

## Tank 21

Batch#

Facility Name: US EPA NVFEL Facility Type: In House

Owner: USEPA Phone: (734) 214-4881

2565 Plymouth Road

Ann Arbor MI 48105-2425 Washtenaw County

US

Inspector: N. Tschirhart Inspection Date : 12/19/2013

Time In: 00:00 Time Out: 00:00

Samples Type: Test Fuel

VOC

Inspection information logged in by NST on 12/19/2013.

Season:

Tank 21-12-19-13

FTAG: 23945

Comments:

| Test Code | Test Method                             | Results | Units              | Fuel Code: | 3 | Analyst | Analysis Date |
|-----------|---|---------|--------------------|------------|---|---------|---------------|
| 5808      | Weight Percent Oxygenates by D5599      | 0.00    | Weight Percent     |            |   | TS      | 1/8/2014      |
| 552       | MTBE by D5599                           | 0.00    | Oxygen Percent     |            |   | TS      | 1/8/2014      |
| 562       | ETBE by D5599                           | 0.00    | Oxygen Percent     |            |   | TS      | 1/8/2014      |
| 534       | Ethanol by D5599                        | 0.00    | Oxygen Percent     |            |   | TS      | 1/8/2014      |
| 572       | TAME by D5599                           | 0.00    | Oxygen Percent     |            |   | TS      | 1/8/2014      |
| 421       | Sulfur in Gasoline D2622                | 38.5    | Parts Per Million  |            |   | NST     | 12/19/2013    |
| 62        | Vapor Pressure by D5191 (Modified)      | 9.17    | PS I               |            |   | NST     | 12/19/2013    |
| 65        | Percent Evaporated at 200 Degrees F D86 | 39.3    | Volume Percent     |            |   | RG      | 12/19/2013    |
| 66        | Percent Evaporated at 300 Degrees F D86 | 86.5    | Volume Percent     |            |   | RG      | 12/19/2013    |
| 48        | Aromatics in Gasoline MSD D5769         | 33.51   | Volume Percent     |            |   | TW      | 1/10/2014     |
| 49        | Olefins in by FIA D1319                 | 2.0     | Volume Percent     |            |   | RCG     | 12/19/2013    |
| 64        | Benzene in Gasoline D3606               | 0.31    | Volume Percent     |            |   | TW      | 1/7/2014      |
| 593       | Volume Percent Oxygenates by D5599      | 0.00    | Volume Percent     |            |   | TS      | 1/8/2014      |
| 57        | TAME by D5599                           | 0.00    | Volume Percent     |            |   | TS      | 1/8/2014      |
| 532       | Ethanol by D5599                        | 0.00    | Volume Percent     |            |   | TS      | 1/8/2014      |
| 59        | Weight Percent Oxygen by D5599          | 0.00    | Weight Percent     |            |   | TS      | 1/8/2014      |
| 55        | MTBE by D5599                           | 0.00    | Volume Percent     |            |   | TS      | 1/8/2014      |
| 56        | ETBE by D5599                           | 0.00    | Volume Percent     |            |   | TS      | 1/8/2014      |
| 46        | Aromatics by FIA D1319                  | 31.3    | Volume Percent     |            |   | RCG     | 12/19/2013    |
| 630       | Toluene in gasoline by MSD D5769        | 18.56   | Volume Percent     |            |   | TW      | 1/10/2014     |
| 63        | Benzene in Gasoline by GC/MSD D5769     | 0.33    | Volume Percent     |            |   | TW      | 1/10/2014     |
| 69        | Specific Gravity @ 60 deg F D4052       | 0.74373 | 60/60F             |            |   | NT      | 12/19/2013    |
| 692       | Degrees API D4052                       | 58.76   | Degrees API        |            |   | NT      | 12/19/2013    |
| 691       | Density @ 60 deg F D4052                | 0.74300 | g/cm-03 @ 60 deg F |            |   | NT      | 12/19/2013    |
| 101       | Initial Boiling Point D86               | 88.3    | Degrees F          |            |   | RG      | 12/19/2013    |
| 110       | 10 Percent D86                          | 123.4   | Degrees F          |            |   | RG      | 12/19/2013    |
| 150       | 50 Percent D86                          | 223.0   | Degrees F          |            |   | RG      | 12/19/2013    |
| 190       | 90 Percent D86                          | 322.8   | Degrees F          |            |   | RG      | 12/19/2013    |
| 200       | End Point D86                           | 389.4   | Degrees F          |            |   | RG      | 12/19/2013    |
| 201       | Residue D86                             | 1.1     | mL                 |            |   | RG      | 12/19/2013    |
| 202       | Total Recovery D86                      | 97.2    | mL                 |            |   | RG      | 12/19/2013    |
| 203       | Loss D86                                | 1.7     | mL                 |            |   | RG      | 12/19/2013    |
| 543       | Methanol by D5599                       | 0.00    | Volume Percent     |            |   | TS      | 1/8/2014      |

|      |                        |          |          |                        |         |           |
|------|------------------------|----------|----------|------------------------|---------|-----------|
| 584  | Isopropanol            | by D5599 | 0.00     | Volume Percent         | TS      | 1/8/2014  |
| 585  | t-Butanol              | by D5599 | 0.00     | Volume Percent         | TS      | 1/8/2014  |
| 586  | n-Propanol             | by D5599 | 0.00     | Volume Percent         | TS      | 1/8/2014  |
| 587  | sec-Butanol            | by D5599 | 0.00     | Volume Percent         | TS      | 1/8/2014  |
| 588  | DIPE                   | by D5599 | 0.00     | Volume Percent         | TS      | 1/8/2014  |
| 589  | Isobutanol             | by D5599 | 0.00     | Volume Percent         | TS      | 1/8/2014  |
| 5801 | t-Amyl Alcohol         | by D5599 | 0.00     | Volume Percent         | TS      | 1/8/2014  |
| 5802 | n-Butanol              | by D5599 | 0.00     | Volume Percent         | TS      | 1/8/2014  |
| 30   | Lead in Gasoline       | by D3237 | 0.001    | Grm Pb per Gallon      | Paragon | 1/10/2014 |
| 32   | Weight Fraction Carbon | D3343    | 0.86678  | Weight Fraction        | CPU     |           |
| 991  | Phosphorus in Gasoline | by D3231 | 0.0002   | Grams per Gallon       | Paragon | 1/13/2014 |
| 221  | Motor Octane           |          | 88.2     | Motor Octane Number    | Paragon | 1/10/2014 |
| 73   | Net Heat of Combustion | D3338    | 18438.07 | BTU per Pound          | CPU     |           |
| 218  | Sensitivity            |          | 8.9      | RON-MON                | CPU     | 1/10/2014 |
| 219  | Antiknock              |          | 92.65    | (RON+MON)/2            | CPU     | 1/10/2014 |
| 220  | Research Octane        |          | 97.1     | Research Octane Number | Paragon | 1/10/2014 |

SUGGESTED CITATION: 2013 Chevrolet Malibu ILS Vehicle Tier 2 & 3 Fuels – Test Data Package. Version 2018-09.

Ann Arbor, MI: US EPA, National Vehicle and Fuel Emissions Laboratory, National Center for Advanced Technology, 2018.