
	226a	3.66	22.27	23.12	-0.23
	230a	3.31	22.93	23.71	0.94
	231a	3.68	22.37	23.22	-0.02
	234a	3.41	22.30	23.09	-0.29
	240a	4.13	22.92	23.91	1.31
	243a	3.20	22.50	23.24	0.02
	252a	3.84	22.36	23.25	0.04
	254a*	3.70	19.00	19.73	-6.83
	256a	3.83	21.71	22.57	-1.29
	257a	2.20	22.90	23.42	0.35
	259a	3.10	22.30	23.01	-0.43
	263a	3.10	23.90	24.66	2.79
	264a	3.50	22.80	23.63	0.77
	267a	4.55	21.90	22.94	-0.57
	269a	3.90	22.60	23.52	0.55
	271a	3.67	21.51	22.33	-1.76
	278a	4.19	22.22	23.19	-0.08
	279a	3.63	22.29	23.13	-0.20
	282a	3.42	22.31	23.10	-0.26
	283a	3.82	22.32	23.21	-0.05
	284a	3.70	22.50	23.36	0.25
NUMBER OF RESULTS	-	98	98	98	-
OUTLIERS	-	-	3	3	-
AVERAGE	-	3.66	22.38	23.23	-
STD DEVIATION	-	-	0.52	0.51	-
MEDIAN	-	-	22.31	23.20	-
%RSD	-	-	2.34	2.21	-
ROBUST AVERAGE	-	-	22.38	23.23	-
ROBUST STD DEVIATION	-	-	0.54	0.54	-
UoM	-	-	0.07	0.07	-



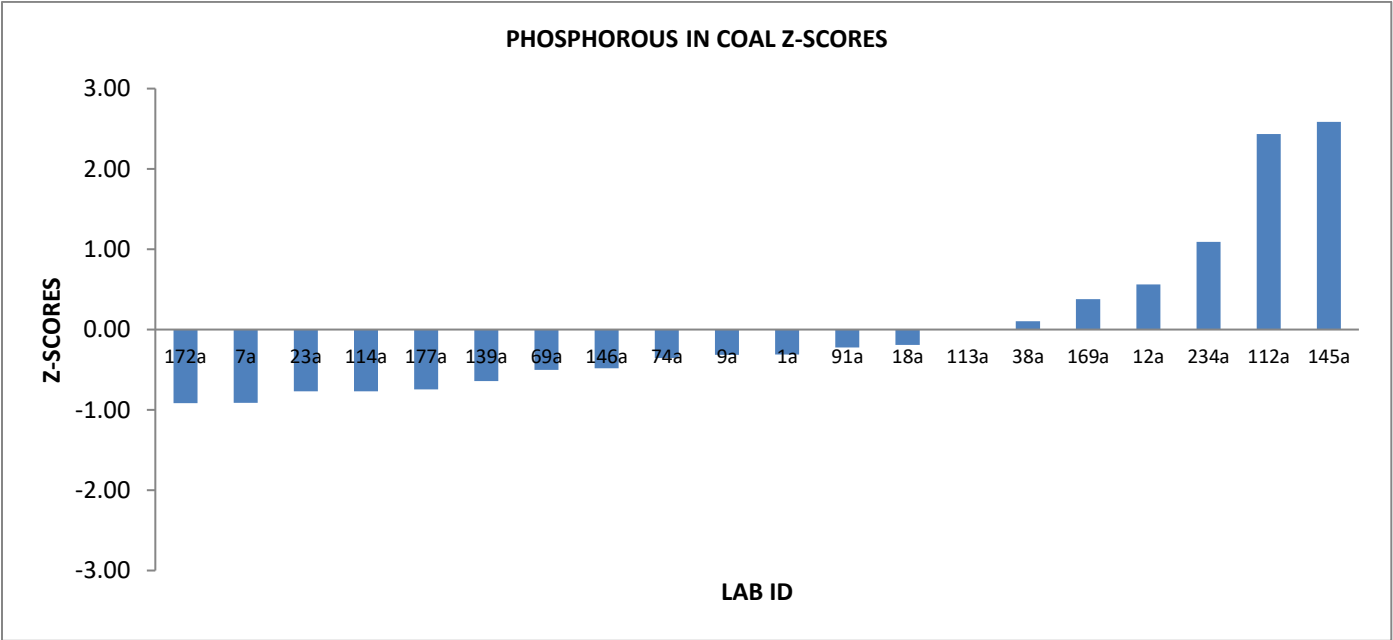
COAL CONCEPTS - PROFICIENCY TESTING -MAY 2024						
ANALYTICAL PARAMETER: CALORIFIC VALUE (MJ/kg)						
	LAB ID	MOISTURE IN ANALYSIS SAMPLE (%)	AIR DRY (MJ/kg)	DRY BASE (MJ/kg)	Z-SCORE (DRY BASE)	
	1a	4.31	22.89	23.92	-0.16	
	8a	3.35	22.97	23.77	-1.00	
	9a	4.20	22.95	23.96	0.03	
	10a	3.76	23.16	24.06	0.62	
	12a	4.39	23.00	24.06	0.57	
	18a	3.69	22.97	23.85	-0.55	
	21a	3.40	23.04	23.85	-0.54	
	23a	3.70	23.05	23.94	-0.08	
	28a	3.48	23.33	24.17	1.19	
	32a	3.70	23.02	23.90	-0.25	
	33a	3.80	23.04	23.95	0.00	
	35a	4.30	22.85	23.88	-0.40	
	36a	3.50	22.79	23.62	-1.82	
	38a	3.90	23.15	24.09	0.75	
	49a	3.83	23.03	23.95	0.00	
	50a	3.80	23.12	24.03	0.45	
	58a	3.74	23.21	24.11	0.87	
	60a	4.00	22.97	23.93	-0.13	
	66a	3.40	23.05	23.86	-0.49	
	67a	3.90	22.92	23.85	-0.55	
	73a	3.22	23.14	23.91	-0.22	
	74a	3.30	23.30	24.10	0.78	
	76a	3.50	23.50	24.35	2.18	
	77a	4.55	23.25	24.36	2.21	
	79a*	4.31	24.18	25.27	7.15	
	80a	3.75	22.99	23.89	-0.36	
	84a*	4.92	23.68	24.91	5.18	
	88a	3.25	23.27	24.05	0.55	
	91a	3.00	23.51	24.24	1.55	
	95a	4.00	23.24	24.21	1.40	
	96a	3.29	23.37	24.17	1.16	
	97a	2.76	23.14	23.80	-0.84	
	99a	3.53	23.07	23.91	-0.20	
	100a	2.58	22.85	23.46	-2.69	
	101a	3.81	23.09	24.00	0.29	
	106a	4.00	22.93	23.89	-0.36	
	110a	3.25	22.90	23.67	-1.53	
	112a	4.10	22.95	23.93	-0.11	
	117a	3.30	23.13	23.92	-0.17	
	124a	3.93	23.07	24.01	0.34	
	135a	3.33	23.16	23.96	0.04	
	140a	3.64	23.10	23.97	0.12	
	143a	4.08	22.88	23.85	-0.53	
	145a	4.22	22.93	23.94	-0.06	
	151a	3.20	23.20	23.97	0.09	
	162a	3.67	23.21	24.09	0.78	
	163a	3.63	23.12	23.99	0.22	
	167a	3.37	23.16	23.97	0.09	
	169a	3.58	23.11	23.97	0.09	
	170a	3.83	22.97	23.88	-0.36	
	171a	3.43	22.84	23.65	-1.63	
	172a	3.59	23.27	24.14	1.01	
	176a	3.63	23.11	23.98	0.16	
	178a	3.90	23.43	24.38	2.33	
	179a	4.10	23.19	24.18	1.25	
	181a*	2.86	24.54	25.26	7.12	
	182a	2.65	23.21	23.84	-0.59	
	184a	3.00	22.71	23.41	-2.92	
	189a	3.59	23.11	23.97	0.11	
	201a	4.50	22.82	23.90	-0.30	
	202a	4.22	23.08	24.10	0.79	
	207a	4.00	22.83	23.78	-0.92	
	208a	4.80	22.51	23.64	-1.66	
	209a	4.25	23.04	24.06	0.60	
	214a	2.80	23.00	23.66	-1.57	
	220a	4.44	22.99	24.06	0.58	
	221a	3.70	23.02	23.90	-0.25	
	222a	2.80	23.34	24.01	0.33	
	225a	3.40	23.01	23.82	-0.71	
	226a	3.66	22.80	23.67	-1.55	
	230a	3.31	23.07	23.86	-0.50	
	231a	3.68	23.46	24.36	2.20	
	234a	3.41	23.03	23.84	-0.59	
	240a	4.13	22.95	23.94	-0.07	
	241a	3.63	23.24	24.12	0.89	
	242a	3.63	23.16	24.03	0.44	
	243a	3.20	23.27	24.04	0.48	
	244a	3.63	22.90	23.76	-1.02	
	250a	3.63	22.91	23.77	-0.97	
	252a	3.84	22.83	23.74	-1.14	
	253a	3.63	22.94	23.80	-0.80	
	254a	3.70	23.13	24.02	0.37	
	256a	3.83	23.36	24.29	1.84	
	257a	2.20	23.68	24.21	1.42	
	259a	3.10	23.34	24.09	0.74	
	263a	3.10	23.20	23.94	-0.05	
	264a	3.50	23.10	23.94	-0.07	
	265a	3.63	22.71	23.57	-2.09	
	269a	3.90	23.19	24.13	0.98	
	271a	3.67	23.11	23.99	0.21	
	276a*	0.65	22.08	22.22	-9.37	
	278a*	4.19	23.84	24.88	5.05	
	279a	3.63	23.00	23.87	-0.46	
	282a	3.42	23.04	23.86	-0.52	
	283a	3.82	23.19	24.11	0.87	
	284a	3.70	23.04	23.93	-0.14	
	287a	3.00	23.24	23.96	0.04	
NUMBER OF RESULTS	-	97	97	97	-	
OUTLIERS	-	-	4	5	-	
AVERAGE	-	3.62	23.09	23.95	-	
STD DEVIATION	-	-	0.20	0.18	-	
MEDIAN			23.07	23.94		
%RSD	-	-	0.87	0.77		
ROBUST AVERAGE	-	-	23.09	23.95	-	
ROBUST STD DEVIATION	-	-	0.21	0.20	-	
UoM	-	-	0.03	0.03	-	



COAL CONCEPTS - PROFICIENCY TESTING -MAY 2024					
ANALYTICAL PARAMETER: TOTAL SULPHUR (%)					
	LAB ID	MOISTURE IN ANALYSIS SAMPLE (%)	AIR DRY	DRY BASE	Z-SCORE (DRY BASE)
	1a	4.31	0.88	0.92	0.23
	7a	3.71	0.89	0.92	0.29
	9a	4.20	0.89	0.93	0.36
	10a	3.76	0.96	1.00	1.32
	12a	4.39	0.82	0.86	-0.64
	13a	4.02	0.66	0.69	-3.01
	18a	3.69	0.86	0.89	-0.14
	21a	3.40	0.85	0.88	-0.33
	23a	3.70	0.86	0.89	-0.14
	28a	3.48	0.81	0.84	-0.90
	32a	3.70	0.84	0.87	-0.43
	35a	4.30	0.83	0.87	-0.50
	36a	3.50	0.82	0.85	-0.75
	38a	3.90	0.90	0.94	0.46
	43a	3.10	0.89	0.92	0.21
	49a	3.83	0.85	0.88	-0.27
	58a	3.74	0.89	0.92	0.30
	60a	4.00	0.86	0.90	0.00
	69a	3.20	0.87	0.90	0.00
	74a	3.30	1.09	1.13	3.13
	76a	3.50	0.83	0.86	-0.60
	88a	3.25	0.84	0.87	-0.49
	91a	3.00	0.94	0.97	0.92
	95a	4.00	1.06	1.10	2.81
	97a	2.76	0.88	0.90	0.00
	99a	3.53	0.90	0.93	0.41
	101a	3.81	0.76	0.79	-1.58
	106a	4.00	0.89	0.93	0.33
	110a	3.25	0.86	0.89	-0.20
	112a	4.10	0.92	0.96	0.78
	113a	4.18	0.91	0.95	0.65
	135a	3.33	0.92	0.95	0.68
	139a	3.33	0.91	0.94	0.53
	140a	3.64	0.92	0.95	0.72
	143a	4.08	0.87	0.91	0.05
	145a	4.22	0.84	0.88	-0.37
	146a	3.70	0.90	0.93	0.44
	151a	3.20	0.86	0.89	-0.21
	162a	3.67	1.09	1.13	3.19
	167a	3.37	0.92	0.95	0.68
	169a	3.58	0.84	0.87	-0.45
	172a	3.59	0.76	0.79	-1.61
	179a	4.10	0.94	0.98	1.07
	181a	2.86	0.77	0.79	-1.55
	182a	2.65	0.82	0.84	-0.85
	184a	3.00	0.81	0.84	-0.95
	189a	3.59	0.99	1.03	1.73
	195a	4.17	0.92	0.96	0.79
	201a	4.50	0.78	0.82	-1.21
	202a	4.22	0.84	0.88	-0.37
	207a	4.00	0.83	0.86	-0.54
	208a	4.80	0.85	0.89	-0.15
	214a	2.80	0.88	0.91	0.03
	221a	3.70	0.84	0.87	-0.43
	225a	3.40	0.84	0.87	-0.47
	226a	3.66	0.92	0.95	0.72
	231a	3.68	0.86	0.89	-0.15
	234a	3.41	0.85	0.88	-0.33
	240a	4.13	0.96	1.00	1.37
	243a	3.20	0.86	0.89	-0.21
	252a	3.84	0.85	0.88	-0.27
	254a	3.70	0.84	0.87	-0.43
	256a	3.83	0.87	0.90	0.00
	257a	2.20	0.76	0.78	-1.76
	259a	3.10	0.84	0.87	-0.51
	263a	3.10	0.90	0.93	0.36
	271a	3.67	0.84	0.87	-0.44
	276a*	0.65	1.75	1.76	12.00
	278a	4.19	0.90	0.94	0.50
	282a	3.42	0.84	0.87	-0.47
	283a	3.82	0.84	0.87	-0.42
	284a	3.70	0.81	0.84	-0.87
	287a	3.00	0.88	0.91	0.05
NUMBER OF RESULTS		73	73	73	-
OUTLIERS	-	-	1	1	-
AVERAGE	-	3.59	0.87	0.90	
MEDIAN		-	0.86	0.89	
STD DEVIATION	-	-	0.07	0.07	
%RSD	-	-	7.87	7.92	
ROBUST AVERAGE	-	-	0.87	0.90	-
ROBUST STD DEVIATION	-	-	0.07	0.07	-
UoM	-	-	0.01	0.01	-



COAL CONCEPTS - PROFICIENCY TESTING -MAY 2024					
ANALYTICAL PARAMETER: PHOSPHOROUS IN COAL (%)					
	LAB ID	MOISTURE IN ANALYSIS SAMPLE (%)	AIR DRY	DRY BASE	Z-SCORE (DRY BASE)
	1a	4.31	0.027	0.028	-0.31
	7a	3.71	0.023	0.024	-0.91
	9a	4.20	0.027	0.028	-0.32
	12a	4.39	0.033	0.035	0.56
	18a	3.69	0.028	0.029	-0.19
	23a	3.70	0.024	0.025	-0.77
	38a	3.90	0.030	0.031	0.11
	69a	3.20	0.026	0.027	-0.50
	74a	3.30	0.027	0.028	-0.35
	91a	3.00	0.028	0.029	-0.22
	112a	4.10	0.046	0.048	2.43
	113a	4.18	0.029	0.030	0.00
	114a	3.78	0.024	0.025	-0.77
	139a	3.33	0.025	0.026	-0.64
	145a	4.22	0.047	0.049	2.59
	146a	3.70	0.026	0.027	-0.48
	169a	3.58	0.032	0.033	0.38
	172a	3.59	0.023	0.024	-0.92
	177a	4.36	0.024	0.025	-0.75
	234a	3.41	0.037	0.038	1.09
Number of results	-	20	20	20	-
OUTLIERS	-	-	0	0	-
AVERAGE	-	3.78	0.029	0.030	-
STD DEVIATION	-	-	0.007	0.007	-
MEDIAN	-	-	0.027	0.028	-
ROBUST AVERAGE	-	-	0.029	0.030	-
ROBUST STD DEVIATION	-	-	0.007	0.007	-
UoM	-	-	0.002	0.002	-



COAL CONCEPTS - PROFICIENCY TESTING -MAY 2024					
ANALYTICAL PARAMETER: TOTAL CARBON (%)					
	LAB ID	MOISTURE IN ANALYSIS SAMPLE (%)	AIR DRY	DRY BASE	Z-SCORE (DRY BASE)
	1a	4.31	58.72	61.36	-0.38
	9a	4.20	58.74	61.32	-0.46
	12a	4.39	58.71	61.41	-0.31
	18a	3.69	59.16	61.43	-0.27
	88a	3.25	60.55	62.58	1.68
	177a	4.36	58.30	60.96	-1.06
	202a	4.22	60.12	62.77	1.99
	234a	3.41	59.20	61.29	-0.50
	240a	4.13	58.98	61.52	-0.11
	278a	4.19	58.69	61.26	-0.56
Number of results	-	10	10	10	-
OUTLIERS	-	-	0	0	-
AVERAGE	-	4.02	59.12	61.59	-
MEDIAN	-	-	58.86	61.39	-
STD DEVIATION	-	-	0.70	0.59	-
%RSD	-	-	1.18	0.96	
ROBUST AVERAGE	-	-	59.04	61.52	
ROBUST STD DEVIATION	-	-	0.81	0.73	
UoM	-	-	0.32	0.29	

COAL CONCEPTS - PROFICIENCY TESTING -MAY 2024					
ANALYTICAL PARAMETER: HYDROGEN (%)					
	LAB ID	MOISTURE IN ANALYSIS SAMPLE (%)	AIR DRY	DRY BASE	Z-SCORE (DRY BASE)
	1a	4.31	3.65	3.81	1.54
	9a	4.20	3.20	3.34	-0.44
	12a	4.39	3.18	3.33	-0.50
	18a	3.69	3.18	3.30	-0.60
	88a	3.25	3.46	3.57	0.53
	177a	4.36	3.70	3.87	1.76
	202a	4.22	3.38	3.53	0.35
	234a	3.41	3.15	3.26	-0.77
	240a	4.13	3.09	3.22	-0.93
	276a	0.65	3.20	3.22	-0.94
Number of results		10	10	10	
OUTLIERS	-	-	0	0	-
AVERAGE	-	3.66	3.32	3.45	-
MEDIAN		-	3.20	3.33	-
STD DEVIATION	-	-	0.22	0.24	-
%RSD	-	-	6.55	6.96	
ROBUST AVERAGE	-	-	3.30	3.42	
ROBUST STD DEVIATION	-	-	0.30	0.34	
UoM	-	-	0.12	0.13	

COAL CONCEPTS - PROFICIENCY TESTING -MAY 2024					
ANALYTICAL PARAMETER: NITROGEN(%)					
	LAB ID	MOISTURE IN ANALYSIS SAMPLE (%)	AIR DRY	DRY BASE	Z-SCORE (DRY BASE)
	1a	4.31	1.51	1.58	0.98
	9a	4.20	1.50	1.57	0.81
	12a	4.39	1.37	1.43	-1.05
	18a	3.69	1.46	1.52	0.11
	88a	3.25	1.54	1.59	1.21
	177a	4.36	1.45	1.52	0.12
	202a	4.22	1.40	1.46	-0.65
	240a	4.13	1.34	1.40	-1.54
Number of results		8	8	8	-
OUTLIERS	-	-	0	0	-
AVERAGE	-	4.07	1.45	1.51	-
MEDIAN		-	1.46	1.52	-
STD DEVIATION	-	-	0.07	0.07	-
%RSD	-	-	4.93	4.74	-

COAL CONCEPTS - PROFICIENCY TESTING -MAY 2024					
ANALYTICAL PARAMETER: ASH FUSION TEMPERATURES (°C)					
LAB ID	DEFORMATION	SOFTENING	HEMISPHERE	FLOW	
9a	1480	1490	1500	1500	
10a	1480	1490	1500	1500	
18a	1490	1500	1500	1500	
21a	1460	1480	1500	1500	
23a	1410	1450	1490	1500	
28a	1500	1500	1500	1500	
36a	1480	1500	1500	1500	
38a	1500	1500	1500	1500	
49a	1480	1500	1500	1500	
95a	1500	1500	1500	1500	
99a	1500	1500	1500	1500	
106a	1440	1460	1480	1500	
110a	1500	1500	1500	1500	
145a	1480	1500	1500	1500	
151a	1430	1450	1480	1500	
234a	1460	1475	1500	1500	
240a	1500	1500	1500	1500	
Number of results	17	17	17	17	
Outliers	0	0	0	0	
AVERAGE	1476	1488	1497	1500	
MEDIAN	1480	1500	1500	1500	
STDEV	27	18	7	0	

Z-SCORES				
LAB ID	DEFORMATION	SOFTENING	HEMISPHERE	FLOW
9a	0.15	0.11	0.43	0.00
10a	0.15	0.11	0.43	0.00
18a	0.52	0.66	0.43	0.00
21a	-0.58	-0.43	0.43	0.00
23a	-2.40	-2.07	-1.03	0.00
28a	0.88	0.66	0.43	0.00
36a	0.15	0.66	0.43	0.00
38a	0.88	0.66	0.43	0.00
49a	0.15	0.66	0.43	0.00
95a	0.88	0.66	0.43	0.00
99a	0.88	0.66	0.43	0.00
106a	-1.31	-1.53	-2.49	0.00
110a	0.88	0.66	0.43	0.00
145a	0.15	0.66	0.43	0.00
151a	-1.67	-2.07	-2.49	0.00
234a	-0.58	-0.71	0.43	0.00
240a	0.88	0.66	0.43	0.00

COAL CONCEPTS - PROFICIENCY TESTING -MAY 2024					
ANALYTICAL PARAMETER: CHLORINE (ppm)					
	LAB ID	MOISTURE IN ANALYSIS SAMPLE (%)	AIR DRY	DRY BASE	Z-SCORE (DRY BASE)
	12a	4.39	65	68	NA
	177a	4.36	116	121	NA
Number of results	-	2	2	2	-
OUTLIERS	-	-	-	-	-
AVERAGE	-	4.38	91	95	-
STD DEVIATION	-	-	-	-	-
MEDIAN	-	-	-	-	-

COAL CONCEPTS - PROFICIENCY TESTING -MAY 2024					
ANALYTICAL PARAMETER: FLUORINE (ppm)					
	LAB ID	MOISTURE IN ANALYSIS SAMPLE (%)	AIR DRY	DRY BASE	Z-SCORE (DRY BASE)
	12a	4.39	110	115	-
	169a	3.58	155	161	-
	177a	4.36	121	127	-
Number of results	-	3	3	3	-
OUTLIERS	-	-	-	-	-
AVERAGE	-	4.11	129	134	-
STD DEVIATION	-	-	na	na	-
MEDIAN	-	-	na	na	-

COAL CONCEPTS - PROFICIENCY TESTING -MAY 2024					
ANALYTICAL PARAMETER: ASTM ASH (%)					
	LAB ID	MOISTURE IN ANALYSIS SAMPLE (%)	AIR DRY (%)	DRY BASE (%)	Z-SCORE (DRY BASE)
	1a	4.31	22.93	23.96	0.92
	12a	4.39	22.86	23.91	0.56
	202a	4.22	22.63	23.63	-1.35
	209a	4.25	22.79	23.81	-0.14
	<u>276a*</u>	0.65	<u>30.55</u>	<u>30.75</u>	<u>46.78</u>
Number of results		5	5	5	-
OUTLIERS	-	-	1	1	-
AVERAGE	-	3.56	22.80	23.83	-
STD DEVIATION	-	-	0.13	0.15	-
MEDIAN	-	-	22.83	23.86	
%RSD	-	-	0.56	0.62	-

COAL CONCEPTS - PROFICIENCY TESTING -MAY 2024					
ANALYTICAL PARAMETER: ASTM VOLS (%)					
	LAB ID	MOISTURE IN ANALYSIS SAMPLE (%)	AIR DRY (%)	DRY BASE (%)	Z-SCORE (DRY BASE)
	1a	4.31	22.69	23.71	-1.15
	12a	4.39	22.87	23.92	-0.17
	202a	4.22	22.95	23.96	0.00
	209a	4.25	23.20	24.23	1.29
	<u>276a*</u>	0.65	21.97	<u>22.11</u>	<u>-8.66</u>
Number of results	-	5	5	5	-
OUTLIERS	-	-	0	1	-
AVERAGE	-	3.56	22.93	23.96	-
STD DEVIATION	-	-	0.21	0.21	-
MEDIAN	-	-	22.91	23.94	
%RSD	-	-	0.92	0.89	-

GENERAL CONCLUSIONS

1. The ISO Ash z-score trend is even distributed. The Robust average, Average and Median are same. Four outliers were detected. Three of them were analytical errors and one was a swapped sample.
2. The overall ISO volatile trend is evenly distributed. Three outliers were detected. These were due to analytical errors. An RSD of 2.21% 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. One outlier was detected. The Average, Median and Robust Average are the same. A high precision of results received.
5. Phosphorous analysis: The z-score trend is negatively biased. No outliers detected.
6. Generally acceptable results were obtained on Carbon, Hydrogen and Nitrogen.
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 results *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