Loadlist-Alcohol Reference Solution Verification

| Location | Sample |
|---|---|
| 1 | Volatiles Mix |
| 2 | Blank |
| 3 | Cerilliant 25 |
| 4 | Cerilliant 100 |
| 5 | Cerilliant 200 |
| 6 | Cerilliant 400 |
| 7 | Blank |
| 8 | Lipomed 50 |
| 9 | 2173 |
| 10 | 2174 |
| 11 | 2175 |
| 12 | 2177 |
| 13 | 2178 |
| 14 | 2209 |
| 15 | 2210 |
| 16 | 2211 |
| 17 | 2213 |
| 18 | 2214 |
| 19 | Lipomed 100 |
| 20 | 2173 |
| 21 | 2174 |
| 22 | 2175 |
| 23 | 2177 |
| 24 | 2178 |
| 25 | 2209 |
| 26 | 2210 |
| 27 | 2211 |
| 28 | 2213 |
| 29 | 2214 |
| 30 | Lipomed 300 |

| Instrument Parameters | | | |
|---|---|---|---|
| Sample Temp | 60 | C | ✓ |
| Needle Temp | 70 | C | ✓ |
| Transfer Temp | 80 | C | ✓ |
| Thermostat time | 15 | min | ✓ |
| Pressurization time | 2.0 | min | ✓ |
| Withdraw time | 0.2 | min | ✓ |
| Injection Time | 0.03 | min | ✓ |
| Cycle Time | 4.5 | min | ✓ |
| Inlet temp | 90 | C | ✓ |
| He Carrier pressure | 15 | psi | ✓ |
| Column oven temp | 55 | C | ✓ |
| Run Time | 5.0 | min | ✓ |
| FID Temp | 220 | C | ✓ |
| Hydrogen Flow | 45 | mL/min | ✓ |
| Air Flow | 450 | mL/min | ✓ |

| Procedure Used | Eff. Date |
|---|---|
| ATP-TSOP v.2 section 4 | Dec-18 |

**Reagents, Calibrators and Controls**

| Materials | Lot | Exp. Date |
|---|---|---|
| Internal Standard | 022619 TG | na |
| Volatiles Mixture | 041513 DKR | na |
| Water (Fisher Scientific) | 167428 | 11/2021 |
| Cerilliant 25 | FN06221502 | 8/2020 |
| Cerilliant 100 | FN08101601 | 8/2021 |
| Cerilliant 200 | FN03301601 | 4/2021 |
| Cerilliant 400 | FN05131606 | 6/2021 |
| Lipomed 50 | 08012015-B | 1/2020 |
| Lipomed 100 | 09022015-B | 2/2020 |
| Lipomed 300 | 18052015-A/1 | 5/2020 |

**Reference Solution**

| | |
|---|---|
| Level Tested: | 0.20 g/ 210 L |
| Lot #: | 201902C |
| Manufacture Date: | 2/20/2019 |
| Expiration Date | 2/20/2021 |

Operator: JJ Dahn

Date: 3/6/19

Alcohol Analysis QC Summary

| Report Date | 3/6/2019 |
|---|---|
| | |
| Reviewer | TJ Graham |

3/6/19 TJ

| Run Summary Data | | | | Ethanol | | | n-Propanol | |
|---|---|---|---|---|---|---|---|---|
| Run Date | Channel | Sample | Lot | RT | Area | Conc. | RT | Area |
| 3/6/2019 | A | Volatiles Mix | 041513 DKR | 1.415 | 25717.57 | 0.0381 | 2.009 | 250416.04 |
| 3/6/2019 | A | Blank | 167428 | | 0.00 | 0.0000 | 2.010 | 253965.39 |
| 3/6/2019 | A | CER 25 | FN06221502 | 1.414 | 17305.86 | 0.0256 | 2.008 | 255987.25 |
| 3/6/2019 | A | CER 100 | FN08101601 | 1.415 | 70083.75 | 0.0997 | 2.010 | 255286.33 |
| 3/6/2019 | A | CER 200 | FN03301601 | 1.415 | 137599.42 | 0.1996 | 2.009 | 248457.49 |
| 3/6/2019 | A | CER 400 | FN05131606 | 1.413 | 280450.63 | 0.4001 | 2.008 | 252405.72 |
| 3/6/2019 | A | Blank | 167428 | | 0.00 | 0.0000 | 2.008 | 252757.59 |
| 3/6/2019 | A | Lipomed 50 | 08012015-B | 1.415 | 34203.29 | 0.0499 | 2.009 | 251514.29 |
| 3/6/2019 | A | 2173 | 201902C | 1.415 | 167812.89 | 0.2432 | 2.009 | 248843.60 |
| 3/6/2019 | A | 2174 | 201902C | 1.413 | 169146.62 | 0.2429 | 2.008 | 251191.35 |
| 3/6/2019 | A | 2175 | 201902C | 1.414 | 168166.05 | 0.2434 | 2.009 | 249231.08 |
| 3/6/2019 | A | 2177 | 201902C | 1.413 | 169503.59 | 0.2420 | 2.007 | 252618.59 |
| 3/6/2019 | A | 2178 | 201902C | 1.415 | 168979.85 | 0.2432 | 2.009 | 250583.29 |
| 3/6/2019 | A | 2209 | 201902C | 1.415 | 169536.04 | 0.2423 | 2.009 | 252377.69 |
| 3/6/2019 | A | 2210 | 201902C | 1.415 | 169958.60 | 0.2422 | 2.009 | 253138.50 |
| 3/6/2019 | A | 2211 | 201902C | 1.415 | 172423.35 | 0.2432 | 2.010 | 255727.63 |
| 3/6/2019 | A | 2213 | 201902C | 1.414 | 171316.37 | 0.2427 | 2.009 | 254576.65 |
| 3/6/2019 | A | 2214 | 201902C | 1.415 | 169828.77 | 0.2433 | 2.009 | 251794.68 |
| 3/6/2019 | A | Lipomed 100 | 09022015-B | 1.414 | 69523.52 | 0.0986 | 2.008 | 255895.11 |
| 3/6/2019 | A | 2173 | 201902C | 1.415 | 170466.12 | 0.2432 | 2.009 | 252868.10 |
| 3/6/2019 | A | 2174 | 201902C | 1.415 | 169808.15 | 0.2428 | 2.009 | 252290.74 |
| 3/6/2019 | A | 2175 | 201902C | 1.415 | 170769.49 | 0.2427 | 2.009 | 253760.03 |
| 3/6/2019 | A | 2177 | 201902C | 1.413 | 169565.96 | 0.2424 | 2.008 | 252325.10 |
| 3/6/2019 | A | 2178 | 201902C | 1.415 | 169355.17 | 0.2436 | 2.009 | 250724.88 |
| 3/6/2019 | A | 2209 | 201902C | 1.415 | 172783.71 | 0.2425 | 2.010 | 256957.18 |
| 3/6/2019 | A | 2210 | 201902C | 1.413 | 170715.58 | 0.2428 | 2.008 | 253626.99 |
| 3/6/2019 | A | 2211 | 201902C | 1.415 | 168926.21 | 0.2425 | 2.009 | 251228.12 |
| 3/6/2019 | A | 2213 | 201902C | 1.414 | 170714.15 | 0.2424 | 2.008 | 253980.99 |
| 3/6/2019 | A | 2214 | 201902C | 1.414 | 171963.90 | 0.2430 | 2.008 | 255306.72 |
| 3/6/2019 | A | Lipomed 300 | 18052015-A/1 | 1.413 | 214160.36 | 0.2992 | 2.008 | 257973.04 |
| | | | | | | %CV = | | 0.94% |

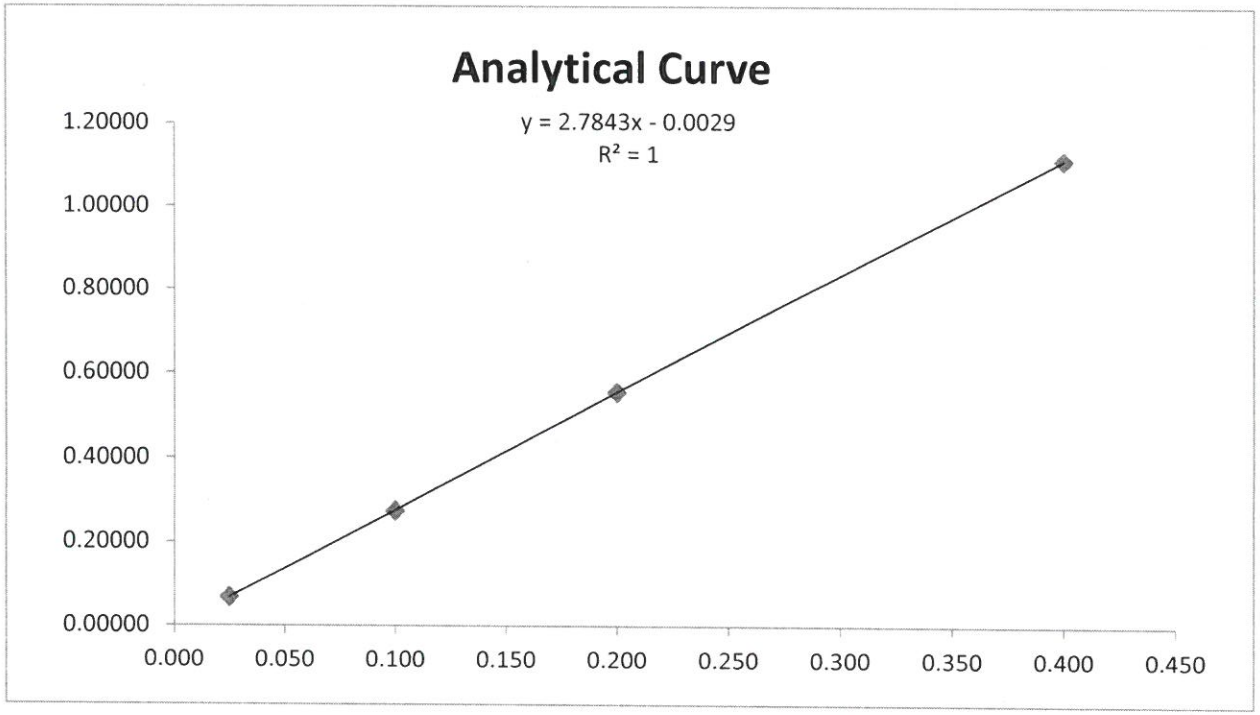
ALCOHOL ANALYSIS QC SUMMARY

| | |
|---|---|
| **Report Date** | 3/6/2019 |
| | |
| **Reviewer** | TJ Graham |

3/6/19 TG

| **RUN SUMMARY DATA** | | | | **Ethanol** | | | **n-Propanol** | |
|---|---|---|---|---|---|---|---|---|
| **Run Date** | **Channel** | **Sample** | **Lot** | **RT** | **Area** | **Conc.** | **RT** | **Area** |
| 3/6/2019 | A | CER 25 | FN06221502 | 1.414 | 17305.86 | 0.0256 | 2.008 | 255987.25 |
| 3/6/2019 | A | CER 100 | FN08101601 | 1.415 | 70083.75 | 0.0997 | 2.010 | 255286.33 |
| 3/6/2019 | A | CER 200 | FN03301601 | 1.415 | 137599.42 | 0.1996 | 2.009 | 248457.49 |
| 3/6/2019 | A | CER 400 | FN05131606 | 1.413 | 280450.63 | 0.4001 | 2.008 | 252405.72 |

| **Summary** | | **Standard** | **g/dL** | **Ratio** | **Calc.** | **Diff** |
|---|---|---|---|---|---|---|
| | | Blank | 0.000 | 0.00000 | 0.00000 | 0.00000 |
| Slope | 2.7843 | CER 25 | 0.025 | 0.06760 | 0.02532 | 0.00032 |
| Intercept | -0.0029 | CER 100 | 0.100 | 0.27453 | 0.09964 | -0.00036 |
| Standard Error | 0.000977091 | CER 200 | 0.200 | 0.55381 | 0.19994 | -0.00006 |
| R-Squared | 1.0000 | CER 400 | 0.400 | 1.11111 | 0.40010 | 0.00010 |



| Source: | Alcohol Countermeasure Systems, Inc. |
|---|---|

| | |
|---|---|
| Lot | 201902C |
| Level | 0.20 g/ 210 L |
| Manufacture Date | 2/20/2019 |
| Expiration Date | 2/20/2021 |

| Bottle | Result (g/100mL) |
|---|---|
| 2173 | 0.2432 |
| | 0.2432 |
| 2174 | 0.2429 |
| | 0.2428 |
| 2175 | 0.2434 |
| | 0.2427 |
| 2177 | 0.2420 |
| | 0.2424 |
| 2178 | 0.2432 |
| | 0.2436 |
| 2209 | 0.2423 |
| | 0.2425 |
| 2210 | 0.2422 |
| | 0.2428 |
| 2211 | 0.2432 |
| | 0.2425 |
| 2213 | 0.2427 |
| | 0.2424 |
| 2214 | 0.2433 |
| | 0.2430 |

3/6/19
JD

| | |
|---|---|
| Mean | 0.2428 |
| Std. Dev. | 0.0004 |
| Min | 0.2420 |
| Max | 0.2436 |