Sequence VH Surveillance Panel Meeting

Teams

Monday, July 15 2025, 9:00 am – 10:00 am EDT

1.0) Attendance

Afton:	B. Campbell, B. Maddock
Exxon	L. Salvi
Ford:	R. Zdrodowski
GM:	T. Cushing
Haltermann Solutions:	I. Mathur
Infineum:	J. Anthony, T. Dvorak
Intertek:	J. Franklin, A. Lopez
Lubrizol:	T. Catanese
OHT:	J. Bowden
Oronite:	R. Stockwell
Shell:	S. Demel, J. Hsu
SwRI:	D. Engstrom, J. Riou
TMC:	D. Beck, S. Moyer, B. Transue
TEI:	D. Lanctot
Toyota:	V. Deshpande
Valvoline:	Amol Sawant

2.0) Executive Summary

1. The results of the first two M-000054-3 tests were presented and discussed
2. A motion to blend the rest of the fuel the same as the pilot batch passed
3. A motion to mix up to 10% of the remaining pilot batch into new shipments of M-000054-3 from the main 400,000 gallon blend tank passed
4. Discussed the process of extending calibration periods for stands participating in the fuel matrix. There was no conclusion. A follow-up meeting will be scheduled to discuss the issue further.

3.0) Approval of Minutes

Minutes from June 16th were approved

4.0) M-Batch Fuel Adjustment

4.1) Fuel M-000054-3 Results

- Afton shared plots of the IAR 1011-1 and Afton 931 M-batch-3 results along with previous GI- and N-batch reference tests.
- M-batch-3 values are all within 1 standard deviation of target, with 1011-1 slightly mild and 931 slightly mild

- Average fuel dilution was 15%, which matches the M-batch-3 fuel dilution measurements from SwRI's screener tests
- It was decided that M-Batch-3 was close enough to target to continue with the fuel matrix

Motion by J. Anthony to blend the big batch the same as the pilot batch and continue the precision matrix testing

Motion seconded by A. Lopez

R. Zdrodowski was asked if Ford, as the test sponsor, was satisfied with the results before voting on the motion. Ford had no objection to the motion and a vote was held,

Afton:	B. Maddock	A
Exxon	L. Salvi	A
Ford:	R. Zdrodowski	A
GM:	T. Cushing	A
Haltermann Solutions:	E. Hennessy	A
IMTS:	D. Passmore, S. Clark	Not Present
Infineum:	J. Anthony	A
Intertek:	A. Lopez	A
Lubrizol:	T. Catanese, G. Szappanos	A
OHT:	J. Bowden	W
Oronite:	R. Affinito, J. Martinez, R. Stockwell	A
Shell:	J. Hsu	W
SwRI:	T. Kostan, P. Lang, M. Lochte	A
TMC:	D. Beck	W
TEI:	D. Lanctot	W
Toyota:	V. Deshpande	A
Valvoline:	Amol Sawant	W

Motion carries with 11 Approve and 4 Waive votes

- Haltermann Solutions believed that the big batch could be blended and delivered to the labs within one week
- Afton, IAR, and SwRI will be ready for the next fuel matrix tests in one week.

4.2) <u>Surplus Pilot Batch Fuel Handling</u>

- There was a discussion about how to handle the leftover M-Batch-3 pilot fuel at the labs and at Haltermann Solutions.
- The SP members agreed that the remaining pilot batch fuel could be blended in with the big batch fuel
- Lubrizol recommended using the 10% rule, where 10% of remaining fuel can be blended in with a new fuel delivery.

Motion by T. Catanese to use the 10% rule and blend 10% of the leftover pilot batch with the big batch
Motion Seconded by A. Lopez

Chair calls for a vote:

Afton:	B. Maddock	A
Exxon	L. Salvi	A
Ford:	M. Deegan	A
GM:	T. Cushing	A
Haltermann Solutions:	E. Hennessy	A
IMTS:	D. Passmore, S. Clark	Not present
Infineum:	J. Anthony	A
Intertek:	A. Lopez	A
Lubrizol:	T. Catanese, G. Szappanos	A
OHT:	J. Bowden	W
Oronite:	R. Affinito, J. Martinez, R. Stockwell	A
Shell:	J. Hsu	W
SwRI:	T. Kostan, P. Lang, M. Lochte	A
TMC:	D. Beck	W
TEI:	D. Lanctot	W
Toyota:	V. Deshpande	A
Valvoline:	Amol Sawant	W

Motion carries with 11 Approve and 4 Waive votes

5.0) Stand calibration discussion

- IAR Stand 98 goes out of calibration in 2 days
  - Is Stand 98 allowed to participate in the fuel matrix?
  - Afton agreed that it is acceptable
  - TMC agrees
- Oronite recommended following the rules of extending the calibration period now and reducing future reference periods by the amount of test run with the extension.
- IAR does not believe that the fuel matrix tests should count as candidate tests and should not have to be “paid back”.
- TMC will allow fuel matrix tests on a stand that was calibrated continue in the fuel matrix without referencing or calibration extension.
- LZ agrees with the philosophy that a calibrated stand runs out of the calibration window can continue to run fuel matrix tests.
- If the stand is not extended, it cannot run any other tests.
- This prompted labs to consider cancelling existing extensions to avoid paying back the fuel matrix tests after approval.
- TMC offered to allow the extension time to expire when the fuel matrix test starts if the stand is only used for fuel matrix testing.

Motion by J. Anthony: Stands must be calibrated at the beginning of the fuel matrix may fall out calibration during the fuel matrix testing, but may not run non-fuel matrix candidates.

Motion seconded by A. Lopez

Motion did not come to a vote due to further discussion of stand calibration status for fuel matrix tests.

Note: no changes were made to the existing requirement that stands must be calibrated to run fuel matrix tests.

6.0) Old Business

7.0) New Business

9.0) Meeting Adjourned

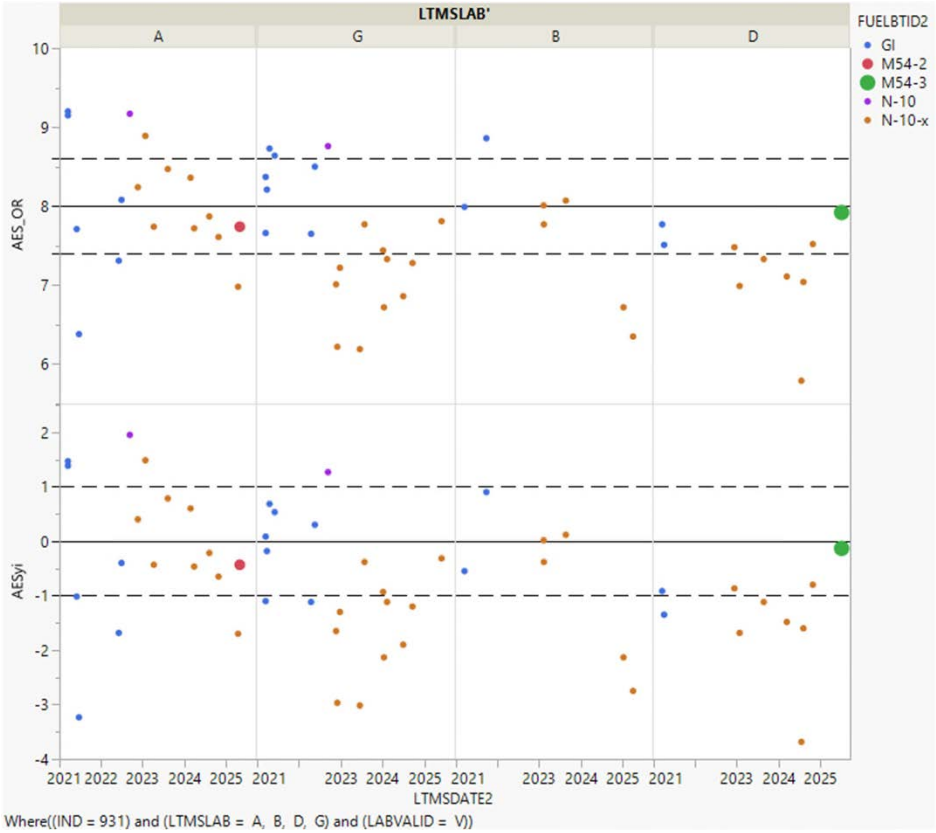
- Meeting adjourned at 11:10 am EDT
- The next meeting will be scheduled for Wednesday, July 23rd, 2025.

M-000054-3 Fuel Approval Matrix

July 14, 2025

Passion for Solutions®

M-000054-3 Fuel Approval Matrix - AES



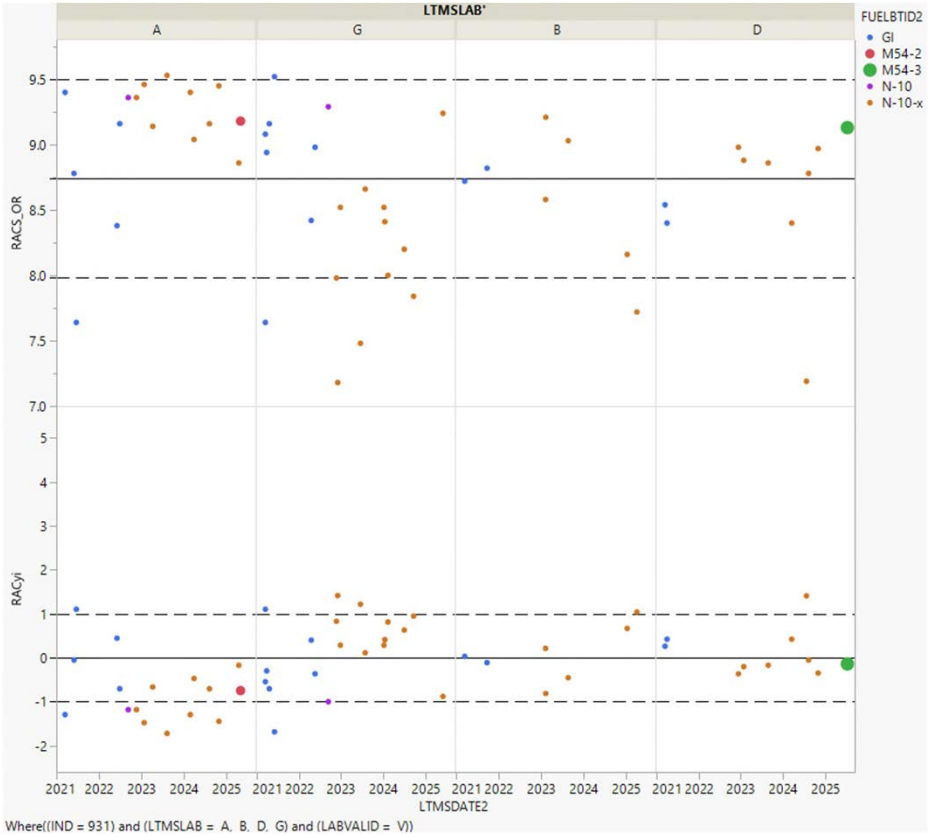
931

1011-1

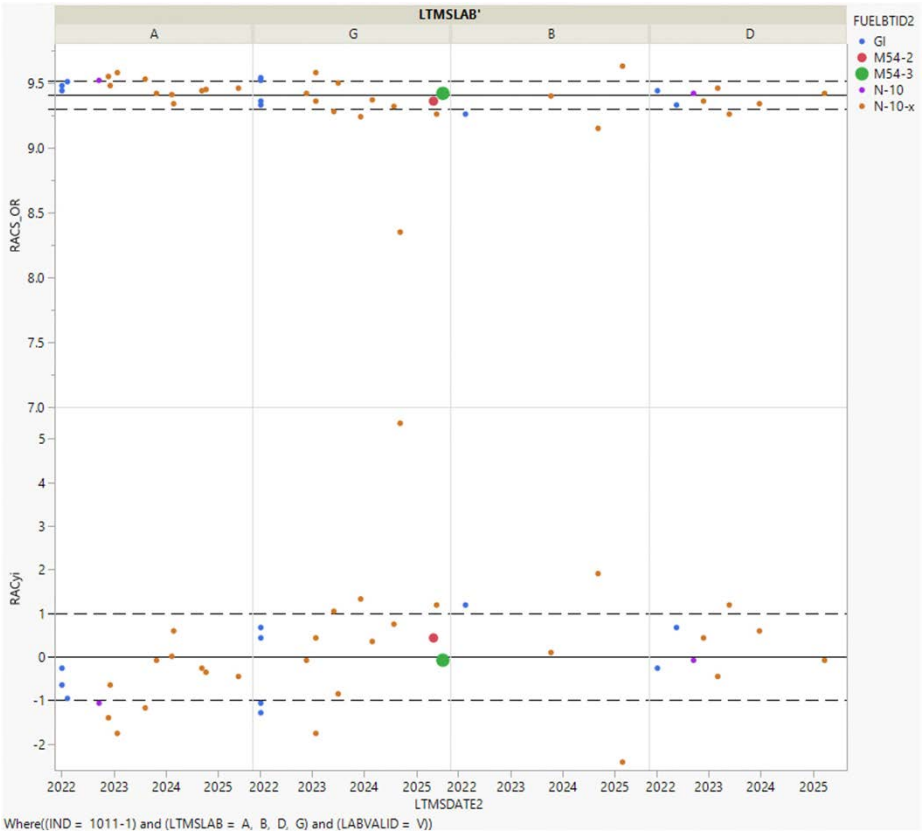
AftonChemical.com

Afton CHEMICAL Passion for Solutions

M-000054-3 Fuel Approval Matrix - RAC



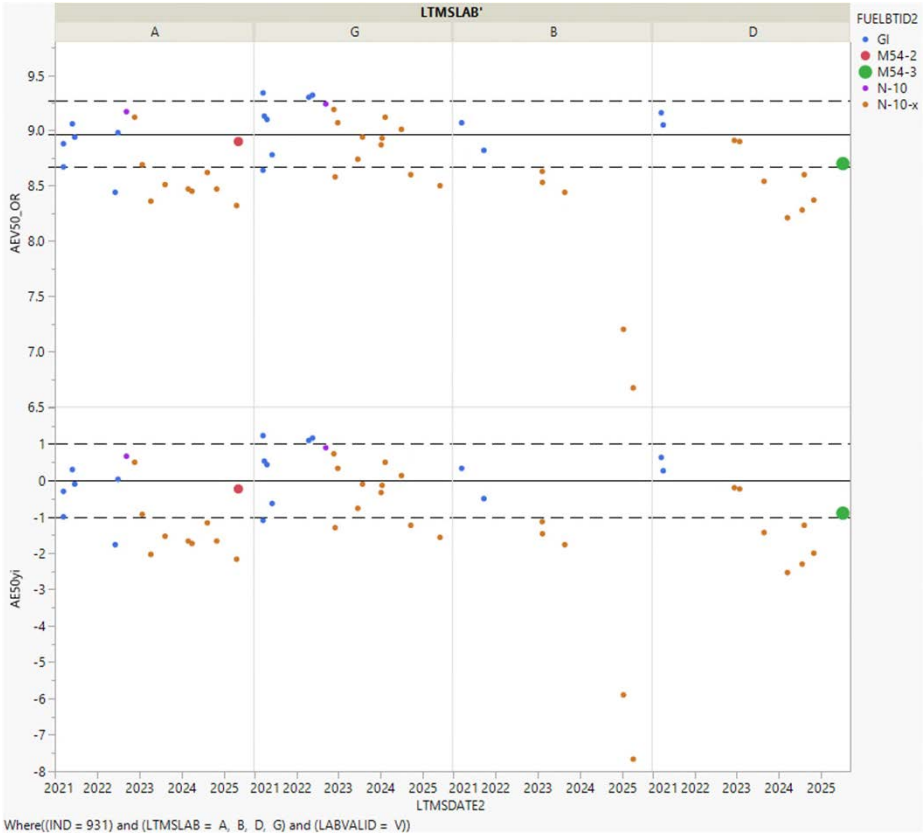
931



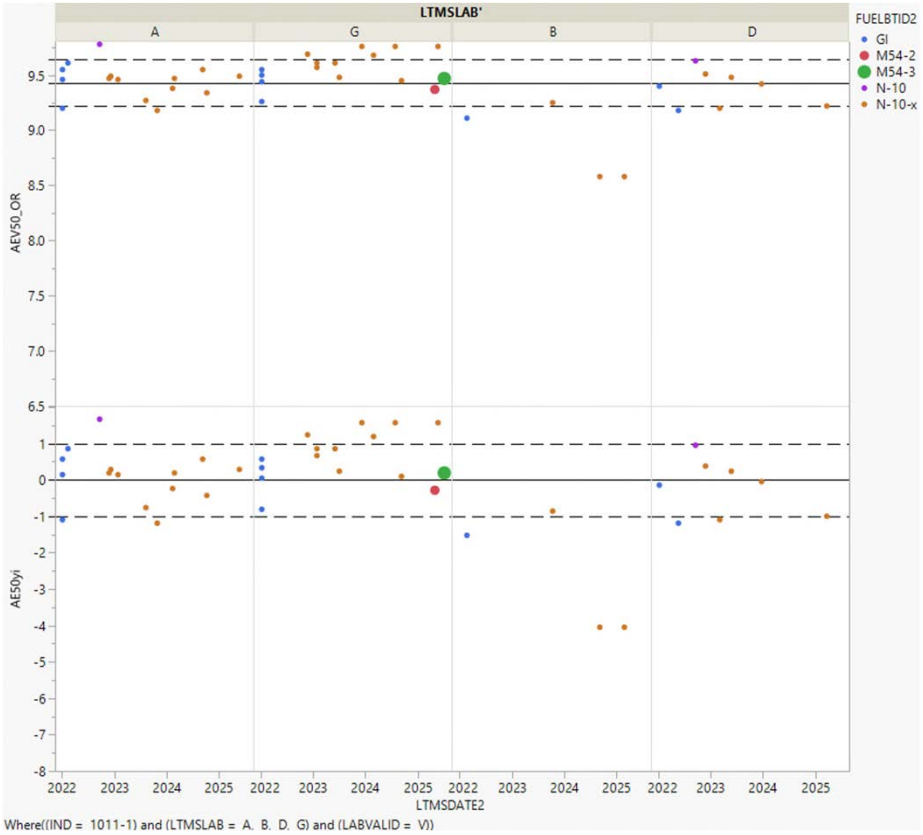
1011-1

AftonChemical.com

M-000054-3 Fuel Approval Matrix - AEV



931

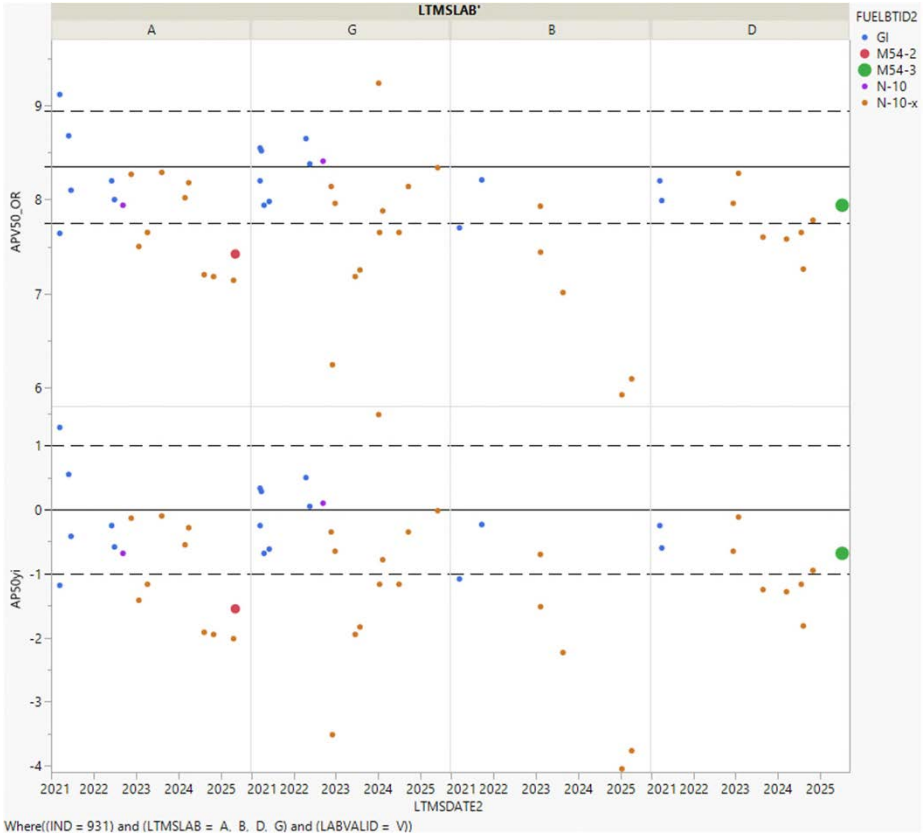


1011-1

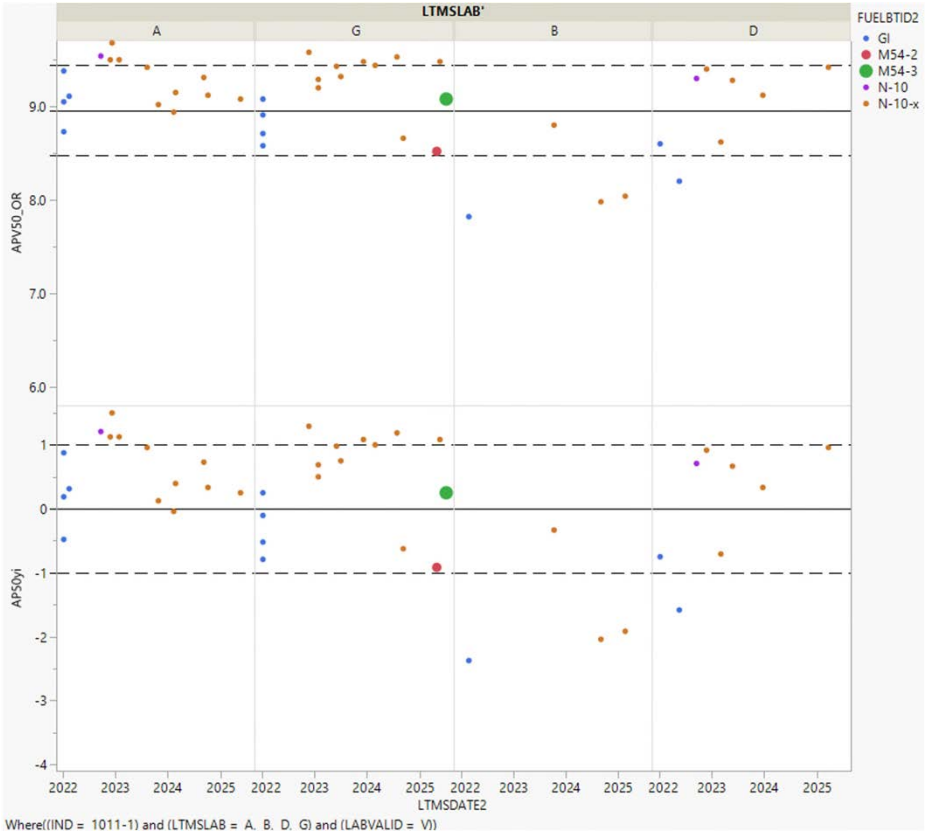
AftonChemical.com

Afton CHEMICAL Passion for Solutions

M-000054-3 Fuel Approval Matrix - APV



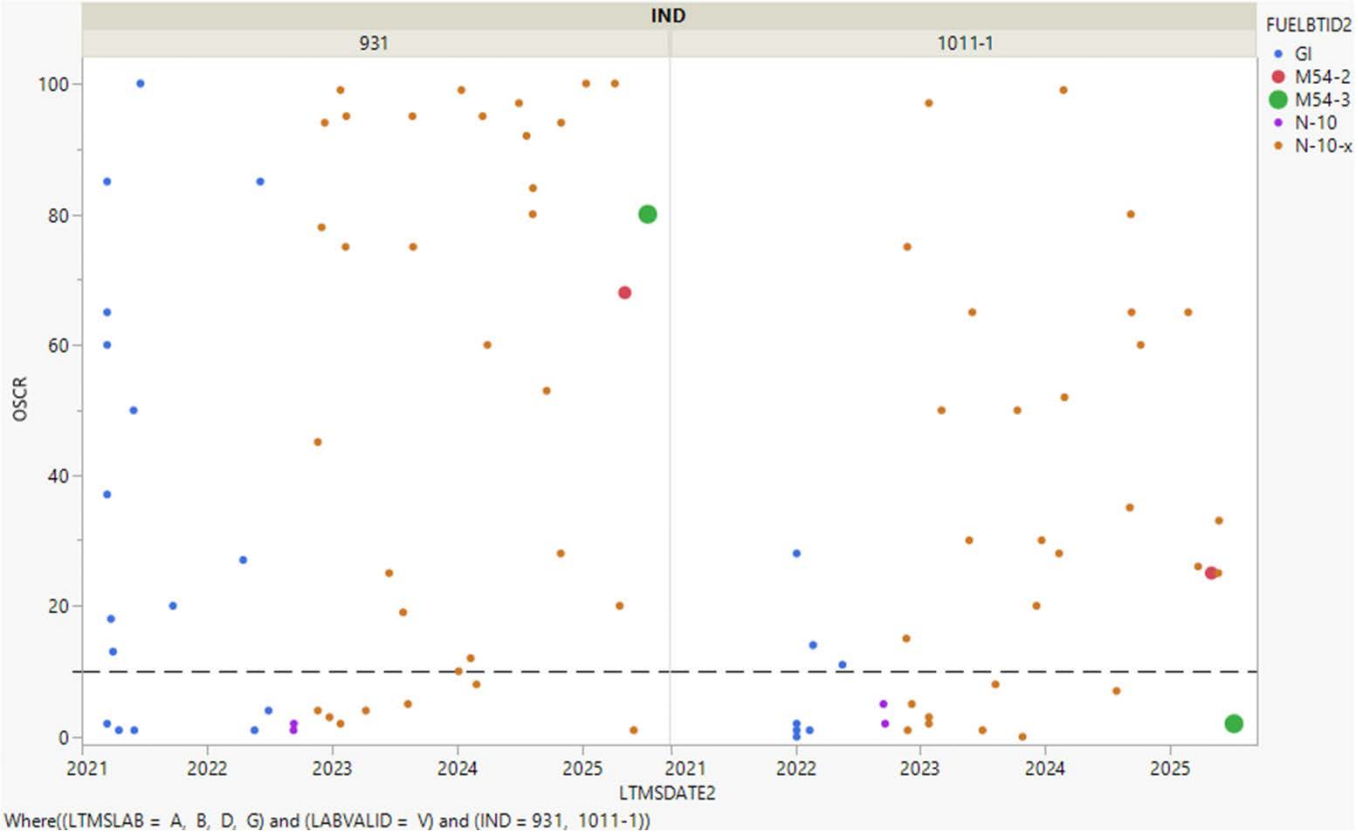
931



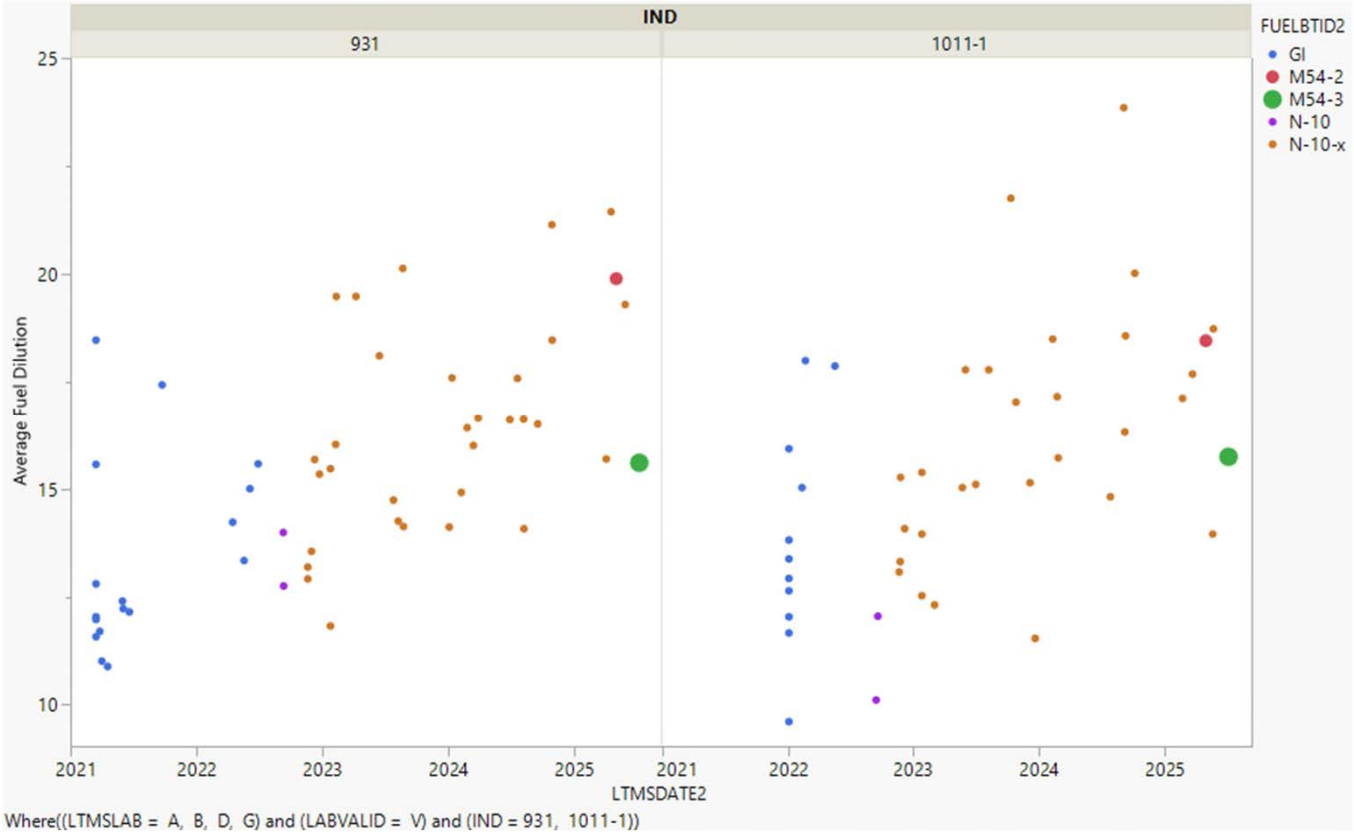
1011-1

AftonChemical.com

M-000054-3 Fuel Approval Matrix - OSCR



M-000054-3 Fuel Approval Matrix – Fuel Dilution



*Note – 931 on M54-3 is based on 4 of 9 available fuel dilution values. Will be updated after values measured.