



«Tit» «Name» «Fam_Nam»
«Organization»
«Address1»
«Address_2»
«PO_Box» «City». «Country»

Sevilla, August, 2019

Proficiency Test 2019-1

Laboratory Code: «**Lab_code**»

Dear participants,

Enclosed you will find the report of the Proficiency Test 2019-1 on Drugs of Abuse in Hair, organized by the Society of Hair Testing.

Each of the participating laboratories received an identifying code. Your particular code is «**Lab_code**».

Sets of three samples were sent to sixty participating laboratories. All of them have sent the report forms back.

Sample contents were as follows:

- * Sample A contained cocainics (cocaine, BE, norcocaine and cocaethylene), amphetamine compounds (amphetamine, MDMA and low concentrations of methamphetamine) and cannabis (THC, CBD, CBN and THC-COOH). It also contained low concentrations of opiates (6-MAM, morphine and codeine), methadone and tramadol.
- * Sample B contained cocainics (cocaine, BE and traces of norcocaine and cocaethylene), amphetamine compounds (methamphetamine and low concentrations of amphetamine and MDMA), cannabis (THC, CBD, CBN and THC-COOH). It also contained dihydrocodeine and low concentrations of opiates (6-MAM, morphine and codeine), methadone, EDDP, tramadol, diazepam and nordazepam.
- * Sample C contained opiates (6-MAM, morphine and low concentrations of codeine), cocainics (cocaine, BE, norcocaine and cocaethylene), cannabis (THC, CBD, CBN and THC-COOH). It also contained methadone, EDDP and low concentrations of amphetamine compounds (amphetamine and MDMA), diazepam and nordazepam.

Z-score

Z-score has been calculated based on robust estimators (median instead of mean and interquartile instead of standard deviation).

Z-score has been calculated as follows:

$$\text{Z-score} = (x - \chi) / \text{IQR}$$

Where:

x: Concentration reported by the participant

χ : Median concentration obtained from the participating laboratories

IQR: Interquartile range: It is calculated as: Q3-Q1 (the upper quartile minus the lower quartile)

Q3: Third quartile (percentile 75)

Q1: First quartile (percentile 25)

Decision criteria

The following criteria have been adopted:

Satisfactory results: $Z\text{-score} \leq \pm 2$

Questionable results: $\pm 2 < Z\text{-score} \leq \pm 3$

Unsatisfactory results: $Z\text{-score} \geq \pm 3$

Yours faithfully,

Carmen Jurado

QUALITATIVE RESULTS

Laboratory Code: **Lab**

Sample A				Sample B				Sample C			
Substances	A	T	F	Substances	A	T	F	Substances	A	T	F
Cocaine		P		Cocaine		P		MAM		P	
BE		P		BE		P		Morphine		P	
Amphetamine		P		Methamphetamine		P		Codeine ¹		P	
MDMA		P		THC		P		Cocaine		P	
THC		P		THC-COOH		P		BE		P	
THC-COOH		P						THC		P	
								THC-COOH		P	
								Methadone		P	

1. The median concentration of Codeine in Sample C is 0.15 ng/mg, which is lower than the cut-off proposed by SoHT (0.2 ng/mg).

A: Your answer

T: True answer

F: False answer

P: Positive

N: Negative

Tr.: Traces

NR: Not reported

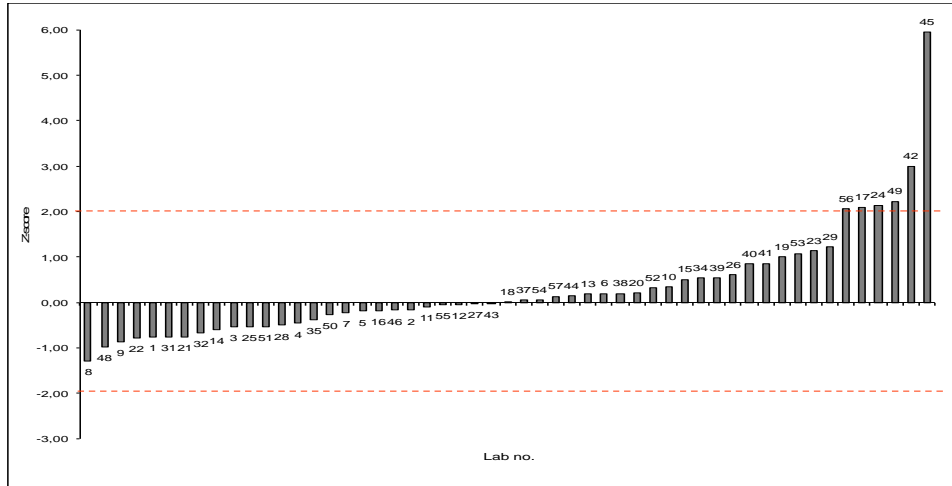
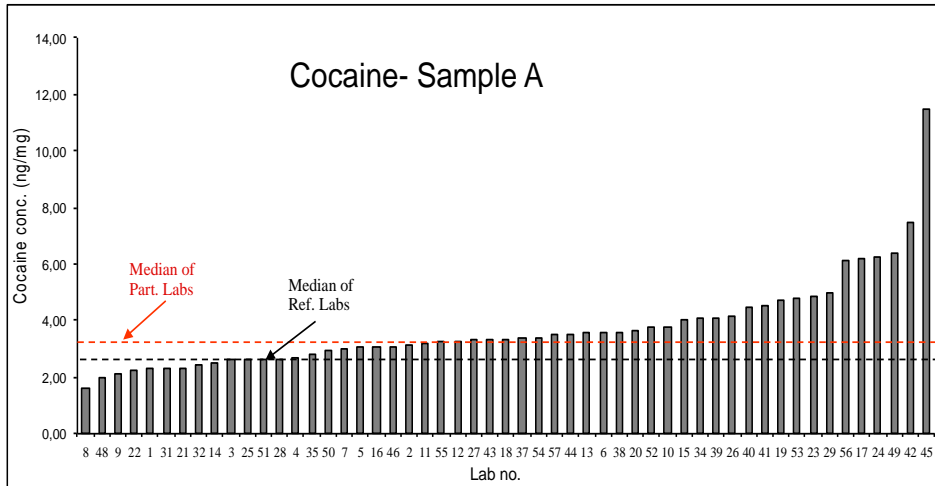
NA: Not analyzed

FN: False Negative

FP: False Positive

Comments:

- Sample A contains norcocaine (0.06 ng/mg, median conc.), cocaethylene (0.08 ng/mg, median conc.) and low concentrations of MAM (0.08 ng/mg, median conc.), Morphine (0.05 ng/mg, median conc.), Codeine (0.03 ng/mg, median conc.), Methamphetamine (0.03 ng/mg, median conc.), Methadone (0.04 ng/mg, median conc.) and tramadol (0.04 ng/mg, median conc.).
- Sample B contains dihydrocodeine and low concentrations of MAM (0.06 ng/mg, median conc.), Morphine (0.03 ng/mg, median conc.), Codeine (0.02 ng/mg, median conc.), norcocaine (0.03 ng/mg, median conc.), cocaethylene (0.03 ng/mg, median conc.), Amphetamine (0.04 ng/mg, median conc.), MDMA (0.06 ng/mg, median conc.), Methadone (0.11 ng/mg, median conc.), Tramadol (0.08 ng/mg, median conc.), Diazepam (0.02 ng/mg, median conc.) and Nordazepam (0.02 ng/mg, median conc.).
- Sample C contains norcocaine (0.09 ng/mg, median conc.), cocaethylene (0.25 ng/mg, median conc.), EDDP (0.02 ng/mg, median conc.) and low concentrations of Codeine (0.15 ng/mg, median conc.), Amphetamine (0.10 ng/mg, median conc.), MDMA (0.11 ng/mg, median conc.), diazepam (0.03 ng/mg, median conc.) and nordazepam (0.03 ng/mg, median conc.).

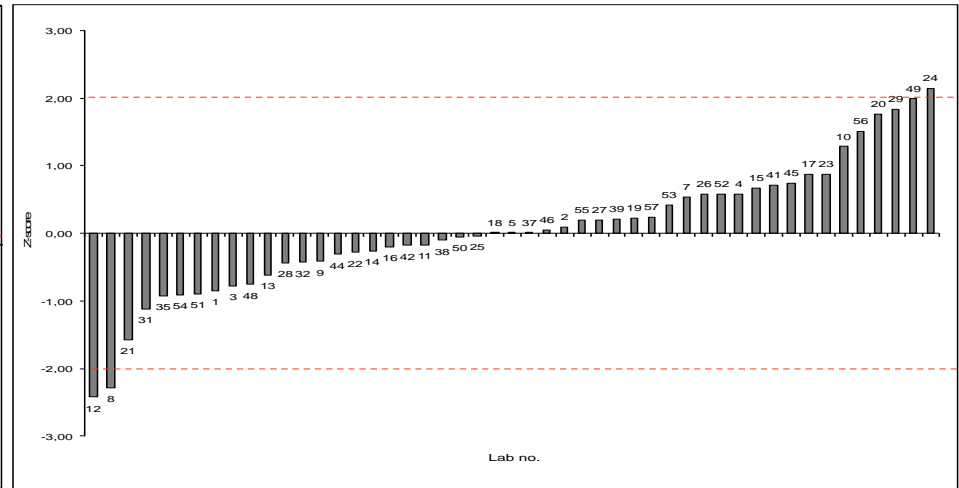
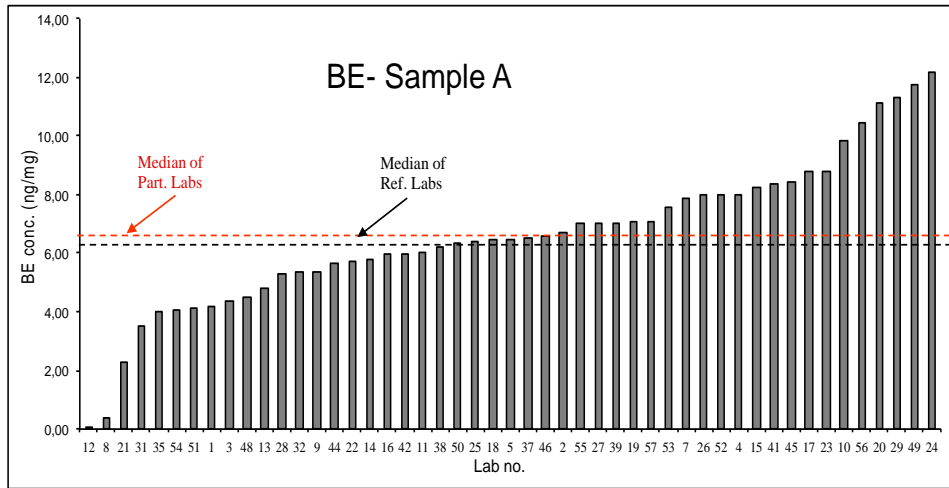


Lab	Cocaine	Z-score	Result
8	1.57	-1.28	Satisfactory
48	1.99	-0.98	Satisfactory
9	2.14	-0.87	Satisfactory
22	2.26	-0.78	Satisfactory
1	2.30	-0.75	Satisfactory
31	2.30	-0.75	Satisfactory
21	2.30	-0.75	Satisfactory
32	2.41	-0.67	Satisfactory
14	2.51	-0.60	Satisfactory
3	2.60	-0.53	Satisfactory
25	2.60	-0.53	Satisfactory
51	2.60	-0.53	Satisfactory
28	2.65	-0.50	Satisfactory
4	2.70	-0.46	Satisfactory
35	2.80	-0.39	Satisfactory
50	2.96	-0.27	Satisfactory
7	3.03	-0.22	Satisfactory
5	3.06	-0.19	Satisfactory
16	3.09	-0.18	Satisfactory
46	3.09	-0.17	Satisfactory
2	3.10	-0.17	Satisfactory
11	3.20	-0.09	Satisfactory
55	3.25	-0.06	Satisfactory
12	3.27	-0.04	Satisfactory
27	3.30	-0.02	Satisfactory
43	3.31	-0.01	Satisfactory
18	3.33	0.00	Satisfactory

Lab	Cocaine	Z-score	Result
37	3.40	0.05	Satisfactory
54	3.40	0.05	Satisfactory
57	3.51	0.13	Satisfactory
44	3.53	0.15	Satisfactory
13	3.59	0.19	Satisfactory
6	3.60	0.20	Satisfactory
38	3.60	0.20	Satisfactory
20	3.61	0.20	Satisfactory
52	3.77	0.32	Satisfactory
10	3.79	0.34	Satisfactory
15	4.02	0.50	Satisfactory
34	4.07	0.54	Satisfactory
39	4.07	0.54	Satisfactory
26	4.15	0.60	Satisfactory
40	4.49	0.85	Satisfactory
41	4.51	0.86	Satisfactory
19	4.71	1.01	Satisfactory
53	4.80	1.07	Satisfactory
23	4.88	1.13	Satisfactory
29	5.00	1.22	Satisfactory
56	6.15	2.05	Questionable
17	6.20	2.09	Questionable
24	6.25	2.13	Questionable
49	6.38	2.23	Questionable
42	7.43	2.99	Questionable
45	11.47	5.94	Unsatisfactory
36	>1.50		

Lab	Cocaine
47	P

Average	3.74
SD	1.62
CV%	43.28
Median	3.33
Minimum	1.57
Quartile 25	2.70
Quartile 75	4.07
Maximum	11.47
Iqr	1.37

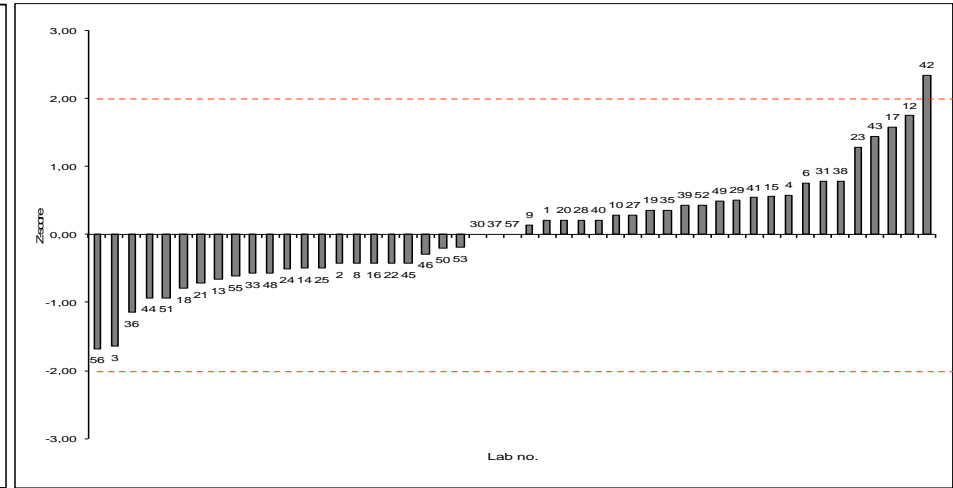
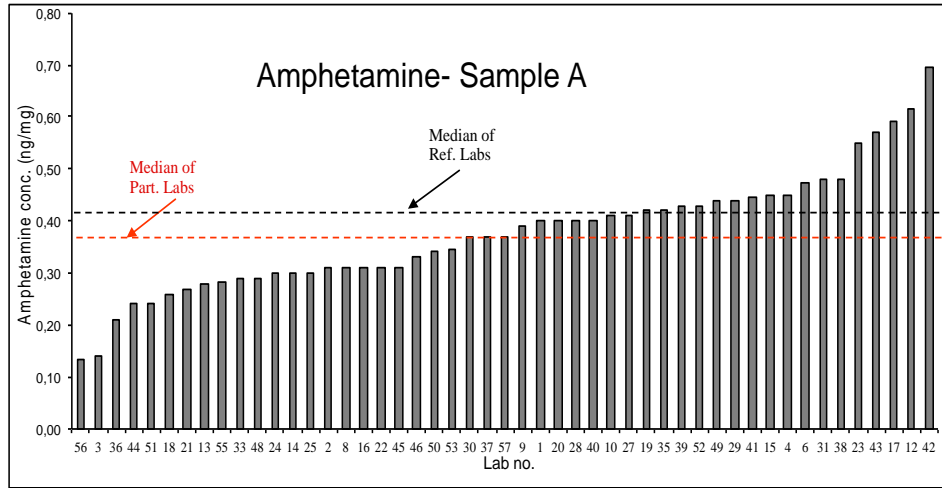


Lab	BE (ng/mg)	Z-score	Result
12	0.03	-2.42	Questionable
8	0.40	-2.28	Questionable
21	2.28	-1.57	Satisfactory
31	3.50	-1.12	Satisfactory
35	4.00	-0.93	Satisfactory
54	4.04	-0.91	Satisfactory
51	4.10	-0.89	Satisfactory
1	4.20	-0.85	Satisfactory
3	4.40	-0.78	Satisfactory
48	4.47	-0.75	Satisfactory
13	4.83	-0.62	Satisfactory
28	5.30	-0.44	Satisfactory
32	5.33	-0.43	Satisfactory
9	5.36	-0.42	Satisfactory
44	5.64	-0.31	Satisfactory
22	5.72	-0.28	Satisfactory
14	5.78	-0.26	Satisfactory
16	5.94	-0.20	Satisfactory
42	5.99	-0.18	Satisfactory
11	6.00	-0.18	Satisfactory
38	6.20	-0.10	Satisfactory
50	6.33	-0.05	Satisfactory
25	6.37	-0.04	Satisfactory
18	6.47	0.00	Satisfactory
5	6.47	0.00	Satisfactory
37	6.50	0.01	Satisfactory

Lab	BE (ng/mg)	Z-score	Result
46	6.59	0.04	Satisfactory
2	6.70	0.09	Satisfactory
55	6.99	0.20	Satisfactory
27	7.00	0.20	Satisfactory
39	7.03	0.21	Satisfactory
19	7.06	0.22	Satisfactory
57	7.1	0.24	Satisfactory
53	7.56	0.41	Satisfactory
7	7.90	0.54	Satisfactory
26	7.99	0.57	Satisfactory
52	7.99	0.57	Satisfactory
4	8.00	0.58	Satisfactory
15	8.23	0.66	Satisfactory
41	8.34	0.70	Satisfactory
45	8.43	0.74	Satisfactory
17	8.80	0.88	Satisfactory
23	8.80	0.88	Satisfactory
10	9.87	1.28	Satisfactory
56	10.48	1.51	Satisfactory
20	11.14	1.76	Satisfactory
29	11.34	1.83	Satisfactory
49	11.76	1.99	Satisfactory
24	12.17	2.14	Questionable
36	>1.50		
43	>4.00		
6	>5.00		

Lab	BE
47	P

Average	6.59
SD	2.52
CV%	38.22
Median	6.47
Minimum	0.03
Quartile 25	5.33
Quartile 75	7.99
Maximum	12.17
Iqr	2.66

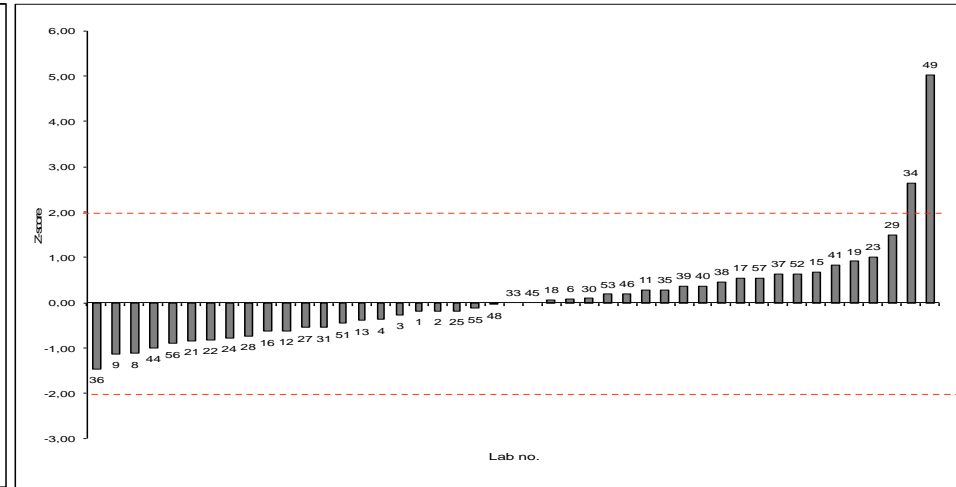
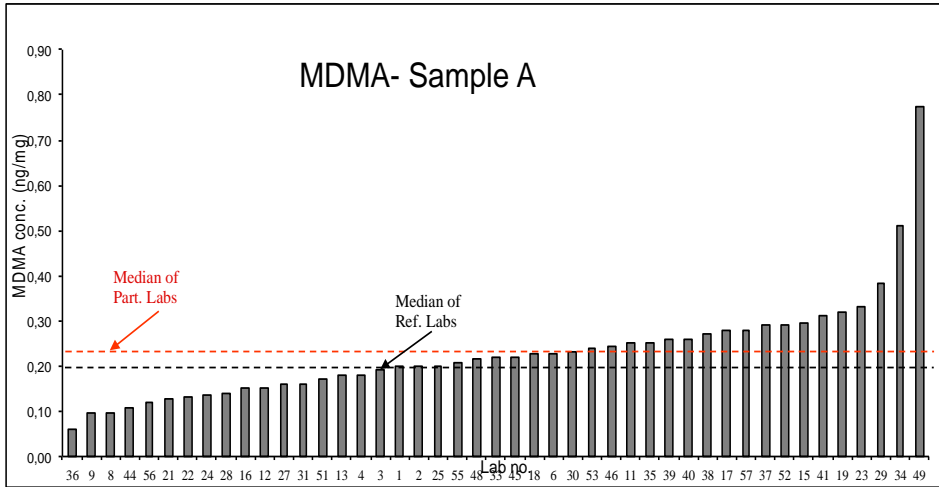


Lab	Amphetamine (ng/mg)	Z-score	Result
56	0.14	-1.68	Satisfactory
3	0.14	-1.64	Satisfactory
36	0.21	-1.14	Satisfactory
44	0.24	-0.93	Satisfactory
51	0.24	-0.93	Satisfactory
18	0.26	-0.79	Satisfactory
21	0.27	-0.72	Satisfactory
13	0.28	-0.66	Satisfactory
55	0.28	-0.61	Satisfactory
33	0.29	-0.57	Satisfactory
48	0.29	-0.57	Satisfactory
24	0.30	-0.51	Satisfactory
14	0.30	-0.50	Satisfactory
25	0.30	-0.50	Satisfactory
2	0.31	-0.43	Satisfactory
8	0.31	-0.43	Satisfactory
16	0.31	-0.43	Satisfactory
22	0.31	-0.43	Satisfactory
45	0.31	-0.43	Satisfactory
46	0.33	-0.29	Satisfactory
50	0.34	-0.21	Satisfactory
53	0.34	-0.19	Satisfactory
30	0.37	0.00	Satisfactory
37	0.37	0.00	Satisfactory
57	0.37	0.00	Satisfactory
9	0.39	0.14	Satisfactory

Lab	Amphet. (ng/mg)	Z-score	Result
1	0.40	0.21	Satisfactory
20	0.40	0.21	Satisfactory
28	0.40	0.21	Satisfactory
40	0.40	0.21	Satisfactory
10	0.41	0.29	Satisfactory
27	0.41	0.29	Satisfactory
19	0.42	0.36	Satisfactory
35	0.42	0.36	Satisfactory
39	0.43	0.43	Satisfactory
52	0.43	0.43	Satisfactory
49	0.44	0.49	Satisfactory
29	0.44	0.50	Satisfactory
41	0.45	0.54	Satisfactory
15	0.45	0.56	Satisfactory
4	0.45	0.57	Satisfactory
6	0.48	0.75	Satisfactory
31	0.48	0.79	Satisfactory
38	0.48	0.79	Satisfactory
23	0.55	1.29	Satisfactory
43	0.57	1.44	Satisfactory
17	0.59	1.57	Satisfactory
12	0.61	1.74	Satisfactory
42	0.70	2.34	Questionable
47	P		
54	P		
5	N		

Lab	Amphet.
7	N
11	N
32	N
34	N

Average	0.38
SD	0.11
CV%	30.05
Median	0.37
Minimum	0.14
Quartile 25	0.30
Quartile 75	0.44
Maximum	0.70
Iqr	0.14

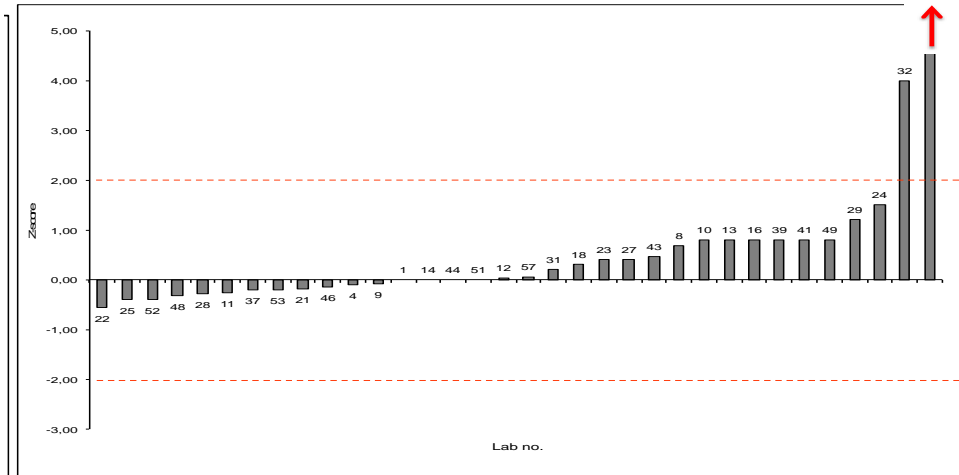
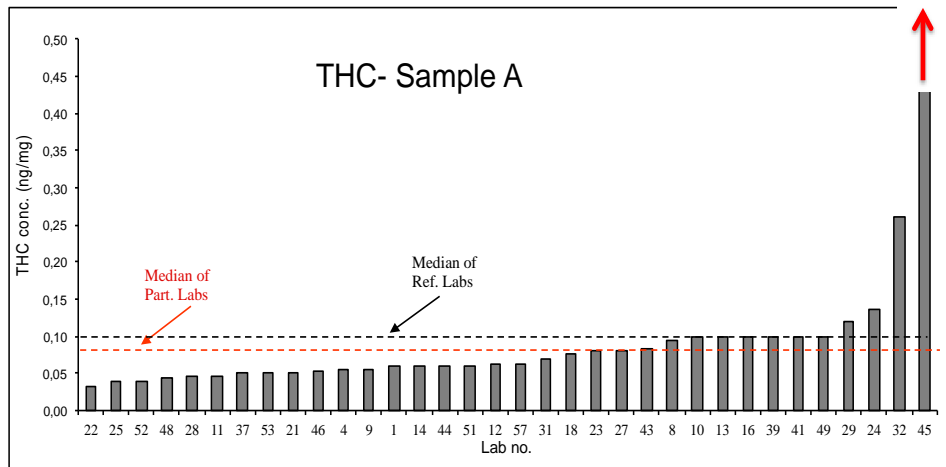


Lab	MDMA (ng/mg)	Z-score	Result
36	0.06	-1.45	Satisfactory
9	0.10	-1.13	Satisfactory
8	0.10	-1.11	Satisfactory
44	0.11	-1.00	Satisfactory
56	0.12	-0.89	Satisfactory
21	0.13	-0.85	Satisfactory
22	0.13	-0.82	Satisfactory
24	0.14	-0.77	Satisfactory
28	0.14	-0.73	Satisfactory
16	0.15	-0.64	Satisfactory
12	0.15	-0.63	Satisfactory
27	0.16	-0.55	Satisfactory
31	0.16	-0.55	Satisfactory
51	0.17	-0.45	Satisfactory
13	0.18	-0.38	Satisfactory
4	0.18	-0.36	Satisfactory
3	0.19	-0.27	Satisfactory
1	0.20	-0.18	Satisfactory
2	0.20	-0.18	Satisfactory
25	0.20	-0.18	Satisfactory
55	0.21	-0.13	Satisfactory
48	0.22	-0.04	Satisfactory
33	0.22	0.00	Satisfactory
45	0.22	0.00	Satisfactory
18	0.23	0.05	Satisfactory
6	0.23	0.07	Satisfactory

Lab	MDMA (ng/mg)	Z-score	Result
30	0.23	0.09	Satisfactory
53	0.24	0.18	Satisfactory
46	0.24	0.20	Satisfactory
11	0.25	0.27	Satisfactory
35	0.25	0.27	Satisfactory
39	0.26	0.36	Satisfactory
40	0.26	0.36	Satisfactory
38	0.27	0.45	Satisfactory
17	0.28	0.55	Satisfactory
57	0.28	0.55	Satisfactory
37	0.29	0.64	Satisfactory
52	0.29	0.64	Satisfactory
15	0.30	0.68	Satisfactory
41	0.31	0.84	Satisfactory
19	0.32	0.91	Satisfactory
23	0.33	1.00	Satisfactory
29	0.39	1.50	Satisfactory
34	0.51	2.64	Questionable
49	0.77	5.03	Unsatisfactory
47	U		
5	N		
7	N		
10	N		
14	N		
20	N		
32	N		

Lab	MDMA
43	N
50	N
54	N

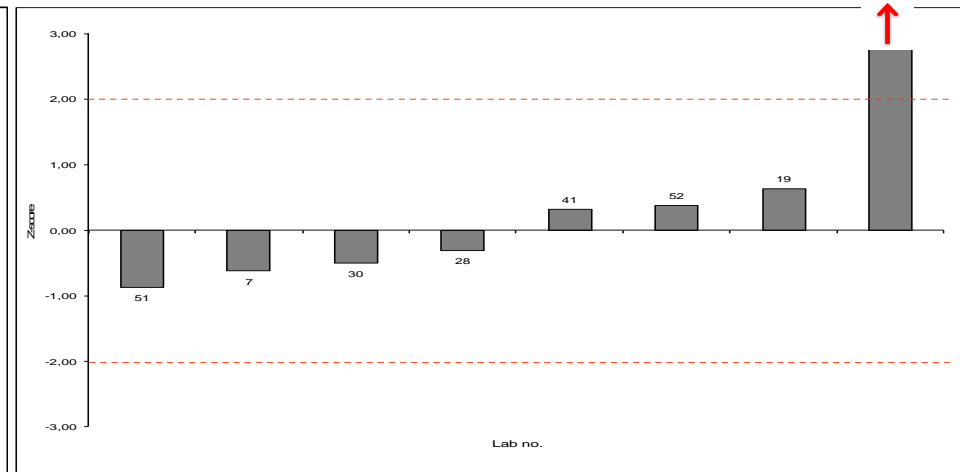
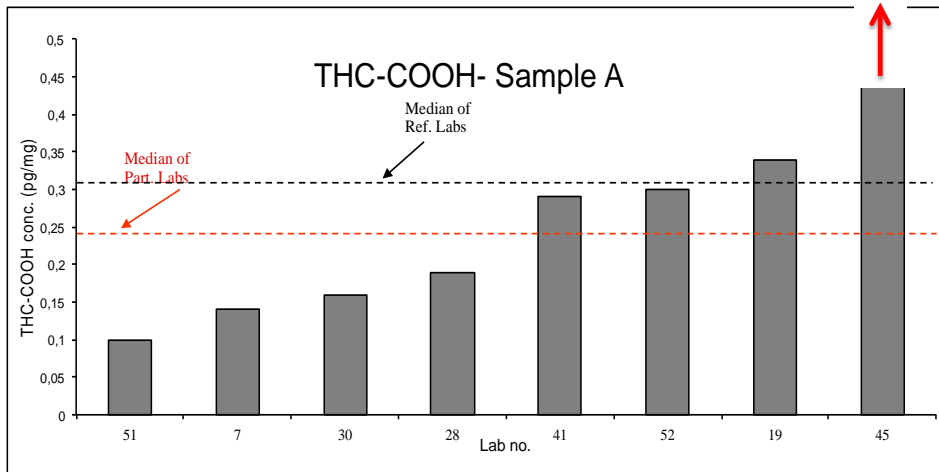
Average	0.23
SD	0.12
CV%	50.57
Median	0.22
Minimum	0.06
Quartile 25	0.16
Quartile 75	0.27
Maximum	0.77
Iqr	0.11



Lab.	THC (ng/mg)	Z-score	Result
22	0.03	-0.56	Satisfactory
25	0.04	-0.40	Satisfactory
52	0.04	-0.40	Satisfactory
48	0.04	-0.32	Satisfactory
28	0.05	-0.28	Satisfactory
11	0.05	-0.26	Satisfactory
37	0.05	-0.20	Satisfactory
53	0.05	-0.20	Satisfactory
21	0.05	-0.18	Satisfactory
46	0.05	-0.14	Satisfactory
4	0.06	-0.10	Satisfactory
9	0.06	-0.08	Satisfactory
1	0.06	0.00	Satisfactory
14	0.06	0.00	Satisfactory
44	0.06	0.00	Satisfactory
51	0.06	0.00	Satisfactory
12	0.06	0.03	Satisfactory
57	0.063	0.06	Satisfactory
31	0.07	0.20	Satisfactory
18	0.08	0.30	Satisfactory
23	0.08	0.40	Satisfactory
27	0.08	0.40	Satisfactory
43	0.08	0.46	Satisfactory
8	0.09	0.68	Satisfactory
10	0.10	0.80	Satisfactory
13	0.10	0.80	Satisfactory

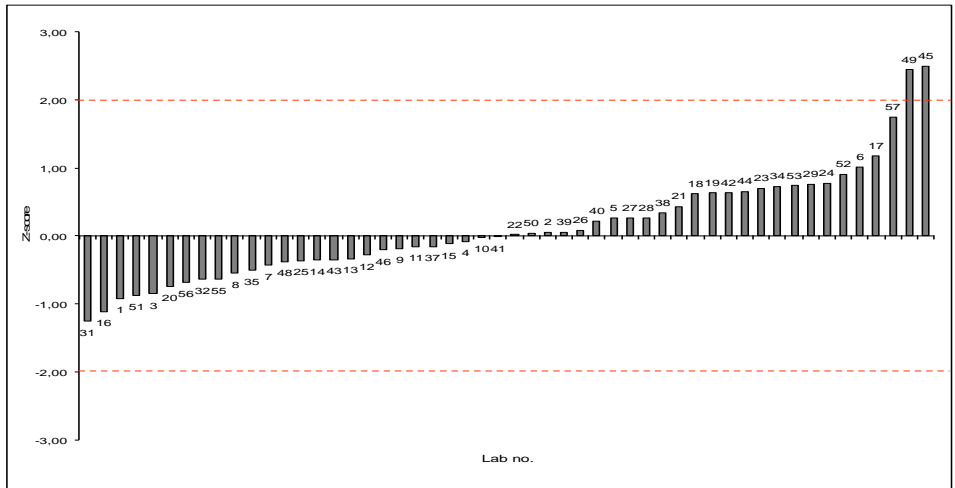
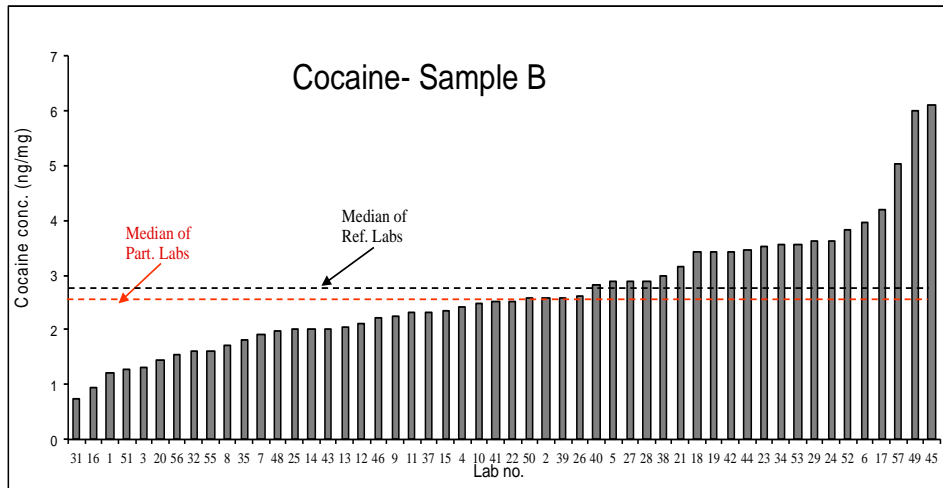
Lab.	THC (ng/mg)	Z-score	Result
16	0.10	0.80	Satisfactory
39	0.10	0.80	Satisfactory
41	0.10	0.80	Satisfactory
49	0.10	0.80	Satisfactory
29	0.12	1.20	Satisfactory
24	0.14	1.50	Satisfactory
32	0.26	4.00	Unsatisfactory
45	11.11	221.00	Unsatisfactory
54	P		
47	U		
5	N		
17	N		
20	N		
35	N		
50	N		

Average	0.40
SD	1.86
CV%	464.94
Median	0.06
Minimum	0.03
Quartile 25	0.05
Quartile 75	0.10
Maximum	11.11
Iqr	0.05



Lab.	THC-COOH (pg/mg)	Z-score	Result
51	0.1	-0.88	Satisfactory
7	0.14	-0.63	Satisfactory
30	0.16	-0.50	Satisfactory
28	0.19	-0.31	Satisfactory
41	0.29	0.31	Satisfactory
52	0.3	0.38	Satisfactory
19	0.34	0.63	Satisfactory
45	40	248.50	Unsatisfactory
25	<LQ		
56	P		
47	U		
1	N		
5	N		
9	N		
14	N		
35	N		
44	N		
49	N		
50	N		

Average	5.19
SD	13.16
CV%	253.51
Median	0.24
Minimum	0.10
Quartile 25	0.16
Quartile 75	0.31
Maximum	40.00
Iqr	0.16

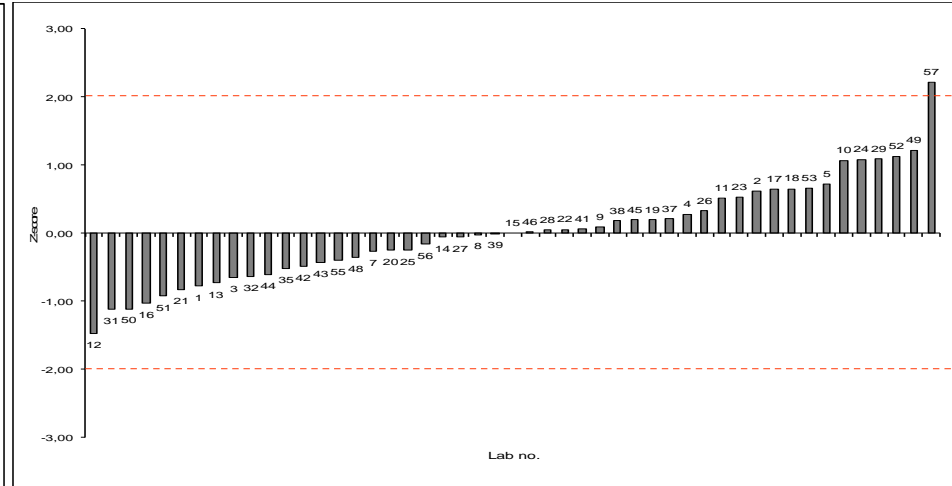
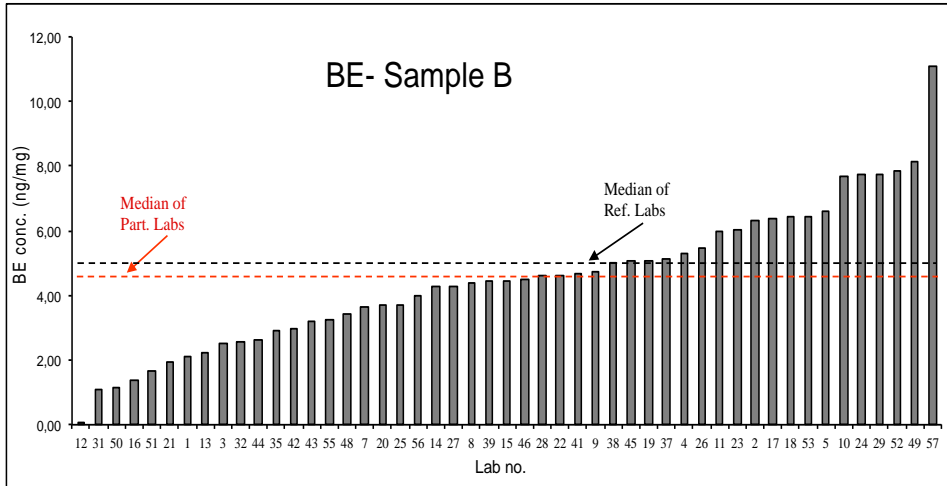


Lab	Cocaine (ng/mg)	Z-score	Result
31	0.73	-1.25	Satisfactory
16	0.93	-1.11	Satisfactory
1	1.20	-0.92	Satisfactory
51	1.27	-0.87	Satisfactory
3	1.30	-0.85	Satisfactory
20	1.46	-0.74	Satisfactory
56	1.54	-0.69	Satisfactory
32	1.61	-0.64	Satisfactory
55	1.62	-0.63	Satisfactory
8	1.73	-0.55	Satisfactory
35	1.80	-0.50	Satisfactory
7	1.91	-0.43	Satisfactory
48	1.98	-0.38	Satisfactory
25	2.00	-0.36	Satisfactory
14	2.01	-0.36	Satisfactory
43	2.02	-0.35	Satisfactory
13	2.04	-0.34	Satisfactory
12	2.12	-0.28	Satisfactory
46	2.23	-0.21	Satisfactory
9	2.26	-0.18	Satisfactory
11	2.30	-0.15	Satisfactory
37	2.30	-0.15	Satisfactory
15	2.35	-0.12	Satisfactory
4	2.40	-0.08	Satisfactory
10	2.49	-0.02	Satisfactory
41	2.50	-0.01	Satisfactory

Lab	Cocaine (ng/mg)	Z-score	Result
22	2.53	0.01	Satisfactory
50	2.58	0.04	Satisfactory
2	2.60	0.06	Satisfactory
39	2.60	0.06	Satisfactory
26	2.63	0.08	Satisfactory
40	2.83	0.22	Satisfactory
5	2.89	0.26	Satisfactory
27	2.90	0.27	Satisfactory
28	2.90	0.27	Satisfactory
38	3.00	0.34	Satisfactory
21	3.14	0.43	Satisfactory
18	3.41	0.62	Satisfactory
19	3.42	0.63	Satisfactory
42	3.42	0.63	Satisfactory
44	3.45	0.65	Satisfactory
23	3.51	0.69	Satisfactory
34	3.56	0.73	Satisfactory
53	3.57	0.73	Satisfactory
29	3.61	0.76	Satisfactory
24	3.62	0.77	Satisfactory
52	3.81	0.90	Satisfactory
6	3.97	1.01	Satisfactory
17	4.20	1.17	Satisfactory
57	5.02	1.75	Satisfactory
49	6.01	2.44	Questionable
45	6.09	2.50	Questionable

Lab	Cocaine
36	>1.50
47	P
54	P

Average	2.68
SD	1.11
CV%	41.39
Median	2.52
Minimum	0.73
Quartile 25	2.00
Quartile 75	3.42
Maximum	6.09
Iqr	1.43

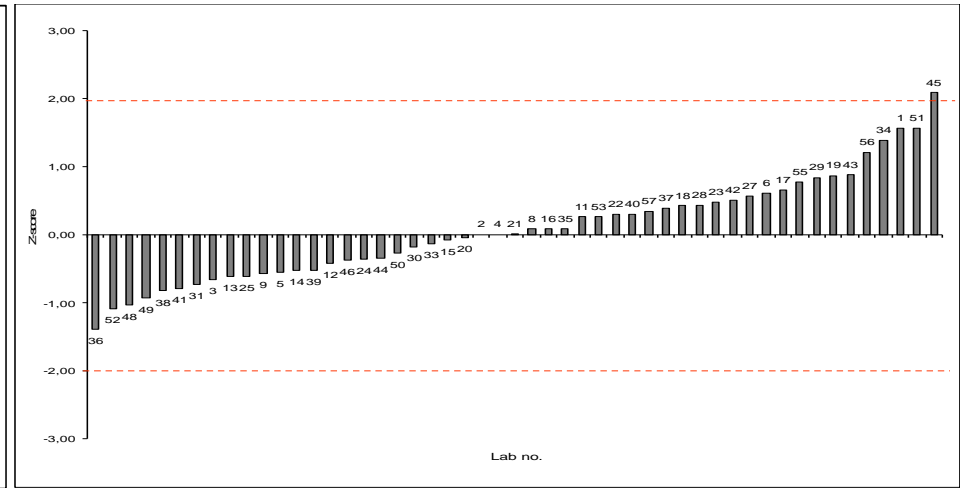
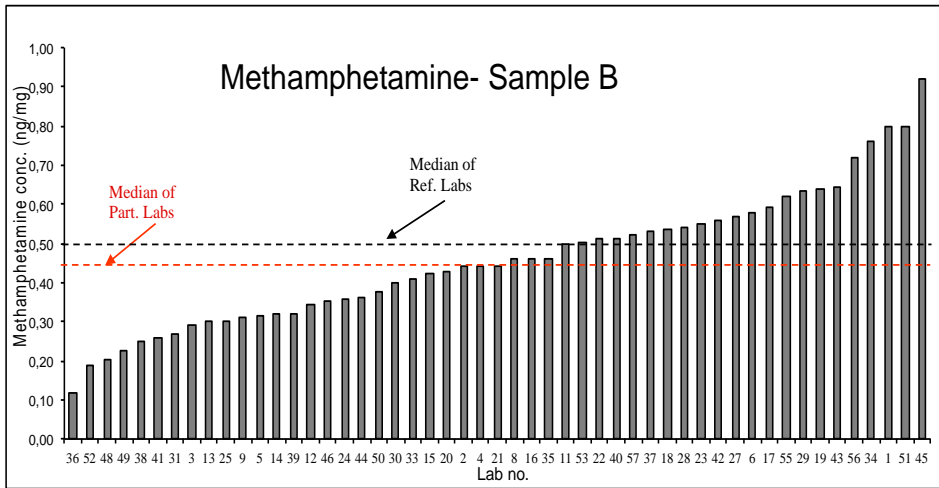


Lab	BE (ng/mg)	Z-score	Result
12	0.02	-1.48	Satisfactory
31	1.10	-1.12	Satisfactory
50	1.12	-1.11	Satisfactory
16	1.38	-1.02	Satisfactory
51	1.68	-0.92	Satisfactory
21	1.97	-0.83	Satisfactory
1	2.12	-0.78	Satisfactory
13	2.25	-0.73	Satisfactory
3	2.50	-0.65	Satisfactory
32	2.54	-0.64	Satisfactory
44	2.62	-0.61	Satisfactory
35	2.90	-0.52	Satisfactory
42	2.99	-0.49	Satisfactory
43	3.18	-0.43	Satisfactory
55	3.25	-0.40	Satisfactory
48	3.40	-0.35	Satisfactory
7	3.64	-0.27	Satisfactory
20	3.69	-0.26	Satisfactory
25	3.70	-0.25	Satisfactory
56	3.96	-0.16	Satisfactory
14	4.30	-0.05	Satisfactory
27	4.30	-0.05	Satisfactory
8	4.40	-0.02	Satisfactory
39	4.43	-0.01	Satisfactory
15	4.46	0.00	Satisfactory
46	4.51	0.02	Satisfactory

Lab	BE (ng/mg)	Z-score	Result
28	4.60	0.05	Satisfactory
22	4.62	0.05	Satisfactory
41	4.65	0.06	Satisfactory
9	4.74	0.09	Satisfactory
38	5.00	0.18	Satisfactory
45	5.05	0.20	Satisfactory
19	5.06	0.20	Satisfactory
37	5.10	0.21	Satisfactory
4	5.30	0.28	Satisfactory
26	5.44	0.33	Satisfactory
11	6.00	0.51	Satisfactory
23	6.03	0.52	Satisfactory
2	6.30	0.61	Satisfactory
17	6.40	0.64	Satisfactory
18	6.42	0.65	Satisfactory
53	6.44	0.66	Satisfactory
5	6.63	0.72	Satisfactory
10	7.67	1.07	Satisfactory
24	7.71	1.08	Satisfactory
29	7.73	1.09	Satisfactory
52	7.85	1.13	Satisfactory
49	8.11	1.21	Satisfactory
57	11.12	2.21	Questionable
36	>1.50		
6	>5.00		
47	P		

Lab	BE
54	P

Average	4.50
SD	2.15
CV%	47.77
Median	4.46
Minimum	0.02
Quartile 25	2.99
Quartile 75	6.00
Maximum	11.12
Iqr	3.01

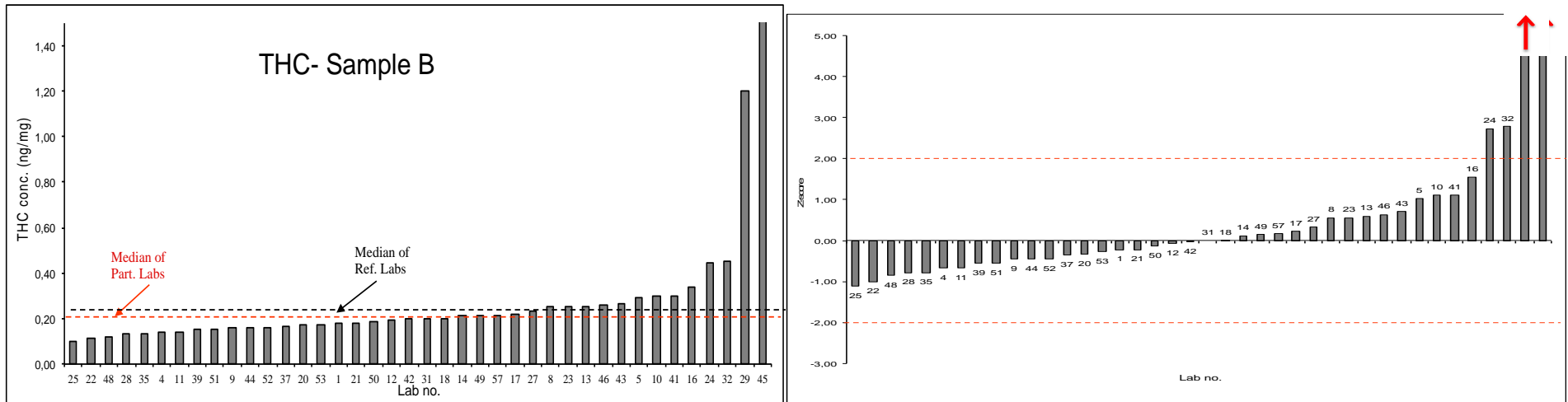


Lab	Methamphet. (ng/mg)	Z-score	Result
36	0.12	-1.39	Satisfactory
52	0.19	-1.09	Satisfactory
48	0.20	-1.03	Satisfactory
49	0.23	-0.93	Satisfactory
38	0.25	-0.83	Satisfactory
41	0.26	-0.79	Satisfactory
31	0.27	-0.74	Satisfactory
3	0.29	-0.65	Satisfactory
13	0.30	-0.61	Satisfactory
25	0.30	-0.61	Satisfactory
9	0.31	-0.57	Satisfactory
5	0.31	-0.55	Satisfactory
14	0.32	-0.52	Satisfactory
39	0.32	-0.52	Satisfactory
12	0.34	-0.42	Satisfactory
46	0.35	-0.37	Satisfactory
24	0.36	-0.37	Satisfactory
44	0.36	-0.35	Satisfactory
50	0.38	-0.28	Satisfactory
30	0.40	-0.17	Satisfactory
33	0.41	-0.13	Satisfactory
15	0.42	-0.08	Satisfactory
20	0.43	-0.04	Satisfactory
2	0.44	0.00	Satisfactory
4	0.44	0.00	Satisfactory
21	0.44	0.01	Satisfactory

Lab	Methamphet. (ng/mg)	Z-score	Result
8	0.46	0.09	Satisfactory
16	0.46	0.09	Satisfactory
35	0.46	0.09	Satisfactory
11	0.50	0.26	Satisfactory
53	0.50	0.27	Satisfactory
22	0.51	0.30	Satisfactory
40	0.51	0.30	Satisfactory
57	0.52	0.35	Satisfactory
37	0.53	0.39	Satisfactory
18	0.54	0.43	Satisfactory
28	0.54	0.43	Satisfactory
23	0.55	0.48	Satisfactory
42	0.56	0.51	Satisfactory
27	0.57	0.57	Satisfactory
6	0.58	0.61	Satisfactory
17	0.59	0.65	Satisfactory
55	0.62	0.77	Satisfactory
29	0.63	0.84	Satisfactory
19	0.64	0.87	Satisfactory
43	0.64	0.88	Satisfactory
56	0.72	1.21	Satisfactory
34	0.76	1.39	Satisfactory
1	0.80	1.57	Satisfactory
51	0.80	1.57	Satisfactory
45	0.92	2.09	Questionable
47	P		

Lab	Methamph.
7	N
10	N
32	N
54	N

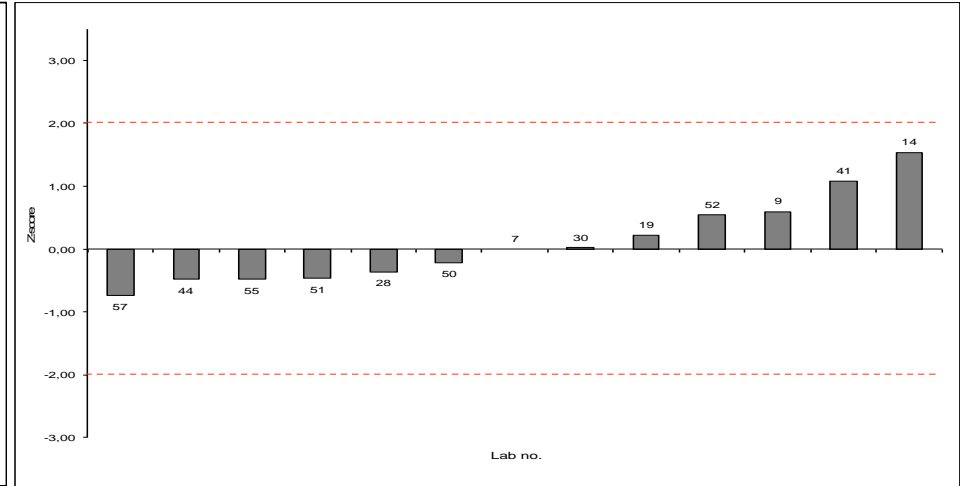
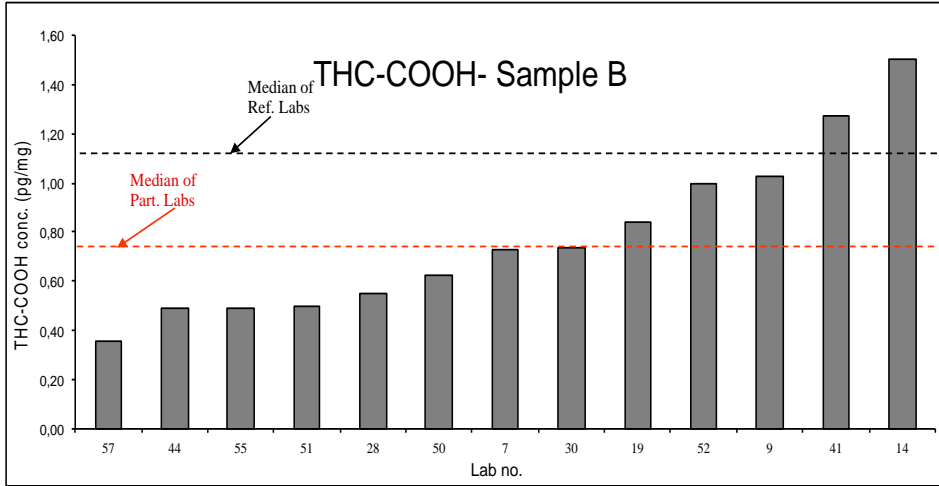
Average	0.46
SD	0.17
CV%	37.04
Median	0.44
Minimum	0.12
Quartile 25	0.32
Quartile 75	0.55
Maximum	0.92
Iqr	0.23



Lab.	THC (ng/mg)	Z-score	Result
25	0.10	-1.11	Satisfactory
22	0.11	-1.00	Satisfactory
48	0.12	-0.86	Satisfactory
28	0.13	-0.78	Satisfactory
35	0.13	-0.78	Satisfactory
4	0.14	-0.67	Satisfactory
11	0.14	-0.67	Satisfactory
39	0.15	-0.56	Satisfactory
51	0.15	-0.56	Satisfactory
9	0.16	-0.44	Satisfactory
44	0.16	-0.44	Satisfactory
52	0.16	-0.44	Satisfactory
37	0.17	-0.36	Satisfactory
20	0.17	-0.33	Satisfactory
53	0.18	-0.27	Satisfactory
1	0.18	-0.22	Satisfactory
21	0.18	-0.22	Satisfactory
50	0.19	-0.13	Satisfactory
12	0.19	-0.08	Satisfactory
42	0.20	-0.03	Satisfactory
31	0.20	0.00	Satisfactory
18	0.20	0.01	Satisfactory
14	0.21	0.11	Satisfactory
49	0.21	0.14	Satisfactory
57	0.22	0.17	Satisfactory
17	0.22	0.22	Satisfactory

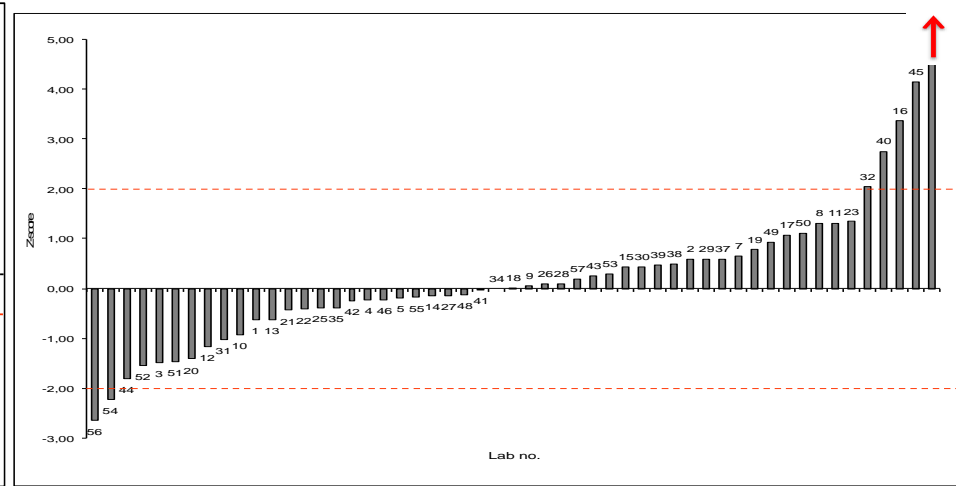
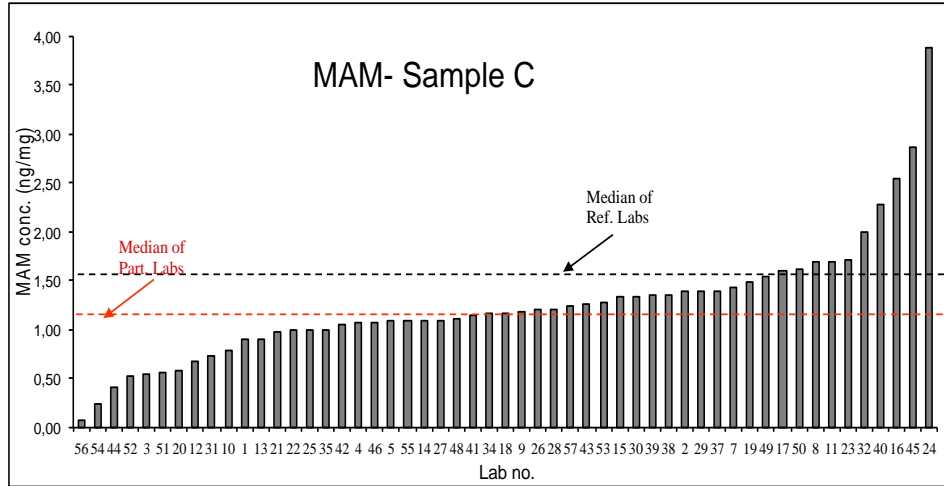
Lab.	THC (ng/mg)	Z-score	Result
27	0.23	0.33	Satisfactory
8	0.25	0.56	Satisfactory
23	0.25	0.56	Satisfactory
13	0.25	0.60	Satisfactory
46	0.26	0.63	Satisfactory
43	0.26	0.71	Satisfactory
5	0.29	1.02	Satisfactory
10	0.30	1.11	Satisfactory
41	0.30	1.11	Satisfactory
16	0.34	1.56	Satisfactory
24	0.45	2.72	Questionable
32	0.45	2.78	Questionable
29	1.20	11.11	Unsatisfactory
45	30.69	338.78	Unsatisfactory
47	P		
54	P		

Average	1.00
SD	4.76
CV%	477.14
Median	0.20
Minimum	0.10
Quartile 25	0.16
Quartile 75	0.25
Maximum	30.69
Iqr	0.09



Lab.	THC-COOH (pg/mg)	Z-score	Result
57	0.36	-0.74	57
44	0.49	-0.48	44
55	0.49	-0.48	55
51	0.50	-0.46	51
28	0.55	-0.36	28
50	0.62	-0.21	50
7	0.73	0.00	7
30	0.74	0.02	30
19	0.84	0.22	19
52	1.00	0.54	52
9	1.03	0.60	9
41	1.27	1.08	41
14	1.50	1.54	14
25	<LQ		25
56	P		56
47	U		47
1	N		1
35	N		35
45	N		45
49	N		49

Average	0.78
SD	0.33
CV%	41.80
Median	0.73
Minimum	0.36
Quartile 25	0.50
Quartile 75	1.00
Maximum	1.50
Iqr	0.50

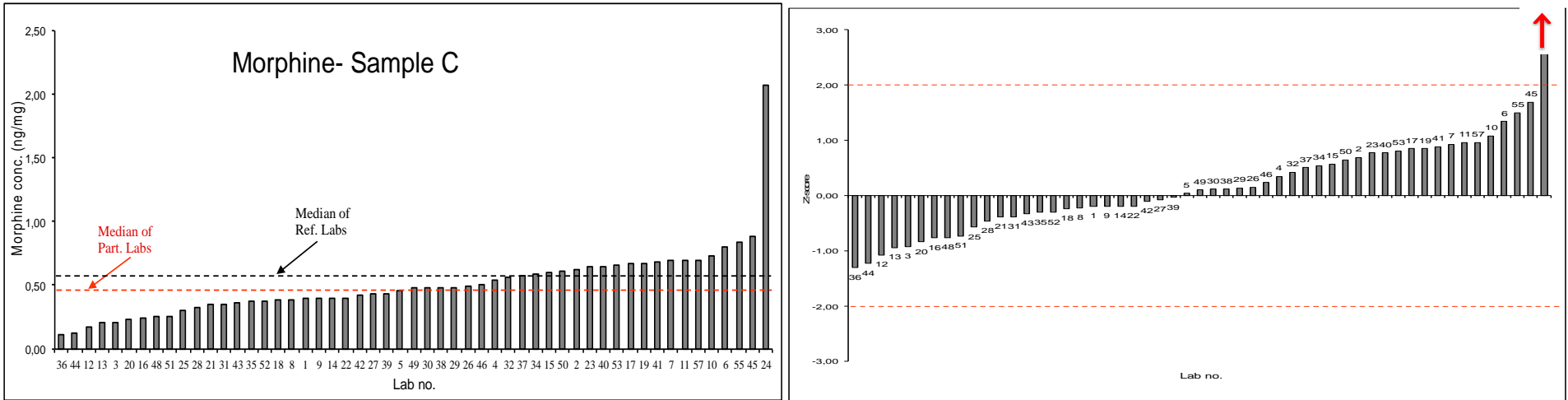


Lab	MAM (ng/mg)	Z-score	Result
56	0.07	-2.65	Questionable
54	0.25	-2.22	Questionable
44	0.42	-1.80	Satisfactory
52	0.53	-1.54	Satisfactory
3	0.55	-1.49	Satisfactory
51	0.56	-1.46	Satisfactory
20	0.58	-1.41	Satisfactory
12	0.68	-1.17	Satisfactory
31	0.74	-1.02	Satisfactory
10	0.78	-0.93	Satisfactory
1	0.90	-0.63	Satisfactory
13	0.90	-0.62	Satisfactory
21	0.98	-0.44	Satisfactory
22	0.99	-0.41	Satisfactory
25	1.00	-0.39	Satisfactory
35	1.00	-0.39	Satisfactory
42	1.06	-0.24	Satisfactory
4	1.07	-0.22	Satisfactory
46	1.07	-0.22	Satisfactory
5	1.09	-0.18	Satisfactory
55	1.09	-0.18	Satisfactory
14	1.10	-0.15	Satisfactory
27	1.10	-0.15	Satisfactory
48	1.11	-0.12	Satisfactory
41	1.15	-0.02	Satisfactory
34	1.16	0.00	Satisfactory
18	1.16	0.01	Satisfactory

Lab	MAM (ng/mg)	Z-score	Result
9	1.18	0.05	Satisfactory
26	1.20	0.10	Satisfactory
28	1.20	0.10	Satisfactory
57	1.24	0.20	Satisfactory
43	1.26	0.25	Satisfactory
53	1.28	0.29	Satisfactory
15	1.34	0.44	Satisfactory
30	1.34	0.44	Satisfactory
39	1.35	0.46	Satisfactory
38	1.36	0.49	Satisfactory
2	1.40	0.59	Satisfactory
29	1.40	0.59	Satisfactory
37	1.40	0.59	Satisfactory
7	1.43	0.65	Satisfactory
19	1.48	0.78	Satisfactory
49	1.54	0.93	Satisfactory
17	1.60	1.07	Satisfactory
50	1.62	1.12	Satisfactory
8	1.70	1.32	Satisfactory
11	1.70	1.32	Satisfactory
23	1.71	1.34	Satisfactory
32	2.00	2.05	Questionable
40	2.29	2.76	Questionable
16	2.54	3.37	Unsatisfactory
45	2.86	4.15	Unsatisfactory
24	3.89	6.65	Unsatisfactory
36	<1.5		

Lab	MAM
6	>1
47	P

Average	1.14
SD	0.42
CV%	36.70
Median	1.16
Minimum	0.07
Quartile 25	0.98
Quartile 75	1.39
Maximum	2.29
Iqr	0.41

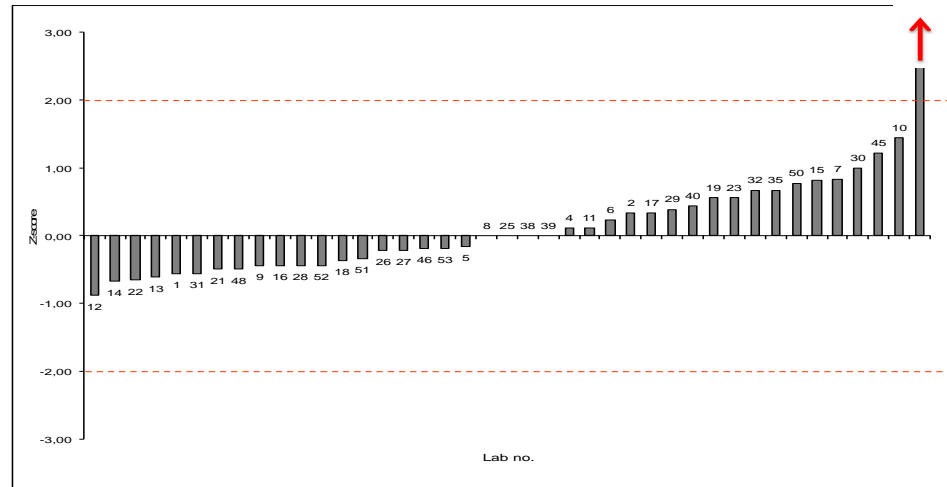
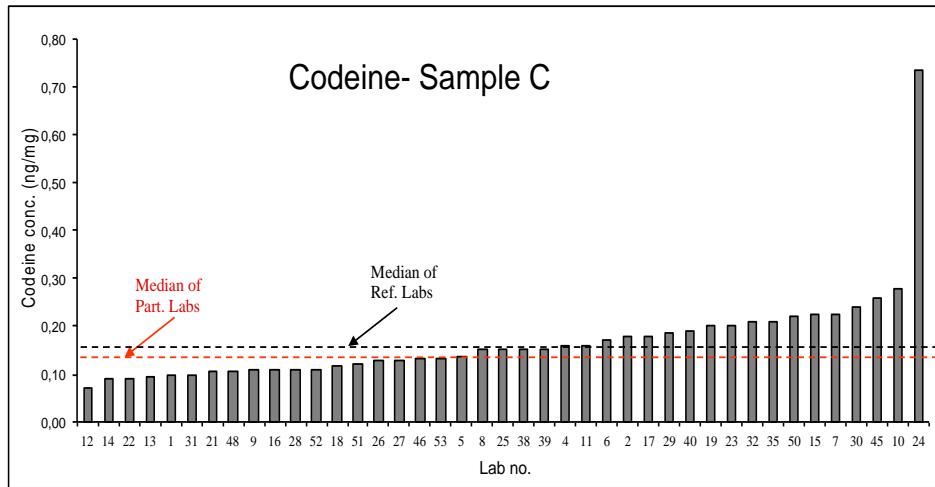


Lab	Morphine (ng/mg)	Z-score	Result
36	0.11	-1.31	Satisfactory
44	0.13	-1.23	Satisfactory
12	0.17	-1.08	Satisfactory
13	0.21	-0.94	Satisfactory
3	0.21	-0.92	Satisfactory
20	0.23	-0.85	Satisfactory
16	0.25	-0.77	Satisfactory
48	0.25	-0.77	Satisfactory
51	0.26	-0.73	Satisfactory
25	0.30	-0.58	Satisfactory
28	0.33	-0.46	Satisfactory
21	0.35	-0.39	Satisfactory
31	0.35	-0.38	Satisfactory
43	0.36	-0.33	Satisfactory
35	0.37	-0.31	Satisfactory
52	0.37	-0.31	Satisfactory
18	0.39	-0.24	Satisfactory
8	0.39	-0.23	Satisfactory
1	0.40	-0.19	Satisfactory
9	0.40	-0.19	Satisfactory
14	0.40	-0.19	Satisfactory
22	0.40	-0.19	Satisfactory
42	0.42	-0.11	Satisfactory
27	0.43	-0.08	Satisfactory
39	0.44	-0.04	Satisfactory
5	0.46	0.04	Satisfactory
49	0.48	0.10	Satisfactory

Lab	Morphine (ng/mg)	Z-score	Result
30	0.48	0.12	Satisfactory
38	0.48	0.12	Satisfactory
29	0.49	0.14	Satisfactory
26	0.49	0.15	Satisfactory
46	0.51	0.23	Satisfactory
4	0.54	0.35	Satisfactory
32	0.56	0.42	Satisfactory
37	0.58	0.50	Satisfactory
34	0.59	0.54	Satisfactory
15	0.60	0.57	Satisfactory
50	0.62	0.64	Satisfactory
2	0.63	0.69	Satisfactory
23	0.65	0.77	Satisfactory
40	0.65	0.77	Satisfactory
53	0.66	0.81	Satisfactory
17	0.67	0.85	Satisfactory
19	0.67	0.85	Satisfactory
41	0.68	0.88	Satisfactory
7	0.69	0.93	Satisfactory
11	0.70	0.96	Satisfactory
57	0.70	0.96	Satisfactory
10	0.73	1.08	Satisfactory
6	0.80	1.34	Satisfactory
55	0.84	1.50	Satisfactory
45	0.89	1.69	Satisfactory
24	2.07	6.23	Unsatisfactory
47	P		

Lab	Morphine
54	N
56	N

Average	0.46
SD	0.17
CV%	37.28
Median	0.45
Minimum	0.11
Quartile 25	0.35
Quartile 75	0.61
Maximum	0.80
Iqr	0.26



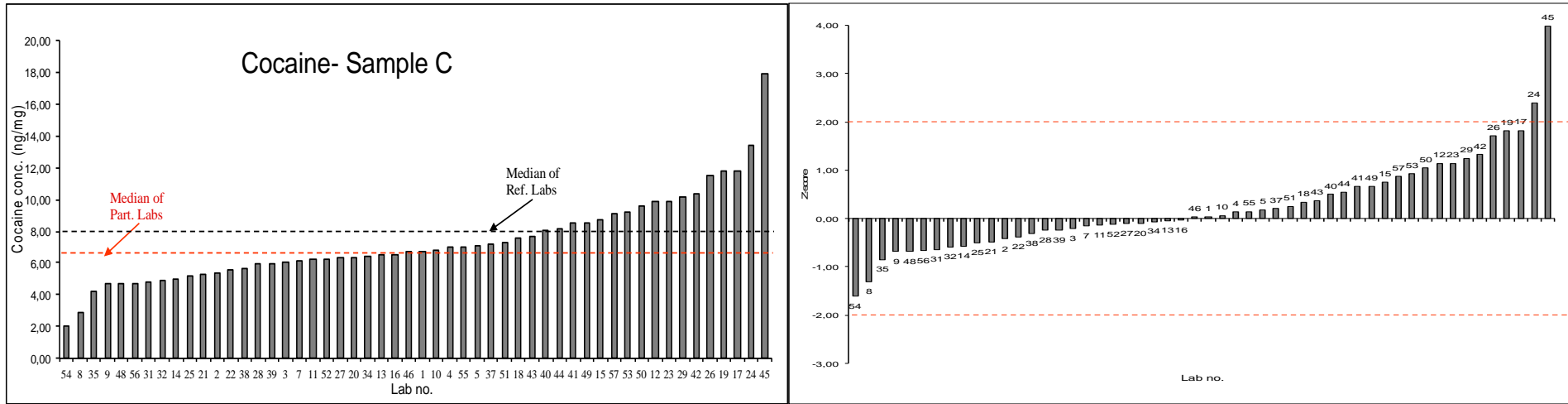
Lab	Codeine (ng/mg)	Z-score	Result
12	0.07	-0.87	Satisfactory
14	0.09	-0.67	Satisfactory
22	0.09	-0.66	Satisfactory
13	0.10	-0.61	Satisfactory
1	0.10	-0.56	Satisfactory
31	0.10	-0.56	Satisfactory
21	0.11	-0.49	Satisfactory
48	0.11	-0.49	Satisfactory
9	0.11	-0.44	Satisfactory
16	0.11	-0.44	Satisfactory
28	0.11	-0.44	Satisfactory
52	0.11	-0.44	Satisfactory
18	0.12	-0.37	Satisfactory
51	0.12	-0.33	Satisfactory
26	0.13	-0.22	Satisfactory
27	0.13	-0.22	Satisfactory
46	0.13	-0.19	Satisfactory
53	0.13	-0.19	Satisfactory
5	0.14	-0.16	Satisfactory
8	0.15	0.00	Satisfactory
25	0.15	0.00	Satisfactory
38	0.15	0.00	Satisfactory
39	0.15	0.00	Satisfactory
4	0.16	0.11	Satisfactory
11	0.16	0.11	Satisfactory
6	0.17	0.23	Satisfactory

Lab	Codeine (ng/mg)	Z-score	Result
2	0.18	0.33	Satisfactory
17	0.18	0.33	Satisfactory
29	0.19	0.39	Satisfactory
40	0.19	0.44	Satisfactory
19	0.20	0.56	Satisfactory
23	0.20	0.56	Satisfactory
32	0.21	0.67	Satisfactory
35	0.21	0.67	Satisfactory
50	0.22	0.77	Satisfactory
15	0.22	0.82	Satisfactory
7	0.23	0.83	Satisfactory
30	0.24	1.00	Satisfactory
45	0.26	1.22	Satisfactory
10	0.28	1.44	Satisfactory
24	0.73	6.49	Unsatisfactory
37	<LOQ		
47	U		
3	N		
20	N		
34	N		
36	N		
41	N		
43	N		
44	N		
49	N		
54	N		

Lab	Codeine
55	N
56	N
57	N

Average	0.17
SD	0.10
CV%	60.76
Median	0.15
Minimum	0.07
Quartile 25	0.11
Quartile 75	0.20
Maximum	0.73
Iqr	0.09

The median Codeine concentration is below the cut-off proposed by SoHT (0.20 ng/mg)

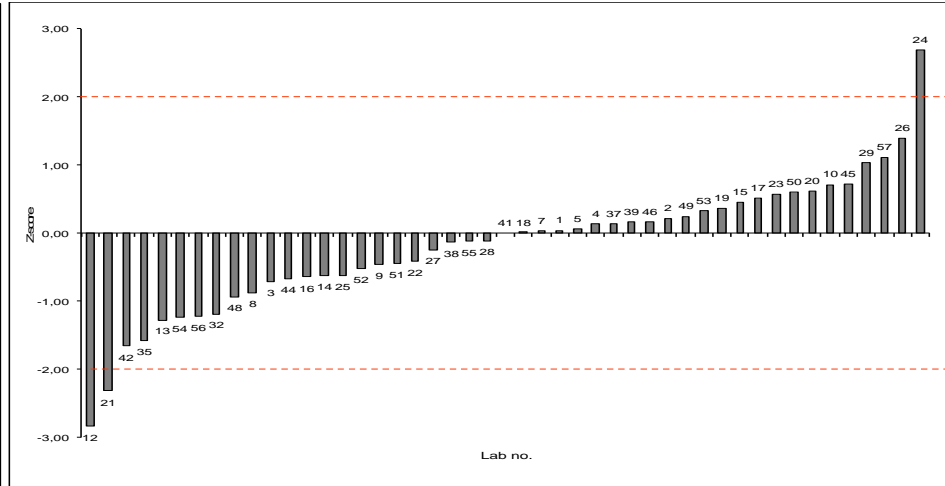
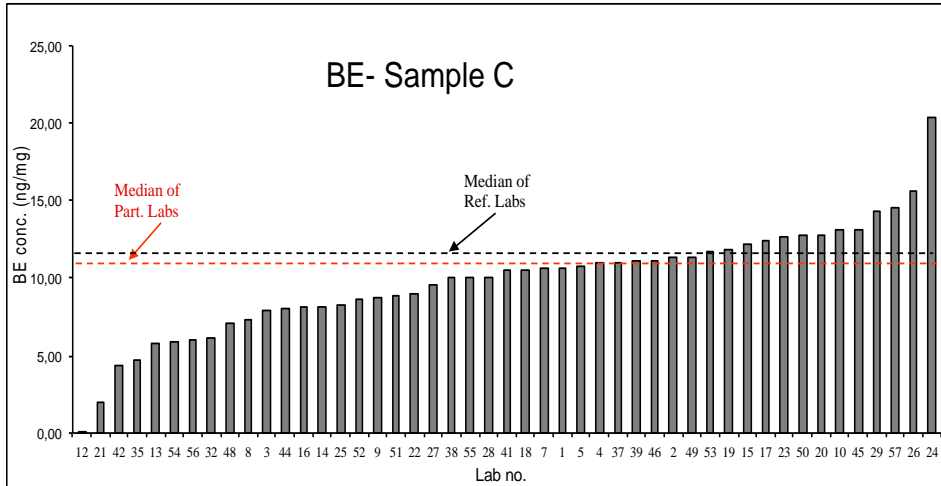


Lab	Cocaine (ng/mg)	Z-score	Result
54	2.03	-1.61	Satisfactory
8	2.90	-1.31	Satisfactory
35	4.20	-0.85	Satisfactory
9	4.67	-0.68	Satisfactory
48	4.67	-0.68	Satisfactory
56	4.72	-0.67	Satisfactory
31	4.80	-0.64	Satisfactory
32	4.91	-0.60	Satisfactory
14	5.00	-0.57	Satisfactory
25	5.20	-0.50	Satisfactory
21	5.24	-0.48	Satisfactory
2	5.40	-0.43	Satisfactory
22	5.54	-0.38	Satisfactory
38	5.70	-0.32	Satisfactory
28	5.90	-0.25	Satisfactory
39	5.91	-0.25	Satisfactory
3	6.00	-0.21	Satisfactory
7	6.18	-0.15	Satisfactory
11	6.20	-0.14	Satisfactory
52	6.27	-0.12	Satisfactory
27	6.30	-0.11	Satisfactory
20	6.31	-0.11	Satisfactory
34	6.43	-0.06	Satisfactory
13	6.49	-0.04	Satisfactory
16	6.52	-0.03	Satisfactory
46	6.69	0.03	Satisfactory

Lab	Cocaine (ng/mg)	Z-score	Result
1	6.70	0.03	Satisfactory
10	6.78	0.06	Satisfactory
4	7.00	0.14	Satisfactory
55	7.02	0.14	Satisfactory
5	7.13	0.18	Satisfactory
37	7.20	0.21	Satisfactory
51	7.32	0.25	Satisfactory
18	7.58	0.34	Satisfactory
43	7.67	0.37	Satisfactory
40	8.03	0.50	Satisfactory
44	8.17	0.55	Satisfactory
41	8.50	0.67	Satisfactory
49	8.51	0.67	Satisfactory
15	8.73	0.75	Satisfactory
57	9.10	0.88	Satisfactory
53	9.24	0.93	Satisfactory
50	9.58	1.04	Satisfactory
12	9.85	1.14	Satisfactory
23	9.86	1.14	Satisfactory
29	10.13	1.24	Satisfactory
42	10.37	1.32	Satisfactory
26	11.48	1.71	Satisfactory
19	11.76	1.81	Satisfactory
17	11.80	1.83	Satisfactory
24	13.42	2.40	Questionable
45	17.93	3.99	Unsatisfactory

Lab	Cocaine
36	<1.5
6	>5
47	P

Average	6.99
SD	2.14
CV%	30.58
Median	6.61
Minimum	2.03
Quartile 25	5.58
Quartile 75	8.42
Maximum	11.80
Iqr	2.84

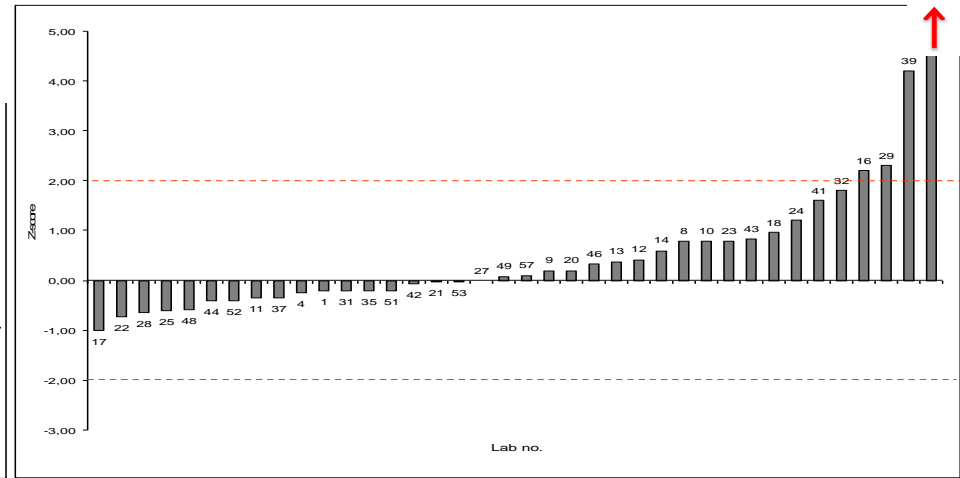
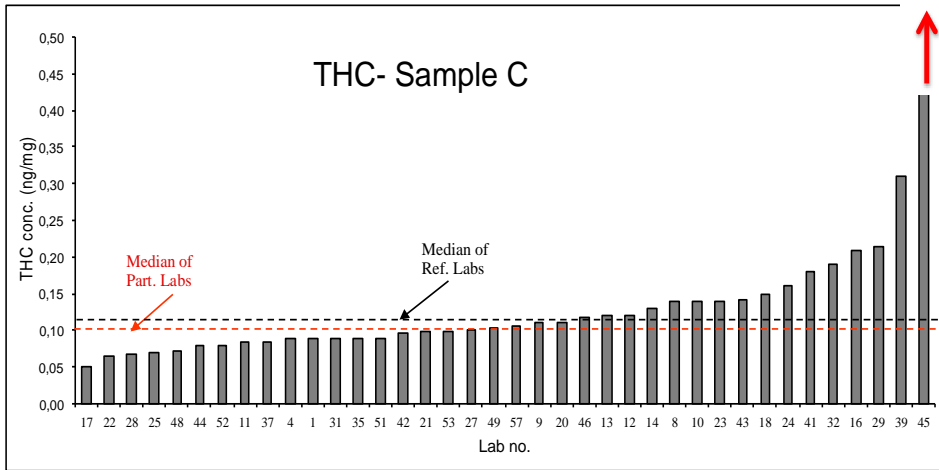


Lab	BE (ng/mg)	Z-score	Result
12	0.08	-2.83	Questionable
21	1.98	-2.31	Questionable
42	4.40	-1.66	Satisfactory
35	4.70	-1.58	Satisfactory
13	5.81	-1.27	Satisfactory
54	5.94	-1.24	Satisfactory
56	6.01	-1.22	Satisfactory
32	6.14	-1.18	Satisfactory
48	7.08	-0.93	Satisfactory
8	7.30	-0.87	Satisfactory
3	7.90	-0.71	Satisfactory
44	8.06	-0.66	Satisfactory
16	8.13	-0.64	Satisfactory
14	8.20	-0.63	Satisfactory
25	8.21	-0.62	Satisfactory
52	8.61	-0.51	Satisfactory
9	8.79	-0.46	Satisfactory
51	8.87	-0.44	Satisfactory
22	8.96	-0.42	Satisfactory
27	9.60	-0.24	Satisfactory
38	10.00	-0.14	Satisfactory
55	10.05	-0.12	Satisfactory
28	10.10	-0.11	Satisfactory
41	10.50	0.00	Satisfactory
18	10.50	0.00	Satisfactory
7	10.61	0.03	Satisfactory

Lab	BE (ng/mg)	Z-score	Result
1	10.65	0.04	Satisfactory
5	10.74	0.07	Satisfactory
4	11.00	0.14	Satisfactory
37	11.00	0.14	Satisfactory
39	11.10	0.16	Satisfactory
46	11.10	0.16	Satisfactory
2	11.30	0.22	Satisfactory
49	11.40	0.24	Satisfactory
53	11.70	0.33	Satisfactory
19	11.85	0.37	Satisfactory
15	12.15	0.45	Satisfactory
17	12.40	0.52	Satisfactory
23	12.60	0.57	Satisfactory
50	12.73	0.61	Satisfactory
20	12.75	0.61	Satisfactory
10	13.12	0.71	Satisfactory
45	13.13	0.71	Satisfactory
29	14.29	1.03	Satisfactory
57	14.57	1.11	Satisfactory
26	15.64	1.40	Satisfactory
24	20.39	2.69	Questionable
36	<1.5		
11	>10		
43	>4		
31	>4.0		
6	>5		

Lab	BE
47	P

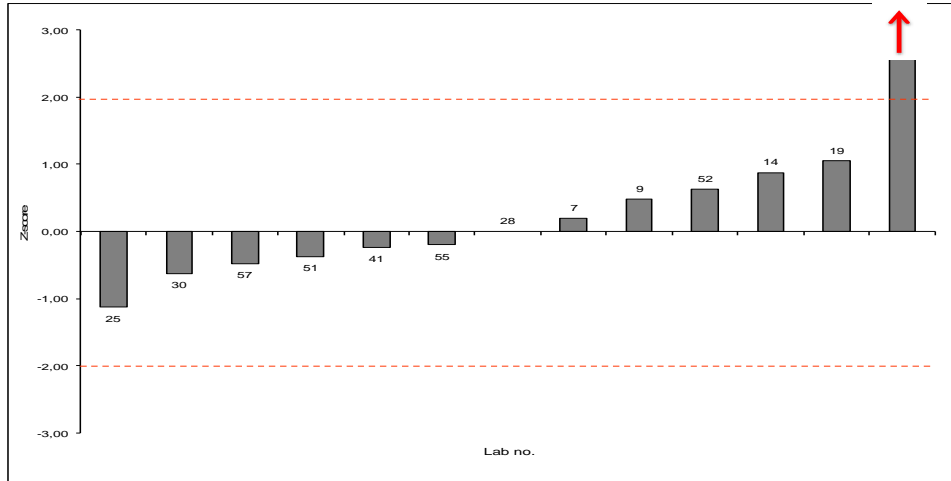
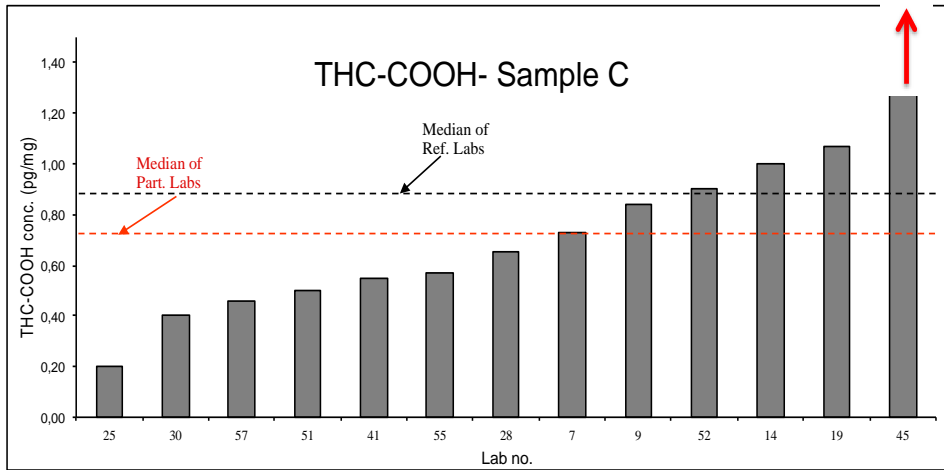
Average	9.83
SD	3.49
CV%	35.49
Median	10.50
Minimum	0.08
Quartile 25	8.10
Quartile 75	11.78
Maximum	20.39
Iqr	3.68



Lab.	THC (ng/mg)	Z-score	Result
17	0.05	-1.00	Satisfactory
22	0.06	-0.72	Satisfactory
28	0.07	-0.64	Satisfactory
25	0.07	-0.60	Satisfactory
48	0.07	-0.58	Satisfactory
44	0.08	-0.40	Satisfactory
52	0.08	-0.40	Satisfactory
11	0.08	-0.34	Satisfactory
37	0.08	-0.34	Satisfactory
4	0.09	-0.24	Satisfactory
1	0.09	-0.20	Satisfactory
31	0.09	-0.20	Satisfactory
35	0.09	-0.20	Satisfactory
51	0.09	-0.20	Satisfactory
42	0.10	-0.06	Satisfactory
21	0.10	-0.02	Satisfactory
53	0.10	-0.02	Satisfactory
27	0.10	0.00	Satisfactory
49	0.10	0.08	Satisfactory
57	0.11	0.10	Satisfactory
9	0.11	0.20	Satisfactory
20	0.11	0.20	Satisfactory
46	0.12	0.34	Satisfactory
13	0.12	0.38	Satisfactory
12	0.12	0.42	Satisfactory
14	0.13	0.60	Satisfactory

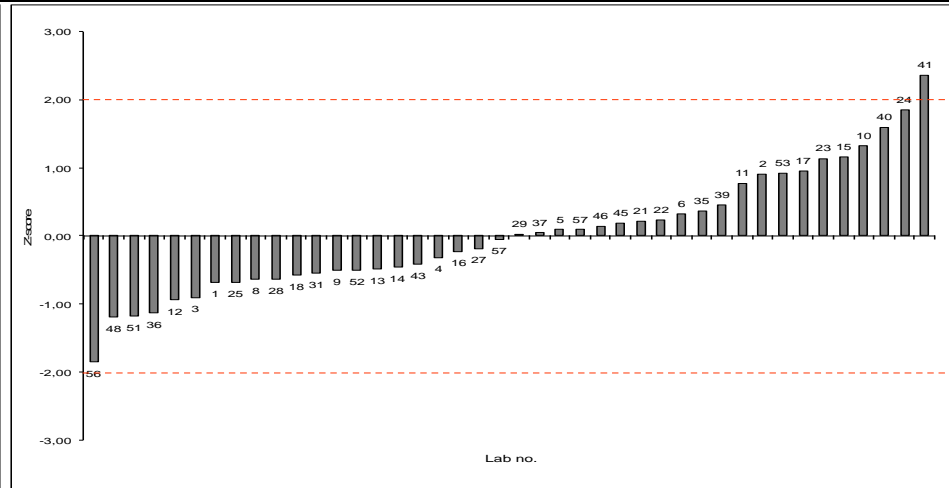
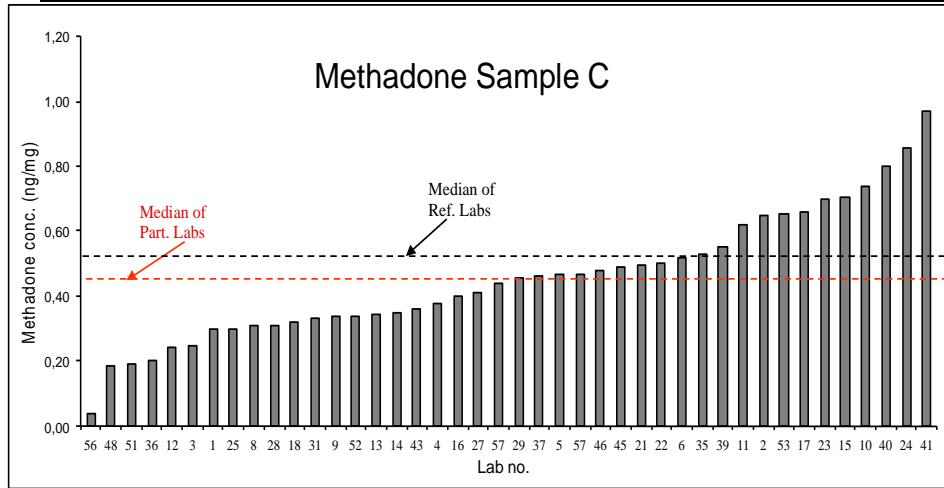
Lab.	THC (ng/mg)	Z-score	Result
8	0.14	0.80	Satisfactory
10	0.14	0.80	Satisfactory
23	0.14	0.80	Satisfactory
43	0.14	0.84	Satisfactory
18	0.15	0.96	Satisfactory
24	0.16	1.20	Satisfactory
41	0.18	1.60	Satisfactory
32	0.19	1.80	Satisfactory
16	0.21	2.20	Questionable
29	0.22	2.30	Questionable
39	0.31	4.20	Unsatisfactory
45	12.62	250.40	Unsatisfactory
47	P		
54	P		
5	N		
50	N		

Average	0.45
SD	2.00
CV%	447.38
Median	0.10
Minimum	0.05
Quartile 25	0.09
Quartile 75	0.14
Maximum	12.62
Iqr	0.05



Lab	THC-COOH (pg/mg)	Z-score	Result
25	0.20	-1.13	Satisfactory
30	0.40	-0.63	Satisfactory
57	0.46	-0.48	Satisfactory
51	0.50	-0.38	Satisfactory
41	0.55	-0.25	Satisfactory
55	0.57	-0.20	Satisfactory
28	0.65	0.00	Satisfactory
7	0.73	0.20	Satisfactory
9	0.84	0.48	Satisfactory
52	0.90	0.63	Satisfactory
14	1.00	0.88	Satisfactory
19	1.07	1.05	Satisfactory
45	13.00	30.88	Unsatisfactory
56	P		
47	U		
1	N		
5	N		
35	N		
42	N		
44	N		
49	N		
50	N		

Average	1.61
SD	3.30
CV%	205.41
Median	0.65
Minimum	0.20
Quartile 25	0.50
Quartile 75	0.90
Maximum	13.00
Iqr	0.40



Lab.	Methadone (ng/mg)	Z-score	Result
56	0.04	-1.85	Satisfactory
48	0.19	-1.19	Satisfactory
51	0.19	-1.18	Satisfactory
36	0.20	-1.14	Satisfactory
12	0.24	-0.94	Satisfactory
3	0.25	-0.91	Satisfactory
1	0.30	-0.68	Satisfactory
25	0.30	-0.68	Satisfactory
8	0.31	-0.64	Satisfactory
28	0.31	-0.64	Satisfactory
18	0.32	-0.58	Satisfactory
31	0.33	-0.55	Satisfactory
9	0.34	-0.50	Satisfactory
52	0.34	-0.50	Satisfactory
13	0.34	-0.49	Satisfactory
14	0.35	-0.45	Satisfactory
43	0.36	-0.41	Satisfactory
4	0.38	-0.32	Satisfactory
16	0.40	-0.23	Satisfactory
27	0.41	-0.18	Satisfactory
57	0.44	-0.05	Satisfactory
29	0.46	0.03	Satisfactory
37	0.46	0.05	Satisfactory
5	0.47	0.09	Satisfactory
57	0.47	0.09	Satisfactory
46	0.48	0.14	Satisfactory

Lab.	Methadone (ng/mg)	Z-score	Result
45	0.49	0.18	Satisfactory
21	0.50	0.21	Satisfactory
22	0.50	0.23	Satisfactory
6	0.52	0.32	Satisfactory
35	0.53	0.36	Satisfactory
39	0.55	0.45	Satisfactory
11	0.62	0.77	Satisfactory
2	0.65	0.91	Satisfactory
53	0.65	0.93	Satisfactory
17	0.66	0.95	Satisfactory
23	0.70	1.14	Satisfactory
15	0.71	1.16	Satisfactory
10	0.74	1.32	Satisfactory
40	0.80	1.59	Satisfactory
24	0.86	1.85	Satisfactory
41	0.97	2.36	Questionable
47	P		
54	P		
34	N		

Average	0.46
SD	0.19
CV%	42.57
Median	0.45
Minimum	0.04
Quartile 25	0.32
Quartile 75	0.55
Maximum	0.97
Iqr	0.22