






















AM 7 central file available upon request.



Worklist: 3282

<u>LAB_CASE</u>	<u>ITEM</u>	<u>TASK_ID</u>	<u>DESCRIPTION</u>	
M2019-1373	1	145654	AM 25 Blood Multi-Drug Screen by LC-QQQ	
M2019-1404	1	146053	AM 25 Blood Multi-Drug Screen by LC-QQQ	
M2019-1432	2	146613	AM 25 Blood Multi-Drug Screen by LC-QQQ	
M2019-1440	2	146249	AM 25 Blood Multi-Drug Screen by LC-QQQ	
M2019-1564	2	147201	AM 25 Blood Multi-Drug Screen by LC-QQQ	
M2019-1613	1	147383	AM 25 Blood Multi-Drug Screen by LC-QQQ	
M2019-1649	3	148087	AM 25 Blood Multi-Drug Screen by LC-QQQ	
P2019-1040	1	147085	AM 25 Blood Multi-Drug Screen by LC-QQQ	
P2019-1046	1	147139	AM 25 Blood Multi-Drug Screen by LC-QQQ	
P2019-1055	1	147198	AM 25 Blood Multi-Drug Screen by LC-QQQ	
P2019-1057	1	147301	AM 25 Blood Multi-Drug Screen by LC-QQQ	
P2019-1096	1	147504	AM 25 Blood Multi-Drug Screen by LC-QQQ	
P2019-1133	1	148029	AM 25 Blood Multi-Drug Screen by LC-QQQ	
P2019-1134	1	148032	AM 25 Blood Multi-Drug Screen by LC-QQQ	
P2019-1135	1	148039	AM 25 Blood Multi-Drug Screen by LC-QQQ	
P2019-1136	1	148046	AM 25 Blood Multi-Drug Screen by LC-QQQ	
P2019-1137	1	148049	AM 25 Blood Multi-Drug Screen by LC-QQQ	
P2019-1146	1	148081	AM 25 Blood Multi-Drug Screen by LC-QQQ	
P2019-1147	1	148084	AM 25 Blood Multi-Drug Screen by LC-QQQ	
P2019-1167	1	148337	AM 25 Blood Multi-Drug Screen by LC-QQQ	
P2019-1170	1	148462	AM 25 Blood Multi-Drug Screen by LC-QQQ	

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

Extraction Date: 4/16/19  
 Plate lot#: 0543908

Analyst: Sarah Pickle  
 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:** 445283-1 **Column:** Phenomenex Phenyl Hexyl (4.6x50mm, 2.6um)  
**LCMS-QQQ ID:** 069910

### 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: Data Path Name: \_\_\_\_\_

### 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 SP  
 Worklist path: G:\TOX\Pocatello\Falco\2019\MDS 5  
 D:\MassHunter\Data\2019\MDS\041619 MDS SP MDS PV TS
- 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, discretionary range 2-5.
- 4. Did all QCs pass for each analyte? Y / N Yes
- 5. Central File Packet to include: LIMS Worklist, Method Checklist, Calibration and Control Reports

COMMENTS:



# Idaho State Police Forensic Services

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

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### Methanol External Control Solution (Lot: 042618)

*100 ul of 1mg/mL stock was added of 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	177145	
Oxycodone	Cerilliant	FE01181701	March 2022
Diazepam	Cerilliant	FE05201602	June 2021
Metoprolol	Cerilliant	FN06091510	July 2020
Meperidine	Cerilliant	FE01271602	June 2021
Prepared:	04/26/18		
Prepared By:	Tamara Salazar		
Expires:	04/26/19		

### Blood External Control Solution (Lot: WS122618)

*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		042618
Prepared:	12/26/18	
Prepared by:	Tamara Salazar	
Expires:	04/26/19	

# AM #25 Multi-Drug Screen Results



**Batch results**

D:\MassHunter\Data\2019\MDS\041619 MDS SP MDS PV TS\QuantResults\MDS SP.batch.bin

**Calibration Last Update**

4/18/2019 2:35:05 PM

**Instrument**

FALCO-LCMS (Property ID 069901)

**Data File**

p1 cal.d

**Type**

Cal

**Sample**

p1 cal

**Acq. Method**

am 25 all.m

**Operator**

**Comment**

**Sample Position**

P1-G12

**Injection Volume**

5

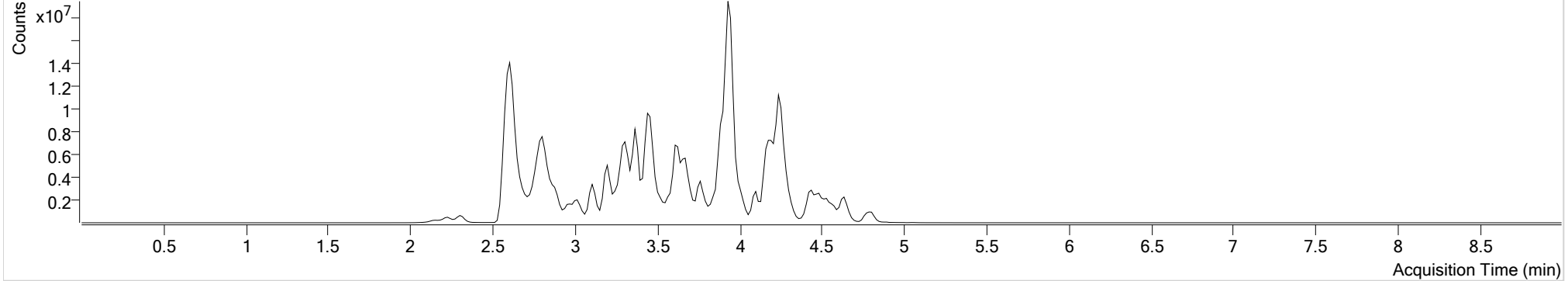
**Acq. Date-Time**

4/16/2019 2:08:34 PM

**Sample Info.**

**Sample Chromatogram**

+ TIC MRM (\*\* -> \*\*) p1 cal.d (p1 cal)



Name	RT	Resp.	S/N	S/N	ISTD Resp.	Calc. Conc.
6-MAM	2.752	14157	2152.26	56.79	363653	10.0000
7-aminoclonazepam	3.505	418096	1094.35	362.09	1543988	10.0000
7-aminoflunitrazepam	3.719	709593	7443.94	59.66	3467102	10.0000
Acetyl Fentanyl	3.624	123540	2401.15	343.13	6695893	10.0000
Acetyl Norfentanyl	2.777	86492	198.44	97.44	4017589	10.0000
a-hydroxyalprazolam	4.483	45074	58.62	33.58	224267	10.0000
alpha-hydroxymidazolam	4.451	328641	273.14	308.76	2320644	10.0000
alpha-PVP	3.373	1189962	∞	944.60	4958701	10.0000
Alprazolam	4.578	599664	217.32	266.33	1866592	10.0000
Amitriptyline	4.275	1091096	127.35	243.70	2275506	10.0000
Amphetamine	2.782	649751	2002.78	∞	1688633	10.0000
Benzoylcegonine	3.321	273925	528.64	180.97	1259804	10.0000
Buprenorphine	3.927	76037	530.89	4890.80	425663	10.0000
Bupropion	3.587	1010942	∞	∞	3720273	10.0000
Carbamazepine	4.203	1257941	3466.84	∞	6366109	10.0000
Carisoprodol	4.185	355471	178.17	100.10	2062756	10.0000
Chlordiazepoxide	4.533	168406	479.21	23352.39	3932407	10.0000
Chlorpheniramine	3.812	9736	100.57	4297.05	17103620	10.0000

# AM #25 Multi-Drug Screen Results



Name	RT	Resp.	S/N	S/N	ISTD Resp.	Calc. Conc.
Citalopram	3.962	465159	1673.92	395.96	1972031	10.0000
Clonazepam	4.439	122046	1100.54	78.49	206882	10.0000
Cocaine	3.427	1660947	∞	1628.50	7913547	10.0000
Codeine	2.651	91223	83.46	22.30	352250	10.0000
Cyclobenzaprine	4.214	1065628	4490.76	109.48	3843347	10.0000
Desipramine	4.246	1196035	2473.41	1751.85	6398229	10.0000
Dextromethorphan	3.921	339133	3460.74	901.25	1631901	10.0000
Dextrorphan	3.262	943679	6564.93	3995.99	5199876	10.0000
Diazepam	4.810	281010	292.32	241.96	1446148	10.0000
Dihydrocodeine	2.619	205193	1678.20	884.40	1176438	10.0000
Diphenhydramine	3.892	2931533	28897.02	∞	17103620	10.0000
Doxepin	4.012	801620	226.75	5.77	4297964	10.0000
Doxylamine	3.461	3077163	13236.18	40671.42	12898739	10.0000
EDDP	3.936	1500920	3203.90	∞	7863284	10.0000
Estazolam	4.503	1022778	258.47	381.04	2548776	10.0000
Etizolam	4.589	88852	289.86	1271.75	2548776	10.0000
Fentanyl	3.854	120664	841.77	∞	5298011	10.0000
Flunitrazepam	4.546	378224	237.68	415.25	75396	10.0000
Fluoxetine	4.225	880467	∞	924.40	3618241	10.0000
Flurazepam	3.975	659969	418.43	6968.11	75396	10.0000
Hydrocodone	2.833	396507	128.47	44.24	2039800	10.0000
Hydromorphone	2.308	411677	395.05	413.52	1485578	10.0000
Imipramine	4.243	1619631	11908.96	∞	5309012	10.0000
Ketamine	3.219	986402	713.37	152.88	4308767	10.0000
Lamotrigine	3.386	88786	355.76	277.14	3162930	10.0000
Levamisole	2.793	848607	31802.60	8197.35	7913547	10.0000
Lorazepam	4.407	47643	132.79	88.98	1044339	10.0000
Maprotiline	4.275	1091096	127.35	604.09	2275506	10.0000
MDA	2.901	821702	∞	1507.56	3453095	10.0000
MDEA	3.114	1552939	3814.46	803.59	6716216	10.0000
MDMA	2.977	1780846	3132.72	2559.16	1052578	10.0000
Meperidine	3.448	731141	3218.94	1130.89	3162930	10.0000
Meprobamate	3.636	216560	2382.86	214.81	840715	10.0000
Methadone	4.255	1803991	1927.01	604.13	8465259	10.0000
Methamphetamine	2.872	1277845	∞	∞	4882461	10.0000
Methocarbamol	3.540	146813	∞	16.48	3162930	10.0000
Methylphenidate	3.388	2783529	∞	∞	12504413	10.0000
Metoprolol	3.308	224101	1103.53	1209.68	3162930	10.0000
Midazolam	4.283	169519	479.14	348.29	1793302	10.0000
Mirtazapine	3.522	957858	9265.47	1390.63	3162930	10.0000
Mitragynine	3.989	136017	13303.46	66186.53	4297964	10.0000
Morphine	2.143	127144	993.31	3977.29	82556	10.0000
Norbuprenorphine	3.698	24093	30.00	12.14	122619	10.0000
Nordiazepam	4.676	383319	1148.91	588.74	1113242	10.0000

# AM #25 Multi-Drug Screen Results



Name	RT	Resp.	S/N	S/N	ISTD Resp.	Calc. Conc.
Norfentanyl	3.204	1608997	9097.06	∞	6586013	10.0000
Norhydrocodone	2.820	15035	242.69	37.59	351971	10.0000
Normeperidine	3.481	762681	2597.56	∞	2689089	10.0000
Noroxycodone	2.787	251262	∞	224.81	842747	10.0000
Nortriptyline	4.293	607339	727.99	∞	1498293	10.0000
O-desmethyl-tramadol	2.806	2432342	825.95	∞	11481250	10.0000
Olanzapine	3.135	460414	218.98	∞	59510	10.0000
Oxazepam	4.488	265934	102.38	70.99	1365108	10.0000
Oxycodone	2.784	609716	∞	553.63	2618423	10.0000
Oxymorphone	2.228	408567	∞	321.09	1325493	10.0000
Paroxetine	4.222	112276	∞	∞	3317014	10.0000
Phenazepam	4.618	238472	∞	1990.14	1009738	10.0000
Phencyclidine	3.771	1501952	8331.16	408.29	7060723	10.0000
Phentermine	3.040	445654	509.28	12.71	4267487	10.0000
Phenytoin	4.109	9760	72.92	312.32	59510	10.0000
Promethazine	4.166	2535406	∞	∞	10855774	10.0000
Pseudoephedrine	2.612	12343166	13183.37	10770.60	54194895	10.0000
Quetiapine	4.097	985761	1664.34	746634.64	1409051	10.0000
Sertraline	4.425	706188	1276.61	10091.69	3317014	10.0000
Sufentanil	4.097	91539	231.24	4006.41	4140945	10.0000
Tapentadol	3.328	1527408	2320.72	781.51	6991729	10.0000
Temazepam	4.640	763394	∞	15.80	3291412	10.0000
Tramadol	3.308	2516980	3346.92	98.67	12513573	10.0000
Trazodone	3.930	602972	14186.18	4086.72	3009809	10.0000
Venlafaxine	3.674	2176506	17405.04	951.10	10553927	10.0000
Zaleplon	4.318	446408	1733.05	1359.94	1137906	10.0000
Zolpidem	3.626	2154596	36450.16	1043639.74	10012086	10.0000
Zopiclone	3.592	174921	1513.87	768.14	771313	10.0000

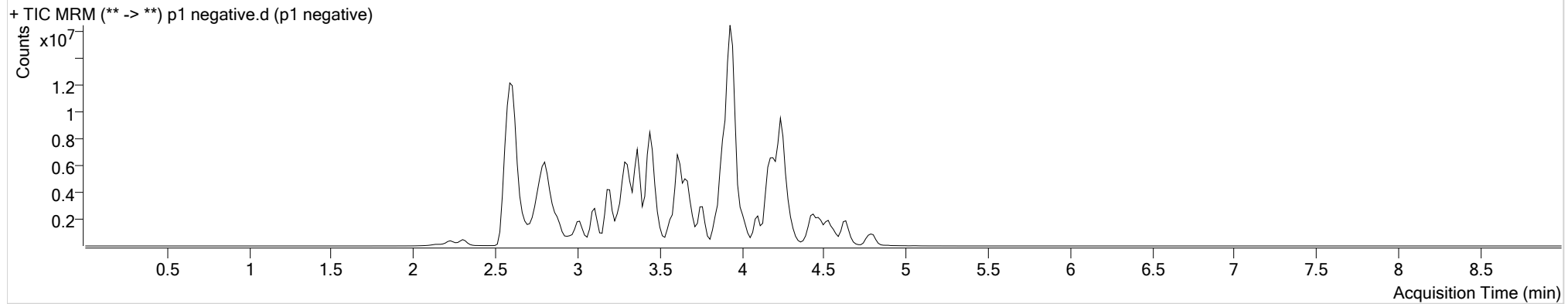
# AM #25 Multi-Drug Screen Results



**Batch results** D:\MassHunter\Data\2019\MDS\041619 MDS SP MDS PV TS\QuantResults\MDS SP.batch.bin  
**Calibration Last Update** 4/18/2019 2:35:05 PM

<b>Instrument Type</b>	FALCO-LCMS (Property ID 069901)	<b>Data File</b>	p1 negative.d
<b>Acq. Method</b>	Sample	<b>Sample</b>	p1 negative
<b>Sample Position</b>	am 25 all.m	<b>Operator</b>	
<b>Injection Volume</b>	P1-E5	<b>Comment</b>	
<b>Acq. Date-Time</b>	5		
<b>Sample Info.</b>	4/16/2019 2:18:47 PM		

## Sample Chromatogram



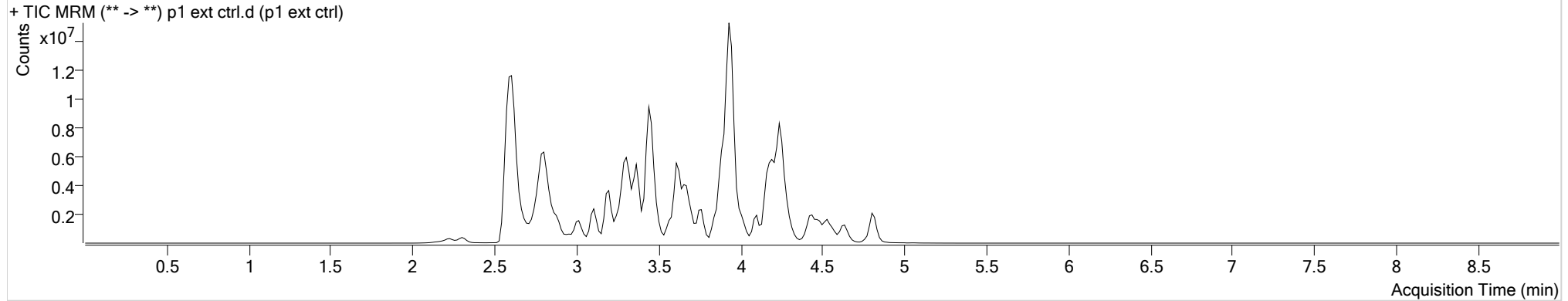
# AM #25 Multi-Drug Screen Results



**Batch results** D:\MassHunter\Data\2019\MDS\041619 MDS SP MDS PV TS\QuantResults\MDS SP.batch.bin  
**Calibration Last Update** 4/18/2019 2:35:05 PM

**Instrument** FALCO-LCMS (Property ID 069901) **Data File** p1\_ext\_ctrl.d  
**Type** Sample **Sample** p1\_ext\_ctrl  
**Acq. Method** am\_25\_all.m **Operator**  
**Sample Position** P1-F5 **Comment**  
**Injection Volume** 5  
**Acq. Date-Time** 4/16/2019 2:28:50 PM  
**Sample Info.**

## Sample Chromatogram



Name	RT	Resp.	S/N	S/N	ISTD Resp.	Calc. Conc.
Diazepam	4.810	2454543	4415.11	50332.07	1296538	97.4263
Meperidine	3.448	5651960	23960.22	11128.77	2661191	91.8780
Metoprolol	3.323	1744387	7888.43	1741056.94	2661191	92.5151
Oxycodone	2.784	4035162	∞	∞	2331444	74.3273