
























TS

\* AM 7 central data available upon request. - TS

7/25/2019

Worklist: 3556

REVIEWED  
By Sarah Pickle at 11:36 am, Jul 26, 2019

LAB CASE	ITEM	TASK ID	DESCRIPTION	
C2019-1262	4	156811	AM 25 Blood Multi-Drug Screen by LC-QQQ	
M2019-2774	1	155253	AM 25 Blood Multi-Drug Screen by LC-QQQ	
M2019-2921	2	156494	AM 25 Blood Multi-Drug Screen by LC-QQQ	
M2019-3002	1	156278	AM 25 Blood Multi-Drug Screen by LC-QQQ	
M2019-3002	2	156283	AM 25 Blood Multi-Drug Screen by LC-QQQ	
M2019-3006	2	156487	AM 25 Blood Multi-Drug Screen by LC-QQQ	
M2019-3040	2	156522	AM 25 Blood Multi-Drug Screen by LC-QQQ	
P2019-1944	1	155736	AM 25 Blood Multi-Drug Screen by LC-QQQ	
P2019-2021	1	156374	AM 25 Blood Multi-Drug Screen by LC-QQQ	
P2019-2034	1	156432	AM 25 Blood Multi-Drug Screen by LC-QQQ	
P2019-2044	1	156491	AM 25 Blood Multi-Drug Screen by LC-QQQ	
P2019-2045	1	156497	AM 25 Blood Multi-Drug Screen by LC-QQQ	
P2019-2051	1	156529	AM 25 Blood Multi-Drug Screen by LC-QQQ	
P2019-2076	1	156790	AM 25 Blood Multi-Drug Screen by LC-QQQ	
P2019-2109	1	156907	AM 25 Blood Multi-Drug Screen by LC-QQQ	
P2019-2111	1	156913	AM 25 Blood Multi-Drug Screen by LC-QQQ	
P2019-2137	1	157022	AM 25 Blood Multi-Drug Screen by LC-QQQ	
P2019-2147	1	157150	AM 25 Blood Multi-Drug Screen by LC-QQQ	
P2019-2169	1	157201	AM 25 Blood Multi-Drug Screen by LC-QQQ	
P2019-2169	2	157208	AM 25 Blood Multi-Drug Screen by LC-QQQ	
P2019-2176	1	157223	AM 25 Blood Multi-Drug Screen by LC-QQQ	
P2019-2179	1	157230	AM 25 Blood Multi-Drug Screen by LC-QQQ	
P2019-2183	1	157326	AM 25 Blood Multi-Drug Screen by LC-QQQ	

TS

**Worklist: 3556**

<u>LAB_CASE</u>	<u>ITEM</u>	<u>TASK_ID</u>	<u>DESCRIPTION</u>
P2019-2186	1	157337	AM 25 Blood Multi-Drug Screen by LC-QQQ
P2019-2188	1	157461	AM 25 Blood Multi-Drug Screen by LC-QQQ



TS

# AM# 25: Multi-Drug Screen in Blood by LC-MS/MS

Extraction Date: 07/22/19  
Plate lot#: 0543908

Analyst: Tamara Salazar  
Plate Expiration: 11/28/19

**Mobile phase A:** 10mM Amm Form  
0.5M Ammonium Hydroxide

**Mobile phase B:** 0.1% Formic Acid in MeOH  
Ethyl Acetate LC Methanol

**Blank Blood Lot:** Hemostat 445283-2

**Column:** Phenomenex Phenyl Hexyl (4.6x50mm, 2.6um)

**LCMS-QQQ ID:** 069901

## Pre-Analytic:

- 1. Check levels of mobile phases and needle wash refill as needed. Ensure waste is not full.
- 2. Ensure correct column is installed and begin mobile phase flow allow to equilibrate ~ 30 minutes.
- 3. Create worklist

## Analytic:

- 1. Remove standards, plate, controls, and samples from cold storage. Allow to reach room temperature.
- 2. Pipette **250µL blood (calibrated pipette) Pipette ID: 3** in wells of analytical (standards) plate.
- 3. Place on shaking incubator at ambient temp., 900rpm for 15 minutes. *Shaker ID: 067105*
- 4. Pipette **250µL 0.5M ammonium hydroxide** in wells of analytical plate.
- 5. Place on shaking incubator at ambient temp., 900rpm for 15 minutes.
- 6. Transfer **300µL of blood+base** mixture to corresponding wells of SLE+ plate.
- 7. Apply positive pressure for approx. 10-15 seconds (or until no liquid remains on top of sorbent).  
*(Load at 85-100 PSI- Selector to the right) Manifold ID: 067104*
- 8. Wait 5 minutes.
- 9. Add **900uL ethyl acetate**.
- 10. Wait 5 minutes.
- 11. Apply positive pressure for approx. 15 seconds. *(10-15 PSI- Selector to the left)*.
- 12. Add **900uL ethyl acetate**.
- 13. Wait 5 minutes.
- 14. Apply positive pressure for approx. 15 seconds. *(10-15 PSI- Selector to the left)*.
- 15. Remove plate containing eluate. Place on SPE Dry and evaporate to dryness at approx. 35°C.  
*SPE Dry ID: 067103*
- 16. Reconstitute in **100µL 100% LC MeOH** and heat seal plate with foil. Place in autosampler and run worklist.

## Post-Analytic

- 1. Open quantitation software and create a new quantitation batch.  
Batch Name: **MDS TS** 07/26/19 TS  
Worklist path: D:\MassHunter\Data\2019\AM 25\072319 wklst 3556 MDS TS\_reinjects
- 2. Make necessary changes to integration limits
- 3. Evaluate samples, S/N of primary transition >5 and S/N of secondary transition >3 or evaluation of peak symmetry and resolution. Within +/- 2% or 0.1 min RT of administrative control. Calculated concentration 5 or greater, or 2-5 for discretionary range.
- 4. Did all QCs pass for each analyte? Y / N \_\_\_\_\_
- 5. Central File Packet to include: LIMS Worklist, Method Checklist, Calibration and Control Reports

COMMENTS: *Extraction originally performed on 07/22/19. The plate was ran with the wrong mobile phases selected resulting in the data being unusable. The samples, calibrators, and controls were reconstituted and re-injected on 07/23/19.*



# Idaho State Police Forensic Services

TS

## AM #25 Blood Multi-Drug Screen by LCMS-QQQ

### Methanol External Control Solution (Lot: 042719)

*100 ul of 1mg/mL stock was added to each drug to 9600 ul of LC MeOH.*

<i>Component</i>	<i>Source</i>	<i>Source Lot Number</i>	<i>Expiration Date</i>
Methanol (LCMS)	Fisher	184782	
Morphine	Cerilliant	FE08141515	November 2020
Metoprolol	Cerilliant	FN06091510	July 2020
Flunitrazepam	Cerilliant	FE08051602	August 2021
Trazodone	Cerilliant	FN12151403	January 2020
Prepared:	04/27/19		
Prepared By:	Tamara Salazar		
Expires:	01/31/2020		

### Blood External Control Solution (Lot: WS042719)

*100 ul of methanol external control solution was added to 9900 ul of blood.*

*Approximately 50ng/mL of each compound.*

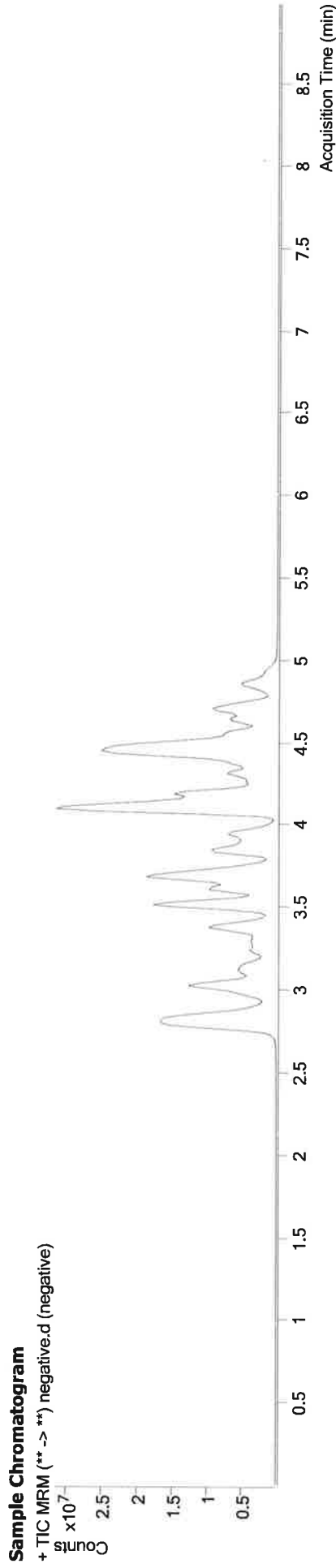
<i>Component</i>	<i>Source</i>	<i>Source Lot Number</i>
Negative Blood	Hemostat	445283-1
Methanol External Control Solution		042719
Prepared:	04/27/19	
Prepared by:	Tamara Salazar	
Expires:	01/31/2020	



# AM #25 Multi-Drug Screen Results

**Batch results** D:\MassHunter\Data\2019\AM 25\072319 wk1st 3556 MDS TS\_reinjects\QuantResults\MDS.batch.bin  
**Calibration Last Update** 7/25/2019 2:42:23 PM

<b>Instrument Type</b>	Falco	<b>Data File</b>	negative.d
<b>Acq. Method</b>	am 25 all.m	<b>Sample</b>	negative
<b>Sample Position</b>	P1-C9	<b>Operator</b>	
<b>Injection Volume</b>	5	<b>Comment</b>	
<b>Acq. Date-Time</b>	7/24/2019 12:03:29 PM		





# AM #25 Multi-Drug Screen Results

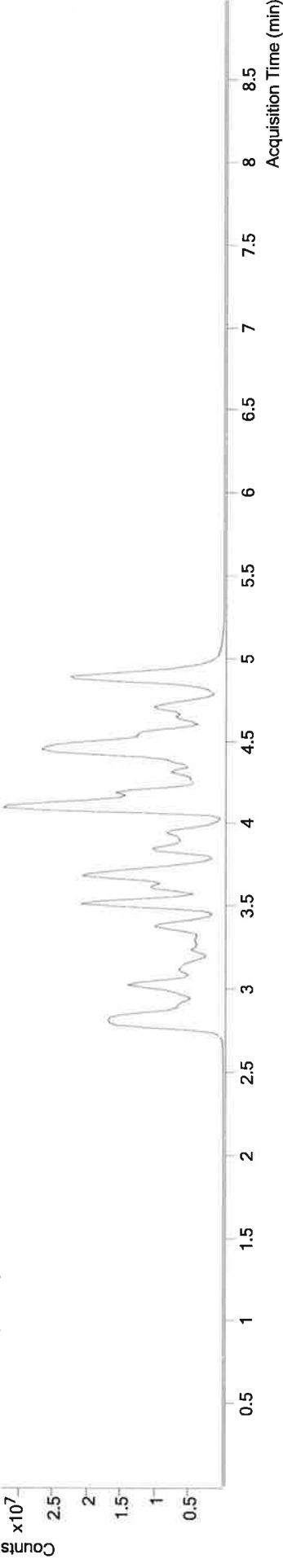
**Batch results** D:\MassHunter\Data\2019\AM 25\072319 wklist 3556 MDS TS\_reinjects\QuantResults\MDS.batch.bin  
**Calibration Last Update** 7/25/2019 2:42:23 PM

**Instrument** Falco  
**Type** Sample  
**Acq. Method** am 25 all.m  
**Sample Position** P1-B9  
**Injection Volume** 5  
**Acq. Date-Time** 7/24/2019 12:12:59 PM  
**Sample Info.**

**Data File** ext ctrl.d  
**Sample** ext ctrl  
**Operator**  
**Comment**

## Sample Chromatogram

+ TIC: MRM (\*\* -> \*\*) ext ctrl.d (ext ctrl)



Name	RT	Resp.	S/N	ISTD Resp.	Calc. Conc.
Flunitrazepam	4.546	8389770	∞	160843	105.2810
Metoprolol	3.522	5248579	311218.85	11254725	81.3242
Morphine	2.927	4484244	∞	302252	72.6737
Trazodone	4.893	44889042	∞	22503012	78.3415



# AM #25 Multi-Drug Screen Results

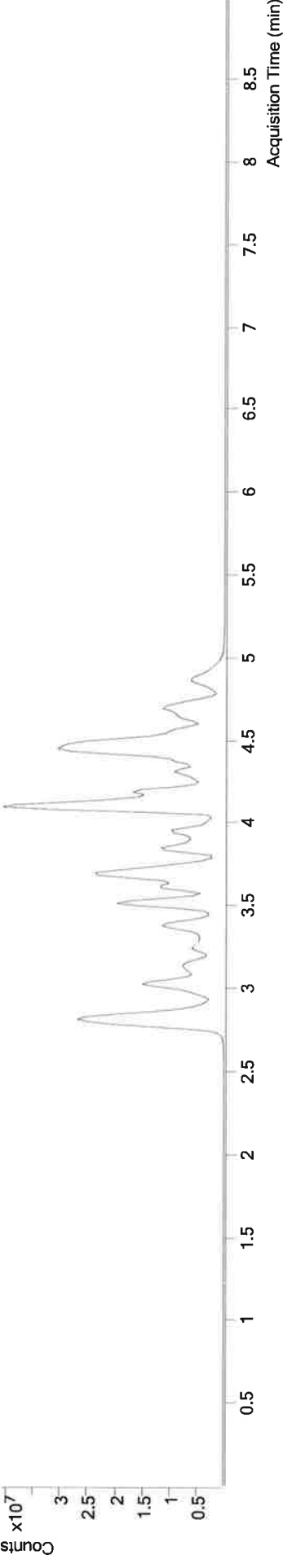
**Batch results** Calibration Last Update D:\MassHunter\Data\2019\AM 25\072319 wkst 3556 MDS TS\_reinjects\QuantResults\MDS.batch.bin  
7/25/2019 2:42:23 PM

**Instrument** Falco  
**Type** Cal  
**Acq. Method** am 25 all.m  
**Sample Position** P1-G12  
**Injection Volume** 5  
**Acq. Date-Time** 7/24/2019 11:53:50 AM  
**Sample Info.**

**Data File** cal.d  
**Sample** cal  
**Operator**  
**Comment**

**Sample Chromatogram**

+ TIC MRM (\*\* -> \*\*) cal.d (cal)



Name	RT	Resp.	S/N	S/N	ISTD Resp.	Calc. Conc.
6-MAM	3.394	53503	30556.09	1467.50	1357973	10.0000
7-aminoclonazepam	3.551	487361	749.43	266.88	1897712	10.0000
7-aminoflunitrazepam	3.765	1347331	∞	547.21	6576815	10.0000
Acetyl Fentanyl	4.130	284573	158.47	2240.04	16268122	10.0000
Acetyl Norfentanyl	3.006	243344	1378.38	48.26	12124788	10.0000
a-hydroxyalprazolam	4.483	61876	32.73	19.61	290520	10.0000
alpha-hydroxymidazolam	4.574	1033461	∞	∞	7503117	10.0000
alpha-PVP	3.727	2719551	3073.77	3481.41	11005317	10.0000
Alprazolam	4.593	1245301	768.87	538.48	3758949	10.0000
Amisulpride	4.552	2000784	∞	∞	7174290	10.0000
Amphetamine	3.040	1662152	∞	∞	4232908	10.0000
Benzoylcegonine	3.336	805383	4192.23	1681.91	3818119	10.0000
Buprenorphine	4.996	660261	4979.01	∞	3012573	10.0000
Bupropion	3.955	2491119	3375.06	799.12	9845075	10.0000
Carbamazepine	4.218	5707457	1873.16	∞	26636961	10.0000
Carisoprodol	4.201	912325	11211.84	189.39	4557604	10.0000
Chlordiazepoxide	4.717	390359	21.13	68.44	7838542	10.0000
Chlorpheniramine	4.028	24883	13.18	∞	30572304	10.0000





# AM #25 Multi-Drug Screen Results

Name	RT	Resp.	S/N	S/N	ISTD Resp.	Calc. Conc.
Citalopram	4.161	2614428	2148.23	649.52	11900145	10.0000
Clonazepam	4.439	181422	∞	∞	335750	10.0000
Cocaine	3.702	4290543	217930.44	2138.09	20080587	10.0000
Codeine	3.381	393333	36729.57	307.81	1907977	10.0000
Cyclobenzaprine	4.460	2655884	55182.20	80.56	9970462	10.0000
Desipramine	4.477	3536205	∞	∞	19763643	10.0000
Dextromethorphan	4.169	1985601	∞	57559.72	9549334	10.0000
Dextroproprian	3.523	1884849	6188.03	10249.02	10480482	10.0000
Diazepam	4.826	660818	542.20	∞	3254202	10.0000
Dihydrocodeine	3.167	1055812	243.50	∞	5461220	10.0000
Diphenhydramine	4.108	5038093	3231.21	1849.79	30572304	10.0000
Doxepin	4.290	2067874	∞	∞	11989588	10.0000
Doxylamine	3.705	8103439	87452.43	65660.90	33100037	10.0000
EDDP	4.105	3150841	7300.29	2322.93	17401795	10.0000
Estazolam	4.503	1534955	1654.28	950.57	3690991	10.0000
Etizolam	4.604	174589	195.25	7019.10	3690991	10.0000
Fentanyl	4.329	349558	1821.32	1033.89	16138711	10.0000
Flunitrazepam	4.546	847665	336.48	2140.60	171091	10.0000
Fluoxetine	4.394	3489435	∞	221389.66	14225609	10.0000
Flurazepam	4.373	2653628	761396.71	184601.60	171091	10.0000
Hydrocodone	3.519	811675	∞	∞	5008781	10.0000
Hydromorphone	3.093	1037105	42.08	21.83	3635792	10.0000
Imipramine	4.505	5363464	∞	∞	16962766	10.0000
Ketamine	3.910	2418731	3510.09	165.02	11199209	10.0000
Lamotrigine	3.647	224240	∞	460.05	9139931	10.0000
Levamisole	3.483	1941106	278.72	188.34	20080587	10.0000
Lorazepam	4.423	24817	35.49	15.40	335750	10.0000
Maprotiline	4.552	3344466	38.52	939.07	7174290	10.0000
MDA	3.176	1733173	328.67	525.93	7828764	10.0000
MDEA	3.390	3729372	3174.55	1038.20	16970610	10.0000
MDMA	3.268	4225105	16868.30	∞	2503963	10.0000
Meperidine	3.739	1962305	1271.35	2925.35	9139931	10.0000
Meprobamate	3.636	277263	7063.25	171.14	1360822	10.0000
Methadone	4.439	5844929	∞	∞	26631306	10.0000
Methamphetamine	3.147	2615906	∞	721.43	11715723	10.0000
Methocarbamol	3.540	148102	243.96	10.42	9139931	10.0000
Methyphenidate	3.634	7061658	∞	∞	30641807	10.0000
Metoprolol	3.522	524119	1146.27	24627.28	9139931	10.0000
Midazolam	4.742	660956	6212.72	∞	8315393	10.0000
Mirtazapine	4.308	2479882	1639.25	∞	9139931	10.0000
Mitragynine	4.387	477892	21137.36	∞	11989588	10.0000
Morphine	2.927	453525	∞	∞	222156	10.0000
Norbuprenorphine	3.958	89683	26162.69	15395.00	475722	10.0000
Nordiazepam	4.676	319298	1201.76	324.97	1038116	10.0000
cal						





# AM #25 Multi-Drug Screen Results

Name	RT	Resp.	S/N	S/N	ISTD Resp.	Calc. Conc.
Norfentanyl	3.420	3788505	6837.97	203.62	15496620	10.0000
Norhydrocodone	3.169	43458	34.43	10.86	1486636	10.0000
Normeperidine	3.665	1681002	4583.65	∞	6542673	10.0000
Noroxycodone	3.076	965734	∞	7.90	3227415	10.0000
Nortriptyline	4.508	1515990	∞	∞	4166420	10.0000
O-desmethyl-tramadol	3.050	6908583	207.67	655.95	31413050	10.0000
Olanzapine	4.178	515527	14.87	183.11	47944	10.0000
Oxazepam	4.504	82478	16.44	11.71	450553	10.0000
Oxycodone	3.333	2132744	1022.87	∞	9022725	10.0000
Oxymorphone	2.803	1390707	987.55	∞	6284331	10.0000
Paroxetine	4.482	342972	∞	46.33	9226680	10.0000
Phenazepam	4.619	391072	163722.25	3296.89	1604885	10.0000
Phencyclidine	3.970	3857414	6816.27	∞	17740087	10.0000
Phentermine	3.269	952639	∞	∞	9091673	10.0000
Phenytol	4.124	4719	∞	∞	47944	10.0000
Promethazine	4.504	6468413	∞	∞	27836228	10.0000
Pseudoephedrine	2.826	37716472	13550.26	1410.52	27836228	10.0000
Quetiapine	4.679	5023189	∞	9222.63	110289820	10.0000
Sertraline	4.670	1912460	280.04	244538.40	6534252	10.0000
Sufentanil	4.709	320837	1398.33	4232.06	9226680	10.0000
Tapentadol	3.528	3136969	23277.37	946.05	16460293	10.0000
Temazepam	4.641	1183612	281.60	9783.87	14856683	10.0000
Tramadol	3.538	5630331	26612.77	68.09	5485441	10.0000
Trazodone	4.893	5277454	∞	117.87	26974030	10.0000
Venlafaxine	3.858	5793038	6872.14	22741.82	20726044	10.0000
Zaleplon	4.334	944248	3250.28	564.43	26430507	10.0000
Zolpidem	4.456	6726022	∞	1874.90	2819829	10.0000
Zopiclone	4.434	398507	4255.86	4250.89	30496676	10.0000
				48.84	1922093	10.0000