

Certification Summary Information Report

Manufacturer	Ineos Automotive Limited	Manufacturer Code	IAL
Test Group	VIALT03.0001	Evaporative/Refueling Family	VIALR0180001
Certificate Number	VIALT03.0001-001	CARB Executive Order #	--
Certificate Issue Date	07/14/2026	Certificate Revision Date	--
Certificate Effective Date	07/14/2026	Conditional Certificate	No
CSI Revision #	--	CSI Submission/Revision Date	07/06/2026 10:00:16 AM
Model Year	2027		

Test Group Information

CSI Type	Update for Correction	Running Change Reference Number	--
GHG Exempt Status	Not Exempt		

Drive Sources and Fuel(s)

Drive Source #1: Combustion Engine

Fuel	Basic Fuel Metering System	Lean Burn Strategy Indicator
Gasoline	Spark Ignition Direct fuel injection	No

Hybrid Indicator	No		
Multiple Fuel Storage	--	Rechargeable Energy Storage System Indicator	--
Multiple Fuel Combustion	--	Off-board Charge Capable Indicator	--
Fuel Cell Indicator	No	EPA Vehicle Class	LDT4
Federal Clean Fuel Vehicle	No	Federal Clean Fuel Vehicle Standard	--
Federal Clean Fuel Vehicle ILEV	No	California Partial Zero Emissions Vehicle Indicator	--
Durability Group Name	PIALGPGNN001	Durability Group Equivalency Factor	1
Reduced Fee Test Group	No	Certification Region Code(s)	FA, CA
Complies with HD GHG 2b/3 regulations?	No		
Introduction into Commerce Date	10/07/2026	CAP2000 Conditional Certificate?	No
Independent Commercial Importer?	No	Alternative Fuel Converter Certificate?	No
SFTP Federal Composite Compliance Identifier	Tier 3	SFTP Tier 2 Composite CO Option	--
SFTP LEV-III Composite Compliance Indicator	No		
OBD Compliance Type	CARB	OBD Demonstration Vehicle Test Group	VIALT03.0001
Test Group OBD Compliance Level	Partial - with deficiencies	Number of Test Group OBD Deficiencies	1
OBD Deficiencies Comments	The system is compliant with the OBD II regulation with the exception of SAE International (SAE) J1979-2 implementation (OBDOnUDS).		
Mfr Test Group Comments	INEOS Grenadier with the BMW 3.0 I6 B58B30M1 engine		
Mfr Exhaust / Evap Standards Comments	--		

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Test Group	VIALT03.0001	Evaporative/Refueling Family	VIALR0180001
Evaporative/Refueling Family Information			
Evaporative Summary Information Type	New	Submission/Correction Date	05/12/2026 04:38:16 AM
Integrated ORVR?	Yes	Fuel(s)	Gasoline
Multiple Fuel Storage	--		
Bladder Fuel Tank?	No		
Fuel Tank Material	Plastic	Fuel Tank Material Description	HD-PE+PE-LLD+EVOH
Fill Pipe Seal Type	Liquid seal		
Air Intake System Vapor Storage Device?	No	Air Intake System Vapor Storage Device Description	--
Fuel System Vapor Storage Canister?	Yes	Other Vapor Storage	--
Fuel System Vapor Storage Canister(s) Total Working Capacity (grams)	180	Number of Primary Canisters	1
Number of Bleed Canisters	0	Bleed Canister Total Working Capacity (grams)	--
Mfr Evaporative/Refueling Family Comments	LEV3 HLDT Option 2 (500mg Whole-vehicle)		
Leak Family Details			
Leak Family Indicator	Yes		
Canister Bleed Test Indicator	Yes	Applicability of Evaporative Canister Bleed Test	50 State
Evaporative Canister Bleed Test Comments	Canister bleed emissions will be determined according to California Evaporative Emission Standards and Test Procedures for 2001 and Subsequent Model Motor Vehicles (last amended: September 2015) Part III D. 12		
CARB Fuel Only (Rig) Test Indicator	No	Applicability of CARB Fuel Only (Rig) Test	--
CARB Fuel Only (Rig) Test Comments	--		
Leak Family Name	Applicability of Leak Family Requirements	Leak Family Standard (inches)	Leak Family Description
VIALR0180001-001	50 State	0.02	Certified to 0.020" leak standard in California

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Test Group		VIALT03.0001		Evaporative/Refueling Family		VIALR0180001	
Models Covered by this Certificate							
Carline Manufacturer	Division	Carline	Certification Region Code(s)	Drive System	Trans - Type	- # of Gears	Trans - Lockup
Ineos Automotive Limited	1 - INEOS Automotive Limited	111 - Grenadier Quartermaster Fieldmaster Edition	California + CAA Section 177 states	4-Wheel Drive	Semi-Automatic	8	Yes
Ineos Automotive Limited	1 - INEOS Automotive Limited	110 - Grenadier Quartermaster	California + CAA Section 177 states	4-Wheel Drive	Semi-Automatic	8	Yes
Ineos Automotive Limited	1 - INEOS Automotive Limited	103 - Grenadier Helmsman Edition	Federal	4-Wheel Drive	Semi-Automatic	8	Yes
Ineos Automotive Limited	1 - INEOS Automotive Limited	112 - Grenadier Quartermaster Trialmaster Edition	Federal	4-Wheel Drive	Semi-Automatic	8	Yes
Ineos Automotive Limited	1 - INEOS Automotive Limited	113 - Grenadier Quartermaster Helmsman Edition	California + CAA Section 177 states	4-Wheel Drive	Semi-Automatic	8	Yes
Ineos Automotive Limited	1 - INEOS Automotive Limited	102 - Grenadier Trialmaster Edition	Federal	4-Wheel Drive	Semi-Automatic	8	Yes
Ineos Automotive Limited	1 - INEOS Automotive Limited	113 - Grenadier Quartermaster Helmsman Edition	Federal	4-Wheel Drive	Semi-Automatic	8	Yes
Ineos Automotive Limited	1 - INEOS Automotive Limited	101 - Grenadier Fieldmaster Edition	Federal	4-Wheel Drive	Semi-Automatic	8	Yes
Ineos Automotive Limited	1 - INEOS Automotive Limited	111 - Grenadier Quartermaster Fieldmaster Edition	Federal	4-Wheel Drive	Semi-Automatic	8	Yes
Ineos Automotive Limited	1 - INEOS Automotive Limited	103 - Grenadier Helmsman Edition	California + CAA Section 177 states	4-Wheel Drive	Semi-Automatic	8	Yes
Ineos Automotive Limited	1 - INEOS Automotive Limited	101 - Grenadier Fieldmaster Edition	California + CAA Section 177 states	4-Wheel Drive	Semi-Automatic	8	Yes
Ineos Automotive Limited	1 - INEOS Automotive Limited	100 - Grenadier Station Wagon	Federal	4-Wheel Drive	Semi-Automatic	8	Yes
Ineos Automotive Limited	1 - INEOS Automotive Limited	102 - Grenadier Trialmaster Edition	California + CAA Section 177 states	4-Wheel Drive	Semi-Automatic	8	Yes
Ineos Automotive Limited	1 - INEOS Automotive Limited	112 - Grenadier Quartermaster Trialmaster Edition	California + CAA Section 177 states	4-Wheel Drive	Semi-Automatic	8	Yes
Ineos Automotive Limited	1 - INEOS Automotive Limited	100 - Grenadier Station Wagon	California + CAA Section 177 states	4-Wheel Drive	Semi-Automatic	8	Yes
Ineos Automotive Limited	1 - INEOS Automotive Limited	110 - Grenadier Quartermaster	Federal	4-Wheel Drive	Semi-Automatic	8	Yes

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Test Group	VIALT03.0001	Evaporative/Refueling Family	VIALR0180001	
Engine Description				
Hybrid Type	--	Hybrid Description	--	
Engine Type	4-Stroke Spark Ignition	Mfr Engine Description	--	
Engine Block Arrangement	Inline	Mfr Engine Block Arrangement Description	--	
Camless Valvetrain Indicator	No	Oil Viscosity/Classification	0W-20	
Number of Cylinders/Rotors	6	Mechanically Variable Compression Ratio Indicator	N	
After Treatment Device(s) (ATD)				
ATD Number	ATD Type	ATD Precious Metal	Substrate Material	Substrate Construction
1	Three-way catalyst	Palladium + Rhodium	Ceramic	Monolith
Mfr After Treatment Device (ATD) Comments				
Two bricks in a single can				
Direct Ozone Reduction (DOR) Device				
Not Equipped				
Mfr Emission Control Device Comments				
Pre-catalyst heated AFR sensor and a mid-brick heated oxygen sensor ECS Codes: TWC, WR-HO2S, HO2S, DFI, TC, CAC				
Engine Configuration Number 1				
Engine Displacement (liters)	3.0	Engine Rated Horsepower	286	
Number of Inlet Valves Per Cylinder	2	Number of Exhaust Valves Per Cylinder	2	
Air Aspiration Method	Turbocharged	Number of Air Aspiration Devices	1	
Air Aspiration Device Configuration	Single	Charge Air Cooler Type	Liquid	
Air Aspiration Drive Method(s)	Mechanical			
Cylinder Deactivation	No			
Cylinder Deactivation Description	--			
Variable Valve Timing	Yes			
Variable Valve Timing System Description	Inlet and exhaust camshaft phasing controlled by the engine control module			
Variable Valve Lift?	Yes			
Variable Valve Lift System Description	The BMW VVL system is used for the inlet valves			
Number of Knock Sensors	2	Number of Air/Fuel Sensors	2	
Air/Fuel Sensor # 1 Type	Heated air fuel	Air/Fuel Sensor # 1 Description	--	
Air/Fuel Sensor # 2 Type	Heated oxygen	Air/Fuel Sensor # 2 Description	--	
Mfr Air/Fuel Sensor Comments	--			
Exhaust Gas Recirculation	No	Cooled Exhaust Gas Recirculation	No	
EGR Type	--	Exhaust Gas Recirculation Description if 'Other'	--	
Closed Loop Air Injection System	--			
Air Injection Type	--	Air Injection Type if 'Other'	--	
Mfr Engine Configuration Comments	--			

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Test Group		VIALT03.0001				Evaporative/Refueling Family		VIALR0180001			
Official Test Numbers											
Test Group	Fuel	FTP	US06	SC03	Cold CO	Highway	EPA City Litmus Value	EPA City Litmus Threshold	EPA Highway Litmus Value	EPA Highway Litmus Threshold	CREE Weighting Factor
Gasoline		PIAL91005546	PIAL10079696	PIAL91005547	PIAL10079697	PIAL91005549	39.9	228.2	16.7	286.1	--
SFTP LEV-III Official Test Numbers											
Test Group Fuel		FTP		US06		SC03					
Gasoline		PIAL91005546		PIAL10079696		PIAL91005547					

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Test Group	VIALT03.0001	Evaporative/Refueling Family	VIALR0180001						
Emission Data Vehicle Information									
Vehicle ID / Configuration	PTLS_203 / 0	Manufacturer Vehicle Configuration Number	0						
Original Test Group Name	PIALT03.0001	Original Evaporative/Refueling Family	PIALR0180001						
Original Test Vehicle Model Year	2023								
Vehicle Model									
Represented Test Vehicle Make	INEOS Automotive Ltd	Represented Test Vehicle Model	Grenadier Trialmaster						
Leak Family Details									
Leak Family Identifier	001	Leak Family Name	PIALR0180001-001						
Drive Sources and Fuel System Details									
	<table border="1"> <tr> <th>Drive Source and Fuel#</th><th>Drive Source</th><th>Fuel</th></tr> <tr> <td>1</td><td>Combustion Engine</td><td>Gasoline</td></tr> </table>	Drive Source and Fuel#	Drive Source	Fuel	1	Combustion Engine	Gasoline		
Drive Source and Fuel#	Drive Source	Fuel							
1	Combustion Engine	Gasoline							
Hybrid Indicator	No	Multiple Fuel Combustion	--						
Multiple Fuel Storage	--	Rechargeable Energy Storage System Indicator	No						
Fuel Cell Indicator	No	Rechargeable Energy Storage System, if 'Other'	--						
Rechargeable Energy Storage System	--								
Off-board charge Capable Indicator	No	Odometer Correction Factor	1						
Odometer Correction -- Initial	0								
Odometer Correction Sign	+ = System Miles is equal to (Test odometer reading * Correction factor) + Initial system miles								
Odometer Correction Units	Miles								
Engine Code	B58B30M1	Rated Horsepower	286						
Displacement (liters)	2.998								
Air Aspiration Method	Turbocharged	Air Aspiration Method, if 'Other'							
Number of Air Aspiration Devices	1	Air Aspiration Device Configuration	Single						
Charge Air Cooler Type	Liquid	Drive Mode While Testing	4-Wheel Drive						
Shift Indicator Light Usage	Not equipped	Aged Emission Components	4,000 (mi)						
Curb Weight (lbs)	5964	Equivalent Test Weight (pounds)	6500						
GVWR (lbs)	7716	N/V Ratio	28.7						
Axle Ratio	4.1								
Transmission Type	Semi-Automatic	# of Transmission Gears	8						
Transmission Lockup	Yes	Creep Gear	No						

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Test Group	VIALT03.0001	Evaporative/Refueling Family	VIALR0180001
Test #	PIAL10079688	Test Procedure	51 - CA fuel 50 Deg(F) exhaust test
Exhaust Test # for this Evap Test	--	Test Fuel Type	47 - CARB LEV3 E10 Premium Gasoline
Test Date	12/16/2022	Fuel	Gasoline
Fuel Batch ID	03T455	Fuel Calibration Number	7061
Vehicle Class	LDT4 (ALVW > 5750, LVW 0-3750, GVW > 6000)	DF Type	EPA Assigned
Verify Test Lab ID	Applus IDIADA Group		
E10 Evaporative Test Measurement Method	--		
Test Start Odometer Reading	4153	Odometer Units	M
4WD Test Dyno	Yes	Diesel Adjustment Factor Usage	--
State of Charge Delta	--		
Drive Cycle Speed Tolerance Criteria	Used Part 1066 (+/- 2.0 mph, +/- 1.0 sec)	Road Speed Fan Usage	Yes
Test Results			
Test Result Name	Unrounded Test Result	Verify Calculated FE Equivalent Value (miles per gallon)	
CO2 BAG 1 (Bag 1 Carbon Dioxide)	610.47	--	
FE BAG 1 (Bag 1 Fuel Economy)	14.2783	14.2783	
CO2 BAG 2 (Bag 2 Carbon Dioxide)	508.139	--	
FE BAG 2 (Bag 2 Fuel Economy)	17.1871	17.1871	
CO2 BAG 3 (Bag 3 Carbon Dioxide)	491.193	--	
FE BAG 3 (Bag 3 Fuel Economy)	17.7692	17.7692	
METHANE (CH4 - Methane)	0.0032219	--	
CO (Carbon Monoxide)	0.5323	--	
DT-ASCR (Drive Trace Absolute Speed Change Rating)	-0.5	--	
DT-EER (Drive Trace Energy Economy Rating)	0.14	--	
DT-IWRR (Drive Trace Inertia Work Ratio Rating)	-0.62	--	
HCHO (Formaldehyde)	0.0027795	--	
MFR FE (Manufacturer Fuel Economy)	16.6356	16.6356	
NOX (Nitrogen Oxide)	0.0149346	--	
HC-NM (Non-methane Hydrocarbon)	0.0132487	--	
NMOG (Non-methane organic gases)	0.0145725	--	
HC-TOTAL (Total Hydrocarbon)	0.0162289	--	
Test Result Name	Unrounded Test Result	Verify Calculated CO2	
Carbon dioxide	524.659	--	

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Test Group		VIALT03.0001				Evaporative/Refueling Family				VIALR0180001		
Manufacturer Test Comments		4k EPA Fuel FTP Grenadier EDV 4WD 6500 lbs ETW IA_221216_007										
Certification Region	Useful Life	Standard Level	Emission Name	Rounded Result	RAF	NMOG/NM HC Ratio	Diesel Adjustment Factor	Add DF	Mult DF	Certification Level	Standard	Pass/Fail
CA	4,000 miles	California LEV-IV ULEV50	CO	0.53	--	--	--	--	--	0.5	1.7	Pass
CA	4,000 miles	California LEV-IV ULEV50	HCHO	0.0028	--	--	--	--	--	0.003	0.016	Pass
CA	4,000 miles	California LEV-IV ULEV50	NMOG	0.0146	--	1.1	--	--	--	0.015	999.999	Pass
CA	4,000 miles	California LEV-IV ULEV50	NMOG+NOX	0.0295	--	--	--	--	--	0.03	0.100	Pass
CA	4,000 miles	California LEV-IV ULEV50	NOX	0.0149	--	--	--	--	--	0.015	999.999	Pass

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Test Group	VIALT03.0001	Evaporative/Refueling Family	VIALR0180001
Test #	PIAL10079697	Test Procedure	11 - Cold CO
Exhaust Test # for this Evap Test	--	Test Fuel Type	48 - Tier 3 E10 Regular Gasoline (9 RVP @Low Alt.)
Test Date	01/25/2023	Fuel	Gasoline
Fuel Batch ID	42388	Fuel Calibration Number	9337
Vehicle Class	LDT4 (ALVW > 5750, LVW 0-3750, GVW > 6000)	DF Type	EPA Assigned
Verify Test Lab ID	Bertrandt Ingenieurbuero GmbH		
E10 Evaporative Test Measurement Method	--	Odometer Units	M
Test Start Odometer Reading	4391	Diesel Adjustment Factor Usage	--
4WD Test Dyno	Yes		
State of Charge Delta	--		
Drive Cycle Speed Tolerance Criteria	Used Part 1066 (+/- 2.0 mph, +/- 1.0 sec)	Road Speed Fan Usage	Yes
Test Results			
Test Result Name	Unrounded Test Result	Verify Calculated FE Equivalent Value (miles per gallon)	
CO2 BAG 1 (Bag 1 Carbon Dioxide)	760.998	--	
FE BAG 1 (Bag 1 Fuel Economy)	11.2944	11.2944	
CO2 BAG 2 (Bag 2 Carbon Dioxide)	588.725	--	
FE BAG 2 (Bag 2 Fuel Economy)	14.7133	14.7133	
CO2 BAG 3 (Bag 3 Carbon Dioxide)	557.319	--	
FE BAG 3 (Bag 3 Fuel Economy)	15.5193	15.5193	
METHANE (CH4 - Methane)	0.0069546	--	
CO (Carbon Monoxide)	1.3872529	--	
DT-ASCR (Drive Trace Absolute Speed Change Rating)	1	--	
DT-EER (Drive Trace Energy Economy Rating)	0.29	--	
DT-IWRR (Drive Trace Inertia Work Ratio Rating)	1.34	--	
MFR FE (Manufacturer Fuel Economy)	14	14	
HC-NM (Non-methane Hydrocarbon)	0.071329	--	
NMOG (Non-methane organic gases)	0.0785222	--	
HC-TOTAL (Total Hydrocarbon)	0.0776307	--	
Test Result Name	Unrounded Test Result	Verify Calculated CO2	
Carbon dioxide	615.822885	--	
Manufacturer Test Comments			
4k Grenadier EDV 6500 lbs ETW PZN104_0004105. Re-request due to lab name update.			

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Test Group	VIALT03.0001	Evaporative/Refueling Family	VIALR0180001
Test #	PIAL10079844	Test Procedure	21 - Federal fuel 2-day exhaust (w/can load)
Exhaust Test # for this Evap Test	--	Test Fuel Type	61 - Tier 2 Cert Gasoline
Test Date	12/21/2022	Fuel	Gasoline
Fuel Batch ID	48952	Fuel Calibration Number	3699
Vehicle Class	LDT4 (ALVW > 5750, LVW 0-3750, GVW > 6000)	DF Type	EPA Assigned
Verify Test Lab ID	Applus IDIADA Group		
E10 Evaporative Test Measurement Method	--		
Test Start Odometer Reading	4207	Odometer Units	M
4WD Test Dyno	Yes	Diesel Adjustment Factor Usage	--
State of Charge Delta	--		
Drive Cycle Speed Tolerance Criteria	Used Part 1066 (+/- 2.0 mph, +/- 1.0 sec)	Road Speed Fan Usage	Yes

Test Results

Test Result Name	Unrounded Test Result	Verify Calculated FE Equivalent Value (miles per gallon)
CO2 BAG 1 (Bag 1 Carbon Dioxide)	556.712	--
FE BAG 1 (Bag 1 Fuel Economy)	15.8579	15.8579
CO2 BAG 2 (Bag 2 Carbon Dioxide)	512.294	--
FE BAG 2 (Bag 2 Fuel Economy)	17.2783	17.2783
CO2 BAG 3 (Bag 3 Carbon Dioxide)	491.597	--
FE BAG 3 (Bag 3 Fuel Economy)	17.9883	17.9883
METHANE (CH4 - Methane)	0.0021973	--
CO (Carbon Monoxide)	0.7914274	--
DT-ASCR (Drive Trace Absolute Speed Change Rating)	-0.26	--
DT-EER (Drive Trace Energy Economy Rating)	-0.37	--
DT-IWRR (Drive Trace Inertia Work Ratio Rating)	-0.48	--
MFR FE (Manufacturer Fuel Economy)	17.1	17.1
NOX (Nitrogen Oxide)	0.0131706	--
HC-NM (Non-methane Hydrocarbon)	0.0097082	--
NMOG (Non-methane organic gases)	0.0100965	--
PM (Particulate Matter)	0.0005262	--
HC-TOTAL (Total Hydrocarbon)	0.0117407	--

Test Result Name	Unrounded Test Result	Verify Calculated CREE/OPT-CREE
Carbon-Related Exhaust Emissions	517	517

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Test Group		VIALT03.0001		Evaporative/Refueling Family				VIALR0180001				
		Test Result Name		Unrounded Test Result			Verify Calculated CO2					
		Carbon dioxide		515.792			--					
Manufacturer Test Comments		4k Tier 2 E0 Fuel FTP Grenadier EDV 4WD 6500 lbs ETW IA_221221_001 Fuel Economy										
Certification Region	Useful Life	Standard Level	Emission Name	Rounded Result	RAF	NMOG/NM HC Ratio	Diesel Adjustment Factor	Add DF	Mult DF	Certification Level	Standard	Pass/Fail
Fed	120,000 miles	Federal Tier 3 Bin 50	CREE	517	--	--	--	0	--	517	--	--
Fed	120,000 miles	Federal Tier 3 Bin 50	CREE	517	--	--	--	0	--	517	--	--
Fed	120,000 miles	Federal Tier 3 Bin 50	METHANE	0.0022	--	--	--	0.002	--	0.004	0.030	Pass
Fed	120,000 miles	Federal Tier 3 Bin 50	METHANE	0.0022	--	--	--	0.0026	--	0.005	0.030	Pass
Fed	150,000 miles	Federal Tier 3 Bin 50	CO	0.79	--	--	--	0.16	--	1	1.7	Pass
Fed	150,000 miles	Federal Tier 3 Bin 50	CO	0.79	--	--	--	0.16	--	1	1.7	Pass
Fed	150,000 miles	Federal Tier 3 Bin 50	NMOG	0.0101	--	1.1	--	0.0062	--	0.016	999.999	Pass
Fed	150,000 miles	Federal Tier 3 Bin 50	NMOG	0.0101	--	1.1	--	0.006	--	0.016	999.999	Pass
Fed	150,000 miles	Federal Tier 3 Bin 50	NMOG+NOX	0.0233	--	--	--	--	--	0.033	0.050	Pass
Fed	150,000 miles	Federal Tier 3 Bin 50	NMOG+NOX	0.0233	--	--	--	--	--	0.033	0.050	Pass
Fed	150,000 miles	Federal Tier 3 Bin 50	NOX	0.0132	--	--	--	0.004	--	0.017	999.999	Pass
Fed	150,000 miles	Federal Tier 3 Bin 50	NOX	0.0132	--	--	--	0.0047	--	0.018	999.999	Pass
Fed	150,000 miles	Federal Tier 3 Bin 50	PM	0.0005	--	--	--	0	--	0	0.003	Pass
Fed	150,000 miles	Federal Tier 3 Bin 50	PM	0.0005	--	--	--	0	--	0	0.003	Pass
NOTE: For Non-charge depleting tests, the Rounded Result for CREE/OPT-CREE Emission names are Verify-calculated values.												

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Test Group	VIALT03.0001	Evaporative/Refueling Family	VIALR0180001
Test #	PIAL91005546	Test Procedure	21 - Federal fuel 2-day exhaust (w/can load)
Exhaust Test # for this Evap Test	--	Test Fuel Type	49 - Tier 3 E10 Premium Gasoline (9 RVP @Low Alt.)
Test Date	07/12/2023	Fuel	Gasoline
Fuel Batch ID	27626	Fuel Calibration Number	2
Vehicle Class	LDT4 (ALVW > 5750, LVW 0-3750, GVW > 6000)	DF Type	EPA Assigned
Verify Test Lab ID	--		
E10 Evaporative Test Measurement Method	--		
Test Start Odometer Reading	4801	Odometer Units	M
4WD Test Dyno	Yes	Diesel Adjustment Factor Usage	--
State of Charge Delta	--		
Drive Cycle Speed Tolerance Criteria	Used Part 1066 (+/- 2.0 mph, +/- 1.0 sec)	Road Speed Fan Usage	Yes

Test Results

Test Result Name	Unrounded Test Result	Verify Calculated FE Equivalent Value (miles per gallon)
CO2 BAG 1 (Bag 1 Carbon Dioxide)	572.7539062	--
FE BAG 1 (Bag 1 Fuel Economy)	999	--
CO2 BAG 2 (Bag 2 Carbon Dioxide)	492.9728394	--
FE BAG 2 (Bag 2 Fuel Economy)	999	--
CO2 BAG 3 (Bag 3 Carbon Dioxide)	483.7648315	--
FE BAG 3 (Bag 3 Fuel Economy)	999	--
METHANE (CH4 - Methane)	0.0080234	--
CO (Carbon Monoxide)	0.4517013	--
DT-ASCR (Drive Trace Absolute Speed Change Rating)	1.1984212	--
DT-EER (Drive Trace Energy Economy Rating)	0.4303639	--
DT-IWRR (Drive Trace Inertia Work Ratio Rating)	1.5647159	--
MFR FE (Manufacturer Fuel Economy)	999	--
NOX (Nitrogen Oxide)	0.0142301	--
N2O (Nitrous Oxide)	0.0009031	--
HC-NM (Non-methane Hydrocarbon)	0.006292	--
NMOG (Non-methane organic gases)	0.0069238	--
PM (Particulate Matter)	0.0005844	--
HC-TOTAL (Total Hydrocarbon)	0.0085142	--

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Certification Region	Useful Life	Standard Level	Emission Name	Rounded Result	RAF	NMOG/NM HC Ratio	Diesel Adjustment Factor	Add DF	Mult DF	Certification Level	Standard	Pass/Fail
Fed	120,000 miles	Federal Tier 3 Bin 50	CREE	999	--	--	--	0	--	999	--	--
Fed	120,000 miles	Federal Tier 3 Bin 50	CREE	999	--	--	--	0	--	999	--	--
Fed	120,000 miles	Federal Tier 3 Bin 50	METHANE	0.008	--	--	--	0.0026	--	0.011	0.030	Pass
Fed	120,000 miles	Federal Tier 3 Bin 50	METHANE	0.008	--	--	--	0.002	--	0.01	0.030	Pass
Fed	120,000 miles	Federal Tier 3 Bin 50	N2O	0.0009	--	--	--	0.001	--	0.002	0.010	Pass
Fed	120,000 miles	Federal Tier 3 Bin 50	N2O	0.0009	--	--	--	0.0011	--	0.002	0.010	Pass
Fed	150,000 miles	Federal Tier 3 Bin 50	CO	0.45	--	--	--	0.16	--	0.6	1.7	Pass
Fed	150,000 miles	Federal Tier 3 Bin 50	CO	0.45	--	--	--	0.16	--	0.6	1.7	Pass
Fed	150,000 miles	Federal Tier 3 Bin 50	CO-COMP	1.17	--	--	--	--	--	1.2	4.2	Pass
Fed	150,000 miles	Federal Tier 3 Bin 50	CO-COMP	1.17	--	--	--	--	--	1.2	4.2	Pass
Fed	150,000 miles	Federal Tier 3 Bin 50	NMOG	0.0069	--	1.1	--	0.0062	--	0.013	999.999	Pass
Fed	150,000 miles	Federal Tier 3 Bin 50	NMOG	0.0069	--	1.1	--	0.006	--	0.013	999.999	Pass
Fed	150,000 miles	Federal Tier 3 Bin 50	NMOG+NOX	0.0211	--	--	--	--	--	0.031	0.050	Pass
Fed	150,000 miles	Federal Tier 3 Bin 50	NMOG+NOX	0.0211	--	--	--	--	--	0.031	0.050	Pass
Fed	150,000 miles	Federal Tier 3 Bin 50	NMOG+NOX-COMP	0.027	--	--	--	--	--	0.03	0.05	Pass
Fed	150,000 miles	Federal Tier 3 Bin 50	NMOG+NOX-COMP	0.027	--	--	--	--	--	0.03	0.05	Pass
Fed	150,000 miles	Federal Tier 3 Bin 50	NOX	0.0142	--	--	--	0.004	--	0.018	999.999	Pass
Fed	150,000 miles	Federal Tier 3 Bin 50	NOX	0.0142	--	--	--	0.0047	--	0.019	999.999	Pass
Fed	150,000 miles	Federal Tier 3 Bin 50	PM	0.0006	--	--	--	0	--	0.001	0.003	Pass
Fed	150,000 miles	Federal Tier 3 Bin 50	PM	0.0006	--	--	--	0	--	0.001	0.003	Pass

NOTE: For Non-charge depleting tests, the Rounded Result for CREE/OPT-CREE Emission names are Verify-calculated values.

Certification Summary Information Report

Test Group	VIALT03.0001	Evaporative/Refueling Family	VIALR0180001
Test #	PIAL10079853	Test Procedure	3 - HWFE
Exhaust Test # for this Evap Test	--	Test Fuel Type	61 - Tier 2 Cert Gasoline
Test Date	12/21/2022	Fuel	Gasoline
Fuel Batch ID	48952	Fuel Calibration Number	3699
Vehicle Class	LDT4 (ALVW > 5750, LVW 0-3750, GVW > 6000)	DF Type	EPA Assigned
Verify Test Lab ID	Applus IDIADA Group		
E10 Evaporative Test Measurement Method	--		
Test Start Odometer Reading	4207	Odometer Units	M
4WD Test Dyno	Yes	Diesel Adjustment Factor Usage	--
State of Charge Delta	--		
Drive Cycle Speed Tolerance Criteria	Used Part 1066 (+/- 2.0 mph, +/- 1.0 sec)	Road Speed Fan Usage	Yes

Test Results

Test Result Name	Unrounded Test Result	Verify Calculated FE Equivalent Value (miles per gallon)
METHANE (CH4 - Methane)	0.0059492	--
CO (Carbon Monoxide)	0.5238911	--
DT-ASCR (Drive Trace Absolute Speed Change Rating)	-0.93	--
DT-EER (Drive Trace Energy Economy Rating)	-0.85	--
DT-IWRR (Drive Trace Inertia Work Ratio Rating)	-0.74	--
MFR FE (Manufacturer Fuel Economy)	21.6	21.6
NOX (Nitrogen Oxide)	0.0012201	--
HC-NM (Non-methane Hydrocarbon)	0.0157451	--
NMOG (Non-methane organic gases)	0.0162175	--
HC-TOTAL (Total Hydrocarbon)	0.0212481	--

Test Result Name	Unrounded Test Result	Verify Calculated CREE/OPT-CREE
Carbon-Related Exhaust Emissions	410	410

Test Result Name	Unrounded Test Result	Verify Calculated CO2
Carbon dioxide	408.978	--

Manufacturer Test Comments

4k Tier 2 E0 Fuel FTP Grenadier EDV 4WD 6500 lbs ETW IA_221221_002 Fuel Economy

Certification Summary Information Report

Test Group		VIALT03.0001			Evaporative/Refueling Family					VIALR0180001		
Certification Region	Useful Life	Standard Level	Emission Name	Rounded Result	RAF	NMOG/NM HC Ratio	Diesel Adjustment Factor	Add DF	Mult DF	Certification Level	Standard	Pass/Fail
Fed	120,000 miles	Federal Tier 3 Bin 50	CREE	410	--	--	--	0	--	410	--	--
Fed	150,000 miles	Federal Tier 3 Bin 50	NMOG	0.0162	--	1.03	--	0.0062	--	0.022	999.999	Pass
Fed	150,000 miles	Federal Tier 3 Bin 50	NOX	0.0012	--	--	--	0.0047	--	0.006	999.999	Pass
CA	150,000 miles	California LEV-IV ULEV50	NMOG	0.0162	--	1.03	--	0.0062	--	0.022	999.999	Pass
CA	150,000 miles	California LEV-IV ULEV50	NMOG+NOX	0.0174	--	--	--	--	--	0.028	0.050	Pass
CA	150,000 miles	California LEV-IV ULEV50	NOX	0.0012	--	--	--	0.0047	--	0.006	999.999	Pass

NOTE: For Non-charge depleting tests, the Rounded Result for CREE/OPT-CREE Emission names are Verify-calculated values.

Certification Summary Information Report

Test Group	VIALT03.0001	Evaporative/Refueling Family	VIALR0180001																																				
Test #	PIAL91005549	Test Procedure	3 - HWFE																																				
Exhaust Test # for this Evap Test	--	Test Fuel Type	49 - Tier 3 E10 Premium Gasoline (9 RVP @Low Alt.)																																				
Test Date	07/12/2023	Fuel	Gasoline																																				
Fuel Batch ID	27626	Fuel Calibration Number	2																																				
Vehicle Class	LDT4 (ALVW > 5750, LVW 0-3750, GVW > 6000)	DF Type	EPA Assigned																																				
Verify Test Lab ID	--																																						
E10 Evaporative Test Measurement Method	--																																						
Test Start Odometer Reading	4812	Odometer Units	M																																				
4WD Test Dyno	Yes	Diesel Adjustment Factor Usage	--																																				
State of Charge Delta	--																																						
Drive Cycle Speed Tolerance Criteria	Used Part 1066 (+/- 2.0 mph, +/- 1.0 sec)	Road Speed Fan Usage	Yes																																				
Test Results																																							
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Manufacturer Test Comments	None																																						

Certification Summary Information Report

Test Group		VIALT03.0001			Evaporative/Refueling Family					VIALR0180001		
Certification Region	Useful Life	Standard Level	Emission Name	Rounded Result	RAF	NMOG/NM HC Ratio	Diesel Adjustment Factor	Add DF	Mult DF	Certification Level	Standard	Pass/Fail
Fed	120,000 miles	Federal Tier 3 Bin 50	CREE	999	--	--	--	0	--	999	--	--
Fed	150,000 miles	Federal Tier 3 Bin 50	NMOG	0.0003	--	1.03	--	0.0062	--	0.006	999.999	Pass
Fed	150,000 miles	Federal Tier 3 Bin 50	NOX	0.0019	--	--	--	0.0047	--	0.007	999.999	Pass
CA	150,000 miles	California LEV-IV ULEV50	NMOG	0.0003	--	1.03	--	0.0062	--	0.006	999.999	Pass
CA	150,000 miles	California LEV-IV ULEV50	NMOG+NOX	0.0022	--	--	--	--	--	0.013	0.050	Pass
CA	150,000 miles	California LEV-IV ULEV50	NOX	0.0019	--	--	--	0.0047	--	0.007	999.999	Pass

NOTE: For Non-charge depleting tests, the Rounded Result for CREE/OPT-CREE Emission names are Verify-calculated values.

Certification Summary Information Report

Test Group	VIALT03.0001	Evaporative/Refueling Family	VIALR0180001
Test #	PIAL10079696	Test Procedure	90 - US06
Exhaust Test # for this Evap Test	--	Test Fuel Type	49 - Tier 3 E10 Premium Gasoline (9 RVP @Low Alt.)
Test Date	12/02/2022	Fuel	Gasoline
Fuel Batch ID	43987	Fuel Calibration Number	4810
Vehicle Class	LDT4 (ALVW > 5750, LVW 0-3750, GVW > 6000)	DF Type	EPA Assigned
Verify Test Lab ID	Applus IDIADA Group		
E10 Evaporative Test Measurement Method	--		
Test Start Odometer Reading	4112	Odometer Units	M
4WD Test Dyno	Yes	Diesel Adjustment Factor Usage	--
State of Charge Delta	--		
Drive Cycle Speed Tolerance Criteria	Used Part 1066 (+/- 2.0 mph, +/- 1.0 sec)	Road Speed Fan Usage	Yes

Test Results

Test Result Name	Unrounded Test Result	Verify Calculated FE Equivalent Value (miles per gallon)
CO2 BAG 1 (Bag 1 Carbon Dioxide)	825.617	--
FE BAG 1 (Bag 1 Fuel Economy)	10.56	10.56
CO2 BAG 2 (Bag 2 Carbon Dioxide)	594.269	--
FE BAG 2 (Bag 2 Fuel Economy)	14.67	14.67
METHANE (CH4 - Methane)	0.0064757	--
CO (Carbon Monoxide)	1.7558514	--
DT-ASCR (Drive Trace Absolute Speed Change Rating)	-6.16	--
DT-EER (Drive Trace Energy Economy Rating)	-2.03	--
DT-IWRR (Drive Trace Inertia Work Ratio Rating)	-9.07	--
MFR FE (Manufacturer Fuel Economy)	13.5	13.5
NOX (Nitrogen Oxide)	0.0043618	--
HC-NM (Non-methane Hydrocarbon)	0.0122288	--
NMOG (Non-methane organic gases)	0.0125957	--
PM (Particulate Matter)	0.001894	--
HC-TOTAL (Total Hydrocarbon)	0.0178269	--

Test Result Name	Unrounded Test Result	Verify Calculated CO2
Carbon dioxide	645.581386	--

Manufacturer Test Comments

4k Grenadier EDV 6500 lbs ETW IA_221202_007

Certification Summary Information Report

Test Group		VIALT03.0001				Evaporative/Refueling Family				VIALR0180001		
Certification Region	Useful Life	Standard Level	Emission Name	Rounded Result	RAF	NMOG/NM HC Ratio	Diesel Adjustment Factor	Add DF	Mult DF	Certification Level	Standard	Pass/Fail
Fed	150,000 miles	Federal Tier 3 Bin 50	CO	1.76	--	--	--	0.16	--	1.9	999.9	Pass
Fed	150,000 miles	Federal Tier 3 Bin 50	NMOG	0.0126	--	1.03	--	0.0062	--	0.019	999.999	Pass
Fed	150,000 miles	Federal Tier 3 Bin 50	NOX	0.0044	--	--	--	0.0047	--	0.009	999.999	Pass
Fed	150,000 miles	Federal Tier 3 Bin 50	PM	0.0019	--	--	--	0	--	0.002	0.006	Pass
CA	150,000 miles	California LEV-IV ULEV50	CO	1.76	--	--	--	0.16	--	1.9	9.6	Pass
CA	150,000 miles	California LEV-IV ULEV50	NMOG	0.0126	--	1.03	--	0.0062	--	0.019	999.999	Pass
CA	150,000 miles	California LEV-IV ULEV50	NMOG+NOX	0.017	--	--	--	--	--	0.028	0.050	Pass
CA	150,000 miles	California LEV-IV ULEV50	NOX	0.0044	--	--	--	0.0047	--	0.009	999.999	Pass
CA	150,000 miles	California LEV-IV ULEV50	PM	0.0019	--	--	--	0	--	0.002	0.003	Pass

Certification Summary Information Report

Test Group	VIALT03.0001	Evaporative/Refueling Family	VIALR0180001
Test #	PIAL91005547	Test Procedure	95 - SC03
Exhaust Test # for this Evap Test	--	Test Fuel Type	49 - Tier 3 E10 Premium Gasoline (9 RVP @Low Alt.)
Test Date	07/12/2023	Fuel	Gasoline
Fuel Batch ID	27626	Fuel Calibration Number	2
Vehicle Class	LDT4 (ALVW > 5750, LVW 0-3750, GVW > 6000)	DF Type	EPA Assigned
Verify Test Lab ID	--		
E10 Evaporative Test Measurement Method	--		
Test Start Odometer Reading	4839	Odometer Units	M
4WD Test Dyno	Yes	Diesel Adjustment Factor Usage	--
State of Charge Delta	--		
Drive Cycle Speed Tolerance Criteria	Used Part 1066 (+/- 2.0 mph, +/- 1.0 sec)	Road Speed Fan Usage	Yes

Test Results

Test Result Name	Unrounded Test Result	Verify Calculated FE Equivalent Value (miles per gallon)
METHANE (CH4 - Methane)	0.0022692	--
CO (Carbon Monoxide)	0.9666438	--
DT-ASCR (Drive Trace Absolute Speed Change Rating)	-0.2494487	--
DT-EER (Drive Trace Energy Economy Rating)	0.1888836	--
DT-IWRR (Drive Trace Inertia Work Ratio Rating)	0.6496052	--
MFR FE (Manufacturer Fuel Economy)	15.7535639	--
NOX (Nitrogen Oxide)	0.0104583	--
N2O (Nitrous Oxide)	0	--
HC-NM (Non-methane Hydrocarbon)	0	--
NMOG (Non-methane organic gases)	0	--
HC-TOTAL (Total Hydrocarbon)	0.0002868	--

Test Result Name	Unrounded Test Result	Verify Calculated CO2
Carbon dioxide	544.6046753	--

Manufacturer Test Comments None

Certification Summary Information Report

Test Group		VIALT03.0001			Evaporative/Refueling Family					VIALR0180001		
Certification Region	Useful Life	Standard Level	Emission Name	Rounded Result	RAF	NMOG/NM HC Ratio	Diesel Adjustment Factor	Add DF	Mult DF	Certification Level	Standard	Pass/Fail
Fed	150,000 miles	Federal Tier 3 Bin 50	CO	0.97	--	--	--	0.16	--	1.1	999.9	Pass
Fed	150,000 miles	Federal Tier 3 Bin 50	NMOG	0	--	1.03	--	0.0062	--	0.006	999.999	Pass
Fed	150,000 miles	Federal Tier 3 Bin 50	NOX	0.0105	--	--	--	0.0047	--	0.015	999.999	Pass
CA	150,000 miles	California LEV-IV ULEV50	CO	0.97	--	--	--	0.16	--	1.1	999.9	Pass
CA	150,000 miles	California LEV-IV ULEV50	NMOG	0	--	1.03	--	0.0062	--	0.006	999.999	Pass
CA	150,000 miles	California LEV-IV ULEV50	NOX	0.0105	--	--	--	0.0047	--	0.015	999.999	Pass

Certification Summary Information Report

Test Group	VIALT03.0001	Evaporative/Refueling Family	VIALR0180001						
Emission Data Vehicle Information									
Vehicle ID / Configuration	PTLS_211 / 0	Manufacturer Vehicle Configuration Number	0						
Original Test Group Name	PIALT03.0001	Original Evaporative/Refueling Family	PIALR0180001						
Original Test Vehicle Model Year	2023								
Vehicle Model									
Represented Test Vehicle Make	INEOS Automotive Ltd	Represented Test Vehicle Model	Grenadier Fieldmaster						
Leak Family Details									
Leak Family Identifier	001	Leak Family Name	PIALR0180001-001						
Drive Sources and Fuel System Details									
	<table border="1"> <tr> <th>Drive Source and Fuel#</th><th>Drive Source</th><th>Fuel</th></tr> <tr> <td>1</td><td>Combustion Engine</td><td>Gasoline</td></tr> </table>	Drive Source and Fuel#	Drive Source	Fuel	1	Combustion Engine	Gasoline		
Drive Source and Fuel#	Drive Source	Fuel							
1	Combustion Engine	Gasoline							
Hybrid Indicator	No	Multiple Fuel Combustion	--						
Multiple Fuel Storage	--	Rechargeable Energy Storage System Indicator	No						
Fuel Cell Indicator	No	Rechargeable Energy Storage System, if 'Other'	--						
Rechargeable Energy Storage System	--								
Off-board charge Capable Indicator	No	Odometer Correction Factor	1						
Odometer Correction -- Initial	0								
Odometer Correction Sign	+ = System Miles is equal to (Test odometer reading * Correction factor) + Initial system miles								
Odometer Correction Units	Miles								
Engine Code	B58B30M1	Rated Horsepower	286						
Displacement (liters)	2.998								
Air Aspiration Method	Turbocharged	Air Aspiration Method, if 'Other'							
Number of Air Aspiration Devices	1	Air Aspiration Device Configuration	Single						
Charge Air Cooler Type	Liquid	Drive Mode While Testing	4-Wheel Drive						
Shift Indicator Light Usage	Not equipped	Aged Emission Components	4,000 (mi)						
Curb Weight (lbs)	5924	Equivalent Test Weight (pounds)	6000						
GVWR (lbs)	7716	N/V Ratio	28.4						
Axle Ratio	4.1								
Transmission Type	Semi-Automatic	# of Transmission Gears	8						
Transmission Lockup	Yes	Creep Gear	No						

Certification Summary Information Report

Test Group	VIALT03.0001	Evaporative/Refueling Family	VIALR0180001
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Dynamometer Coefficients:

Coefficient Category	Target Coefficients			Set Coefficients			EPA Calculated Total Road Load Horse Power for City/Highway/Evap Coefficients
	A (lbf)	B (lbf/mph)	C (lbf/mph**2)	A (lbf)	B (lbf/mph)	C (lbf/mph**2)	
City/Highway/Evap	80.049	0.1656	0.05096	-31.923	-0.16787	0.049492	28.8
Cold CO	88.053	0.18216	0.056056	-35.115	-0.18466	0.054441	N/A
US06	80.049	0.1656	0.05096	-31.923	-0.16787	0.049492	N/A

Emission Control Device Comments --

Manufacturer Test Vehicle Comments Evaporative Emission Data Vehicle (Evaps EDV) config

Test #	PIAL10079943	Test Procedure	27 - California fuel 2-day evap
Exhaust Test # for this Evap Test	PIAL10079942	Test Fuel Type	47 - CARB LEV3 E10 Premium Gasoline
Test Date	02/10/2023	Fuel	Gasoline
Fuel Batch ID	50641	Fuel Calibration Number	6834
Vehicle Class	N/A	DF Type	EPA Assigned
Verify Test Lab ID	Applus IDIADA Group		
E10 Evaporative Test Measurement Method	Calculated (1.08 x FID Total Hydrocarbons)		
Test Start Odometer Reading	4205	Odometer Units	M
4WD Test Dyno	Yes	Diesel Adjustment Factor Usage	--
State of Charge Delta	--		
Drive Cycle Speed Tolerance Criteria	Used Part 1066 (+/- 2.0 mph, +/- 1.0 sec)	Road Speed Fan Usage	Yes

Test Results

Test Result Name	Unrounded Test Result	Verify Calculated FE Equivalent Value (miles per gallon)
HC-TOTAL (Total Hydrocarbon)	0.141	--
HC-TOTAL-EQUIV (Total Hydrocarbon equivalent - Evap only)	0.152	--

Manufacturer Test Comments 2 day Diurnal with CARB fuel at IDIADA. Test procedure updated to correspond with the fuel used.

Certification Region	Useful Life	Standard Level	Emission Name	Rounded Result	Add DF	Certification Level	Standard	Pass/Fail
Fed	150,000 miles	Federal Tier 3 Evap	HC-TOTAL-EQUIV	0.152	0	0.152	0.5	Pass
CA	150,000 miles	California LEV-III Zero Evap (Option 2)	HC-TOTAL-EQUIV	0.152	0	0.152	0.5	Pass

Certification Summary Information Report

Test Group	VIALT03.0001	Evaporative/Refueling Family	VIALR0180001
Test #	PIAL10080072	Test Procedure	38 - CA fuel 3-day evap.
Exhaust Test # for this Evap Test	PIAL10080071	Test Fuel Type	47 - CARB LEV3 E10 Premium
Test Date	03/07/2023	Fuel	Gasoline
Fuel Batch ID	50641	Fuel Calibration Number	6834
Vehicle Class	N/A	DF Type	EPA Assigned
Verify Test Lab ID	Bertrandt Ingenieurbuero GmbH		
E10 Evaporative Test Measurement Method	Calculated (1.08 x FID Total Hydrocarbons)		
Test Start Odometer Reading	4261	Odometer Units	M
4WD Test Dyno	Yes	Diesel Adjustment Factor Usage	--
State of Charge Delta	--		
Drive Cycle Speed Tolerance Criteria	Used Part 1066 (+/- 2.0 mph, +/- 1.0 sec)	Road Speed Fan Usage	Yes

Test Results

Test Result Name	Unrounded Test Result	Verify Calculated FE Equivalent Value (miles per gallon)
HC-TOTAL (Total Hydrocarbon)	0.212	--
HC-TOTAL-EQUIV (Total Hydrocarbon equivalent - Evap only)	0.229	--

Manufacturer Test Comments

3 Day Diurnal at Bertrandt, Tappenbeck. PIAL10080071 is the associated FTP. Test procedure updated to correspond with the fuel used. Re-request due to lab name update.

Certification Region	Useful Life	Standard Level	Emission Name	Rounded Result	Add DF	Certification Level	Standard	Pass/Fail
Fed	150,000 miles	Federal Tier 3 Evap	HC-TOTAL-EQUIV	0.229	0	0.229	0.5	Pass
CA	150,000 miles	California LEV-III Zero Evap (Option 2)	HC-TOTAL-EQUIV	0.229	0	0.229	0.5	Pass

Certification Summary Information Report

Test Group	VIALT03.0001	Evaporative/Refueling Family	VIALR0180001
Test #	PIAL10081957	Test Procedure	27 - California fuel 2-day evap
Exhaust Test # for this Evap Test	PIAL10081956	Test Fuel Type	47 - CARB LEV3 E10 Premium
Test Date	07/07/2023	Fuel	Gasoline
Fuel Batch ID	50641	Fuel Calibration Number	6834
Vehicle Class	N/A	DF Type	EPA Assigned
Verify Test Lab ID	Applus IDIADA Group		
E10 Evaporative Test Measurement Method	Calculated (1.08 x FID Total Hydrocarbons)		
Test Start Odometer Reading	4452	Odometer Units	M
4WD Test Dyno	Yes	Diesel Adjustment Factor Usage	--
State of Charge Delta	--		
Drive Cycle Speed Tolerance Criteria	Used Part 1066 (+/- 2.0 mph, +/- 1.0 sec)	Road Speed Fan Usage	Yes

Test Results

Test Result Name	Unrounded Test Result	Verify Calculated FE Equivalent Value (miles per gallon)
HC-TOTAL (Total Hydrocarbon)	0.26771	--
HC-TOTAL-EQUIV (Total Hydrocarbon equivalent - Evap only)	0.289127	--

Manufacturer Test Comments

2 day Diurnal with CARB fuel confirmatory test at EPA. Unable to enter EPA as test location and EPA fuel information

Certification Region	Useful Life	Standard Level	Emission Name	Rounded Result	Add DF	Certification Level	Standard	Pass/Fail
Fed	150,000 miles	Federal Tier 3 Evap	HC-TOTAL-EQUIV	0.2891	0	0.289	0.5	Pass
CA	150,000 miles	California LEV-III Zero Evap (Option 2)	HC-TOTAL-EQUIV	0.2891	0	0.289	0.5	Pass

Certification Summary Information Report

Test Group	VIALT03.0001	Evaporative/Refueling Family	VIALR0180001						
Test #	PIAL10079947	Test Procedure	24 - Federal fuel refueling test (ORVR)						
Exhaust Test # for this Evap Test	PIAL10079946	Test Fuel Type	47 - CARB LEV3 E10 Premium Gasoline						
Test Date	02/15/2023	Fuel	Gasoline						
Fuel Batch ID	50641	Fuel Calibration Number	6834						
Vehicle Class	N/A	DF Type	EPA Assigned						
Verify Test Lab ID	Applus IDIADA Group								
E10 Evaporative Test Measurement Method	Calculated (1.08 x FID Total Hydrocarbons)								
Test Start Odometer Reading	4231	Odometer Units	M						
4WD Test Dyno	Yes	Diesel Adjustment Factor Usage	--						
State of Charge Delta	--								
Drive Cycle Speed Tolerance Criteria	Used Part 1066 (+/- 2.0 mph, +/- 1.0 sec)	Road Speed Fan Usage	Yes						
Test Results									
<table border="1"> <tr> <th>Test Result Name</th> <th>Unrounded Test Result</th> <th>Verify Calculated FE Equivalent Value (miles per gallon)</th> </tr> <tr> <td>HC (Hydrocarbon for Running Loss and ORVR)</td> <td>0.001</td> <td>--</td> </tr> </table>				Test Result Name	Unrounded Test Result	Verify Calculated FE Equivalent Value (miles per gallon)	HC (Hydrocarbon for Running Loss and ORVR)	0.001	--
Test Result Name	Unrounded Test Result	Verify Calculated FE Equivalent Value (miles per gallon)							
HC (Hydrocarbon for Running Loss and ORVR)	0.001	--							
Manufacturer Test Comments --									
Certification Region	Useful Life	Standard Level	Emission Name	Rounded Result	Add DF	Certification Level	Standard	Pass/Fail	
Fed	150,000 miles	Federal Tier 3 Evap	HC	0.001	0.006	0.01	0.2	Pass	
CA	150,000 miles	California LEV-III Zero Evap (Option 2)	HC	0.001	0.006	0.01	0.2	Pass	

Certification Summary Information Report

Test Group	VIALT03.0001	Evaporative/Refueling Family	VIALR0180001
Test #	PIAL10080088	Test Procedure	37 - California Fuel Running Loss
Exhaust Test # for this Evap Test	PIAL10080071	Test Fuel Type	47 - CARB LEV3 E10 Premium Gasoline
Test Date	02/15/2023	Fuel	Gasoline
Fuel Batch ID	50641	Fuel Calibration Number	6834
Vehicle Class	N/A	DF Type	EPA Assigned
Verify Test Lab ID	Bertrandt Ingenieurbuero GmbH		
E10 Evaporative Test Measurement Method	Calculated (1.08 x FID Total Hydrocarbons)		
Test Start Odometer Reading	4261	Odometer Units	M
4WD Test Dyno	Yes	Diesel Adjustment Factor Usage	--
State of Charge Delta	--		
Drive Cycle Speed Tolerance Criteria	Used Part 1066 (+/- 2.0 mph, +/- 1.0 sec)	Road Speed Fan Usage	Yes

Test Results

Test Result Name	Unrounded Test Result	Verify Calculated FE Equivalent Value (miles per gallon)
HC-TOTAL-EQUIV (Total Hydrocarbon equivalent - Evap only)	0	--

Manufacturer Test Comments

FTP72 + 2 x NYCC + EPA72 running loss test at 40,5 °C at Bertrandt, Tappenbeck. PIAL10080071 is the associated FTP. Re-request due to lab name update.

Certification Region	Useful Life	Standard Level	Emission Name	Rounded Result	Add DF	Certification Level	Standard	Pass/Fail
Fed	150,000 miles	Federal Tier 3 Evap	HC-TOTAL-EQUIV	0	0	0	0.05	Pass
CA	150,000 miles	California LEV-III Zero Evap (Option 2)	HC-TOTAL-EQUIV	0	0	0	0.05	Pass

Certification Summary Information Report

Test Group	VIALT03.0001	Evaporative/Refueling Family	VIALR0180001						
Test #	PIAL10079945	Test Procedure	65 - Evap Canister Bleed Test						
Exhaust Test # for this Evap Test	--	Test Fuel Type	47 - CARB LEV3 E10 Premium Gasoline						
Test Date	02/04/2023	Fuel	Gasoline						
Fuel Batch ID	50641	Fuel Calibration Number	6834						
Vehicle Class	N/A	DF Type	EPA Assigned						
Verify Test Lab ID	Applus IDIADA Group								
E10 Evaporative Test Measurement Method	Calculated (1.08 x FID Total Hydrocarbons)								
Test Start Odometer Reading	4205	Odometer Units	M						
4WD Test Dyno	Yes	Diesel Adjustment Factor Usage	--						
State of Charge Delta	--								
Drive Cycle Speed Tolerance Criteria	Used Part 1066 (+/- 2.0 mph, +/- 1.0 sec)	Road Speed Fan Usage	Yes						
Test Results									
<table border="1"> <tr> <th>Test Result Name</th> <th>Unrounded Test Result</th> <th>Verify Calculated FE Equivalent Value (miles per gallon)</th> </tr> <tr> <td>HC-TOTAL (Total Hydrocarbon)</td> <td>0.006</td> <td>--</td> </tr> </table>				Test Result Name	Unrounded Test Result	Verify Calculated FE Equivalent Value (miles per gallon)	HC-TOTAL (Total Hydrocarbon)	0.006	--
Test Result Name	Unrounded Test Result	Verify Calculated FE Equivalent Value (miles per gallon)							
HC-TOTAL (Total Hydrocarbon)	0.006	--							
Manufacturer Test Comments									
Calif LEV3 E10 fuel Canister Bleed. Note: Test attached to original Evap EDV to process in Verify, but actual test is rig based.									
Certification Region	Useful Life	Standard Level	Emission Name	Rounded Result	Add DF	Certification Level	Standard	Pass/Fail	
Fed	150,000 miles	Federal Tier 3 Evap	HC-TOTAL	0.006	0	0.006	0.02	Pass	
CA	4,000 miles	California LEV-III Zero Evap (Option 2)	HC-TOTAL	0.006	0	0.006	0.02	Pass	

Certification Summary Information Report

Test Group	VIALT03.0001	Evaporative/Refueling Family	VIALR0180001
Fuel Properties			
Fuel Batch ID	50641	Fuel Calibration Number	6834
Test Fuel Type	47 - CARB LEV3 E10 Premium Gasoline	Fuel Batch Calibration Date	05/17/2022
Fuel Batch Calibration Effective Date	05/17/2022	Fuel Batch Calibration Ineffective Date	05/17/2027
Carbon Weight Fraction NMHC	--	Carbon Weight Fraction HC	--
Exhaust Carbon Weight Fraction	--	Fuel Methanol Volume Fraction	--
Fuel Density (grams/cubic ft)	--	Fuel Specific Gravity	0.748
Fuel Ethanol Volume Percent (%)	9.5	Fuel Net Heating Value / Fuel Net Heat of Combustion (E0) (BTU/lb)	17830
Fuel Net Heat of Combustion (E10) (MJ/kg)	--	Fuel Carbon Mass Fraction (E10)	--
Fuel Blend Carbon Weight Fraction / Fuel Carbon Mass Fraction (E0)	0.829	Weight Fraction CO2	--
Fuel Batch ID	48952	Fuel Calibration Number	3699
Test Fuel Type	61 - Tier 2 Cert Gasoline	Fuel Batch Calibration Date	03/08/2022
Fuel Batch Calibration Effective Date	03/08/2022	Fuel Batch Calibration Ineffective Date	03/08/2027
Carbon Weight Fraction NMHC	--	Carbon Weight Fraction HC	--
Exhaust Carbon Weight Fraction	--	Fuel Methanol Volume Fraction	--
Fuel Density (grams/cubic ft)	--	Fuel Specific Gravity	0.739
Fuel Ethanol Volume Percent (%)	--	Fuel Net Heating Value / Fuel Net Heat of Combustion (E0) (BTU/lb)	18479
Fuel Net Heat of Combustion (E10) (MJ/kg)	--	Fuel Carbon Mass Fraction (E10)	--
Fuel Blend Carbon Weight Fraction / Fuel Carbon Mass Fraction (E0)	0.865	Weight Fraction CO2	--
Fuel Batch ID	27626	Fuel Calibration Number	2
Test Fuel Type	49 - Tier 3 E10 Premium Gasoline (9 RVP @Low Alt.)	Fuel Batch Calibration Date	12/11/2018
Fuel Batch Calibration Effective Date	12/11/2018	Fuel Batch Calibration Ineffective Date	--
Carbon Weight Fraction NMHC	--	Carbon Weight Fraction HC	--
Exhaust Carbon Weight Fraction	--	Fuel Methanol Volume Fraction	--
Fuel Density (grams/cubic ft)	--	Fuel Specific Gravity	0.742
Fuel Ethanol Volume Percent (%)	9.9	Fuel Net Heating Value / Fuel Net Heat of Combustion (E0) (BTU/lb)	18001
Fuel Net Heat of Combustion (E10) (MJ/kg)	--	Fuel Carbon Mass Fraction (E10)	--
Fuel Blend Carbon Weight Fraction / Fuel Carbon Mass Fraction (E0)	0.825	Weight Fraction CO2	--
Fuel Batch ID	43987	Fuel Calibration Number	4810
Test Fuel Type	49 - Tier 3 E10 Premium Gasoline (9 RVP @Low Alt.)	Fuel Batch Calibration Date	09/02/2021
Fuel Batch Calibration Effective Date	09/02/2021	Fuel Batch Calibration Ineffective Date	09/02/2026
Carbon Weight Fraction NMHC	--	Carbon Weight Fraction HC	--

Certification Summary Information Report

Test Group	VIALT03.0001	Evaporative/Refueling Family	VIALR0180001
Exhaust Carbon Weight Fraction	--	Fuel Methanol Volume Fraction	--
Fuel Density (grams/cubic ft)	--	Fuel Specific Gravity	0.752
Fuel Ethanol Volume Percent (%)	10	Fuel Net Heating Value / Fuel Net Heat of Combustion (E0) (BTU/lb)	17807
Fuel Net Heat of Combustion (E10) (MJ/kg)	--	Fuel Carbon Mass Fraction (E10)	--
Fuel Blend Carbon Weight Fraction / Fuel Carbon Mass Fraction (E0)	0.83	Weight Fraction CO2	--
Fuel Batch ID	03T455	Fuel Calibration Number	7061
Test Fuel Type	47 - CARB LEV3 E10 Premium Gasoline	Fuel Batch Calibration Date	12/13/2019
Fuel Batch Calibration Effective Date	12/13/2019	Fuel Batch Calibration Ineffective Date	12/13/2024
Carbon Weight Fraction NMHC	--	Carbon Weight Fraction HC	--
Exhaust Carbon Weight Fraction	--	Fuel Methanol Volume Fraction	--
Fuel Density (grams/cubic ft)	--	Fuel Specific Gravity	0.748
Fuel Ethanol Volume Percent (%)	9.8	Fuel Net Heating Value / Fuel Net Heat of Combustion (E0) (BTU/lb)	17826
Fuel Net Heat of Combustion (E10) (MJ/kg)	--	Fuel Carbon Mass Fraction (E10)	--
Fuel Blend Carbon Weight Fraction / Fuel Carbon Mass Fraction (E0)	0.831	Weight Fraction CO2	--
Fuel Batch ID	42388	Fuel Calibration Number	9337
Test Fuel Type	48 - Tier 3 E10 Regular Gasoline (9 RVP @Low Alt.)	Fuel Batch Calibration Date	07/01/2021
Fuel Batch Calibration Effective Date	07/01/2021	Fuel Batch Calibration Ineffective Date	07/01/2026
Carbon Weight Fraction NMHC	--	Carbon Weight Fraction HC	--
Exhaust Carbon Weight Fraction	--	Fuel Methanol Volume Fraction	--
Fuel Density (grams/cubic ft)	--	Fuel Specific Gravity	0.751
Fuel Ethanol Volume Percent (%)	9.9	Fuel Net Heating Value / Fuel Net Heat of Combustion (E0) (BTU/lb)	17962
Fuel Net Heat of Combustion (E10) (MJ/kg)	--	Fuel Carbon Mass Fraction (E10)	--
Fuel Blend Carbon Weight Fraction / Fuel Carbon Mass Fraction (E0)	0.827	Weight Fraction CO2	--

Certification Summary Information Report

Test Group		VIALT03.0001			Evaporative/Refueling Family			VIALR0180001		
Consolidated List of Standards										
Exhaust Standards										
Cert Region		Federal			Cert/In-Use Code			Cert		
Vehicle Class		LDT4 (ALVW > 5750, LVW 0-3750, GVW > 6000)			Standard Level			Federal Tier 3 Bin 50		
Fuel		Gasoline			Test Procedure			HWFE		
Useful Life	Emission Name	Rounded Result	RAF	NMOG / NMHC	Upward Diesel Adjustment Factor	Downward Diesel Adjustment Factor	Mult DF	Add DF	Std	
120,000 miles	CREE	--	--	--	--	--	--	0	999.999	
150,000 miles	NMOG	--	--	1.03	--	--	--	0.0062	999.999	
150,000 miles	NMOG+NOX-COMP	--	--	--	--	--	--	0	0.050	
150,000 miles	NOX	--	--	--	--	--	--	0.0047	999.999	
Cert Region		California + CAA Section 177 states			Cert/In-Use Code			Cert		
Vehicle Class		LDT4 (ALVW > 5750, LVW 0-3750, GVW > 6000)			Standard Level			California LEV-IV ULEV50		
Fuel		Gasoline			Test Procedure			US06		
Useful Life	Emission Name	Rounded Result	RAF	NMOG / NMHC	Upward Diesel Adjustment Factor	Downward Diesel Adjustment Factor	Mult DF	Add DF	Std	
150,000 miles	CO	--	--	--	--	--	--	0.16	9.6	
150,000 miles	NMOG	--	--	1.03	--	--	--	0.0062	999.999	
150,000 miles	NMOG+NOX	--	--	--	--	--	1	--	0.050	
150,000 miles	NOX	--	--	--	--	--	--	0.0047	999.999	
150,000 miles	PM	--	--	--	--	--	--	0	0.003	

Certification Summary Information Report

Test Group		VIALT03.0001			Evaporative/Refueling Family			VIALR0180001	
Cert Region		Federal			Cert/In-Use Code			Cert	
Vehicle Class		LDT4 (ALVW > 5750, LVW 0-3750, GVW > 6000)			Standard Level			Federal Tier 3 Bin 50	
Fuel		Gasoline			Test Procedure			Federal fuel 2-day exhaust (w/can load)	
Useful Life	Emission Name	Rounded Result	RAF	NMOG / NMHC	Upward Diesel Adjustment Factor	Downward Diesel Adjustment Factor	Mult DF	Add DF	Std
120,000 miles	CREE	--	--	--	--	--	--	0	999.999
120,000 miles	CREE	--	--	--	--	--	--	0	999.999
120,000 miles	METHANE	--	--	--	--	--	--	0.002	0.030
120,000 miles	METHANE	--	--	--	--	--	--	0.0026	0.030
120,000 miles	N2O	--	--	--	--	--	--	0.0011	0.010
120,000 miles	N2O	--	--	--	--	--	--	0.001	0.010
150,000 miles	CO	--	--	--	--	--	--	0.16	1.7
150,000 miles	CO	--	--	--	--	--	--	0.16	1.7
150,000 miles	CO-COMP	--	--	--	--	--	--	--	4.2
150,000 miles	CO-COMP	--	--	--	--	--	--	--	4.2
150,000 miles	HCHO	--	--	--	--	--	--	0.0002	0.004
150,000 miles	HCHO	--	--	--	--	--	--	0	0.004
150,000 miles	NMOG	--	--	1.1	--	--	--	0.006	999.999
150,000 miles	NMOG	--	--	1.1	--	--	--	0.0062	999.999
150,000 miles	NMOG+NOX	--	--	--	--	--	1	--	0.050
150,000 miles	NMOG+NOX	--	--	--	--	--	1	--	0.050
150,000 miles	NMOG+NOX-COMP	--	--	--	--	--	--	--	0.05
150,000 miles	NMOG+NOX-COMP	--	--	--	--	--	--	--	0.05
150,000 miles	NOX	--	--	--	--	--	--	0.004	999.999
150,000 miles	NOX	--	--	--	--	--	--	0.0047	999.999
150,000 miles	PM	--	--	--	--	--	--	0	0.003
150,000 miles	PM	--	--	--	--	--	--	0	0.003

Certification Summary Information Report

Test Group	VIALT03.0001				Evaporative/Refueling Family			VIALR0180001	
Cert Region	Federal				Cert/In-Use Code			Cert	
Vehicle Class	LDT4 (ALVW > 5750, LVW 0-3750, GVW > 6000)				Standard Level			Federal Tier 3 Bin 50	
Fuel	Gasoline				Test Procedure			US06	
Useful Life	Emission Name	Rounded Result	RAF	NMOG / NMHC	Upward Diesel Adjustment Factor	Downward Diesel Adjustment Factor	Mult DF	Add DF	Std
150,000 miles	CO	--	--	--	--	--	--	0.16	999.9
150,000 miles	NMOG	--	--	1.03	--	--	--	0.0062	999.999
150,000 miles	NOX	--	--	--	--	--	--	0.0047	999.999
150,000 miles	PM	--	--	--	--	--	--	0	0.006

Cert Region	California + CAA Section 177 states				Cert/In-Use Code			Cert	
Vehicle Class	LDT4 (ALVW > 5750, LVW 0-3750, GVW > 6000)				Standard Level			California LEV-IV ULEV50	
Fuel	Gasoline				Test Procedure			California fuel 2-day exhaust (w/can load)	
Useful Life	Emission Name	Rounded Result	RAF	NMOG / NMHC	Upward Diesel Adjustment Factor	Downward Diesel Adjustment Factor	Mult DF	Add DF	Std
150,000 miles	CO	--	--	--	--	--	--	0.16	1.7
150,000 miles	HCHO	--	--	--	--	--	--	0.0002	0.004
150,000 miles	NMOG	--	--	1.1	--	--	--	0.0062	999.999
150,000 miles	NMOG+NOX	--	--	--	--	--	1	--	0.050
150,000 miles	NOX	--	--	--	--	--	--	0.0047	999.999
150,000 miles	PM	--	--	--	--	--	--	0	0.001

Cert Region	Federal				Cert/In-Use Code			Cert	
Vehicle Class	LDT4 (ALVW > 5750, LVW 0-3750, GVW > 6000)				Standard Level			Federal Tier 3 Bin 50	
Fuel	Gasoline				Test Procedure			SC03	
Useful Life	Emission Name	Rounded Result	RAF	NMOG / NMHC	Upward Diesel Adjustment Factor	Downward Diesel Adjustment Factor	Mult DF	Add DF	Std
150,000 miles	CO	--	--	--	--	--	--	0.16	999.9
150,000 miles	NMOG	--	--	1.03	--	--	--	0.0062	999.999
150,000 miles	NOX	--	--	--	--	--	--	0.0047	999.999

Certification Summary Information Report

Test Group		VIALT03.0001			Evaporative/Refueling Family			VIALR0180001	
Cert Region		California + CAA Section 177 states			Cert/In-Use Code			Cert	
Vehicle Class		LDT4 (ALVW > 5750, LVW 0-3750, GVW > 6000)			Standard Level			California LEV-IV ULEV50	
Fuel		Gasoline			Test Procedure			HWFE	
Useful Life	Emission Name	Rounded Result	RAF	NMOG / NMHC	Upward Diesel Adjustment Factor	Downward Diesel Adjustment Factor	Mult DF	Add DF	Std
150,000 miles	NMOG	--	--	1.03	--	--	--	0.0062	999.999
150,000 miles	NMOG+NOX	--	--	--	--	--	--	0	0.050
150,000 miles	NOX	--	--	--	--	--	--	0.0047	999.999

Cert Region		California + CAA Section 177 states			Cert/In-Use Code			Cert	
Vehicle Class		LDT4 (ALVW > 5750, LVW 0-3750, GVW > 6000)			Standard Level			California LEV-IV ULEV50	
Fuel		Gasoline			Test Procedure			CA fuel 50 Deg(F) exhaust test	
Useful Life	Emission Name	Rounded Result	RAF	NMOG / NMHC	Upward Diesel Adjustment Factor	Downward Diesel Adjustment Factor	Mult DF	Add DF	Std
4,000 miles	CO	--	--	--	--	--	--	--	1.7
4,000 miles	HCHO	--	--	--	--	--	--	--	0.016
4,000 miles	NMOG	--	--	1.1	--	--	--	--	999.999
4,000 miles	NMOG+NOX	--	--	--	--	--	1	--	0.100
4,000 miles	NOX	--	--	--	--	--	--	--	999.999

Cert Region		Federal			Cert/In-Use Code			Cert	
Vehicle Class		LDT4 (ALVW > 5750, LVW 0-3750, GVW > 6000)			Standard Level			Federal Tier 3 Bin 50	
Fuel		Gasoline			Test Procedure			Cold CO	
Useful Life	Emission Name	Rounded Result	RAF	NMOG / NMHC	Upward Diesel Adjustment Factor	Downward Diesel Adjustment Factor	Mult DF	Add DF	Std
50,000 miles	CO	--	--	--	--	--	--	0.053	12.5
120,000 miles	HC-NM	--	--	--	--	--	--	0.005	0.5

Certification Summary Information Report

Test Group		VIALT03.0001			Evaporative/Refueling Family			VIALR0180001	
Cert Region		California + CAA Section 177 states			Cert/In-Use Code			Cert	
Vehicle Class		LDT4 (ALVW > 5750, LVW 0-3750, GVW > 6000)			Standard Level			California LEV-IV ULEV50	
Fuel		Gasoline			Test Procedure			SC03	
Useful Life	Emission Name	Rounded Result	RAF	NMOG / NMHC	Upward Diesel Adjustment Factor	Downward Diesel Adjustment Factor	Mult DF	Add DF	Std
150,000 miles	CO	--	--	--	--	--	--	0.16	999.9
150,000 miles	NMOG	--	--	1.03	--	--	--	0.0062	999.999
150,000 miles	NOX	--	--	--	--	--	--	0.0047	999.999

Cert Region		California + CAA Section 177 states			Cert/In-Use Code			Cert	
Vehicle Class		LDT4 (ALVW > 5750, LVW 0-3750, GVW > 6000)			Standard Level			California LEV-IV ULEV50	
Fuel		Gasoline			Test Procedure			Cold CO	
Useful Life	Emission Name	Rounded Result	RAF	NMOG / NMHC	Upward Diesel Adjustment Factor	Downward Diesel Adjustment Factor	Mult DF	Add DF	Std
50,000 miles	CO	--	--	--	--	--	--	0.053	12.5

Evaporative/Refueling Standards

Evaporative/Refueling Family		VIALR0180001		Cert Region		California + CAA Section 177 states	
Cert/In-Use Code		Cert		Standard Level		California LEV-III Zero Evap (Option 2)	
Test Procedure		California Fuel Running Loss					
Fuel	Useful Life	Emission Name	Rounded Result		Std	Add DF	
Gasoline	150,000 miles	HC-TOTAL-EQUIV	--		0.05	0	

Evaporative/Refueling Family		VIALR0180001		Cert Region		California + CAA Section 177 states	
Cert/In-Use Code		Cert		Standard Level		California LEV-III Zero Evap (Option 2)	
Test Procedure		Evap Canister Bleed Test					
Fuel	Useful Life	Emission Name	Rounded Result	Std	Add DF		
Gasoline	4,000 miles	HC-TOTAL	--	0.020	0		

Certification Summary Information Report

Test Group		VIALT03.0001		Evaporative/Refueling Family		VIALR0180001	
Evaporative/Refueling Family		VIALR0180001		Cert Region		Federal	
Cert/In-Use Code		Cert		Standard Level		Federal Tier 3 Evap	
Test Procedure		California fuel 2-day evap					
Fuel	Useful Life	Emission Name	Rounded Result	Std	Add DF		
Gasoline	150,000 miles	HC-TOTAL-EQUIV	--	0.500	0		
Evaporative/Refueling Family		VIALR0180001		Cert Region		Federal	
Cert/In-Use Code		Cert		Standard Level		Federal Tier 3 Evap	
Test Procedure		Evap Canister Bleed Test					
Fuel	Useful Life	Emission Name	Rounded Result	Std	Add DF		
Gasoline	150,000 miles	HC-TOTAL	--	0.020	0		
Evaporative/Refueling Family		VIALR0180001		Cert Region		California + CAA Section 177 states	
Cert/In-Use Code		Cert		Standard Level		California LEV-III Zero Evap (Option 2)	
Test Procedure		California fuel 2-day evap					
Fuel	Useful Life	Emission Name	Rounded Result	Std	Add DF		
Gasoline	150,000 miles	HC-TOTAL-EQUIV	--	0.500	0		
Evaporative/Refueling Family		VIALR0180001		Cert Region		Federal	
Cert/In-Use Code		Cert		Standard Level		Federal Tier 3 Evap	
Test Procedure		California Fuel Running Loss					
Fuel	Useful Life	Emission Name	Rounded Result	Std	Add DF		
Gasoline	150,000 miles	HC-TOTAL-EQUIV	--	0.05	0		
Evaporative/Refueling Family		VIALR0180001		Cert Region		California + CAA Section 177 states	
Cert/In-Use Code		Cert		Standard Level		California LEV-III Zero Evap (Option 2)	
Test Procedure		Federal fuel refueling test (ORVR)					
Fuel	Useful Life	Emission Name	Rounded Result	Std	Add DF		
Gasoline	150,000 miles	HC	--	0.20	0.006		

Certification Summary Information Report

Test Group		VIALT03.0001		Evaporative/Refueling Family		VIALR0180001	
Evaporative/Refueling Family		VIALR0180001		Cert Region		Federal	
Cert/In-Use Code		Cert		Standard Level		Federal Tier 3 Evap	
Test Procedure		Federal fuel refueling test (ORVR)					
Fuel	Useful Life	Emission Name	Rounded Result	Std	Add DF		
Gasoline	150,000 miles	HC	--	0.20	0.006		
Evaporative/Refueling Family		VIALR0180001		Cert Region		Federal	
Cert/In-Use Code		Cert		Standard Level		Federal Tier 3 Evap	
Test Procedure		CA fuel 3-day evap.					
Fuel	Useful Life	Emission Name	Rounded Result	Std	Add DF		
Gasoline	150,000 miles	HC-TOTAL-EQUIV	--	0.500	0		
Evaporative/Refueling Family		VIALR0180001		Cert Region		California + CAA Section 177 states	
Cert/In-Use Code		Cert		Standard Level		California LEV-III Zero Evap (Option 2)	
Test Procedure		CA fuel 3-day evap.					
Fuel	Useful Life	Emission Name	Rounded Result	Std	Add DF		
Gasoline	150,000 miles	HC-TOTAL-EQUIV	--	0.500	0		

Certification Summary Information Report

Test Group		VIALT03.0001	Evaporative/Refueling Family		VIALR0180001
Glossary					
Useful Life					
4	4,000 miles		120	120,000 miles	
50	50,000 miles		150	150,000 miles	
100	100,000 miles				
Emission Name					
HC-TOTAL	Total Hydrocarbon		COMB-CREE	Combined Carbon-Related Exhaust Emissions	
CO	Carbon Monoxide		COMB-OPT-CREE	Combined Optional Carbon-Related Exhaust Emissions	
CO2	Carbon dioxide		HC-TOTAL-EQUIV	Total Hydrocarbon equivalent - Evap only	
CREE	Carbon-Related Exhaust Emissions		METHANE-COMB	Combined CH4 for HD 2b/3 vehicles only	
OPT-CREE	Optional Carbon-Related Exhaust Emissions		N2O-COMB	Combined Nitrous Oxide for HD 2b/3 vehicles only	
NOX	Nitrogen Oxide		LEAK-DIA	Effective Leak Diameter (inches)	
PM	Particulate Matter		LEAK-GAS CAP	Gas Cap Leakage (cc/min)	
PM-COMP	SFTP Composite Particulate Matter		CO2-COMB	Combined Carbon Dioxide for HD 2b/3 Vehicles Only	
HC-NM	Non-methane Hydrocarbon		KW-HRS	Integrated DC KW-HRS	
OMHCE	Organic material Hydrocarbon Equivalent		CH4 BAG 1	Bag 1 Methane	
OMNMHCE	Organic material non-methane HC equivalent		CH4 BAG 2	Bag 2 Methane	
NMOG	Non-methane organic gases		CH4 BAG 3	Bag 3 Methane	
HCHO	Formaldehyde		CH4 BAG 4	Bag 4 Methane	
H3C2HO	Acetaldehyde		CO BAG 1	Bag 1 Carbon Monoxide	
HC-NM+NOX	SFTP Non-methane Hydrocarbon + Nitrogen Oxides for US06 or SC03		CO BAG 2	Bag 2 Carbon Monoxide	
HC-NM+NOX-COMP	SFTP Composite Non-methane Hydrocarbon + Nitrogen Oxides		CO BAG 3	Bag 3 Carbon Monoxide	
CO-COMP	SFTP Composite Carbon Monoxide		CO BAG 4	Bag 4 Carbon Monoxide	
ETHANOL	C2H5OH - Ethanol		NMOG BAG 1	Bag 1 Non-methane organic gases	
FE BAG 1	Bag 1 Fuel Economy		NMOG BAG 2	Bag 2 Non-methane organic gases	
FE BAG 2	Bag 2 Fuel Economy		NMOG BAG 3	Bag 3 Non-methane organic gases	
FE BAG 3	Bag 3 Fuel Economy		NMOG BAG 4	Bag 4 Non-methane organic gases	
FE BAG 4	Bag 4 Fuel Economy		ACT-DISTANCE BAG 1	Bag 1 Actual Distance	
MFR FE	Manufacturer Fuel Economy		ACT-DISTANCE BAG 2	Bag 2 Actual Distance	
HC	Hydrocarbon for Running Loss and ORVR		ACT-DISTANCE BAG 3	Bag 3 Actual Distance	
METHANE	CH4 - Methane		ACT-DISTANCE BAG 4	Bag 4 Actual Distance	
METHANOL	CH3OH - Methanol		HC-TOTAL BAG 1	Bag 1 Total Hydrocarbon	
N2O	Nitrous Oxide		HC-TOTAL BAG 2	Bag 2 Total Hydrocarbon	
SPITBACK	Spitback Hydrocarbon in grams		HC-TOTAL BAG 3	Bag 3 Total Hydrocarbon	
AMP-HRS	Integrated Amp-hours		HC-TOTAL BAG 4	Bag 4 Total Hydrocarbon	
START-SOC	System Start State of Charge Watt-hours		WATT-HRS BAG 1	Bag 1 Watt Hours	
END-SOC	System End State of Charge Watt-hours		WATT-HRS BAG 2	Bag 2 Watt Hours	

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ACT-DISTANCE	Actual Distance Driven (miles)		WATT-HRS BAG 3	Bag 3 Watt Hours	
AS-VOLT	Average System Voltage		WATT-HRS BAG 4	Bag 4 Watt Hours	
CO2 BAG 1	Bag 1 Carbon Dioxide		WATT-HRS	Watt Hours	
CO2 BAG 2	Bag 2 Carbon Dioxide		HC-NM BAG 1	Bag 1 Non-methane Hydrocarbon	
CO2 BAG 3	Bag 3 Carbon Dioxide		HC-NM BAG 2	Bag 2 Non-methane Hydrocarbon	
CO2 BAG 4	Bag 4 Carbon Dioxide		HC-NM BAG 3	Bag 3 Non-methane Hydrocarbon	
NMOG+NOX	Non-methane organic gases plus Nitrogen Oxides		HC-NM BAG 4	Bag 4 Non-methane Hydrocarbon	
NMOG+NOX-COMP	SFTP Composite Non-methane Organic Gases + Nitrogen Oxides		N2O BAG 1	Bag 1 Nitrous Oxide	
DT-IWRR	Drive Trace Inertia Work Ratio Rating		N2O BAG 2	Bag 2 Nitrous Oxide	
DT-ASCR	Drive Trace Absolute Speed Change Rating		N2O BAG 3	Bag 3 Nitrous Oxide	
DT-EER	Drive Trace Energy Economy Rating		N2O BAG 4	Bag 4 Nitrous Oxide	
Certification Region					
CA	California + CAA Section 177 states		FA	Federal	
Exhaust Emission Standard Level					
B1	Federal Tier 2 Bin 1		HDV2B340	Federal Tier 3 HD Class 2b Transitional Bin 340	
B2	Federal Tier 2 Bin 2		HDV2B250	Federal Tier 3 HD Class 2b Bin 250	
B3	Federal Tier 2 Bin 3		HDV2B200	Federal Tier 3 HD Class 2b Bin 200	
B4	Federal Tier 2 Bin 4		HDV2B170	Federal Tier 3 HD Class 2b Bin 170	
B5	Federal Tier 2 Bin 5		HDV2B150	Federal Tier 3 HD Class 2b Bin 150	
B6	Federal Tier 2 Bin 6		HDV2B0	Federal Tier 3 HD Class 2b Bin 0	
B7	Federal Tier 2 Bin 7		HDV3B630	Federal Tier 3 HD Class 3 Transitional Bin 630	
B8	Federal Tier 2 Bin 8		HDV3B570	Federal Tier 3 HD Class 3 Transitional Bin 570	
B9	Federal Tier 2 Bin 9		HDV3B400	Federal Tier 3 HD Class 3 Bin 400	
B10	Federal Tier 2 Bin 10		HDV3B270	Federal Tier 3 HD Class 3 Bin 270	
B11	Federal Tier 2 Bin 11		HDV3B230	Federal Tier 3 HD Class 3 Bin 230	
HDV1	HDV1 (Federal HD chassis Class 2b GVW 8501-10000)		HDV3B200	Federal Tier 3 HD Class 3 Bin 200	
HDV2	HDV2 (Federal HD chassis Class 3 GVW 10001-14000)		HDV3B0	Federal Tier 3 HD Class 3 Bin 0	
L2	California LEV-II LEV		L4SULEV100	California LEV-IV SULEV100	
L2OP	California LEV-II LEV Optional		L4SULEV125	California LEV-IV SULEV125	
U2	California LEV-II ULEV		L4SULEV15	California LEV-IV SULEV15	
S2	California LEV-II SULEV		L4SULEV150	California LEV-IV SULEV150	
ZEV	California ZEV		L4SULEV170	California LEV-IV SULEV170	
OT	Other		L4SULEV175	California LEV-IV SULEV175	
T1	Federal Tier 1		L4SULEV20	California LEV-IV SULEV20	
PZEV	California PZEV		L4SULEV200	California LEV-IV SULEV200	
L2LEV160	California LEV-II LEV160		L4SULEV230	California LEV-IV SULEV230	
L2ULEV125	California LEV-II ULEV125		L4SULEV25	California LEV-IV SULEV25	
L2SULEV30	California LEV-II SULEV30		L4SULEV30	California LEV-IV SULEV30	
L2LEV395	California LEV-II LEV395		L4SULEV75	California LEV-IV SULEV75	

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L2ULEV340	California LEV-II ULEV340		L4SULEV85	California LEV-IV SULEV85
L2LEV630	California LEV-II LEV630		L4ULEV125	California LEV-IV ULEV125
L2ULEV570	California LEV-II ULEV570		L4ULEV200	California LEV-IV ULEV200
L3LEV160	California LEV-III LEV160		L4ULEV250	California LEV-IV ULEV250
L3ULEV125	California LEV-III ULEV125		L4ULEV270	California LEV-IV ULEV270
L3ULEV70	California LEV-III ULEV70		L4ULEV40	California LEV-IV ULEV40
L3ULEV50	California LEV-III ULEV50		L4ULEV400	California LEV-IV ULEV400
L3SULEV30	California LEV-III SULEV30		L4ULEV50	California LEV-IV ULEV50
L3SULEV20	California LEV-III SULEV20		L4ULEV60	California LEV-IV ULEV60
L3LEV395	California LEV-III LEV395		L4ULEV70	California LEV-IV ULEV70
L3ULEV340	California LEV-III ULEV340		T4B170	Federal Tier 4 MDV Bin 170
L3ULEV250	California LEV-III ULEV250		T4B150	Federal Tier 4 MDV Bin 150
L3ULEV200	California LEV-III ULEV200		T4B125	Federal Tier 4 MDV Bin 125
L3SULEV170	California LEV-III SULEV170		T4B100	Federal Tier 4 MDV Bin 100
L3SULEV150	California LEV-III SULEV150		T4B85	Federal Tier 4 MDV Bin 85
L3LEV630	California LEV-III LEV630		T4B75	Federal Tier 4 MDV Bin 75
L3ULEV570	California LEV-III ULEV570		T4B70	Federal Tier 4 Bin 70
L3ULEV400	California LEV-III ULEV400		T4B65	Federal Tier 4 Bin 65
L3ULEV270	California LEV-III ULEV270		T4B60	Federal Tier 4 Bin 60
L3SULEV230	California LEV-III SULEV230		T4B55	Federal Tier 4 Bin 55
L3SULEV200	California LEV-III SULEV200		T4B50	Federal Tier 4 Bin 50
T3B160	Federal Tier 3 Bin 160		T4B45	Federal Tier 4 Bin 45
T3B125	Federal Tier 3 Bin 125		T4B40	Federal Tier 4 Bin 40
T3B110	Federal Tier 3 Transitional Bin 110		T4B35	Federal Tier 4 Bin 35
T3B85	Federal Tier 3 Transitional Bin 85		T4B30	Federal Tier 4 Bin 30
T3SULEV30	Federal Tier 3 Transitional LEV-II SULEV30 Carryover		T4B25	Federal Tier 4 Bin 25
T3B70	Federal Tier 3 Bin 70		T4B20	Federal Tier 4 Bin 20
T3B50	Federal Tier 3 Bin 50		T4B15	Federal Tier 4 Bin 15
T3B30	Federal Tier 3 Bin 30		T4B10	Federal Tier 4 Bin 10
T3B20	Federal Tier 3 Bin 20		T4B5	Federal Tier 4 Bin 5
T3B0	Federal Tier 3 Bin 0		T4B0	Federal Tier 4 Bin 0
HDV2B395	Federal Tier 3 HD Class 2b Transitional Bin 395			
Transmission Type Code				
AMS	Automated Manual- Selectable (e.g. Automated Manual with paddles)	M	Manual	
A	Automatic	OT	Other	
AM	Automated Manual	SA	Semi-Automatic	
CVT	Continuously Variable	SCV	Selectable Continuously Variable (e.g. CVT with paddles)	
Drive System Code				
4	4-Wheel Drive	P	Part-time 4-Wheel Drive	

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Test Group		VIALT03.0001	Evaporative/Refueling Family		VIALR0180001
F	2-Wheel Drive, Front		A	All Wheel Drive	
R	2-Wheel Drive, Rear				
Additional Terms and Acronyms					
AFC	Alternative Fuel Converter		ICI	Independent Commercial Importer	
CSI	Certificate Summary Information		ORVR	Onboard Refueling Vapor Recovery	
DF	Deterioration Factor		SIL	Shift Indicator Light	
Evap	Evaporation, Evaporative		Trans	Transmission	