



COAL CONCEPTS PROFICIENCY TESTING

GENERAL ANALYSIS SAMPLE

REPORT – ONE HUNDRED AND FIFTY-EIGHT

Revision 00

Final report

DATE ISSUED 31 DECEMBER 2024

PARTICIPANT

LABORATORY CODE: a

R BABOOLAL (SCHEME MANAGER)

SCHEME COORDINATOR: S MAMABOLO

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

THINKING QUALITY, QUALITY THINKING

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

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EXECUTIVE SUMMARY

1. One hundred and eighteen samples were sent to participants with 113 results submitted timeously.
2. The total number of outliers detected were as follows (dry base):
 - ISO Ash x 1
 - Volatile matter x 5
 - Calorific value x 6
 - Total Sulphur x 3
 - Carbon x 2
 - Ash Fusion Temperatures (Soft x 2 , Hemisphere x 4, Flow x 4)
3. Chlorine, Fluorine, ASTM Ash, ASTM Volatile Matter participants were insufficient to apply robust statistical calculations.
4. Trending for your laboratory is as follows:

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Dear Participant

RE: PROFICIENCY TESTING RESULTS FOR THE MONTH OF DECEMBER 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	Labrite highveld
Africoal	Leon Testing Pakistan
AH Knight	Mafube Coal
Anglo Coal Goedehoop North Plant	Matil Lab
Anglo Greenside (Thungela)	Mfulawamanzi
Anglo Landau	Ministry of Energy and Mineral Resources - Kingdom of Jordan
Aqua Specto	Mitra SK Morocco
ArcelorMittal VDP	Mitra SK Richards Bay
Best enough - NCC	ML Coal
Best enough - 2 Seam	Moruple
Best enough Laboratory -Springs	Msobo Coal
Bestech Anthra Siding- Ermelo	Nelson Mandela University
Bestech Madini Mining Witbank	Noko Analytical laboratories (Witbank)
Bestech Vlakfontein Mine-Ogies	Noko Ntshovelo
Bestech Zomhlaba Resource Mine -Delmas	Noko Piet Retief
Botswana Power Corp - B Power Station	Noko Welgemeend
Botswana Power Corporation - A Power Station	PJS Laboratory services Middelburg
Bureau Veritas Beira	PJS Laboratory services Salaria
Bureau Veritas Inspectorate Laboratories - Alton	PJS Laboratory services Weostellen
Bureau Veritas Inspectorate Laboratories - Middelburg	PSB Analytical Services Netherlands
BV Matola Laboratory	Profi Lab Doo
BV Moatize	RC Inspection
BV Nacala	Richards Bay Minerals
BVTISA -PTA	Ronewa Lab
Castle Peak Power Station	Ronewa Lab Gugulethu
CCIC Richards Bay	Ronewa Wescoal
celiklerholding	Rovumo (Pty) Ltd
Coal Concepts Richards Bay Lab	SA Labs Ihtuba – Kangra
Cotecna Phola	SA Labs Ihtuba – Khanye
Cotecna Lurco	SA Labs Ihtuba – Middelburg
Cotecna Middelburg	SA Labs Ihtuba – Ruvuma Coal LTD
Cotecna Mimosa	SA Labs Ihtuba – Ukufisa
Cotecna Nasonti	SA Labs Ihtuba – ZAC
Cotecna Richards Bay Lab	SABS CSIR
Department of Energy Philippines	SABS Richards Bay
Dicem	SABS Secunda
Ensayos técnicos Labmin SRL-Peru	SABS Uitkomst
Eskom Arnot	Sappi
Eskom Duvha	SB Mining Solutions - Belfast
Eskom Erid	Seriti Kriel Colliery
Eskom Erid TGA	Seriti New Denmark
Eskom Grootvlei	Seriti New Vaal
Eskom Hendrina	Sibonisiwe Clewer
Eskom Kendal	Sibonisiwe Middelburg
Eskom Kriel	Sibonisiwe Ritvlei
Eskom Lethabo	Sibonisiwe WCP
Eskom Majuba	Sibonisiwe-Arnot OPCO
Eskom Matimba	Sibonisiwe 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
Geological Survey of Tanzania	Siza WestCoal
Geoscience	South 32 Khutala
Glencore Boshhoek	SPTE
Glencore Lion	Turkey ELI
Glencore Rustenburg	UAS Areshomeng
Glencore Wonderkop	UAS Botswana
Gölbasi Kimya Laboratuvarı İşletme Müdürlüğü	UAS Main Lab
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

1. TYPE OF SAMPLE USED

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

2. PREPARATION OF SAMPLE

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

3. HOMOGENEITY CHECK

There were approximately 114 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	31.70	31.92	31.81	0.22	0.0484
2	31.71	31.91	31.81	0.20	0.0400
3	31.88	32.00	31.94	0.12	0.0144
4	31.77	31.91	31.84	0.14	0.0196
5	32.01	31.96	31.99	0.05	0.0025
6	31.92	32.08	32.00	0.16	0.0256
7	31.87	31.93	31.90	0.06	0.0036
8	31.95	32.12	32.04	0.17	0.0289
9	32.03	32.00	32.02	0.03	0.0009
10	31.99	32.04	32.02	0.05	0.0025
GENERAL AVERAGE			31.94		
STANDARD DEVIATION			0.089		
WITHIN SAMPLE STANDARD DEVIATION			0.097		
BETWEEN SAMPLE STANDARD DEVIATION			0.057		

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

(σ = std deviation for the proficiency assessment)

$\sigma = 0.639$ was used, which is the repeatability for ISO ash (Ash % > 10%)
Hence = $0.639 \times 0.3 = 0.192$

Since $0.057 < 0.192$ 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	31.74	32.04	31.89	0.30	0.0900
2	31.71	31.96	31.84	0.25	0.0625
3	31.88	32.00	31.94	0.12	0.0144
4	31.85	31.94	31.90	0.09	0.0081
5	32.08	31.98	32.03	0.10	0.0100
6	31.98	32.11	32.05	0.13	0.0169
7	31.94	32.00	31.97	0.06	0.0036
8	32.01	32.16	32.09	0.15	0.0225
9	32.08	32.09	32.09	0.01	0.0001
10	32.02	32.12	32.07	0.10	0.0100
GENERAL AVERAGE			31.98		
STANDARD DEVIATION			0.091		
WITHIN SAMPLE STANDARD DEVIATION			0.109		
BETWEEN SAMPLE STANDARD DEVIATION			0.048		

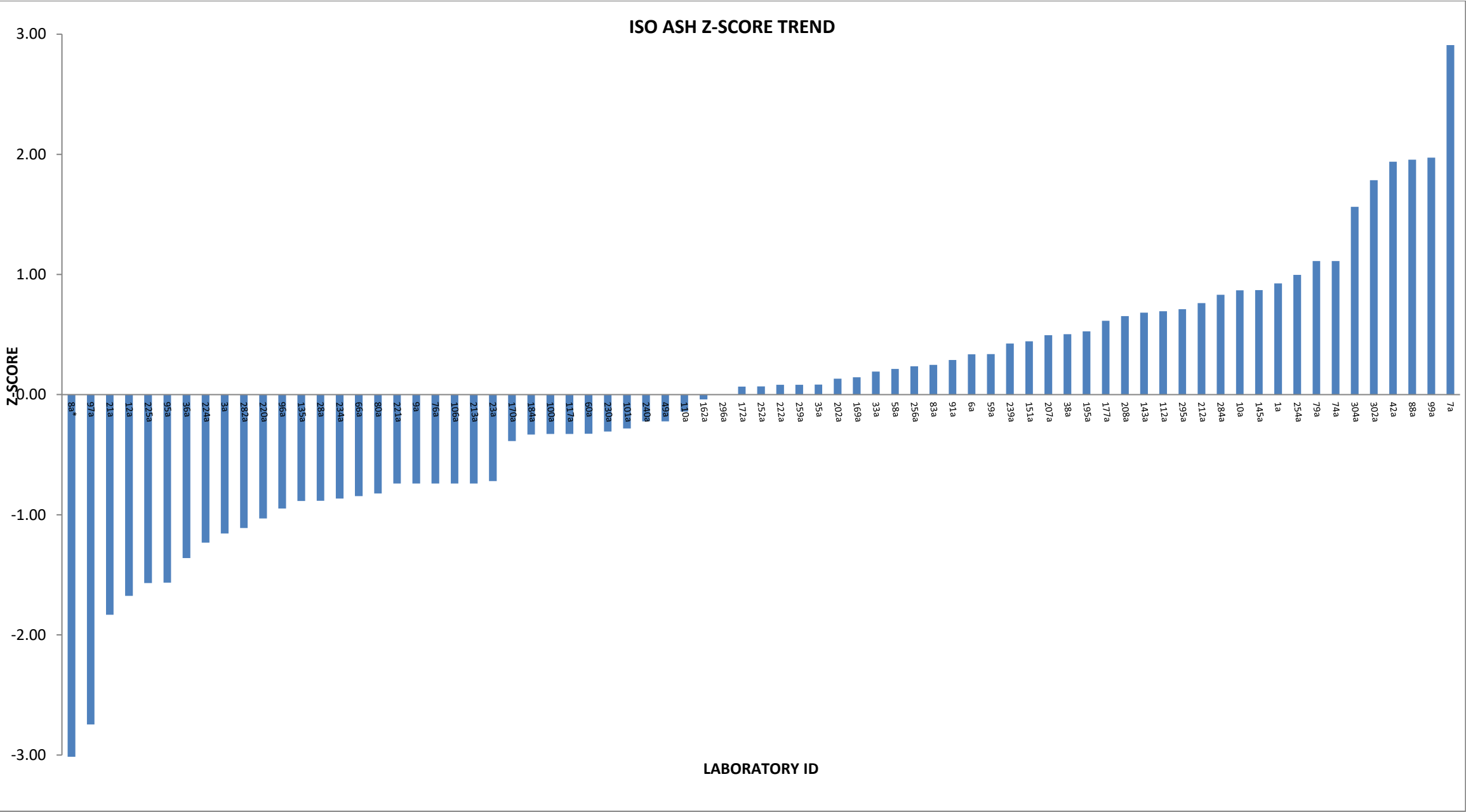
(O' = 0. was used)

For this report 0.3 x 0.639 = 0.192

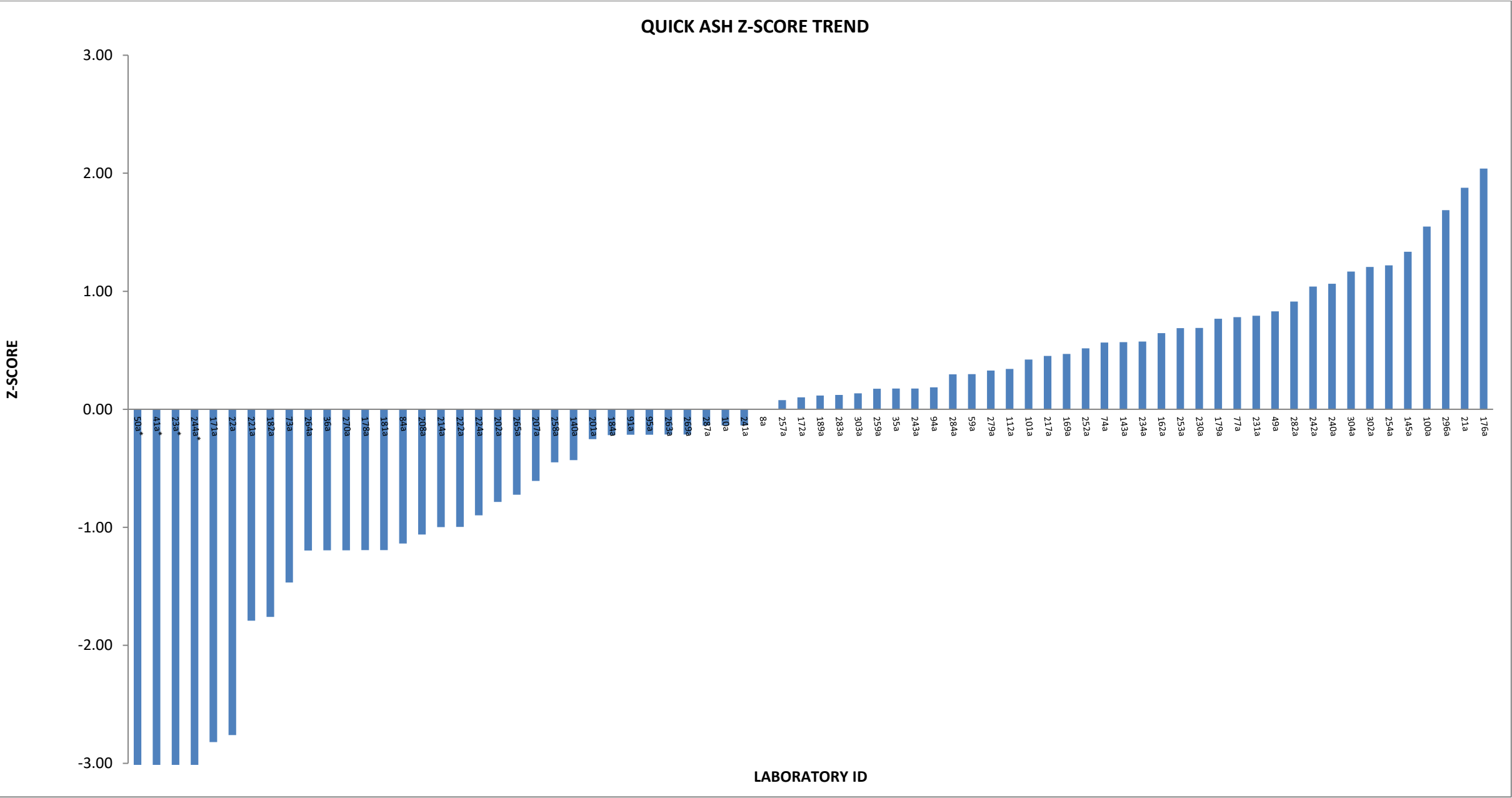
Absolute value of (31.98 – 31.94) = 0.040

Since 0.040 < 0.192 the proficiency testing samples were stable

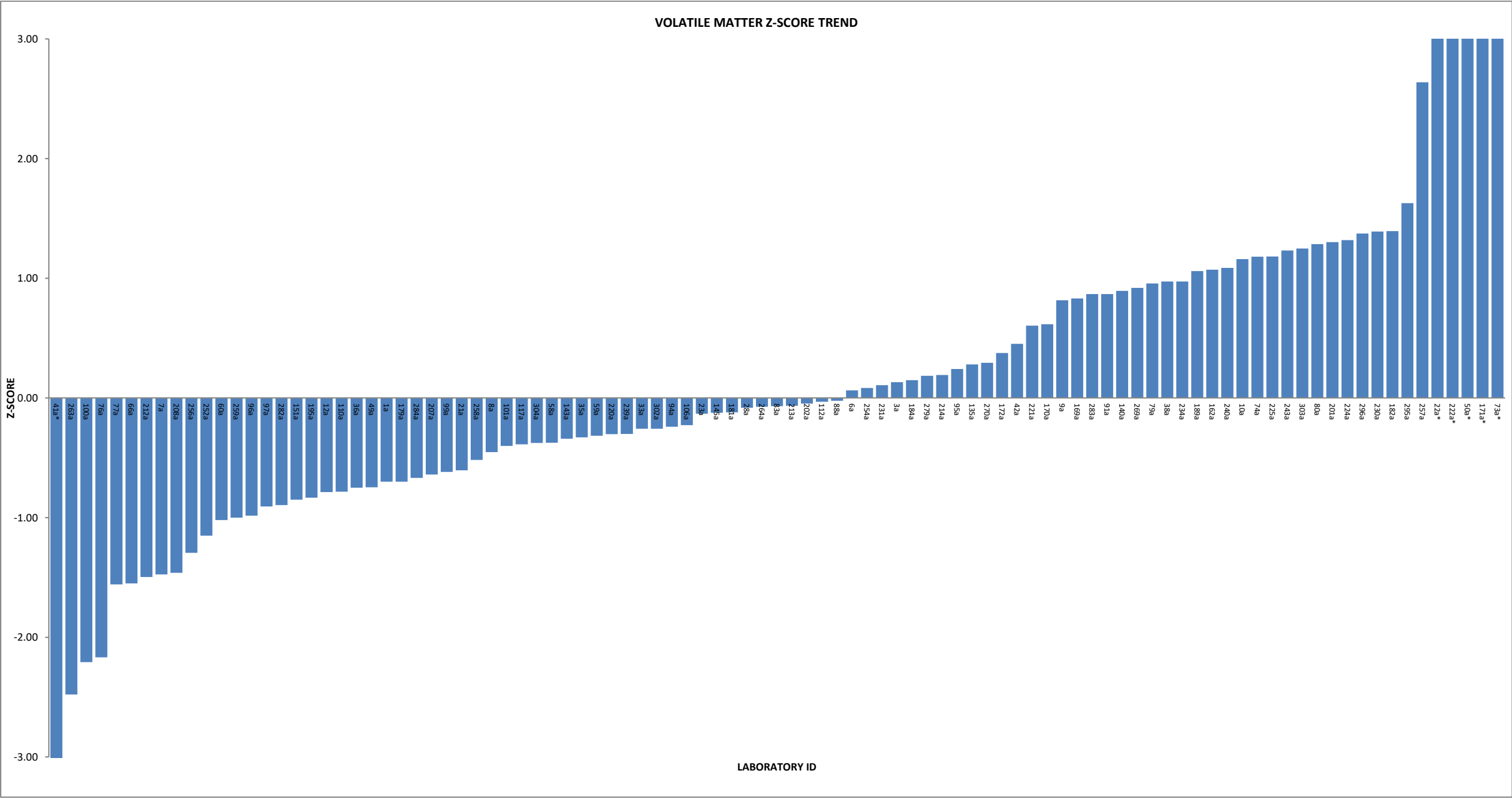
COAL CONCEPTS - PROFICIENCY TESTING - DECEMBER 2024					
ANALYTICAL PARAMETER: ISO ASH (%)					
	LAB ID	MOISTURE IN ANALYSIS SAMPLE (%)	AIR DRY (%)	DRY BASE (%)	Z-SCORE (DRY BASE)
	1a	4.47	32.11	33.61	0.92
	3a	4.40	31.80	33.26	-1.16
	6a	3.86	32.22	33.51	0.34
	7a	3.82	32.65	33.95	2.91
	8a*	3.72	30.07	31.23	-13.28
	9a	3.70	32.10	33.33	-0.74
	10a	3.61	32.39	33.60	0.87
	12a	4.30	31.75	33.18	-1.68
	21a	3.47	32.00	33.15	-1.83
	23a	4.40	31.87	33.34	-0.72
	28a	3.27	32.22	33.31	-0.88
	33a	4.00	32.15	33.49	0.19
	35a	3.50	32.30	33.47	0.08
	36a	3.70	32.00	33.23	-1.36
	38a	4.00	32.20	33.54	0.50
	42a	3.50	32.60	33.78	1.94
	49a	4.07	32.06	33.42	-0.22
	58a	4.13	32.11	33.49	0.21
	59a	4.04	32.16	33.51	0.34
	60a	4.20	32.00	33.40	-0.33
	66a	3.98	31.99	33.32	-0.84
	74a	3.40	32.50	33.64	1.11
	76a	4.00	32.00	33.33	-0.74
	79a	4.47	32.14	33.64	1.11
	80a	3.60	32.12	33.32	-0.82
	83a	3.40	32.36	33.50	0.25
	88a	4.10	32.40	33.79	1.96
	91a	3.30	32.40	33.51	0.29
	95a	3.60	32.00	33.20	-1.57
	96a	4.17	31.91	33.30	-0.95
	97a	3.75	31.76	33.00	-2.74
	99a	3.96	32.45	33.79	1.97
	100a	3.60	32.20	33.40	-0.33
	101a	4.49	31.91	33.41	-0.28
	106a	3.70	32.10	33.33	-0.74
	110a	3.84	32.15	33.43	-0.14
	112a	4.39	32.10	33.57	0.69
	117a	3.90	32.10	33.40	-0.33
	135a	4.23	31.90	33.31	-0.89
	143a	3.58	32.37	33.57	0.68
	145a	3.70	32.36	33.60	0.87
	151a	4.33	32.08	33.53	0.44
	162a	3.44	32.30	33.45	-0.04
	169a	3.38	32.35	33.48	0.14
	170a	4.32	31.95	33.39	-0.39
	172a	3.91	32.16	33.47	0.07
	177a	4.65	32.00	33.56	0.62
	184a	2.40	32.60	33.40	-0.33
	195a	4.31	32.10	33.55	0.53
	202a	4.36	32.02	33.48	0.13
	207a	3.40	32.40	33.54	0.49
	208a	4.37	32.10	33.57	0.65
	212a	4.72	32.00	33.59	0.76
	213a	2.23	32.59	33.33	-0.74
	220a	3.86	32.00	33.28	-1.03
	221a	4.30	31.90	33.33	-0.74
	222a	3.20	32.40	33.47	0.08
	224a	2.77	32.33	33.25	-1.23
	225a	3.90	31.90	33.19	-1.57
	230a	3.85	32.12	33.41	-0.31
	234a	4.00	31.98	33.31	-0.86
	239a	4.53	32.01	33.53	0.43
	240a	3.92	32.11	33.42	-0.22
	252a	4.15	32.08	33.47	0.07
	254a	3.85	32.33	33.62	1.00
	256a	4.23	32.08	33.50	0.24
	259a	3.20	32.40	33.47	0.08
	282a	3.10	32.24	33.27	-1.11
	284a	3.86	32.30	33.60	0.83
	295a	4.10	32.20	33.58	0.71
	296a	3.67	32.23	33.46	0.00
	302a	3.13	32.70	33.76	1.78
	304a	4.18	32.31	33.72	1.56
Number of results	-	73	73	73	-
OUTLIERS	-	-	1	1	-
AVERAGE	-	3.85	32.17	33.46	-
STD DEVIATION	-	-	0.21	0.17	-
MEDIAN			32.12	33.47	-
%RSD	-	-	0.66	0.50	-
ROBUST AVERAGE	-	-	32.17	33.46	-
ROBUST STD DEVIATION	-	-	0.23	0.18	-
UoM			0.03	0.03	-



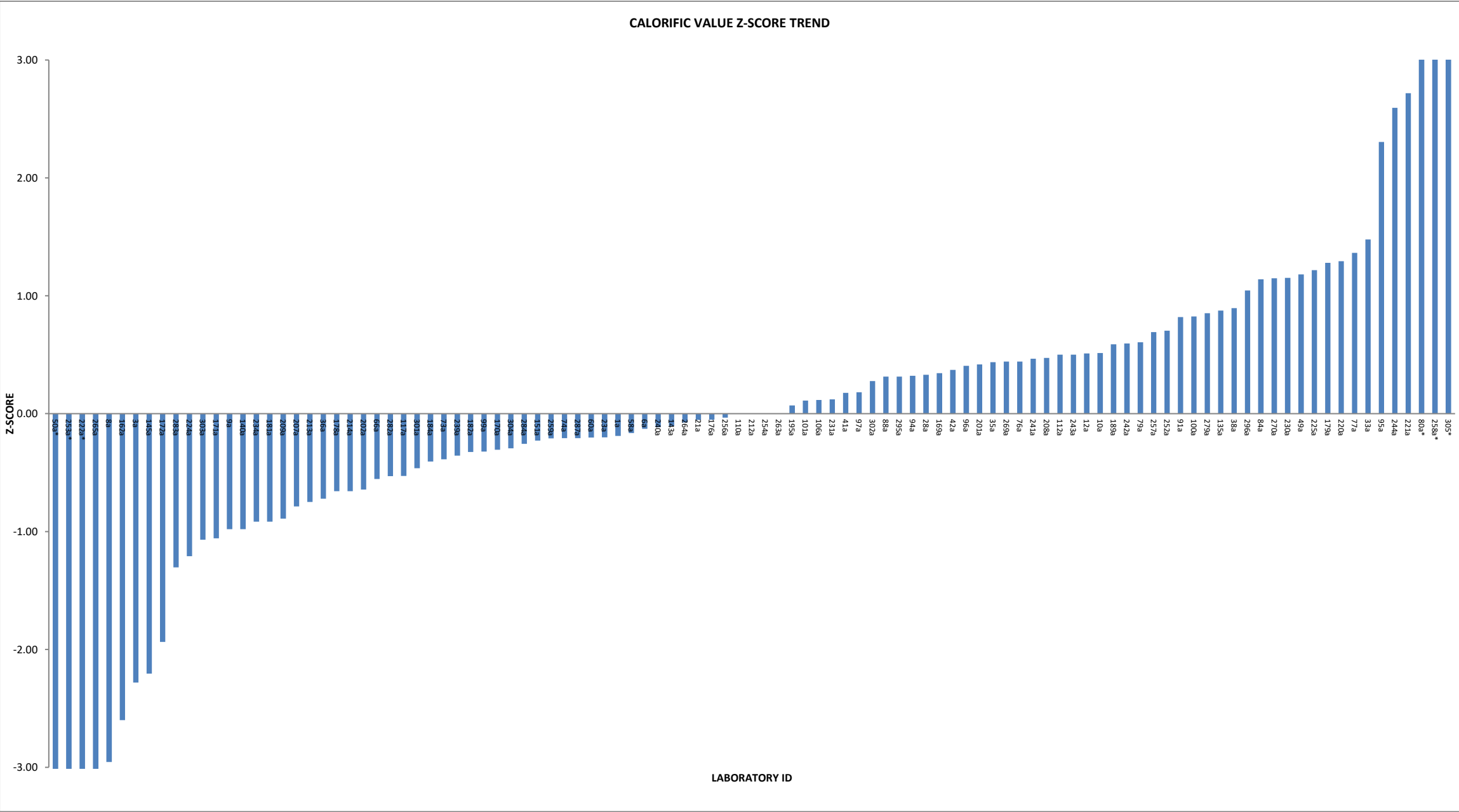
COAL CONCEPTS - PROFICIENCY TESTING - DECEMBER 2024					
ANALYTICAL PARAMETER : QUICK ASH (%)					
	LAB ID	MOISTURE IN ANALYSIS SAMPLE (%)	AIR DRY (%)	DRY BASE (%)	Z-SCORE (DRY BASE)
	8a	3.72	32.20	33.44	0.00
	10a	3.61	32.21	33.42	-0.14
	21a	3.47	32.60	33.77	1.88
	22a	1.83	32.35	32.95	-2.76
	<u>23a*</u>	4.40	<u>31.30</u>	<u>32.74</u>	<u>-3.96</u>
	35a	3.50	32.30	33.47	0.18
	36a	3.70	32.00	33.23	-1.20
	<u>41a*</u>	3.25	31.50	<u>32.56</u>	<u>-5.00</u>
	49a	4.07	32.22	33.59	0.83
	<u>50a*</u>	1.39	31.80	<u>32.25</u>	<u>-6.75</u>
	59a	4.04	32.14	33.49	0.30
	73a	3.56	32.00	33.18	-1.47
	74a	3.40	32.40	33.54	0.57
	77a	4.70	32.00	33.58	0.78
	84a	3.94	31.93	33.24	-1.14
	91a	3.30	32.30	33.40	-0.22
	94a	4.70	31.90	33.47	0.19
	95a	3.60	32.20	33.40	-0.21
	100a	3.60	32.50	33.71	1.55
	101a	4.49	32.01	33.51	0.42
	112a	4.39	32.03	33.50	0.34
	140a	3.10	32.33	33.36	-0.43
	143a	3.58	32.34	33.54	0.57
	145a	3.70	32.43	33.68	1.33
	162a	3.44	32.40	33.55	0.64
	169a	3.38	32.39	33.52	0.47
	171a	3.59	31.76	32.94	-2.82
	172a	3.91	32.15	33.46	0.10
	176a	3.64	32.57	33.80	2.04
	178a	3.40	32.10	33.23	-1.19
	179a	3.80	32.30	33.58	0.77
	181a	3.40	32.10	33.23	-1.19
	182a	3.26	32.05	33.13	-1.76
	184a	2.40	32.60	33.40	-0.22
	189a	3.32	32.35	33.46	0.12
	201a	4.03	32.05	33.40	-0.25
	202a	4.36	31.85	33.30	-0.78
	207a	3.40	32.20	33.33	-0.61
	208a	4.37	31.80	33.25	-1.06
	214a	3.50	32.10	33.26	-1.00
	217a	3.64	32.30	33.52	0.45
	221a	4.30	31.70	33.12	-1.79
	222a	3.20	32.20	33.26	-1.00
	224a	2.77	32.36	33.28	-0.90
	230a	3.85	32.27	33.56	0.69
	231a	4.20	32.17	33.58	0.79
	234a	4.00	32.20	33.54	0.57
	240a	3.92	32.31	33.63	1.06
	241a	3.64	32.20	33.42	-0.14
	242a	3.64	32.40	33.62	1.04
	243a	3.50	32.30	33.47	0.18
	<u>244a*</u>	3.64	31.60	<u>32.79</u>	<u>-3.66</u>
	252a	4.15	32.14	33.53	0.52
	253a	3.64	32.34	33.56	0.69
	254a	3.85	32.36	33.66	1.22
	257a	3.45	32.30	33.45	0.08
	258a	3.90	32.06	33.36	-0.45
	259a	3.20	32.40	33.47	0.17
	263a	3.90	32.10	33.40	-0.21
	264a	4.00	31.90	33.23	-1.20
	265a	3.64	32.10	33.31	-0.72
	269a	3.90	32.10	33.40	-0.21
	270a	3.70	32.00	33.23	-1.20
	279a	2.98	32.50	33.50	0.33
	282a	3.10	32.56	33.60	0.91
	283a	4.10	32.09	33.46	0.12
	284a	3.86	32.20	33.49	0.30
	287a	3.55	32.23	33.42	-0.14
	296a	3.67	32.50	33.74	1.69
	302a	3.13	32.60	33.65	1.21
	303a	3.33	32.35	33.46	0.14
	304a	4.18	32.24	33.65	1.17
Number of results	-	72	72	72	-
OUTLIERS	-	-	1	4	-
AVERAGE	-	3.64	32.19	33.44	-
STD DEVIATION	-	-	0.24	0.18	-
MEDIAN			32.20	33.46	
%RSD	-	-	0.73	0.53	
ROBUST AVERAGE	-	-	32.19	33.44	
ROBUST STD DEVIATION	-	-	0.25	0.19	
UoM			0.04	0.03	



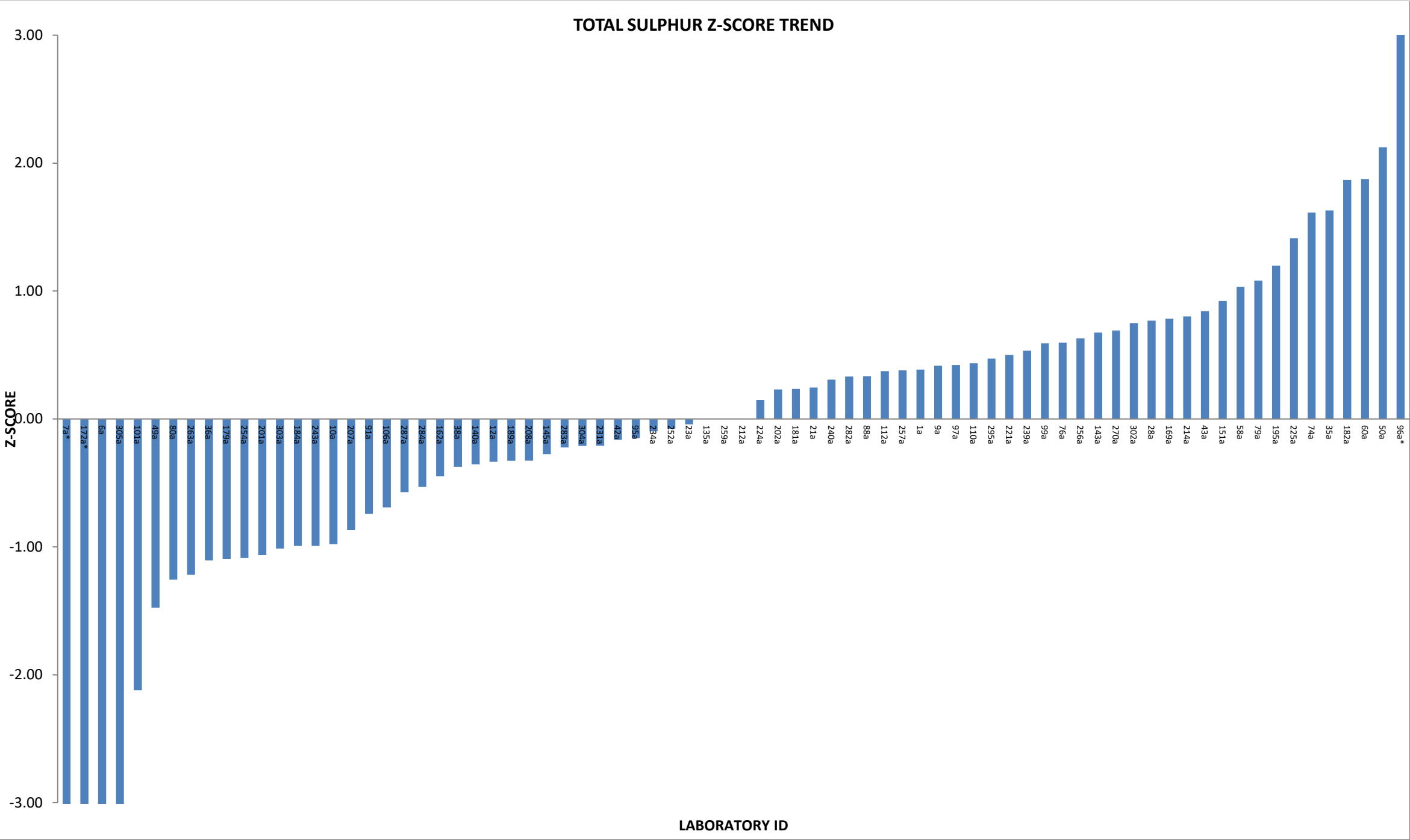
COAL CONCEPTS - PROFICIENCY TESTING - DECEMBER 2024					
ANALYTICAL PARAMETER: ISO VOLATILE MATTER(%)					
	LAB ID	MOISTURE IN ANALYSIS SAMPLE (%)	AIR DRY	DRY BASE	Z-SCORE (DRY BASE)
	1a	4.47	18.47	19.33	-0.70
	3a	4.40	18.80	19.67	0.13
	6a	3.86	18.88	19.64	0.06
	7a	3.82	18.30	19.03	-1.48
	8a	3.72	18.71	19.43	-0.45
	9a	3.70	19.20	19.94	0.82
	10a	3.61	19.35	20.07	1.16
	12a	4.30	18.47	19.30	-0.79
	21a	3.47	18.70	19.37	-0.61
	22a*	1.83	20.45	20.83	3.06
	23a	4.40	18.70	19.56	-0.13
	28a	3.27	18.94	19.58	-0.08
	33a	4.00	18.73	19.51	-0.26
	35a	3.50	18.80	19.48	-0.33
	36a	3.70	18.60	19.31	-0.75
	38a	4.00	19.20	20.00	0.97
	41a*	3.25	16.68	17.24	-5.96
	42a	3.50	19.10	19.79	0.45
	49a	4.07	18.53	19.32	-0.75
	50a*	1.39	21.90	22.21	6.52
	58a	4.13	18.66	19.46	-0.37
	59a	4.04	18.70	19.49	-0.32
	60a	4.20	18.40	19.21	-1.02
	66a	3.98	18.24	19.00	-1.55
	73a*	3.56	31.99	33.17	34.07
	74a	3.40	19.40	20.08	1.18
	76a	4.00	18.00	18.75	-2.17
	77a	4.70	18.10	18.99	-1.56
	79a	4.47	19.10	19.99	0.96
	80a	3.60	19.40	20.12	1.29
	83a	3.40	18.92	19.59	-0.07
	88a	4.10	18.80	19.60	-0.02
	91a	3.30	19.30	19.96	0.87
	94a	4.70	18.60	19.52	-0.24
	95a	3.60	19.00	19.71	0.24
	96a	4.17	18.42	19.22	-0.98
	97a	3.75	18.53	19.25	-0.91
	99a	3.96	18.60	19.37	-0.62
	100a	3.60	18.06	18.73	-2.21
	101a	4.49	18.58	19.45	-0.40
	106a	3.70	18.80	19.52	-0.23
	110a	3.84	18.56	19.30	-0.78
	112a	4.39	18.74	19.60	-0.03
	117a	3.90	18.70	19.46	-0.39
	135a	4.23	18.89	19.72	0.28
	140a	3.10	19.35	19.97	0.89
	143a	3.58	18.78	19.48	-0.34
	145a	3.70	18.84	19.56	-0.12
	151a	4.33	18.44	19.27	-0.85
	162a	3.44	19.35	20.04	1.07
	169a	3.38	19.27	19.94	0.83
	170a	4.32	19.00	19.86	0.62
	171a*	3.59	25.45	26.40	17.05
	172a	3.91	18.99	19.76	0.38
	179a	3.80	18.60	19.33	-0.70
	181a	3.40	18.90	19.57	-0.12
	182a	3.26	19.51	20.17	1.39
	184a	2.40	19.20	19.67	0.15
	189a	3.32	19.37	20.04	1.06
	195a	4.31	18.45	19.28	-0.83
	201a	4.03	19.32	20.13	1.30
	202a	4.36	18.74	19.59	-0.05
	207a	3.40	18.70	19.36	-0.64
	208a	4.37	18.20	19.03	-1.46
	212a	4.72	18.12	19.02	-1.50
	213a	2.23	19.15	19.59	-0.07
	214a	3.50	19.00	19.69	0.19
	220a	3.86	18.74	19.49	-0.30
	221a	4.30	19.00	19.85	0.60
	222a*	3.20	21.40	22.11	6.27
	224a	2.77	19.58	20.14	1.32
	225a	3.90	19.30	20.08	1.18
	230a	3.85	19.39	20.17	1.39
	231a	4.20	18.83	19.66	0.11
	234a	4.00	19.20	20.00	0.97
	239a	4.53	18.61	19.49	-0.30
	240a	3.92	19.26	20.05	1.09
	243a	3.50	19.40	20.10	1.23
	252a	4.15	18.36	19.15	-1.15
	254a	3.85	18.89	19.65	0.08
	256a	4.23	18.29	19.10	-1.29
	257a	3.45	19.95	20.66	2.64
	258a	3.90	18.65	19.41	-0.52
	259a	3.20	18.60	19.21	-1.00
	263a	3.90	17.90	18.63	-2.48
	264a	4.00	18.80	19.58	-0.07
	269a	3.90	19.20	19.98	0.92
	270a	3.70	19.00	19.73	0.29
	279a	2.98	19.10	19.69	0.18
	282a	3.10	18.66	19.26	-0.89
	283a	4.10	19.14	19.96	0.87
	284a	3.86	18.60	19.35	-0.67
	295a	4.10	19.43	20.26	1.63
	296a	3.67	19.42	20.16	1.37
	302a	3.13	18.90	19.51	-0.26
	303a	3.33	19.44	20.11	1.25
	304a	4.18	18.65	19.46	-0.38
NUMBER OF RESULTS	-	97	97	97	-
OUTLIERS	-	-	6	5	-
AVERAGE	-	3.76	18.85	19.61	-
STD DEVIATION	-		0.40	0.40	-
MEDIAN			18.80	19.58	
%RSD	-	-	2.14	2.03	
ROBUST AVERAGE	-	-	18.85	19.61	-
ROBUST STD DEVIATION	-	-	0.44	0.43	-
UoM	-	-	0.06	0.06	-



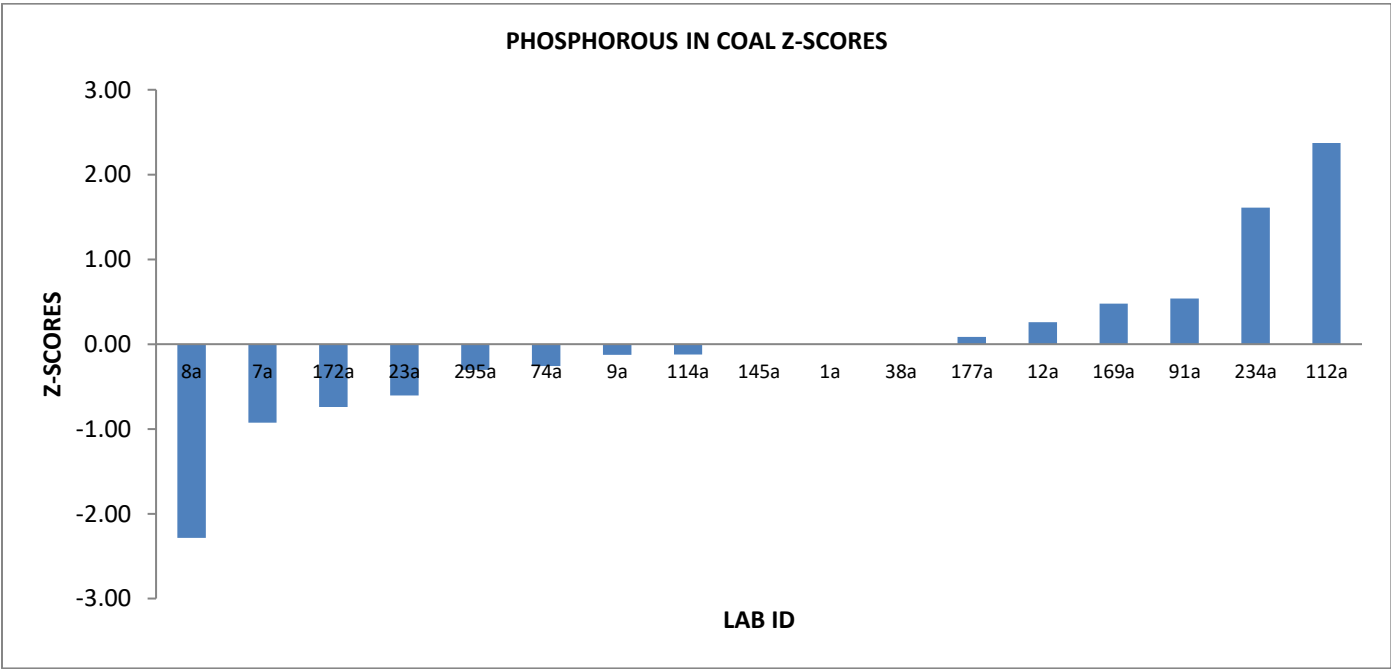
COAL CONCEPTS - PROFICIENCY TESTING -DECEMBER 2024					
ANALYTICAL PARAMETER: CALORIFIC VALUE (MJ/kg)					
	LAB ID	MOISTURE IN ANALYSIS SAMPLE (%)	AIR DRY (MJ/kg)	DRY BASE (MJ/kg)	Z-SCORE (DRY BASE)
	1a	4.47	19.21	20.11	-0.19
	3a	4.40	18.90	19.77	-2.28
	6a	3.86	19.34	20.12	-0.13
	8a	3.72	18.93	19.66	-2.95
	9a	3.70	19.24	19.98	-0.98
	10a	3.61	19.49	20.22	0.51
	12a	4.30	19.35	20.22	0.51
	21a	3.47	19.43	20.13	-0.05
	23a	4.40	19.22	20.10	-0.20
	28a	3.27	19.53	20.19	0.33
	33a	4.00	19.56	20.38	1.48
	35a	3.50	19.50	20.21	0.44
	36a	3.70	19.28	20.02	-0.72
	38a	4.00	19.47	20.28	0.90
	41a	3.25	19.51	20.17	0.18
	42a	3.50	19.49	20.20	0.37
	49a	4.07	19.50	20.33	1.18
	50a*	1.39	18.17	18.43	-10.63
	58a	4.13	19.28	20.11	-0.16
	60a	4.20	19.26	20.10	-0.20
	66a	3.98	19.25	20.05	-0.55
	73a	3.56	19.36	20.07	-0.39
	74a	3.40	19.42	20.10	-0.21
	76a	4.00	19.40	20.21	0.44
	77a	4.70	19.40	20.36	1.36
	79a	4.47	19.33	20.23	0.61
	80a*	3.60	19.99	20.74	3.72
	84a	3.94	19.52	20.32	1.14
	88a	4.10	19.36	20.19	0.31
	91a	3.30	19.60	20.27	0.82
	94a	4.70	19.24	20.19	0.32
	95a	3.60	19.77	20.51	2.31
	96a	4.17	19.36	20.20	0.41
	97a	3.75	19.41	20.17	0.18
	99a	3.96	19.29	20.09	-0.32
	100a	3.60	19.54	20.27	0.82
	101a	4.49	19.25	20.15	0.11
	106a	3.70	19.41	20.16	0.12
	110a	3.84	19.37	20.14	0.00
	112a	4.39	19.33	20.22	0.50
	117a	3.90	19.27	20.05	-0.53
	135a	4.23	19.42	20.28	0.87
	140a	3.10	19.36	19.98	-0.98
	143a	3.58	19.40	20.12	-0.10
	145a	3.70	19.05	19.78	-2.21
	151a	4.33	19.23	20.10	-0.23
	162a	3.44	19.04	19.72	-2.60
	169a	3.38	19.51	20.19	0.34
	170a	4.32	19.22	20.09	-0.31
	171a	3.59	19.25	19.97	-1.06
	172a	3.91	19.05	19.83	-1.94
	176a	3.77	19.37	20.13	-0.05
	178a	3.40	19.35	20.03	-0.66
	179a	3.80	19.57	20.34	1.28
	181a	3.40	19.31	19.99	-0.92
	182a	3.26	19.43	20.08	-0.32
	184a	2.40	19.59	20.07	-0.41
	189a	3.32	19.56	20.23	0.59
	195a	4.31	19.28	20.15	0.07
	201a	4.03	19.39	20.20	0.42
	202a	4.36	19.16	20.03	-0.64
	207a	3.40	19.33	20.01	-0.79
	208a	4.37	19.33	20.21	0.47
	209a	3.77	19.24	19.99	-0.89
	212a	4.72	19.19	20.14	0.00
	213a	2.23	19.57	20.02	-0.75
	214a	3.50	19.33	20.03	-0.66
	220a	3.86	19.56	20.35	1.29
	221a	4.30	19.69	20.57	2.72
	222a*	3.20	18.90	19.52	-3.80
	224a	2.77	19.39	19.94	-1.21
	225a	3.90	19.54	20.33	1.22
	230a	3.85	19.54	20.32	1.15
	231a	4.20	19.31	20.16	0.12
	234a	4.00	19.19	19.99	-0.92
	239a	4.53	19.17	20.08	-0.36
	240a	3.92	19.33	20.12	-0.11
	241a	3.77	19.45	20.21	0.47
	242a	3.77	19.47	20.23	0.59
	243a	3.50	19.51	20.22	0.50
	244a	3.77	19.78	20.55	2.60
	252a	4.15	19.41	20.25	0.70
	253a*	3.77	18.67	19.40	-4.57
	254a	3.85	19.36	20.14	0.00
	256a	4.23	19.28	20.13	-0.03
	257a	3.45	19.55	20.25	0.69
	258a*	3.90	20.68	21.52	8.58
	259a	3.20	19.46	20.10	-0.21
	263a	3.90	19.35	20.14	0.00
	264a	4.00	19.32	20.13	-0.07
	265a	3.77	18.89	19.63	-3.15
	269a	3.90	19.42	20.21	0.44
	270a	3.70	19.57	20.32	1.15
	279a	2.98	19.67	20.27	0.85
	282a	3.10	19.43	20.05	-0.53
	283a	4.10	19.11	19.93	-1.30
	284a	3.86	19.32	20.10	-0.26
	287a	3.55	19.39	20.10	-0.21
	295a	4.10	19.36	20.19	0.31
	296a	3.67	19.56	20.31	1.04
	301a	3.95	19.27	20.06	-0.46
	302a	3.13	19.55	20.18	0.28
	303a	3.33	19.30	19.96	-1.07
	304a	4.18	19.25	20.09	-0.29
	305*	3.48	21.99	22.78	16.43
NUMBER OF RESULTS	-	105	105	105	-
OUTLIERS	-	-	4	6	-
AVERAGE	-	3.77	19.37	20.14	-
STD DEVIATION	-	-	0.18	0.16	-
MEDIAN	-	-	19.36	20.14	-
%RSD	-	-	0.94	0.80	-
ROBUST AVERAGE	-	-	19.37	20.14	-
ROBUST STD DEVIATION	-	-	0.19	0.17	-
UoM	-	-	0.02	0.02	-



COAL CONCEPTS - PROFICIENCY TESTING -DECEMBER 2024					
ANALYTICAL PARAMETER : TOTAL SULPHUR (%)					
	LAB ID	MOISTURE IN ANALYSIS SAMPLE (%)	AIR DRY	DRY BASE	Z-SCORE (DRY BASE)
	1a	4.47	0.97	1.02	0.39
	6a	3.86	0.72	0.75	-3.16
	<u>7a*</u>	3.82	<u>0.51</u>	<u>0.53</u>	<u>-6.03</u>
	9a	3.70	0.98	1.02	0.42
	10a	3.61	0.88	0.91	-0.98
	12a	4.30	0.92	0.96	-0.33
	21a	3.47	0.97	1.00	0.25
	23a	4.40	0.94	0.98	-0.04
	28a	3.27	1.01	1.04	0.77
	35a	3.50	1.07	1.11	1.63
	36a	3.70	0.87	0.90	-1.11
	38a	4.00	0.92	0.96	-0.37
	42a	3.50	0.94	0.97	-0.16
	43a	3.78	1.01	1.05	0.84
	49a	4.07	0.84	0.88	-1.48
	50a	1.39	1.13	1.15	2.12
	58a	4.13	1.02	1.06	1.03
	60a	4.20	1.08	1.13	1.88
	74a	3.40	1.07	1.11	1.61
	76a	4.00	0.99	1.03	0.60
	79a	4.47	1.02	1.07	1.08
	80a	3.60	0.86	0.89	-1.26
	88a	4.10	0.97	1.01	0.33
	91a	3.30	0.90	0.93	-0.74
	95a	3.60	0.94	0.98	-0.15
	<u>96a*</u>	4.17	<u>1.27</u>	<u>1.33</u>	<u>4.51</u>
	97a	3.75	0.98	1.02	0.42
	99a	3.96	0.99	1.03	0.59
	101a	4.49	0.79	0.83	-2.12
	106a	3.70	0.90	0.93	-0.69
	110a	3.84	0.98	1.02	0.44
	112a	4.39	0.97	1.01	0.37
	135a	4.23	0.94	0.98	0.00
	140a	3.10	0.93	0.96	-0.36
	143a	3.58	1.00	1.04	0.67
	145a	3.70	0.93	0.97	-0.28
	151a	4.33	1.01	1.06	0.92
	162a	3.44	0.92	0.95	-0.45
	169a	3.38	1.01	1.05	0.78
	<u>172a*</u>	3.91	<u>0.68</u>	<u>0.71</u>	<u>-3.71</u>
	179a	3.80	0.87	0.90	-1.09
	181a	3.40	0.97	1.00	0.24
	182a	3.26	1.09	1.13	1.87
	184a	2.40	0.89	0.91	-0.99
	189a	3.32	0.93	0.96	-0.33
195a	4.31	1.03	1.08	1.20	
201a	4.03	0.87	0.91	-1.06	
202a	4.36	0.96	1.00	0.23	
207a	3.40	0.89	0.92	-0.87	
208a	4.37	0.92	0.96	-0.33	
212a	4.72	0.94	0.99	0.00	
214a	3.50	1.01	1.05	0.80	
221a	4.30	0.98	1.02	0.50	
224a	2.77	0.97	1.00	0.15	
225a	3.90	1.05	1.09	1.41	
231a	4.20	0.93	0.97	-0.21	
234a	4.00	0.94	0.98	-0.10	
239a	4.53	0.98	1.03	0.53	
240a	3.92	0.97	1.01	0.31	
243a	3.50	0.88	0.91	-0.99	
252a	4.15	0.94	0.98	-0.08	
254a	3.85	0.87	0.90	-1.09	
256a	4.23	0.99	1.03	0.63	
257a	3.45	0.98	1.02	0.38	
259a	3.20	0.96	0.99	0.00	
263a	3.90	0.86	0.89	-1.22	
270a	3.70	1.00	1.04	0.69	
282a	3.10	0.98	1.01	0.33	
283a	4.10	0.93	0.97	-0.22	
284a	3.86	0.91	0.95	-0.53	
287a	3.55	0.91	0.94	-0.57	
295a	4.10	0.98	1.02	0.47	
302a	3.13	1.01	1.04	0.75	
303a	3.33	0.88	0.91	-1.01	
304a	4.18	0.93	0.97	-0.21	
305a	3.48	0.73	0.76	-3.06	
NUMBER OF RESULTS		76	76	76	-
OUTLIERS	-	-	3	3	-
AVERAGE	-	3.78	0.95	0.99	
MEDIAN		-	0.96	0.99	
STD DEVIATION	-	-	0.07	0.08	
%RSD	-	-	7.68	7.61	
ROBUST AVERAGE	-	-	0.95	0.99	-
ROBUST STD DEVIATION	-	-	0.08	0.08	-
UoM	-	-	0.01	0.01	-



COAL CONCEPTS - PROFICIENCY TESTING -DECEMBER 2024					
ANALYTICAL PARAMETER : PHOSPHOROUS IN COAL (%)					
	LAB ID	MOISTURE IN ANALYSIS SAMPLE (%)	AIR DRY	DRY BASE	Z-SCORE (DRY BASE)
	1a	4.47	0.042	0.044	0.00
	7a	3.82	0.027	0.028	-0.93
	8a	3.72	0.005	0.005	-2.28
	9a	3.70	0.040	0.042	-0.13
	12a	4.30	0.046	0.048	0.26
	23a	4.40	0.032	0.033	-0.61
	38a	4.00	0.042	0.044	0.00
	74a	3.40	0.038	0.039	-0.26
	91a	3.30	0.051	0.053	0.54
	112a	4.39	0.080	0.084	2.37
	114a	3.92	0.040	0.042	-0.12
	145a	3.70	0.042	0.044	0.00
	169a	3.38	0.050	0.052	0.48
	172a	3.91	0.030	0.031	-0.74
	177a	4.65	0.043	0.045	0.08
	234a	4.00	0.068	0.071	1.61
	295a	4.10	0.037	0.039	-0.30
Number of results	-	17	17	17	-
OUTLIERS	-	-	0	0	-
AVERAGE	-	3.95	0.042	0.044	-
STD DEVIATION	-	-	0.016	0.017	-
MEDIAN		-	0.042	0.044	
ROBUST AVERAGE	-	-	0.042	0.044	
ROBUST STD DEVIATION	-	-	0.013	0.013	
UoM	-	-	0.004	0.004	



COAL CONCEPTS - PROFICIENCY TESTING -DECEMBER 2024					
ANALYTICAL PARAMETER: TOTAL CARBON (%)					
	LAB ID	MOISTURE IN ANALYSIS SAMPLE (%)	AIR DRY	DRY BASE	Z-SCORE (DRY BASE)
	1a	4.47	50.37	52.73	-0.39
	12a	4.30	50.31	52.57	-0.61
	<u>21a*</u>	3.47	<u>64.00</u>	<u>66.30</u>	<u>18.63</u>
	43a	3.97	52.40	54.57	2.19
	74a	3.40	50.20	51.97	-1.46
	88a	4.10	51.11	53.30	0.41
	177a	4.65	50.80	53.28	0.38
	202a	4.36	49.90	52.17	-1.16
	224a	2.77	51.41	52.87	-0.18
	<u>234a*</u>	4.00	<u>63.50</u>	<u>66.15</u>	<u>18.41</u>
	239a	4.53	50.79	53.20	0.27
	240a	3.92	50.86	52.94	-0.10
	295a	4.10	50.45	52.61	-0.56
	305a	3.48	52.00	53.87	1.22
Number of results	-	14	14	14	-
OUTLIERS	-	-	2	2	-
AVERAGE	-	3.97	50.88	53.01	-
MEDIAN	-	-	50.80	52.90	-
STD DEVIATION	-	-	0.75	0.71	-
%RSD	-	-	1.46	1.35	
ROBUST AVERAGE	-	-	50.85	52.98	
ROBUST STD DEVIATION	-	-	0.91	0.85	
UoM	-	-	0.30	0.31	

COAL CONCEPTS - PROFICIENCY TESTING -DECEMBER 2024					
ANALYTICAL PARAMETER: HYDROGEN (%)					
	LAB ID	MOISTURE IN ANALYSIS SAMPLE (%)	AIR DRY	DRY BASE	Z-SCORE (DRY BASE)
	1a	4.47	2.51	2.63	-1.06
	12a	4.30	2.73	2.85	-0.33
	21a	3.47	3.50	3.63	2.17
	43a	4.06	3.10	3.23	0.89
	88a	4.10	2.89	3.01	0.19
	177a	4.65	2.59	2.72	-0.77
	202a	4.36	2.80	2.93	-0.09
	224a	2.77	2.89	2.97	0.05
	234a	4.00	3.20	3.33	1.22
	239a	4.53	2.45	2.57	-1.26
	240a	3.92	2.64	2.75	-0.67
	295a	4.10	2.74	2.86	-0.32
Number of results		12	12	12	
OUTLIERS	-	-	0	0	-
AVERAGE	-	4.06	2.84	2.96	-
MEDIAN		-	2.77	2.89	-
STD DEVIATION	-	-	0.31	0.31	-
%RSD	-	-	10.76	10.46	
ROBUST AVERAGE	-	-	2.81	2.93	
ROBUST STD DEVIATION	-	-	0.32	0.33	
UoM	-	-	0.12	0.12	

COAL CONCEPTS - PROFICIENCY TESTING -DECEMBER 2024					
ANALYTICAL PARAMETER: NITROGEN(%)					
	LAB ID	MOISTURE IN ANALYSIS SAMPLE (%)	AIR DRY	DRY BASE	Z-SCORE (DRY BASE)
	1a	4.47	1.19	1.25	0.00
	12a	4.30	1.10	1.15	-0.84
	43a	4.13	1.41	1.47	1.96
	88a	4.10	1.21	1.26	0.14
	177a	4.65	1.09	1.14	-0.89
	202a	4.36	1.07	1.12	-1.10
	224a	2.77	1.17	1.20	-0.37
	239a	4.53	1.32	1.38	1.20
	240a	3.92	1.12	1.17	-0.70
	295a	4.10	1.26	1.31	0.60
Number of results		10	10	10	-
OUTLIERS	-	-	0	0	-
AVERAGE	-	4.13	1.19	1.25	-
MEDIAN		-	1.18	1.22	-
STD DEVIATION	-	-	0.11	0.11	-
%RSD	-	-	9.18	9.21	-
ROBUST AVERAGE	-	-	1.18	1.23	-
ROBUST STD DEVIATION	-	-	0.13	0.14	-
UoM	-	-	0.05	0.06	-

COAL CONCEPTS - PROFICIENCY TESTING -DECEMBER 2024				
ANALYTICAL PARAMETER: ASH FUSION TEMPERATURES (oC)				
LAB ID	DEFORMATION	SOFTENING	HEMISPHERE	FLOW
1a	1460	1490	1500	1500
9a	1500	1500	1500	1500
10a	1500	1500	1500	1500
<u>21a*</u>	1480	<u>1480</u>	<u>1480</u>	<u>1480</u>
23a	1500	1500	1500	1500
36a	1500	1500	1500	1500
38a	1480	1500	1500	1500
42a	1500	1500	1500	1500
49a	1500	1500	1500	1500
60a	1500	1500	1500	1500
<u>80a*</u>	1450	<u>1450</u>	<u>1450</u>	<u>1450</u>
83a	1500	1500	1500	1500
88a	1500	1500	1500	1500
95a	1500	1500	1500	1500
99a	1500	1500	1500	1500
106a	1500	1500	1500	1500
<u>110a*</u>	1460	1490	<u>1490</u>	<u>1490</u>
112a	1500	1500	1500	1500
145a	1500	1500	1500	1500
151a	1500	1500	1500	1500
212a	1480	1500	1500	1500
224a	1500	1500	1500	1500
<u>234a*</u>	1490	1490	<u>1490</u>	<u>1490</u>
240a	1500	1500	1500	1500
295a	1500	1500	1500	1500
Number of results	25	25	25	25
Outliers	0	2	4	4
AVERAGE	1492	1499	1500	1500
MEDIAN	1500	1500	1500	1500
STDEV	15	3	0	0

Z-SCORES				
LAB ID	DEFORMATION	SOFTENING	HEMISPHERE	FLOW
1a	-2.13	-2.53	0.00	0.00
9a	0.53	0.38	0.00	0.00
10a	0.53	0.38	0.00	0.00
<u>21a*</u>	-0.80	<u>-5.43</u>	<u>-3.00</u>	<u>-3.00</u>
23a	0.53	0.38	0.00	0.00
36a	0.53	0.38	0.00	0.00
38a	-0.80	0.38	0.00	0.00
42a	0.53	0.38	0.00	0.00
49a	0.53	0.38	0.00	0.00
60a	0.53	0.38	0.00	0.00
<u>80a*</u>	-2.80	<u>-14.14</u>	<u>-3.00</u>	<u>-3.00</u>
83a	0.53	0.38	0.00	0.00
88a	0.53	0.38	0.00	0.00
95a	0.53	0.38	0.00	0.00
99a	0.53	0.38	0.00	0.00
106a	0.53	0.38	0.00	0.00
<u>110a*</u>	-2.13	-2.53	<u>-3.00</u>	<u>-3.00</u>
112a	0.53	0.38	0.00	0.00
145a	0.53	0.38	0.00	0.00
151a	0.53	0.38	0.00	0.00
212a	-0.80	0.38	0.00	0.00
224a	0.53	0.38	0.00	0.00
<u>234a*</u>	-0.13	-2.53	<u>-3.00</u>	<u>-3.00</u>
240a	0.53	0.38	0.00	0.00
295a	0.53	0.38	0.00	0.00

COAL CONCEPTS - PROFICIENCY TESTING -DECEMBER 2024					
ANALYTICAL PARAMETER: CHLORINE (ppm)					
	LAB ID	MOISTURE IN ANALYSIS SAMPLE (%)	AIR DRY	DRY BASE	Z-SCORE (DRY BASE)
	1a	4.47	200	209	-
	12a	4.3	93	97	-
	177a	4.65	148	155	-
Number of results	-	3	3	3	-
OUTLIERS	-	-	-	-	-
AVERAGE	-	4.47	147	154	-
STD DEVIATION	-	-	-	-	-
MEDIAN	-	-	-	-	-

COAL CONCEPTS - PROFICIENCY TESTING -DECEMBER 2024					
ANALYTICAL PARAMETER: FLUORINE (ppm)					
	LAB ID	MOISTURE IN ANALYSIS SAMPLE (%)	AIR DRY	DRY BASE	Z-SCORE (DRY BASE)
	1a	4.47	100	105	-
	12a	4.3	104	109	-
	177a	4.65	135	142	-
Number of results	-	3	3	3	-
OUTLIERS	-	-	-	-	-
AVERAGE	-	4.47	113	118	-
STD DEVIATION	-	-	na	na	-
MEDIAN	-	-	na	na	-

COAL CONCEPTS - PROFICIENCY TESTING -DECEMBER 2024					
ANALYTICAL PARAMETER: ASTM ASH (%)					
	LAB ID	MOISTURE IN ANALYSIS SAMPLE (%)	AIR DRY (%)	DRY BASE (%)	Z-SCORE (DRY BASE)
	1a	4.47	32.15	33.65	1.23
	<u>12a*</u>	4.30	<u>23.38</u>	<u>24.43</u>	<u>-63.74</u>
	202a	4.36	31.91	33.36	-0.81
	224a	2.77	32.40	33.32	-1.11
	239a	4.53	32.09	33.61	0.93
	301a	3.95	32.06	33.38	-0.72
	305a	3.48	32.38	33.55	0.47
Number of results	-	7	7	7	-
OUTLIERS	-	-	1	1	-
AVERAGE	-	3.98	32.17	33.48	-
STD DEVIATION	-	-	0.19	0.14	-
MEDIAN	-	-	32.12	33.46	-
%RSD	-	-	0.60	0.42	-

COAL CONCEPTS - PROFICIENCY TESTING -DECEMBER 2024					
ANALYTICAL PARAMETER: ASTM VOLS (%)					
	LAB ID	MOISTURE IN ANALYSIS SAMPLE (%)	AIR DRY (%)	DRY BASE (%)	Z-SCORE (DRY BASE)
	1a	4.47	18.76	19.64	-1.57
	12a	4.30	19.20	20.06	-0.60
	202a	4.36	19.31	20.19	-0.30
	224a	2.77	20.12	20.69	0.86
	239a	4.53	19.68	20.61	0.67
	301a	3.95	19.91	20.73	0.94
	<u>305a*</u>	3.48	<u>16.01</u>	<u>16.59</u>	<u>-8.61</u>
Number of results	-	7	7	7	-
OUTLIERS	-	-	1	1	-
AVERAGE	-	3.98	19.50	20.32	-
STD DEVIATION	-	-	0.50	0.43	-
MEDIAN	-	-	19.50	20.40	-
%RSD	-	-	2.57	2.13	-

GENERAL CONCLUSIONS

1. The ISO Ash z-score trend is evenly distributed. The Robust average, Average and Median are similar. One outlier detected.
2. The overall ISO volatile trend is evenly distributed. Five outliers were detected. These were due to analytical errors. An RSD of 2.03% indicated a high precision of results received.
3. Calorific value trend is evenly distributed. Six outliers were detected. These seemed to be due to calibration errors. The Average, Median and Robust Average are the same.
4. The sulphur z-score trend is evenly distributed. Three 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. Some participants seemed to have analysers that stop at 1480°C instead of 1500°C.

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