



## **Blood Drug Analysis Test No. 15-5661 Summary Report**

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This test was sent to 135 participants. The sample sets contained blood samples from three cases, each with an individual case scenario. Each case sample consisted of two grey-topped vials containing human blood with various drugs/metabolites. Participants were requested to examine these items and report their findings. Data were returned from 98 participants (72.6% response rate) and are compiled into the following tables:

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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

The sample sets contained blood samples from three cases, each with an individual case scenario. Each case sample consisted of two grey-topped vials containing 10mL of human blood. Participants were asked to analyze the blood samples and report the presence of any drugs/metabolites, any quantitative data obtained (including uncertainty), methods used, and any additional comments.

### SAMPLE PREPARATION-

The human blood used in this test was from the same lot, which tested negative for a variety of common controlled substances prior to being obtained from a commercial supplier.

A stock solution of 1.0mg/mL of each drug in methanol or acetonitrile was used to spike each item. These solutions were obtained in sealed ampoules and were not opened until needed for production. Items were prepared at separate times using the following procedure, and different glassware was used for each item.

ITEMS 1, 2, and 3 (PREPARATION): Item preparation consisted of adding a predetermined amount of drug stock solution to a beaker containing human whole blood. It was stirred using a magnetic stirrer for 10 minutes before pipetting 10mL of the mixture into each of the pre-labeled vials, which contained 20mg Potassium Oxalate and 100mg Sodium Fluoride. The vials were sealed and inverted 8-10 times to mix the chemicals in the vials with the blood solution. All vials were placed in a refrigerator immediately after production until the sample sets were prepared.

SAMPLE SET ASSEMBLY: Each sample set contained two vials of each of Items 1, 2, and 3 and was placed into a Department of Transportation regulated shipping container. Each sample pack was labeled and returned to the refrigerator until shipment.

### VERIFICATION-

Laboratories that conducted predistribution analysis of the samples reported consistent results that were comparable to the preparation drug concentrations.

<u>Item 1 Drug (Concentration)</u>	<u>Item 2 Drug (Concentration)</u>	<u>Item 3 Drug (Concentration)</u>
Zolpidem (250 ng/mL)	Heroin (120 ng/mL)	Diazepam (400 ng/mL)
	Morphine (1000 ng/mL)	Nordiazepam (450 ng/mL)
	6-monoacetylmorphine (175 ng/mL)	

Please note that the Preparation Value is the value used for calculations during the test preparation phase and may not necessarily represent the final concentration of the samples. It is advised to wait for the Grand Mean statistics available in the Summary and Individual Reports before evaluating performance.

## **Summary Comments**

This test was designed to allow participants to assess their proficiency in the examination for the presence and concentration of drugs and/or metabolites in blood. Each participant was supplied with two vials containing 10mL of human blood spiked with differing drugs and/or metabolites for each of three case scenarios. Participants were asked to report the presence of any drugs/metabolites, any quantitative data obtained (including uncertainty), methods used, and any additional comments. (Refer to the Manufacturer's Information for preparation details.)

Of the 97 participants who reported results for Item 1, 92 (94.8%) reported the presence of zolpidem. The remaining 5 participants reported no controlled drugs/metabolites detected. Of the 97 participants who reported results for Item 2, 87 (89.7%) reported the presence of morphine and/or monoacetylmorphine. Six participants reported no drugs/metabolites detected. Of the 98 participants who reported results for Item 3, 95 (96.9%) reported the presence of diazepam and/or nordiazepam. Additional drugs/metabolites were reported in all samples by many participants, including diphenhydramine, valproic acid, and phenytoin.

If a laboratory indicated that the "reported" quantitative result was a single determination, the conclusive quantitative result was included in the raw data table. The raw data was used to calculate the grand mean and standard deviation for each item. One participant was determined to have "extreme" data ( $\pm 5$  STD from grand mean) for Zolpidem in Item 1. The grand mean and standard deviation are supplied to assist the participants and accrediting bodies in determining the acceptability of results.

CTS acknowledges that drugs/metabolites other than those used to spike the samples were present. The blood used in producing the samples was tested for a variety of common controlled substances. CTS is examining methods to obtain whole blood with fewer contaminating drugs/metabolites from prescription and over the counter medications. In order to narrow the focus of testing in future Blood-Drug proficiency tests, CTS will also be providing a possible list of drugs/metabolites.

# Reported Results - Item 1

What drugs/metabolites were detected in Item 1?

TABLE 1A Item 1 Results

**Item 1 Scenario:**

A 20-year-old female was found partially undressed in a bedroom by friends at a party. She was taken to the hospital after friends observed her exhibiting memory loss, confusion, agitation, and dizziness.

**Item Contents and Preparation Concentration:** Zolpidem (250 ng/mL)

Webcode	Analyte Reported	Qualitative Only	Reported Concentration	Uncertainty	Units
23C9Q4	Zolpidem		0.27	± 0.08	mg/L
2H8PF2	Zolpidem		0.33	0.10	mg/L
2J47RY	Zolpidem	✓			
2UJVTP	Zolpidem		0.32	± 0.10	mg/L
2W63QQ	Zolpidem		0.21	13.5%	mg/L
	Phenytoin		0.46	16.7%	mg/L
	Trazodone		0.01	16.0%	mg/L
34K3J9	Zolpidem		340	+/- 100 or 30%	ng/mL
38LT7N	Zolpidem		220		ng/mL
3B2MJZ	ZOLPIDEM	✓			
3BJC72	ZOLPIDEN[sic]	✓			
3BJC9L	Zolpidem	✓			
3GUF3U	zolpidem	✓			
3XE7Z9	Zolpidem		0.29	± 0.09	mg/L
3YVBLD	Zolpidem		270	77	

TABLE 1A Item 1 Results

Webcode	Analyte Reported	Qualitative Only	Reported Concentration	Uncertainty	Units
46RLYW	Zolpidem		300	41	%
4FDLZY	Zolpidem		0.31	± 0.09	mg/L
4KPHRF	No drugs/metabolites detected				
4PW6AX	Zolpidem	✓			
6G487V	Zolpidem	✓			
6JQWEF	Zolpidem		0.35	± 0.11	mg/L
6R4WMW	Zolpidem		0.32	0.10	mg/L
76M28Y	Zolpidem	✓			
	Trazodone	✓			
	Diphenhydramine	✓			
8MHUTW	Zolpidem		260	80	ng/mL
8YVRZL	Zolpidem	✓			
94NFUX	Zolpidem	✓			
9CBJTK	Zolpidem		0.21	0.02	mg/L
B96VBZ	Zolpidem		0.36	0.11	mg/L
BJP7FL	No drugs/metabolites detected				
BX9K4E	Zolpidem		0.33	± 0.10	mg/L
C49BZP	zolpidem	✓			
CAW9CJ	Zolpidem	✓			

TABLE 1A Item 1 Results

Webcode	Analyte Reported	Qualitative Only	Reported Concentration	Uncertainty	Units
CGEL6Q	Zolpidem	✓			
CTBMUD	Zolpidem		340	100	mcg/mL
D8LN2N	Zolpidem	✓			
DERB36	Zolpidem		2260	+/- 0.03 ug/mL	ng/mL
	Ibuprofen	✓			
EB6ZFK	zolpidem	✓			
	valproic acid	✓			
	acetaminophen	✓			
	caffeine	✓			
	phenytoin	✓			
	ibuprofen	✓			
EE4D2N	Zolpidem		340	100	ng/mL
EGUGUV	Zolpidem		0.32	0.10	mg/L
F38PKE	Zolpidem		181.0		ng/mL
FCW7L3	Zolpidem		0.23	0.03	mg/L
FMVXYA	Zolpidem		240	36	ng/mL
GHDBLF	Zolpidem	✓			
GN2VQG	Zolpidem	✓			
GPEP8H	zolpidem	✓			

TABLE 1A Item 1 Results

Webcode	Analyte Reported	Qualitative Only	Reported Concentration	Uncertainty	Units
GX8MAK	zolpidem		Greater than 200		ng/mL
	phenytoin	✓			
	diphenhydramine[sic]	✓			
H4T3EG	Zolpidem		240	+/- 43	%
HA2G7E	Zolpidem	✓			
HVY836	Zolpidem		0.32	±0.10	mg/L
HWBQZG	Zolpidem	✓			
HZDK6D	Zolpidem		197	+/- 18	ng/mL
	Phenytoin	✓			
J27LU2	Zolpidem		0.33	±0.10	mg/L
JB4WRB	No drugs/metabolites detected				
JGTD7L	Zolpidem		280	80	ng/mL
JRWDX9	Zolpidem		253	+/-20%	ng/mL
KGNDLC	Zolpidem	✓			
KLKZDE	Zolpidem	✓			
KRBCE3	Zolpidem		0.37	± 0.11	mg/L
KY96KB	Zolpidem	✓			
L6C99N	Zolpidem		0.32	0.10	mg/L
L77U42	Zolpidem		0.30	0.09	mg/L

TABLE 1A Item 1 Results

Webcode	Analyte Reported	Qualitative Only	Reported Concentration	Uncertainty	Units
M3Y32D	Zolpidem	✓			
MC6ZUN	Zolpidem		0.31	± 0.09	mg/L
MF9PLW	Zolpidem		0.32	30%	mg/L
MHHJFB	Zolpidem	✓			
N3WWZA	No drugs/metabolites detected				
NCLGNG	No drugs/metabolites detected				
NCPYPZ	Zolpidem		0.34	± 30%	mg/L
NGHZZ	Zolpidem		0.34	± 0.10	mg/L
NHQD9G	Zolpidem		260	80	ng/mL
P27WTQ	Zolpidem		0.24	15%	mg/L
P793BA	Zolpidem	✓			
	Phenytoin	✓			
PT4W84	Zolpidem		233	16.71	ng/ml
PU33NX	Zolpidem		0.33	±0.10	mg/L
PUFJW6	Zolpidem	✓			
	Valproic Acid - do not report < 10 ng/mL	✓			
QXF699	Zolpidem	✓			
RAMGU2	Zolpidem	✓			
RBZ2MB	Zolpidem		290	90	ng/mL



TABLE 1A Item 1 Results

Webcode	Analyte Reported	Qualitative Only	Reported Concentration	Uncertainty	Units
RMVYQB	zolpidem	✓			
TM8CRC	Zolpidem		290	± 90	ng/mL
TY4C72	Zolpidem	✓			
	Ibuprofen	✓			
	Valproic acid	✓			
UDWDC8	Zolpidem	✓			
UGKUYM	zolpidem	✓			
UZQDMA	Zolpidem		0.26	± 0.08	mg/L
VDCYTN	Zolpidem	✓			
	Cotinine	✓			
	Caffeine	✓			
VEVMEP	Zolpidem		0.32	0.10	mg/L
WA9CT6	Zolpidem	✓			
WB494K	Zolpidem		260	N/A	ng/mL
WL3ZFR	Zolpidem		212	14	ng/ml
X9CFJ2	Zolpidem	✓			
XUUQHE	Zolpidem		0.33	+/- 30%	mg/L
XXT8U9	Zolpidem	✓			
	Trazodone	✓			
	Diphenhydramine	✓			

TABLE 1A Item 1 Results

Webcode	Analyte Reported	Qualitative Only	Reported Concentration	Uncertainty	Units
XYLVFP	Zolpidem		0.33	± 0.10	mg/L
Y9Q6H9	Zolpidem	✓			
YA4WBP	Zolpidem		0.31	± 0.09	mg/L
YANN8F	zolpidem		240		ng/mL
YXAH98	Zolpidem	✓			
ZU6AJM	Zolpidem		0.31	± 0.09 (30%)	mg/L
ZYKVEF	Zolpidem	✓			

Response Summary for Item 1		Participants: 97
Zolpidem:	92	
No drugs/metabolites detected:	5	
Other:	21	
Totals may add up to more than the total number of participants because some participants reported multiple drugs/metabolites.		

# Raw Data - Item 1

List of raw data determinations in ng/mL.

TABLE 1B  
Item 1 Raw Data - Zolpidem

Webcode	Raw Data (ng/mL)				Participant Mean
23C9Q4	267.562				267.562
2H8PF2	328.908				328.908
2UJVTP	324.738				324.738
2W63QQ	210.000				210.000
34K3J9	335.946				335.946
38LT7N	215.000				215.000
3XE7Z9	290.904				290.904
3YVBLD	269.000				269.000
46RLYW	300.140				300.140
4FDLZY	314.896				314.896
6JQWEF	346.494				346.494
6R4WMW	318.257				318.257
8MHUTW	257.830				257.830
9CBJTK	208.000	245.000			226.500
B96VBZ	362.761				362.761
BX9K4E	331.506				331.506
CTBMUD	352.520	323.243			337.882
DERB36	2,413.000	2,106.000			2,259.500 X
EE4D2N	338.436				338.436
EGUGUV	317.118	320.788			318.953
F38PKE	180.870				180.870
FCW7L3	243.749	242.094	233.808	214.986	233.659
FMVXYA	240.750				240.750
H4T3EG	242.000				242.000
HVY836	320.654				320.654
HZDK6D	197.410				197.410
J27LU2	328.890				328.890
JGTD7L	294.358	247.980	295.208		279.182
JRWDX9	251.900	255.000			253.450

## Item 1 Raw Data - Zolpidem

Webcode	Raw Data (ng/mL)				Participant Mean
KRBCE3	371.488				371.488
L6C99N	323.167				323.167
L77U42	303.545				303.545
MC6ZUN	314.613				314.613
MF9PLW	324.646				324.646
NCPYPZ	339.480				339.480
NGHZZ	342.347				342.347
NHQD9G	274.498	240.040			257.269
P27WTQ	245.000	237.000	253.000	244.000	244.750
PT4W84	233.000				233.000
PU33NX	326.771				326.771
RBZ2MB	293.704				293.704
TM8CRC	286.313				286.313
UZQDMA	261.886				261.886
VEVMEP	309.146	334.608			321.877
WB494K	262.200				262.200
WL3ZFR	212.870				212.870
XUUQHE	332.932				332.932
XYLVFP	330.326				330.326
YA4WBP	324.165	286.754			305.460
YANN8F	236.000	243.000			239.500
ZU6AJM	309.870				309.870

## Statistical Analysis for Item 1 - Zolpidem

Grand Mean	<b>290.212</b>	Number of Participants Included	<b>50</b>	Number of Participants without Raw Data or Data that was not reported in ng/mL	<b>41</b>
Standard Deviation	<b>47.426</b>	Number of Participants Excluded	<b>1</b>		

**Item 1 Raw Data -**

<b>Webcode</b>	<b>Analyte</b>	<b>Raw Data (ng/mL)</b>	<b>Participant Mean</b>
2W63QQ	Phenytoin	460.000	
	Trazodone	10.000	10.000

**Statistical Analysis for Item 1 - Other**

Please note statistical analysis is not provided for other drug responses.

# Reporting Procedures - Item 1

*If quantitative analysis was performed, the reported concentrations are:*

TABLE 1C - Item 1

Webcode	Quantitative Reporting Procedures
23C9Q4	A single determination.
2H8PF2	A single determination.
2UJVTP	A single determination.
2W63QQ	Single points were used for Zolpidem and Phenytoin. The average of two values was used for Trazodone.
34K3J9	A single determination.
38LT7N	A single determination.
3XE7Z9	A single determination.
3YVBLD	A single determination.
46RLYW	A single determination.
4FDLZY	A single determination.
6JQWEF	A single determination.
6R4WMW	A single determination.
8MHUTW	A single determination.
9CBJTK	Undiluted Results Reported; Other Results Confirmed Approximate Level
B96VBZ	A single determination.
BX9K4E	A single determination.
CTBMUD	The mean of duplicate/several determinations.
DERB36	The mean of duplicate/several determinations.
EE4D2N	A single determination.
EGUGUV	The mean of duplicate/several determinations.
F38PKE	A single determination.
FCW7L3	The mean of duplicate/several determinations.
FMVXYA	A single determination.
GHDBLF	A single determination.
GX8MAK	A single determination.
H4T3EG	A single determination.
HVY836	A single determination.
HZDK6D	A single determination.
J27LU2	A single determination.
JGTD7L	The mean of duplicate/several determinations.
JRWDX9	The mean of duplicate/several determinations.

TABLE 1C - Item 1

<b>Webcode</b>	<b>Quantitative Reporting Procedures</b>
KRBCE3	A single determination.
L6C99N	A single determination.
L77U42	A single determination.
MC6ZUN	A single determination.
MF9PLW	A single determination.
NCPYPZ	A single determination.
NGHZTZ	A single determination.
NHQD9G	The mean of duplicate/several determinations.
P27WTQ	The mean of duplicate/several determinations.
PT4W84	A single determination.
PU33NX	A single determination.
RBZ2MB	A single determination.
TM8CRC	A single determination.
UZQDMA	A single determination.
VEVMEP	The mean of duplicate/several determinations.
WB494K	A single determination.
WL3ZFR	A single determination.
XUUQHE	A single determination.
XYLVFP	A single determination.
YA4WBP	The mean of duplicate/several determinations.
YANN8F	The mean of duplicate/several determinations.
ZU6AJM	A single determination.

<b>Response Summary for Item 1</b>		<b>Participants: 53</b>
A single determination:	40 (75.5%)	
The mean of duplicate/several determinations:	11 (20.8%)	
Other:	2 (3.8%)	

## Method of Analysis - Item 1

TABLE 1D  
Method of Analysis

Webcode	Method	Screening	Confirmatory	Quantitation
23C9Q4	LC/MS/MS	✓	✓	✓
2H8PF2	Immunoassay	✓		
	LC/MS/MS	✓	✓	✓
2J47RY	Immunoassay	✓		
	GC/MS		✓	
2UJVTP	Immunoassay	✓		
	LC/MS/MS	✓	✓	✓
2W63QQ	Immunoassay	✓		
	GC/MS	✓	✓	✓
	LC/MS/MS	✓	✓	✓
34K3J9	Immunoassay	✓		
	LC/MS/MS	✓	✓	✓
38LT7N	Immunoassay	✓		
	LC/MS/MS	✓	✓	✓
	GC/MS	✓		
3B2MJZ	GC/MS	✓	✓	
3BJC72	GC/MS		✓	
	LC/MS		✓	
3BJC9L	GC/MS	✓	✓	
	LC/MS/MS	✓	✓	
3GUF3U	Immunoassay	✓		
	GC/MS	✓	✓	
3XE7Z9	Immunoassay	✓		
	LC/MS/MS	✓	✓	✓
3YVBLD	Immunoassay	✓		
	LC QTOF MS	✓	✓	✓
46RLYW	Immunoassay	✓		
	GC/MS	✓	✓	
	GC/NPD			✓
4FDLZY	LC/MS/MS	✓	✓	✓
4KPHRF	Immunoassay	✓		
4PW6AX	LC/MS/MS	✓		
	GC/MS		✓	
6G487V	Immunoassay	✓		
	GC/MS		✓	



TABLE 1D  
Method of Analysis

Webcode	Method	Screening	Confirmatory	Quantitation
6JQWEF	LC/MS/MS	✓	✓	✓
6R4WMW	Immunoassay	✓		
	GC/MS		✓	
	LC/MS/MS	✓	✓	✓
76M28Y	LC/MS/MS	✓		
	Immunoassay	✓		
8MHUTW	Immunoassay	✓		
	LC/MS/MS	✓		✓
8YVRZL	Immunoassay	✓		
	GC/MS	✓	✓	
94NFUX	Immunoassay	✓		
	LC/MS	✓		
	GC/MS		✓	
9CBJTK	Immunoassay	✓		
	GC/MS	✓		
	LC/MS/MS	✓	✓	✓
B96VBZ	LC/MS/MS	✓	✓	✓
BJP7FL	GC/MS		✓	
BX9K4E	Immunoassay	✓		
	LC/MS/MS	✓	✓	✓
C49BZP	Immunoassay	✓		
	GC/MS		✓	
CAW9CJ	Immunoassay	✓		
	GC/MS		✓	
CGEL6Q	Immunoassay	✓		
	GC/MS	✓	✓	
	GC/NPD	✓		
CTBMUD	Immunoassay	✓		
	LC/MS/MS	✓	✓	✓
D8LN2N	Immunoassay	✓		
	GC/MS		✓	
DERB36	Immunoassay	✓		
	GC/MS		✓	✓
EB6ZFK	Immunoassay	✓		
	GC/MS	✓	✓	
EE4D2N	LC/MS/MS	✓	✓	✓
EGUGUV	LC/MS/MS	✓	✓	✓

TABLE 1D  
Method of Analysis

Webcode	Method	Screening	Confirmatory	Quantitation
F38PKE	Immunoassay GC/MS	✓	✓	✓
FCW7L3	Immunoassay GC/MS LC/MS/MS	✓ ✓ ✓	✓	✓
FMVXYA	LC/MS/MS	✓	✓	✓
GHDBLF	Immunoassay LC/MS GC/MS	✓ ✓	✓	
GN2VQG	Immunoassay GC/MS	✓	✓	
GPEP8H	Immunoassay GC/MS	✓ ✓	✓	
GX8MAK	Immunoassay GC/MS	✓	✓	✓
H4T3EG	Immunoassay GC/MS GC/NPD	✓ ✓	✓	✓
HA2G7E	Immunoassay GC/MS	✓	✓	
HVY836	Immunoassay LC/MS/MS	✓ ✓	✓	✓
HWBQZG	Immunoassay GC/MS GC/NPD	✓ ✓	✓	
HZDK6D	Immunoassay GC/MS	✓ ✓	✓	✓
J27LU2	LC/MS/MS	✓	✓	✓
JB4WRB	Immunoassay LC/MS/MS	✓	✓	
JGTD7L	LC/MS/MS	✓	✓	✓
JRWDX9	Immunoassay GC/MS LC/TOF LC/MS/MS	✓ ✓ ✓	✓	✓
KGNDLC	Immunoassay GC/MS	✓ ✓	✓	

TABLE 1D  
Method of Analysis

Webcode	Method	Screening	Confirmatory	Quantitation
KLKZDE	Immunoassay GC/MS	✓	✓	
KRBCE3	Immunoassay LC/MS/MS	✓ ✓	✓	✓
KY96KB	LC/MS/MS	✓		
L6C99N	Immunoassay LC/MS/MS	✓ ✓	✓	✓
L77U42	LC/MS/MS	✓	✓	✓
M3Y32D	LC/MS/MS	✓	✓	
MC6ZUN	Immunoassay LC/MS/MS	✓ ✓	✓	✓
MF9PLW	Immunoassay LC/MS/MS	✓ ✓	✓	✓
MHHJFB	Immunoassay GC/MS LC/MS	✓ ✓	✓	
N3WWZA	Immunoassay GC/MS	✓ ✓		
NCLGNG	Immunoassay	✓		
NCPYPZ	Immunoassay LC/MS/MS	✓ ✓	✓	✓
NGHZZ	Immunoassay LC/MS/MS	✓ ✓	✓	✓
NHQD9G	LC/MS/MS	✓	✓	✓
P27WTQ	Immunoassay LC/MS/MS LC-QTOF LC-DAD (UV)	✓ ✓ ✓	✓	✓
P793BA	Immunoassay GC/MS	✓	✓	
PT4W84	LC/MS/MS GC/MS	✓	✓	✓
PU33NX	LC/MS/MS	✓	✓	✓
PUFJW6	Immunoassay GC/MS	✓ ✓	✓	
QXF699	Immunoassay GC/MS	✓	✓	

TABLE 1D  
Method of Analysis

Webcode	Method	Screening	Confirmatory	Quantitation
RAMGU2	GC/MS	✓		
	LC/MS/MS	✓	✓	
RBZ2MB	Immunoassay	✓		
	LC/MS/MS	✓	✓	✓
RMVYQB	Immunoassay	✓		
	GC/MS	✓	✓	
TM8CRC	Immunoassay	✓		
	GC/MS	✓		✓
	LC/MS/MS	✓	✓	✓
TY4C72	Immunoassay	✓		
	GC/MS		✓	
UDWDC8	Immunoassay	✓		
	GC/MS	✓	✓	
	GC/NPD	✓		
UGKUYM	Immunoassay	✓		
UZQDMA	Immunoassay	✓		
	LC/MS/MS	✓	✓	✓
VDCYTN	Immunoassay	✓		
	GC/MS		✓	
VEVMEP	LC/MS	✓	✓	✓
WA9CT6	Immunoassay	✓		
	GC/MS		✓	
WB494K	LC/MS/MS		✓	✓
	GC/MS	✓	✓	
	Immunoassay	✓		
WL3ZFR	Immunoassay	✓		
	GC/MS	✓		
	LC/MS/MS		✓	✓
X9CFJ2	Immunoassay	✓		
	GC/MS		✓	
XUUQHE	LC/MS/MS	✓	✓	✓
XXT8U9	Immunoassay	✓		
	LC/MS	✓		
XYLVFP	LC/MS/MS	✓	✓	✓
Y9Q6H9	Immunoassay	✓		
	GC/MS		✓	
	LC/MS/MS	✓		

TABLE 1D  
Method of Analysis

Webcode	Method	Screening	Confirmatory	Quantitation
YA4WBP	LC/MS/MS	✓	✓	✓
YANN8F	GC/MS	✓	✓	✓
	LC/MS/MS	✓		
YXAH98	Immunoassay	✓		
	GC/MS		✓	
	LC/MS/MS	✓		
ZU6AJM	LC/MS/MS	✓	✓	✓
ZYKVEF	LC-TOFMS	✓		
	Immunoassay	✓		
	GC/MS	✓		

Response Summary for Item 1		Participants: 97		
	Screening	Confirmatory	Quantitation	
<b>Immunoassay:</b>	70	0	0	
<b>GC/MS:</b>	26	44	7	
<b>LC/MS:</b>	5	2	1	
<b>LC/MS/MS:</b>	47	45	43	

# Additional Comments for Item 1

TABLE 1E

Webcode	Item 1 - Comments
23C9Q4	mepivacaine
2H8PF2	Mepivacaine
2J47RY	Acid/Base Internal Standard (lot# 20150615) containing Prazepam, Nalorphine, Methanol, and Methohexital. Immunoassay cut-off concentration (ng/ml) for Zolpidem: 20. Base extract 100 (ng/ml) for Zolpidem: 10.
2UJVTP	Internal standard used in testing for the reported analyte was mepivacaine.
2W63QQ	Zolpidem: Internal standard - D6-Zolpidem. Administrative LOQ set at 0.01 mg/L. Trazodone: Internal standard- D6-Trazodone. Administrative LOQ set at 0.01 mg/L. Phenytoin: Internal standard - D10-Phenytoin. Phenytoin and Trazodone detected at similar levels in all three items.
38LT7N	Confirmation limit of detection - 20ng/mL. Internal standard - Zolpidem-D6.
3GUF3U	The following drugs were found but are not being reported: phenytoin, caffeine, valproic acid, ibuprofen, acetaminophen, naproxen.
3XE7Z9	Internal standard: mepivacaine
3YVBLD	Salting-out assisted extraction; ISTD = D3-Methadone; analysis by UPLC - QTOF MS (Waters)
46RLYW	Promazine used as internal standard. Uncertainty calculated using 6 injections of UTAK control. CTS #1 sample quanted in duplicate but diluted samples (x2) not used for sample calculation.
4FDLZY	Mepivacaine - I. S.
6JQWEF	Mepivacaine
6R4WMW	Internal standard - mepivacaine
79PP4N	No Analysis - scenario does not meet case acceptance criteria.
8MHUTW	IS: mepivacaine, LOD: 25 ng/mL.
94NFUX	The [State] Police only report zolpidem qualitatively.
9CBJTK	Internal Standard: Zolpidem-d6. Low cut-off level (ng/mL): 5 ng/mL. Limit of Quantitation: 20 ng/mL. Quantitative Range: 20 to 600 ng/mL.
B96VBZ	Mepivacaine (int. std.)
C49BZP	Screened negative by ELISA. Used barbital and SKF-525a for internal standards.
CGEL6Q	drug screen internal standard- promazine
D8LN2N	Zolpidem: LOD is 12.5 ng/mL. Diphenhydramine: LOD is 12.5 ng/mL - not reported, weak peak. Internal Standard: Prazepam.
DERB36	Internal Standards: methaqualone, barbital, Zolpidem D7. Limit of detection for Zolpidem 50 ng/mL.
EE4D2N	Internal standard - mepivacaine
EGUGUV	Mepivacaine[sic]
FMVXYA	Zolpidem-D6 was used as an internal standard.
GN2VQQ	Internal standard: Prazepam, zolpidem LOD: 12.5 ng/mL. Weak diphenhydramine detected.

TABLE 1E

Webcode	Item 1 - Comments
GPEP8H	Phenytoin, valproic acid, naproxen, ibuprofen, and caffeine were also confirmed in the blood sample. The drugs were not reported independently in section 1-2 because they were confirmed in all three PT samples.
GX8MAK	Phenytoin and diphenhydramine were identified in all three items and are suspected to be artifacts of sample preparation.
HVY836	Zolpidem was quantitated using mepivacaine on the internal standard.
HZDK6D	At this time we do not quantitate Phenytoin. However, the GCMS peak appeared to be a sufficient strength so as to possibly surpass the 10 ng/mL threshold. Therefore, we are reporting Phenytoin. We are reporting Phenytoin as a presumptive positive since it was analyzed by only one type of test.
J27LU2	Internal standard: mepivacaine. Calibration range: 50-1200 ug/L. Limit of reporting: 25 ug/L.
JGTD7L	Internal standard - mepivacaine, Limit of report - 25 ug/L
JRWDX9	CTS items 1, 2 and 3 all contained small amounts of several additional drugs/medications, including valproic acid, phenytoin and naproxen.
KLGZDE	Prazepam - Internal standard. Zolpidem LOD - 12.5 ng/mL.
KRBCE3	ISTD = mepivacaine. Calibration range = 50-1200 ng/mL for zolpidem. LOR= 25 ng/ml. Zolpidem not detected by immunoassay procedure.
L77U42	mepivacaine
MC6ZUN	Mepivacaine is the internal standard.
MF9PLW	Zolpidem quanted off of the internal standard mepivacaine. The limit of report is 0.025 mg/L. Zolpidem is reported with 30% variance making the result 0.30 mg/L +/- 0.10 mg/L. Additional tests for other drugs indicative during screening were less than the limit of report.
NGHZZ	Internal Standard was mepivacaine. Limit of report for zolpidem is 25 ng/mL.
NHQD9G	Internal standard: mepivacaine. Limit of report: 25 ng/mL.
P27WTQ	Internal standard used for quantification: prazepam
P793BA	Hexobarbital (weak acid neutral fraction) and Methapyrilene (basic fraction) were used as internal standards
PU33NX	Internal standard: Mepivacaine
QXF699	GC/MS is used: Prazepam. ELISA cutoff for zolpidem: 20 ng/mL. GCMS LOD for Zolpidem: 12.5 ng/mL. Diphenhydramine detected: not reported
RAMGU2	Internal standard used: cocaine-d3, methaqualone, 6-MAM-d3, morphine-d3, methamphetamine-d9, ketamine-d4. Relatively low level of caffeine, phenytoin, trazodone, carbamazepine and paroxetine detected in sample. Due to level, caffeine, phenytoin, trazodone, carbamazepine and paroxetine were not reported.
TM8CRC	Internal std = mepivacaine. Also detected, but not reported due to poor quality of mass spec and/or quantitation below limit of report: acetaminophen, gabapentin, caffeine, trazodone, diphenhydramine, phenytoin, carbamazepine, paroxetine, aripiprazole.
TY4C72	Valproic acid and Ibuprofen were identified by library match only from the extraction to rule out the presence of GHB.
UDWDC8	Promazine was used as the Internal Standard for the drug screen analysis for GC\NPD & GC\MS.
UZQDMA	internal standard: mepivacaine

TABLE 1E

Webcode	Item 1 - Comments
VEVMEP	Internal standard: mepivacaine
WA9CT6	The internal standard used was Prazepam. The Immunoassay cut-off concentration for Zolpidem is 20 ng/mL. The LOD for Zolpidem is 12.5 ng/mL when a base extraction is performed and a GC/MS is used. Diphenhydramine was identified but not reported due to a poor mass spectrum. The LOD for Diphenhydramine is 12/5 ng/mL when a base extraction is performed and a GC/MS is used.
WB494K	Valproic acid and phenytoin were detected in this sample. Valproic acid present, phenytoin less than 100 ng/mL. Our limit of detection is 2000 ng/mL and 1.0 mg/mL, respectively for Valproic acid and phenytoin.
X9CFJ2	Internal standard (IS): Prazepam. Zolpidem LOD: 12.5 ng/mL.
XUUQHE	Internal standard used - mepivacaine
XXT8U9	Preliminary testing indicates the presence of zolpidem, trazodone, and diphenhydramine; however, no confirmation test was conducted.
XYLVFP	ISTD - Mepivacaine
YA4WBP	Internal std used was mepiv.
YANN8F	nordiazepam-d5 used as internal standard in GC/MS method, not used for drug quantitation. Contemporaneous spiked blood samples at three known drug concentrations analysed simultaneously with samples for drug quantitation. Limits of reporting (GC/MS) - zolpidem 46 ng/mL. Drug concentrations are usually reported in mg/L units (except for THC which is ug/L), and to one significant figure. For example drug concentrations 0.1 - 5.0 mg/L are reported to one decimal place, concentrations > 5.0 mg/L are reported as whole numbers only. Concentrations less than 0.1 mg/L are reported to two decimal places.
YXAH98	We currently do not quant Zolpidem due to updating extraction methods.
ZU6AJM	Internal standard - mepivacaine. LOD/LOR - 25 ng/mL



## Reported Results - Item 2

*What drugs/metabolites were detected in Item 2?*

TABLE 2A Item 2 Results

**Item 2 Scenario:**

A 42-year-old male with a history of opiate abuse was found dead in his cell in a detention center. The previous night his cell had been searched for suspicion of drug trafficking, but no drugs were found.

**Item Contents and Preparation Concentration:** Heroin (120 ng/mL)  
Morphine (1000 ng/mL)  
6-monoacetylmorphine (175 ng/mL)

Webcode	Analyte Reported	Qualitative Only	Reported Concentration	Uncertainty	Units
23C9Q4	Morphine		1.1	0.3	mg/L
	6-MAM	✓			
2H8PF2	Morphine		1.3	0.3	mg/L
	6-monoacetyl-morphine	✓			
2J47RY	Morphine	✓			
	6-monoacetylmorphine (6-MAM)	✓			
2UJVTP	Morphine		1.3	± 0.3	mg/L
	6-monoacetyl-morphine (6-MAM)	✓			
2W63QQ	Morphine		1.3	17%	mg/L
	6-Monoacetylmorphine		0.05	24%	mg/L
	Trazodone		0.01	16%	mg/L
	Phenytoin		0.41	17%	mg/L
34K3J9	Morphine		1200	± 300 or 25%	ng/mL
	6-MAM	✓			
38LT7N	Morphine		1000		ng/mL
	6-monoacetylmorphine	✓	Positive		
3B2MJZ	MORPHINE	✓			
3BJC72	MORFINE[sic]	✓			

TABLE 2A Item 2 Results

Webcode	Analyte Reported	Qualitative Only	Reported Concentration	Uncertainty	Units
3BJC9L	Morphine	✓			
	6-Monoacetylmorphine	✓			
3GUF3U	No drugs/metabolites detected				
3XE7Z9	Morphine		1.3	± 0.3	mg/L
	6-monoacetylmorphine	✓			
3YVBLD	Morphine		1100	220	
	6-Monoacetylmorphine		40	13	
46RLYW	Morphine	✓			
	6-Monoacetylmorphine	✓			
4FDLZY	Morphine		1.3	± 0.3	mg/L
	6-monoacetylmorphine	✓			
4KPHRF	Opiates panel				
4PW6AX	6-Acetylmorphine				
6G487V	Morphine	✓			
	6-monoacetylmorphine	✓			
6JQWEF	Morphine		1.3	+/- 0.3	mg/L
	6-MAM	✓			
6R4WMW	Morphine		1.3	0.3	mg/L
	6-monoacetylmorphine	✓			
76M28Y	Morphine	✓			
	6-Monoacetylmorphine	✓			
	Trazodone	✓			
	Diphenhydramine	✓			
8MHUTW	Morphine		1200	300	ng/mL
	6-MAM	✓			

TABLE 2A Item 2 Results

Webcode	Analyte Reported	Qualitative Only	Reported Concentration	Uncertainty	Units
8YVRZL	Morphine		1200	290	ng/ml
	6-acetylmorphine		167	37	ng/ml
94NFUX	Morphine	✓			
	6-Monoacetylmorphine		24	1	ng/mL
9CBJTK	Morphine		1219	101	ng/mL
	6-monoacetylmorphine	✓			
B96VBZ	Morphine		1.3	0.3	mg/L
	6-monoacetylmorphine	✓			
BJP7FL	No drugs/metabolites detected				
BX9K4E	Morphine		1.3	± 0.3	mg/L
	6-MAM	✓			
C49BZP	No drugs/metabolites detected				
CAW9CJ	6-MAM	✓			
CGEL6Q	morphine	✓			
	6-monoacetylmorphine	✓			
CTBMUD	Morphine		1300	300	ng/mL
	6-monoacetylmorphine	✓			
D8LN2N	Morphine	✓			
	6-monoacetylmorphine	✓			
DERB36	Morphine		1015.1	+/- 0.1 ug/mL	ng/mL
	6-acetylmorphine		<200	N/A	ng/mL
	Phenytoin	✓			
	Naproxen	✓			
	Ibuprofen	✓			
	Diphenhydramine	✓			

TABLE 2A Item 2 Results

Webcode	Analyte Reported	Qualitative Only	Reported Concentration	Uncertainty	Units
EB6ZFK	valproic acid	✓			
	phenytoin	✓			
	ibuprofen	✓			
	caffeine	✓			
	acetaminophen	✓			
EE4D2N	Morphine		1400	400	ng/mL
	6-monoacetylmorphine	✓			
EGUGUV	Morphine		1.3	0.3	mg/L
	6-monoacetylmorphine	✓			
F38PKE	Morphine		>1000.0		ng/mL
	6-monoacetylmorphine (MAM)		38.0		ng/mL
FCW7L3	Morphine		1247	150	ng/mL
	6-monoacetylmorphine	✓			
	Paroxetine		<50		ng/mL
FMVXYA	Morphine		>1000	321	ng/mL
	6-Acetylmorphine (6-MAM)		57	6	ng/mL
GHDBLF	Morphine	✓			
	6-Monoacetylmorphine		17	1	ng/mL
GN2VQG	Morphine	✓			
	6-monoacetylmorphine	✓			
GPEP8H	6-acetylmorphine	✓			
GX8MAK	morphine		greater than 200		ng/mL
	phenytoin	✓			
	diphenhdramine[sic]	✓			
H4T3EG	Morphine		1150	38	%
	6-Monoacetylmorphine	✓			

TABLE 2A Item 2 Results

Webcode	Analyte Reported	Qualitative Only	Reported Concentration	Uncertainty	Units
HA2G7E	Morphine	✓			
	6-MAM	✓			
HVY836	Morphine		1.2	± 0.3	mg/L
	6-monoacetyl-morphine	✓			
HWBQZG	Morphine	✓			
	6-Monoacetylmorphine	✓			
HZDK6D	Morphine		>1000	+/- 130	ng/mL
	6-acetylmorphine		33	+/- 4	ng/mL
	Phenytoin	✓			
J27LU2	Morphine		1.3	±0.3	mg/L
	6-monoacetylmorphine	✓			
JB4WRB	Morphine	✓			
	6-monoacetylmorphine	✓			
JGTD7L	Morphine		1200	300	ng/mL
	6-MAM	✓			
JRWDX9	Morphine		1150	+/-20%	ng/mL
	6-Monoacetylmorphine	✓			
KGNDLC	Morphine		1390		ng/ml
	6-acetylmorphine		66		ng/ml
KLKZDE	Morphine	✓			
	6-monoacetylmorphine	✓			
KRBCE3	Morphine		1.3	±0.3	mg/L
	6-monoacetylmorphine	✓			
KY96KB	Morphine	✓			
	6-MAM	✓			

TABLE 2A Item 2 Results

Webcode	Analyte Reported	Qualitative Only	Reported Concentration	Uncertainty	Units
L6C99N	Morphine		1.3	0.3	mg/L
	6-monoacetylmorphine	✓			
L77U42	Morphine		1.3	0.3	mg/L
	6-monoacetylmorphine	✓			
M3Y32D	Morfina[sic]	✓			
	6-MAM	✓			
MC6ZUN	Morphine		1.3	± 0.3	mg/L
	6-monoacetylmorphine	✓			
MF9PLW	Morphine		1.2	25%	mg/L
	6-monoacetylmorphine	✓			
MHHJFB	6-monoacetylmorphine		12	1	ng/mL
N3WWZA	Morphine		1,082	260	ng/mL
NCLGNG	No drugs/metabolites detected				
NCPYPZ	Morphine		1.3	± 25%	mg/L
	6-MAM	✓			
NGHZTZ	Morphine		1.3	± 0.3	mg/L
	6-monoacetyl morphine (6MAM)	✓			
NHQD9G	Morphine		1200	300	ng/mL
	6-monoacetylmorphine	✓			
P27WTQ	Morphine		1.0	10%	mg/L
	6-monoacetylmorphine	✓			
P793BA	Morphine	✓			
	Phenytoin	✓			
PT4W84	No drugs/metabolites detected				

TABLE 2A Item 2 Results

Webcode	Analyte Reported	Qualitative Only	Reported Concentration	Uncertainty	Units
PU33NX	Morphine		1.3	±0.3	mg/L
	6-MAM	✓			
PUFJW6	Morphine	✓			
	6-Acetylmorphine	✓			
	Valproic Acid - do not report < 10 ng/mL	✓			
QXF699	Morphine	✓			
	6-MAM(monoacetylmorphine)	✓			
RAMGU2	Morphine	✓			
	6-monoacetylmorphine	✓			
RBZ2MB	Morphine		1200	300	ng/mL
	6-MAM	✓			
RMVYQB	No drugs/metabolites detected				
TM8CRC	Morphine		1300	± 300	ng/mL
	6-monoacetylmorphine	✓			
TY4C72	unknown Opiate(s)	✓			
UDWDC8	Morphine	✓			
	6-Monoacetyl-Morpine[sic]	✓			
UGKUYM	opiates	✓			
UZQDMA	Morphine		1.2	± 0.3	mg/L
	6-monoacetylmorphine	✓			
VDCYTN	Morphine		1136	±204	ng/mL
	6-monoacetylmorphine	✓			
	Cotinine	✓			
	Caffeine	✓			

TABLE 2A Item 2 Results

Webcode	Analyte Reported	Qualitative Only	Reported Concentration	Uncertainty	Units
VEVMEP	Morphine		1.2	0.3	mg/L
	6-monoacetylmorphine	✓			
WA9CT6	Morphine	✓			
	6-monoacetylmorphine	✓			
WB494K	Morphine		1600		ng/mL
	6-Monoacetylmorphine	✓			
WL3ZFR	Morphine		901	117	ng/ml
	6-Monoacetylmorphine		49	7	ng/ml
X9CFJ2	Morphine	✓			
	6-monoacetylmorphine	✓			
XUUQHE	Morphine		1.3	± 25%	mg/L
XXT8U9	Morphine	✓			
	6-O-Monoacetylmorphine	✓			
	Zolpidem	✓			
	Trazodone	✓			
	Diphenhydramine	✓			
XYLVFP	Morphine		1.4	± 0.4	mg/L
	6-monoacetylmorphine	✓			
Y9Q6H9	Morphine	✓			
	6-monoacetylmorphine		47	2	ng/mL
YA4WBP	Morphine		1.3	± 0.3	mg/L
	6-MAM	✓			
YANN8F	morphine		1200		ng/ml
	6-MAM		80		ng/ml
YXAH98	Morphine	✓			
	6-monoacetylmorphine		43	2	ng/mL



TABLE 2A Item 2 Results

Webcode	Analyte Reported	Qualitative Only	Reported Concentration	Uncertainty	Units
ZU6AJM	Morphine		1.3	± 0.3 (25%)	mg/L
	6-MAM	✓			
ZYKVEF	morphine		1200		ng/mL
	acetylmorphine	✓			

Response Summary for Item 2	Participants: 97
Morphine:	83
6-monoacetylmorphine:	81
No drugs/metabolites detected:	6
Other:	27
Totals may add up to more than the total number of participants because some participants reported multiple drugs/metabolites.	

**Raw Data - Item 2***List of raw data determinations in ng/mL.*

TABLE 2B

**Item 2 Raw Data - Morphine**

<b>Webcode</b>	<b>Raw Data (ng/mL)</b>			<b>Participant Mean</b>
23C9Q4	1,140.420			1,140.420
2H8PF2	1,319.460			1,319.460
2UJVTP	1,292.280			1,292.280
2W63QQ	1,260.000			1,260.000
34K3J9	1,198.140			1,198.140
38LT7N	1,037.370			1,037.370
3XE7Z9	1,262.820			1,262.820
3YVBLD	1,145.000	1,090.000		1,117.500
4FDLZY	1,281.420			1,281.420
6JQWEF	1,303.800			1,303.800
6R4WMW	1,307.280			1,307.280
8MHUTW	1,179.060			1,179.060
8YVRZL	1,204.000	1,260.000		1,232.000
94NFUX	998.410			998.410
9CBJTK	1,219.000			1,219.000
B96VBZ	1,255.900			1,255.900
BX9K4E	1,028.020	1,325.700		1,176.860
CTBMUD	1,291.000			1,291.000
DERB36	995.800	1,034.500		1,015.150
EE4D2N	1,357.400			1,357.400
EGUGUV	1,271.160			1,271.160
F38PKE	1,376.880			1,376.880
FCW7L3	1,219.278	1,229.976	1,277.591	1,261.895
FMVXYA	1,227.410			1,227.410
H4T3EG	1,153.000			1,153.000
HVY836	1,206.500			1,206.500
HZDK6D	1,014.900			1,014.900
J27LU2	1,315.600			1,315.600
JGTD7L	1,208.580			1,208.580
JRWDX9	1,164.000	1,126.000		1,145.000

TABLE 2B  
Item 2 Raw Data - Morphine

Webcode	Raw Data (ng/mL)				Participant Mean
KGNDLC	1,390.000				1,390.000
KRBCE3	1,287.960				1,287.960
L6C99N	1,310.220				1,310.220
L77U42	1,281.780				1,281.780
MC6ZUN	1,343.720				1,343.720
MF9PLW	1,246.860				1,246.860
N3WWZA	1,082.000				1,082.000
NCPYPZ	1,298.700	1,269.300		1,284.000	
NGHZZ	1,301.940				1,301.940
NHQD9G	1,182.420				1,182.420
P27WTQ	1,016.000	1,032.000	1,003.000	1,006.000	1,014.250
PU33NX	1,272.900				1,272.900
RBZ2MB	1,225.080				1,225.080
TM8CRC	1,866.650	1,262.940		1,564.795	
UZQDMA	1,233.000				1,233.000
VDCYTN	1,143.090	1,129.240		1,136.165	
VEVMEP	1,189.860				1,189.860
WB494K	1,602.200				1,602.200
WL3ZFR	1,198.000	450.870	901.740		850.203
XUUQHE	1,327.100				1,327.100
XYLVFP	1,368.840				1,368.840
Y9Q6H9	1,013.340				1,013.340
YA4WBP	1,283.040				1,283.040
YANN8F	1,170.000				1,170.000
YXAH98	1,020.330				1,020.330
ZU6AJM	1,325.400				1,325.400
ZYKVEF	1,180.000	1,270.000	1,260.000		1,236.667

#### Statistical Analysis for Item 2 - Morphine

Grand Mean	<b>1,227.290</b>	Number of Participants Included	<b>57</b>	Number of Participants without Raw Data or Data that was not reported in ng/mL	<b>26</b>
Standard Deviation	<b>132.019</b>	Number of Participants Excluded	<b>0</b>		

TABLE 2B

## Item 2 Raw Data - 6-monoacetylmorphine

Webcode	Raw Data (ng/mL)			Participant Mean
2W63QQ	50.000			50.000
3YVBLD	37.000	36.000		36.500
8YVRZL	167.000			167.000
94NFUX	24.450			24.450
F38PKE	38.330			38.330
FMVXYA	57.140			57.140
GHDBLF	17.240			17.240
HZDK6D	33.120			33.120
KGNDLC	66.000			66.000
MHHJFB	12.010			12.010
WL3ZFR	49.870			49.870
Y9Q6H9	47.410			47.410
YANN8F	76.000	83.000	77.000	78.667
YXAH98	43.930			43.930

## Statistical Analysis for Item 2 - 6-monoacetylmorphine

Grand Mean <b>51.548</b>	Number of Participants Included <b>14</b>	Number of Participants without Raw Data or Data that was not reported in ng/mL <b>67</b>
Standard Deviation <b>37.826</b>	Number of Participants Excluded <b>0</b>	

TABLE 2B  
Item 2 Raw Data -

Webcode	Analyte	Raw Data (ng/mL)	Participant Mean
2W63QQ	Trazodone	10.000	
	Phenytoin	410.000	

Statistical Analysis for Item 2- Other

Please note statistical analysis is not provided for other drug responses.

## Reporting Procedures - Item 2

*If quantitative analysis was performed, the reported concentrations are:*

TABLE 2C - Item 2

Webcode	Quantitative Reporting Procedures
23C9Q4	A single determination.
2H8PF2	A single determination.
2UJVTP	A single determination.
2W63QQ	A single determination.
34K3J9	A single determination.
38LT7N	A single determination.
3XE7Z9	A single determination.
3YVBLD	The mean of duplicate/several determinations.
4FDLZY	A single determination.
6JQWEF	A single determination.
6R4WMW	A single determination.
8MHUTW	A single determination.
8YVRZL	least dilute, truncated
94NFUX	A single determination.
9CBJTK	Diluted Results Reported (Morphine); Other Results Confirmed Approximate Level/Range
B96VBZ	A single determination.
BX9K4E	The data from 06.23.15 was higher than the highest calibrator. So data from 06.25.2015 was used only (for morphine).
CTBMUD	The mean of duplicate/several determinations.
DERB36	The mean of duplicate/several determinations.
EE4D2N	A single determination.
EGUGUV	A single determination.
F38PKE	A single determination.
FCW7L3	The mean of duplicate/several determinations.
FMVXYA	A single determination.
GHDBLF	A single determination.
GX8MAK	A single determination.
H4T3EG	A single determination.
HVY836	A single determination.
HZDK6D	A single determination.
J27LU2	A single determination.
JGTD7L	A single determination.

TABLE 2C - Item 2

Webcode	Quantitative Reporting Procedures
JRWDX9	The mean of duplicate/several determinations.
KGNDLC	A single determination.
KRBCE3	A single determination.
L6C99N	A single determination.
L77U42	A single determination.
MC6ZUN	A single determination.
MF9PLW	a reduced volume testing with calculations to reflect volume adjustment
MHHJFB	A single determination.
N3WWZA	A single determination.
NCPYPZ	The mean of duplicate/several determinations.
NGHZTZ	A single determination.
NHQD9G	A single determination.
P27WTQ	The mean of duplicate/several determinations.
PU33NX	A single determination.
RBZ2MB	A single determination.
TM8CRC	A single determination.
UZQDMA	A single determination.
VDCYTN	The mean of duplicate/several determinations.
VEVMEP	A single determination.
WB494K	A single determination.
WL3ZFR	A single determination.
XUUQHE	A single determination.
XYLVFP	A single determination.
Y9Q6H9	A single determination.
YA4WBP	A single determination.
YANN8F	The mean of duplicate/several determinations.
YXAH98	A single determination.
ZU6AJM	A single determination.
ZYKVEF	The mean of duplicate/several determinations.

Response Summary for Item 2		Participants: 60
A single determination:	46 (76.7%)	
The mean of duplicate/several determinations:	10 (16.7%)	
Other:	4 (6.7%)	

## Method of Analysis - Item 2

TABLE 2D

### Method of Analysis

Webcode	Method	Screening	Confirmatory	Quantitation
23C9Q4	Immunoassay	✓		
	GC/MS		✓	✓
	LC/MS/MS	✓		
2H8PF2	Immunoassay	✓		
	GC/MS		✓	✓
	LC/MS/MS	✓		
2J47RY	Immunoassay	✓		
	GC/MS		✓	
2UJVTP	Immunoassay	✓		
	GC/MS		✓	✓
2W63QQ	Immunoassay	✓		
	GC/MS	✓	✓	✓
	LC/MS/MS	✓	✓	✓
34K3J9	Immunoassay	✓		
	GC/MS		✓	✓
	LC/MS	✓		
38LT7N	Immunoassay	✓		
	GC/MS	✓	✓	✓
	LC/MS/MS	✓		
3B2MJZ	GC/MS	✓	✓	
3BJC72	GC/MS		✓	
	LC/MS		✓	
3BJC9L	GC/MS	✓	✓	
	LC/MS/MS	✓	✓	
3GUF3U	Immunoassay	✓		
	GC/MS	✓	✓	
3XE7Z9	Immunoassay	✓		
	GC/MS		✓	✓
	LC/MS/MS	✓		



TABLE 2D  
Method of Analysis

Webcode	Method	Screening	Confirmatory	Quantitation
3YVBLD	Immunoassay	✓		
	LC/MS/MS		✓	✓
	LC QTOF MS	✓		
46RLYW	Immunoassay	✓		
	GC/MS		✓	
	GC/NPD	✓		
4FDLZY	Immunoassay	✓		
	GC/MS		✓	✓
	LC/MS/MS	✓		
4KPHRF	Immunoassay	✓		
4PW6AX	LC/MS/MS	✓		
	GC/MS		✓	
6G487V	Immunoassay	✓		
	GC/MS		✓	
6JQWEF	Immunoassay	✓		
	GC/MS		✓	✓
6R4WMW	Immunoassay	✓		
	GC/MS		✓	✓
	LC/MS/MS	✓	✓	
76M28Y	LC/MS/MS	✓		
	Immunoassay	✓		
8MHUTW	Immunoassay	✓		
	GC/MS			✓
	LC/MS/MS	✓		
8YVRZL	Immunoassay	✓		
	GC/MS	✓	✓	✓
94NFUX	Immunoassay	✓		
	LC/MS	✓		
	GC/MS		✓	✓
9CBJTK	Immunoassay	✓		
	GC/MS	✓		
	LC/MS/MS	✓	✓	✓

TABLE 2D  
Method of Analysis

Webcode	Method	Screening	Confirmatory	Quantitation
B96VBZ	Immunoassay	✓		
	GC/MS		✓	✓
BJP7FL	GC/MS		✓	
BX9K4E	Immunoassay	✓		
	GC/MS		✓	✓
	LC/MS/MS	✓		
C49BZP	Immunoassay	✓		
	GC/MS		✓	
CAW9CJ	Immunoassay	✓		
	LC/MS/MS		✓	
CGEL6Q	Immunoassay	✓		
	GC/MS	✓	✓	
	GC/NPD	✓		
CTBMUD	Immunoassay	✓		
	GC/MS		✓	✓
	LC/MS/MS	✓		
D8LN2N	Immunoassay	✓		
	GC/MS		✓	
DERB36	Immunoassay	✓		
	GC/MS		✓	✓
EB6ZFK	Immunoassay	✓		
	GC/MS	✓	✓	
EE4D2N	Immunoassay	✓		
	GC/MS		✓	✓
EGUGUV	Immunoassay	✓		
	GC/MS		✓	✓
F38PKE	Immunoassay	✓		
	GC/MS		✓	✓
FCW7L3	LC/MS/MS	✓	✓	✓
FMVXYA	LC/MS/MS	✓	✓	✓

TABLE 2D  
Method of Analysis

Webcode	Method	Screening	Confirmatory	Quantitation
GHDBLF	Immunoassay	✓		
	LC/MS	✓		
	GC/MS		✓	✓
GN2VQG	Immunoassay	✓		
	GC/MS		✓	
GPEP8H	Immunoassay	✓		
	GC/MS	✓	✓	
GX8MAK	Immunoassay	✓		
	GC/MS		✓	✓
H4T3EG	Immunoassay	✓		
	GC/MS		✓	
	LC/MS			✓
HA2G7E	Immunoassay	✓		
	LC/MS/MS		✓	
HVY836	Immunoassay	✓		
	GC/MS		✓	✓
	LC/MS/MS	✓		
HWBQZG	Immunoassay	✓		
	GC/MS	✓	✓	
	GC/NPD	✓		
HZDK6D	Immunoassay	✓		
	GC/MS	✓	✓	✓
J27LU2	Immunoassay	✓		
	GC/MS		✓	✓
JB4WRB	Immunoassay	✓		
	LC/MS/MS		✓	
JGTD7L	Immunoassay	✓		
	GC/MS		✓	✓
JRWDX9	Immunoassay	✓		
	GC/MS	✓		
	LC/TOF	✓		
	LC/MS/MS		✓	✓

TABLE 2D  
Method of Analysis

Webcode	Method	Screening	Confirmatory	Quantitation
KGNLDC	Immunoassay	✓		
	GC/MS	✓		
	LC/MS/MS		✓	✓
KLKZDE	Immunoassay	✓		
	GC/MS		✓	
KRBCE3	Immunoassay	✓		
	GC/MS		✓	✓
	LC/MS/MS	✓		
KY96KB	LC/MS/MS	✓		
L6C99N	Immunoassay	✓		
	GC/MS		✓	✓
L77U42	Immunoassay	✓		
	GC/MS		✓	✓
M3Y32D	GC/MS		✓	
	LC/MS/MS		✓	
MC6ZUN	Immunoassay	✓		
	GC/MS		✓	✓
	LC/MS/MS	✓		
MF9PLW	Immunoassay	✓		
	GC/MS		✓	✓
	LC/MS/MS	✓	✓	✓
MHHJFB	Immunoassay	✓		
	LC/MS	✓		
	GC/MS		✓	
N3WWZA	Immunoassay	✓		
	GC/MS		✓	✓
NCLGNG	Immunoassay	✓		
NCPYPZ	Immunoassay	✓		
	GC/MS		✓	✓
	LC/MS/MS	✓		
NGHZZ	Immunoassay	✓		
	GC/MS		✓	✓
	LC/MS/MS	✓		

TABLE 2D  
Method of Analysis

Webcode	Method	Screening	Confirmatory	Quantitation
NHQD9G	Immunoassay	✓		
	GC/MS		✓	✓
P27WTQ	Immunoassay	✓		
	GC/MS	✓		✓
	LC-QTOF	✓	✓	
	LC-DAD (UV)	✓		
P793BA	Immunoassay	✓		
	GC/MS		✓	
PT4W84	Immunoassay	✓		
	GC/MS	✓		
PU33NX	Immunoassay	✓		
	GC/MS		✓	✓
	LC/MS/MS	✓		
PUFJW6	Immunoassay	✓		
	GC/MS	✓	✓	
QXF699	Immunoassay	✓		
	GC/MS		✓	
RAMGU2	GC/MS	✓		
	LC/MS/MS	✓	✓	
RBZ2MB	Immunoassay	✓		
	GC/MS		✓	✓
	LC/MS/MS	✓		
RMVYQB	Immunoassay	✓		
	GC/MS	✓	✓	
TM8CRC	Immunoassay	✓		
	GC/MS		✓	✓
	LC/MS/MS	✓		✓
TY4C72	Immunoassay	✓		
	GC/MS		✓	
UDWDC8	Immunoassay	✓		
	GC/MS		✓	
	GC-NPD	✓		
UGKUYM	Immunoassay	✓		

TABLE 2D  
Method of Analysis

Webcode	Method	Screening	Confirmatory	Quantitation
UZQDMA	Immunoassay	✓		
	GC/MS		✓	✓
	LC/MS/MS	✓		
VDCYTN	Immunoassay	✓		
	GC/MS		✓	✓
VEVMEP	Immunoassay	✓		
	GC/MS		✓	✓
WA9CT6	Immunoassay	✓		
	GC/MS		✓	
WB494K	GC/MS	✓	✓	✓
	Immunoassay	✓		
WL3ZFR	Immunoassay	✓		
	GC/MS	✓		
	LC/MS/MS		✓	✓
X9CFJ2	Immunoassay	✓		
	GC/MS		✓	
XUUQHE	Immunoassay	✓		
	GC/MS		✓	✓
XXT8U9	Immunoassay	✓		
	LC/MS	✓		
XYLVFP	Immunoassay	✓		
	GC/MS		✓	✓
Y9Q6H9	Immunoassay	✓		
	GC/MS		✓	✓
	LC/MS/MS	✓		
YA4WBP	Immunoassay	✓		
	GC/MS		✓	✓
YANN8F	GC/MS	✓	✓	✓
	LC/MS/MS	✓	✓	✓
YXAH98	Immunoassay	✓		
	GC/MS		✓	✓
	LC/MS/MS	✓		

TABLE 2D  
Method of Analysis

Webcode	Method	Screening	Confirmatory	Quantitation
ZU6AJM	Immunoassay	✓		
	GC/MS		✓	✓
ZYKVEF	Immunoassay	✓		
	LC/MS/MS		✓	✓
	LC-TOFMS	✓		

Response Summary for Item 2			Participants: 97		
	Screening	Confirmatory	Quantitation		
<b>Immunoassay:</b>	86	0	0		
<b>GC/MS:</b>	22	76	50		
<b>LC/MS:</b>	5	1	1		
<b>LC/MS/MS:</b>	31	18	12		

## Additional Comments for Item 2

TABLE 2E

Webcode	Item 2 - Comments
23C9Q4	mepivacaine, nalorphine
2H8PF2	nalorphine
2J47RY	Acid/Base Internal Standard (lot# 20150615) containing Prazepam, Nalorphine, Methanol and Methohexital. Mepivacaine Internal Standard (lot# 20150528) containing Mepivacaine and Methanol. Immunoassay cut-off concentration (ng/ml) for 6-MAM and Morphine, respectively: Not available, 50. Base extract LOD (ng/ml) for 6-MAM and Morphine, respectively: 150, not available. Base extract, TMS derivative LOD (ng/ml) for 6-MAM: 25. Base extract, di-TMS derivative LOD (ng/ml) for Morphine: 25.
2UJVTP	The internal standard used was mepivacaine.
2W63QQ	Morphine: Internal standard - D3-Morphine. 6-Monoacetylmorphine: Internal standard - D3-6-Monoacetylmorphine. Trazodone: Internal standard- D6-Trazodone. Administrative LOQ set at 0.01 mg/L. Phenytoin: Internal standard - D10-Phenytoin. Phenytoin and Trazodone detected at similar levels in all three items.
38LT7N	Confirmation limit of detection (Morphine) - 10ng/mL. Confirmation limit of detection (6-MAM) - 15ng/mL. Internal standard (Morphine and 6-MAM) - Morphine-D3.
3GUF3U	The following were detected but are not being reported: phenytoin, caffeine, valproic acid, ibuprofen, acetaminophen, naproxen.
3XE7Z9	Internal standard: Nalorphine
3YVBLD	Quantitation by UPLC TQD (Waters); using deuterated internal standards; LOD for both analytes is 2 ng/mL
46RLYW	Promazine used for internal standard for butyl acetate extraction ran on GC/NPD and GC/MS. Nalorphine used for internal standard for opiate confirmation ran on GC/MS.
4FDLZY	Nalorphine - I.S.
6JQWEF	Nalorphine
6R4WMW	Internal standard - nalorphine
79PP4N	No analysis - scenario does not meet case acceptance criteria.
8MHUTW	IS: Mepivacaine, LOD: 3.1 ng/mL
94NFUX	Morpine[sic] reported qualitatively based on [Laboratory] protocol. The sample concentration was greater than the established calibration range of 20-400 ng/mL.
9CBJTK	For 6-Monoacetylmorphine - Internal Standard: 6-Monoacetylmorphine-d6. Low cut-off level: 6.25 ng/mL. For Morphine - Internal Standard: Morphide-d6, Low cut-off level: 12.5 ng/mL, Limit of Quantitation: 25 ng/mL, Quantitative Range: 25 to 800 ng/mL. [Raw data value for Morphine: ">800"]
B96VBZ	nalorphine (int. std)
BX9K4E	The data from 06.23.15 was higher than the highest calibrator for morphine. The testing was reported, with a reduced volume on 06.25.15. Calculations were done to account for the reduced volume and only this data was used for the results.
C49BZP	Screened positive by ELISA for opiates. Used SKF-525a and barbital as internal standards.



TABLE 2E

Webcode	Item 2 - Comments
CAW9CJ	Morphine appeared present but analyst was unable to complete test because the LC/MS/MS had a collision cell error and had to be taken out of service. Contacted Service Engineer and they are on vacation and will not be able to repair the instrument before the results are due.
CGEL6Q	drug screen internal standard - promazine. opiate confirmation internal standard- nalorphine.
D8LN2N	Morphine: LOD 50 ng/mL. 6-MAM: LOD 150 ng/mL, TMS - 25 ng/mL. Diphenhydramine - not reported, weak peak. IS - Prazepam, Nalorphine - diTMS, Mepivacaine.
DERB36	[Raw data value for 6-Acetylmorphine: <200, <200.] Internal Standards: methaqualone, barbital, nalorphine. Limits of detection: morphine 25 ng/mL; 6-Acetylmorphine 25 ng/mL
EB6ZFK	Item 2 blood sample screened positive for opiates but currently our confirmation method is not optimized for codeine, morphine or 6- acetylmorphine.
EE4D2N	Internal standard - nalorphine
EGUGUV	Nalorphine
FCW7L3	1. Morphine concentration determined using dilution factor 4; 2. For paroxetine, limit of quantitation raised due to 1:4 dilution (i.e., LOQ = 50 ng/mL, upon dilution 4xLOQ = 200 ng/mL) [Raw data values for Paroxetine: <50, <200, <200]
FMVXYA	6-MAM-D6 and Morphine-D3 were used as internal standards. The laboratories upper limit of quantitation is 1,000 ng/mL for morphine.
GHDBLF	Morphine was greater than Upper Limit of Quantitation. Presence Only.
GN2VQG	Internal standards: prazepam & nalorphine. Morphine LOD: 50 ng/mL (di-TMS derivative). 6-monoacetylmorphine LOD: 150 ng/mL. 6-monoactylmorphine[sic] - TMS derivative: 25 ng/mL. Weak diphenhydramine detected.
GPEP8H	Phenytoin, valproic acid, naproxen, ibuprofen, and caffeine were also confirmed in the blood sample. The drugs were not reported independently in section 2-2 [Table 2A-Item 2 Results] because they were confirmed in all three PT samples.
GX8MAK	Phenytoin and diphenhydramine were identified in all three items and are suspected to be artifacts of sample preparation.
HVV836	Nalorphine was used as the internal standard to quantitate morphine. Mepivacaine was used as the internal standard to report 6-monoacetylmorphine.
HZDK6D	See page 3 of 9 [Table 1E-Item 1-Comments]
J27LU2	Internal standard: Nalorphine. Calibration range: 12.5 - 200 ug/L. Limit of reporting: 3.1ug/L. Note: First quantitative run item #2 was not on the calibration curve. Second quantitative run item #2 was diluted to a 1:10 dilution in order for level to fall on calibration curve.
JGTD7L	Internal standard - nalorphine. Limit of report - 3.1 µg/L.
JRWDX9	As for items 1 [Table 1E-Item 1-Comments].
KLKZDE	Prazepam, nalorphine - Internal standards. 6-monoacetylmorphine LOD - 25 ng/mL (derivatized), 150 ng/mL (underivatized). Morphine LOD: 50 ng/mL (derivatized).
KRBCE3	Internal std = nalorphine. LOR morphine = 3.1 ng/mL (mg/L). *Calibration range = 25-400 ng/mL*. Reduced volume (0.5 mL rather than 3 mL) used to obtain reported concentration (214.66 ng/mL x 6 = 1287.96).
L77U42	Nalorphine
MC6ZUN	Nalorphine, Mepivacaine was used to positively identify 6 MAM

TABLE 2E

Webcode	Item 2 - Comments
MF9PLW	Morphine quantitated off of internal standard, nalorphine. Both morphine + 6- monoacetyl-morphine butylated like nalorphine during testing. Morphine limit of report is 3.1 ug/L. It's reported with 25% variance making the result 1.2 mg/L +/- 0.3 mg/L. 6-monoacetyl-morphine qualitatively identified based of mepivacaine internal standard. Additional tests for other drugs indicative during screening were less than the limit of report.
MHHJFB	Morphine was above the ULOQ, report as presence only.
N3WWZA	Internal Standards: Cocaine-D3, Benzoylcegonine-D3, Codeine-D6, Morphine-D6. Limits of Detection: Cocaine = 10 ng/mL, Benzoylcegonine = 20 ng/mL, Codeine = 20 ng/mL, Hydrocodone = 20 ng/mL, Hydromorphone = 20 ng/mL, Morphine = 20 ng/mL, Oxycodone = 10 ng/mL.
NCPYPZ	6-MAM = 6 - monoacetylmorphine
NGHZTZ	Initial quantitation of morphine was above/outside calibration curve - repeated w/ lesser volume. Internal standard used was nalorphine, w/ both drugs being butylated during extraction procedure. Limit of report for morphine is 3.1 ng/mL.
NHQD9G	Internal standard: nalorphine. Limit of report 3.1 ng/mL.
P27WTQ	Internal standard used for quantification: D3-morphine
P793BA	Hexobarbital and Methapyrilene were used for internal standards. Confirmation of morphine was done by TMS Derivatization[sic].
PT4W84	Opiate positive on the EMIT screen, No Basic Drugs Detected on the basic drug screen performed by GC/MS.
PU33NX	Internal standard: Mepivacaine
QXF699	GCMS is Prazepam, nalorphine (for derivatized samples), mepivacaine. ELISA opiate cutoff: 50 ng/mL (morphine). GCMS LODs morphine: 50 ng/mL (derivatized), 6-MAM: 25ng/mL (derivatized). Diphenhydramine detected: not reported (poor MS).
RAMGU2	Internal standard used: cocaine-d3, methaqualone, 6-MAM-d3, morphine-d3, methamphetamine-d9, ketamine-d4. Relatively low level of caffeine, phenytoin, trazodone, carbamazepine and paroxetine detected in sample. Due to level, caffeine, phenytoin, trazodone, carbamazepine and paroxetine were not reported.
TM8CRC	Int. std used for morphine = nalorphine. Initial quantitation was higher than highest calibrator of 200 ng/mL. Reported concentration comes from a reduced volume extraction as well as a calibration curve up to 400 ng/mL. Also detected, but not reported due to poor quality of mass spec and/or quantitation below limit of report: acetaminophen, gabapentin, caffeine, trazodone, diphenhydramine, phenytoin, carbamazepine, paroxetine, aripiprazole. [From Table 2B-Item 2 Raw Data-Morphine: First value "Not used".]
TY4C72	Item #2 screened positive for opiates but [Laboratory] was unable to confirm the presence of an opiate.
UDWDC8	Promazine was used as the Internal Standard for the drug screen analysis for GC\NPD & GC\MS. Nalorphine was used as the Internal Standard for the opiate confirmation on GC\MS.
UZQDMA	internal standards: mepivacaine, nalorphine
VDCYTN	Morphine: Internal Std = Morphine D3, LOD = 25 ng/mL
VEVMEP	Internal standard: Nalorphine

TABLE 2E

Webcode	Item 2 - Comments
WA9CT6	The internal standard used for the Base extraction was Prazepam. The internal standards used for the derivatized extraction was Prazepam, Mepivacaine, and Nalorphine. The Immunoassay cut-off concentration for Morphine is 50 ng/mL. The LOD for Morphine is 50 ng/mL when a derivatized extraction is performed and a GC/MS is used. The LOD for 6-Monoacetyl-morphine is 150 ng/mL when a base extraction is performed and 25 ng/mL when a derivatized extraction is performed and a GC/MS is used. Diphenhydramine was identified but not reported due to a poor mass spectrum. The LOD for Diphenhydramine is 12.5 ng/mL when a base extraction is performed and a GC/MS is used.
WB494K	Phenytoin was detected at less than 1.0 ug/mL (LOD = 0.50 ug/mL). Valproic was detected qualitatively only (LOD= 2.0 ug/mL)
WL3ZFR	The initial analysis for morphine gave us a result that was above our calibration range (10-500ng/ml). The sample was then re-extracted and this time there was a 1/2 dilution performed to bring the value within the calibration range (450.87). The result was then multiplied by two to get the final concentration of 901 ng/ml
X9CFJ2	IS: Prazepam, Nalorphine (TMS). 6-MAM LOD: 150 ng/mL non-derivatized, 25 ng/mL derivatized. Morphine LOD: 50 ng/mL derivatized.
XUUQHE	Internal standard used - nalorphine
XXT8U9	Preliminary testing indicates the presence of morphine, 6-o-monoacetylmorphine, zolpidem, trazodone, and diphenhydramine; however, no confirmation test was conducted.
XYLVFP	ISTD - nalorphine. 3mL test, sampled at reduced volume of 0.5mL
Y9Q6H9	Morphine was reported as presence only because the concentration was above the calibrated range for this compound in this extraction.
YA4WBP	Internal std used is nalorphine.
YANN8F	nordiazepam-d5 used as internal standard in GC/MS method, not used for drug quantitation. Contemporaneous spiked blood samples at three known drug concentrations analysed simultaneously with samples for drug quantitation. MDMA-d5 used as internal standard to quantitate 6-MAM in LC/MS/MS method. morphine-d3 used as an internal standard to quantitate morphine in LC/MS/MS method. Limits of reporting (GC/MS) - 6-MAM 82 ng/mL, morphine 21 ng/mL; (LC/MS/MS) - 6-MAM 10 ng/mL, morphine 10 ng/mL. Drug concentrations are usually reported in mg/L units (except for THC which is ug/L), and to one significant figure. For example drug concentrations 0.1 - 5.0 mg/L are reported to one decimal place, concentrations > 5.0 mg/L are reported as whole numbers only. Concentrations less than 0.1 mg/L are reported to two decimal places.
YXAH98	Morphine value fell above ULOQ (400ng/mL), reported as presence only per our policy.
ZU6AJM	Internal standard - nalorphine. LOD/LOR - 3.1 ng/mL.
ZYKVEF	The morphine level would be reported as approximate as the sample required dilution prior to analysis. Our measurement of uncertainty does not cover this situation. The morphine level was determined using solid-phase extraction and a deuterated internal standard. The limit of quantitation is 20 ng/mL for this assay.

## Reported Results - Item 3

*What drugs/metabolites were detected in Item 3?*

TABLE 3A Item 3 Results

### Item 3 Scenario:

A 50-year-old female was pulled over for drifting in and out of traffic lanes. The officer observed horizontal gaze nystagmus, slurred speech, and poor balance. A breath alcohol test resulted in 0.00 percent. Blood was drawn approximately 90 minutes later.

**Item Contents and Preparation Concentration:** Diazepam (400 ng/mL)  
Nordiazepam (450 ng/mL)

Webcode	Analyte Reported	Qualitative Only	Reported Concentration	Uncertainty	Units
23C9Q4	Diazepam		0.42	± 0.13	mg/L
	Nordiazepam		0.50	± 0.15	mg/L
2H8PF2	Diazepam		0.59	0.18	mg/L
	Nordiazepam		0.57	0.17	mg/L
2J47RY	Diazepam	✓			
	Nordiazepam	✓			
2UJVTP	Diazepam		0.49	± 0.15	mg/L
	Nordiazepam		0.56	± 0.17	mg/L
2W63QQ	Diazepam		0.33	12.7%	mg/L
	Nordiazepam		0.37	13.1	mg/L
	Trazodone		0.01	16.0%	mg/L
	Phenytoin		0.39	16.7	mg/L
34K3J9	Diazepam		460	± 140 or 30%	ng/mL
	Nordiazepam		460	± 140 or 30%	ng/mL
38LT7N	Diazepam		330		ng/mL
	Nordiazepam		410		ng/mL
3B2MJZ	DIAZEPAM	✓			
	NORDIAZEPAM	✓			

TABLE 3A Item 3 Results

Webcode	Analyte Reported	Qualitative Only	Reported Concentration	Uncertainty	Units
3BJC72	DIAZEPAM	✓			
	NORDIAZEPAM	✓			
3BJC9L	Diazepam	✓			
	Nordiazepam	✓			
	4-Acetoxyl DMT	✓			
3GUF3U	diazepam	✓			
	nordiazepam	✓			
3XE7Z9	Diazepam		0.42	± 0.13	mg/L
	Nordiazepam		0.42	± 0.13	mg/L
3YVBLD	Diazepam		480	37	
	Nordiazepam		450	61	
46RLYW	Diazepam		360	36	%
	Nordiazepam		400	34	%
	Phenytoin	✓			
4FDLZY	Diazepam		0.51	± 0.15	mg/L
	Nordiazepam		0.58	± 0.17	mg/L
4KPHRF	Benzodiazepines panel				
4PW6AX	Diazepam	✓			
	Nordiazepam	✓			
6G487V	Diazepam	✓			
	Nordiazepam	✓			
6JQWEF	Diazepam		0.47	± 0.14	mg/L
	Nordiazepam		0.51	± 0.15	mg/L

TABLE 3A Item 3 Results

Webcode	Analyte Reported	Qualitative Only	Reported Concentration	Uncertainty	Units
6R4WMW	Diazepam		0.49	0.15	mg/L
	Nordiazepam		0.49	0.15	mg/L
76M28Y	Diazepam	✓			
	Nordiazepam	✓			
	Trazodone	✓			
	Diphenhydramine	✓			
79PP4N	Diazepam	✓			
	Nordiazepam	✓			
8MHUTW	Diazepam		440	130	ng/mL
	Nordiazepam		510	150	ng/mL
8YVRZL	Diazepam		420	72	ng/ml
	Nordiazepam		432	74	ng/ml
94NFUX	Diazepam		435	52	ng/mL
	Nordiazepam		424	42	ng/mL
9CBJTK	Diazepam		0.41	0.04	mg/L
	Nordiazepam		0.45	0.05	mg/L
B96VBZ	Diazepam		0.52	0.16	mg/L
	Nordiazepam		0.57	0.17	mg/L
BJP7FL	diazepam	✓			
BX9K4E	Diazepam		0.56	± 0.17	mg/L
	Nordiazepam		0.50	± 0.15	mg/L
C49BZP	diazepam	✓			
	nordiazepam	✓			

TABLE 3A Item 3 Results

Webcode	Analyte Reported	Qualitative Only	Reported Concentration	Uncertainty	Units
CAW9CJ	Diazepam	✓			
	Nordiazepam	✓			
CGEL6Q	diazepam	✓			
	nordiazepam	✓			
CTBMUD	Diazepam		450	140	ng/mL
	Nordiazepam		520	160	ng/mL
D8LN2N	Diazepam	✓			
	Nordiazepam	✓			
DERB36	Diazepam		370	+/- 0.04 ug/mL	ng/mL
	Nordiazepam		333.9	+/- 0.05 ug/ml	ng/mL
	Ibuprofen	✓			
	Phenytoin	✓			
EB6ZFK	diazepam	✓			
	nordiazepam	✓			
	phenytoin	✓			
	valproic acid	✓			
	caffeine	✓			
	acetaminophen	✓			
	ibuprofen	✓			
EE4D2N	Diazepam		470	140	ng/mL
	Nordiazepam		510	150	ng/mL
EGUGUV	Diazepam		0.54	0.16	mg/L
	Nordiazepam		0.51	0.15	mg/L

TABLE 3A Item 3 Results

Webcode	Analyte Reported	Qualitative Only	Reported Concentration	Uncertainty	Units
F38PKE	Diazepam		357.0		ng/mL
	Nordiazepam		398.0		ng/mL
FCW7L3	Diazepam		0.42	0.08	mg/L
	Nordiazepam		0.45	0.05	mg/L
FMVXYA	Diazepam		371	44	ng/mL
	Nordiazepam		454	121	ng/mL
GHDBLF	Diazepam		362	43	ng/mL
	Nordiazepam		415	42	ng/mL
GN2VQG	Diazepam	✓			
	Nordiazepam	✓			
GPEP8H	diazepam	✓			
	nordiazepam	✓			
GX8MAK	diazepam		394		ng/mL
	N-desmethyldiazepam		438		ng/mL
	diphenhydramine	✓			
	phenytoin	✓			
H4T3EG	Diazepam	✓			
	Nordiazepam	✓			
HA2G7E	Diazepam	✓			
	Nordiazepam	✓			
HVY836	Diazepam		0.45	± 0.14	mg/L
	Nordiazepam		0.52	± 0.16	mg/L



TABLE 3A Item 3 Results

Webcode	Analyte Reported	Qualitative Only	Reported Concentration	Uncertainty	Units
HWBQZG	Diazepam		440	36	%
	Nordiazepam		465	40	%
HZDK6D	Diazepam		330	+/- 76	ng/mL
	Nordiazepam		400	+/- 84	ng/mL
	Phenytoin	✓			
J27LU2	Diazepam		0.58	±0.17	mg/L
	Nordiazepam		0.52	±0.16	mg/L
JB4WRB	Diazepam	✓			
	Nordiazepam	✓			
JGTD7L	Diazepam		400	120	ng/mL
	Nordiazepam		490	150	ng/mL
JRWDX9	Diazepam		436	+/-20%	ng/mL
	Nordiazepam		481	+/-20%	ng/mL
KGNDLC	Diazepam		315	23%	ng/ml
	Nordiazepam		356	25%	ng/ml
KLKZDE	Diazepam	✓			
	Nordiazepam	✓			
KRBCE3	Diazepam		0.59	± 0.18	mg/L
	Nordiazepam		0.57	± 0.17	mg/L
KY96KB	Diazepam	✓			
	Nordiazepam	✓			
L6C99N	Diazepam		0.56	0.17	mg/L
	Nordiazepam		0.55	0.17	mg/L

TABLE 3A Item 3 Results

Webcode	Analyte Reported	Qualitative Only	Reported Concentration	Uncertainty	Units
L77U42	Diazepam		0.46	0.14	mg/L
	Nordiazepam		0.52	0.16	mg/L
M3Y32D	Diazepam	✓			
	Nordiazepam	✓			
MC6ZUN	Diazepam		0.53	± 0.16	mg/L
	Nordiazepam		0.52	± 0.16	mg/L
MF9PLW	Diazepam		0.59	30%	mg/L
	Nordiazepam		0.71	30%	mg/L
MHHJFB	Diazepam		358	43	ng/mL
	Nordiazepam		423	42	ng/mL
N3WWZA	Diazepam		> 250		ng/mL
	Nordiazepam		> 250		ng/mL
NCLGNG	Benzodiazepine	✓			
NCPYPZ	Diazepam		0.49	± 30%	mg/L
	Nordiazepam		0.55	30%	mg/L
NGHZZ	Diazepam		0.42	± 0.13	mg/L
	Nordiazepam		0.47	± 0.14	mg/L
NHQD9G	Diazepam		390	120	ng/mL
	Nordiazepam		460	140	ng/mL
P27WTQ	Diazepam		0.36	15%	mg/L
	Desmethyldiazepam		Approx. 0.4	15%	mg/L

TABLE 3A Item 3 Results

Webcode	Analyte Reported	Qualitative Only	Reported Concentration	Uncertainty	Units
P793BA	Diazepam	✓			
	Nordiazepam	✓			
	Phenytoin	✓			
PT4W84	Diazepam		377	14.60	ng/ml
	Nordiazepam		462	19.01	ng/ml
PU33NX	Diazepam		0.53	±0.16	mg/L
	Nordiazepam		0.49	±0.15	mg/L
PUFJW6	Diazepam	✓			
	Nordiazepam	✓			
	Valproic Acid - do not report <10 ng/mL	✓			
QXF699	Diazepam	✓			
	Nordiazepam	✓			
RAMGU2	Diazepam	✓			
	Nordazepam[sic]	✓			
RBZ2MB	Diazepam		430	130	ng/mL
	Nordiazepam		500	150	ng/mL
RMVYQB	diazepam	✓			
	nordiazepam	✓			
TM8CRC	Diazepam		440	± 130	ng/mL
	Nordiazepam		510	± 150	ng/mL
TY4C72	Diazepam	✓			
UDWDC8	Diazepam	✓			
	Nordiazepam	✓			

TABLE 3A Item 3 Results

Webcode	Analyte Reported	Qualitative Only	Reported Concentration	Uncertainty	Units
UGKUYM	benzodiazepines	✓			
UZQDMA	Diazepam		0.39	± 0.12	mg/L
	Nordiazepam		0.44	± 0.13	mg/L
VDCYTN	Diazepam		373	41	ng/mL
	Nordiazepam		422	46	ng/mL
VEVMEP	Diazepam		0.60	0.18	mg/L
	Nordiazepam		0.46	0.14	mg/L
WA9CT6	Diazepam	✓			
	Nordiazepam	✓			
WB494K	Diazepam		390 ng/mL		
	Nordiazepam		440 ng/mL		
WL3ZFR	Diazepam		311	34	ng/ml
	Nordiazepam		379	45	ng/ml
X9CFJ2	Diazepam	✓			
	Nordiazepam	✓			
XUUQHE	Diazepam		0.58	± 30%	mg/L
	Nordiazepam		0.56	± 30%	mg/L
XXT8U9	Diazepam	✓			
	Nordiazepam	✓			
	Diphenhydramine	✓			
	Trazodone	✓			
XYLVFP	Diazepam		0.52	± 0.16	mg/L
	Nordiazepam		0.58	± 0.17	mg/L

TABLE 3A Item 3 Results

Webcode	Analyte Reported	Qualitative Only	Reported Concentration	Uncertainty	Units
Y9Q6H9	Diazepam		354	42	ng/mL
	Nordiazepam		416	42	ng/mL
YA4WBP	Diazepam		0.55	± 0.17	mg/L
	Nordiazepam		0.51	± 0.15	mg/L
YANN8F	diazepam		350		ng/mL
	nordiazepam		430		ng/mL
YXAH98	Diazepam		367	44	ng/mL
	Nordiazepam		413	41	ng/mL
ZU6AJM	Diazepam		0.53	± 0.16 (30%)	mg/L
	Nordiazepam		0.51	± 0.15	mg/L
ZYKVEF	Diazepam		350		ng/mL
	Nordiazepam		420		ng/mL

Response Summary for Item 3		Participants: 98
Diazepam:	95	
Nordiazepam	93	
Other:	23	
<p>Totals may add up to more than the total number of participants because some participants reported multiple drugs/metabolites.</p>		

# Raw Data - Item 3

List of raw data determinations in ng/mL.

TABLE 3B

## Item 3 Raw Data - Diazepam

Webcode	Raw Data (ng/mL)			Participant Mean
23C9Q4	417.736			417.736
2H8PF2	591.415			591.415
2UJVTP	490.863			490.863
2W63QQ	330.000			330.000
34K3J9	461.439			461.439
38LT7N	328.900			328.900
3XE7Z9	424.239			424.239
3YVBLD	476.000			476.000
46RLYW	380.000	340.000		360.000
4FDLZY	513.262			513.262
6JQWEF	470.725			470.725
6R4WMW	494.937			494.937
8MHUTW	465.726	418.418		442.072
8YVRZL	420.000			420.000
94NFUX	435.700			435.700
9CBJTK	403.000	414.000		408.500
B96VBZ	516.115			516.115
BX9K4E	558.558			558.558
CTBMUD	451.023			451.023
DERB36	370.000			370.000
EE4D2N	468.839			468.839
EGUGUV	539.736			539.736
F38PKE	357.460			357.460
FCW7L3	426.988	422.555	425.411	422.570
FMVXYA	371.760			371.760
GHDBLF	362.680			362.680
GX8MAK	394.000			394.000
HVY836	450.234			450.234
HWBQZG	420.000	460.000		440.000
HZDK6D	330.420			330.420
J27LU2	578.722			578.722
JGTD7L	418.091	377.788		397.940
JRWDX9	450.000	423.000		436.500
KGNDLC	315.000			315.000

**Item 3 Raw Data - Diazepam**

<b>Webcode</b>	<b>Raw Data (ng/mL)</b>			<b>Participant Mean</b>
KRBCE3	594.397			594.397
L6C99N	562.414			562.414
L77U42	455.097			455.097
MC6ZUN	531.291			531.291
MF9PLW	655.540	528.788		592.164
MHHJFB	358.180			358.180
NCPYPZ	492.001			492.001
NGHZZ	417.005			417.005
NHQD9G	380.449	397.502		388.976
P27WTQ	368.000	355.000	367.000	363.333
PT4W84	377.000			377.000
PU33NX	530.370			530.370
RBZ2MB	429.005			429.005
TM8CRC	439.829			439.829
UZQDMA	429.329	360.618		394.974
VDCYTN	372.030	374.210		373.120
VEVMEP	602.666			602.666
WB494K	390.860			390.860
WL3ZFR	311.290			311.290
XUUQHE	577.436			577.436
XYLVFP	520.065			520.065
Y9Q6H9	354.340			354.340
YA4WBP	550.425			550.425
YANN8F	353.000	346.000		349.500
YXAH98	367.300			367.300
ZU6AJM	533.946			533.946
ZYKVEF	354.000	340.000	349.000	347.667

<b>Statistical Analysis for Item 3 - Diazepam</b>			
Grand Mean	<b>443.177</b>	Number of Participants Included	<b>61</b>
Standard Deviation	<b>81.854</b>	Number of Participants Excluded	<b>0</b>
		Number of Participants without Raw Data or Data that was not reported in ng/mL	<b>34</b>

## Item 3 Raw Data - Nordiazepam

Webcode	Raw Data (ng/mL)				Participant Mean
23C9Q4	496.607				496.607
2H8PF2	567.101				567.101
2UJVTP	563.980				563.980
2W63QQ	370.000				370.000
34K3J9	462.933				462.933
38LT7N	406.900				406.900
3XE7Z9	415.235				415.235
3YVBLD	452.000				452.000
46RLYW	420.000	390.000			405.000
4FDLZY	579.535				579.535
6JQWEF	507.949				507.949
6R4WMW	488.380				488.380
8MHUTW	539.574	486.672			513.123
8YVRZL	432.000				432.000
94NFUX	424.780				424.780
9CBJTK	463.000	427.000			445.000
B96VBZ	569.733				569.733
BX9K4E	501.164				501.164
CTBMUD	515.795				515.795
DERB36	333.900				333.900
EE4D2N	512.708				512.708
EGUGUV	506.047				506.047
F38PKE	397.720				397.720
FCW7L3	461.982	464.766	428.983	436.014	447.936
FMVXYA	454.070				454.070
GHDBLF	415.150				415.150
GX8MAK	438.000				438.000
HVY836	520.426				520.426
HWBQZG	450.000	480.000			465.000
HZDK6D	399.640				399.640
J27LU2	517.744				517.744
JGTD7L	491.579	482.338			486.959
JRWDX9	488.000	474.000			481.000
KGNDLC	356.000				356.000
KRBCE3	573.621				573.621
L6C99N	554.585				554.585
L77U42	520.097				520.097
MC6ZUN	523.421				523.421



**Item 3 Raw Data - Nordiazepam**

<b>Webcode</b>	<b>Raw Data (ng/mL)</b>			<b>Participant Mean</b>
MF9PLW	800.063	622.847		711.455
MHHJFB	423.370			423.370
NCPYPZ	554.347			554.347
NGHZZZ	467.860			467.860
NHQD9G	427.784	484.764		456.274
P27WTQ	355.000			355.000
PT4W84	462.000			462.000
PU33NX	492.326			492.326
RBZ2MB	503.428			503.428
TM8CRC	510.421			510.421
UZQDMA	471.012	406.456		438.734
VDCYTN	419.760	425.000		422.380
VEVMEP	458.855			458.855
WB494K	442.300			442.300
WL3ZFR	379.800			379.800
XUUQHE	559.094			559.094
XYLVFP	583.218			583.218
Y9Q6H9	416.850			416.850
YA4WBP	507.891			507.891
YANN8F	426.000	423.000	444.000	431.000
YXAH98	413.230			413.230
ZU6AJM	507.651			507.651
ZYKVEF	420.000	436.000	422.000	426.000

**Statistical Analysis for Item 3 - Nordiazepam**

Grand Mean	<b>474.504</b>	Number of Participants Included	<b>61</b>	Number of Participants without Raw Data or Data that was not reported in ng/mL	<b>32</b>
Standard Deviation	<b>68.299</b>	Number of Participants Excluded	<b>0</b>		

**Item 3 Raw Data - Other**

<b>Webcode</b>	<b>Analyte</b>	<b>Raw Data (ng/mL)</b>
2W63QQ	Trazodone	10.000
	Phenytoin	390.000

**Statistical Analysis for Item 3- Other**

Please note statistical analysis is not provided for other drug responses.

## Reporting Procedures - Item 3

*If quantitative analysis was performed, the reported concentrations are:*

TABLE 3C - Item 3

WebCode	Quantitative Reporting Procedures
23C9Q4	A single determination.
2H8PF2	A single determination.
2UJVTP	A single determination.
2W63QQ	A single determination.
34K3J9	A single determination.
38LT7N	A single determination.
3XE7Z9	A single determination.
3YVBLD	A single determination.
46RLYW	The mean of duplicate/several determinations.
4FDLZY	A single determination.
6JQWEF	A single determination.
6R4WMW	A single determination.
8MHUTW	The mean of duplicate/several determinations.
8YVRZL	A single determination.
94NFUX	A single determination.
9CBJTK	The mean of duplicate/several determinations.
B96VBZ	A single determination.
BX9K4E	A single determination.
CTBMUD	A single determination.
DERB36	A single determination.
EE4D2N	A single determination.
EGUGUV	A single determination.
F38PKE	A single determination.
FCW7L3	The mean of duplicate/several determinations.
FMVXYA	A single determination.
GHDBLF	A single determination.
GX8MAK	A single determination.
HVY836	A single determination.

TABLE 3C - Item 3

WebCode	Quantitative Reporting Procedures
HWBQZG	The mean of duplicate/several determinations.
HZDK6D	A single determination.
J27LU2	A single determination.
JGTD7L	The mean of duplicate/several determinations.
JRWDX9	The mean of duplicate/several determinations.
KGNDLC	A single determination.
KRBCE3	A single determination.
L6C99N	A single determination.
L77U42	A single determination.
MC6ZUN	A single determination.
MF9PLW	A single determination.
MHHJFB	A single determination.
N3WWZA	A single determination.
NCPYPZ	A single determination.
NGHZTZ	A single determination.
NHQD9G	The mean of duplicate/several determinations.
P27WTQ	The mean of duplicate/several determinations.
PT4W84	A single determination.
PU33NX	A single determination.
RBZ2MB	A single determination.
TM8CRC	A single determination.
UZQDMA	The mean of duplicate/several determinations.
VDCYTN	The mean of duplicate/several determinations.
VEVMEP	A single determination.
WB494K	A single determination.
WL3ZFR	A single determination.
XUUQHE	A single determination.
XYLVFP	A single determination.
Y9Q6H9	A single determination.
YA4WBP	A single determination.

TABLE 3C - Item 3

WebCode	Quantitative Reporting Procedures
YANN8F	The mean of duplicate/several determinations.
YXAH98	A single determination.
ZU6AJM	A single determination.
ZYSVEF	The mean of duplicate/several determinations.

Response Summary for Item 3		Participants: 62
A single determination:	49 (79.0%)	
The mean of duplicate/several determinations:	13 (21.0%)	
Other:	0 (0.0%)	

## Method of Analysis - Item 3

TABLE 3D  
Method of Analysis

WebCode	Method	Screening	Confirmatory	Quantitation
23C9Q4	Immunoassay	✓		
	LC/MS/MS	✓	✓	✓
2H8PF2	Immunoassay	✓		
	LC/MS/MS	✓	✓	✓
2J47RY	Immunoassay	✓		
	GC/MS		✓	
2UJVTP	Immunoassay	✓		
	LC/MS/MS	✓	✓	✓
2W63QQ	Immunoassay	✓		
	GC/MS	✓	✓	✓
	LC/MS/MS	✓	✓	✓
34K3J9	Immunoassay	✓		
	LC/MS/MS	✓	✓	✓
38LT7N	Immunoassay	✓		
	GC/MS	✓		
	LC/MS/MS	✓	✓	✓
3B2MJZ	GC/MS	✓	✓	
3BJC72	LC/MS		✓	
	LC/MS/MS		✓	
3BJC9L	LC/MS/MS	✓	✓	
3GUF3U	Immunoassay	✓		
	GC/MS	✓	✓	
3XE7Z9	Immunoassay	✓		
	LC/MS/MS	✓	✓	✓
3YVBLD	Immunoassay	✓		
	LC/MS/MS		✓	✓
	LC QTOF MS	✓		
46RLYW	Immunoassay	✓		
	GC/MS	✓	✓	
	GC/NPD	✓		
	LC/UV			✓

TABLE 3D  
Method of Analysis

WebCode	Method	Screening	Confirmatory	Quantitation
4FDLZY	Immunoassay	✓		
	LC/MS/MS	✓	✓	✓
4KPHRF	Immunoassay	✓		
4PW6AX	LC/MS/MS	✓		
	GC/MS		✓	
6G487V	Immunoassay	✓		
	GC/MS		✓	
6JQWEF	Immunoassay	✓		
	LC/MS/MS		✓	✓
6R4WMW	Immunoassay	✓		
	GC/MS		✓	
	LC/MS/MS	✓	✓	✓
76M28Y	LC/MS/MS	✓		
	Immunoassay	✓		
79PP4N	Immunoassay	✓		
	GC/MS		✓	
8MHUTW	Immunoassay	✓		
	LC/MS/MS	✓		✓
8YVRZL	Immunoassay	✓		
	GC/MS	✓	✓	
	LC/MS		✓	✓
94NFUX	Immunoassay	✓		
	LC/MS	✓		
	GC/MS		✓	✓
9CBJTK	Immunoassay	✓		
	GC/MS	✓		
	LC/MS/MS	✓	✓	✓
B96VBZ	Immunoassay	✓		
	LC/MS/MS	✓	✓	✓
BJP7FL	GC/MS		✓	
BX9K4E	Immunoassay	✓		
	LC/MS/MS	✓	✓	✓

TABLE 3D  
Method of Analysis

WebCode	Method	Screening	Confirmatory	Quantitation
C49BZP	Immunoassay	✓		
	GC/MS		✓	
CAW9CJ	Immunoassay	✓		
	GC/MS		✓	
CGEL6Q	Immunoassay	✓		
	GC/MS	✓	✓	
	GC/NPD	✓		
CTBMUD	Immunoassay	✓		
	LC/MS/MS	✓	✓	✓
D8LN2N	Immunoassay	✓		
	GC/MS		✓	
DERB36	Immunoassay	✓		
	GC/MS		✓	✓
EB6ZFK	Immunoassay	✓		
	GC/MS	✓	✓	
EE4D2N	Immunoassay	✓		
	LC/MS/MS		✓	✓
EGUGUV	Immunoassay	✓		
	LC/MS/MS		✓	✓
F38PKE	Immunoassay	✓		
	GC/MS		✓	✓
FCW7L3	Immunoassay	✓		
	GC/MS	✓		
	LC/MS/MS	✓	✓	✓
FMVXYA	LC/MS/MS	✓	✓	✓
GHDBLF	Immunoassay	✓		
	LC/MS	✓		
	GC/MS		✓	✓
GN2VQG	Immunoassay	✓		
	GC/MS		✓	
GPEP8H	Immunoassay	✓		
	GC/MS	✓	✓	



**TABLE 3D**  
**Method of Analysis**

<b>WebCode</b>	<b>Method</b>	<b>Screening</b>	<b>Confirmatory</b>	<b>Quantitation</b>
GX8MAK	Immunoassay	✓		
	GC/MS		✓	✓
H4T3EG	Immunoassay	✓		
	GC/MS		✓	
	GC/NPD	✓		
HA2G7E	Immunoassay	✓		
	GC/MS		✓	
HVY836	Immunoassay	✓		
	LC/MS/MS	✓	✓	✓
HWBQZG	Immunoassay	✓		
	GC/MS	✓	✓	
	GC/NPD	✓		✓
HZDK6D	Immunoassay	✓		
	GC/MS	✓	✓	✓
J27LU2	Immunoassay	✓		
	LC/MS/MS	✓	✓	✓
JB4WRB	Immunoassay	✓		
	LC/MS/MS		✓	
JGTD7L	Immunoassay	✓		
	LC/MS/MS	✓	✓	✓
JRWDX9	Immunoassay	✓		
	GC/MS	✓		
	LC/TOF	✓		
	LC/MS/MS		✓	✓
KGNLDC	Immunoassay	✓		
	LC/MS/MS		✓	✓
KLKZDE	Immunoassay	✓		
	GC/MS		✓	
KRBCE3	Immunoassay	✓		
	LC/MS/MS	✓	✓	✓
KY96KB	LC/MS/MS	✓		

TABLE 3D  
Method of Analysis

WebCode	Method	Screening	Confirmatory	Quantitation
L6C99N	Immunoassay	✓		
	LC/MS/MS	✓	✓	✓
L77U42	Immunoassay	✓		
	LC/MS/MS	✓	✓	✓
M3Y32D	LC/MS/MS	✓	✓	
MC6ZUN	Immunoassay	✓		
	LC/MS/MS	✓	✓	✓
MF9PLW	Immunoassay	✓		
	GC/MS		✓	✓
	LC/MS/MS	✓	✓	✓
MHHJFB	Immunoassay	✓		
	LC/MS	✓		
	GC/MS		✓	
N3WWZA	Immunoassay	✓		
	LC/MS/MS		✓	✓
NCLGNG	Immunoassay	✓		
NCPYPZ	Immunoassay	✓		
	LC/MS/MS	✓	✓	✓
NGHZZ	Immunoassay	✓		
	LC/MS/MS	✓	✓	✓
NHQD9G	Immunoassay	✓		
	LC/MS/MS		✓	✓
P27WTQ	Immunoassay	✓		
	LC/MS/MS			✓
	LC-QTOF	✓	✓	
	LC-DAD (UV)	✓		✓
P793BA	Immunoassay	✓		
	GC/MS		✓	
PT4W84	LC/MS/MS		✓	✓
	GC/MS	✓		
	Immunoassay	✓		

TABLE 3D  
Method of Analysis

WebCode	Method	Screening	Confirmatory	Quantitation
PU33NX	Immunoassay	✓		
	LC/MS/MS	✓	✓	✓
PUFJW6	Immunoassay	✓		
	GC/MS	✓	✓	
QXF699	Immunoassay	✓		
	GC/MS		✓	
RAMGU2	GC/MS	✓		
	LC/MS/MS	✓	✓	
RBZ2MB	Immunoassay	✓		
	LC/MS/MS	✓	✓	✓
RMVYQB	Immunoassay	✓		
	GC/MS	✓	✓	
TM8CRC	Immunoassay	✓		
	LC/MS/MS	✓	✓	✓
TY4C72	Immunoassay	✓		
	GC/MS		✓	
UDWDC8	Immunoassay	✓		
	GC/MS		✓	
	GC/NPD	✓		
UGKUYM	Immunoassay	✓		
UZQDMA	Immunoassay	✓		
	LC/MS/MS	✓	✓	✓
VDCYTN	Immunoassay	✓		
	GC/MS		✓	✓
VEVMEP	Immunoassay	✓		
	LC/MS		✓	✓
WA9CT6	Immunoassay	✓		
	GC/MS		✓	
WB494K	Immunoassay	✓		
	GC/MS	✓	✓	✓

TABLE 3D  
Method of Analysis

WebCode	Method	Screening	Confirmatory	Quantitation
WL3ZFR	Immunoassay	✓		
	GC/MS	✓		
	LC/MS/MS		✓	✓
X9CFJ2	Immunoassay	✓		
	GC/MS		✓	
XUUQHE	Immunoassay	✓		
	LC/MS/MS	✓	✓	✓
XXT8U9	Immunoassay	✓		
	LC/MS	✓		
XYLVFP	Immunoassay	✓		
	LC/MS/MS	✓	✓	✓
Y9Q6H9	Immunoassay	✓		
	GC/MS		✓	
	LC/MS/MS	✓		
YA4WBP	Immunoassay	✓		
	LC/MS/MS		✓	✓
YANN8F	GC/MS	✓	✓	✓
YXAH98	Immunoassay	✓		
	GC/MS		✓	✓
	LC/MS/MS	✓		
ZU6AJM	Immunoassay	✓		
	LC/MS	✓	✓	✓
ZYKVEF	Immunoassay	✓		
	LC/MS/MS		✓	✓
	LC-TOFMS	✓		

Response Summary for Item 3		Participants: 98		
	Screening	Confirmatory	Quantitation	
<b>Immunoassay:</b>	88	0	0	
<b>GC/MS:</b>	21	43	12	
<b>LC/MS:</b>	5	4	3	
<b>LC/MS/MS:</b>	40	48	45	

## Additional Comments for Item 3

TABLE 3E

WebCode	Item 3 - Comments
23C9Q4	Mepivacaine, diazepam-d5
2H8PF2	Diazepam-d5
2J47RY	Acid/Base Internal Standard (lot# 20150615) containing Prazepam, Nalorphine, Methanol, and Methohexital. Immunoassay cut-off concentration (ng/ml) for Diazepam and Nordiazepam: not available. Base extract LOD (ng/ml) for Diazepam and Nordiazepam, respectively: 5, 12.5.
2UJVTP	The internal standards used during testing were diazepam-d5 and mepivacaine.
2W63QQ	Diazepam: Internal standard - D5-Diazepam. Administrative LOQ set at 0.01 mg/L. Nordiazepam: Internal standard - D5-Nordiazepam. Administrative LOQ set at 0.01 mg/L. Trazodone: Internal standard- D6-Trazodone. Administrative LOQ set at 0.01 mg/L. Phenytoin: Internal standard - D10-Phenytoin. Phenytoin and Trazodone detected at similar levels in all three items.
38LT7N	Confirmation limit of detection (Diazepam) - 20ng/mL. Confirmation limit of detection (Nordiazepam) - 50ng/mL. Internal standard - Diazepam-D5.
3GUF3U	The following drugs were detected but are not being reported: phenytoin, caffeine, valproic acid, ibuprofen, acetaminophen, naproxen.
3XE7Z9	Internal standard: Diazepam-d5
3YVBLD	Quantitation by UPLC TQD (Waters); using D5-Diazepam internal standard; LOD for both analytes is 1 ng/mL
46RLYW	Limit of quantitation (LOQ) for phenytoin is administratively defined as 500ng/mL in our laboratory. The apparently low concentration of phenytoin in the sample suggests the possibility that it is an unintentional component.
4FDLZY	diazepam-d5 (I.S.)
6JQWEF	Diazepam -d5
6R4WMW	internal standard - diazepam-d5
8MHUTW	IS: diazepam-d5, mepivacaine, LOD: 25 ng/mL.
9CBJTK	Diazepam - Internal Standard: Diazepam-d5, Low cut-off level: 25 ng/mL, Limit of Quantitation: 50 ng/mL, Quantitative Range: 50 to 1600 ng/mL. Nordiazepam - Internal Standard: Nordiazepam-d5, Low cut-off level: 25 ng/mL, Limit of Quantitation: 50 ng/mL, Quantitative Range: 50 to 1600 ng/mL.
B96VBZ	diazepam-d5 (int. std)
C49BZP	Screened positive for Benzos by ELISA. Used SKF-525a and barbital for internal standards.
CGEL6Q	Drug Screen internal standard- promazine. Benzo confirmation internal standard - parazepam[sic].
D8LN2N	Diazepam: LOD 25 ng/mL. Nordiazepam: LOD 12.5 ng/mL. Diphenhydramine - not reported, weak peak. IS - Prazepam.
DERB36	Internal Standards: methaqualone & barbital
EE4D2N	Internal standard - Diazepam-d5
EGUGUV	Diazepam-d5
FMVXYA	Diazepam-D5 was used as the internal standard.

TABLE 3E

WebCode	Item 3 - Comments
GN2VQG	Internal standard: Prazepam. Diazepam LOD: 25 ng/mL. Nordiazepam LOD: 25 ng/mL. Weak diphenhydramine detected.
GPEP8H	Phenytoin, valproic acid, naproxen, ibuprofen, and caffeine were also confirmed in the blood sample. The drugs were not reported independently in section 3-2 [Table 3A-Item 3 Results] because they were confirmed in all three PT samples.
GX8MAK	Phenytoin and diphenhydramine were identified in all three items and are suspected to be artifacts of sample preparation.
HVY836	Diazepam-D5 was used as the internal standard to report diazepam and nordiazepam quantitatively.
HZDK6D	See page 3 of 9 [Table 1E-Item 1-Comments]
J27LU2	Internal standard: diazepam-d5. Calibration range: 100 - 1600 ug/L. Limit of reporting: 25 ug/L.
JGTD7L	Internal standard - diazepam-d5. Limit of report - 25 µg/L
JRWDX9	As for items 1 [Table 1E-Item 1-Comments].
KLKZDE	Prazepam: Internal standard. Diazepam LOD - 25 ng/mL. Nordiazepam LOD - 25 ng/mL.
KRBCE3	Internal standard = diazepam-d5. LOR (limit of report) = 25 ng/mL. Calibration range = 100-1600 ng/mL
L77U42	Diazepam-d5
MC6ZUN	Diazepam D5 is the internal standard
MF9PLW	Diazepam & nordiazepam quantitated from internal standard, diazepam-d5. They are reported with 30% variance and have a limit of report of 25 ug/L. The results are 0.59 mg/L +/- 0.18 mg/L (diazepam) and 0.71 mg/L +/- 0.21 mg/L (nordiazepam). Additional tests for other drugs indicative during screening were less than the unit of report.
N3WWZA	Internal Standards: 7-Aminoclonazepam-D4, Diazepam-D5, Nordiazepam-D5, Oxazepam-D5, Temazepam-D5
NGHZTZ	Diazepam-d5 was used as the internal standard for both diazepam and nordiazepam. The limit of report for both is 25 ng/mL.
NHQD9G	Internal Standard: Diazepam-D3. Limit of report: 25 ng/mL
P27WTQ	For desmethyldiazepam quantification was based on a single determination using LC-DAD (UV). Diazepam quantified by LC/MS/MS with multiple determinations. Internal standard for quantifications: prazepam
P793BA	Hexobarbital and Methapyrilene were used as internal standards.
PU33NX	Internal standard: Diazepam d-5
QXF699	GCMS is used: Prazepam. ELISA Benzodiazepine cutoff: 50 ng/mL (diazepam). GCMS LODs Diazepam: 25 ng/mL, Nordiazepam: 25 ng/mL. Diphenhydramine detected: not reported (poor MS).
RAMGU2	Internal standard used: cocaine-d3, methaqualone, 6-MAM-d3, morphine-d3, methamphetamine-d9, ketamine-d4. Relatively low level of caffeine, phenytoin, trazodone, carbamazepine and paroxetine detected in sample. Due to level, caffeine, phenytoin, trazodone, carbamazepine and paroxetine were not reported.
TM8CRC	Int. std = diazepam-d5. Also detected, but not reported due to poor quality of mass spec and/or quantitation below limit of report: gabapentin, trazodone, diphenhydramine, phenytoin, carbamazepine, paroxetine.

TABLE 3E

WebCode	Item 3 - Comments
UDWDC8	Promazine was used as the Internal Standard for the drug screen analysis for GC\NPD & GC\MS. Prazepam was used as the Internal Standard for the benzodiazepine confirmation.
UZQDMA	Internal standards: mepivacaine, diazepam-d5
VDCYTN	Diazepam: Internal Std = Diazepam D5, LOD = 8 ng/mL, Nordiazepam: Internal Std.= Nordiazepam D5, LOD = 30 ng/mL
VEVMEP	Internal standard: diazepam-d5.
WA9CT6	The internal standard used for the base extraction was Prazepam. The LOD for Diazepam is 25 ng/mL when a base extraction is performed and a GC/MS is used. The LOD for Nordiazepam is 25 ng/mL when a base extraction is performed and a GC/MS is used. Diphenhydramine was identified but not reported due to a poor mass spectrum. The LOD for Diphenhydramine is 12.5 ng/mL when a base extraction is performed and a GC/MS is used.
WB494K	Diazepam IS = Diazepam - D5; LOD = 13 ng/mL. Nordiazepam IS = Nordiazepam - D5; LOD = 13 ng/ml. Valproic acid and phenytoin were detected in this sample. Valproic acid present, phenytoin less than 1.0 ug/mL. Our limit of detection is 2000 ng/mL and 100 ng/mL respectively for valproic acid and phenytoin.
X9CFJ2	IS: Prazepam. Diazepam LOD: 25 ng/mL. Nordiazepam LOD: 25 ng/mL.
XUUQHE	Internal standard used - diazepam d-5
XXT8U9	Preliminary testing indicates the presence of nordiazepam, diazepam, trazodone, and diphenhydramine; however, no confirmation test was conducted.
XYLVFP	ISTD - diazepam-d5
YA4WBP	Internal std used was diaz D5.
YANN8F	nordiazepam-d5 used as internal standard in GC/MS method, not used for drug quantitation. Contemporaneous spiked blood samples at three known drug concentrations analysed simultaneously with samples for drug quantitation. Limits of reporting (GC/MS) - diazepam 51 ng/mL, nordiazepam 52 ng/mL (concentration not normally reported for metabolites, unless requested to do so). Drug concentrations are usually reported in mg/L units (except for THC which is ug/L), and to one significant figure. For example drug concentrations 0.1 - 5.0 mg/L are reported to one decimal place, concentrations > 5.0 mg/L are reported as whole numbers only. Concentrations less than 0.1 mg/L are reported to two decimal places.
ZU6AJM	Internal standard - diazepam-D5. LOD/LOR - 25 ng/mL.
ZYKVEF	The nordiazepam level would be reported as approximate as we do not have a measurement of uncertainty for this analyte. The diazepam level also would be reported as approximate in this case due to IT issues at this time. Both the diazepam and nordiazepam levels were determined using liquid-liquid extraction and deuterated internal standards.

# Additional Test Comments

TABLE 4

WebCode	Additional Comments
23C9Q4	tests of LOR drugs present; perhaps the negative blood used too create these samples could be chosen with less of these in the future.
2J47RY	Diphenhydramine was detected on all items; however it did not meet reportable criteria. Paroxetine Acetyl was detected only on last base extraction performed on all items; however it did not meet reportable criteria. Paroxetine was not detected in any of the items. Results from the blood drug analysis performed on all case items substantiate the scenario presented for each case.
2UJVTP	There were several analytes that were present in items 1, 2, & 3 in trace amounts. Due to weak mass spectral data and weak chromatography[sic] these analytes were not reported.
38LT7N	Saw what seemed to be Phenytoin present in all samples.
3GUF3U	There were six drugs common in all three samples. All three contained phenytoin, caffeine, valproic acid, ibuprofen, acetaminophen, and naproxen.
3XE7Z9	There appeared to be gross contamination between all of the samples (submission 1-3) in regards to the following drugs: aripiprazole, paroxetine, trazodone, carbamazepine, phenytoin, diphenhydramine, trazodone, and gabapentin. Due to this, it made analysis of the samples more complicated and time consuming.
3YVBLD	In all 3 items, very low levels of Ibuprofen, Naproxen, Paracetamol, Phenytoin, Aripiprazole, Carbamazepine, Paroxetine, Ranitidine & possibly Metformin were detected.
4FDLZY	Contamination detected from PT provider; Acetaminophen, Ranitidine, Gabapentin, Trazodone, diphenhydramine, phenytoin, carbamazepine, paroxetine, aripiprazole. Our lab spent more time proving these were contaminants than focusing on the actual drugs of interest. It would have been helpful if the PT provider acknowledged their presences in a note to the PT participants to prevent unnecessary analysis being performed.
4PW6AX	Carbamazepine, Trazodone, Paroxetine, and Naproxen will not be reported as all three case samples screened positive for them by LC/MS/MS. Not all of these analytes could be confirmed, and some of the analytes may have a concentration of less than 10 ng/mL. Phenytoin also screened and confirmed positive in all three case samples, and it will not be reported. However, we estimate that the concentration of Phenytoin is above 10 ng/mL.
BJP7FL	1. Methaqualone used as Internal Standard for this analysis; 2. Analysis not performed for cannabinoids, cocaine and/or metabolites, and opiates/opioids group.
BX9K4E	[From Table 2B-Item 2 Raw Data: " Raw Data (ng/L): 1028.02 (higher than highest calib). * data not used for results*"]
FMVXYA	The laboratory also identified Paroxetine slightly about our cutoff of 10 ng/mL in all items as well as several other drugs below our limit of quantitation.
GPEP8H	Phenytoin, valproic acid, naproxen, ibuprofen, and caffeine were confirmed in all three PT samples.
GX8MAK	On item number 1, this laboratory would have performed GHB analysis, however we are currently in the process of validating a new GHB method. Phenytoin and diphenhydramine were identified in all three items and are suspected to be artifacts of sample preparation.
HVY836	The following drugs (contaminants) were detected in all 3 items but they were below the limit of report, and therefore were not reported: acetaminophen, phenytoin, aripiprazole, doxylamine, paroxetine, trazodone, carbamazepine, diphenhydramine, and gabapentin.



TABLE 4

WebCode	Additional Comments
KRBCE3	Possible contamination of negative blood used by provider. All 3 samples contained trace amounts of the following analytes: acetaminophen, caffeine, gabapentin, carbamazepine, phenytoin, diphenhydramine, possible ranitidine, paroxetine, trazodone & aripiprazole.
M3Y32D	In the items 1, 2 and 3 the drug trazodone was detected at concentration levels below the quantification limit of 0.1 ug/ml. Since the drugs zolpidem, morphine, 6-monoacetyl-morphine, diazepam and nor-diazepam were found at much more greater levels than trazodone in the case samples, this finding was not not[sic] reported as to the main pharmacological effects described in the case are due to the reported drugs.
MC6ZUN	I noticed a lot of trace amounts of many drugs that were present in all three samples. I would prefer the next proficiency sample be made up in negative blood.
MF9PLW	Several drugs lower than the limit of report were present in all 3 specimens.
NCPYPZ	This was the most unprofessionally prepared proficiency test I have completed in 17 years. The number of drugs contaminating the matrix was unacceptable.
RMVYQB	Valproic acid, phenytoin, caffeine, ibuprofen and naproxen found in all three samples, but not reported.
TM8CRC	Please use blood that is completely negative before spiking it with the intended drugs of analysis. This year's samples required a lot of unnecessary work to confirm that trace drugs found were below the limit of report.
VEVMEP	All 3 samples provided are contaminated with several drugs. This created lots of additional work, wasting time and resources, to prove low concentrations. It appears that there is no quality control in your sample preparation, and this is completely unacceptable.
XUUQHE	Analysis was made more time consuming with the appearance of possible contamination in each of the three items with the following drugs: Acetaminophen, gabapentin, doxylamine, trazodone, diphenhydramine, phenytoin, carbamazepine, paroxetine, ranitidine, and aripiprazole.

## Appendix: Data Sheet

Collaborative Testing Services ~ Forensic Testing Program  
**Test No. 15-5661: Blood Drug Analysis**

DATA MUST BE RECEIVED BY August 10, 2015 TO BE INCLUDED IN THE REPORT

Participant Code:

WebCode:

### **Accreditation Release Statement**

CTS submits external proficiency test data directly to ASCLD/LAB and ANAB. 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 and/or ANAB. (Accreditation Release section on the last page must be completed and submitted.)
- This participant's data is **NOT** intended for submission to ASCLD/LAB or ANAB.

### **Online Data Entry**

Visit [www.cts-portal.com](http://www.cts-portal.com) to enter your proficiency test results online. If you have any questions please do not hesitate to contact CTS.

### **Scenario:**

Investigators have submitted two vials of blood from each of three separate cases for your analysis. Using your laboratory's procedures, analyze each item and report the presence of any drugs and/or metabolites.

Case 1: A 20-year-old female was found partially undressed in a bedroom by friends at a party. She was taken to the hospital after friends observed her exhibiting memory loss, confusion, agitation, and dizziness.

Case 2: A 42-year-old male with a history of opiate abuse was found dead in his cell in a detention center. The previous night his cell had been searched for suspicion of drug trafficking, but no drugs were found.

Case 3: A 50-year-old female was pulled over for drifting in and out of traffic lanes. The officer observed horizontal gaze nystagmus, slurred speech, and poor balance. A breath alcohol test resulted in 0.00 percent. Blood was drawn approximately 90 minutes later.

### **Instructions:**

- Please do not report the presence/concentration of drugs in concentrations less than 10ng/mL.
- The purpose of this test is the examination of drugs other than alcohol. Please test accordingly. Samples may contain methanol and acetonitrile as artifacts from production.

### **Items Submitted (Sample Pack BDRG):**

- Items 1: Two vials of blood from Case 1
- Items 2: Two vials of blood from Case 2
- Items 3: Two vials of blood from Case 3

**Please return all pages of this data sheet.**

Page 1 of 9

Participant Code:

WebCode:

**Results for Item 1:**

**1-1.) Date Samples Received:** \_\_\_\_\_

**1-2.) What drugs/metabolites were detected in Item 1? If quantitative determinations were performed, please record raw data in the provided spaces in ng/mL.**

The number of boxes shown does not indicate the number of analytes present. If additional space is needed, copy this page or attach your own form following this layout.

No drugs/metabolites detected

Analyte	Qualitative Only?	Reported Concentration	Uncertainty	Units
_____	<input type="checkbox"/>	_____	_____	( _____ )
Date(s) Quantitative Analysis Performed on Analyte: _____				
<b>Raw Data (ng/mL):</b>				
_____	_____	_____	_____	_____

Analyte	Qualitative Only?	Reported Concentration	Uncertainty	Units
_____	<input type="checkbox"/>	_____	_____	( _____ )
Date(s) Quantitative Analysis Performed on Analyte: _____				
<b>Raw Data (ng/mL):</b>				
_____	_____	_____	_____	_____

Analyte	Qualitative Only?	Reported Concentration	Uncertainty	Units
_____	<input type="checkbox"/>	_____	_____	( _____ )
Date(s) Quantitative Analysis Performed on Analyte: _____				
<b>Raw Data (ng/mL):</b>				
_____	_____	_____	_____	_____

**Please return all pages of this data sheet.**

Participant Code:

WebCode:

**Results for Item 1 (continued):**

**1-3.) If quantitative analysis was performed, are the reported concentrations for Item 1:**

- A single determination?       The mean of duplicate / several determinations?
- Other? (Specify): \_\_\_\_\_

**1-4.) Please check the methods used to analyze Item 1 by selecting whether each method used was for screening, confirmatory testing and/or quantitation.**

<u>Method Used</u>	<u>Screening</u>	<u>Confirmatory</u>	<u>Quantitation</u>
Immunoassay	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
GC/MS	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
LC/MS	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
LC/MS/MS	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other: _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other: _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**1-5.) Additional Comments for Item 1**

Please include any relevant information such as internal standard(s) used, limits of detection, etc.

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Participant Code:

WebCode:

**Results for Item 2:**

**2-1.) Date Samples Received:** \_\_\_\_\_

**2-2.) What drugs/metabolites were detected in Item 2? If quantitative determinations were performed, please record raw data in the provided spaces in ng/mL.**

The number of boxes shown does not indicate the number of analytes present. If additional space is needed, copy this page or attach your own form following this layout.

No drugs/metabolites detected

Analyte	Qualitative Only?	Reported Concentration	Uncertainty	Units
_____	<input type="checkbox"/>	_____	_____	( _____ )
Date(s) Quantitative Analysis Performed on Analyte: _____				
<b>Raw Data (ng/mL):</b>				
_____	_____	_____	_____	_____

Analyte	Qualitative Only?	Reported Concentration	Uncertainty	Units
_____	<input type="checkbox"/>	_____	_____	( _____ )
Date(s) Quantitative Analysis Performed on Analyte: _____				
<b>Raw Data (ng/mL):</b>				
_____	_____	_____	_____	_____

Analyte	Qualitative Only?	Reported Concentration	Uncertainty	Units
_____	<input type="checkbox"/>	_____	_____	( _____ )
Date(s) Quantitative Analysis Performed on Analyte: _____				
<b>Raw Data (ng/mL):</b>				
_____	_____	_____	_____	_____

**Please return all pages of this data sheet.**

Participant Code:

WebCode:

**Results for Item 2 (continued):**

**2-3.) If quantitative analysis was performed, are the reported concentrations for Item 2:**

- A single determination?       The mean of duplicate / several determinations?
- Other? (Specify): \_\_\_\_\_

**2-4.) Please check the methods used to analyze Item 2 by selecting whether each method used was for screening, confirmatory testing and/or quantitation.**

<u>Method Used</u>	<u>Screening</u>	<u>Confirmatory</u>	<u>Quantitation</u>
Immunoassay	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
GC/MS	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
LC/MS	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
LC/MS/MS	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other: _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other: _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**2-5.) Additional Comments for Item 2**

Please include any relevant information such as internal standard(s) used, limits of detection, etc.

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Participant Code:

WebCode:

**Results for Item 3:**

**3-1.) Date Samples Received:** \_\_\_\_\_

**3-2.) What drugs/metabolites were detected in Item 3? If quantitative determinations were performed, please record raw data in the provided spaces in ng/mL.**

The number of boxes shown does not indicate the number of analytes present. If additional space is needed, copy this page or attach your own form following this layout.

No drugs/metabolites detected

Analyte	Qualitative Only?	Reported Concentration	Uncertainty	Units
_____	<input type="checkbox"/>	_____	_____	( _____ )
Date(s) Quantitative Analysis Performed on Analyte: _____				
<b>Raw Data (ng/mL):</b>				
_____	_____	_____	_____	_____

Analyte	Qualitative Only?	Reported Concentration	Uncertainty	Units
_____	<input type="checkbox"/>	_____	_____	( _____ )
Date(s) Quantitative Analysis Performed on Analyte: _____				
<b>Raw Data (ng/mL):</b>				
_____	_____	_____	_____	_____

Analyte	Qualitative Only?	Reported Concentration	Uncertainty	Units
_____	<input type="checkbox"/>	_____	_____	( _____ )
Date(s) Quantitative Analysis Performed on Analyte: _____				
<b>Raw Data (ng/mL):</b>				
_____	_____	_____	_____	_____

**Please return all pages of this data sheet.**

Participant Code:

WebCode:

**Results for Item 3 (continued):**

**3-3.) If quantitative analysis was performed, are the reported concentrations for Item 3:**

- A single determination?       The mean of duplicate / several determinations?
- Other? (Specify): \_\_\_\_\_

**3-4.) Please check the methods used to analyze Item 3 by selecting whether each method used was for screening, confirmatory testing and/or quantitation.**

<u>Method Used</u>	<u>Screening</u>	<u>Confirmatory</u>	<u>Quantitation</u>
Immunoassay	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
GC/MS	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
LC/MS	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
LC/MS/MS	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other: _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other: _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**3-5.) Additional Comments for Item 3**

Please include any relevant information such as internal standard(s) used, limits of detection, etc.

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Participant Code:

WebCode:

**Additional Comments on Test**

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**Return Instructions:** Data must be received via online data entry, fax (please include a cover sheet), or mail by **August 10, 2015** to be included in the report.

**QUESTIONS?**

TEL: +1-571-434-1925 (8 am - 4:30 pm EST)  
 EMAIL: [forensics@cts-interlab.com](mailto:forensics@cts-interlab.com)  
[www.ctsforensics.com](http://www.ctsforensics.com)

Participant Code:

ONLINE DATA ENTRY: [www.cts-portal.com](http://www.cts-portal.com)  
 FAX: +1-571-434-1937  
 or Toll-Free: 1-866-FAX-2CTS (329-2287)

MAIL: Collaborative Testing Services, Inc.  
 P.O. Box 650820  
 Sterling, VA 20165-0820 USA

**Please return all pages of this data sheet.**

Collaborative Testing Services - Forensic Testing Program

**RELEASE OF DATA TO ACCREDITATION BODIES**

The following Accreditation Releases will apply only to:

Participant Code:

WebCode:

for Test No. **15-5661: Blood Drug Analysis**

This release page must be completed and received by **August 10, 2015** to have this participant's submitted data included in the reports forwarded to the respective Accreditation Bodies.

**ASCLD/LAB RELEASE**

If your lab has been accredited by ASCLD/LAB and you are submitting this data as part of their external proficiency test requirements, have the laboratory's designated individual complete the following. **The information below must be completed in its entirety for the results to be submitted to ASCLD/LAB.**

ASCLD/LAB Legacy Certificate No. \_\_\_\_\_ ASCLD/LAB International Certificate No. \_\_\_\_\_

Signature \_\_\_\_\_ Date \_\_\_\_\_

Laboratory Name \_\_\_\_\_

Location (City/State) \_\_\_\_\_

**ANAB RELEASE**

If your laboratory maintains its accreditation through ANAB, please complete the following form in its entirety to have your results forwarded.

ANAB Certificate No. \_\_\_\_\_

Signature and Title \_\_\_\_\_ Date \_\_\_\_\_

Laboratory Name \_\_\_\_\_

Location (City/State) \_\_\_\_\_

<b>Accreditation Release</b>	
<b><u>Return Instructions</u></b>	
<i>Please submit the completed Accreditation Release at the same time as your full data sheet. See Data Sheet Return Instructions on the previous page.</i>	<i>Questions? Contact us 8 am-4:30 pm EST Telephone: +1-571-434-1925 email: forensics@cts-interlab.com</i>

**Please return all pages of this data sheet.**