



Quantitative Drug Analysis - Methamphetamine HCl

Test No. 23-5051 Summary Report

Each sample pack consisted of two items containing different concentrations of Methamphetamine Hydrochloride (HCl). Participants were asked to determine the concentration of Methamphetamine HCl in each item. Data were returned from 121 participants and are compiled into the following tables:

	<u>Page</u>
<u>Manufacturer's Information</u>	<u>2</u>
<u>Summary Comments</u>	<u>3</u>
<u>Table 1: Reported Results</u>	<u>4</u>
<u>Table 2: Reporting Procedures</u>	<u>10</u>
<u>Table 3: Raw Data & Statistical Analysis</u>	<u>15</u>
<u>Table 4: Method of Analysis</u>	<u>26</u>
<u>Table 5: Additional Comments</u>	<u>30</u>
<u>Supplemental: Bivariate Control Analysis</u>	<u>32</u>
<u>Appendix: Data Sheet</u>	

This report contains the data received from the participants in this test. Since these participants are located in many countries around the world, and it is their option how the samples are to be used (e.g., training exercise, known or blind proficiency testing, research and development of new techniques, etc.), the results compiled in the Summary Report are not intended to be an overview of the quality of work performed in the profession and cannot be interpreted as such. The Summary Comments are included for the benefit of participants to assist with maintaining or enhancing the quality of their results. These comments are not intended to reflect the general state of the art within the profession.

Participant results are reported using a randomly assigned "WebCode". This code maintains participant's anonymity, provides linking of the various report sections, and will change with every report.

Manufacturer's Information

Each sample pack consisted of two items containing different concentrations of Methamphetamine Hydrochloride (HCl) and Caffeine. Participants were requested to analyze each item and report the concentration of Methamphetamine HCl in the sample.

SAMPLE PREPARATION: Prior to production, the appropriate amount of Methamphetamine HCl and Caffeine for each item were combined and thoroughly mixed to ensure homogeneity.

ITEMS 1 and 2 (PRODUCTION): For each item, approximately 500 mg of the powder was weighed out and deposited into a glassine bag, which was folded and secured with an item specific label. The folded glassine bag was placed into a small zip top bag and heat sealed closed. The heat sealed bag was then placed into a pre-labeled envelope.

SAMPLE PACK ASSEMBLY: One of each of the Item 1 and Item 2 envelopes was placed into a larger pre-labeled sample pack envelope.

VERIFICATION: The laboratories that participated in predistribution received additional specimens for duplicate testing of each item. They reported consistent results that were comparable to the preparation concentrations of Methamphetamine HCl for both items. The following methods were used to examine the items: NMR and GC/FID.

<u>Item</u>	<u>Preparation Concentration Methamphetamine HCl</u>
1	44%
2	63%

Summary Comments

This test was designed to allow participants to assess their proficiency in the determination of powdered Methamphetamine Hydrochloride (HCl) concentrations. Each participant was supplied with a sample set consisting of two items containing caffeine and different concentrations of Methamphetamine HCl. Participants were requested to determine the Methamphetamine HCl concentration for both items (Refer to the Manufacturer's Information for preparation details).

The results are separated into two tables: reported results (Table 1) and raw analytical data (Table 3). The table of reported results shows the concentration that each participant would report according to their normal reporting procedures (e.g. mean, lowest result, truncated results). The table of raw data shows the results from each determination made by the laboratory to produce their reported results. The most common reporting procedure amongst participants was using the mean of duplicate/several determinations.

The raw data was used to calculate the grand mean and the standard deviation for each item. Participants with extreme data (± 5 STD from grand mean) have been marked with an "X", and their results were excluded from the calculations of the grand mean and standard deviation. Of the 121 responding participants, six participants reported "extreme" data for both Items 1 and 2 and one participant reported "extreme" data for only Item 1. One additional participant did not report raw data determinations for either item. The calculated grand mean of Item 1 was 43.03% with a standard deviation of 1.298, and the grand mean of Item 2 was 61.39% with a standard deviation of 1.624. These calculations are supplied to assist the participants and accrediting bodies in determining the acceptability of the results.

Participants used a variety of methods to examine the samples. The most common method of analysis utilized was GC/FID.

As a supplemental examination of the raw data, Bivariate Control Analysis was also performed to analyze the measurement of both samples simultaneously. In this analysis, a comparative performance value (CPV) is provided for each participant, which is a unitless ratio indicating the number of standard deviations a participant's results are from the Grand Mean. The closer a participant's CPV is to zero, the more consistent their results are with the other participants' data. For the graphical portion, an ellipse was drawn so that 99% of the time, a randomly selected participant was inside of it. Seven participants with results that fell outside the 99.5% control limit have been marked with an "X", and their results were excluded from the calculations for this supplemental examination. One participant that did not report raw data for either item was marked with an "M" and also excluded from the calculations. For more information regarding Bivariate Control Analysis, please see the supplemental section at the end of this report.

Report Amendment for 17 November 2023: The statistical analysis criteria was adjusted for this test following further review. The participants' average reported uncertainty exceeded CTS' established critical limit, causing the exclusion of more participants than expected when striving for 99% confidence. CTS adjusted the ± 3 STD from the grand mean to ± 5 STD. The results detailed in the paragraphs above have been amended to reflect this adjustment.

Reported Results

What is the concentration of methamphetamine HCl in each of the samples?

TABLE 1

WebCode	Item 1 Reported Concentration (units)	Item 2 Reported Concentration (units)	Uncertainty (k)
Preparation concentration:	44%	63%	
22B9VN	35.4 ± 2.8 (%)	56.8 ± 2.8 (%)	2
2A6DNP	43.8 ± 2.8 (%)	61.6 ± 2.8 (%)	2
2CL9BJ	42.2 ± 2.6 (%)	62.6 ± 2.6 (%)	2
2D7FXY	42.7 ± 3.7 (%)	60.4 ± 5.2 (%)	3
2PM2HL	42 ± 4 (%)	60 ± 5 (%)	2
2RBBF2	42.9 ± 1.4 (%)	61.3 ± 2.0 (%)	3
32PQW9	40.8 ± 5.1 (%)	61.2 ± 7.7 (%)	3
3ADFUP	42.84 ± 3.17 (percent)	62.80 ± 4.64 (percent)	2
3EHC34	40.1 ± 2.9 (%)	58.8 ± 2.9 (%)	2
3N9R7Z	45.3 ± 7.7 (%)	65.0 ± 7.7 (%)	2
3R7H4Y	43.9 ± 1.7 (%)	61.7 ± 1.7 (%)	
3W4WZ2	40 ± 4 (%)	56 ± 5 (%)	2
46ED82	41 ± 4 (%)	59 ± 5 (%)	2
47PVBK	41 ± 5 (%)	60 ± 5 (%)	2
4HULML	44.3 ± 2.8 (%)	61.2 ± 2.8 (%)	2
6CZ9ZN	42.6849 (%)	57.5729 (%)	
6PE3TU	43.0 ± 4.0 (%)	60.8 ± 5.6 (%)	2
76P2GR	42 ± 3 (%)	60 ± 3 (%)	2
7DHA44	43.9 ± 4.2 (%)	61.5 ± 4.3 (%)	2

TABLE 1

WebCode	Item 1 Reported Concentration (units)	Item 2 Reported Concentration (units)	Uncertainty (k)
Preparation concentration:	44%	63%	
7P99MT	449 ± 30 (mg/g)	654 ± 24 (mg/g)	2.6, 2.0
7WDFGG	43 ± 4 (%)	60 ± 5 (%)	2
8CG4UM	43.6 ± 1.7 (%)	62.1 ± 1.7 (%)	2
8ERN3W	43.6 ± 3.40 (% w/w)	62.0 ± 4.84 (% w/w)	2
8P4BQN	43.3 ± 2.6 (%)	61.6 ± 2.6 (%)	2
8W8K9V	43 ± 4 (%)	62 ± 6 (%)	3
929UPG	40.7 ± 2.8 (%)	60.2 ± 2.8 (%)	2
99BU7X	41.1 ± 2.4 (%)	59.4 ± 2.4 (%)	2
9RNFR7	42.55	61.35	
A68GZA	43.4 ± 2.1 (%)	61.4 ± 2.1 (%)	2
A6WFEC	42.9 ± 2.1 (%)	61.5 ± 2.1 (%)	2
ABV7ET	43.6 ± 1.7 (%)	60.5 ± 1.7 (%)	2
AMCVDX	43.3 ± 4.0 (percentage)	61.8 ± 5.7 (percentage)	2
AMMRN4	43.23	61.45	
AN7DZT	31 (%)	47 (%)	
AVHWH6	38.3 ± 1.18 (Percent)	57.7 ± 2.95 (Percent)	2
B8AAEL	44 ± 6 (%)	61 ± 6 (%)	2
B8FUHC	44.0 ± 3.5 (%)	61.4 ± 3.5 (%)	2
BEQE4V	42 ± 3 (%)	61 ± 3 (%)	2
BKGMPE	42.70 ± 3.63 (%)	61.42 ± 5.23 (%)	2

TABLE 1

WebCode	Item 1 Reported Concentration (units)	Item 2 Reported Concentration (units)	Uncertainty (k)
Preparation concentration:	44%	63%	
CLA2QX	47.2 ± 7.7 (%)	63.3 ± 7.7 (%)	2
CWC2MQ	44.0 ± 3.6 (%)	62.4 ± 5.0 (%)	2.65
CY2ARK	43.6 ± 2.6 (%)	61.8 ± 2.6 (%)	2
CYBK8B	43.8 ± 2.0 (%)	62.3 ± 2.0 (&)	2
D629KL	41 ± 4 (%)	58 ± 6 (%)	2
D8QF6J	43.7 ± 3.8 (%)	61.5 ± 4.8 (%)	2.65
DJYDQX	47.1 ± 7.7 (%)	65.7 ± 7.7 (%)	2
DMEQGY	43.4 ± 2.8 (%)	62.1 ± 2.8 (%)	2
DYTDP7	0.20 ± 0.01 (grams)	0.30 ± 0.02 (grams)	
DYWBBH	42.2 ± 3.4 (%)	60.4 ± 5.1 (%)	2.65
E2CRT7	0.20 ± 0.01 (grams)	0.29 ± 0.02 (grams)	2
E9GWYR	41 ± 4 (%)	62 ± 5 (%)	2
EKNEED	44.67 ± 2.23 (%)	62.79 ± 3.14 (%)	2
EWPAQB	45.42 ± 3.57 (%)	66.26 ± 5.21 (%)	2
EYQGUV	42.9 ± 2.6 (%)	61.1 ± 3.7 (%)	3
F29NEL	43.3 ± 3.6 (%)	61.4 ± 5.1 (%)	2
FF9ULR	43 ± 4 (%)	60 ± 5 (%)	2
FPYE4X	43.3 ± 3.5 (%)	62.2 ± 3.5 (%)	2
G3WTH8	43.1 ± 2.0 (%)	60.7 ± 2.0 (%)	2
GHT6BA	43.58 ± 3.71 (%)	61.02 ± 5.19 (%)	2
GY6LFQ	59 ± 5 (%)	41 ± 4 (%)	2

TABLE 1

WebCode	Item 1 Reported Concentration (units)	Item 2 Reported Concentration (units)	Uncertainty (k)
Preparation concentration:			
	44%	63%	
GYFM2P	0.21 ± 0.03 (grams)	0.30 ± 0.04 (grams)	3
H3FLZ2	0.21 ± 0.01 (grams)	0.30 ± 0.02 (grams)	3
HH3G9D	64.8 ± 19.4 (%)	94 ± 28.2 (%)	2
HRHD97	42.5 ± 4.5 (percent purity)	60.1 ± 4.7 (percent purity)	2.65
JMVWGK	41 ± 1.69 (%)	58 ± 2.38 (%)	2
JYBEWF	43.49 ± 3.22 (%)	61.53 ± 4.56 (%)	2
K3CB9B	42.4 ± 3.6 (%)	61.0 ± 4.8 (%)	2.65
K6CKXJ	42.8 ± 3.59 (% w/w)	62.7 ± 5.27 (% w/w)	2
K9HE83	42 ± 5 (%)	60 ± 5 (%)	2
KCVN7L	43 ± 3.92 (% w/w)	62 ± 5.65 (% w/w)	2
KLMZL9	44.2 ± 3.4 (%)	59.5 ± 6.5 (%)	2.65
KTJZYF	42 ± 4 (%)	61 ± 5 (%)	2
KV7JZD	42.8 ± 2.6 (%)	60.7 ± 2.6 (%)	2
LCNVUQ	41.8 ± 2.8 (%)	59.2 ± 2.8 (%)	2
LFURNC	41.8 ± 3.4 (%)	60.5 ± 3.4 (%)	3
LHCFZR	28,4 (%)	44,2 (%)	
LY7H2A	43 ± 4 (% as HCl salt)	61 ± 6 (% as HCl salt)	3
M4XQFN	46.1 ± 7.7 (Percent)	64.9 ± 7.7 (Percent)	2
MFNZ92	44 ± 6 (%)	62 ± 6 (%)	2
MFYAV2	42.3 ± 2.8 (%)	60.1 ± 2.8 (%)	2

TABLE 1

WebCode	Item 1 Reported Concentration (units)	Item 2 Reported Concentration (units)	Uncertainty (k)
Preparation concentration:	44%	63%	
NJ4E49	42.8 ± 3.4 (%)	60.8 ± 4.9 (%)	2.65
NT63KJ	41.0 ± 2.9 (%)	59.2 ± 2.9 (%)	2
NUMXGD	42.82 ± 1.70 (%)	61.53 ± 1.7 (%)	2
PBLZM2	42 ± 7 (%)	61 ± 7 (%)	2
PGE9JC	42.50 ± 5.04 (%)	60.97 ± 5.04 (%)	2
PZ7ETN	43.0 ± 3.5 (%)	62.7 ± 3.5 (%)	2
Q3RMA3	42.7 ± 1.4%	61.3 ± 1.4%	2
Q6TJNB	41.2 ± 3.9 (%)	60.4 ± 5.7 (%)	3
QJF7F3	42 ± 7 (percent)	62 ± 7 (percent)	2
QUHXUH	42.6 ± 4.0 (%)	60.3 ± 5.6 (%)	2
RFDPET	42 ± 4 (%)	61 ± 5 (%)	2
RFTDV8	41 ± 3 (%)	59 ± 3 (%)	2
RR6DDY	42 ± 5 (%)	61 ± 5 (%)	2.05
RVQKQM	43.9 ± 3.5 (%)	61.9 ± 3.5 (%)	2
TLC7DK	42.5 ± 3.87 (% w/w)	61.7 ± 5.63 (% w/w)	2
UBTEHZ	42 ± 4 (% as HCl)	61 ± 6 (% as HCl)	3
UC4G4Y	44 ± 4 (% Meth HCl)	63 ± 6 (% Meth HCl)	3
UJHUXB	30.2 ± N/A (%)	45.2 ± N/A (%)	N/A
V483JP	0.21 ± 0.01 (grams)	0.31 ± 0.02 (grams)	2
VTKEUC	42 ± 2.64 (% w/w)	60 ± 3.76 (% w/w)	2
W6GZHL	43.2 ± 2.6 (%)	61.3 ± 2.6 (%)	2

TABLE 1

WebCode	Item 1 Reported Concentration (units)	Item 2 Reported Concentration (units)	Uncertainty (k)
Preparation concentration:	44%	63%	
WKULB6	43.9 ± 3.7 (%)	61.7 ± 5.2 (%)	2
WLHPQD	43 ± 3 (%)	62 ± 3 (%)	2
WRAWB7	42.7 ± 1.7 (%)	61.4 ± 1.7 (%)	2
WRP9VW	43.2 ± 3.5 (percent)	60.9 ± 5.2 (percent)	2.65
WYRFE7	42 ± 4 (%)	61 ± 5 (%)	2
WZ36VX	43.4 ± 1.4 (%)	60.5 ± 2.1 (%)	2
X36MB6	42.71 ± 5.04 (%)	61.53 ± 5.04 (%)	2
X79QAY	43 ± 4 (%)	63 ± 6 (%)	3
XMVH7D	43 ± 3 (%)	61 ± 3 (%)	2
XP9JPX	46.3 ± 5.8 (%)	67.0 ± 5.8 (%)	1.99
XRPC4E	43 ± 3 (%)	60 ± 3 (%)	2
Y743G8	43 ± 7.23 (% w/w)	61 ± 10.37 (% w/w)	2
YAHTPM	44.0 ± 3.5 (%)	62.4 ± 3.5 (%)	2
YPYQR3	43.72 ± 5.04 (%)	62.67 ± 5.04 (%)	2
YWTUKD	42.3 ± 2.8 (%)	60.6 ± 2.8 (%)	2
Z3CLGX	43.2 ± 2.6 (%)	61.9 ± 2.6 (%)	2
ZD263J	43.9 ± 2.6 (%)	60.2 ± 2.6 (%)	2
ZM36MV	44 ± 4 (%)	63 ± 6 (%)	3
ZM6JMW	43.4 ± 4.2 (%)	61.8 ± 5.3 (%)	2.65
ZVWBGW	0.20 ± 0.04 (grams)	0.28 ± 0.04 (grams)	3

Reporting Procedures

TABLE 2

WebCode	Reporting Procedures
22B9VN	The mean of duplicate/several determinations.
2A6DNP	The mean of duplicate/several determinations.
2CL9BJ	The mean of duplicate/several determinations.
2D7FXV	The mean of duplicate/several determinations.
2PM2HL	The value of one determination.
2RBBF2	The mean of duplicate/several determinations.
32PQW9	The mean of duplicate/several determinations.
3ADFUP	The mean of duplicate/several determinations.
3EHC34	The mean of duplicate/several determinations.
3N9R7Z	The mean of duplicate/several determinations.
3R7H4Y	The mean of duplicate/several determinations.
3W4WZ2	The mean of duplicate/several determinations.
46ED82	The mean of duplicate sample preparations and duplicate injections of each preparation.
47PVBK	The lowest value of duplicate/several determinations.
4HULML	The mean of duplicate/several determinations.
6CZ9ZN	[No Reporting Procedure Provided.]
6PE3TU	The mean of duplicate/several determinations.
76P2GR	truncated value of the mean of 3 integral calculations
7DHA44	The mean of duplicate/several determinations.
7P99MT	The mean of duplicate/several determinations.
7WDFGG	The mean of duplicate/several determinations.
8CG4UM	The mean of duplicate/several determinations.
8ERN3W	The mean of duplicate/several determinations.
8P4BQN	The mean of duplicate/several determinations.
8W8K9V	The mean of duplicate/several determinations.

TABLE 2

WebCode	Reporting Procedures
929UPG	The mean of duplicate/several determinations.
99BU7X	Duplicate injections for 1 purity determination
9RNR7	The mean of duplicate/several determinations.
A68GZA	The mean of duplicate/several determinations.
A6WFEC	The mean of duplicate/several determinations.
ABV7ET	The lowest value of duplicate/several determinations.
AMCVDX	The mean of duplicate/several determinations.
AMMRN4	The mean of duplicate/several determinations.
AN7DZT	The mean of duplicate/several determinations.
AVHWH6	The mean of duplicate/several determinations.
B8AAEL	The mean of duplicate/several determinations.
B8FUHC	The mean of duplicate/several determinations.
BEQE4V	The mean of duplicate/several determinations.
BKGMPE	The mean of duplicate/several determinations.
CLA2QX	The mean of duplicate/several determinations.
CWC2MQ	The mean of duplicate/several determinations.
CY2ARK	The mean of duplicate/several determinations.
CYBK8B	The mean of duplicate/several determinations.
D629KL	The lowest mean of triplicate injections of two separate samples, truncated
D8QF6J	The mean of duplicate/several determinations.
DJYDQX	The mean of duplicate/several determinations.
DMEQGY	The mean of duplicate/several determinations.
DYTDP7	The mean of duplicate/several determinations.
DYWBBH	The mean of duplicate/several determinations.
E2CRT7	The mean of duplicate/several determinations.
E9GWYR	The mean of duplicate/several determinations.

TABLE 2

WebCode	Reporting Procedures
EKNEED	The mean of duplicate/several determinations.
EWPAQB	The mean of duplicate/several determinations.
EYQGUV	The mean of duplicate/several determinations.
F29NEL	The mean of duplicate/several determinations.
FF9ULR	The mean of duplicate/several determinations.
FPYE4X	The mean of duplicate/several determinations.
G3WTH8	The mean of duplicate/several determinations.
GHT6BA	The mean of duplicate/several determinations.
GY6LFQ	The mean of duplicate/several determinations.
GYFM2P	The mean of duplicate/several determinations.
H3FLZ2	The mean of duplicate/several determinations.
HH3G9D	The mean of duplicate/several determinations.
HRHD97	The mean of duplicate/several determinations.
JMVWGK	The mean of duplicate/several determinations.
JYBEWF	The mean of duplicate/several determinations.
K3CB9B	The mean of duplicate/several determinations.
K6CKXJ	The mean of duplicate/several determinations.
K9HE83	The lowest value of duplicate/several determinations.
KCVN7L	The mean of duplicate/several determinations.
KLMZL9	The mean of duplicate/several determinations.
KTJZYF	The mean of duplicate/several determinations.
KV7JZD	The mean of duplicate/several determinations.
LCNVUQ	The mean of duplicate/several determinations.
LFURNC	The mean of duplicate/several determinations.
LHCFZR	The mean of duplicate/several determinations.
LY7H2A	The mean of duplicate/several determinations.

TABLE 2

WebCode	Reporting Procedures
M4XQFN	The mean of duplicate/several determinations.
MFNZ92	The mean of duplicate/several determinations.
MFYAV2	The mean of duplicate/several determinations.
NJ4E49	The mean of duplicate/several determinations.
NT63KJ	The mean of duplicate/several determinations.
NUMXGD	The mean of duplicate/several determinations.
PBLZM2	The mean of duplicate/several determinations.
PGE9JC	The mean of duplicate/several determinations.
PZ7ETN	The mean of duplicate/several determinations.
Q3RMA3	The mean of duplicate/several determinations.
Q6TJNB	The mean of duplicate/several determinations.
QJF7F3	The mean of duplicate/several determinations.
QUHXUH	The mean of duplicate/several determinations.
RFDPET	The mean of duplicate/several determinations.
RFTDV8	The mean of at least three integrated peaks; the mean is then truncated.
RR6DDY	The lowest value of duplicate/several determinations.
RVQKQM	The mean of duplicate/several determinations.
TLC7DK	The mean of duplicate/several determinations.
UBTEHZ	The mean of duplicate/several determinations.
UC4G4Y	The mean of duplicate/several determinations.
UJHUXB	The mean of duplicate/several determinations.
V483JP	The mean of duplicate/several determinations.
VTKEUC	The mean of duplicate/several determinations.
W6GZHL	The mean of duplicate/several determinations.
WKULB6	The mean of duplicate/several determinations.
WLHPQD	The mean of duplicate/several determinations.

TABLE 2

WebCode	Reporting Procedures
WRAWB7	The mean of duplicate/several determinations.
WRP9VW	The mean of duplicate/several determinations.
WYRFE7	The mean of duplicate/several determinations.
WZ36VX	Integral 6
X36MB6	The mean of duplicate/several determinations.
X79QAY	The mean of duplicate/several determinations.
XMVH7D	The mean of duplicate/several determinations.
XP9JPX	The mean of duplicate/several determinations.
XRPC4E	The mean of duplicate/several determinations.
Y743G8	The mean of duplicate/several determinations.
YAHTPM	The mean of duplicate/several determinations.
YPYQR3	The mean of duplicate/several determinations.
YWTUKD	The mean of duplicate/several determinations.
Z3CLGX	The mean of duplicate/several determinations.
ZD263J	The mean of duplicate/several determinations.
ZM36MV	The mean of duplicate/several determinations.
ZM6JMW	The mean of duplicate/several determinations.
ZVWBGW	The mean of duplicate/several determinations.

Response Summary		Participants: 121
The mean of duplicate/several determinations:	109	(90.1%)
The lowest value of duplicate/several determinations:	4	(3.3%)
Other:	7	(5.8%)
No Reporting Procedure Provided:	1	(0.8%)

Raw Data & Statistical Analysis

List of raw data determinations in percent.

TABLE 3 - Item 1

WebCode	Preparation target concentration : 44%								Mean
22B9VN	35.42	35.57							35.50 X
2A6DNP	43.95	43.78							43.86
2CL9BJ	41.32	41.40	41.41	41.45	42.79	43.05	43.07	43.18	42.21
2D7FXV	42.30	43.10							42.70
2PM2HL	42.38								42.38
2RBBF2	43.01	42.80							42.91
32PQW9	41.24	40.47	41.24	40.77	41.03	39.96	41.17		40.84
3ADFUP	43.23	43.21	42.07						42.84
3EHC34	40.89	41.04	39.43	39.28					40.16
3N9R7Z	47.61	45.43	43.00						45.35
3R7H4Y	44.50	43.48							43.99
3W4WZ2	41.00	39.99							40.50
46ED82	41.26	41.29	41.08	41.02					41.16
47PVBK	41.00	41.00							41.00
4HULML	44.29	44.33	44.31	44.36					44.32
6CZ9ZN	43.29	42.08							42.68
6PE3TU	43.07	43.03							43.05
76P2GR	43.38	42.58	42.78						42.91
7DHA44	43.73	44.21							43.97
7P99MT	45.30	46.20	43.20						44.90
7WDFGG	43.06	43.07							43.06
8CG4UM	43.80	43.40							43.60
8ERN3W	43.80	43.40							43.60
8P4BQN	42.90	42.98	42.98	43.02	43.30	43.50	43.70	43.75	43.27

TABLE 3 - Item 1

WebCode	Preparation target concentration : 44%							Mean	
8W8K9V	43.61	43.61						43.61	
929UPG	39.25	39.49	41.93	42.13				40.70	
99BU7X	[No raw data reported.]								
9RNFR7	42.10	42.99						42.55	
A68GZA	42.74	42.82	44.11	44.05				43.43	
A6WFEC	42.83	42.64	43.07	43.13				42.92	
ABV7ET	44.16	43.22						43.69	
AMCVDX	43.25	43.38						43.31	
AMMRN4	43.72	42.74						43.23	
AN7DZT	30.91	31.97						31.44 X	
AVHWH6	38.70	38.50	37.40	36.70	38.10	40.10		38.25	
B8AAEL	44.79	44.23	44.26					44.42	
B8FUHC	44.86	43.29						44.08	
BEQE4V	43.00	43.60	42.00					42.87	
BKGMPE	42.51	43.44	42.15					42.70	
CLA2QX	47.36	47.00	47.33					47.23	
CWC2MQ	43.17	44.26	44.46	43.99	43.93	44.12		43.99	
CY2ARK	43.25	43.26	43.27	43.46	43.71	43.77	43.79	43.85	43.55
CYBK8B	44.00	43.90	43.77	43.74				43.85	
D629KL	41.60	41.60	41.70	42.40	42.40	42.20		41.98	
D8QF6J	43.00	42.86	44.46	43.53	43.91	44.24		43.67	
DJYDQX	47.03	47.46	46.76					47.08	
DMEQGY	43.18	42.76	43.88	43.92				43.44	
DYTDP7	42.73	42.10	41.99	42.06				42.22	
DYWBBH	42.33	41.75	42.64	41.97	42.87	41.93		42.25	
E2CRT7	40.71	40.77	42.92	42.43				41.71	

TABLE 3 - Item 1

WebCode	Preparation target concentration : 44%							Mean
E9GWYR	41.69	41.55						41.62
EKNEED	44.24	45.09						44.67
EWPAQB	45.36	45.27	45.63					45.42
EYQGUV	43.02	42.97						43.00
F29NEL	43.61	43.10						43.35
FF9ULR	41.10	43.11	42.99	43.06	42.87	42.73		42.64
FPYE4X	42.92	43.78						43.35
G3WTH8	42.80	42.60	43.40	43.40				43.05
GHT6BA	43.64	43.77	43.32					43.58
GY6LFQ	59.00	59.01						59.00 X
GYFM2P	43.59							43.59
H3FLZ2	41.70	41.48	44.03	44.25				42.87
HH3G9D	62.50	67.10						64.80 X
HRHD97	43.69	42.66	43.41	41.85	42.85	40.56		42.50
JMVWGK	32.84	32.96						32.90 X
JYBEWF	44.14	43.36	42.97					43.49
K3CB9B	41.44	42.52	42.92	42.17	42.96	42.63		42.44
K6CKXJ	43.10	42.40						42.75
K9HE83	42.00	42.00						42.00
KCVN7L	42.90	43.00						42.95
KLMZL9	43.95	44.16	44.09	44.49	44.45	43.88		44.17
KTJZYF	42.02	41.79	42.33	42.63				42.19
KV7JZD	41.84	41.84	42.03	42.06	43.55	43.77	43.78 43.79	42.83
LCNVUQ	42.69	43.00	40.79	40.98				41.87
LFURNC	41.10	41.80	41.90	41.50	42.10	42.10		41.75
LHCFZR	29.80	27.00						28.40 X

TABLE 3 - Item 1

WebCode	Preparation target concentration : 44%							Mean	
LY7H2A	44.00	43.00						43.50	
M4XQFN	46.23	45.80	46.35					46.13	
MFNZ92	44.19	44.53	44.24					44.32	
MFYAV2	42.35	42.32						42.33	
NJ4E49	42.61	43.14	42.82	42.46	43.16	42.53		42.79	
NT63KJ	40.74	40.82	41.07	41.38				41.00	
NUMXGD	42.20	43.44						42.82	
PBLZM2	41.02	42.88	42.45					42.12	
PGE9JC	42.62	42.39						42.51	
PZ7ETN	43.68	42.49						43.09	
Q3RMA3	42.87	42.61						42.74	
Q6TJNB	40.60	41.80	41.30					41.23	
QJF7F3	42.70	42.79	42.45					42.65	
QUHXUH	42.61	42.64						42.62	
RFPET	41.88	41.75	43.00	43.08				42.43	
RFTDV8	41.40	40.97	41.09					41.15	
RR6DDY	43.00	42.00	43.00	42.00	42.00	42.00		42.33	
RVQKQM	44.33	43.63						43.98	
TLC7DK	41.70	43.20						42.45	
UBTEHZ	42.00	42.00						42.00	
UC4G4Y	44.06	44.20						44.13	
UJHUXB	30.50	29.90	30.20					30.20 X	
V483JP	44.12	43.73	43.98	44.03				43.97	
VTKEUC	41.70	41.70	42.20	42.10				41.93	
W6GZHL	43.07	43.16	43.22	43.27	43.28	43.30	43.32	43.34	43.25
WKULB6	43.98	43.91						43.95	

TABLE 3 - Item 1

WebCode	Preparation target concentration : 44%								Mean
WLHPQD	44.00	43.79	43.29						43.69
WRAWB7	42.98	42.44							42.71
WRP9VW	42.60	43.29	43.50	42.60	43.20	43.78			43.16
WYRFE7	42.30	42.12							42.21
WZ36VX	43.90	42.80							43.35
X36MB6	42.27	43.15							42.71
X79QAY	43.50	43.94							43.72
XMVH7D	43.24	44.44	42.70						43.46
XP9JPX	46.10	46.60	46.30						46.33
XRPC4E	42.85	43.66	44.07						43.53
Y743G8	42.90	42.50	41.90	42.70					42.50
YAHTPM	43.83	44.35							44.09
YPYQR3	43.37	44.08							43.73
YWTUKD	42.37	42.29							42.33
Z3CLGX	42.94	42.96	42.99	42.99	43.24	43.37	43.50	43.57	43.20
ZD263J	43.09	43.23	43.26	43.37	44.56	44.64	44.66	44.71	43.94
ZM36MV	44.11	44.35							44.23
ZM6JMW	42.55	44.38	44.54	43.54	42.96	42.12			43.35
ZVWBGW	41.70	41.50	39.30						40.83

Statistical Analysis for Item 1				Participants: 121	
Preparation Target Concentration:	44%	Number of Participants Included:	113		
Grand Mean:	43.03	Number of Participants Excluded:	7		
Standard Deviation:	1.298	Number of Participants without Raw Data:	1		

TABLE 3 - Item 2

WebCode	Preparation target concentration : 63%								Mean
22B9VN	57.21	56.43							56.82
2A6DNP	62.32	61.05							61.68
2CL9BJ	62.50	62.55	62.59	62.59	62.62	62.62	62.65	62.67	62.60
2D7FXV	60.20	60.60							60.40
2PM2HL	60.55								60.55
2RBBF2	61.20	61.52							61.36
32PQW9	61.01	62.22	60.67	61.69	60.43	62.15	60.32		61.21
3ADFUP	61.46	61.59	65.34						62.80
3EHC34	58.97	59.09	58.70	58.67					58.86
3N9R7Z	62.68	67.12	65.22						65.01
3R7H4Y	61.78	61.70							61.74
3W4WZ2	56.61	56.63							56.62
46ED82	59.07	59.22	59.23	59.26					59.19
47PVBK	60.00	60.00							60.00
4HULML	61.31	61.47	61.20	61.11					61.27
6CZ9ZN	57.82	57.33							57.57
6PE3TU	60.82	60.76							60.79
76P2GR	60.84	60.61	60.60						60.68
7DHA44	62.14	60.92							61.53
7P99MT	64.50	66.30	65.50						65.43
7WDFGG	60.36	60.54							60.45
8CG4UM	62.00	62.20							62.10
8ERN3W	62.30	61.70							62.00
8P4BQN	60.19	60.32	60.53	60.67	62.76	62.79	62.85	62.88	61.62
8W8K9V	62.38	62.34							62.36
929UPG	61.07	61.18	59.39	59.56					60.30

TABLE 3 - Item 2

WebCode	Preparation target concentration : 63%							Mean	
99BU7X	[No raw data reported.]								
9RNFR7	61.06	61.64						61.35	
A68GZA	61.58	61.55	61.22	61.32				61.42	
A6WFEC	61.64	61.65	61.40	61.38				61.52	
ABV7ET	60.54	60.48						60.51	
AMCVDX	61.70	61.91						61.80	
AMMRN4	61.32	61.57						61.45	
AN7DZT	48.51	45.51						47.01 X	
AVHWH6	54.10	59.40	54.00	60.40	60.30	57.90		57.68	
B8AAEL	62.38	61.76	61.35					61.83	
B8FUHC	61.52	61.36						61.44	
BEQE4V	62.36	60.89	61.92					61.72	
BKGMPE	60.90	61.93	61.44					61.42	
CLA2QX	63.53	62.14	64.15					63.27	
CWC2MQ	63.16	61.89	62.44	61.59	62.40	62.90		62.40	
CY2ARK	61.65	61.68	61.75	61.81	61.83	61.92	61.97	62.07	61.84
CYBK8B	62.04	62.24	62.48	62.53					62.32
D629KL	60.60	61.00	60.80	57.90	58.00	58.20			59.42
D8QF6J	61.56	62.02	61.77	61.21	61.36	61.16			61.51
DJYDQX	66.32	64.53	66.10						65.65
DMEQGY	61.34	61.61	62.78	62.79					62.13
DYTDP7	60.88	60.94	61.59	61.83					61.31
DYWBBH	60.02	59.59	59.91	61.87	60.47	60.37			60.37
E2CRT7	60.76	60.61	59.65	59.82					60.21
E9GWYR	62.80	61.78	61.52						62.03
EKNEED	63.35	62.24							62.80

TABLE 3 - Item 2

WebCode	Preparation target concentration : 63%								Mean
EWPAQB	65.42	67.24	66.12						66.26
EYQGUU	60.95	61.33							61.14
F29NEL	61.67	61.31							61.49
FF9ULR	60.67	60.32	57.64	59.72	59.09	60.53			59.66
FPYE4X	62.01	62.43							62.22
G3WTH8	60.30	60.60	60.90	61.00					60.70
GHT6BA	60.87	61.15	61.03						61.02
GY6LFQ	41.77	41.74							41.75 X
GYFM2P	61.31								61.31
H3FLZ2	62.42	62.23	61.78	61.42					61.96
HH3G9D	97.50	90.60							94.05 X
HRHD97	60.51	60.27	60.17	60.59	59.70	59.63			60.15
JMVWGK	46.64	46.19							46.41 X
JYBEWF	61.70	61.45	61.43						61.53
K3CB9B	60.73	60.58	61.30	60.52	61.29	61.39			60.97
K6CKXJ	63.20	62.20							62.70
K9HE83	60.00	61.00							60.50
KCVN7L	63.00	61.00							62.00
KLMZL9	61.28	59.30	58.23	57.19	59.34	61.83			59.53
KTJZYF	61.32	61.45	61.59	61.70					61.52
KV7JZD	60.02	60.06	60.08	60.15	61.30	61.43	61.44	61.46	60.74
LCNVUQ	60.94	61.06	57.53	57.46					59.25
LFURNC	59.00	60.40	60.00	60.60	60.80	62.10			60.48
LHCFZR	48.30	40.00							44.15 X
LY7H2A	61.00	61.00							61.00
M4XQFN	65.06	64.76	64.99						64.94

TABLE 3 - Item 2

WebCode	Preparation target concentration : 63%								Mean
MFNZ92	62.19	62.47	62.66						62.44
MFYAV2	60.77	59.55							60.16
NJ4E49	59.66	60.78	61.09	61.38	60.47	61.17			60.76
NT63KJ	59.19	59.20	59.50	59.26					59.29
NUMXGD	62.01	61.05							61.53
PBLZM2	61.40	61.77	62.37						61.85
PGE9JC	60.77	61.18							60.98
PZ7ETN	61.90	63.53							62.72
Q3RMA3	61.82	60.92							61.37
Q6TJNB	61.00	60.10	60.10						60.40
QJF7F3	62.91	62.82	62.95						62.89
QUHXUH	60.47	60.21							60.34
RFDPET	61.09	61.00	61.43	61.35					61.21
RFTDV8	59.92	59.70	59.72						59.78
RR6DDY	61.00	61.00	61.00	62.00	62.00	62.00			61.50
RVQKQM	62.43	61.52							61.98
TLC7DK	62.20	61.20							61.70
UBTEHZ	61.00	61.00							61.00
UC4G4Y	63.91	62.76							63.34
UJHUXB	45.50	45.40	44.70						45.20 X
V483JP	63.09	63.72	63.84	63.27					63.48
VTKEUC	60.00	60.00	59.40	59.40					59.70
W6GZHL	61.09	61.10	61.15	61.25	61.26	61.38	61.39	61.44	61.26
WKULB6	61.70	61.87							61.79
WLHPQD	62.70	62.60	62.45						62.58
WRAWB7	61.76	61.04							61.40

TABLE 3 - Item 2

WebCode	Preparation target concentration : 63%								Mean
WRP9VW	59.65	61.27	61.83	60.49	61.85	60.41			60.92
WYRFE7	61.77	61.79							61.78
WZ36VX	59.60	61.40							60.50
X36MB6	60.90	62.17							61.54
X79QAY	61.63	64.74							63.19
XMVH7D	60.00	62.90	61.89						61.60
XP9JPX	66.90	67.00	67.00						66.97
XRPC4E	60.54	59.93	60.70						60.39
Y743G8	60.90	61.40	60.60	61.20					61.03
YAHTPM	62.45	62.42							62.44
YPYQR3	62.86	62.48							62.67
YWTUKD	61.23	60.07							60.65
Z3CLGX	61.36	61.44	61.47	61.52	62.23	62.31	62.44	62.50	61.91
ZD263J	58.12	58.20	58.25	58.27	62.07	62.10	62.11	62.19	60.16
ZM36MV	63.89	63.42							63.66
ZM6JMW	62.72	61.88	60.42	62.32	62.40	60.88			61.77
ZVWBGW	60.00	58.70	57.50						58.73

Statistical Analysis for Item 2		Participants: 121
Preparation Target Concentration:	63%	Number of Participants Included: 114
Grand Mean:	61.39	Number of Participants Excluded: 6
Standard Deviation:	1.624	Number of Participants without Raw Data: 1

TABLE 3 - Response Summary

Response Summary	Item 1	Item 2
Preparation concentration	44%	63%
Grand Mean	43.03	61.39
Standard Deviation	1.298	1.624

Method of Analysis

TABLE 4

WebCode	GC	LC	FTIR	GC/MS	LC/MS	UV	GC/FID	Other
22B9VN							✓	
2A6DNP							✓	
2CL9BJ							✓	
2D7FXV							✓	
2PM2HL								NMR
2RBBF2							✓	
32PQW9							✓	
3ADFUP				✓				
3EHC34							✓	
3N9R7Z				✓				
3R7H4Y								NMR
3W4WZ2	✓							
46ED82							✓	
47PVBK							✓	
4HULML							✓	
6CZ9ZN					✓			LC-MS/MS
6PE3TU			✓	✓	✓			Weight Determination
76P2GR								NMR
7DHA44				✓				
7P99MT		✓				✓		
7WDFGG		✓						
8CG4UM								NMR
8ERN3W								NMR
8P4BQN							✓	
8W8K9V	✓		✓				✓	
929UPG							✓	
99BU7X							✓	
9RNFR7								LCPDA
A68GZA								NMR
A6WFEC								NMR
ABV7ET								NMR
AMCVDX					✓			

TABLE 4

WebCode	GC	LC	FTIR	GC/MS	LC/MS	UV	GC/FID	Other
AMMRN4								LCPDA
AN7DZT								LC/QQQ
AVHWH6				✓				
B8AAEL							✓	
B8FUHC								NMR
BEQE4V		✓						
BKGMPE				✓				
CLA2QX				✓				
CWC2MQ							✓	
CY2ARK							✓	
CYBK8B								NMR
D629KL							✓	
D8QF6J							✓	
DJYDQX				✓				
DMEQGY							✓	
DYTDP7	✓			✓				Chemical Color Testing
DYWBBH							✓	
E2CRT7							✓	
E9GWYR							✓	NMR
EKNEED				✓				
EWPAQB				✓				
EYQGUV							✓	
F29NEL								LC/UV
FF9ULR		✓						
FPYE4X								NMR
G3WTH8								NMR
GHT6BA				✓				
GY6LFQ		✓						
GYFM2P				✓				
H3FLZ2	✓							
HH3G9D				✓				
HRHD97							✓	
JMVWGK		✓				✓		

TABLE 4

WebCode	GC	LC	FTIR	GC/MS	LC/MS	UV	GC/FID	Other
JYBEWF				✓				
K3CB9B							✓	
K6CKXJ								NMR
K9HE83							✓	
KCVN7L								NMR
KLMZL9							✓	
KTJZYF							✓	
KV7JZD							✓	
LCNVUQ							✓	
LFURNC							✓	
LHCFZR				✓				
LY7H2A	✓							
M4XQFN				✓				
MFNZ92							✓	
MFYAV2							✓	
NJ4E49							✓	
NT63KJ							✓	
NUMXGD								NMR
PBLZM2		✓						
PGE9JC								NMR
PZ7ETN								NMR
Q3RMA3								NMR
Q6TJNB							✓	
QJF7F3		✓				✓		
QUHXUH					✓			
RFDPET		✓						
RFTDV8								NMR
RR6DDY							✓	
RVQKQM								NMR
TLC7DK								NMR
UBTEHZ							✓	
UC4G4Y							✓	
UJHUXB				✓				

TABLE 4

WebCode	GC	LC	FTIR	GC/MS	LC/MS	UV	GC/FID	Other
V483JP							✓	
VTKEUC		✓						
W6GZHL							✓	
WKULB6		✓						
WLHPQD								HPLC-DAD
WRAWB7								NMR
WRP9VW							✓	
WYRFE7	✓							
WZ36VX								qNMR-NMR-400MHz NMR System
X36MB6								NMR
X79QAY							✓	
XMVH7D								HPLC
XP9JPX					✓			
XRPC4E								LC-DAD
Y743G8					✓			
YAHTPM								NMR
YPYQR3								NMR
YWTUKD							✓	
Z3CLGX							✓	
ZD263J							✓	
ZM36MV							✓	
ZM6JMW							✓	
ZVWBGW						✓		

Response Summary								Participants: 121
Method:	GC	LC	FTIR	GC/MS	LC/MS	UV	GC/FID	
Participants:	6	11	2	19	6	3	49	
Percent:	5.0%	9.1%	1.7%	15.7%	5.0%	2.5%	40.5%	

Additional Comments

TABLE 5

WebCode	Additional Comments
2CL9BJ	12 injections made up the average. The lowest two and highest two values for each item were excluded from question 2 [Table 3: Raw Data & Statistical Analysis] above.
2RBBF2	Both item 1 and 2 also contained caffeine.
47PVBK	Item 1 - contains <80% d-Methamphetamine Hydrochloride. Item 2 - contains <80% d-Methamphetamine Hydrochloride
76P2GR	d enantiomer of methamphetamine was identified in both samples (Item 1 and Item 2). Caffeine was also identified in both samples (Item 1 and Item 2).
7DHA44	Calculations were completed for the Methamphetamine Hydrochloride conversion per PT instructions.
8ERN3W	Caffeine was also identified.
8P4BQN	12 injections made up the average. The lowest two and highest two values for each item were excluded from question 2 [Table 3: Raw Data & Statistical Analysis] above.
9RNFR7	Caffeine detected in Item 1 & Item 2.
AMMRN4	Caffeine detected for both Item 1 & Item 2.
AN7DZT	The results in section 1a) [Table 1: Reported Results] and 2) [Table 3: Raw Data & Statistical Analysis] are reported as methamphetamine purity with reference to the base. Methamphetamine HCl purities are as follows: 1a) [Table 1: Reported Results] Item 1 (%) = 39, Item 2 (%) = 58. 2) Item 1 (%) = 38.466 and 39.782 Item 2 (%) = 60.360 and 56.631. Molecular weight of methamphetamine: 149.23. Molecular weight of methamphetamine HCl: 185.69
CY2ARK	12 injections made up the average. The lowest two and highest two values for each item were excluded from question 2 [Table 3: Raw Data & Statistical Analysis] above.
DJYDQX	Caffeine was noted in both items, but not confirmed.
EYQGUV	Item 1: 42.9 %. Item 2: 61.1%
K6CKXJ	Caffeine was also identified.
KCVN7L	Caffeine was also identified.
KV7JZD	12 injections made up the average. The lowest two and highest two values for each item were excluded from question 2 [Table 3: Raw Data & Statistical Analysis] above.
M4XQFN	Both Items also contained caffeine
Q3RMA3	Balance is primarily caffeine
RFTDV8	For both items, three out of a possible six integral values were used to determine the purity.
TLC7DK	Caffeine was also identified.
VTKEUC	Caffeine was also identified.
W6GZHL	12 injections made up the average. The lowest two and highest two values for each item were excluded from question 2 [Table 3: Raw Data & Statistical Analysis] above.

TABLE 5

WebCode	Additional Comments
Y743G8	Caffeine was also identified.
Z3CLGX	12 injections made up the average. The lowest two and highest two values for each item were excluded from question 2 [Table 3: Raw Data & Statistical Analysis] above.
ZD263J	12 injections made up the average. The lowest two and highest two values for each item were excluded from question 2 [Table 3: Raw Data & Statistical Analysis] above.

Supplemental: Hotelling T-Squared Bivariate Control Analysis

Hotelling T-Squared Bivariate Control Analysis is used in many other industries to examine results. Although not typically used in forensic science, CTS is presenting an introduction to this type of statistical data analysis. A laboratory may choose to delve deeper in a participant's results by studying both sets of statistics available in this report. The statistics presented in Table 3 (Raw Data) of this report examine the results of each item independently of each other. However, because the same materials are chosen for both samples, there should be a correlation of measurement performance between the two samples. A bivariate analysis technique judges measurement performance on both samples simultaneously, represented as an ellipse. For each participant, the mean of Item 1 (x-axis) is plotted against the mean of Item 2 (y-axis). The horizontal and vertical cross-hairs are the grand means for each Item. When 20 or more participants are included in the statistics, an ellipse is drawn so that 99% of the time a randomly selected participant will be included inside.

When considering your participant's position on the plot relative to the ellipse, remember that, generally speaking, if a participant's plotted point falls on the major axis outside of the ellipse, the participant is consistent in its measurements between the two samples but exhibits an offset from the grand mean (systematic difference). If a plotted point falls to the side of the ellipse, it indicates possible differences in the way that the participant tested the two samples or differences in sample behavior (consistency difference). The two-sample plot enables you to see which sample, if either, is "extreme" and to ascertain the nature of the "extreme" data.

Systematic Difference

Bias is illustrated in the control ellipse on the two sample plot. If a particular analysis/sample combination did not show bias, the control ellipse would become a circle. Differences in procedures, conditions, instrumentation and sample preparation all contribute to the bias of a participant. When these differences become too large, a participant may receive a Data Flag. When the test results for both samples are both high or low compared to the group, a participant has a fixed set of factors on which to focus to identify a cause. Furthermore, since additional testing on similar samples should produce similar high or low results, it is possible to determine that a systematic error has been successfully corrected.

Consistency Difference

The participant's results indicate that there are differences in the way the two samples tested (the plotted point falls to the side of the ellipse). This type of error may be attributed to the analyst deviating from the procedure when testing one of the samples or a material interaction occurrence with the instrument or room conditions. The inconsistency is reflected in the Comparative Performance Values (CPV) for the two samples, such as a +1.5 CPV for Item 1 and a -2.2 CPV for Item 2. CPV is the number of standard deviations a value is from the grand mean.

Key for Data Flags		
<u>Data Flag</u>	<u>Statistically Included/Excluded</u>	<u>Explanation</u>
*	Included	Results fall outside 99% ellipse, but within a 99.5% control limit (ellipse) that is calculated.
X	Excluded	Results fall outside of 99.5% control limit.
M	Excluded	Data is missing for at least one item

Bivariate Control Analysis

WebCode	Data Flag	Item 1			Item 2		
		Participant Mean	Difference from Grand Mean	CPV	Participant Mean	Difference from Grand Mean	CPV
22B9VN	X	35.50	-7.055	-5.81	56.82	-4.037	-2.81
2A6DNP		43.86	1.313	0.64	61.68	0.822	0.18
2CL9BJ		42.21	-0.342	-0.63	62.60	1.739	0.74
2D7FXY		42.70	0.150	-0.26	60.40	-0.460	-0.61
2PM2HL		42.38	-0.167	-0.50	60.55	-0.313	-0.52
2RBBF2		42.91	0.355	-0.10	61.36	0.500	-0.02
32PQW9		40.84	-1.710	-1.69	61.21	0.353	-0.11
3ADFUP		42.84	0.286	-0.15	62.80	1.937	0.86
3EHC34		40.16	-2.390	-2.21	58.86	-2.003	-1.56
3N9R7Z		45.35	2.796	1.78	65.01	4.147	2.23
3R7H4Y		43.99	1.440	0.74	61.74	0.880	0.21
3W4WZ2		40.50	-2.053	-1.95	56.62	-4.245	-2.94
46ED82		41.16	-1.389	-1.44	59.19	-1.665	-1.35
47PVBK		41.00	-1.550	-1.57	60.00	-0.860	-0.86
4HULML		44.32	1.773	1.00	61.27	0.413	-0.07
6CZ9ZN		42.68	0.135	-0.27	57.57	-3.288	-2.35
6PE3TU		43.05	0.498	0.01	60.79	-0.074	-0.37
76P2GR		42.91	0.364	-0.09	60.68	-0.177	-0.44
7DHA44		43.97	1.420	0.72	61.53	0.670	0.08
7P99MT		44.90	2.350	1.44	65.43	4.573	2.49
7WDFGG		43.06	0.511	0.02	60.45	-0.411	-0.58
8CG4UM		43.60	1.050	0.44	62.10	1.240	0.44
8ERN3W		43.60	1.050	0.44	62.00	1.140	0.37
8P4BQN		43.27	0.716	0.18	61.62	0.764	0.14
8W8K9V		43.61	1.060	0.45	62.36	1.500	0.60

WebCode	Data Flag	Item 1			Item 2		
		Participant Mean	Difference from Grand Mean	CPV	Participant Mean	Difference from Grand Mean	CPV
929UPG		40.70	-1.849	-1.80	60.30	-0.561	-0.67
99BU7X	M						
9RNFR7		42.55	-0.005	-0.37	61.35	0.490	-0.03
A68GZA		43.43	0.880	0.31	61.42	0.557	0.02
A6WFEC		42.92	0.367	-0.09	61.52	0.657	0.08
ABV7ET		43.69	1.140	0.51	60.51	-0.350	-0.54
AMCVDX		43.31	0.761	0.22	61.80	0.944	0.25
AMMRN4		43.23	0.680	0.15	61.45	0.585	0.03
AN7DZT	X	31.44	-11.108	-8.93	47.01	-13.850	-8.86
AVHWH6		38.25	-4.300	-3.68	57.68	-3.177	-2.28
B8AAEL		44.42	1.874	1.07	61.83	0.972	0.27
B8FUHC		44.08	1.525	0.80	61.44	0.580	0.03
BEQE4V		42.87	0.316	-0.13	61.72	0.863	0.20
BKGMPE		42.70	0.150	-0.26	61.42	0.563	0.02
CLA2QX		47.23	4.680	3.24	63.27	2.413	1.16
CWC2MQ		43.99	1.438	0.74	62.40	1.537	0.62
CY2ARK		43.55	0.995	0.40	61.84	0.975	0.27
CYBK8B		43.85	1.302	0.63	62.32	1.462	0.57
D629KL		41.98	-0.567	-0.81	59.42	-1.443	-1.22
D8QF6J		43.67	1.116	0.49	61.51	0.653	0.07
DJYDQX		47.08	4.533	3.12	65.65	4.790	2.62
DMEQGY		43.44	0.885	0.31	62.13	1.269	0.45
DYTDP7		42.22	-0.330	-0.63	61.31	0.450	-0.05
DYWBBH		42.25	-0.302	-0.60	60.37	-0.488	-0.63
E2CRT7		41.71	-0.843	-1.02	60.21	-0.650	-0.73
E9GWYR		41.62	-0.932	-1.09	62.03	1.173	0.39
EKNEED		44.67	2.115	1.26	62.80	1.935	0.86

WebCode	Data Flag	Item 1			Item 2		
		Participant Mean	Difference from Grand Mean	CPV	Participant Mean	Difference from Grand Mean	CPV
EWPAQB		45.42	2.870	1.84	66.26	5.400	3.00
EYQGUV		43.00	0.447	-0.03	61.14	0.279	-0.16
F29NEL		43.35	0.804	0.25	61.49	0.630	0.06
FF9ULR		42.64	0.093	-0.30	59.66	-1.198	-1.07
FPYE4X		43.35	0.800	0.25	62.22	1.360	0.51
G3WTH8		43.05	0.500	0.01	60.70	-0.160	-0.43
GHT6BA		43.58	1.026	0.42	61.02	0.157	-0.23
GY6LFQ	X	59.00	16.450	12.31	41.75	-19.107	-12.09
GYFM2P		43.59	1.040	0.43	61.31	0.450	-0.05
H3FLZ2		42.87	0.315	-0.13	61.96	1.102	0.35
HH3G9D	X	64.80	22.250	16.78	94.05	33.190	20.11
HRHD97		42.50	-0.047	-0.41	60.15	-0.715	-0.77
JMWGK	X	32.90	-9.649	-7.81	46.41	-14.447	-9.22
JYBEWF		43.49	0.940	0.35	61.53	0.667	0.08
K3CB9B		42.44	-0.110	-0.46	60.97	0.108	-0.26
K6CKXJ		42.75	0.200	-0.22	62.70	1.840	0.81
K9HE83		42.00	-0.550	-0.79	60.50	-0.360	-0.55
KCVN7L		42.95	0.400	-0.06	62.00	1.140	0.37
KLMZL9		44.17	1.620	0.88	59.53	-1.332	-1.15
KTJZYF		42.19	-0.360	-0.65	61.52	0.655	0.08
KV7JZD		42.83	0.282	-0.15	60.74	-0.118	-0.40
LCNVUQ		41.87	-0.685	-0.90	59.25	-1.613	-1.32
LFURNC		41.75	-0.800	-0.99	60.48	-0.377	-0.56
LHCFZR	X	28.40	-14.150	-11.28	44.15	-16.710	-10.62
LY7H2A		43.50	0.950	0.36	61.00	0.140	-0.24
M4XQFN		46.13	3.576	2.39	64.94	4.077	2.18
MFNZ92		44.32	1.770	0.99	62.44	1.581	0.65

WebCode	Data Flag	Item 1			Item 2		
		Participant Mean	Difference from Grand Mean	CPV	Participant Mean	Difference from Grand Mean	CPV
MFYAV2		42.33	-0.220	-0.54	60.16	-0.697	-0.76
NJ4E49		42.79	0.236	-0.19	60.76	-0.102	-0.39
NT63KJ		41.00	-1.548	-1.56	59.29	-1.573	-1.30
NUMXGD		42.82	0.270	-0.16	61.53	0.670	0.08
PBLZM2		42.12	-0.434	-0.70	61.85	0.987	0.28
PGE9JC		42.51	-0.045	-0.41	60.98	0.115	-0.26
PZ7ETN		43.09	0.535	0.04	62.72	1.855	0.81
Q3RMA3		42.74	0.190	-0.22	61.37	0.510	-0.01
Q6TJNB		41.23	-1.317	-1.39	60.40	-0.460	-0.61
QJF7F3		42.65	0.096	-0.30	62.89	2.033	0.92
QUHXUH		42.62	0.074	-0.31	60.34	-0.519	-0.65
RFDPET		42.43	-0.122	-0.46	61.21	0.354	-0.11
RFTDV8		41.15	-1.396	-1.45	59.78	-1.080	-0.99
RR6DDY		42.33	-0.217	-0.54	61.50	0.640	0.07
RVQKQM		43.98	1.430	0.73	61.98	1.115	0.36
TLC7DK		42.45	-0.100	-0.45	61.70	0.840	0.19
UBTEHZ		42.00	-0.550	-0.79	61.00	0.140	-0.24
UC4G4Y		44.13	1.580	0.85	63.34	2.475	1.20
UJHUXB	X	30.20	-12.350	-9.89	45.20	-15.660	-9.97
V483JP		43.97	1.415	0.72	63.48	2.620	1.29
VTKEUC		41.93	-0.625	-0.85	59.70	-1.160	-1.04
W6GZHL		43.25	0.695	0.16	61.26	0.397	-0.08
WKULB6		43.95	1.395	0.70	61.79	0.926	0.24
WLHPQD		43.69	1.143	0.51	62.58	1.723	0.73
WRAWB7		42.71	0.160	-0.25	61.40	0.540	0.00
WRP9VW		43.16	0.611	0.10	60.92	0.057	-0.29
WYRFE7		42.21	-0.336	-0.63	61.78	0.920	0.24

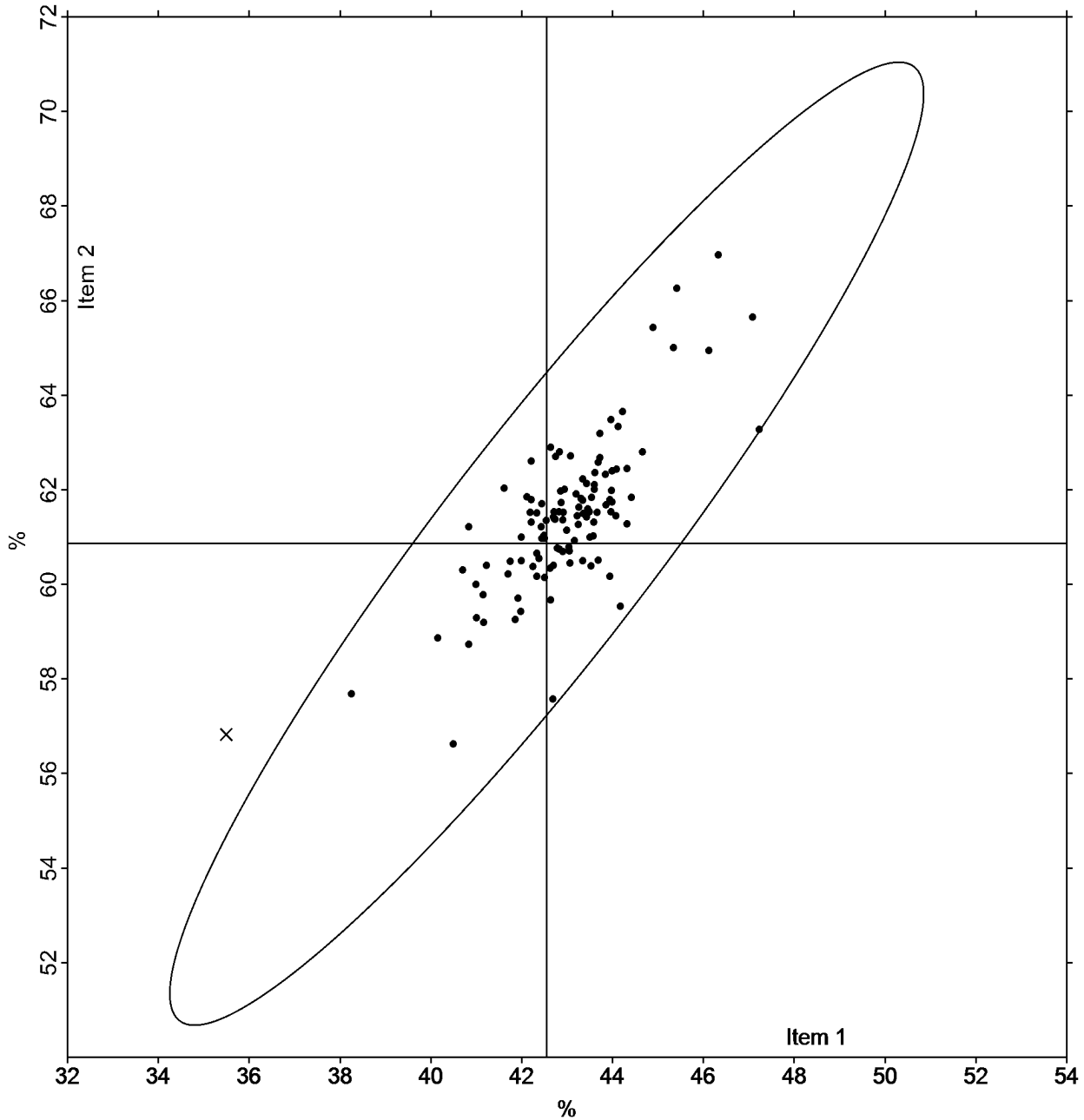
WebCode	Data Flag	Item 1			Item 2		
		Participant Mean	Difference from Grand Mean	CPV	Participant Mean	Difference from Grand Mean	CPV
WZ36VX		43.35	0.800	0.25	60.50	-0.360	-0.55
X36MB6		42.71	0.160	-0.25	61.54	0.675	0.09
X79QAY		43.72	1.170	0.53	63.19	2.325	1.10
XMVH7D		43.46	0.910	0.33	61.60	0.737	0.13
XP9JPX		46.33	3.783	2.55	66.97	6.107	3.43
XRPC4E		43.53	0.976	0.38	60.39	-0.470	-0.62
Y743G8		42.50	-0.050	-0.41	61.03	0.165	-0.23
YAHTPM		44.09	1.540	0.82	62.44	1.575	0.64
YPYQR3		43.73	1.175	0.53	62.67	1.810	0.79
YWTUKD		42.33	-0.220	-0.54	60.65	-0.213	-0.46
Z3CLGX		43.20	0.645	0.13	61.91	1.049	0.32
ZD263J		43.94	1.390	0.70	60.16	-0.696	-0.76
ZM36MV		44.23	1.680	0.92	63.66	2.795	1.39
ZM6JMW		43.35	0.798	0.24	61.77	0.910	0.23
ZVWBGW		40.83	-1.717	-1.69	58.73	-2.127	-1.64

Response Summary		Item 1	Item 2	Participants: 121
Preparation Concentration		44%	63%	
Grand Mean		42.55	60.86	
Standard Deviation		1.30	1.57	
Participants Included: 118	Participants Excluded: 7	Participants without Raw Data for both items: 1		

Bivariate Control Analysis

Item 1 Grand Mean: 42.55

Item 2 Grand Mean: 60.86



*Not all participants marked as outliers (X) are seen on the graph above due to having mean values that are outside of the x-axis or y-axis percentage ranges.

-End of Report-
(Appendix may follow)

Test No. 23-5051: Quantitative Drug Analysis - Methamphetamine HCl

DATA MUST BE SUBMITTED BY **Aug. 21, 2023, 11:59 p.m. EDT** TO BE INCLUDED IN THE REPORT

Participant Code: U1234A

WebCode: 8GABNA

The Accreditation Release section can be accessed by using the "Continue to Final Submission" button above. This information can be entered at any time prior to submitting to CTS.

Test Description:

Investigators have submitted two powdered methamphetamine HCl samples from separate cases to be quantitatively examined. Using your laboratory's procedures, analyze each sample and report the quantitative determination of methamphetamine HCl present in the samples.

-Please follow your laboratory's policies and procedures for sample homogenization.

-This is not intended as a qualitative test but rather as a quantitative examination of the methamphetamine HCl present in the samples.

Items Submitted (Sample Pack DQ1):

Items 1 & 2: Powdered methamphetamine HCl samples

1a.) What is the concentration of methamphetamine HCl in each of the samples? (Results should be reported using your laboratory reporting criteria for decimal places, uncertainty, and units.)

Reported Concentration	Uncertainty (k= <input type="text"/>)	Units
Item 1: <input type="text"/>	± <input type="text"/>	(<input type="text"/>)
Item 2: <input type="text"/>	± <input type="text"/>	(<input type="text"/>)

1b.) Are the values listed above:

The mean of duplicate / several determinations?

The lowest value of duplicate / several determinations?

Other? (Specify):

2.) Please list your raw data determinations below in percent of methamphetamine HCl. (Results not reported in % will be excluded from statistical calculations.)

Item 1 (%)	Item 2 (%)
<input type="text"/>	<input type="text"/>
<input type="text"/>	<input type="text"/>
<input type="text"/>	<input type="text"/>
<input type="text"/>	<input type="text"/>
<input type="text"/>	<input type="text"/>
<input type="text"/>	<input type="text"/>
<input type="text"/>	<input type="text"/>
<input type="text"/>	<input type="text"/>

3.) What methods were used to quantitatively examine the items?

- GC
- GC/MS
- GC/FID
- LC
- LC/MS
- Other (specify):
- FTIR
- UV

4.) Additional Comments

Please note: Any additional formatting applied in the free form space below will not transfer to the Summary Report and may cause your information to be illegible. This includes additional spacing and returns that present your responses in lists and tabular formats.

RELEASE OF DATA TO ACCREDITATION BODIES

The Accreditation Release is accessed by pressing the "Continue to Final Submission" button online and can be completed at any time prior to submission to CTS.

CTS submits external proficiency test data directly to ASCLD/LAB, ANAB, and/or A2LA. Please select one of the following statements to ensure your data is handled appropriately.

- This participant's data is intended for submission to ASCLD/LAB, ANAB, and/or A2LA. (Accreditation Release section below must be completed.)
- This participant's data is **not** intended for submission to ASCLD/LAB, ANAB, and/or A2LA.

Have the laboratory's designated individual complete the following steps **only if your laboratory is accredited in this testing/calibration discipline** by one or more of the following Accreditation Bodies.

Step 1: Provide the applicable Accreditation Certificate Number(s) for your laboratory.

ANAB Certificate No.
(Include ASCLD/LAB Certificate here)

A2LA Certificate No.

Step 2: Complete the Laboratory Identifying Information in its entirety.

Authorized Contact Person and Title

Laboratory Name

Location (City/State)