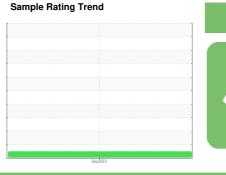


FUEL REPORT

SCHLEGEL [148518] 79949524

Component **Diesel Fuel**

No.2 DIESEL FUEL (ULTRALOW SULPHUR) (--- GAL)





DIAGNOSIS Recommendation

Laboratory test indicate that this fuel is suitable for use and meets all test requirements. Resample at the next service interval to monitor.

{not applicable}

Contaminants

The system cleanliness is acceptable for your target ISO 4406 cleanliness code. The water content is negligible. There is no indication of any contamination in the diesel fuel.

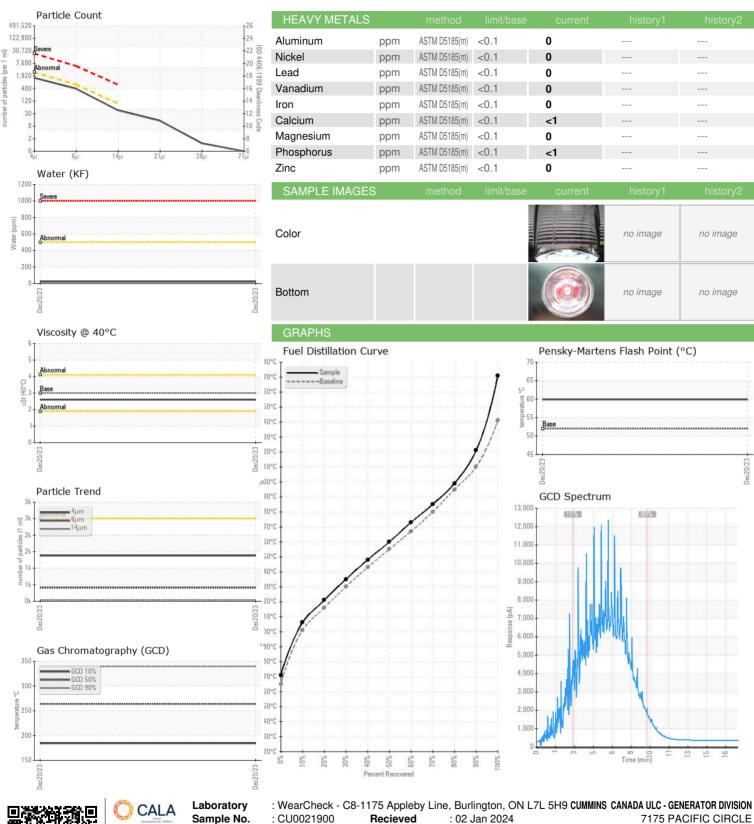
Fuel Condition

All laboratory tests indicate that this sample meets specifications for No.2 ultra-low-sulfur diesel fuel (US EPA/CGSB-3.517-3 type B).

Sample Number	R) (GAL)				Dec2023		
Sample Date Client Info 20 Dec 2023	SAMPLE INFORM	IATION	method	limit/base	current	history1	history2
Machine Age hrs Client Info 76 NORMAL NORMAL NORMAL NORMAL	Sample Number		Client Info		CU0021900		
Sample Satus	Sample Date		Client Info		20 Dec 2023		
PHYSICAL PROPERTIES method limit/base current history1 history1 history1 Fuel Color text Visual Screent Villow Red Press/Maters Flash Point °C ASTM D7279 52 59.9 Pensky-Maters Flash Point °C ASTM D7279 52 59.9	Machine Age	hrs	Client Info		76		
Specific Gravity	Sample Status				NORMAL		
Fuel Color text Visual Screen* Yillow Red Visc @ 40°C cSt ASTM D7279(m) 3.0 2.6 Pensky-Martens Flash Point °C ASTM D7279(m) 3.0 2.6 SULFUR CONTENT method limitubase current history1 history1 Sulfur ppm ASTM D6165(m) 10 7 DISTILLATION method limitubase current history1 history1 5% Distillation Point °C ASTM D2887* 165 171 10% Distill Point °C ASTM D2887* 196 10% Distill Point °C ASTM D2887* 201 206 10% Distill Point °C ASTM D2887* 216 221 20% Distill Point °C ASTM D2887* 230 235 50% Distill Point °C <th>PHYSICAL PROP</th> <th>ERTIES</th> <th>method</th> <th>limit/base</th> <th>current</th> <th>history1</th> <th>history2</th>	PHYSICAL PROP	ERTIES	method	limit/base	current	history1	history2
Visc @ 40°C CSt ASTM D7279(m) 3.0 2.6 Pensky-Martens Flash Point °C ASTM D7215¹ 52 59.9 SULFUR CONTENT method limit/base current history1 SULFUR CONTENT method limit/base current history1 DISTILLATION method limit/base current <t< th=""><td>Specific Gravity</td><td></td><td>ASTM D1298*</td><td>0.839</td><th>0.842</th><td></td><td></td></t<>	Specific Gravity		ASTM D1298*	0.839	0.842		
Pensky-Martens Flash Point °C ASTM D7215' 52 59.9	Fuel Color	text	Visual Screen*	Yllow	Red		
SULFUR CONTENT method limit/base current history1 history2 Sulfur ppm ASTM D588/m) 10 7 DISTILLATION method limit/base current history1 history1 Initial Boiling Point °C ASTM D2887* 165 171 10% Distill Point °C ASTM D2887* 201 206 15% Distill Point °C ASTM D2887* 214 20% Distill Point °C ASTM D2887* 220 235 40% Distill Point °C ASTM D2887* 243 248 50% Distill Point °C ASTM D2887* 280 285 70% Distill Point °C ASTM D2887* 280 285 85% Distillation Point °C ASTM D2887* 310 321	Visc @ 40°C	cSt	ASTM D7279(m)	3.0	2.6		
Sulfur ppm ASTM D5185(m) 10 7	Pensky-Martens Flash Point	°C	ASTM D7215*	52	59.9		
DISTILLATION	SULFUR CONTE	VΤ	method	limit/base	current	history1	history2
Initial Boiling Point	Sulfur	ppm	ASTM D5185(m)	10	7		
5% Distillation Point °C ASTM D2887* 196 10% Distill Point °C ASTM D2887* 201 206 15% Distillation Point °C ASTM D2887* 214 20% Distill Point °C ASTM D2887* 216 221 30% Distill Point °C ASTM D2887* 243 248 40% Distill Point °C ASTM D2887* 255 260 50% Distill Point °C ASTM D2887* 267 273 60% Distill Point °C ASTM D2887* 280 285 80% Distill Point °C ASTM D2887* 310 321 85% Distillation Point °C ASTM D2887* 310 321 95% Distillation Point °C ASTM D2887* 341 371	DISTILLATION		method	limit/base	current	history1	history2
10% Distill Point	Initial Boiling Point	°C	ASTM D2887*	165	171		
15% Distillation Point	5% Distillation Point	°C	ASTM D2887*		196		
20% Distill Point °C ASTM D2887* 216 221 30% Distill Point °C ASTM D2887* 230 235 40% Distill Point °C ASTM D2887* 243 248 50% Distill Point °C ASTM D2887* 255 260 60% Distill Point °C ASTM D2887* 280 285 70% Distill Point °C ASTM D2887* 295 299 85% Distillation Point °C ASTM D2887* 310 321 95% Distillation Point °C ASTM D2887* 340 95% Distillation Point °C ASTM D2887* 341 371 Final Boiling Point °C ASTM D2887* 341 371 4PI Gravity ASTM D1288* 37.7 36 <	10% Distill Point	°C	ASTM D2887*	201	206		
30% Distill Point	15% Distillation Point	°C	ASTM D2887*		214		
40% Distill Point	20% Distill Point	°C	ASTM D2887*	216	221		
50% Distill Point °C ASTM D2887* 255 260 60% Distill Point °C ASTM D2887* 267 273 70% Distill Point °C ASTM D2887* 280 285 80% Distill Point °C ASTM D2887* 310 90% Distill Point °C ASTM D2887* 310 321 95% Distillation Point °C ASTM D2887* 340 95% Distillation Point °C ASTM D2887* 341 371 Final Boiling Point °C ASTM D2887* 341 371 Final Boiling Point °C ASTM D2887* 341 371 Final Boiling Point °C ASTM D2887* 37.7 36 Final Boiling Point ASTM D4737* <40.0 48 Cetane I	30% Distill Point	°C	ASTM D2887*	230	235		
60% Distill Point °C ASTM D2887* 267 273 70% Distill Point °C ASTM D2887* 280 285 80% Distill Point °C ASTM D2887* 295 299 85% Distillation Point °C ASTM D2887* 310 321 90% Distill Point °C ASTM D2887* 340 95% Distillation Point °C ASTM D2887* 341 371 Final Boiling Point °C ASTM D2887* 341 371 IGNITION QUALITY method limit/base current history1 history1 API Gravity ASTM D4737* <40.0 48 Cetane Index ASTM D4737* <40.0 48 Silicon ppm ASTM D5185(m) <0.1 <1 Sodium ppm	40% Distill Point	°C	ASTM D2887*	243	248		
70% Distill Point °C ASTM D2887* 280 285 80% Distill Point °C ASTM D2887* 295 299 85% Distillation Point °C ASTM D2887* 310 321 90% Distill Point °C ASTM D2887* 310 321 95% Distillation Point °C ASTM D2887* 340 180 19	50% Distill Point	°C	ASTM D2887*	255	260		
80% Distill Point °C ASTM D2887* 295 299 85% Distillation Point °C ASTM D2887* 310 90% Distill Point °C ASTM D2887* 310 321 95% Distillation Point °C ASTM D2887* 340 Final Boiling Point °C ASTM D2887* 341 371 Final Boiling Point °C ASTM D2887* 341 371 IGNITION QUALITY method limit/base current history1 history1 API Gravity ASTM D5128* 37.7 36 Cetane Index ASTM D4737* <40.0 48 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185(m) <0.1 <1 Sodium ppm ASTM D5185(m) <0.1	60% Distill Point	°C	ASTM D2887*	267	273		
85% Distillation Point °C ASTM D2887* 310 90% Distill Point °C ASTM D2887* 310 321 95% Distillation Point °C ASTM D2887* 340 Final Boiling Point °C ASTM D2887* 341 371 IGNITION QUALITY method limit/base current history1 history1 API Gravity ASTM D1298* 37.7 36 Cetane Index ASTM D4737* <40.0 48 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185(m) <0.1 <1 Sodium ppm ASTM D5185(m) <0.1 <1 Potassium ppm ASTM D6304* <0.05 0.002 Water % ASTM D6304* <500 </th <td>70% Distill Point</td> <td>°C</td> <td>ASTM D2887*</td> <td>280</td> <th>285</th> <td></td> <td></td>	70% Distill Point	°C	ASTM D2887*	280	285		
90% Distill Point °C ASTM D2887* 310 321 95% Distillation Point °C ASTM D2887* 341 371 Final Boiling Point °C ASTM D2887* 341 371 IGNITION QUALITY method limit/base current history1 history: API Gravity ASTM D1298* 37.7 36 Cetane Index ASTM D4737* <40.0 48 CONTAMINANTS method limit/base current history1 history: Silicon ppm ASTM D5185(m) <1.0 0 Sodium ppm ASTM D5185(m) <0.1 <1 Potassium ppm ASTM D5185(m) <0.1 0 Water % ASTM D6304* <0.05 0.002 ppm Water ppm ASTM D6304* <500 22 FLUID CLEANLINESS method limit/base current history1 history: Particles >4µm ASTM D7647 >2500 1380 Particles >6µm ASTM D7647 >80 38 Particles >14µm ASTM D7647 >80 38 Particles >21µm ASTM D7647 >20 12	80% Distill Point	°C	ASTM D2887*	295	299		
95% Distillation Point °C ASTM D2887* 340 Final Boiling Point °C ASTM D2887* 341 371 IGNITION QUALITY method limit/base current history1 history2 API Gravity ASTM D1298* 37.7 36 Cetane Index ASTM D4737* <40.0 48 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185(m) <1.0 0 Sodium ppm ASTM D5185(m) <0.1 <1 Potassium ppm ASTM D5185(m) <0.1 0 Water % ASTM D6304* <0.05 0.002 ppm Water ppm ASTM D6304* <500 22 FLUID CLEANLINESS method limit/base current history1 history2 Particles >4μm ASTM D7647 >2500 1380 Particles >9μm ASTM D7647 >640 410 Particles >14μm ASTM D7647 >80 38 Particles >21μm ASTM D7647 >20 12	85% Distillation Point	°C	ASTM D2887*		310		
Final Boiling Point	90% Distill Point	°C	ASTM D2887*	310	321		
IGNITION QUALITY method limit/base current history1 history2	95% Distillation Point	°C	ASTM D2887*		340		
API Gravity ASTM D1298* 37.7 36 Cetane Index ASTM D4737* <40.0	Final Boiling Point	°C	ASTM D2887*	341	371		
Cetane Index ASTM D4737* <40.0	IGNITION QUALIT	Υ	method	limit/base	current	history1	history2
CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185(m) <1.0 0 Sodium ppm ASTM D5185(m) <0.1 <1 Potassium ppm ASTM D5185(m) <0.1 0 Water % ASTM D6304* <0.05 0.002 ppm Water ppm ASTM D6304* <500 22 FLUID CLEANLINESS method limit/base current history1 history1 Particles >4μm ASTM D7647 >2500 1380 Particles >6μm ASTM D7647 >640 410 Particles >21μm ASTM D7647 >20 12	API Gravity		ASTM D1298*	37.7	36		
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	Cetane Index		ASTM D4737*	<40.0	48		
Sodium ppm ASTM D5185(m) <0.1	CONTAMINANTS		method	limit/base	current	history1	history2
Potassium ppm ASTM D5185(m) <0.1	Silicon	ppm	ASTM D5185(m)	<1.0	0		
Water % ASTM D6304* <0.05	Sodium	ppm	ASTM D5185(m)	<0.1	<1		
ppm Water ppm ASTM D6304* <500	Potassium	ppm	ASTM D5185(m)	<0.1	0		
FLUID CLEANLINESS method limit/base current history1 history2 Particles >4μm ASTM D7647 >2500 1380 Particles >6μm ASTM D7647 >640 410 Particles >14μm ASTM D7647 >80 38 Particles >21μm ASTM D7647 >20 12	Water	%	ASTM D6304*	< 0.05	0.002		
Particles >4μm ASTM D7647 >2500 1380 Particles >6μm ASTM D7647 >640 410 Particles >14μm ASTM D7647 >80 38 Particles >21μm ASTM D7647 >20 12	ppm Water	ppm	ASTM D6304*	<500	22		
Particles >6μm ASTM D7647 >640 410 Particles >14μm ASTM D7647 >80 38 Particles >21μm ASTM D7647 >20 12	FLUID CLEANLIN	ESS	method	limit/base	current	history1	history2
Particles >14μm ASTM D7647 >80 38 Particles >21μm ASTM D7647 >20 12	Particles >4µm		ASTM D7647	>2500	1380		
Particles >21 µm	Particles >6µm		ASTM D7647	>640	410		
	Particles >14µm		ASTM D7647	>80	38		
Particles >38μm ASTM D7647 >4 1	Particles >21µm		ASTM D7647	>20	12		
	Particles >38µm		ASTM D7647	>4	1		
Particles >71μm ASTM D7647 >3 0	Particles >71µm		ASTM D7647	>3	0		
Oil Cleanliness ISO 4406 (c) >18/16/13 18/16/12	Oil Cleanliness		ISO 4406 (c)	>18/16/13	18/16/12		



FUEL REPORT





CALA ISO 17025:2017 Accredited

Laboratory

Sample No. Lab Number **Unique Number**

: CU0021900

: 5707213

: 02606127

Recieved Diagnosed

: 04 Jan 2024

Diagnostician : Kevin Marson

Test Package : FUEL (Additional Tests: CC Flash, GC-PercFuel, PrtCount) To discuss this sample report, contact Customer Service at 1-800-268-2131. Test denoted (*) outside scope of accreditation, (m) method modified, (e) tested at external lab.

T: (905)795-0050 Validity of results and interpretation are based on the sample and information as supplied. F: (905)795-9252

MISSISSAUGA, ON

Contact: Elisia Johnson

elisia.johnson@cummins.com

CA L5T 2A5