Collaborative Testing Services, Inc
FORENSIC TESTING PROGRAM

Quantitative Drug Analysis - Methamphetamine HCl
Test No. 22-5051 Summary Report

Each sample set consisted of two items containing different concentrations of methamphetamine HCl. Participants were asked to determine the concentration of methamphetamine HCl in each item. Data were returned from 109 participants and are compiled into the following tables:

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 HCl and caffeine. Participants were requested to analyze each item and report the quantitative determination of methamphetamine HCl present in the samples.

SAMPLE PREPARATION-
The appropriate amount of methamphetamine HCl and caffeine for each item were thoroughly mixed to ensure homogeneity.

ITEMS 1 and 2 (PREPARATION): For each Item, approximately 500 mg of the powder was weighed out and deposited into a glassine bag, which was folded and secured with a 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: Laboratories that conducted predistribution analysis of the samples reported consistent results that were comparable to the preparation concentrations of methamphetamine HCl. The following methods were used to examine the items: GC/MS and GC/FID.

Item	Preparation Methamphetamine HCl
1	92%
2	72%

Summary Comments

This test was designed to allow participants to assess their proficiency in the determination of powdered methamphetamine 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 (± 3 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 109 responding participants, one participant reported "extreme" data for Item 1 and five participants reported "extreme" data for Item 2. An additional three participants reported "extreme" data for both Items 1 and 2. Two participants did not report raw data determinations for either item. The calculated grand mean of Item 1 was 91.59% with a standard deviation of 2.156, and the grand mean of Item 2 was 71.25% with a standard deviation of 1.970. 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 95% of the time, a randomly selected participant was inside of it. Three participants whose results fell outside of the 95% ellipse but within the 99% control limit have been marked with a "*". An additional 26 participants with results that fell outside the 99% control limit have been marked with an "X", and their results were excluded from the calculations for this supplemental examination. Two participants that did not report raw data for either item were 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.

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:	**92%**	**72%**	
2ATBKV	91 ± 3 (%)	72 ± 3 (%)	2
2PNQT2	90 ± 6 (%)	70 ± 5 (%)	2
2W2YU4	92.0 ± 3.5 (%)	70.0 ± 3.5 (%)	3
39VFJ6	90.3 ± 7.5 (%)	70.6 ± 5.9 (%)	2
3G4ACC	90.02 ± 1.8 (%)	67.75 ± 1.8 (%)	2.1
3T2VWP	90.0 ± 0.5 (%)	70.6 ± 0.3 (%)	2
3WK6R9	86 ± 7 (%)	65 ± 6 (%)	2
48JZP4	95.7 ± 8.0 (percent)	73.5 ± 6.2 (percent)	2
4BUBHX	90 ± 6 (%)	70 ± 5 (%)	2
4KLR82	96.96 ± 7.20 (%)	72.57 ± 5.39 (%)	2
6M4C9N	90.7 ± 2.1 (%)	69.8 ± 2.1 (%)	2
74NGCV	92.9 ± 2.2 (%)	71.9 ± 1.7 (%)	2.4
78Q48K	89.9 ± 7.01 (%)	69.8 ± 5.44 (%)	2
7BACDY	92 ± 6 (Percent)	72 ± 6 (Percent)	6
7E9MAY	91 ± 6 (%)	71 ± 6 (%)	2
7T6P6K	90.54 ± 1.5 (wt %)	71.26 ± 1.5 (wt %)	2
7WA8BT	90 ± 7 (%)	70 ± 7 (%)	2
882JW6	92.4 ± 3.0 (%)	75.7 ± 3.0 (%)	2
8KA73G	93.9 ± 4.8 (percent)	72.2 ± 3.7 (percent)	2

Revised: August 26, 2022. Addition of one participant's results

TABLE 1

WebCode	Item 1 Reported Concentration (units)	Item 2 Reported Concentration (units)	Uncertainty (k)
Preparation concentration:	92%	72%	
99AZMN	93.2 ± 2.8 (%)	72.5 ± 2.8 (%)	2
9XR98R	92.8 ± 6.0 (%w/w)	71.1 ± 3.8 (%w/w)	2
ABBKPE	89.2 ± 8.13 (%)	69.8 ± 6.37 (%)	2
AJ6LAY	89.3 ± 7.8 (percent(%))	75.8 ± 7.8 (percent(%))	2
AVZUT2	0.43 ± 0.06 (grams)	0.33 ± 0.05 (grams)	3
B73EVU	88.8 ± 7.4 (%)	70.0 ± 5.9 (%)	2
BUJX3M	91 ± 7 (%)	71 ± 7 (%)	2
BVZX2H	90.3 ± 2.1 (%)	70.9 ± 2.1 (%)	2
C48BFR	95.9 ± 8.0 (%)	75.3 ± 7.2 (%)	2.65
C6Z73Z	91.2 ± 3.0 (%)	70.8 ± 3.0 (%)	2
CAT7GV	89 ± 8 (%)	69 ± 6 (%)	3
CQFLKR	90.5 ± 7.6 (%)	70.7 ± 5.9 (%)	2
CVVYMZ	90 ± 3 (%)	70 ± 3 (%)	2
CW7VUQ	93.39 ± 6.94 (%)	72.88 ± 5.41 (%)	2
CWL3AF	91.8 ± 4.7 (%)	72.4 ± 3.7 (%)	2
DFX6PZ	92.9 ± 3 (%)	72.2 ± 3 (%)	2
DVP6GY	92.1 ± 3.0 (weight percent (%))	71.0 ± 3.0 (weight percent (%))	2
E2C9PU	92 ± 6 (%)	72 ± 6 (%)	2
E3KNWZ	89,5 ± 5,8 (weight %)	69,5 ± 4,7 (weight %)	2
EU9A8C	90.8 ± 0.3 (%)	70.5 ± 0.4 (%)	2

TABLE 1

WebCode	Item 1 Reported Concentration (units)	Item 2 Reported Concentration (units)	Uncertainty (k)
Preparation concentration:	92%	72%	
FFQY3M	94.11 ± 6.99 (%)	74.58 ± 5.54 (%)	2
FPAFMG	92.2 ± 2.8 (%)	71.5 ± 2.8 (%)	2
FRHMW2	95.6 ± 5.3 (%)	80.0 ± 4.6 (%)	2
FTAQJG	91.5 ± 2.8 (%)	70.5 ± 2.8 (%)	2
FVGYUL	89.6 ± 7.5	69.1 ± 10.5	2.65
G4TDCH	90 ± 7 (%)	71 ± 7 (%)	2
G6L9YQ	91 ± 8 (%)	71 ± 6 (%)	3
G9HYYB	91.8 ± 1.0 (%)	70.9 ± 1.0 (%)	2
GBQ6HQ	97 ± 9 (%)	74 ± 7 (%)	3
GDJXHF	0.45 ± 0.03 (grams)	0.34 ± 0.02 (grams)	2
H49WWE	89.54 ± 6.27 (%)	70.00 ± 4.90 (%)	2
HG9X8V	91.0 ± 1.3 (%)	70.1 ± 0.4 (%)	2
HGXVMG	92.3 ± 3.3 (%)	70.9 ± 2.6 (%)	2
HMKL8R	89 ± 6 (%)	70 ± 5 (%)	2
HW7WDC	88.98 (%)	72.07 (%)	
HXHQTD	92 ± 4.11 (%)	70 ± 4.11 (%)	2
J83DLE	0.44 ± 0.03 (grams)	0.32 ± 0.02 (grams)	2
JCCFNA	90.67 ± 1.0 (%)	70.79 ± 1.0 (%)	2
JEHXM6	92.0 ± 5.80 (%)	70.5 ± 4.44 (%)	2
K8YA8U	91.5 ± 2.9 (%)	69.3 ± 0.8 (%)	2
KMAQGG	91 ± 6 (%)	70 ± 5 (%)	2

TABLE 1

WebCode	Item 1 Reported Concentration (units)	Item 2 Reported Concentration (units)	Uncertainty (k)
Preparation concentration:	**92%**	**72%**	
KWYJQR	92.3 ± 3.0 (%)	72.5 ± 3.0 (%)	2
L8VUT8	90.8 ± 2.1 (%)	71.2 ± 2.1 (%)	2
LBV3Y4	93 ± 3 (%)	72 ± 3 (%)	2
LC9PGH	91.8 ± 7.3 (%)	71.7 ± 5.6 (%)	2.65
LEBQEU	97.4 ± 7.8 (%)	82.1 ± 7.8 (%)	2
LG3T2A	94.1 ± 3.1 (%)	72.0 ± 2.3 (%)	3
LQQFFK	96.80 ± 7.19 (%)	79.06 ± 5.87 (%)	2
LRYTXL	87 ± 6 (%)	67 ± 5 (%)	2
LU6XQA	89.9 ± 2.1 (%)	67.0 ± 2.1 (%)	2
M468B4	90.9 ± 4.7 (%)	71.3 ± 3.7 (%)	2
M93T38	91.4 ± 1.9 (%)	70.1 ± 1.9 (%)	2
MC4PUM	89 ± 6 (%)	70 ± 5 (%)	2
MGGDL7	86.4 ± 31.2 (%)	76.5 ± 23.8 (%)	2
MPTPMB	90 ± 5 (%)	69 ± 5 (%)	2.05
MUKUFE	90.7 ± 7.2 (%)	70.3 ± 5.7 (%)	2.65
MXLW6F	92.7 ± 7.1 (%)	72.1 ± 5.5 (%)	2.65
NCHEVE	84.6 ± 6.9 (percent)	68.7 ± 9.7 (percent)	2.65
NFGPQE	86.2 ± 7.6 (%)	66.4 ± 5.7 (%)	2.65
NKVAR9	92 ± 3 (%)	71 ± 3 (%)	2
P6ZAEY	91.7 ± 7.73 (%)	70.4 ± 5.93 (%)	2
PFYYF9	0.43 ± 0.03 (grams)	0.33 ± 0.02 (grams)	2

TABLE 1

WebCode	Item 1 Reported Concentration (units)	Item 2 Reported Concentration (units)	Uncertainty (k)
Preparation concentration:	**92%**	**72%**	
R67R9E	95 ± 9 (%)	73 ± 7 (%)	3
RAK6BM	92.0 ± 1.8 (%)	70.8 ± 1.8 (%)	2.1
RBXYQN	90.2 ± 7.8 (%)	75.8 ± 7.8 (%)	2
RGHUUD	91.7 ± 3.5 (%)	70.6 ± 3.5 (%)	3
RQAAJG	91.3 ± 7.8 (%)	78.0 ± 7.8 (%)	2
RYJNJX	95.3 ± 16.2 (%)	77.0 ± 6.00 (%)	2
T27KKW	92 ± 3 (%)	72 ± 3 (%)	2
T4N2E2	90.4 ± 5.7 (%)	80.8 ± 5.7 (%)	1.99
TH9MXU	91.5 ± 5.67 (%)	74.9 ± 4.64 (%)	2
TTTVK3	92 ± 3 (%)	71 ± 3 (%)	2
TZEGXG	96 ± 9 (%)	74 ± 7 (%)	3
U3TJCZ	87.84 (%)	70.52 (%)	
UAUXX2	91.2 ± 1.9 (%)	70.7 ± 1.9 (%)	2
UNXERA	91.04 ± 5.03 (%)	71.30 ± 5.03 (%)	2
URCYR4	91.13 ± 10.87 (%)	70.64 ± 8.42 (%)	3
UYFVKF	90 ± 3 (%)	70 ± 3 (%)	2
VE3TYF	90 ± 3 (%)	70 ± 3 (%)	2
VGBTDV	90.7 ± 1.4 (%)	70.8 ± 1.4 (%)	2
VVRQJW	91.6 ± 1.0 (% by weight)	70.6 ± 1.0 (% by weight)	2
W2AGHW	91.17 ± 1.4 (%)	70.87 ± 1.4 (%)	

TABLE 1

WebCode	Item 1 Reported Concentration (units)	Item 2 Reported Concentration (units)	Uncertainty (k)
Preparation concentration:	**92%**	**72%**	
WG6X8U	90.8 ± 1.4 (weight %)	69.9 ± 1.4 (weight %)	2
WWZDF2	0.45 ± 0.03 (grams)	0.35 ± 0.02 (grams)	2
XBVYCV	70 (%)	51 (%)	
XG2NXA	95 ± 9 (%)	73 ± 7 (%)	3
ZDFNTD	92.3 ± 1.0 (%)	70.9 ± 0.6 (%)	2
ZGEYND	89.9 ± 2.3 (%)	69.6 ± 0.6 (%)	2
ZUXUVW	93.5 ± 9.3 (%)	71.4 ± 7.1 (%)	3

Reporting Procedures

TABLE 2

WebCode	Reporting Procedures
2ATBKV	The mean of duplicate/several determinations.
2PNQT2	Result of one determination
2W2YU4	The mean of duplicate/several determinations.
39VFJ6	The mean of duplicate/several determinations.
3G4ACC	The mean of duplicate/several determinations.
3T2VWP	The mean of duplicate/several determinations.
3WK6R9	The lowest value of duplicate/several determinations.
48JZP4	The mean of duplicate/several determinations.
4BUBHX	Single determination based on mean of 2 data points.
4KLR82	The mean of duplicate/several determinations.
6M4C9N	The mean of duplicate/several determinations.
74NGCV	The mean of duplicate/several determinations.
78Q48K	The mean of duplicate/several determinations.
7BACDY	The mean of duplicate/several determinations.
7E9MAY	The mean of duplicate/several determinations.
7T6P6K	The mean of duplicate/several determinations.
7WA8BT	The mean of duplicate/several determinations.
882JW6	The mean of duplicate/several determinations.
8KA73G	The mean of duplicate/several determinations.
99AZMN	The mean of duplicate/several determinations.
9XR98R	The mean of duplicate/several determinations.
ABBKPE	The mean of duplicate/several determinations.
AJ6LAY	The mean of duplicate/several determinations.
AVZUT2	The mean of duplicate/several determinations.
B73EVU	The mean of duplicate/several determinations.

TABLE 2

WebCode	Reporting Procedures
BUJX3M	The mean of duplicate/several determinations.
BVZX2H	The mean of duplicate/several determinations.
C48BFR	The mean of duplicate/several determinations.
C6Z73Z	The mean of duplicate/several determinations.
CAT7GV	The mean of duplicate/several determinations.
CQFLKR	The mean of duplicate/several determinations.
CVVYMZ	Item 1 was mean of 4 integrals and Item 2 was mean of 5 integrals
CW7VUQ	The mean of duplicate/several determinations.
CWL3AF	The mean of duplicate/several determinations.
DFX6PZ	The mean of duplicate/several determinations.
DVP6GY	The mean of duplicate/several determinations.
E2C9PU	The mean of duplicate/several determinations.
E3KNWZ	The mean of duplicate/several determinations.
EU9A8C	The mean of duplicate/several determinations.
FFQY3M	The mean of duplicate/several determinations.
FPAFMG	The mean of duplicate/several determinations.
FRHMW2	The mean of duplicate/several determinations.
FTAQJG	The mean of duplicate/several determinations.
FVGYUL	The mean of duplicate/several determinations.
G4TDCH	The mean of duplicate/several determinations.
G6L9YQ	The mean of duplicate/several determinations.
G9HYYB	The lowest value of duplicate/several determinations.
GBQ6HQ	The mean of duplicate/several determinations.
GDJXHF	The mean of duplicate/several determinations.
H49WWE	The mean of duplicate/several determinations.
HG9X8V	The mean of duplicate/several determinations.

TABLE 2

WebCode	Reporting Procedures
HGXVMG	The mean of duplicate/several determinations.
HMKL8R	The mean of duplicate sample preparations and duplicate injections of each preparation
HW7WDC	The mean of duplicate/several determinations.
HXHQTD	The mean of duplicate/several determinations.
J83DLE	The mean of duplicate/several determinations.
JCCFNA	The lowest value of duplicate/several determinations.
JEHXM6	The mean of duplicate/several determinations.
K8YA8U	The mean of duplicate/several determinations.
KMAQGG	The mean of duplicate/several determinations.
KWYJQR	The mean of duplicate/several determinations.
L8VUT8	The mean of duplicate/several determinations.
LBV3Y4	The mean of duplicate/several determinations.
LC9PGH	The mean of duplicate/several determinations.
LEBQEU	The mean of duplicate/several determinations.
LG3T2A	The mean of duplicate/several determinations.
LQQFFK	The mean of duplicate/several determinations.
LRYTXL	The mean of duplicate/several determinations.
LU6XQA	The mean of duplicate/several determinations.
M468B4	The mean of duplicate/several determinations.
M93T38	The mean of duplicate/several determinations.
MC4PUM	The mean of duplicate/several determinations.
MGGDL7	The mean of duplicate/several determinations.
MPTPMB	The lowest value of duplicate/several determinations.
MUKUFE	The mean of duplicate/several determinations.
MXLW6F	The mean of duplicate/several determinations.
NCHEVE	The mean of duplicate/several determinations.

TABLE 2

WebCode	Reporting Procedures
NFGPQE	The mean of duplicate/several determinations.
NKVAR9	The mean of duplicate/several determinations.
P6ZAEY	The mean of duplicate/several determinations.
PFYYF9	The mean of duplicate/several determinations.
R67R9E	The mean of duplicate/several determinations.
RAK6BM	The mean of duplicate/several determinations.
RBXYQN	The mean of duplicate/several determinations.
RGHUUD	The mean of duplicate/several determinations.
RQAAJG	The mean of duplicate/several determinations.
RYJNJX	The mean of duplicate/several determinations.
T27KKW	The mean of duplicate/several determinations.
T4N2E2	The mean of duplicate/several determinations.
TH9MXU	The mean of duplicate/several determinations.
TTTVK3	The mean of duplicate/several determinations.
TZEGXG	The mean of duplicate/several determinations.
U3TJCZ	The mean of duplicate/several determinations.
UAUXX2	The mean of duplicate/several determinations.
UNXERA	The mean of duplicate/several determinations.
URCYR4	The mean of duplicate/several determinations.
UYFVKF	the mean of 3 integrated NMR peaks, then truncated
VE3TYF	NMR: Item 1 - mean of 4 integrals; Item 2 - mean of 5 integrals
VGBTDV	Two replicates for item 1 and 2 were prepared. The overall purity of the item 1 and 2 replicates were determined by the average peak purity of the 1.4 ppm peak.
VVRQJW	the lowest mean value of duplicate/several determinations
W2AGHW	The lowest value of duplicate/several determinations.
WG6X8U	The mean of duplicate/several determinations.

TABLE 2

WebCode	Reporting Procedures
WWZDF2	The mean of duplicate/several determinations.
XBVYCV	The mean of duplicate/several determinations.
XG2NXA	The mean of duplicate/several determinations.
ZDFNTD	The mean of duplicate/several determinations.
ZGEYND	The mean of duplicate/several determinations.
ZUXUVW	The mean of duplicate/several determinations.

Response Summary		Participants: 108
The mean of duplicate/several determinations:	99	(91.7%)
The lowest value of duplicate/several determinations:	6	(5.6%)
Single determination:	2	(1.85%)
Other:	1	(0.9%)

Raw Data & Statistical Analysis

List of raw data determinations in percent.

TABLE 3 - Item 1

WebCode	Preparation target concentration : 92%							Mean
2ATBKV	90.24	92.54	92.80					91.86
2PNQT2	90.57							90.57
39VFJ6	90.10	90.57						90.34
3G4ACC	90.96	91.34	88.89	88.89				90.02
3T2VWP	89.76	89.76	89.86	90.01	90.04	90.21	90.22 90.27	90.02
3WK6R9	86.40	87.00	87.00	86.40	86.70	86.40		86.65
48JZP4	94.53	96.95						95.74
4BUBHX	90.25	90.38						90.31
4KLR82	99.35	95.47	96.06					96.96
6M4C9N	91.79	90.62	90.29	90.28				90.74
74NGCV	93.00	92.90						92.95
78Q48K	88.50	91.20						89.85
7BACDY	92.66	92.50	92.75					92.64
7E9MAY	90.40	90.49	92.77					91.22
7T6P6K	89.52	91.56						90.54
7WA8BT	90.53	89.07	90.48					90.03
882JW6	92.05	92.77						92.41
8KA73G	94.09	93.62						93.86
99AZMN	93.45	93.61	93.01	93.06				93.28
9XR98R	91.70	94.00						92.85
ABBKPE	89.10	89.20						89.15
AJ6LAY	87.20	90.60	90.10					89.30
AVZUT2	91.27							91.27
B73EVU	88.93	88.76						88.85

TABLE 3 - Item 1

WebCode	Preparation target concentration : 92%								Mean
BUJX3M	91.43	92.31	90.00						91.25
BVZX2H	89.35	89.71	89.00	93.20					90.31
C48BFR	94.70	95.76	96.89	96.80	96.84	94.21			95.87
C6Z73Z	90.77	91.66							91.22
CAT7GV	89.22	89.53							89.38
CQFLKR	88.96	92.11							90.54
CVVYMZ	91.16	90.78	90.62	90.33					90.72
CW7VUQ	92.89	93.42	93.53	93.31	93.15	94.02			93.39
CWL3AF	91.80	91.80							91.80
DFX6PZ	92.87	92.97							92.92
DVP6GY	92.34	91.89							92.12
E2C9PU	92.14	92.04							92.09
E3KNWZ	88.02	91.43	88.97						89.47
EU9A8C	90.69	90.73	90.80	90.82	90.90	90.90	90.90	90.96	90.84
FFQY3M	92.03	94.30	96.00						94.11
FPAFMG	91.81	91.76	92.96	92.41					92.24
FRHMW2	93.77	97.44							95.61
FTAQJG	91.05	91.02	92.12	92.05					91.56
FVGYUL	91.12	90.54	88.38	88.42	90.28	89.12			89.64
G4TDCH	92.66	90.09	89.55						90.77
G6L9YQ	91.68	89.77							90.73
G9HYYB	91.50	92.10							91.80
GBQ6HQ	97.65	95.58							96.62
GDJXHF	91.90	90.42	94.04	93.48					92.46
H49WWE	89.19	89.90							89.55
HG9X8V	90.37	90.47	90.55	90.58	91.34	91.41	91.42	91.65	90.97

TABLE 3 - Item 1

WebCode	Preparation target concentration : 92%							Mean
HGXVMG	91.64	93.14						92.39
HMKL8R	89.47	89.55	90.25	90.22				89.87
HW7WDC	88.69	88.81	89.44					88.98
HXHQTD	73.43	74.47						73.95 X
J83DLE	92.34	93.35	91.85	92.41				92.49
JCCFNA	90.62	90.71						90.67
JEHXM6	92.08	92.08	91.99	92.01				92.04
K8YA8U	89.98	90.01	90.10	90.79	92.50	92.69	92.87 92.93	91.48
KMAQGG	91.11	91.14						91.13
KWYJQR	92.06	92.57						92.32
L8VUT8	91.68	90.92	90.23	90.55				90.84
LBV3Y4	93.60	93.16	93.55					93.44
LC9PGH	91.24	92.25	91.86	90.71	92.51	92.32		91.82
LEBQEU	97.96	97.03	97.32					97.44
LG3T2A	94.51	93.74						94.13
LQQFFK	92.16	98.59	99.64					96.80
LRYTXL	87.29	87.39						87.34
LU6XQA	89.38	89.50	90.17	90.53				89.89
M468B4	90.80	91.00						90.90
M93T38	91.38	91.40						91.39
MC4PUM	89.27	89.97	89.79	89.89				89.73
MGGDL7	94.20	77.40	69.80	104.20				86.40
MPTPMB	92.00	90.00	90.00	91.00	90.00	90.00		90.50
MUKUFE	89.78	90.69	91.48	91.38	90.36	90.43		90.69
MXLW6F	92.35	92.78	92.71	92.77	92.69	92.91		92.70
NCHEVE	84.85	83.92	85.23	84.20	86.08	83.51		84.63 X

TABLE 3 - Item 1

WebCode	Preparation target concentration : 92%					Mean
NFGPQE	85.32	86.88	86.95	83.95	86.40	88.00	86.25
NKVAR9	92.64	93.07	92.71				92.81
P6ZAEY	90.70	92.70					91.70
PFYYF9	90.54	91.54	90.64	89.89			90.65
R67R9E	94.79	94.51					94.65
RAK6BM	91.91	92.37	91.93	91.98			92.05
RBXYQN	89.57	89.55	91.46				90.19
RGHUUD	92.70	91.90	91.00	92.20	91.20	91.30	91.72
RQAAJG	91.45	89.87	92.75	91.11			91.30
RYJNJX	98.30	99.37	92.33	90.98			95.25
T27KKW	92.33	92.65	91.63				92.20
T4N2E2	88.40	90.50	92.20				90.37
TH9MXU	91.40	90.80	91.60	92.30			91.53
TTTVK3	93.20	92.11	92.80				92.70
TZEGXG	97.24	95.63					96.44
U3TJCZ	88.57	90.23	87.36	85.16			87.83
UAUXX2	91.45	90.98					91.22
UNXERA	90.15	91.94					91.05
URCYR4	91.65	90.14	91.60				91.13
UYFVKF	91.32	90.84	90.46				90.87
VE3TYF	91.03	90.66	90.59	90.16			90.61
VGBTDV	90.69	90.74					90.72
VVRQJW	91.60	91.70					91.65
W2AGHW	90.76	91.59					91.18
WG6X8U	90.80	90.80					90.80
WWZDF2	93.19	94.06	92.92	92.94			93.28

TABLE 3 - Item 1

WebCode	Preparation target concentration : 92%							Mean
XBVYCV	66.90	72.80						69.85 **X**
XG2NXA	94.58	94.58						94.58
ZDFNTD	91.73	91.82	91.99	92.52	92.53	92.66	92.70	92.72	92.33
ZGEYND	88.77	88.82	88.91	89.11	90.90	90.94	90.96	91.02	89.93
ZUXUVW	92.70	94.20						93.45

Statistical Analysis for Item 1		Participants: **109**	
Preparation Target Concentration:	**92%**	Number of Participants Included:	**103**
Grand Mean:	**91.59**	Number of Participants Excluded:	**4**
Standard Deviation:	**2.156**	Number of Participants without Raw Data:	**2**

TABLE 3 - Item 2

WebCode	Preparation target concentration : 72%								Mean
2ATBKV	71.90	72.10	72.06						72.02
2PNQT2	70.45								70.45
39VFJ6	70.89	70.34							70.62
3G4ACC	67.56	67.54	67.97	67.91					67.75
3T2VWP	70.46	70.50	70.51	70.57	70.57	70.63	70.63	70.71	70.57
3WK6R9	65.50	65.30	65.90	65.60	66.60	66.90			65.97
48JZP4	72.49	74.62							73.55
4BUBHX	70.29	70.47							70.38
4KLR82	69.84	72.72	75.15						72.57
6M4C9N	70.37	70.24	68.99	69.65					69.81
74NGCV	72.10	71.70							71.90
78Q48K	69.30	70.30							69.80
7BACDY	72.33	72.07	72.15						72.18
7E9MAY	71.60	71.30	71.28						71.39
7T6P6K	71.32	71.20							71.26
7WA8BT	70.15	70.72	70.06						70.31
882JW6	74.96	76.33							75.65
8KA73G	72.10	72.18							72.14
99AZMN	72.33	72.23	72.85	72.85					72.57
9XR98R	71.20	71.10							71.15
ABBKPE	70.40	69.20							69.80
AJ6LAY	77.60	75.00	74.90						75.83
AVZUT2	69.50								69.50
B73EVU	69.62	70.46							70.04
BUJX3M	71.98	71.00	70.93						71.30
BVZX2H	71.30	71.22	70.83	70.42					70.94

TABLE 3 - Item 2

WebCode								Mean	
			Preparation target concentration : 72%					Mean	
C48BFR	73.66	75.40	77.06	76.40	73.09	76.48		75.35	
C6Z73Z	70.53	71.09						70.81	
CAT7GV	68.76	68.45						68.61	
CQFLKR	70.66	70.91						70.79	
CVVYMZ	70.16	70.21	70.27	69.93	69.61			70.04	
CW7VUQ	72.85	72.66	73.23	72.88	72.64	73.01		72.88	
CWL3AF	72.30	72.40						72.35	
DFX6PZ	71.77	72.73						72.25	
DVP6GY	71.36	70.83						71.10	
E2C9PU	72.90	72.86						72.88	
E3KNWZ	68.05	69.19	71.38					69.54	
EU9A8C	70.30	70.35	70.42	70.47	70.48	70.56	70.58	70.70	70.48
FFQY3M	72.19	76.23	75.33					74.58	
FPAFMG	71.21	71.05	71.97	71.89				71.53	
FRHMW2	81.19	78.87						80.03 X	
FTAQJG	70.53	70.65	70.52	70.57				70.57	
FVGYUL	70.98	70.11	70.57	71.46	69.39	62.30		69.14	
G4TDCH	71.35	69.93	71.74					71.01	
G6L9YQ	71.52	70.18						70.85	
G9HYYB	71.00	70.90						70.95	
GBQ6HQ	73.94	73.62						73.78	
GDJXHF	72.98	73.14	71.64	72.25				72.50	
H49WWE	67.88	72.13						70.01	
HG9X8V	69.92	69.93	69.96	69.99	70.12	70.13	70.19	70.24	70.06
HGXVMG	71.76	70.14						70.95	
HMKL8R	70.52	70.30	70.27	70.38				70.37	

TABLE 3 - Item 2

WebCode	Preparation target concentration : 72%							Mean	
HW7WDC	72.29	72.50	71.41					72.07	
HXHQTD	54.46	57.58						56.02	X
J83DLE	69.64	69.72	70.31	70.81				70.12	
JCCFNA	70.71	70.86						70.79	
JEHXM6	70.57	70.56	70.54	70.47				70.53	
K8YA8U	68.88	68.97	68.99	69.28	69.43	69.46	69.47	69.26	
KMAQGG	70.75	70.74						70.74	
KWYJQR	71.78	73.26						72.52	
L8VUT8	71.30	71.28	71.00	71.31				71.22	
LBV3Y4	73.28	71.97	72.05					72.43	
LC9PGH	71.83	72.28	71.65	71.81	71.11	71.34		71.67	
LEBQEU	80.46	83.48	82.22					82.05	X
LG3T2A	72.49	71.69						72.09	
LQQFFK	79.25	79.37	78.57					79.06	X
LRYTXL	67.67	67.71						67.69	
LU6XQA	66.90	67.08	67.07	66.98				67.01	
M468B4	71.10	71.40						71.25	
M93T38	69.75	70.40						70.08	
MC4PUM	70.22	70.48	70.19	70.28	70.91	71.38	71.42	71.01	70.74
MGGDL7	74.80	80.10	89.90	61.30				76.53	
MPTPMB	71.00	69.00	70.00	70.00	70.00	69.00		69.83	
MUKUFE	70.53	71.08	70.21	69.01	70.53	70.43		70.30	
MXLW6F	72.22	72.22	72.18	72.05	72.32	71.77		72.13	
NCHEVE	66.36	67.78	68.05	67.71	67.65	74.93		68.75	
NFGPQE	66.74	67.01	66.08	66.91	66.90	64.51		66.36	
NKVAR9	71.47	70.91	71.23					71.20	

TABLE 3 - Item 2

WebCode	Preparation target concentration : 72%					Mean	
P6ZAEY	70.30	70.50					70.40	
PFYYF9	70.06	70.25	70.68	71.06			70.51	
R67R9E	72.62	72.88					72.75	
RAK6BM	71.04	70.93	70.61	70.73			70.83	
RBXYQN	74.87	75.35	77.19				75.80	
RGHUUD	70.30	70.10	70.20	71.40	71.80	70.20	70.67	
RQAAJG	75.15	80.74	78.12				78.00	X
RYJNJX	77.00	76.90					76.95	
T27KKW	72.43	72.21	72.92				72.52	
T4N2E2	79.20	80.60	82.70				80.83	X
TH9MXU	74.90	75.00	75.00	74.60			74.88	
TTTVK3	71.64	71.51	70.32				71.16	
TZEGXG	73.85	75.05					74.45	
U3TJCZ	71.18	70.29	71.45	67.96	72.31	69.93	70.52	
UAUXX2	70.72	70.64					70.68	
UNXERA	71.45	71.16					71.31	
URCYR4	71.32	70.41	70.19				70.64	
UYFVKF	71.12	70.51	70.53				70.72	
VE3TYF	70.31	70.20	70.25	70.22	69.82		70.16	
VGBTDV	70.64	71.01					70.83	
VVRQJW	70.90	70.30					70.60	
W2AGHW	70.57	71.18					70.88	
WG6X8U	69.80	70.10					69.95	
WWZDF2	73.92	73.71	75.83	75.37			74.71	
XBVYCV	47.30	24.10					35.70	X
XG2NXA	72.86	72.72					72.79	

TABLE 3 - Item 2

WebCode	Preparation target concentration : 72%								Mean
ZDFNTD	70.53	70.65	70.78	70.80	71.00	71.01	71.09	71.17	70.88
ZGEYND	69.27	69.43	69.46	69.46	69.47	69.75	69.87	69.91	69.58
ZUXUVW	71.50	71.30							71.40

Statistical Analysis for Item 2			Participants: 109
Preparation Target Concentration:	72%	Number of Participants Included:	99
Grand Mean:	71.25	Number of Participants Excluded:	8
Standard Deviation:	1.970	Number of Participants without Raw Data:	2

Revised: August 26, 2022. Addition of one participant's results   (24)

TABLE 3 - Response Summary

Response Summary	Item 1	Item 2
Preparation concentration	**92%**	**72%**
Grand Mean	91.59	71.25
Standard Deviation	2.156	1.970

Method of Analysis

TABLE 4

WebCode	GC	LC	FTIR	GC/MS	LC/MS	UV	GC/FID	Other
2ATBKV								HPLC
2PNQT2								NMR
2W2YU4							✓	
39VFJ6		✓						
3G4ACC								NMR
3T2VWP							✓	
3WK6R9							✓	
48JZP4		✓						
4BUBHX		✓						
4KLR82				✓				
6M4C9N							✓	
74NGCV								HLPC
78Q48K								NMR
7BACDY							✓	
7E9MAY							✓	
7T6P6K								NMR
7WA8BT		✓				✓		
882JW6								proton NMR
8KA73G								LC/UV/MS
99AZMN							✓	
9XR98R		✓						
ABBKPE								NMR
AJ6LAY				✓				
AVZUT2				✓				
B73EVU		✓						
BUJX3M		✓				✓		
BVZX2H							✓	
C48BFR							✓	
C6Z73Z								NMR
CAT7GV							✓	
CQFLKR								HPLC
CWYMZ								NMR

TABLE 4

WebCode	GC	LC	FTIR	GC/MS	LC/MS	UV	GC/FID	Other
CW7VUQ				✓				
CWL3AF			✓	✓	✓			
DFX6PZ								NMR
DVP6GY								nuclear magnetic resonance
E2C9PU							✓	
E3KNWZ		✓						
EU9A8C							✓	
EV6RAE						✓		
FFQY3M				✓				
FPAFMG							✓	
FRHMW2				✓				
FTAQJG	✓						✓	
FVGYUL							✓	weight measurement
G4TDCH		✓			✓			
G6L9YQ							✓	
G9HYYB								NMR
GBQ6HQ							✓	
GDJXHF							✓	
H49WWE				✓				
HG9X8V							✓	
HGXVMG								H qNMR
HMKL8R							✓	
HW7WDC								HPLC-DAD
HXHQTD		✓						HPLC
J83DLE	✓							
JCCFNA								NMR
JEHXM6		✓				✓		
K8YA8U							✓	
KMAQGG		✓						
KWYJQR								NMR
L8VUT8							✓	
LBV3Y4								HPLC - DAD
LC9PGH							✓	

TABLE 4

WebCode	GC	LC	FTIR	GC/MS	LC/MS	UV	GC/FID	Other
LEBQEU				✓				
LG3T2A							✓	
LQQFFK				✓				
LRYTXL		✓						
LU6XQA							✓	
M468B4			✓	✓		✓		LC/UV/MS
M93T38								NMR
MC4PUM								NMR
MGGDL7				✓				
MPTPMB							✓	
MUKUFE							✓	
MXLW6F							✓	
NCHEVE	✓							
NFGPQE							✓	
NKVAR9								HPLC-DAD
P6ZAEY								NMR
PFYYF9							✓	
R67R9E							✓	
RAK6BM								NMR
RBXYQN				✓				
RGHUUD							✓	
RQAAJG				✓				
RYJNJX					✓			NMR
T27KKW								HPLC-DAD
T4N2E2					✓			
TH9MXU		✓				✓		
TTTVK3		✓						
TZEGXG							✓	
U3TJCZ							✓	LC/PDA
UAUXX2								NMR
UNXERA								NMR
URCYR4							✓	
UYFVKF								NMR

TABLE 4

WebCode	GC	LC	FTIR	GC/MS	LC/MS	UV	GC/FID	Other
VE3TYF								NMR - 500 MHz
VGBTDV								NMR
VVRQJW								NMR
W2AGHW								NMR
WG6X8U								NMR
WWZDF2							✓	
XBVYCV				✓				
XG2NXA							✓	
ZDFNTD							✓	
ZGEYND							✓	
ZUXUVW							✓	

Response Summary								Participants: 109
Method:	GC	LC	FTIR	GC/MS	LC/MS	UV	GC/FID	
Participants:	3	15	2	15	3	7	40	
Percent:	2.8%	13.8%	1.8%	13.8%	2.8%	6.4%	36.7%	

Additional Comments

TABLE 5

WebCode	Additional Comments
3T2VWP	12 injections made up the average. The two lowest and two highest values for each item were excluded from question 2 above [Table 3 - Items 1 & 2: Raw Data & Statistical Analysis].
78Q48K	caffeine also present
AJ6LAY	both samples also contained caffeine
E3KNWZ	Measured with qNMR the results for: Item1: 92,31±0,79 weight % metamphetamine-HCl. Item2: 70,39±0,76 weight % metamphetamine-HCl. In our Institute the accreditated method for the quantitative analysis of methamphetamine is HPLC-DAD. Since accreditation of qNMR technique is in progress, we measured these items by qNMR as well. It would be nice and useful for us if the results of qNMR would be also evaluated. Thank you.
EU9A8C	12 injections made up the average. The lowest two and highest two values for each item were excluded from Question 2 above [Table 3 - Items 1 & 2: Raw Data & Statistical Analysis].
EV6RAE	Analyst performed analysis on UV-Vis, but the sample contained caffeine. Caffeine interferes with the UV so this did not generate acceptable results. Intralaboratory samples were created and will be used for the UV test going forward.
FRHMW2	Our laboratory did the calculation to determine methamphetamine HCl purity per PT instructions.
FVGYUL	Measurement uncertainty of purity measurements is reported at a 95.45% level of confidence.
HG9X8V	12 injections made up the average. The lowest two and highest two values for each item were excluded from Question 2 above [Table 3 - Items 1 & 2: Raw Data & Statistical Analysis].
HGXVMG	Item 1 and 2 contain caffeine.
JEHXM6	Caffeine also present
K8YA8U	12 injections made up the average. The lowest two and highest two values for each item were excluded from question 2 above [Table 3 - Items 1 & 2: Raw Data & Statistical Analysis].
KMAQGG	[#- Original raw data reported by participant was: Item 1: 91.11, 70.74; Item 2: 91.14, 70.75. Data was rearranged post report publication per request by the participant, to aid in appropriate self-evaluation. However, CTS policy dictates that data changed after publication is not included in overall statistical calculations.]
LBV3Y4	FTIR and GCMS use for qualitative analysis.
LRYTXL	Qualitative identification for DQ1 item 1: Methamphetamine HCl and Caffeine. Qualitative identification for DQ1 item 2: Methamphetamine HCl and Caffeine.
NKVAR9	FTIR and GCMS used for qualitative confirmation of methamphetamine HCl prior to quantitative analysis.
P6ZAEY	caffeine also present
RYJNJX	Caffeine also present
T27KKW	FTIR and GCMS used for qualitative analysis.
TH9MXU	Caffeine also present
UYFVKF	Item 1 and 2: 3 out of 6 possible integral values were used to determine the purity.

TABLE 5

WebCode	Additional Comments
VE3TYF	NMR quantitation: Item 1 is based on 4 out of 6 integrals; Item 2 is based on 5 out of 6 integrals
WG6X8U	Caffeine present in both samples.
ZDFNTD	12 injections made up the average. The Lowest two and highest two values for each item were excluded from question 2 above [Table 3 - Items 1 & 2: Raw Data & Statistical Analysis].
ZGEYND	12 injections made up the average. The lowest two values and highest two values for each item were excluded from Question 2 above [Table 3 - Items 1 & 2: Raw Data & Statistical Analysis].

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 95% 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		
Data Flag	Statistically Included/Excluded	Explanation
*	Included	Results fall outside 95% ellipse, but within a 99% control limit (ellipse) that is calculated.
X	Excluded	Results fall outside of 99% 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
2ATBKV		91.86	0.429	0.12	72.02	1.090	0.39
2PNQT2		90.57	-0.861	-0.47	70.45	-0.481	-0.41
2W2YU4	M						
39VFJ6		90.34	-1.095	-0.58	70.62	-0.315	-0.32
3G4ACC	X	90.02	-1.411	-0.73	67.75	-3.185	-1.78
3T2VWP		90.02	-1.415	-0.73	70.57	-0.359	-0.35
3WK6R9	X	86.65	-4.781	-2.29	65.97	-4.963	-2.68
48JZP4	*	95.74	4.305	1.92	73.55	2.621	1.17
4BUBHX		90.31	-1.117	-0.59	70.38	-0.552	-0.44
4KLR82	X	96.96	5.529	2.49	72.57	1.640	0.67
6M4C9N		90.74	-0.687	-0.39	69.81	-1.117	-0.73
74NGCV		92.95	1.519	0.63	71.90	0.970	0.33
78Q48K		89.85	-1.581	-0.81	69.80	-1.130	-0.74
7BACDY		92.64	1.205	0.48	72.18	1.254	0.47
7E9MAY		91.22	-0.212	-0.17	71.39	0.463	0.07
7T6P6K		90.54	-0.891	-0.49	71.26	0.330	0.00
7WA8BT		90.03	-1.405	-0.73	70.31	-0.620	-0.48
882JW6	X	92.41	0.979	0.38	75.65	4.715	2.23
8KA73G		93.86	2.424	1.05	72.14	1.210	0.45
99AZMN		93.28	1.851	0.78	72.57	1.635	0.67
9XR98R		92.85	1.419	0.58	71.15	0.220	-0.05
ABBKPE		89.15	-2.281	-1.13	69.80	-1.130	-0.74
AJ6LAY	X	89.30	-2.131	-1.06	75.83	4.904	2.33
AVZUT2		91.27	-0.161	-0.15	69.50	-1.430	-0.89
B73EVU		88.85	-2.586	-1.27	70.04	-0.890	-0.61

WebCode	Data Flag	Item 1			Item 2		
		Participant Mean	Difference from Grand Mean	CPV	Participant Mean	Difference from Grand Mean	CPV
BUJX3M		91.25	-0.185	-0.16	71.30	0.374	0.03
BVZX2H		90.31	-1.117	-0.59	70.94	0.013	-0.16
C48BFR	X	95.87	4.435	1.98	75.35	4.419	2.08
C6Z73Z		91.22	-0.216	-0.17	70.81	-0.120	-0.22
CAT7GV		89.38	-2.056	-1.03	68.61	-2.325	-1.34
CQFLKR		90.54	-0.896	-0.49	70.79	-0.145	-0.24
CVVYMZ		90.72	-0.709	-0.40	70.04	-0.895	-0.62
CW7VUQ		93.39	1.955	0.83	72.88	1.949	0.83
CWL3AF		91.80	0.369	0.10	72.35	1.420	0.56
DFX6PZ		92.92	1.489	0.62	72.25	1.320	0.51
DVP6GY		92.12	0.684	0.24	71.10	0.165	-0.08
E2C9PU		92.09	0.658	0.23	72.88	1.948	0.83
E3KNWZ		89.47	-1.958	-0.98	69.54	-1.390	-0.87
EU9A8C		90.84	-0.593	-0.35	70.48	-0.449	-0.39
EV6RAE	M						
FFQY3M	X	94.11	2.679	1.17	74.58	3.654	1.69
FPAFMG		92.24	0.804	0.30	71.53	0.600	0.14
FRHMW2	X	95.61	4.174	1.86	80.03	9.100	4.46
FTAQJG		91.56	0.129	-0.01	70.57	-0.362	-0.35
FVGYUL		89.64	-1.788	-0.90	69.14	-1.795	-1.07
G4TDCH		90.77	-0.665	-0.38	71.01	0.077	-0.12
G6L9YQ		90.73	-0.706	-0.40	70.85	-0.080	-0.20
G9HYYB		91.80	0.369	0.10	70.95	0.020	-0.15
GBQ6HQ	X	96.62	5.184	2.33	73.78	2.850	1.28
GDJXHF		92.46	1.029	0.40	72.50	1.573	0.64
H49WWE		89.55	-1.886	-0.95	70.01	-0.925	-0.63
HG9X8V		90.97	-0.457	-0.29	70.06	-0.870	-0.60

		Item 1			Item 2		
WebCode	**Data Flag**	**Participant Mean**	**Difference from Grand Mean**	**CPV**	**Participant Mean**	**Difference from Grand Mean**	**CPV**
HGXVMG		92.39	0.959	0.37	70.95	0.020	-0.15
HMKL8R		89.87	-1.560	-0.80	70.37	-0.564	-0.45
HW7WDC	X	88.98	-2.451	-1.21	72.07	1.137	0.41
HXHQTD	X	73.95	-17.481	-8.18	56.02	-14.909	-7.73
J83DLE		92.49	1.056	0.42	70.12	-0.810	-0.57
JCCFNA		90.67	-0.766	-0.43	70.79	-0.145	-0.24
JEHXM6		92.04	0.606	0.21	70.53	-0.397	-0.36
K8YA8U	*	91.48	0.053	-0.05	69.26	-1.673	-1.01
KMAQGG	X	91.13	-0.306		70.74	-0.188	
KWYJQR		92.32	0.884	0.34	72.52	1.590	0.64
L8VUT8		90.84	-0.586	-0.35	71.22	0.291	-0.02
LBV3Y4		93.44	2.005	0.86	72.43	1.504	0.60
LC9PGH		91.82	0.384	0.10	71.67	0.740	0.21
LEBQEU	X	97.44	6.005	2.71	82.05	11.124	5.48
LG3T2A		94.13	2.697	1.18	72.09	1.161	0.43
LQQFFK	X	96.80	5.365	2.41	79.06	8.134	3.97
LRYTXL	*	87.34	-4.093	-1.97	67.69	-3.244	-1.81
LU6XQA	X	89.89	-1.536	-0.79	67.01	-3.923	-2.15
M468B4		90.90	-0.531	-0.32	71.25	0.320	0.00
M93T38		91.39	-0.041	-0.09	70.08	-0.855	-0.60
MC4PUM		89.73	-1.702	-0.86	70.74	-0.195	-0.26
MGGDL7	X	86.40	-5.031	-2.41	76.53	5.595	2.68
MPTPMB		90.50	-0.931	-0.51	69.83	-1.096	-0.72
MUKUFE		90.69	-0.745	-0.42	70.30	-0.631	-0.48
MXLW6F		92.70	1.270	0.51	72.13	1.197	0.44
NCHEVE	X	84.63	-6.800	-3.23	68.75	-2.183	-1.27
NFGPQE	X	86.25	-5.181	-2.48	66.36	-4.571	-2.48

WebCode	Data Flag	Item 1			Item 2		
		Participant Mean	Difference from Grand Mean	CPV	Participant Mean	Difference from Grand Mean	CPV
NKVAR9		92.81	1.375	0.56	71.20	0.274	-0.02
P6ZAEY		91.70	0.269	0.05	70.40	-0.530	-0.43
PFYYF9		90.65	-0.779	-0.44	70.51	-0.417	-0.37
R67R9E		94.65	3.219	1.42	72.75	1.820	0.76
RAK6BM		92.05	0.616	0.21	70.83	-0.102	-0.22
RBXYQN	X	90.19	-1.238	-0.65	75.80	4.874	2.31
RGHUUD		91.72	0.285	0.06	70.67	-0.263	-0.30
RQAAJG	X	91.30	-0.136	-0.14	78.00	7.074	3.43
RYJNJX	X	95.25	3.815	1.70	76.95	6.020	2.89
T27KKW		92.20	0.772	0.28	72.52	1.590	0.64
T4N2E2	X	90.37	-1.065	-0.57	80.83	9.904	4.86
TH9MXU	X	91.53	0.094	-0.03	74.88	3.945	1.84
TTTVK3		92.70	1.272	0.52	71.16	0.227	-0.05
TZEGXG	X	96.44	5.004	2.25	74.45	3.520	1.62
U3TJCZ	X	87.83	-3.601	-1.75	70.52	-0.410	-0.37
UAUXX2		91.22	-0.216	-0.17	70.68	-0.250	-0.29
UNXERA		91.05	-0.386	-0.25	71.31	0.375	0.03
URCYR4		91.13	-0.301	-0.21	70.64	-0.290	-0.31
UYFVKF		90.87	-0.560	-0.33	70.72	-0.211	-0.27
VE3TYF		90.61	-0.822	-0.46	70.16	-0.772	-0.56
VGBTDV		90.72	-0.716	-0.41	70.83	-0.105	-0.22
VVRQJW		91.65	0.219	0.03	70.60	-0.330	-0.33
W2AGHW		91.18	-0.256	-0.19	70.88	-0.055	-0.19
WG6X8U		90.80	-0.631	-0.37	69.95	-0.980	-0.66
WWZDF2	X	93.28	1.846	0.78	74.71	3.778	1.75
XBVYCV	X	69.85	-21.581	-10.09	35.70	-35.230	-18.05
XG2NXA		94.58	3.149	1.39	72.79	1.860	0.78

WebCode	Data Flag	Item 1			Item 2		
		Participant Mean	Difference from Grand Mean	CPV	Participant Mean	Difference from Grand Mean	CPV
ZDFNTD		92.33	0.902	0.34	70.88	-0.051	-0.19
ZGEYND		89.93	-1.502	-0.77	69.58	-1.351	-0.85
ZUXUVW		93.45	2.019	0.86	71.40	0.470	0.08

Response Summary	Item 1	Item 2	Participants: 109
Preparation Concentration	**92%**	**72%**	
Grand Mean	91.43	70.93	
Standard Deviation	1.43	1.07	

Participants Included: 80   Participants Excluded: 26   Participants without Raw Data for both items: 2

Bivariate Control Analysis

Item 1 Grand Mean: 91.43   Item 2 Grand Mean: 70.93
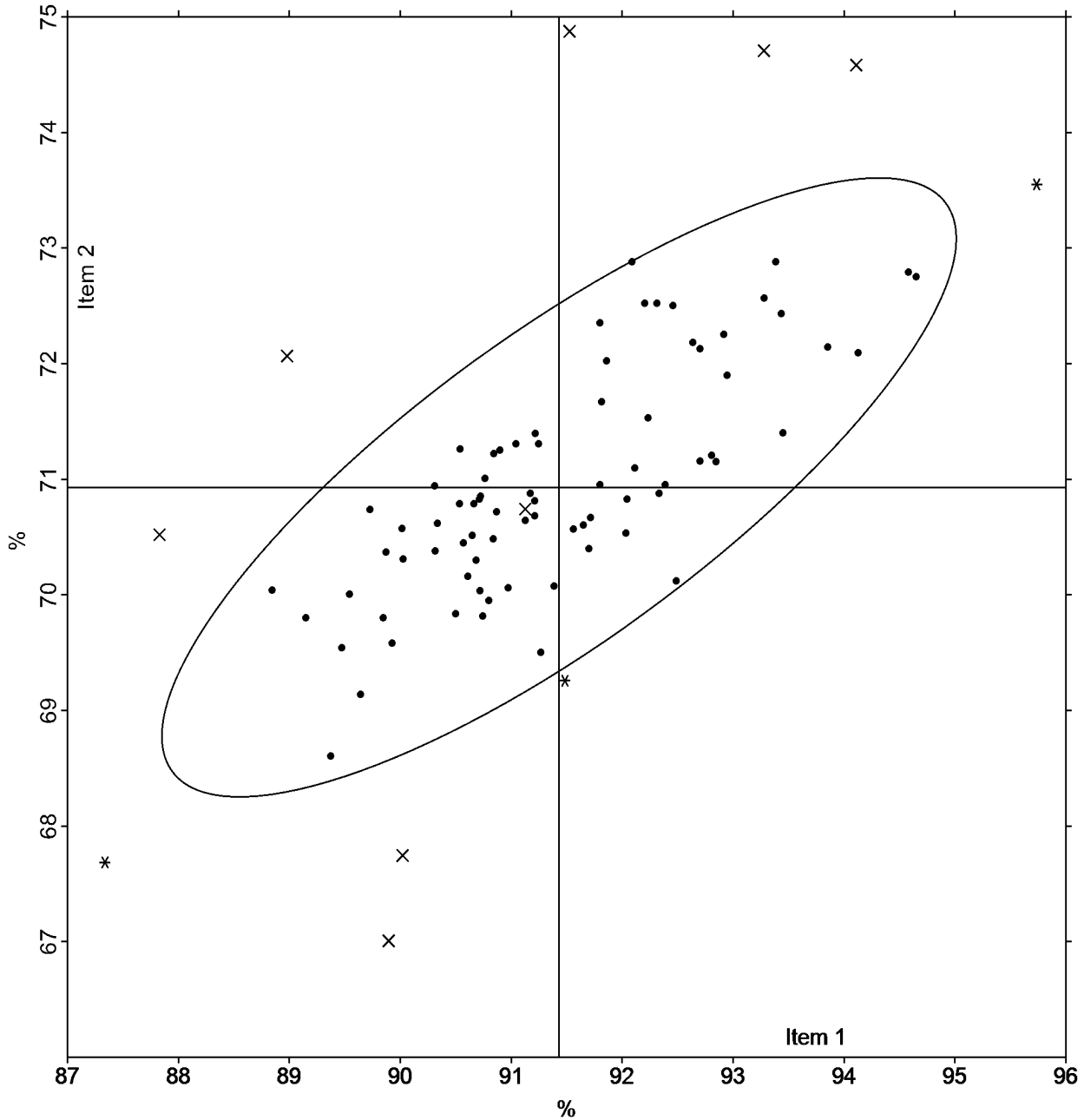
*Not all participants marked as outliers (X) are seen on the graph above due to having mean values that are outside of the x-axis or y-axis percentage ranges.

-End of Report-
(Appendix may follow)

Test No. 22-5051: Quantitative Drug Analysis - Methamphetamine HCl

DATA MUST BE SUBMITTED BY **July 18, 2022, 11:59 p.m.** TO BE INCLUDED IN THE REPORT

Participant Code: U1234A   WebCode: 426P9T

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=)	**Units**
Item 1:	_____	± _____	(_____)
Item 2:	_____	± _____	(_____)

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** (%)

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

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

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)