

Certification Summary Information Report

Manufacturer	General Motors LLC	Manufacturer Code	GMX
Test Group	VGMXT06.2376	Evaporative/Refueling Family	VGMXR022450C
Certificate Number	VGMXT06.2376-018	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	07/09/2026 07:43:30 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	--	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	No
Durability Group Name	VGMXGPGNNB62	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	09/14/2026	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	No
SFTP LEV-III Composite Compliance Indicator	No		
OBD Compliance Type	CARB	OBD Demonstration Vehicle Test Group	VGMXT06.2376
Test Group OBD Compliance Level	Full - no deficiencies	Number of Test Group OBD Deficiencies	0
OBD Deficiencies Comments	--		
Mfr Test Group Comments	MY27 T1 SUV LT4		
Mfr Exhaust / Evap Standards Comments	--		

Certification Summary Information Report

Test Group	VGMXT06.2376	Evaporative/Refueling Family	VGMXR022450C				
Evaporative/Refueling Family Information							
Evaporative Summary Information Type	New	Submission/Correction Date	06/11/2026 02:41:42 PM				
Integrated ORVR?	Yes	Fuel(s)	Gasoline				
Multiple Fuel Storage	--						
Bladder Fuel Tank?	No						
Fuel Tank Material	Plastic	Fuel Tank Material Description	Multi-layer with HDPE and EVOH				
Fill Pipe Seal Type	Liquid seal						
Air Intake System Vapor Storage Device?	Yes	Air Intake System Vapor Storage Device Description	HCA				
Fuel System Vapor Storage Canister?	Yes	Other Vapor Storage	--				
Fuel System Vapor Storage Canister(s) Total Working Capacity (grams)	220	Number of Primary Canisters	1				
Number of Bleed Canisters	0	Bleed Canister Total Working Capacity (grams)	--				
Mfr Evaporative/Refueling Family Comments	--						
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	--						
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				
VGMXR022450C-LK1	50 State	0.02	--				
Models Covered by this Certificate							
Carline Manufacturer	Division	Carline	Certification Region Code(s)	Drive System	Trans - Type	- # of Gears	Trans - Lockup
General Motors LLC	2 - Cadillac	578 - ESCALADE V AWD	Federal	4-Wheel Drive	Semi-Automatic	10	Yes
General Motors LLC	2 - Cadillac	578 - ESCALADE V AWD	California + CAA Section 177 states	4-Wheel Drive	Semi-Automatic	10	Yes
Engine Description							
Hybrid Type	--	Hybrid Description	--				
Engine Type	4-Stroke Spark Ignition	Mfr Engine Description	--				
Engine Block Arrangement	V-shaped engine	Mfr Engine Block Arrangement Description	--				
Camless Valvetrain Indicator	No	Oil Viscosity/Classification	0W40				
Number of Cylinders/Rotors	8	Mechanically Variable Compression Ratio Indicator	N				

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Test Group		VGMXT06.2376		Evaporative/Refueling Family		VGMXR022450C					
After Treatment Device(s) (ATD)											
ATD Number		ATD Type		ATD Precious Metal		Substrate Material		Substrate Construction			
1		Three-way catalyst		Palladium + Rhodium		Ceramic		Monolith			
2		Three-way catalyst		Palladium + Rhodium		Ceramic		Monolith			
Mfr After Treatment Device (ATD) Comments		--									
Direct Ozone Reduction (DOR) Device		Not Equipped									
Mfr Emission Control Device Comments		--									
Engine Configuration Number 1											
Engine Displacement (liters)		6.2		Engine Rated Horsepower		682					
Number of Inlet Valves Per Cylinder		1		Number of Exhaust Valves Per Cylinder		1					
Air Aspiration Method		Supercharged		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		Cam Phaser									
Variable Valve Lift?		No									
Variable Valve Lift System Description		--									
Number of Knock Sensors		2		Number of Air/Fuel Sensors		4					
Air/Fuel Sensor # 1 Type		Heated oxygen		Air/Fuel Sensor # 1 Description		--					
Air/Fuel Sensor # 2 Type		Heated oxygen		Air/Fuel Sensor # 2 Description		--					
Air/Fuel Sensor # 3 Type		Heated oxygen		Air/Fuel Sensor # 3 Description		--					
Air/Fuel Sensor # 4 Type		Heated oxygen		Air/Fuel Sensor # 4 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		Not Applicable		Air Injection Type if 'Other'		--					
Mfr Engine Configuration Comments		--									
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	SGMX10086358	SGMX10086360	SGMX10086361	SGMX10086362	SGMX10086362	SGMX10086359	12.6	228.2	22	286.1	--

Certification Summary Information Report

Test Group	VGMXT06.2376	Evaporative/Refueling Family	VGMXR022450C
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Emission Data Vehicle Information

Vehicle ID / Configuration	27KPKN1432 / 0	Manufacturer Vehicle Configuration Number	0
Original Test Group Name	KGMXT02.7100	Original Evaporative/Refueling Family	KGMXR022450C
Original Test Vehicle Model Year	2019		

Vehicle Model

Represented Test Vehicle Make	CHEVROLET	Represented Test Vehicle Model	K10 SILVERADO 4WD
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Leak Family Details

Leak Family Identifier	LK1	Leak Family Name	KGMXR022450C-LK1
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Drive Sources and Fuel System Details

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	--
Fuel Cell Indicator	--	Rechargeable Energy Storage System, if 'Other'	--
Rechargeable Energy Storage System	--		
Off-board charge Capable Indicator	--		
Odometer Correction -- Initial	0	Odometer Correction Factor	1
Odometer Correction Sign	+ = System Miles is equal to (Test odometer reading * Correction factor) + Initial system miles		
Odometer Correction Units	Miles		
Engine Code	1	Rated Horsepower	310
Displacement (liters)	2.7		
Air Aspiration Method	Turbocharged	Air Aspiration Method, if 'Other'	
Number of Air Aspiration Devices	1	Air Aspiration Device Configuration	Single
Charge Air Cooler Type	Air	Drive Mode While Testing	2-Wheel Drive, Rear
Shift Indicator Light Usage	Not equipped	Aged Emission Components	150,000 (mi)
Curb Weight (lbs)	4752	Equivalent Test Weight (pounds)	5000
GVWR (lbs)	6900	N/V Ratio	24.2
Axle Ratio	3.42		
Transmission Type	Automatic	# of Transmission Gears	8
Transmission Lockup	Yes	Creep Gear	No

Dynamometer Coefficients:

Target Coefficients			Set Coefficients			EPA Calculated Total Road Load Horse Power for City/Highway/Evap Coefficients	
Coefficient Category	A (lbf)	B (lbf/mph)	C (lbf/mph**2)	A (lbf)	B (lbf/mph)		C (lbf/mph**2)
City/Highway/Evap	38.84	0.5475	0.03601	13.64	0.2219	0.03678	20.8

Emission Control Device Comments L3B Pickup w/o aero shutters -WMI

Certification Summary Information Report

Test Group	VGMXT06.2376	Evaporative/Refueling Family	VGMXR022450C					
Manufacturer Test Vehicle Comments	ADDED 250 LBS BALLAST TO REAR AXLE AND REDUCED TIRE PRESSURE TO 32 PSI TO PREVENT WHEEL SLIP.							
Test #	KGMX10055636	Test Procedure	23 - 2-day evap					
Exhaust Test # for this Evap Test	KGMX10055635	Test Fuel Type	48 - Tier 3 E10 Regular Gasoline (9 RVP @Low Alt.)					
Test Date	06/23/2018	Fuel	Gasoline					
Fuel Batch ID	--	Fuel Calibration Number	--					
Vehicle Class	N/A	DF Type	Mfr. Determined					
Verify Test Lab ID	Compliance and Certification							
E10 Evaporative Test Measurement Method	Actual Total Hydrocarbon Equivalent Measurement (with speciation)							
Test Start Odometer Reading	4597	Odometer Units	M					
4WD Test Dyno	No	Diesel Adjustment Factor Usage	--					
State of Charge Delta	No							
Drive Cycle Speed Tolerance Criteria	Used Part 1066 (+/- 2.0 mph, +/- 1.0 sec)	Road Speed Fan Usage	No					
Test Results								
Test Result Name		Unrounded Test Result	Verify Calculated FE Equivalent Value (miles per gallon)					
HC-TOTAL-EQUIV (Total Hydrocarbon equivalent - Evap only)		0.4646	--					
Manufacturer Test Comments 4K EVF2 TEST								
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	0.4646	0	0.465	0.525	Pass
CA	150,000 miles	California LEV-III Zero Evap (Option 2)	HC-TOTAL-EQUIV	0.4646	0	0.465	0.525	Pass

Certification Summary Information Report

Test Group	VGMXT06.2376	Evaporative/Refueling Family	VGMXR022450C						
Test #	KGMX10055638	Test Procedure	34 - Federal fuel 3-day evap						
Exhaust Test # for this Evap Test	KGMX10055635	Test Fuel Type	48 - Tier 3 E10 Regular Gasoline (9 RVP @Low Alt.)						
Test Date	08/11/2018	Fuel	Gasoline						
Fuel Batch ID	--	Fuel Calibration Number	--						
Vehicle Class	N/A	DF Type	Mfr. Determined						
Verify Test Lab ID	Compliance and Certification								
E10 Evaporative Test Measurement Method	Actual Total Hydrocarbon Equivalent Measurement (with speciation)								
Test Start Odometer Reading	4764	Odometer Units	M						
4WD Test Dyno	No	Diesel Adjustment Factor Usage	--						
State of Charge Delta	No								
Drive Cycle Speed Tolerance Criteria	Used Part 1066 (+/- 2.0 mph, +/- 1.0 sec)	Road Speed Fan Usage	No						
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-EQUIV (Total Hydrocarbon equivalent - Evap only)</td> <td>0.314</td> <td>--</td> </tr> </table>				Test Result Name	Unrounded Test Result	Verify Calculated FE Equivalent Value (miles per gallon)	HC-TOTAL-EQUIV (Total Hydrocarbon equivalent - Evap only)	0.314	--
Test Result Name	Unrounded Test Result	Verify Calculated FE Equivalent Value (miles per gallon)							
HC-TOTAL-EQUIV (Total Hydrocarbon equivalent - Evap only)	0.314	--							
Manufacturer Test Comments									
4K EVF3 TEST									
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	0.314	0	0.314	0.525	Pass	
CA	150,000 miles	California LEV-III Zero Evap (Option 2)	HC-TOTAL-EQUIV	0.314	0	0.314	0.525	Pass	

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Test Group	VGMXT06.2376	Evaporative/Refueling Family	VGMXR022450C						
Test #	KGMX10055637	Test Procedure	24 - Federal fuel refueling test (ORVR)						
Exhaust Test # for this Evap Test	KGMX10055635	Test Fuel Type	48 - Tier 3 E10 Regular Gasoline (9 RVP @Low Alt.)						
Test Date	08/06/2018	Fuel	Gasoline						
Fuel Batch ID	--	Fuel Calibration Number	--						
Vehicle Class	N/A	DF Type	Mfr. Determined						
Verify Test Lab ID	Compliance and Certification								
E10 Evaporative Test Measurement Method	Actual Total Hydrocarbon Equivalent Measurement (with speciation)								
Test Start Odometer Reading	4744	Odometer Units	M						
4WD Test Dyno	No	Diesel Adjustment Factor Usage	--						
State of Charge Delta	No								
Drive Cycle Speed Tolerance Criteria	Used Part 1066 (+/- 2.0 mph, +/- 1.0 sec)	Road Speed Fan Usage	No						
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-EQUIV (Total Hydrocarbon equivalent - Evap only)</td> <td>0.0184</td> <td>--</td> </tr> </table>				Test Result Name	Unrounded Test Result	Verify Calculated FE Equivalent Value (miles per gallon)	HC-TOTAL-EQUIV (Total Hydrocarbon equivalent - Evap only)	0.0184	--
Test Result Name	Unrounded Test Result	Verify Calculated FE Equivalent Value (miles per gallon)							
HC-TOTAL-EQUIV (Total Hydrocarbon equivalent - Evap only)	0.0184	--							
Manufacturer Test Comments									
4K ORVR TEST									
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	0.018	0	0.02	0.2	Pass	
CA	150,000 miles	California LEV-III Zero Evap (Option 2)	HC-TOTAL-EQUIV	0.018	0	0.02	0.2	Pass	

Certification Summary Information Report

Test Group	VGMXT06.2376	Evaporative/Refueling Family	VGMXR022450C						
Test #	KGMX10055639	Test Procedure	32 - Federal Fuel Running Loss						
Exhaust Test # for this Evap Test	KGMX10055635	Test Fuel Type	48 - Tier 3 E10 Regular Gasoline (9 RVP @Low Alt.)						
Test Date	08/01/2018	Fuel	Gasoline						
Fuel Batch ID	--	Fuel Calibration Number	--						
Vehicle Class	N/A	DF Type	Mfr. Determined						
Verify Test Lab ID	Compliance and Certification								
E10 Evaporative Test Measurement Method	Actual Total Hydrocarbon Equivalent Measurement (with speciation)								
Test Start Odometer Reading	4801	Odometer Units	M						
4WD Test Dyno	No	Diesel Adjustment Factor Usage	--						
State of Charge Delta	No								
Drive Cycle Speed Tolerance Criteria	Used Part 1066 (+/- 2.0 mph, +/- 1.0 sec)	Road Speed Fan Usage	No						
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-EQUIV (Total Hydrocarbon equivalent - Evap only)</td> <td>0.00066</td> <td>--</td> </tr> </table>				Test Result Name	Unrounded Test Result	Verify Calculated FE Equivalent Value (miles per gallon)	HC-TOTAL-EQUIV (Total Hydrocarbon equivalent - Evap only)	0.00066	--
Test Result Name	Unrounded Test Result	Verify Calculated FE Equivalent Value (miles per gallon)							
HC-TOTAL-EQUIV (Total Hydrocarbon equivalent - Evap only)	0.00066	--							
Manufacturer Test Comments									
4K EVFR TEST									
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	0.001	0	0	0.05	Pass	
CA	150,000 miles	California LEV-III Zero Evap (Option 2)	HC-TOTAL-EQUIV	0.001	0	0	0.05	Pass	

Certification Summary Information Report

Test Group	VGMXT06.2376	Evaporative/Refueling Family	VGMXR022450C						
Test #	KGMX10055693	Test Procedure	65 - Evap Canister Bleed Test						
Exhaust Test # for this Evap Test	--	Test Fuel Type	48 - Tier 3 E10 Regular Gasoline (9 RVP @Low Alt.)						
Test Date	05/22/2018	Fuel	Gasoline						
Fuel Batch ID	--	Fuel Calibration Number	--						
Vehicle Class	N/A	DF Type	Mfr. Determined						
Verify Test Lab ID	Compliance and Certification								
E10 Evaporative Test Measurement Method	Actual Total Hydrocarbon Equivalent Measurement (with speciation)								
Test Start Odometer Reading	4801	Odometer Units	M						
4WD Test Dyno	No	Diesel Adjustment Factor Usage	--						
State of Charge Delta	No								
Drive Cycle Speed Tolerance Criteria	Used Part 1066 (+/- 2.0 mph, +/- 1.0 sec)	Road Speed Fan Usage	No						
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>0.012</td> <td>--</td> </tr> </table>				Test Result Name	Unrounded Test Result	Verify Calculated FE Equivalent Value (miles per gallon)	HC-TOTAL (Total Hydrocarbon)	0.012	--
Test Result Name	Unrounded Test Result	Verify Calculated FE Equivalent Value (miles per gallon)							
HC-TOTAL (Total Hydrocarbon)	0.012	--							
Manufacturer Test Comments 150K CBLD TEST									
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	0.012	0	0.012	0.02	Pass	
CA	150,000 miles	California LEV-III Zero Evap (Option 2)	HC-TOTAL	0.012	0	0.012	0.02	Pass	

Certification Summary Information Report

Test Group	VGMXT06.2376	Evaporative/Refueling Family	VGMXR022450C					
Emission Data Vehicle Information								
Vehicle ID / Configuration	62KLSV6451 / 0	Manufacturer Vehicle Configuration Number	0					
Original Test Group Name	SGMXT06.2376	Original Evaporative/Refueling Family	SGMXR022450C					
Original Test Vehicle Model Year	2025							
Vehicle Model								
Represented Test Vehicle Make	CADILLAC	Represented Test Vehicle Model	ESCALADE V AWD					
Leak Family Details								
Leak Family Identifier	LK1	Leak Family Name	SGMXR022450C-LK1					
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 Storage	--	Multiple Fuel Combustion	--					
Fuel Cell Indicator	--	Rechargeable Energy Storage System Indicator	--					
Rechargeable Energy Storage System	--	Rechargeable Energy Storage System, if 'Other'	--					
Off-board charge Capable Indicator	--							
Odometer Correction -- Initial	0	Odometer Correction Factor	1					
Odometer Correction Sign	+ = System Miles is equal to (Test odometer reading * Correction factor) + Initial system miles							
Odometer Correction Units	Miles							
Engine Code	18	Rated Horsepower	682					
Displacement (liters)	6.2							
Air Aspiration Method	Supercharged	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)	6493	Equivalent Test Weight (pounds)	7000					
GVWR (lbs)	7700	N/V Ratio	21.7					
Axle Ratio	3.23							
Transmission Type	Semi-Automatic	# of Transmission Gears	10					
Transmission Lockup	Yes	Creep Gear	No					
Dynamometer Coefficients:								
	Target Coefficients		Set Coefficients					
Coefficient Category	A (lbf)	B (lbf/mph)	C (lbf/mph**2)					
City/Highway/Evap	48.88	1.0407	0.02962					
	A (lbf)	B (lbf/mph)	C (lbf/mph**2)					
	-0.74	0.0083	0.03338					
	EPA Calculated Total Road Load Horse Power for City/Highway/Evap Coefficients							
	23.3							
Emission Control Device Comments	T1 SUV LT4							

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Certification Summary Information Report

Test Group	VGMXT06.2376	Evaporative/Refueling Family	VGMXR022450C
Test #	SGMX10086357	Test Procedure	52 - Fed. fuel 50 F exh.
Exhaust Test # for this Evap Test	--	Test Fuel Type	49 - Tier 3 E10 Premium Gasoline (9 RVP @Low Alt.)
Test Date	04/20/2024	Fuel	Gasoline
Fuel Batch ID	003030	Fuel Calibration Number	9341
Vehicle Class	LDT4 (ALVW > 5750, LVW 0-3750, GVW > 6000)	DF Type	Mfr. Determined
Verify Test Lab ID	Compliance and Certification		
E10 Evaporative Test Measurement Method	--		
Test Start Odometer Reading	4582	Odometer Units	M
4WD Test Dyno	Yes	Diesel Adjustment Factor Usage	--
State of Charge Delta	No		
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)	0.009615	--
CO (Carbon Monoxide)	0.742147	--
DT-ASCR (Drive Trace Absolute Speed Change Rating)	0.311948	--
DT-EER (Drive Trace Energy Economy Rating)	1.0398	--
DT-IWRR (Drive Trace Inertia Work Ratio Rating)	0.654958	--
NOX (Nitrogen Oxide)	0.024233	--
HC-NM (Non-methane Hydrocarbon)	0.024536	--
NMOG (Non-methane organic gases)	0.027005	--
HC-TOTAL (Total Hydrocarbon)	0.033633	--

Test Result Name	Unrounded Test Result	Verify Calculated CO2
Carbon dioxide	668.004	--

Manufacturer Test Comments

4K 50 DEG TEST

Certification Summary Information Report

Test Group		VGMXT06.2376				Evaporative/Refueling Family				VGMXR022450C		
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-III ULEV125	CO	0.74	1	--	--	--	--	0.7	2.1	Pass
CA	4,000 miles	California LEV-III ULEV125	NMOG	0.027	1	--	--	--	--	0.027	99.999	Pass
CA	4,000 miles	California LEV-III ULEV125	NMOG+NOX	0.0512	1	--	--	--	--	0.051	0.250	Pass
CA	4,000 miles	California LEV-III ULEV125	NOX	0.0242	1	--	--	--	--	0.024	99.999	Pass

Certification Summary Information Report

Test Group	VGMXT06.2376	Evaporative/Refueling Family	VGMXR022450C						
Emission Data Vehicle Information									
Vehicle ID / Configuration	62KLSV6451 / 1	Manufacturer Vehicle Configuration Number	1						
Original Test Group Name	SGMXT06.2376	Original Evaporative/Refueling Family	SGMXR022450C						
Original Test Vehicle Model Year	2025								
Vehicle Model									
Represented Test Vehicle Make	CADILLAC	Represented Test Vehicle Model	ESCALADE V AWD						
Leak Family Details									
Leak Family Identifier	LK1	Leak Family Name	SGMXR022450C-LK1						
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 Storage	--	Multiple Fuel Combustion	--						
Fuel Cell Indicator	--	Rechargeable Energy Storage System Indicator	--						
Rechargeable Energy Storage System	--	Rechargeable Energy Storage System, if 'Other'	--						
Off-board charge Capable Indicator	--								
Odometer Correction -- Initial	0	Odometer Correction Factor	1						
Odometer Correction Sign	+ = System Miles is equal to (Test odometer reading * Correction factor) + Initial system miles								
Odometer Correction Units	Miles								
Engine Code	18	Rated Horsepower	682						
Displacement (liters)	6.2								
Air Aspiration Method	Supercharged	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	150,000 (mi)						
Curb Weight (lbs)	6528	Equivalent Test Weight (pounds)	7000						
GVWR (lbs)	7700	N/V Ratio	21.7						
Axle Ratio	3.23								
Transmission Type	Semi-Automatic	# of Transmission Gears	10						
Transmission Lockup	Yes	Creep Gear	No						

Certification Summary Information Report

Test Group		VGMXT06.2376			Evaporative/Refueling Family		VGMXR022450C	
Dynamometer Coefficients:								
Target Coefficients				Set Coefficients			EPA Calculated Total Road Load Horse Power for City/Highway/Evap Coefficients	
Coefficient Category	A (lbf)	B (lbf/mph)	C (lbf/mph**2)	A (lbf)	B (lbf/mph)	C (lbf/mph**2)		
City/Highway/Evap	48.88	1.0407	0.02962	-1.1	0.157	0.03263	23.3	
Cold CO	53.77	1.1448	0.03258	-2.14	-0.4603	0.04151	N/A	
US06	48.88	1.0407	0.02962	-1.1	0.157	0.03263	N/A	
Emission Control Device Comments		T1 SUV LT4						
Manufacturer Test Vehicle Comments		REDUCED TIRE PRESSURE TO 32 PSI TO PREVENT WHEEL SLIP. ALL TESTS WERE RUN ON AWD DYNO 150K CONFIG EDV						

Certification Summary Information Report

Test Group	VGMXT06.2376	Evaporative/Refueling Family	VGMXR022450C
Test #	SGMX10086358	Test Procedure	31 - Federal fuel 3-day exhaust
Exhaust Test # for this Evap Test	--	Test Fuel Type	49 - Tier 3 E10 Premium Gasoline (9 RVP @Low Alt.)
Test Date	05/13/2024	Fuel	Gasoline
Fuel Batch ID	003030	Fuel Calibration Number	9341
Vehicle Class	LDT4 (ALVW > 5750, LVW 0-3750, GVW > 6000)	DF Type	Mfr. Determined
Verify Test Lab ID	Compliance and Certification		
E10 Evaporative Test Measurement Method	--		
Test Start Odometer Reading	4774	Odometer Units	M
4WD Test Dyno	Yes	Diesel Adjustment Factor Usage	--
State of Charge Delta	No		
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)	649.234	--
FE BAG 1 (Bag 1 Fuel Economy)	13.4	13.4
CO2 BAG 2 (Bag 2 Carbon Dioxide)	710.044	--
FE BAG 2 (Bag 2 Fuel Economy)	12.3	12.3
CO2 BAG 3 (Bag 3 Carbon Dioxide)	575.226	--
FE BAG 3 (Bag 3 Fuel Economy)	15.2	15.2
METHANE (CH4 - Methane)	0.010442	--
CO (Carbon Monoxide)	0.746157	--
DT-ASCR (Drive Trace Absolute Speed Change Rating)	0.06101	--
DT-EER (Drive Trace Energy Economy Rating)	-0.003772	--
DT-IWRR (Drive Trace Inertia Work Ratio Rating)	-0.065187	--
MFR FE (Manufacturer Fuel Economy)	13.2	13.2
NOX (Nitrogen Oxide)	0.019458	--
N2O (Nitrous Oxide)	0.000232	--
HC-NM (Non-methane Hydrocarbon)	0.016765	--
NMOG (Non-methane organic gases)	0.018452	--
PM (Particulate Matter)	0.001655	--
HC-TOTAL (Total Hydrocarbon)	0.026582	--

Test Result Name	Unrounded Test Result	Verify Calculated CREE/OPT-CREE
Carbon-Related Exhaust Emissions	661	999

Certification Summary Information Report

Test Group		VGMXT06.2376			Evaporative/Refueling Family					VGMXR022450C																				
<table><tr><td colspan="2">Test Result Name</td><td colspan="4">Unrounded Test Result</td><td colspan="3">Verify Calculated CO2</td></tr><tr><td colspan="2">Carbon dioxide</td><td colspan="4">660.408</td><td colspan="3">--</td></tr></table>													Test Result Name		Unrounded Test Result				Verify Calculated CO2			Carbon dioxide		660.408				--		
Test Result Name		Unrounded Test Result				Verify Calculated CO2																								
Carbon dioxide		660.408				--																								
Manufacturer Test Comments		150K EMIS TEST																												
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 125	CREE	999	1	--	--	0	--	999	--	--																		
Fed	150,000 miles	Federal Tier 3 Bin 125	CO	0.75	1	--	--	--	--	0.8	2.1	Pass																		
Fed	150,000 miles	Federal Tier 3 Bin 125	CO-COMP	0.9	1	--	--	--	--	0.9	4.2	Pass																		
Fed	150,000 miles	Federal Tier 3 Bin 125	NMOG	0.0185	1	--	--	--	--	0.018	99.999	Pass																		
Fed	150,000 miles	Federal Tier 3 Bin 125	NMOG+NOX	0.038	1	--	--	--	--	0.038	0.125	Pass																		
Fed	150,000 miles	Federal Tier 3 Bin 125	NMOG+NOX-COMP	0.0497	1	--	--	--	--	0.05	0.120	Pass																		
Fed	150,000 miles	Federal Tier 3 Bin 125	NOX	0.0195	1	--	--	--	--	0.02	99.999	Pass																		
Fed	150,000 miles	Federal Tier 3 Bin 125	PM	0.0017	1	--	--	--	--	0.002	0.003	Pass																		
CA	150,000 miles	California LEV-III ULEV125	CO	0.75	1	--	--	--	--	0.8	2.1	Pass																		
CA	150,000 miles	California LEV-III ULEV125	CO-COMP	0.9	1	--	--	--	--	0.9	4.2	Pass																		
CA	150,000 miles	California LEV-III ULEV125	NMOG	0.0185	1	--	--	--	--	0.018	99.999	Pass																		
CA	150,000 miles	California LEV-III ULEV125	NMOG+NOX	0.038	1	--	--	--	--	0.038	0.125	Pass																		
CA	150,000 miles	California LEV-III ULEV125	NMOG+NOX-COMP	0.0497	1	--	--	--	--	0.05	0.120	Pass																		
CA	150,000 miles	California LEV-III ULEV125	NOX	0.0195	1	--	--	--	--	0.02	99.999	Pass																		
CA	150,000 miles	California LEV-III ULEV125	PM	0.0017	1	--	--	--	--	0.002	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	VGMXT06.2376	Evaporative/Refueling Family	VGMXR022450C																																																			
Test #	SGMX10086362	Test Procedure	11 - Cold CO																																																			
Exhaust Test # for this Evap Test	--	Test Fuel Type	29 - Cold CO E10 Premium Gasoline (Tier 3)																																																			
Test Date	05/20/2024	Fuel	Gasoline																																																			
Fuel Batch ID	003038	Fuel Calibration Number	9317																																																			
Vehicle Class	LDT4 (ALVW > 5750, LVW 0-3750, GVW > 6000)	DF Type	Mfr. Determined																																																			
Verify Test Lab ID	Compliance and Certification																																																					
E10 Evaporative Test Measurement Method	--																																																					
Test Start Odometer Reading	4857	Odometer Units	M																																																			
4WD Test Dyno	Yes	Diesel Adjustment Factor Usage	--																																																			
State of Charge Delta	No																																																					
Drive Cycle Speed Tolerance Criteria	Used Part 1066 (+/- 2.0 mph, +/- 1.0 sec)	Road Speed Fan Usage	Yes																																																			
Test Results																																																						
<table border="1"> <thead> <tr> <th>Test Result Name</th><th>Unrounded Test Result</th><th>Verify Calculated FE Equivalent Value (miles per gallon)</th></tr> </thead> <tbody> <tr> <td>CO2 BAG 1 (Bag 1 Carbon Dioxide)</td><td>772.316</td><td>--</td></tr> <tr> <td>FE BAG 1 (Bag 1 Fuel Economy)</td><td>11</td><td>11</td></tr> <tr> <td>CO2 BAG 2 (Bag 2 Carbon Dioxide)</td><td>765.892</td><td>--</td></tr> <tr> <td>FE BAG 2 (Bag 2 Fuel Economy)</td><td>11.4</td><td>11.4</td></tr> <tr> <td>CO2 BAG 3 (Bag 3 Carbon Dioxide)</td><td>629.216</td><td>--</td></tr> <tr> <td>FE BAG 3 (Bag 3 Fuel Economy)</td><td>13.8</td><td>13.8</td></tr> <tr> <td>METHANE (CH4 - Methane)</td><td>0.049478</td><td>--</td></tr> <tr> <td>CO (Carbon Monoxide)</td><td>1.95512</td><td>--</td></tr> <tr> <td>DT-ASCR (Drive Trace Absolute Speed Change Rating)</td><td>0.247677</td><td>--</td></tr> <tr> <td>DT-EER (Drive Trace Energy Economy Rating)</td><td>0.516668</td><td>--</td></tr> <tr> <td>DT-IWRR (Drive Trace Inertia Work Ratio Rating)</td><td>0.533397</td><td>--</td></tr> <tr> <td>MFR FE (Manufacturer Fuel Economy)</td><td>11.8</td><td>11.8</td></tr> <tr> <td>NOX (Nitrogen Oxide)</td><td>0.086228</td><td>--</td></tr> <tr> <td>HC-NM (Non-methane Hydrocarbon)</td><td>0.501473</td><td>--</td></tr> <tr> <td>NMOG (Non-methane organic gases)</td><td>0.55208</td><td>--</td></tr> <tr> <td>HC-TOTAL (Total Hydrocarbon)</td><td>0.54829</td><td>--</td></tr> </tbody> </table>				Test Result Name	Unrounded Test Result	Verify Calculated FE Equivalent Value (miles per gallon)	CO2 BAG 1 (Bag 1 Carbon Dioxide)	772.316	--	FE BAG 1 (Bag 1 Fuel Economy)	11	11	CO2 BAG 2 (Bag 2 Carbon Dioxide)	765.892	--	FE BAG 2 (Bag 2 Fuel Economy)	11.4	11.4	CO2 BAG 3 (Bag 3 Carbon Dioxide)	629.216	--	FE BAG 3 (Bag 3 Fuel Economy)	13.8	13.8	METHANE (CH4 - Methane)	0.049478	--	CO (Carbon Monoxide)	1.95512	--	DT-ASCR (Drive Trace Absolute Speed Change Rating)	0.247677	--	DT-EER (Drive Trace Energy Economy Rating)	0.516668	--	DT-IWRR (Drive Trace Inertia Work Ratio Rating)	0.533397	--	MFR FE (Manufacturer Fuel Economy)	11.8	11.8	NOX (Nitrogen Oxide)	0.086228	--	HC-NM (Non-methane Hydrocarbon)	0.501473	--	NMOG (Non-methane organic gases)	0.55208	--	HC-TOTAL (Total Hydrocarbon)	0.54829	--
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Manufacturer Test Comments	150K COLD TEST																																																					

Certification Summary Information Report

Test Group		VGMXT06.2376				Evaporative/Refueling Family				VGMXR022450C		
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	50,000 miles	Federal Tier 3 Bin 125	CO	1.96	1	--	--	--	--	2	12.5	Pass
Fed	120,000 miles	Federal Tier 3 Bin 125	HC-NM	0.5	1	--	--	--	--	0.5	0.5	Pass
CA	50,000 miles	California LEV-III ULEV125	CO	1.96	1	--	--	--	--	2	12.5	Pass

Certification Summary Information Report

Test Group	VGMXT06.2376	Evaporative/Refueling Family	VGMXR022450C
Test #	SGMX10086363	Test Procedure	31 - Federal fuel 3-day exhaust
Exhaust Test # for this Evap Test	--	Test Fuel Type	61 - Tier 2 Cert Gasoline
Test Date	05/24/2024	Fuel	Gasoline
Fuel Batch ID	000307	Fuel Calibration Number	9399
Vehicle Class	LDT4 (ALVW > 5750, LVW 0-3750, GVW > 6000)	DF Type	Mfr. Determined
Verify Test Lab ID	Compliance and Certification		
E10 Evaporative Test Measurement Method	--		
Test Start Odometer Reading	4875	Odometer Units	M
4WD Test Dyno	Yes	Diesel Adjustment Factor Usage	--
State of Charge Delta	No		
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)	631.142	--
FE BAG 1 (Bag 1 Fuel Economy)	14	14
CO2 BAG 2 (Bag 2 Carbon Dioxide)	696.395	--
FE BAG 2 (Bag 2 Fuel Economy)	12.8	12.8
CO2 BAG 3 (Bag 3 Carbon Dioxide)	583.531	--
FE BAG 3 (Bag 3 Fuel Economy)	15.1	15.1
METHANE (CH4 - Methane)	0.029216	--
CO (Carbon Monoxide)	1.61462	--
DT-ASCR (Drive Trace Absolute Speed Change Rating)	-0.130187	--
DT-EER (Drive Trace Energy Economy Rating)	0.088668	--
DT-IWRR (Drive Trace Inertia Work Ratio Rating)	-0.210719	--
MFR FE (Manufacturer Fuel Economy)	13.6	13.6
NOX (Nitrogen Oxide)	0.022614	--
N2O (Nitrous Oxide)	0.001982	--
HC-NM (Non-methane Hydrocarbon)	0.037867	--
NMOG (Non-methane organic gases)	0.039011	--
HC-TOTAL (Total Hydrocarbon)	0.065864	--

Test Result Name	Unrounded Test Result	Verify Calculated CREE/OPT-CREE
Carbon-Related Exhaust Emissions	655	655

Certification Summary Information Report

Test Group		VGMXT06.2376			Evaporative/Refueling Family				VGMXR022450C			
		Test Result Name		Unrounded Test Result			Verify Calculated CO2					
		Carbon dioxide		651.849			--					
Manufacturer Test Comments		150K EMIS TEST										
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 125	CREE	655	1	--	--	0	--	655	--	--
Fed	150,000 miles	Federal Tier 3 Bin 125	CO	1.61	1	--	--	--	--	1.6	2.1	Pass
Fed	150,000 miles	Federal Tier 3 Bin 125	NMOG	0.039	1	--	--	--	--	0.039	99.999	Pass
Fed	150,000 miles	Federal Tier 3 Bin 125	NMOG+NOX	0.0616	1	--	--	--	--	0.062	0.125	Pass
Fed	150,000 miles	Federal Tier 3 Bin 125	NOX	0.0226	1	--	--	--	--	0.023	99.999	Pass
CA	150,000 miles	California LEV-III ULEV125	CO	1.61	1	--	--	--	--	1.6	2.1	Pass
CA	150,000 miles	California LEV-III ULEV125	NMOG	0.039	1	--	--	--	--	0.039	99.999	Pass
CA	150,000 miles	California LEV-III ULEV125	NMOG+NOX	0.0616	1	--	--	--	--	0.062	0.125	Pass
CA	150,000 miles	California LEV-III ULEV125	NOX	0.0226	1	--	--	--	--	0.023	99.999	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	VGMXT06.2376	Evaporative/Refueling Family	VGMXR022450C																																				
Test #	SGMX10086359	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	05/13/2024	Fuel	Gasoline																																				
Fuel Batch ID	003030	Fuel Calibration Number	9341																																				
Vehicle Class	LDT4 (ALVW > 5750, LVW 0-3750, GVW > 6000)	DF Type	Mfr. Determined																																				
Verify Test Lab ID	Compliance and Certification																																						
E10 Evaporative Test Measurement Method	--																																						
Test Start Odometer Reading	4785	Odometer Units	M																																				
4WD Test Dyno	Yes	Diesel Adjustment Factor Usage	--																																				
State of Charge Delta	No																																						
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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Carbon dioxide	370.481	--																																					
Manufacturer Test Comments	150K HWFE TEST																																						

Certification Summary Information Report

Test Group		VGMXT06.2376			Evaporative/Refueling Family					VGMXR022450C		
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 125	CREE	999	1	--	--	0	--	999	--	--
Fed	150,000 miles	Federal Tier 3 Bin 125	NMOG	0	1	--	--	--	--	0	99.999	Pass
Fed	150,000 miles	Federal Tier 3 Bin 125	NMOG+NOX	0.0107	1	--	--	--	--	0.011	0.125	Pass
Fed	150,000 miles	Federal Tier 3 Bin 125	NOX	0.0107	1	--	--	--	--	0.011	99.999	Pass
CA	150,000 miles	California LEV-III ULEV125	NMOG	0	1	--	--	--	--	0	99.999	Pass
CA	150,000 miles	California LEV-III ULEV125	NMOG+NOX	0.0107	1	--	--	--	--	0.011	0.125	Pass
CA	150,000 miles	California LEV-III ULEV125	NOX	0.0107	1	--	--	--	--	0.011	99.999	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	VGMXT06.2376	Evaporative/Refueling Family	VGMXR022450C
Test #	SGMX10086364	Test Procedure	3 - HWFE
Exhaust Test # for this Evap Test	--	Test Fuel Type	61 - Tier 2 Cert Gasoline
Test Date	05/24/2024	Fuel	Gasoline
Fuel Batch ID	000307	Fuel Calibration Number	9399
Vehicle Class	LDT4 (ALVW > 5750, LVW 0-3750, GVW > 6000)	DF Type	Mfr. Determined
Verify Test Lab ID	Compliance and Certification		
E10 Evaporative Test Measurement Method	--		
Test Start Odometer Reading	4886	Odometer Units	M
4WD Test Dyno	Yes	Diesel Adjustment Factor Usage	--
State of Charge Delta	No		
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)	0.006712	--	
CO (Carbon Monoxide)	0.293313	--	
DT-ASCR (Drive Trace Absolute Speed Change Rating)	0.640001	--	
DT-EER (Drive Trace Energy Economy Rating)	-0.057408	--	
DT-IWRR (Drive Trace Inertia Work Ratio Rating)	0.627272	--	
MFR FE (Manufacturer Fuel Economy)	24.1	24.1	
NOX (Nitrogen Oxide)	0.015433	--	
N2O (Nitrous Oxide)	0.001792	--	
HC-NM (Non-methane Hydrocarbon)	0.001723	--	
NMOG (Non-methane organic gases)	0.001775	--	
HC-TOTAL (Total Hydrocarbon)	0.008155	--	
Test Result Name	Unrounded Test Result	Verify Calculated CREE/OPT-CREE	
Carbon-Related Exhaust Emissions	369	369	
Test Result Name	Unrounded Test Result	Verify Calculated CO2	
Carbon dioxide	368.806	--	
Manufacturer Test Comments	150K HWFE TEST		

Certification Summary Information Report

Test Group		VGMXT06.2376			Evaporative/Refueling Family					VGMXR022450C		
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 125	CREE	369	1	--	--	0	--	369	--	--
Fed	150,000 miles	Federal Tier 3 Bin 125	NMOG	0.0018	1	--	--	--	--	0.002	99.999	Pass
Fed	150,000 miles	Federal Tier 3 Bin 125	NMOG+NOX	0.0172	1	--	--	--	--	0.017	0.125	Pass
Fed	150,000 miles	Federal Tier 3 Bin 125	NOX	0.0154	1	--	--	--	--	0.015	99.999	Pass
CA	150,000 miles	California LEV-III ULEV125	NMOG	0.0018	1	--	--	--	--	0.002	99.999	Pass
CA	150,000 miles	California LEV-III ULEV125	NMOG+NOX	0.0172	1	--	--	--	--	0.017	0.125	Pass
CA	150,000 miles	California LEV-III ULEV125	NOX	0.0154	1	--	--	--	--	0.015	99.999	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	VGMXT06.2376	Evaporative/Refueling Family	VGMXR022450C																																																
Test #	SGMX10086360	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	05/13/2024	Fuel	Gasoline																																																
Fuel Batch ID	003030	Fuel Calibration Number	9341																																																
Vehicle Class	LDT4 (ALVW > 5750, LVW 0-3750, GVW > 6000)	DF Type	Mfr. Determined																																																
Verify Test Lab ID	Compliance and Certification																																																		
E10 Evaporative Test Measurement Method	--	Odometer Units	M																																																
Test Start Odometer Reading	4807	Diesel Adjustment Factor Usage	--																																																
4WD Test Dyno	Yes																																																		
State of Charge Delta	No	Road Speed Fan Usage	Yes																																																
Drive Cycle Speed Tolerance Criteria	Used Part 1066 (+/- 2.0 mph, +/- 1.0 sec)																																																		
Test Results																																																			
<table border="1"> <thead> <tr> <th>Test Result Name</th> <th>Unrounded Test Result</th> <th>Verify Calculated FE Equivalent Value (miles per gallon)</th> </tr> </thead> <tbody> <tr> <td>CO2 BAG 1 (Bag 1 Carbon Dioxide)</td> <td>986.059</td> <td>--</td> </tr> <tr> <td>FE BAG 1 (Bag 1 Fuel Economy)</td> <td>8.9</td> <td>8.9</td> </tr> <tr> <td>CO2 BAG 2 (Bag 2 Carbon Dioxide)</td> <td>488.701</td> <td>--</td> </tr> <tr> <td>FE BAG 2 (Bag 2 Fuel Economy)</td> <td>17.9</td> <td>17.9</td> </tr> <tr> <td>METHANE (CH4 - Methane)</td> <td>0.004242</td> <td>--</td> </tr> <tr> <td>CO (Carbon Monoxide)</td> <td>0.335425</td> <td>--</td> </tr> <tr> <td>DT-ASCR (Drive Trace Absolute Speed Change Rating)</td> <td>-2.20414</td> <td>--</td> </tr> <tr> <td>DT-EER (Drive Trace Energy Economy Rating)</td> <td>-1.41996</td> <td>--</td> </tr> <tr> <td>DT-IWRR (Drive Trace Inertia Work Ratio Rating)</td> <td>-4.31312</td> <td>--</td> </tr> <tr> <td>MFR FE (Manufacturer Fuel Economy)</td> <td>14.6</td> <td>14.6</td> </tr> <tr> <td>NOX (Nitrogen Oxide)</td> <td>0.024796</td> <td>--</td> </tr> <tr> <td>HC-NM (Non-methane Hydrocarbon)</td> <td>0.002981</td> <td>--</td> </tr> <tr> <td>NMOG (Non-methane organic gases)</td> <td>0.003071</td> <td>--</td> </tr> <tr> <td>PM (Particulate Matter)</td> <td>0.000773</td> <td>--</td> </tr> <tr> <td>HC-TOTAL (Total Hydrocarbon)</td> <td>0.007031</td> <td>--</td> </tr> </tbody> </table>				Test Result Name	Unrounded Test Result	Verify Calculated FE Equivalent Value (miles per gallon)	CO2 BAG 1 (Bag 1 Carbon Dioxide)	986.059	--	FE BAG 1 (Bag 1 Fuel Economy)	8.9	8.9	CO2 BAG 2 (Bag 2 Carbon Dioxide)	488.701	--	FE BAG 2 (Bag 2 Fuel Economy)	17.9	17.9	METHANE (CH4 - Methane)	0.004242	--	CO (Carbon Monoxide)	0.335425	--	DT-ASCR (Drive Trace Absolute Speed Change Rating)	-2.20414	--	DT-EER (Drive Trace Energy Economy Rating)	-1.41996	--	DT-IWRR (Drive Trace Inertia Work Ratio Rating)	-4.31312	--	MFR FE (Manufacturer Fuel Economy)	14.6	14.6	NOX (Nitrogen Oxide)	0.024796	--	HC-NM (Non-methane Hydrocarbon)	0.002981	--	NMOG (Non-methane organic gases)	0.003071	--	PM (Particulate Matter)	0.000773	--	HC-TOTAL (Total Hydrocarbon)	0.007031	--
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Manufacturer Test Comments	150K US06 TEST																																																		

Certification Summary Information Report

Test Group		VGMXT06.2376				Evaporative/Refueling Family				VGMXR022450C		
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 125	CO	0.34	1	--	--	--	--	0.3	99.9	Pass
Fed	150,000 miles	Federal Tier 3 Bin 125	NMOG	0.0031	1	--	--	--	--	0.003	99.999	Pass
Fed	150,000 miles	Federal Tier 3 Bin 125	NMOG+NOX	0.0279	1	--	--	--	--	0.028	99.999	Pass
Fed	150,000 miles	Federal Tier 3 Bin 125	NOX	0.0248	1	--	--	--	--	0.025	99.999	Pass
Fed	150,000 miles	Federal Tier 3 Bin 125	PM	0.0008	1	--	--	--	--	0.001	0.006	Pass
CA	150,000 miles	California LEV-III ULEV125	CO	0.34	1	--	--	--	--	0.3	99.9	Pass
CA	150,000 miles	California LEV-III ULEV125	NMOG	0.0031	1	--	--	--	--	0.003	99.999	Pass
CA	150,000 miles	California LEV-III ULEV125	NMOG+NOX	0.0279	1	--	--	--	--	0.028	99.999	Pass
CA	150,000 miles	California LEV-III ULEV125	NOX	0.0248	1	--	--	--	--	0.025	99.999	Pass
CA	150,000 miles	California LEV-III ULEV125	PM	0.0008	1	--	--	--	--	0.001	0.006	Pass

Certification Summary Information Report

Test Group	VGMXT06.2376	Evaporative/Refueling Family	VGMXR022450C																																	
Test #	SGMX10086361	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	05/15/2024	Fuel	Gasoline																																	
Fuel Batch ID	003030	Fuel Calibration Number	9341																																	
Vehicle Class	LDT4 (ALVW > 5750, LVW 0-3750, GVW > 6000)	DF Type	Mfr. Determined																																	
Verify Test Lab ID	Compliance and Certification																																			
E10 Evaporative Test Measurement Method	--																																			
Test Start Odometer Reading	4823	Odometer Units	M																																	
4WD Test Dyno	Yes	Diesel Adjustment Factor Usage	--																																	
State of Charge Delta	No																																			
Drive Cycle Speed Tolerance Criteria	Used Part 1066 (+/- 2.0 mph, +/- 1.0 sec)	Road Speed Fan Usage	Yes																																	
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Manufacturer Test Comments	150K SC03 TEST																																			

Certification Summary Information Report

Test Group		VGMXT06.2376				Evaporative/Refueling Family				VGMXR022450C		
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 125	CO	1.47	1	--	--	--	--	1.5	99.9	Pass
Fed	150,000 miles	Federal Tier 3 Bin 125	NMOG	0.0481	1	--	--	--	--	0.048	99.999	Pass
Fed	150,000 miles	Federal Tier 3 Bin 125	NMOG+NOX	0.0773	1	--	--	--	--	0.077	99.999	Pass
Fed	150,000 miles	Federal Tier 3 Bin 125	NOX	0.0292	1	--	--	--	--	0.029	99.999	Pass
CA	150,000 miles	California LEV-III ULEV125	CO	1.47	1	--	--	--	--	1.5	99.9	Pass
CA	150,000 miles	California LEV-III ULEV125	NMOG	0.0481	1	--	--	--	--	0.048	99.999	Pass
CA	150,000 miles	California LEV-III ULEV125	NMOG+NOX	0.0773	1	--	--	--	--	0.077	99.999	Pass
CA	150,000 miles	California LEV-III ULEV125	NOX	0.0292	1	--	--	--	--	0.029	99.999	Pass

Certification Summary Information Report

Test Group	VGMXT06.2376	Evaporative/Refueling Family	VGMXR022450C
Fuel Properties			
Fuel Batch ID	003030	Fuel Calibration Number	9341
Test Fuel Type	49 - Tier 3 E10 Premium Gasoline (9 RVP @Low Alt.)	Fuel Batch Calibration Date	12/20/2022
Fuel Batch Calibration Effective Date	12/20/2022	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	0.75
Fuel Ethanol Volume Percent (%)	9.9	Fuel Net Heating Value / Fuel Net Heat of Combustion (E0) (BTU/lb)	17767
Fuel Net Heat of Combustion (E10) (MJ/kg)	--	Fuel Carbon Mass Fraction (E10)	--
Fuel Blend Carbon Weight Fraction / Fuel Carbon Mass Fraction (E0)	0.828	Weight Fraction CO2	--
Fuel Batch ID	000307	Fuel Calibration Number	9399
Test Fuel Type	61 - Tier 2 Cert Gasoline	Fuel Batch Calibration Date	05/14/2024
Fuel Batch Calibration Effective Date	05/14/2024	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 (%)	--	Fuel Net Heating Value / Fuel Net Heat of Combustion (E0) (BTU/lb)	18441
Fuel Net Heat of Combustion (E10) (MJ/kg)	--	Fuel Carbon Mass Fraction (E10)	--
Fuel Blend Carbon Weight Fraction / Fuel Carbon Mass Fraction (E0)	0.867	Weight Fraction CO2	--
Fuel Batch ID	003038	Fuel Calibration Number	9317
Test Fuel Type	29 - Cold CO E10 Premium Gasoline (Tier 3)	Fuel Batch Calibration Date	11/21/2023
Fuel Batch Calibration Effective Date	11/21/2023	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	0.746
Fuel Ethanol Volume Percent (%)	9.9	Fuel Net Heating Value / Fuel Net Heat of Combustion (E0) (BTU/lb)	17788
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		VGMXT06.2376			Evaporative/Refueling Family			VGMXR022450C		
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 125		
Fuel		Gasoline			Test Procedure			Federal fuel 3-day exhaust		
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	--	1	--	--	--	--	0	999.999	
150,000 miles	CO	--	1	--	--	--	--	--	2.1	
150,000 miles	CO-COMP	--	1	--	--	--	--	--	4.2	
150,000 miles	NMOG	--	1	--	--	--	--	--	99.999	
150,000 miles	NMOG+NOX	--	1	--	--	--	1	--	0.125	
150,000 miles	NMOG+NOX-COMP	--	1	--	--	--	--	--	0.120	
150,000 miles	NOX	--	1	--	--	--	--	--	99.999	
150,000 miles	PM	--	1	--	--	--	--	--	0.003	
Cert Region		Federal			Cert/In-Use Code			Cert		
Vehicle Class		LDT4 (ALVW > 5750, LVW 0-3750, GVW > 6000)			Standard Level			Federal Tier 3 Bin 125		
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	--	1	--	--	--	--	--	99.9	
150,000 miles	NMOG	--	1	--	--	--	--	--	99.999	
150,000 miles	NMOG+NOX	--	1	--	--	--	1	--	99.999	
150,000 miles	NOX	--	1	--	--	--	--	--	99.999	
150,000 miles	PM	--	1	--	--	--	--	--	0.006	

Certification Summary Information Report

Test Group		VGMXT06.2376			Evaporative/Refueling Family			VGMXR022450C	
Cert Region		Federal			Cert/In-Use Code			Cert	
Vehicle Class		LDT4 (ALVW > 5750, LVW 0-3750, GVW > 6000)			Standard Level			Federal Tier 3 Bin 125	
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	--	1	--	--	--	--	--	12.5
120,000 miles	HC-NM	--	1	--	--	--	--	--	0.5

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-III ULEV125	
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	--	1	--	--	--	--	--	99.9
150,000 miles	NMOG	--	1	--	--	--	--	--	99.999
150,000 miles	NMOG+NOX	--	1	--	--	--	1	--	99.999
150,000 miles	NOX	--	1	--	--	--	--	--	99.999
150,000 miles	PM	--	1	--	--	--	--	--	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-III ULEV125	
Fuel		Gasoline			Test Procedure			Federal fuel 3-day exhaust	
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	--	1	--	--	--	--	--	2.1
150,000 miles	CO-COMP	--	1	--	--	--	--	--	4.2
150,000 miles	NMOG	--	1	--	--	--	--	--	99.999
150,000 miles	NMOG+NOX	--	1	--	--	--	1	--	0.125
150,000 miles	NMOG+NOX-COMP	--	1	--	--	--	--	--	0.120
150,000 miles	NOX	--	1	--	--	--	--	--	99.999
150,000 miles	PM	--	1	--	--	--	--	--	0.003

Certification Summary Information Report

Test Group	VGMXT06.2376			Evaporative/Refueling Family			VGMXR022450C		
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-III ULEV125		
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	--	1	--	--	--	--	--	99.9
150,000 miles	NMOG	--	1	--	--	--	--	--	99.999
150,000 miles	NMOG+NOX	--	1	--	--	--	1	--	99.999
150,000 miles	NOX	--	1	--	--	--	--	--	99.999

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-III ULEV125		
Fuel	Gasoline			Test Procedure			Fed. fuel 50 F exh.		
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	--	--	--	--	--	2.1
4,000 miles	NMOG	--	1	--	--	--	--	--	99.999
4,000 miles	NMOG+NOX	--	1	--	--	--	1	--	0.250
4,000 miles	NOX	--	1	--	--	--	--	--	99.999

Cert Region	Federal			Cert/In-Use Code			Cert		
Vehicle Class	LDT4 (ALVW > 5750, LVW 0-3750, GVW > 6000)			Standard Level			Federal Tier 3 Bin 125		
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	--	1	--	--	--	--	--	99.9
150,000 miles	NMOG	--	1	--	--	--	--	--	99.999
150,000 miles	NMOG+NOX	--	1	--	--	--	1	--	99.999
150,000 miles	NOX	--	1	--	--	--	--	--	99.999

Certification Summary Information Report

Test Group		VGMXT06.2376			Evaporative/Refueling Family			VGMXR022450C	
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-III ULEV125	
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	--	--	--	--	--	99.999
150,000 miles	NMOG+NOX	--	1	--	--	--	1	--	0.125
150,000 miles	NOX	--	1	--	--	--	--	--	99.999

Cert Region		Federal			Cert/In-Use Code			Cert	
Vehicle Class		LDT4 (ALVW > 5750, LVW 0-3750, GVW > 6000)			Standard Level			Federal Tier 3 Bin 125	
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	--	1	--	--	--	--	0	999.999
150,000 miles	NMOG	--	1	--	--	--	--	--	99.999
150,000 miles	NMOG+NOX	--	1	--	--	--	1	--	0.125
150,000 miles	NOX	--	1	--	--	--	--	--	99.999

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-III ULEV125	
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	--	1	--	--	--	--	--	12.5

Evaporative/Refueling Standards

Evaporative/Refueling Family		VGMXR022450C		Cert Region		Federal	
Cert/In-Use Code		Cert		Standard Level		Federal Tier 3 Evap	
Test Procedure		2-day evap					
Fuel	Useful Life	Emission Name	Rounded Result	Std	Add DF		
Gasoline	150,000 miles	HC-TOTAL-EQUIV	--	0.525	0		

Certification Summary Information Report

Test Group	VGMXT06.2376		Evaporative/Refueling Family	VGMXR022450C	
Evaporative/Refueling Family	VGMXR022450C		Cert Region	California + CAA Section 177 states California LEV-III Zero Evap (Option 2)	
Cert/In-Use Code	Cert		Standard Level		
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	VGMXR022450C		Cert Region	California + CAA Section 177 states California LEV-III Zero Evap (Option 2)	
Cert/In-Use Code	Cert		Standard Level		
Test Procedure	Federal fuel 3-day evap				
Fuel	Useful Life	Emission Name	Rounded Result	Std	Add DF
Gasoline	150,000 miles	HC-TOTAL-EQUIV	--	0.525	0
Evaporative/Refueling Family	VGMXR022450C		Cert Region	Federal	
Cert/In-Use Code	Cert		Standard Level	Federal Tier 3 Evap	
Test Procedure	Federal fuel 3-day evap				
Fuel	Useful Life	Emission Name	Rounded Result	Std	Add DF
Gasoline	150,000 miles	HC-TOTAL-EQUIV	--	0.525	0
Evaporative/Refueling Family	VGMXR022450C		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-TOTAL-EQUIV	--	0.20	0
Evaporative/Refueling Family	VGMXR022450C		Cert Region	California + CAA Section 177 states California LEV-III Zero Evap (Option 2)	
Cert/In-Use Code	Cert		Standard Level		
Test Procedure	Federal Fuel Running Loss				
Fuel	Useful Life	Emission Name	Rounded Result	Std	Add DF
Gasoline	150,000 miles	HC-TOTAL-EQUIV	--	0.05	0

Certification Summary Information Report

Test Group		VGMXT06.2376		Evaporative/Refueling Family		VGMXR022450C	
Evaporative/Refueling Family		VGMXR022450C		Cert Region		California + CAA Section 177 states	
Cert/In-Use Code		Cert		Standard Level		California LEV-III Zero Evap (Option 2)	
Test Procedure		2-day evap					
Fuel	Useful Life	Emission Name	Rounded Result	Std	Add DF		
Gasoline	150,000 miles	HC-TOTAL-EQUIV	--	0.525	0		
Evaporative/Refueling Family		VGMXR022450C		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		VGMXR022450C		Cert Region		Federal	
Cert/In-Use Code		Cert		Standard Level		Federal Tier 3 Evap	
Test Procedure		Federal 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		VGMXR022450C		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-TOTAL-EQUIV	--	0.20	0		

Certification Summary Information Report

Test Group		VGMXT06.2376	Evaporative/Refueling Family	VGMXR022450C
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	

Certification Summary Information Report

Test Group		VGMXT06.2376	Evaporative/Refueling Family		VGMXR022450C
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	

Certification Summary Information Report

Test Group		VGMXT06.2376	Evaporative/Refueling Family		VGMXR022450C
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		

Certification Summary Information Report

Test Group		VGMXT06.2376	Evaporative/Refueling Family		VGMXR022450C
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	