

**Sequence VH O&H Meeting**  
**August 19<sup>th</sup>, 2025 at 3PM EST via MS Teams**

**Attendees:** Al Lopez, Dan Engstrom, Joe Anthony, Mike Deegan, Tony Catanese, Dylan Beck, Ben Maddock

**Overview:**

1. Fuel
2. Hardware
3. Operation

**Notes:**

1. Fuel

**M-000054-3 Fuel Approval Matrix**

A1	A2	G1	G2	D
940 (175651)	931 (193861)	940 (175644)	1011-1 (191485)	931 (190601)
931 (193862)	1011-1 (193857)	1011-1 (199200)	931 (191483)	1011-1 (190602)
1011-1	931	931	1011-1	931

- M-000054 Fuel Batch Approval
  - o M-000054 batch was too mild with two 940 results
    - VMinutes20250130ConferenceCall\_draft.pdf
  - o M-000054-1 pilot batch was too severe with two 940 results
    - VMinutes20250409ConferenceCall.pdf
  - o M-000054-2 was too severe with a 931 and 1011-1 result
    - VMinutes20250520ConferenceCall.pdf
  - o M-000054-2a fuel dilution study
    - VMinutes20250616 ConferenceCall.pdf
  - o M-000054-3 pilot batch row 1
    - 20250714 meeting
  - o M-000054-3 big batch row 2
    - 20250819 meeting

<b>Intertek</b> <small>Total Quality Assured</small>		Oil	AES	Yi	RCS	Yi	AEV	Yi	APV	Yi	OSCR	FD AVG	Oil Add
Pilot Blend Test	G	1011-1	8.71	0.491	9.42	-0.08	9.47	0.19	9.08	0.25	2	15.90	793
	D	931	7.92	-0.133	9.13	-0.643	8.7	-0.9	7.94	-0.683	80	15.60	925
Final Blend	A	931	8.84	1.4	9.38	-1.236	9.04	0.233	8.12	-0.383	1	12.10	730
	D	1011-1	8.75	0.561	9.46	-0.451	9.43	0	8.64	-0.667	6	16.40	
	G	1011-1	8.3	-0.228	9.4	0.097	9.68	1.19	9.24	0.583	2	16.69	500
	A	931	9.12	1.87	9.3	-1.02	9.02	0.17	8.22	-0.22	1	12.30	
	A	1011-1	9.47	1.82	9.6	-2.01	9.52	0.43	8.96	0.42	1	13.00	
	G	931	7.87	-0.217	8.86	-0.17	8.9	-0.233	7.64	-1.183	65	16.86	940
			<b>avg</b>	<b>0.6955</b>		<b>-0.68913</b>		<b>0.135</b>		<b>-0.23538</b>			

**2. Hardware**

- a. FCS Order through TEI
  - i. All parts are available at TEI
- b. Pencool shortage may be resolved with Nalcool alternative supply

**3. Operation**

- a. Fuel Dilution discrepancy
  - i. SwRI & Afton mini-round robin

Test Hour	Fuel Dilution		
	SwRI	Afton	Delta
24	11.4	10.5	-0.9
48	11.7	11	-0.7
72	12	-	
96	12.3	11.3	-1
120	12.5	11.9	-0.6
144	12.2	11.2	-1
168	12.6	11.8	-0.8
192	12.1	11.2	-0.9
216	12.2	12	-0.2
			-0.76

ii. Average

Test Hour	Fuel Dilution		
	SwRI	Afton	Delta
24	14.7	14.5	-0.2
48	15.4	15.6	0.2
72	16.1	15.8	-0.3
96	16.2	16.6	0.4
			0.03

iii. Average

- b. Ramps – need to be addressed but the method is unclear. Labs will work to collect this data after the fuel approval matrix.
  - i. Quality Index?
  - ii. Windows?
  - iii. How to collect data?
    - 1. Rewrite ramp procedural ramp requirements and identify critical time in ramps we want recorded
    - 2. Ask labs to start reporting averaged values
  - iv. 2021 exercise
    - 1. Labs requested to review their notes for presentations or summaries from the last time this was addressed.
- c. New reference oil
  - i. RO 931 and 1011-1 have overlapping targets that may it difficult for labs to clearly discriminate technologies.

- ii. Labs would like a more borderline GF-7 capable formulation to avoid the overlap with 1011-1
- d. Lab Bias concerns with Lab A on the mild end and Lab B on the severe end
  - i. Consider swapping engines between two labs to rule out build vs stand influence on severity
  - ii. To simplify logistics, Lab A and G were requested to swap engines and evaluate fuel dilution differences
  - iii. Further discussion is required



## M-000054-3 Fuel Approval Matrix

August 19, 2025

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# M-000054-3 Fuel Approval Matrix

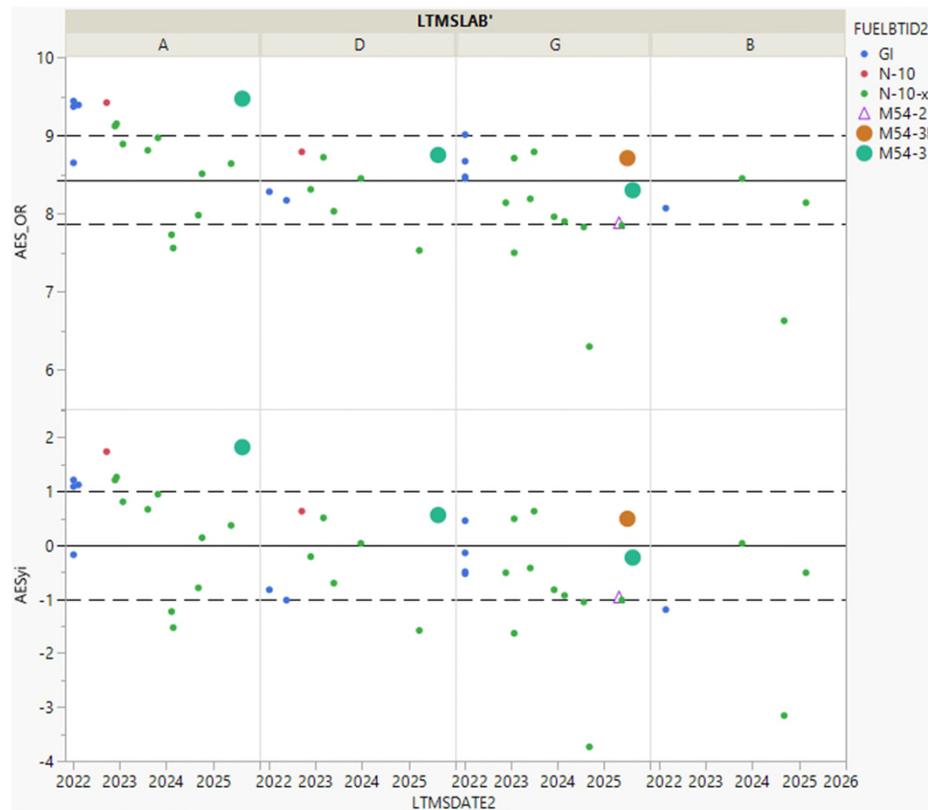
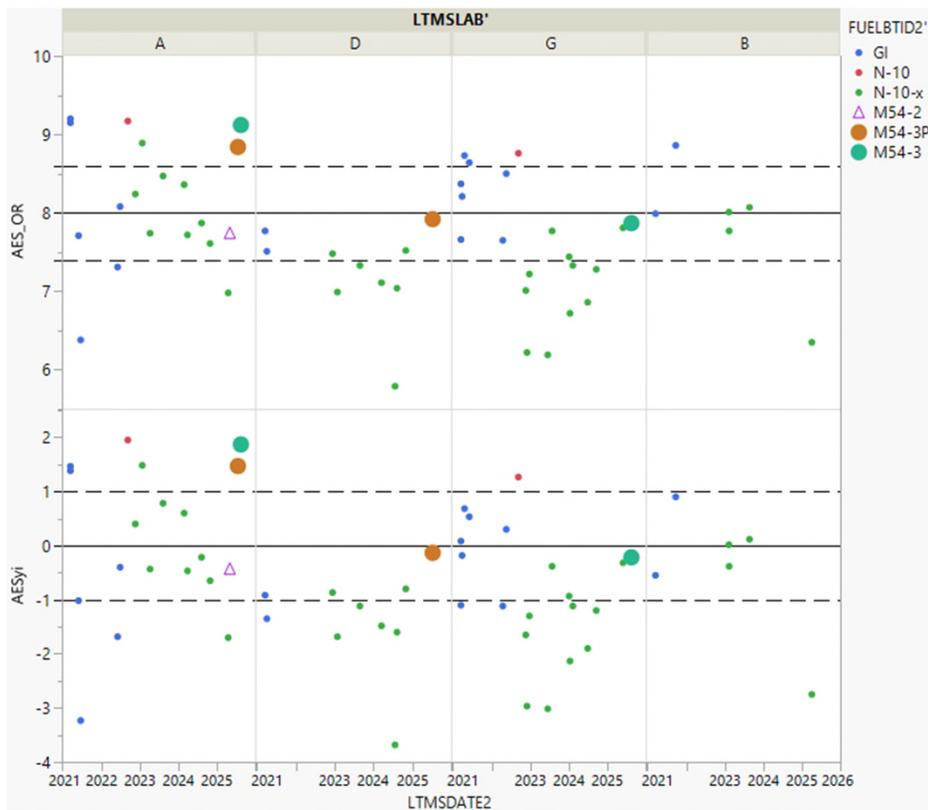
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**M-000054-3 Fuel Approval Matrix**

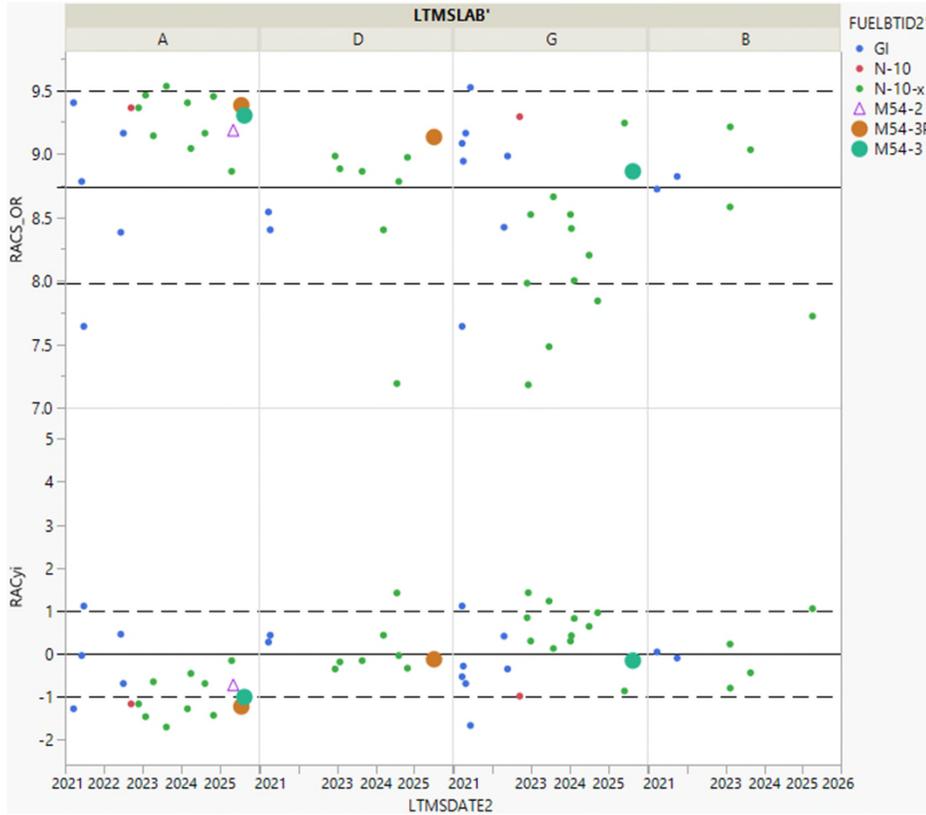
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			avg	0.6955		-0.68913		0.135		-0.23538			

# M-000054-3 Fuel Approval Matrix - AES



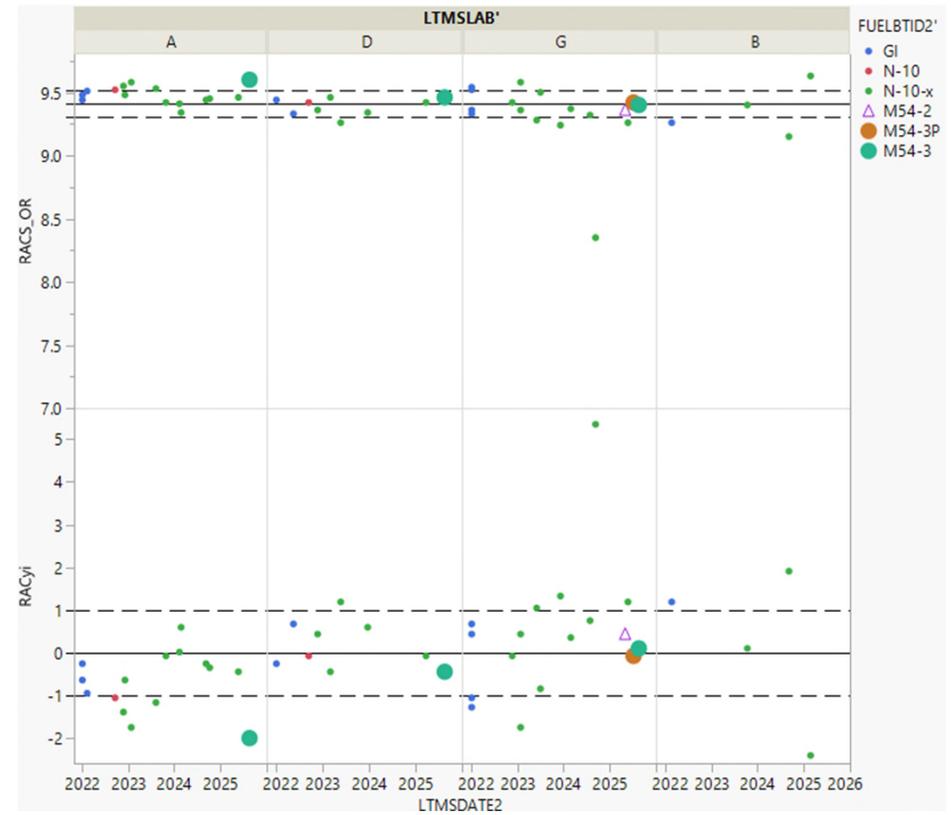
# M-000054-3 Fuel Approval Matrix - RAC



**931**

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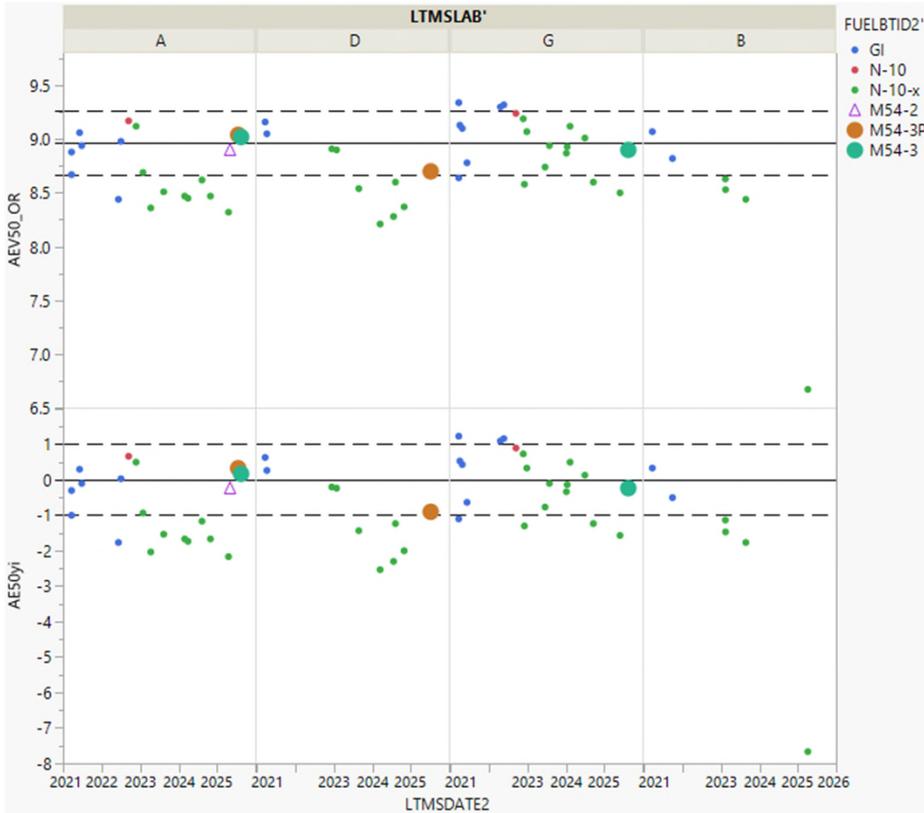
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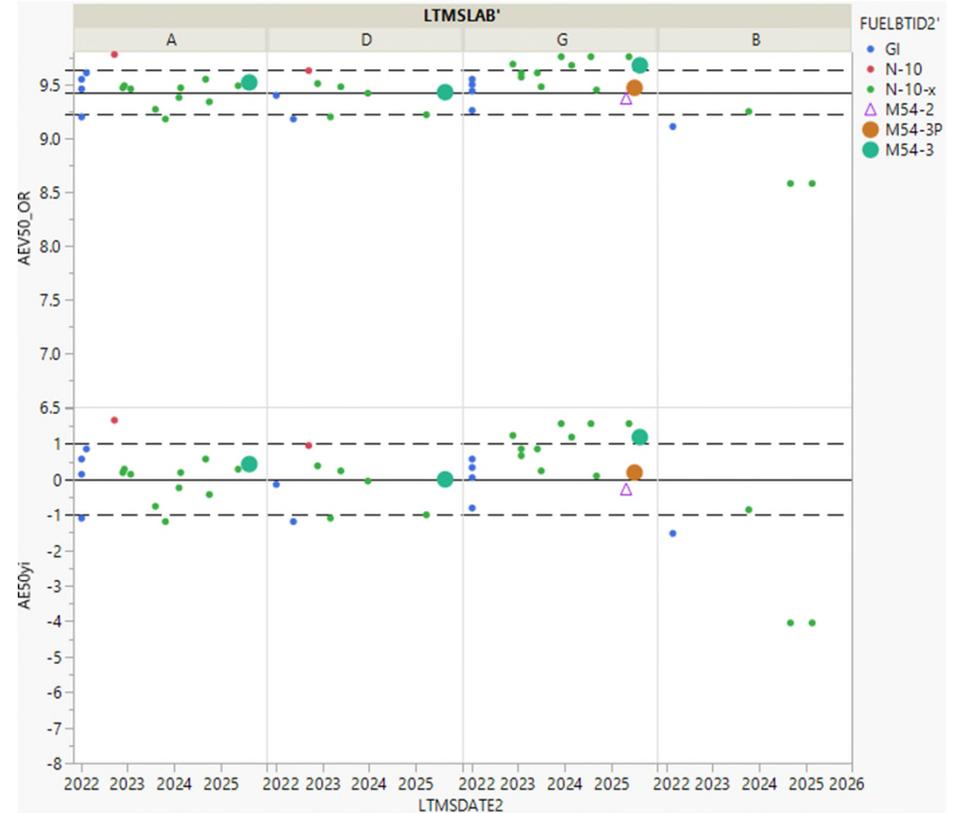
**1011-1**

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# M-000054-3 Fuel Approval Matrix - AEV

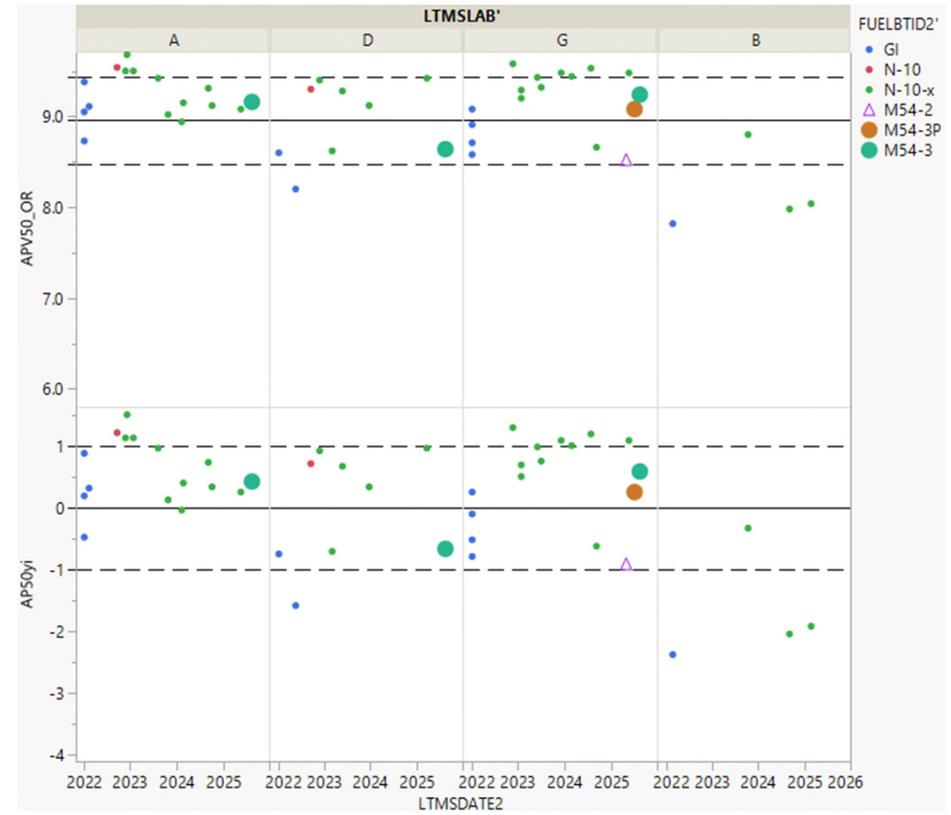
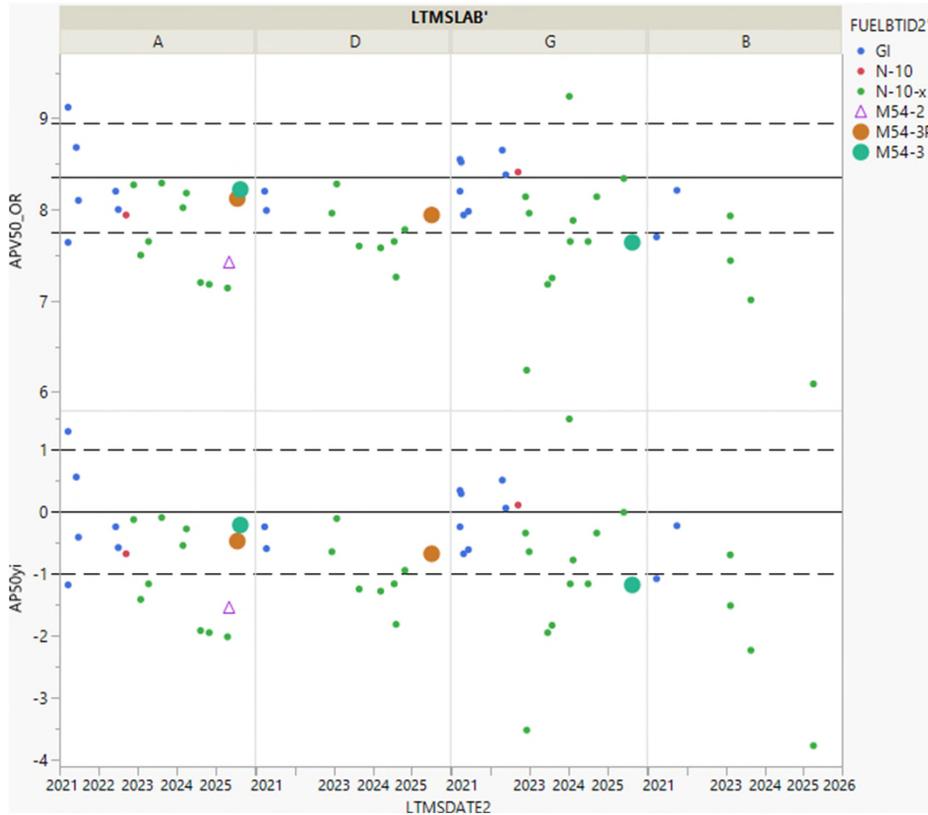


**931**

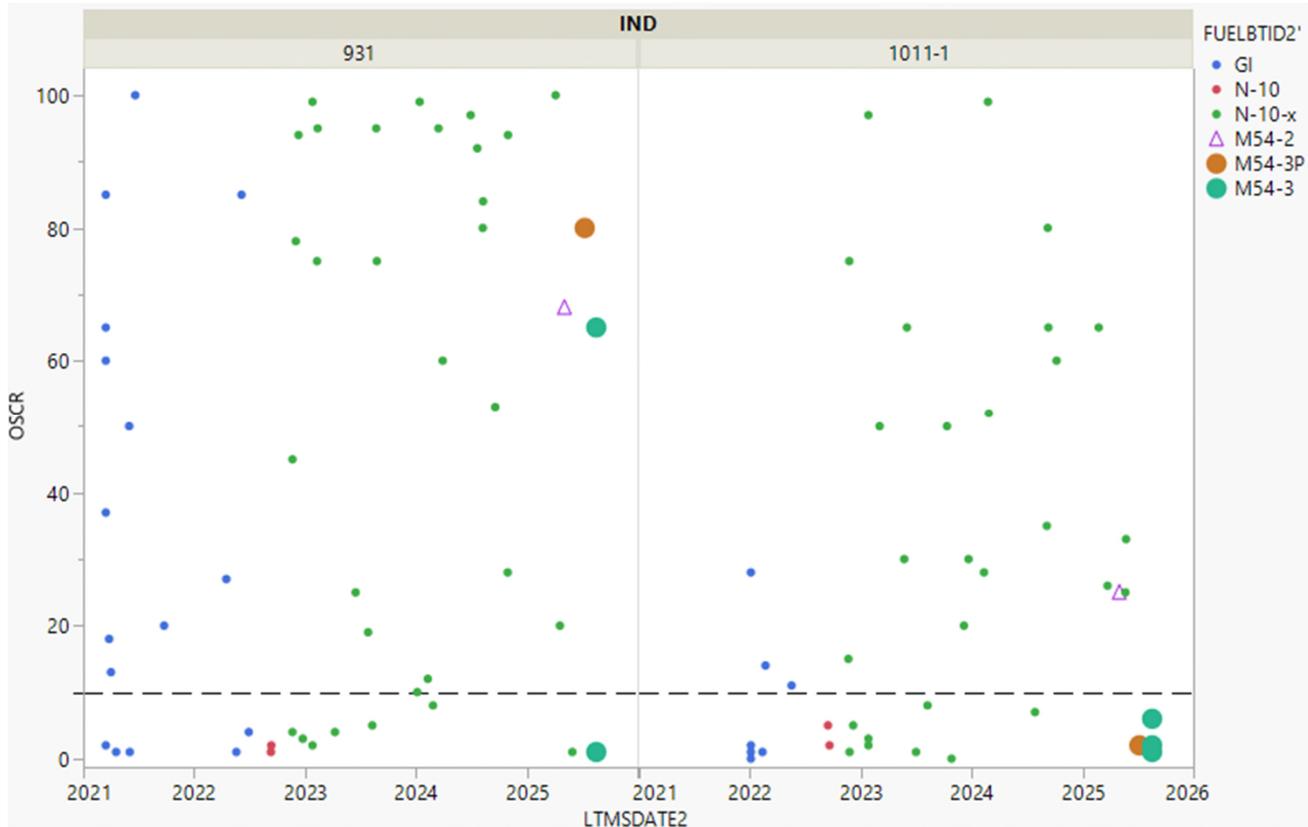


**1011-1**

# M-000054-3 Fuel Approval Matrix - APV



# M-000054-3 Fuel Approval Matrix - OSCR



# M-00054-3 Fuel Approval Matrix – Fuel Dilution

