COAL CONCEPTS

PTS0008

COAL CONCEPTS PROFICIENCY TESTING

GENERAL ANALYSIS SAMPLE

REPORT – ONE HUNDRED AND FIFTY-FIVE

Revision 00

Final report

DATE ISSUED 30st SEPTEMBER 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 twelve samples were sent to participants with 110 results submitted timeously.
2. The total number of outliers detected were as follows (dry base):

    - ISO Ash x 1
    - Volatile matter x 4
    - Calorific value x 2
    - Total Sulphur x 4
    - Phos x 1
    - Carbon x 1
    - Hydrogen x 2

3. Chlorine, Fluorine, ASTM Ash, ASTM Volatile Matter participants were insufficient to apply robust statistical calculations.
4. Trending for your laboratory is as follows:

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Dear Participant

RE: PROFICIENCY TESTING RESULTS FOR THE MONTH OF SEPTEMBER 2024

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

Your laboratory code is as per the cover page.

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

Please take note of the following:

1. Z-scores between -1 and +1 is deemed acceptable

2. Z-scores between -2 and -3 should serve as a warning that the analysis result could get worse

3. Z-scores between +2 and +3 should also serve as a warning that analysis results could get worse.

4. Z- scores lower than -3 and exceeding +3 should warrant an investigation

5. Compare your result to the robust average which will be the assigned value. The measurement of uncertainty (UoM) of the results is also stated.

6. Z-Score calculations can be made available upon request

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

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

Please find results attached together with Z-score trends.

Best Regards

R Baboolal

LIST OF PARTICIPANTS

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

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	34,39	34,47	34,43	0,08	0,0064
2	34,30	34,22	34,26	0,08	0,0064
3	34,39	34,47	34,43	0,08	0,0064
4	34,35	34,61	34,48	0,26	0,0676
5	34,20	34,51	34,36	0,31	0,0961
6	34,34	34,55	34,45	0,21	0,0441
7	34,50	34,45	34,48	0,05	0,0025
8	34,40	34,56	34,48	0,16	0,0256
9	34,48	34,64	34,56	0,16	0,0256
10	34,56	34,55	34,56	0,01	0,0001

GENERAL AVERAGE	34,45
STANDARD DEVIATION	0,089
WITHIN SAMPLE STANDARD DEVIATION	0,118
BETWEEN SAMPLE STANDARD DEVIATION	0,030

The between sample standard deviation must be ≤ 0.3 x σ

(σ = std deviation for the proficiency assessment)

σ = 0.689 was used, which is the repeatability for ISO ash (Ash % > 10%)
Hence = 0.689 x 0.3 = 0.207

Since 0.030 < 0.207, 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	34,48	34,29	34,39	0,19	0,0361
2	34,28	34,20	34,24	0,08	0,0064
3	34,27	34,40	34,34	0,13	0,0169
4	34,37	34,51	34,44	0,14	0,0196
5	34,27	34,50	34,39	0,23	0,0529
6	34,21	34,38	34,30	0,17	0,0289
7	34,25	34,47	34,36	0,22	0,0484
8	34,34	34,44	34,39	0,10	0,0100
9	34,44	34,52	34,48	0,08	0,0064
10	34,30	34,63	34,47	0,33	0,1089

GENERAL AVERAGE	34,38
STANDARD DEVIATION	0,075
WITHIN SAMPLE STANDARD DEVIATION	0,129
BETWEEN SAMPLE STANDARD DEVIATION	0,053

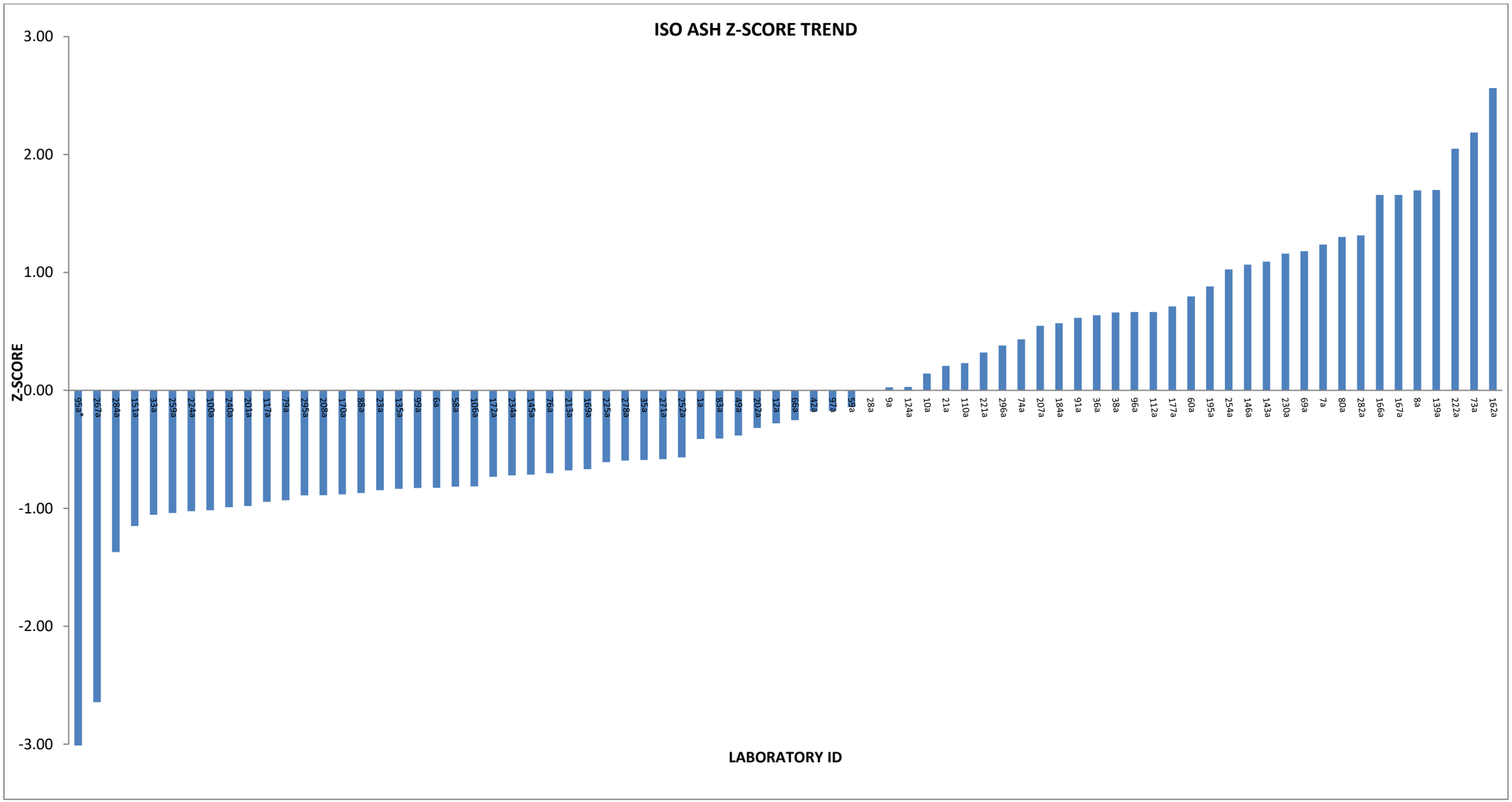
(σ = 0.689was used)

For this report 0.3 x 0.689 = 0.207

Absolute value of (34.38 – 34.45) = 0.070

<u>Since 0.070 < 0.207 the proficiency testing samples were stable</u>

COAL CONCEPTS - PROFICIENCY TESTING -SEPTEMBER 2024				
ANALYTICAL PARAMETER: ISO ASH (%)				
LAB ID	**MOISTURE IN ANALYSIS SAMPLE (%)**	**AIR DRY (%)**	**DRY BASE (%)**	**Z-SCORE (DRY BASE)**
1a	2,66	34,47	35,41	-0,41
6a	2,32	34,46	35,28	-0,83
7a	2,14	35,18	35,94	1,24
8a	2,64	35,14	36,09	1,70
9a	2,40	34,70	35,55	0,03
10a	2,42	34,73	35,59	0,14
12a	2,89	34,43	35,45	-0,28
21a	2,00	34,90	35,61	0,21
23a	2,33	34,45	35,27	-0,85
28a	2,07	34,80	35,54	0,00
33a	2,00	34,50	35,20	-1,06
35a	2,70	34,40	35,35	-0,59
36a	2,10	35,00	35,75	0,64
38a	2,40	34,90	35,76	0,66
42a	2,50	34,60	35,49	-0,18
49a	2,15	34,66	35,42	-0,38
58a	2,47	34,41	35,28	-0,82
59a	2,42	34,64	35,50	-0,14
60a	2,80	34,80	35,80	0,80
66a	2,35	34,63	35,46	-0,25
69a	2,30	35,10	35,93	1,18
73a	2,90	35,20	36,25	2,19
74a	2,20	34,90	35,69	0,43
76a	2,60	34,40	35,32	-0,70
79a	2,65	34,31	35,24	-0,93
80a	2,60	35,03	35,97	1,30
83a	2,24	34,62	35,41	-0,41
88a	2,45	34,40	35,26	-0,87
91a	1,80	35,10	35,74	0,61
95a*	1,90	***33,40***	***34,05***	***-4,64***
96a	2,60	34,83	35,76	0,66
97a	2,11	34,74	35,49	-0,17
99a	2,29	34,47	35,28	-0,83
100a	1,95	34,53	35,22	-1,02
106a	2,50	34,40	35,28	-0,81
110a	2,33	34,79	35,62	0,23
112a	2,60	34,83	35,76	0,66
117a	2,10	34,50	35,24	-0,94
124a	2,49	34,66	35,55	0,03
135a	2,34	34,45	35,28	-0,83
139a	2,20	35,30	36,09	1,70
143a	2,64	34,95	35,90	1,09
145a	2,25	34,52	35,31	-0,71
146a	2,20	35,10	35,89	1,07
151a	2,00	34,47	35,17	-1,15
162a	2,40	35,50	36,37	2,56
166a	2,44	35,20	36,08	1,66
167a	2,44	35,20	36,08	1,66
169a	2,46	34,46	35,33	-0,67
170a	2,44	34,40	35,26	-0,88
172a	2,46	34,44	35,31	-0,73
177a	2,92	34,73	35,77	0,71
184a	2,60	34,80	35,73	0,57
195a	2,26	35,02	35,83	0,88
201a	1,50	34,70	35,23	-0,98
202a	2,46	34,57	35,44	-0,32
207a	2,30	34,90	35,72	0,55
208a	3,00	34,20	35,26	-0,89
213a	1,63	34,75	35,33	-0,68
221a	2,10	34,90	35,65	0,32
222a	1,40	35,70	36,21	2,05
224a	2,51	34,33	35,21	-1,03
225a	2,40	34,50	35,35	-0,61
230a	2,56	35,00	35,92	1,16
234a	2,30	34,50	35,31	-0,72
240a	2,37	34,39	35,22	-0,99
252a	2,04	34,64	35,36	-0,57
254a	2,61	34,94	35,88	1,03
259a	1,73	34,60	35,21	-1,04
267a	2,28	33,90	34,69	-2,64
271a	2,62	34,43	35,36	-0,58
278a	2,61	34,43	35,35	-0,60
282a	2,39	35,11	35,97	1,31
284a	2,00	34,40	35,10	-1,37
295a	2,46	34,39	35,26	-0,89
296a	2,35	34,83	35,67	0,38
Number of results	**-**	**76**	**76**	**76**	**-**
OUTLIERS	**-**	**-**	**1**	**1**	**-**
AVERAGE	**-**	**2,34**	**34,71**	**35,54**	**-**
STD DEVIATION	**-**	**-**	**0,32**	**0,32**	**-**
MEDIAN			**34,66**	**35,46**	
%RSD	-	-	**0,92**	**0,91**	
ROBUST AVERAGE	**-**	**-**	**34,71**	**35,55**	**-**
ROBUST STD DEVIATION	**-**	**-**	**0,33**	**0,35**	**-**
UoM			**0,05**	**0,05**	-


ISO ASH Z-SCORE TREND
3.00
2.00
1.00
0.00
-1.00
-2.00
-3.00
Z-SCORE
95a*
267a
284a
151a
33a
259a
224a
100a
240a
201a
117a
79a
295a
208a
170a
88a
23a
135a
99a
6a
58a
106a
172a
234a
145a
76a
213a
169a
225a
278a
35a
271a
252a
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12a
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9a
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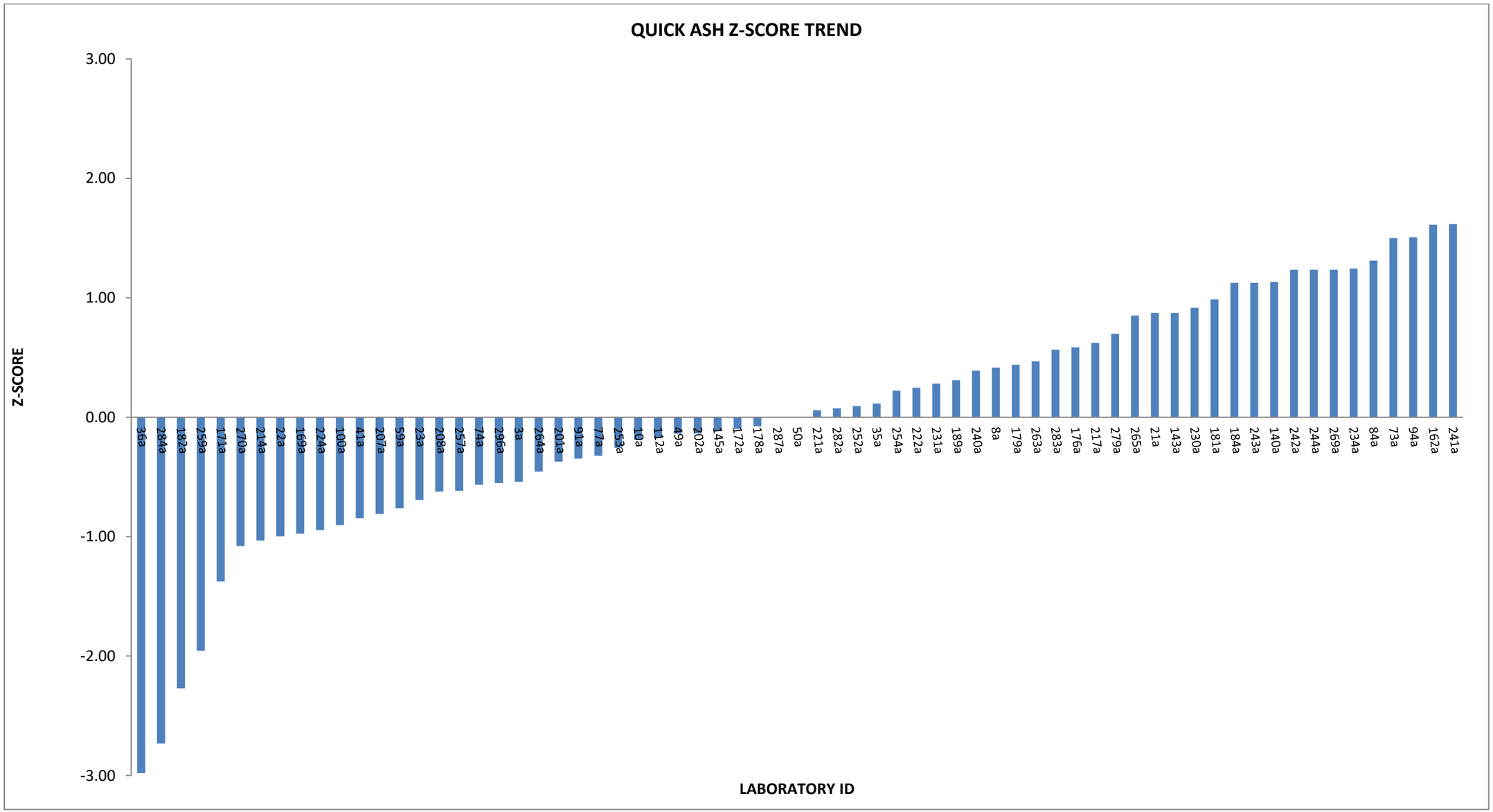
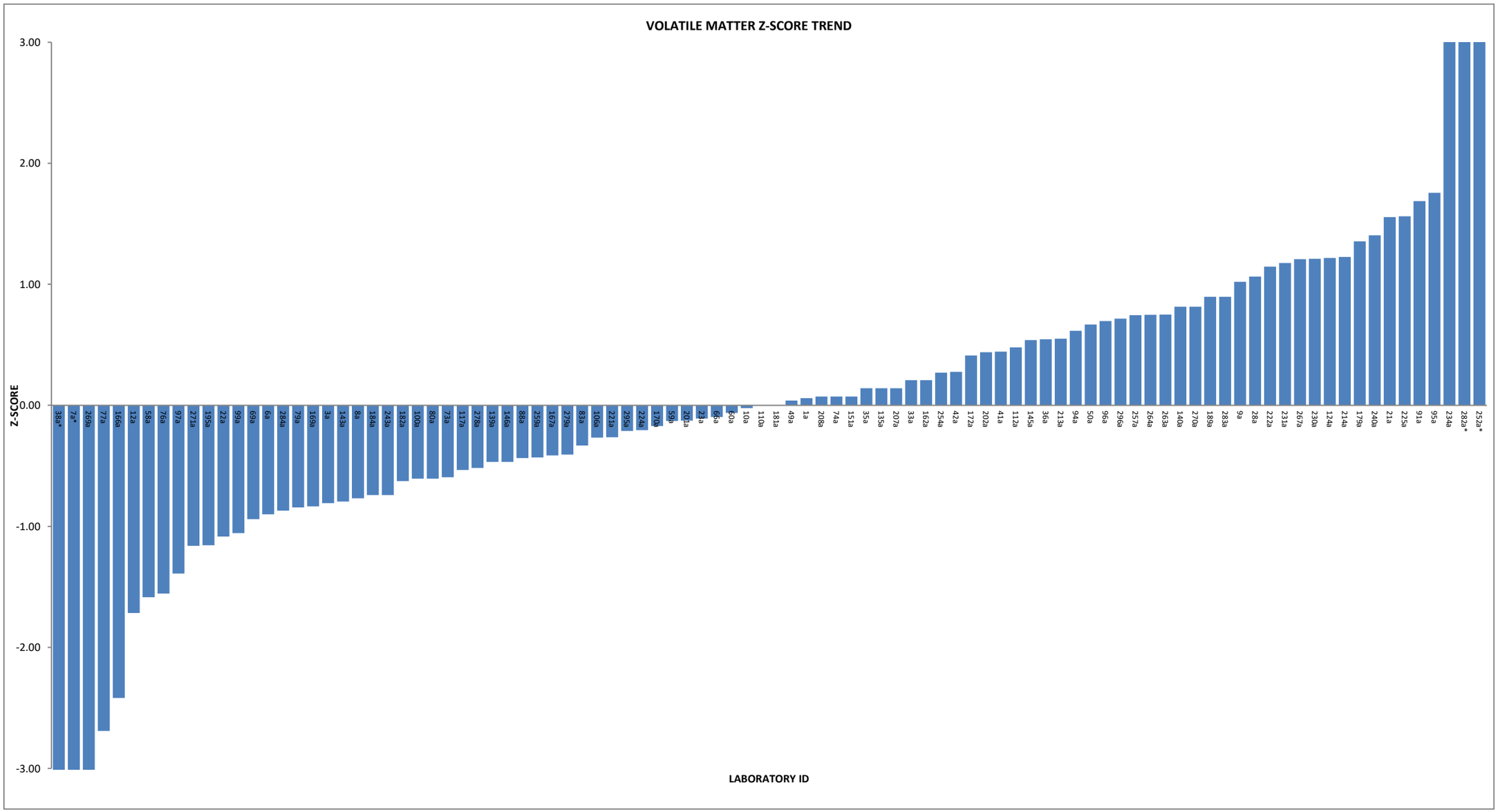
74a
207a
184a
91a
36a
38a
96a
112a
177a
60a
195a
254a
146a
143a
230a
69a
7a
80a
282a
166a
167a
8a
139a
222a
73a
162a
LABORATORY ID

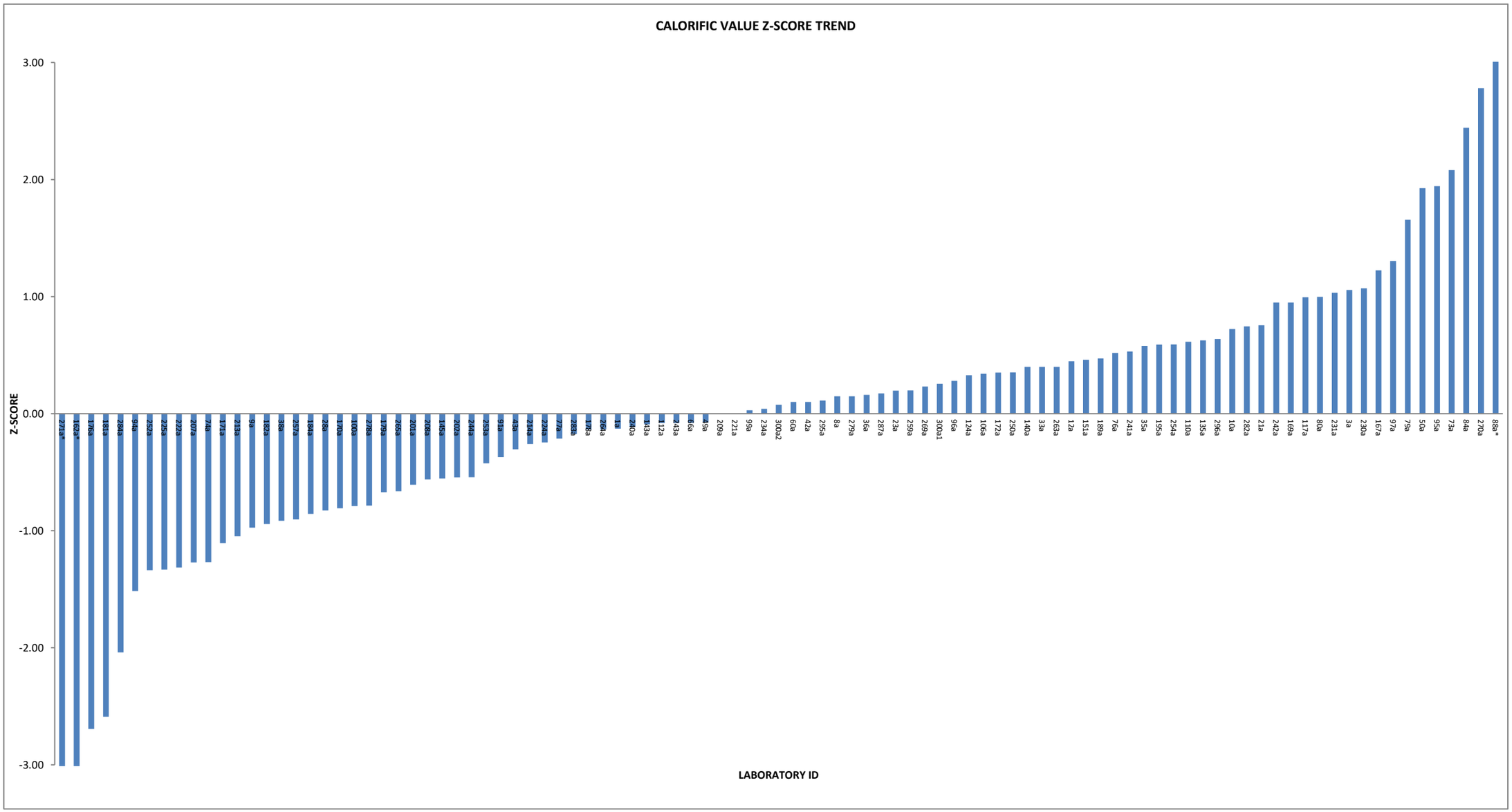
COAL CONCEPTS - PROFICIENCY TESTING -SEPTEMBER 2024					
ANALYTICAL PARAMETER: QUICK ASH (%)					
	LAB ID	MOISTURE IN ANALYSIS SAMPLE (%)	AIR DRY (%)	DRY BASE (%)	Z-SCORE (DRY BASE)
	3a	2,50	34,70	35,59	-0,54
	8a	2,64	34,90	35,85	0,42
	10a	2,42	34,82	35,68	-0,19
	21a	2,00	35,25	35,97	0,87
	22a	1,88	34,80	35,47	-1,00
	23a	2,33	34,72	35,55	-0,69
	35a	2,70	34,80	35,77	0,12
	36a	2,10	34,20	34,93	-2,98
	41a	2,19	34,73	35,51	-0,84
	49a	2,15	34,93	35,70	-0,14
	50a	2,28	34,92	35,73	0,00
	59a	2,42	34,67	35,53	-0,76
	73a	2,90	35,09	36,14	1,50
	74a	2,20	34,80	35,58	-0,56
	77a	2,94	34,60	35,65	-0,32
	84a	2,68	35,12	36,09	1,31
	91a	1,80	35,00	35,64	-0,35
	94a	2,60	35,20	36,14	1,51
	100a	1,95	34,80	35,49	-0,90
	112a	2,60	34,76	35,69	-0,17
	140a	3,05	34,94	36,04	1,13
	143a	2,64	35,02	35,97	0,87
	145a	2,25	34,90	35,70	-0,12
	162a	2,40	35,30	36,17	1,61
	169a	2,46	34,60	35,47	-0,97
	171a	2,39	34,52	35,37	-1,37
	172a	2,46	34,83	35,71	-0,10
	176a	2,68	34,93	35,89	0,58
	178a	2,00	35,00	35,71	-0,08
	179a	2,10	35,10	35,85	0,44
	181a	2,50	35,10	36,00	0,99
	182a	1,92	34,45	35,12	-2,27
	184a	2,60	35,10	36,04	1,12
	189a	3,01	34,74	35,82	0,31
	201a	1,50	35,10	35,63	-0,37
	202a	2,46	34,82	35,70	-0,14
	207a	2,30	34,70	35,52	-0,81
	208a	3,00	34,50	35,57	-0,62
	214a	2,70	34,50	35,46	-1,03
	217a	2,68	34,94	35,90	0,62
	221a	2,10	35,00	35,75	0,06
	222a	1,40	35,30	35,80	0,25
	224a	2,51	34,59	35,48	-0,95
	230a	2,56	35,06	35,98	0,92
	231a	2,43	34,94	35,81	0,28
	234a	2,30	35,24	36,07	1,25
	240a	2,37	34,99	35,84	0,39
	241a	2,68	35,20	36,17	1,62
	242a	2,68	35,10	36,07	1,23
	243a	2,60	35,10	36,04	1,12
	244a	2,68	35,10	36,07	1,23
	252a	2,04	35,03	35,76	0,09
	253a	2,68	34,71	35,67	-0,26
	254a	2,61	34,86	35,79	0,22
	257a	1,60	35,00	35,57	-0,62
	259a	1,73	34,60	35,21	-1,95
	263a	2,40	35,00	35,86	0,47
	264a	2,00	34,90	35,61	-0,46
	265a	2,68	35,00	35,96	0,85
	269a	2,68	35,10	36,07	1,23
	270a	2,10	34,70	35,44	-1,08
	279a	2,29	35,10	35,92	0,70
	282a	2,39	34,90	35,75	0,07
	283a	2,22	35,09	35,89	0,57
	284a	2,00	34,30	35,00	-2,73
	287a	2,68	34,77	35,73	0,00
	296a	2,35	34,75	35,59	-0,55
Number of results	-	**67**	**67**	**67**	-
OUTLIERS	-	-	**0**	**0**	-
AVERAGE	-	**2,38**	**34,89**	**35,73**	-
STD DEVIATION	-	-	**0,23**	**0,27**	-
MEDIAN			**34,92**	**35,73**	
%RSD	-	-	**0,67**	**0,75**	
ROBUST AVERAGE	-	-	**34,89**	**35,74**	
ROBUST STD DEVIATION	-	-	**0,25**	**0,29**	
UoM			**0,04**	**0,04**	


QUICK ASH Z-SCORE TREND
Z-SCORE
3.00
2.00
1.00
0.00
-1.00
-2.00
-3.00
LABORATORY ID
36a
284a
182a
259a
171a
270a
214a
22a
169a
224a
100a
41a
207a
59a
23a
208a
257a
74a
296a
3a
264a
201a
91a
77a
253a
10a
112a
49a
202a
145a
172a
178a
287a
50a
221a
282a
252a
35a
254a
222a
231a
189a
240a
8a
179a
263a
283a
176a
217a
279a
265a
21a
143a
230a
181a
184a
243a
140a
242a
244a
269a
234a
84a
73a
94a
162a
241a

COAL CONCEPTS - PROFICIENCY TESTING -SEPTEMBER 2024				
ANALYTICAL PARAMETER: ISO VOLATILE MATTER (%)				
LAB ID	MOISTURE IN ANALYSIS SAMPLE (%)	AIR DRY	DRY BASE	Z-SCORE (DRY BASE)
1a	2,66	24,28	24,94	0,06
3a	2,50	24,00	24,62	-0,81
6a	2,32	24,01	24,58	-0,90
7a*	2,14	***22,18***	***22,67***	***-5,96***
8a	2,64	23,98	24,63	-0,77
9a	2,40	24,70	25,31	1,02
10a	2,42	24,31	24,91	-0,02
12a	2,89	23,57	24,27	-1,72
21a	2,00	25,00	25,51	1,56
22a	1,88	24,05	24,51	-1,08
23a	2,33	24,30	24,88	-0,11
28a	2,07	24,80	25,32	1,06
33a	2,00	24,50	25,00	0,21
35a	2,70	24,30	24,97	0,14
36a	2,10	24,60	25,13	0,55
38a*	2,40	***21,55***	***22,08***	***-7,51***
41a	2,19	24,54	25,09	0,44
42a	2,50	24,40	25,03	0,28
49a	2,15	24,40	24,94	0,04
50a	2,28	24,60	25,17	0,67
58a	2,47	23,72	24,32	-1,59
59a	2,42	24,27	24,87	-0,13
60a	2,80	24,20	24,90	-0,06
66a	2,35	24,30	24,88	-0,10
69a	2,30	24,00	24,56	-0,94
73a	2,90	23,98	24,70	-0,59
74a	2,20	24,40	24,95	0,07
76a	2,60	23,70	24,33	-1,55
77a	2,94	23,20	23,90	-2,69
79a	2,65	23,95	24,60	-0,84
80a	2,60	24,05	24,69	-0,61
83a	2,24	24,24	24,80	-0,33
88a	2,45	24,15	24,76	-0,43
91a	1,80	25,10	25,56	1,69
94a	2,60	24,50	25,15	0,62
95a	1,90	25,10	25,59	1,76
96a	2,60	24,53	25,18	0,70
97a	2,11	23,88	24,39	-1,39
99a	2,29	23,96	24,52	-1,06
100a	1,95	24,21	24,69	-0,61
106a	2,50	24,20	24,82	-0,27
110a	2,33	24,34	24,92	0,00
112a	2,60	24,45	25,10	0,48
117a	2,10	24,20	24,72	-0,53
124a	2,49	24,75	25,38	1,22
135a	2,34	24,39	24,97	0,14
139a	2,20	24,20	24,74	-0,47
140a	3,05	24,46	25,23	0,81
143a	2,64	23,97	24,62	-0,80
145a	2,25	24,56	25,13	0,54
146a	2,20	24,20	24,74	-0,47
151a	2,00	24,45	24,95	0,07
162a	2,40	24,40	25,00	0,21
166a	2,44	23,42	24,01	-2,42
167a	2,44	24,16	24,76	-0,41
169a	2,46	24,00	24,61	-0,83
170a	2,44	24,25	24,86	-0,17
172a	2,46	24,46	25,08	0,41
179a	2,10	24,90	25,43	1,36
181a	2,50	24,30	24,92	0,00
182a	1,92	24,21	24,68	-0,63
184a	2,60	24,00	24,64	-0,74
189a	3,01	24,50	25,26	0,90
195a	2,26	23,93	24,48	-1,16
201a	1,50	24,50	24,87	-0,13
202a	2,46	24,47	25,09	0,44
207a	2,30	24,40	24,97	0,14
208a	3,00	24,20	24,95	0,07
213a	1,63	24,72	25,13	0,55
214a	2,70	24,70	25,39	1,23
221a	2,10	24,30	24,82	-0,26
222a	1,40	25,00	25,35	1,15
224a	2,51	24,22	24,84	-0,20
225a	2,40	24,90	25,51	1,56
230a	2,56	24,73	25,38	1,21
231a	2,43	24,75	25,37	1,18
234a	2,30	25,50	26,10	3,12
240a	2,37	24,85	25,45	1,41
243a	2,60	24,00	24,64	-0,74
252a*	2,04	***26,46***	***27,01***	***5,52***
254a	2,61	24,37	25,02	0,27
257a	1,60	24,80	25,20	0,75
259a	1,73	24,33	24,76	-0,43
263a	2,40	24,60	25,20	0,75
264a	2,00	24,70	25,20	0,75
267a	2,28	24,80	25,38	1,21
269a	2,34	23,22	23,78	-3,02
270a	2,10	24,70	25,23	0,82
271a	2,62	23,84	24,48	-1,16
278a	2,61	24,08	24,73	-0,52
279a	2,29	24,20	24,77	-0,41
282a*	2,39	***26,00***	***26,64***	***4,53***
283a	2,22	24,70	25,26	0,90
284a	2,00	24,10	24,59	-0,87
295a	2,46	24,23	24,84	-0,21
296a	2,35	24,6	25,19	0,72
NUMBER OF RESULTS	-	96	96	96	-
OUTLIERS	-	-	**4**	**4**	-
AVERAGE	-	**2,34**	**24,34**	**24,92**	-
STD DEVIATION	-		**0,39**	**0,38**	-
MEDIAN			**24,31**	**24,92**	
%RSD	-	-	**1,62**	**1,52**	
ROBUST AVERAGE	-	-	**24,33**	**24,92**	-
ROBUST STD DEVIATION	-	-	**0,46**	**0,40**	-
UoM	-	-	**0,06**	**0,05**	-


VOLATILE MATTER Z-SCORE TREND
3.00
2.00
1.00
0.00
-1.00
-2.00
-3.00
Z-SCORE
38a*
7a*
26a
77a
166a
12a
58a
76a
97a
271a
195a
22a
99a
69a
6a
284a
79a
169a
3a
143a
8a
184a
243a
182a
100a
80a
73a
117a
278a
139a
146a
88a
259a
167a
279a
83a
106a
221a
295a
224a
170a
59b
201a
23a
66a
60a
10a
110a
181a
49a
1a
208a
74a
151a
35a
135a
207a
33a
162a
254a
42a
172a
202a
41a
112a
145a
36a
213a
94a
50a
96a
296a
257a
264a
263a
140a
270a
189a
283a
9a
28a
222a
231a
267a
230a
124a
214a
179a
240a
21a
225a
91a
95a
234a
282a*
252a*
LABORATORY ID

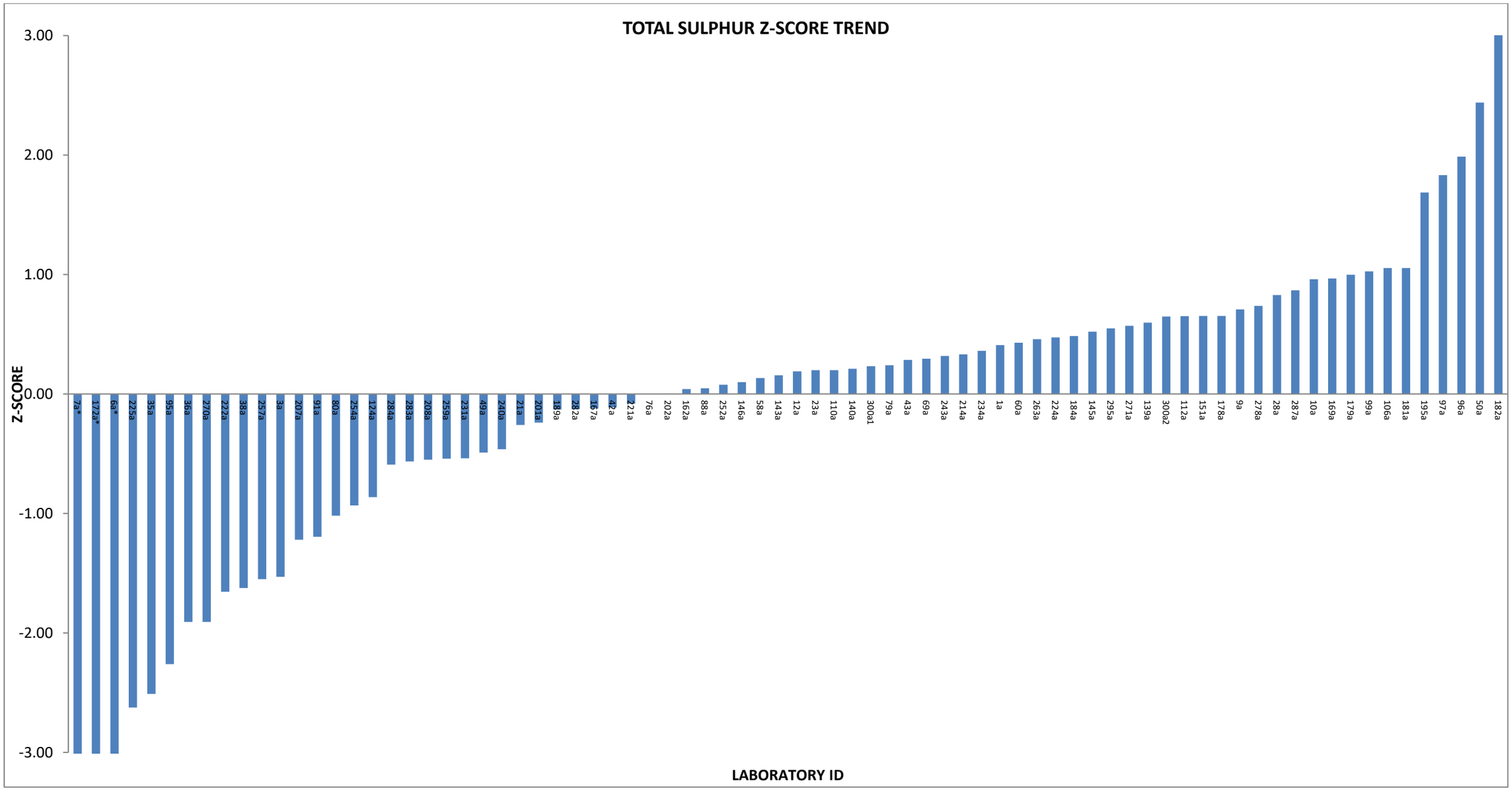
COAL CONCEPTS - PROFICIENCY TESTING -SEPTEMBER 2024					
ANALYTICAL PARAMETER: CALORIFIC VALUE (MJ/kg)					
	LAB ID	MOISTURE IN ANALYSIS SAMPLE (%)	AIR DRY (MJ/kg)	DRY BASE (MJ/kg)	Z-SCORE (DRY BASE)
	1a	2,66	19,38	19,91	-0,13
	3a	2,50	19,61	20,11	1,06
	8a	2,64	19,43	19,96	0,15
	9a	2,40	19,29	19,76	-0,97
	10a	2,42	19,57	20,06	0,72
	12a	2,89	19,43	20,01	0,45
	21a	2,00	19,66	20,06	0,76
	23a	2,33	19,50	19,97	0,20
	28a	2,07	19,38	19,79	-0,83
	33a	2,00	19,60	20,00	0,40
	35a	2,70	19,49	20,03	0,58
	36a	2,10	19,54	19,96	0,16
	38a	2,40	19,30	19,77	-0,91
	42a	2,50	19,45	19,95	0,10
	43a	2,36	19,41	19,88	-0,30
	49a	2,15	19,49	19,92	-0,08
	50a	2,28	19,80	20,26	1,93
	60a	2,80	19,39	19,95	0,10
	66a	2,35	19,45	19,92	-0,08
	73a	2,90	19,70	20,29	2,08
	74a	2,20	19,28	19,71	-1,27
	76a	2,60	19,50	20,02	0,52
	77a	2,94	19,31	19,89	-0,21
	79a	2,65	19,68	20,22	1,66
	80a	2,60	19,58	20,10	1,00
	84a	2,36	19,87	20,35	2,44
	88a*	2,45	***28,76***	***29,48***	***55,67***
	91a	1,80	19,51	19,87	-0,37
	94a	2,60	19,16	19,67	-1,52
	95a	1,90	19,88	20,27	1,94
	96a	2,60	19,46	19,98	0,28
	97a	2,11	19,73	20,16	1,30
	99a	2,29	19,48	19,94	0,03
	100a	1,95	19,41	19,80	-0,79
	106a	2,50	19,49	19,99	0,34
	110a	2,33	19,57	20,04	0,61
	112a	2,60	19,40	19,92	-0,08
	117a	2,10	19,68	20,10	1,00
	124a	2,49	19,49	19,99	0,33
	135a	2,34	19,57	20,04	0,63
	140a	3,05	19,39	20,00	0,40
	143a	2,64	19,39	19,92	-0,09
	145a	2,25	19,39	19,84	-0,55
	151a	2,00	19,61	20,01	0,46
	162a*	2,40	***18,93***	19,40	-3,12
	167a	2,44	19,65	20,14	1,22
	169a	2,46	19,60	20,09	0,95
	170a	2,44	19,31	19,79	-0,81
	171a	2,39	19,27	19,74	-1,11
	172a	2,46	19,50	19,99	0,35
	176a	2,36	19,01	19,47	-2,69
	178a	2,00	19,51	19,91	-0,14
	179a	2,10	19,40	19,82	-0,67
	181a	2,50	19,00	19,49	-2,59
	182a	1,92	19,39	19,77	-0,94
	184a	2,60	19,27	19,78	-0,86
	189a	3,01	19,41	20,01	0,47
	195a	2,26	19,58	20,03	0,59
	201a	1,50	19,53	19,83	-0,61
	202a	2,46	19,35	19,84	-0,54
	207a	2,30	19,26	19,71	-1,27
	208a	3,00	19,24	19,84	-0,56
	209a	2,36	19,46	19,93	0,00
	213a	1,63	19,43	19,75	-1,05
	214a	2,70	19,35	19,89	-0,26
	221a	2,10	19,51	19,93	0,00
	222a	1,40	19,43	19,71	-1,31
	224a	2,51	19,39	19,89	-0,25
	225a	2,40	19,23	19,70	-1,33
	230a	2,56	19,60	20,11	1,07
	231a	2,43	19,62	20,11	1,03
	234a	2,30	19,48	19,94	0,04
	240a	2,37	19,44	19,91	-0,11
	241a	2,36	19,55	20,02	0,53
	242a	2,36	19,62	20,09	0,95
	243a	2,60	19,40	19,92	-0,08
	244a	2,36	19,37	19,84	-0,54
	250a	2,36	19,52	19,99	0,35
	252a	2,04	19,30	19,70	-1,34
	253a	2,36	19,39	19,86	-0,42
	254a	2,61	19,51	20,03	0,59
	257a	1,60	19,46	19,78	-0,90
	259a	1,73	19,62	19,97	0,20
	263a	2,40	19,52	20,00	0,40
	264a	2,00	19,51	19,91	-0,14
	265a	2,36	19,35	19,82	-0,66
	269a	2,36	19,50	19,97	0,23
	270a	2,10	19,98	20,41	2,78
	271a*	2,62	***18,34***	***18,83***	***-6,40***
	278a	2,61	19,28	19,80	-0,79
	279a	2,29	19,50	19,96	0,15
	282a	2,39	19,58	20,06	0,75
	283a	2,22	19,46	19,90	-0,17
	284a	2,00	19,19	19,58	-2,04
	287a	2,36	19,49	19,96	0,17
	295a	2,46	19,46	19,95	0,11
	296a	2,35	19,57	20,04	0,64
	300a1	2,58	19,46	19,98	0,26
	300a2	2,58	19,43	19,94	0,08
NUMBER OF RESULTS	-	99	99	99	-
OUTLIERS	-	-	**3**	**2**	-
AVERAGE	-	**2,36**	**19,47**	**19,93**	-
STD DEVIATION	-	-	**0,16**	**0,17**	-
MEDIAN			**19,46**	**19,94**	
%RSD	**-**	**-**	**0,82**	**0,86**	
ROBUST AVERAGE	-	-	**19,47**	**19,93**	-
ROBUST STD DEVIATION	-	-	**0,17**	**0,18**	-
UoM	-	-	**0,02**	**0,02**	-


CALORIFIC VALUE Z-SCORE TREND
Z-SCORE
3.00
2.00
1.00
0.00
-1.00
-2.00
-3.00
LABORATORY ID
271a*
162a*
176a
181a
284a
94a
252a
225a
222a
207a
74a
171a
213a
9a
182a
38a
257a
184a
28a
170a
100a
278a
179a
265a
201a
208a
145a
202a
244a
253a
91a
43a
214a
224a
77a
283a
178a
26a
1a
240a
143a
112a
243a
66a
49a
209a
221a
99a
234a
300a2
60a
42a
295a
8a
279a
36a
287a
23a
259a
269a
300a1
96a
124a
106a
172a
250a
140a
33a
263a
12a
151a
189a
76a
241a
35a
195a
254a
110a
135a
296a
10a
282a
21a
242a
169a
117a
80a
231a
3a
230a
167a
97a
79a
50a
95a
73a
84a
270a
88a*

COAL CONCEPTS - PROFICIENCY TESTING -SEPTEMBER 2024

ANALYTICAL PARAMETER: TOTAL SULPHUR (%)

LAB ID	MOISTURE IN ANALYSIS SAMPLE (%)	AIR DRY	DRY BASE	Z-SCORE (DRY BASE)
1a	2,66	1,57	1,61	0,41
3a	2,50	1,34	1,37	-1,53
6a*	2,32	***0,93***	***0,95***	***-4,96***
7a*	2,14	***0,68***	***0,70***	***-7,04***
9a	2,40	1,61	1,65	0,71
10a	2,42	1,64	1,68	0,96
12a	2,89	1,54	1,59	0,19
21a	2,00	1,50	1,53	-0,26
23a	2,33	1,55	1,59	0,20
28a	2,07	1,63	1,66	0,83
35a	2,70	1,22	1,25	-2,51
36a	2,10	1,30	1,33	-1,91
38a	2,40	1,33	1,36	-1,62
42a	2,50	1,51	1,55	-0,11
43a	2,35	1,56	1,60	0,28
49a	2,15	1,47	1,50	-0,49
50a	2,28	1,82	1,86	2,44
58a	2,47	1,54	1,58	0,13
60a	2,80	1,57	1,62	0,43
69a	2,30	1,56	1,60	0,29
76a	2,60	1,52	1,56	0,00
79a	2,65	1,55	1,59	0,24
80a	2,60	1,40	1,44	-1,02
88a	2,45	1,53	1,57	0,05
91a	1,80	1,39	1,42	-1,20
95a	1,90	1,26	1,28	-2,26
96a	2,60	1,76	1,81	1,99
97a	2,11	1,75	1,79	1,83
99a	2,29	1,65	1,69	1,03
106a	2,50	1,65	1,69	1,06
110a	2,33	1,55	1,59	0,20
112a	2,60	1,60	1,64	0,65
124a	2,49	1,42	1,46	-0,86
139a	2,20	1,60	1,64	0,60
140a	3,05	1,54	1,59	0,21
143a	2,64	1,54	1,58	0,16
145a	2,25	1,59	1,63	0,52
146a	2,20	1,54	1,57	0,10
151a	2,00	1,61	1,64	0,65
162a	2,40	1,53	1,57	0,04
167a	2,44	1,51	1,55	-0,12
169a	2,46	1,64	1,68	0,97
172a*	2,46	***0,84***	***0,86***	***-5,70***
178a	2,00	1,61	1,64	0,65
179a	2,10	1,65	1,69	1,00
181a	2,50	1,65	1,69	1,06
182a	1,92	***5,26***	***5,36***	***30,90***
184a	2,60	1,58	1,62	0,48
189a	3,01	1,50	1,55	-0,13
195a	2,26	1,73	1,77	1,69
201a	1,50	1,51	1,53	-0,24
202a	2,46	1,52	1,56	0,00
207a	2,30	1,38	1,41	-1,22
208a	3,00	1,45	1,49	-0,55
214a	2,70	1,56	1,60	0,33
221a	2,10	1,52	1,55	-0,08
222a	1,40	1,34	1,36	-1,65
224a	2,51	1,58	1,62	0,47
225a	2,40	1,21	1,24	-2,62
231a	2,43	1,46	1,50	-0,54
234a	2,30	1,57	1,61	0,36
240a	2,37	1,47	1,51	-0,46
243a	2,60	1,56	1,60	0,32
252a	2,04	1,54	1,57	0,08
254a	2,61	1,41	1,45	-0,93
257a	1,60	1,35	1,37	-1,55
259a	1,73	1,47	1,50	-0,54
263a	2,40	1,58	1,62	0,46
270a	2,10	1,30	1,33	-1,91
271a	2,62	1,59	1,63	0,57
278a	2,61	1,61	1,65	0,74
282a	2,39	1,51	1,55	-0,13
283a	2,22	1,46	1,49	-0,56
284a	2,00	1,46	1,49	-0,59
287a	2,35	1,63	1,67	0,87
295a	2,46	1,59	1,63	0,55
300a1	2,58	1,55	1,59	0,23
300a2	2,58	1,60	1,64	0,65
NUMBER OF RESULTS	**78**	**78**	**78**	-
OUTLIERS	-	-	**4**	**4**	-
AVERAGE	-	**2,35**	**1,53**	**1,56**	
MEDIAN		-	**1,54**	**1,59**	
STD DEVIATION	-	-	**0,12**	**0,12**	
%RSD	-	-	**7,82**	**7,87**	
ROBUST AVERAGE	-	-	**1,53**	**1,56**	-
ROBUST STD DEVIATION	-	-	**0,13**	**0,13**	-
UoM	-	-	**0,02**	**0,02**	-


TOTAL SULPHUR Z-SCORE TREND
3.00
2.00
1.00
0.00
-1.00
-2.00
-3.00
Z-SCORE
7a*
172a*
6a*
225a
35a
95a
36a
270a
222a
38a
257a
3a
207a
91a
80a
254a
124a
284a
283a
208a
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231a
49a
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21a
201a
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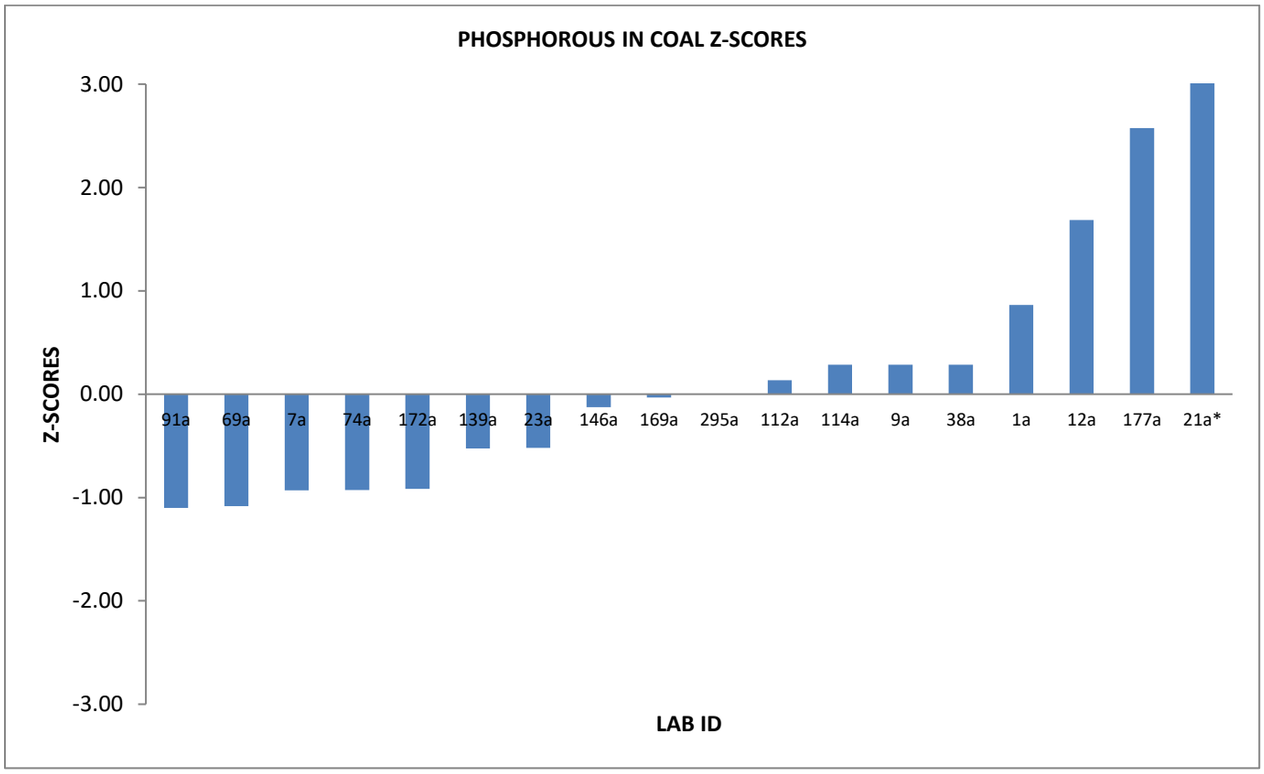
252a
146a
58a
143a
12a
23a
110a
140a
300a1
79a
43a
69a
243a
214a
234a
1a
60a
263a
224a
184a
145a
295a
271a
139a
300a2
112a
151a
178a
9a
278a
28a
287a
10a
169a
179a
99a
106a
181a
195a
97a
96a
50a
182a
LABORATORY ID

COAL CONCEPTS - PROFICIENCY TESTING -SEPTEMBER 2024					
ANALYTICAL PARAMETER: PHOSPHOROUS IN COAL (%)					
	LAB ID	MOISTURE IN ANALYSIS SAMPLE (%)	AIR DRY	DRY BASE	Z-SCORE (DRY BASE)
	1a	2,66	0,067	0,069	0,86
	7a	2,14	0,045	0,046	-0,93
	9a	2,40	0,060	0,061	0,29
	12a	2,89	0,077	0,079	1,68
	21a*	2,00	***0,137***	***0,140***	***6,43***
	23a	2,33	0,050	0,051	-0,52
	38a	2,40	0,060	0,061	0,29
	69a	2,30	0,043	0,044	-1,08
	74a	2,20	0,045	0,046	-0,93
	91a	1,80	0,043	0,044	-1,10
	112a	2,60	0,058	0,060	0,14
	114a	2,38	0,060	0,061	0,29
	139a	2,20	0,050	0,051	-0,53
	146a	2,20	0,055	0,056	-0,12
	169a	2,46	0,056	0,057	-0,03
	172a	2,46	0,045	0,046	-0,92
	177a	2,92	0,088	0,091	2,58
	295a	2,46	0,057	0,058	0,00
Number of results	**-**	**18**	**18**	**18**	-
OUTLIERS	**-**	**-**	**1**	**1**	-
AVERAGE	**-**	**2,38**	**0,056**	**0,058**	-
STD DEVIATION	**-**	**-**	**0,012**	**0,013**	-
MEDIAN		**-**	**0,056**	**0,057**	
ROBUST AVERAGE	**-**	**-**	**0,055**	**0,057**	
ROBUST STD DEVIATION	**-**	**-**	**0,012**	**0,013**	
UoM	**-**	**-**	**0,004**	**0,004**	



COAL CONCEPTS - PROFICIENCY TESTING -SEPTEMBER 2024					
ANALYTICAL PARAMETER: TOTAL CARBON (%)					
	LAB ID	MOISTURE IN ANALYSIS SAMPLE (%)	AIR DRY	DRY BASE	Z-SCORE (DRY BASE)
	1a	2,66	49,66	51,02	1,12
	12a	2,89	48,13	49,56	-1,36
	21a	2,00	49,80	50,82	0,78
	42a	2,50	48,67	49,92	-0,75
	79a*	2,65	***51,34***	***52,74***	***4,05***
	88a	2,45	48,93	50,16	-0,34
	177a	2,92	49,10	50,58	0,37
	202a	2,46	48,10	49,31	-1,78
	224a	2,51	49,25	50,52	0,27
	240a	2,37	48,87	50,06	-0,52
	278a	2,61	49,54	50,87	0,87
	295a	2,46	49,04	50,28	-0,14
	300a1	2,58	49,91	51,23	1,48
Number of results	-	13	13	13	-
OUTLIERS	-	-	**1**	**1**	-
AVERAGE	-	**2,54**	**49,08**	**50,36**	-
MEDIAN	-	-	**49,07**	**50,40**	-
STD DEVIATION	-	-	**0,59**	**0,59**	-
%RSD	-	-	**1,21**	**1,17**	
ROBUST AVERAGE	-	-	**49,10**	**50,38**	
ROBUST STD DEVIATION	-	-	**0,74**	**0,69**	
UoM	-	-	**0,27**	**0,25**	

COAL CONCEPTS - PROFICIENCY TESTING -SEPTEMBER 2024					
ANALYTICAL PARAMETER: HYDROGEN (%)					
	LAB ID	MOISTURE IN ANALYSIS SAMPLE (%)	AIR DRY	DRY BASE	Z-SCORE (DRY BASE)
	1a	2,66	3,18	3,27	0,30
	12a	2,89	3,16	3,25	0,00
	21a	2,00	3,20	3,27	0,26
	42a	2,50	3,17	3,25	0,00
	79a	2,65	3,15	3,24	-0,43
	88a*	2,45	***3,51***	***3,60***	***8,06***
	177a	2,92	3,15	3,24	-0,22
	202a*	2,46	***2,97***	***3,04***	***-4,90***
	224a	2,51	3,21	3,29	0,90
	240a	2,37	3,26	3,34	1,99
	295a	2,46	3,11	3,19	-1,54
	300a1	2,58	3,12	3,20	-1,21
Number of results		**12**	**12**	**12**	
OUTLIERS	-	-	**2**	**2**	-
AVERAGE	-	**2,54**	**3,17**	**3,25**	-
MEDIAN		-	**3,17**	**3,25**	-
STD DEVIATION	-	-	**0,04**	**0,04**	-
%RSD	-	-	**1,40**	**1,31**	
ROBUST AVERAGE	-	-	**3,17**	**3,25**	
ROBUST STD DEVIATION	-	-	**0,05**	**0,04**	
UoM	-	-	**0,02**	**0,02**	

COAL CONCEPTS - PROFICIENCY TESTING -SEPTEMBER 2024					
ANALYTICAL PARAMETER: NITROGEN (%)					
	LAB ID	MOISTURE IN ANALYSIS SAMPLE (%)	AIR DRY	DRY BASE	Z-SCORE (DRY BASE)
	1a	2,66	1,14	1,17	0,43
	12a	2,89	1,00	1,03	-1,12
	42a	2,50	1,17	1,20	0,74
	79a	2,65	1,19	1,22	0,99
	88a	2,45	1,04	1,07	-0,72
	177a	2,92	1,02	1,05	-0,89
	202a	2,46	1,24	1,27	1,52
	224a	2,51	1,09	1,12	-0,16
	240a	2,37	0,98	1,00	-1,41
	295a	2,46	1,16	1,19	0,62
Number of results		10	10	10	-
OUTLIERS	-	-	**0**	**0**	-
AVERAGE	-	**2,59**	**1,10**	**1,13**	-
MEDIAN		-	**1,12**	**1,14**	-
STD DEVIATION	-	-	**0,09**	**0,09**	-
%RSD	-	-	**8,12**	**8,06**	-
ROBUST AVERAGE	-	-	**1,10**	**1,13**	-
ROBUST STD DEVIATION	-	-	**0,12**	**0,12**	-
UoM	-	-	**0,05**	**0,05**	-

COAL CONCEPTS - PROFICIENCY TESTING -SEPTEMBER 2024				
ANALYTICAL PARAMETER: ASH FUSION TEMPERATURES (oC)				
LAB ID	**DEFORMATION**	**SOFTENING**	**HEMISPHERE**	**FLOW**
1a	1320	1340	1360	1390
9a	1380	1390	1410	1430
10a	1300	1330	1360	1390
21a	1400	1440	1480	1500
23a	1320	1380	1410	1460
28a	1340	1370	1400	1430
36a	1330	1360	1390	1420
38a	1340	1370	1400	1430
42a	1390	1420	1450	1480
49a	1320	1340	1365	1410
80a	1440	1470	1500	1500
83a	1330	1360	1410	1450
88a	1310	1340	1370	1420
95a	1380	1410	1440	1460
99a	1387	1423	1456	1495
106a	1220	1300	1350	1450
110a	1380	1410	1440	1470
112a	1320	1350	1370	1420
145a	1350	1380	1420	1450
151a	1300	1370	1400	1460
224a	1290	1350	1390	1490
234a	1360	1400	1430	1460
240a	1345	1373	1383	1470
Number of results	**23**	**23**	**23**	**23**
Outliers	**0**	**0**	**0**	**0**
AVERAGE	**1341**	**1377**	**1408**	**1449**
MEDIAN	**1340**	**1370**	**1400**	**1450**
STDEV	**46**	**39**	**40**	**33**

Z-SCORES				
LAB ID	**DEFORMATION**	**SOFTENING**	**HEMISPHERE**	**FLOW**
1a	-0,47	-0,95	-1,21	-1,82
9a	0,84	0,33	0,05	-0,59
10a	-0,90	-1,20	-1,21	-1,82
21a	1,28	1,60	1,82	1,55
23a	-0,47	0,07	0,05	0,33
28a	-0,03	-0,18	-0,20	-0,59
36a	-0,25	-0,44	-0,45	-0,90
38a	-0,03	-0,18	-0,20	-0,59
42a	1,06	1,09	1,06	0,94
49a	-0,47	-0,95	-1,08	-1,21
80a	2,15	2,36	2,32	1,55
83a	-0,25	-0,44	0,05	0,02
88a	-0,68	-0,95	-0,96	-0,90
95a	0,84	0,83	0,81	0,33
99a	0,99	1,17	1,21	1,40
106a	-2,64	-1,97	-1,46	0,02
110a	0,84	0,83	0,81	0,63
112a	-0,47	-0,69	-0,96	-0,90
145a	0,19	0,07	0,30	0,02
151a	-0,90	-0,18	-0,20	0,33
224a	-1,12	-0,69	-0,45	1,25
234a	0,41	0,58	0,55	0,33
240a	0,08	-0,11	-0,63	0,63

COAL CONCEPTS - PROFICIENCY TESTING -SEPTEMBER 2024					
ANALYTICAL PARAMETER: CHLORINE (ppm)					
	LAB ID	MOISTURE IN ANALYSIS SAMPLE (%)	AIR DRY	DRY BASE	Z-SCORE (DRY BASE)
	1a	2,66	100	103	-
	12a	2,89	162	167	-
	177a	2,92	108	111	-
Number of results	-	**3**	**2**	**2**	-
OUTLIERS	-	-	-	-	-
AVERAGE	-	**2,82**	**123**	**127**	-
STD DEVIATION	-	-	-	-	-
MEDIAN	-	-	-	-	-

COAL CONCEPTS - PROFICIENCY TESTING -SEPTEMBER 2024					
ANALYTICAL PARAMETER: FLUORINE (ppm)					
	LAB ID	MOISTURE IN ANALYSIS SAMPLE (%)	AIR DRY	DRY BASE	Z-SCORE (DRY BASE)
	1a	2,66	80	82	-
	12a	2,89	206	212	-
	169a	2,46	320	328	-
	177a	2,92	227	234	-
Number of results	-	**4**	**4**	**4**	-
OUTLIERS	-	-	-	-	-
AVERAGE	-	**2,73**	**208**	**214**	-
STD DEVIATION	-	-	**na**	**na**	-
MEDIAN	-	-	**na**	**na**	-

COAL CONCEPTS - PROFICIENCY TESTING -SEPTEMBER 2024					
ANALYTICAL PARAMETER: ASTM ASH (%)					
	LAB ID	MOISTURE IN ANALYSIS SAMPLE (%)	AIR DRY (%)	DRY BASE (%)	Z-SCORE (DRY BASE)
	1a	2,66	34,60	35,55	0,79
	12a	2,89	34,50	35,53	0,68
	202a	2,46	34,29	35,15	-1,64
	224a	2,51	34,49	35,38	-0,25
	300a1	2,58	34,57	35,49	0,42
Number of results	-	**5**	**5**	**5**	-
OUTLIERS	-	-	**0**	**0**	-
AVERAGE	-	**2,62**	**34,49**	**35,42**	-
STD DEVIATION	-	-	**0,12**	**0,16**	-
MEDIAN	-	-	**34,50**	**35,49**	
%RSD	-	-	**0,35**	**0,45**	-

COAL CONCEPTS - PROFICIENCY TESTING -SEPTEMBER 2024					
ANALYTICAL PARAMETER: ASTM VOLS (%)					
	LAB ID	MOISTURE IN ANALYSIS SAMPLE (%)	AIR DRY (%)	DRY BASE (%)	Z-SCORE (DRY BASE)
	1a	2,66	24,77	25,45	-0,36
	12a	2,89	25,26	26,01	1,27
	202a	2,46	25,18	25,82	0,70
	224a	2,51	24,82	25,46	-0,33
	300a1	2,58	24,48	25,13	-1,28
Number of results	-	**5**	**5**	**5**	-
OUTLIERS	-	-	**0**	**0**	-
AVERAGE	-	**2,62**	**24,90**	**25,57**	-
STD DEVIATION	-	-	**0,32**	**0,35**	-
MEDIAN	-	-	**24,82**	**25,46**	
%RSD	-	-	**1,28**	**1,35**	-

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. Four outliers were detected. These were due to analytical errors. An RSD of 1.52% indicated a high precision of results received.
3. Calorific value trend is evenly distributed. Two outliers were detected. These seemed to be due to calibration errors. The Average, Median and Robust Average are similar.
4. The sulphur z-score trend is evenly distributed. four outliers were detected. The Average, Median and Robust Average are the similar. A high precision of results received.
5. The phosphorous analysis results show a wide scatter, indicating significant data variability. One outlier was detected.
6. Generally acceptable results were obtained on Carbon, Hydrogen and Nitrogen. One outlier was detected on Carbon and Two outliers were detected on Hydrogen.
7. Ash fusion: Generally, well done. No outliers detected.

COAL CONCEPTS: Terms and Conditions

Return of results:
Laboratories participate in proficiency testing programs on the understanding that they will be sharing their results and information **anonymously** with other laboratories performing the same analysis. No return of results compromises the spirit of the programs, and reports will not be sent to laboratories unless they return results. Payment in full is required from all laboratories enrolling whether they return results or not.
Errors in Participant Proficiency Testing Results:
Proficiency testing reports should reflect the level of accuracy that a regular testing client would receive.
If a participant finds an error in their proficiency testing results, they may notify us in writing and change their submission **PRIOR** to the due date for return. Changes after this time will not be accepted.
Coal Concepts' reports result *as submitted* by participants.
On occasion, it seems as though participants have mixed up the samples or not processed the samples according to the instructions. Coal Concepts cannot make assumptions of this nature and change results 'to suit'. We also cannot compromise the integrity of the programs by suggesting to some participants that they should review their results prior to the due date. (This is unfair to other participants) It is the responsibility of the participants to check all aspects of the program, including sample identification, preparation, testing instructions, calculations and reporting of the results prior to results submission.
If samples are not in good condition on arrival to the participant laboratory, Coal Concepts must be notified in writing IMMEDIATELY, as often samples can be replaced in good time. Claims about samples received in bad condition will not be accepted after the report has been issued.
Late Enrolments and Late Results:
Late enrolment requests cannot always be accommodated, as sample manufacture must be scheduled well in advance to the shipping date of the program to allow all necessary quality assurance activities to be carried out.
Shipping of PT materials and evaluating test results from PTPs out of cycle with the mainstream programs is considerably time consuming and therefore costly.
In order not to disadvantage participants able to comply with time frames, Coal Concepts may charge a late fee in the following circumstances:
Requests that Coal concepts staff enters results on behalf of participants.
Requests to record results after the due date.
Requests for PTP participation that is out of cycle with the scheduled dates.
Shipping fees and Customs clearance:
Costs incurred for shipping samples and clearance of same through customs are the responsibility of the participating laboratory unless otherwise indicated.
Non-payment of fees:
Coal Concepts retains the right to withhold reports and/or test materials and services when invoices are outstanding.
Confidentiality of results:
All data and information received by Coal Concepts from its clients are considered confidential unless the client has given express permission to pass on information.
Definitions:
The dictionary definitions of "collusion" and "falsification" are as follows.
· *Collusion:* A secret agreement or cooperation for a fraudulent or
deceitful purpose.
· *Falsification:* Deliberately changing something to be false. In proficiency testing terms, collusion is comparing data (and perhaps changing data) to fit in with a believed "correct" result. This is contrary to the spirit of proficiency testing programs, which are issued with the intention of providing an objective comparison of a laboratory's performance with others. Coal Concepts tries to minimise the occurrence of collusion by being aware that laboratories should be objective when they report their results and should therefore not know the intended results at the time, they are reporting to us.
Answers are not provided to clients until results have been submitted.
To prevent collusion and falsification our advice to clients is:
DON'T confer with others about PT samples or results.
DO accept the fact that everyone makes errors.
DON'T average the results or opinions of every person in the laboratory before selecting the answer to be submitted. Instead, use one of the answers AS SUBMITTED to you and take advantage of the Coal Concepts internal QA services and submit all answers generated by the technicians.
DO have confidence in your own results.
Proficiency Testing (PT) is a compulsory part of laboratory accreditation, but it is also an important tool for giving you confidence in your results. "Enhancing" your PT results with assistance from another participant cannot increase.
confidence in your laboratory's performance.
Coal concepts' testing staff are not told what the expected results are, nor what we are expecting.
We subject ALL results to analysis, even if they are different.
The staff have the right to check that the results we enter on their behalf are correctly transcribed.
Clients are always welcome to contact Coal Concepts to seek advice or information about collusion or falsification of data.
Policy for Participant Appeal of PT Performance Assessment:
If participants disagree with their performance assessment in a proficiency report, they should inform Coal Concepts in writing.
The response will include Coal Concepts interpretation of the outcome of the reassessment and an explanation of that outcome.
(For example, explanation of a calculation, or the rationale for the outcome of the evaluation.)
If a mistake has been made by Coal Concepts, it will be dealt with via Coal Concepts' non-conformance system.
Liability
In no event shall a party's liability to the other party for direct damages exceed an amount equal to the value of the amount for the PT Programme, under that specific month.
End of report