

OIL ANALYSIS REPORT

[41113006] 7483

Component **Diesel Engine**

DIESEL ENGINE OIL SAE 10W30 (--- GAL)

Sample Rating Trend



Recommendation

No corrective action is recommended at this time. Resample at the next service interval to monitor.

All component wear rates are normal.

Contamination

Fuel content negligible. Elevated aluminum (Al) and/or lead (Pb) and potassium (K) levels in your metals analysis are likely a result of solder flux release into the lubricant and is common on new equipment/components. There is no indication of any contamination in the oil.

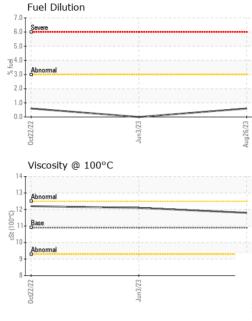
Fluid Condition

The condition of the oil is acceptable for the time in service.

		Oct	2022	Jun2023 Aug20	23	
SAMPLE INFORM	MATION	method	limit/base	current	history1	history2
Sample Number		Client Info		WC0853319	WC0796317	WC0738034
Sample Date		Client Info		26 Aug 2023	03 Jun 2023	22 Oct 2022
Machine Age	kms	Client Info		125416	100866	54542
Oil Age	kms	Client Info		0	0	0
Oil Changed		Client Info		Not Changd	Changed	Changed
Sample Status				NORMAL	NORMAL	NORMAL
CONTAMINATION	1	method	limit/base	current	history1	history2
Glycol		WC Method		NEG	NEG	NEG
WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185(m)	>130	16	44	76
Chromium	ppm	ASTM D5185(m)	>10	<1	3	4
Nickel	ppm	ASTM D5185(m)	>4	<1	<1	<1
Titanium	ppm	ASTM D5185(m)	>2	<1	<1	<1
Silver	ppm	ASTM D5185(m)	>2	0	0	0
Aluminum	ppm	ASTM D5185(m)	>20	9	11	28
Lead	ppm	ASTM D5185(m)	>20	<1	2	5
Copper	ppm	ASTM D5185(m)	>125	12	43	113
Tin	ppm	ASTM D5185(m)	>4	0	<1	1
Antimony	ppm	ASTM D5185(m)		0	0	0
Vanadium	ppm	ASTM D5185(m)		0	0	0
Beryllium	ppm	ASTM D5185(m)		0	0	0
Cadmium	ppm	ASTM D5185(m)		0	0	0
ADDITIVES		method	limit/base	current	history1	history2
ADDITIVES Boron	ppm	method ASTM D5185(m)	limit/base	current 40	history1	history2 23
	ppm				•	•
Boron		ASTM D5185(m)	250	40	21	23
Boron Barium	ppm	ASTM D5185(m) ASTM D5185(m)	250 10	40 0	21 <1	23 <1
Boron Barium Molybdenum	ppm ppm	ASTM D5185(m) ASTM D5185(m) ASTM D5185(m)	250 10	40 0 2	21 <1 10	23 <1 60
Boron Barium Molybdenum Manganese	ppm ppm	ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m)	250 10 100	40 0 2 <1	21 <1 10	23 <1 60 4
Boron Barium Molybdenum Manganese Magnesium	ppm ppm ppm	ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m)	250 10 100 450	40 0 2 <1 739	21 <1 10 1 738	23 <1 60 4 474
Boron Barium Molybdenum Manganese Magnesium Calcium	ppm ppm ppm ppm	ASTM D5185(m)	250 10 100 450 3000	40 0 2 <1 739 1341	21 <1 10 1 738 1427	23 <1 60 4 474 1879
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus	ppm ppm ppm ppm ppm	ASTM D5185(m)	250 10 100 450 3000 1150	40 0 2 <1 739 1341 735 787 2523	21 <1 10 1 738 1427 779	23 <1 60 4 474 1879 1093
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc	ppm ppm ppm ppm ppm ppm	ASTM D5185(m)	250 10 100 450 3000 1150	40 0 2 <1 739 1341 735 787	21 <1 10 1 738 1427 779 842	23 <1 60 4 474 1879 1093 1250
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur	ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185(m)	250 10 100 450 3000 1150	40 0 2 <1 739 1341 735 787 2523	21 <1 10 1 738 1427 779 842 2435	23 <1 60 4 474 1879 1093 1250 2584
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium	ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185(m)	250 10 100 450 3000 1150 1350 4250	40 0 2 <1 739 1341 735 787 2523 <1	21 <1 10 1 738 1427 779 842 2435 <1	23 <1 60 4 474 1879 1093 1250 2584 <1
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium CONTAMINANTS	ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185(m)	250 10 100 450 3000 1150 1350 4250	40 0 2 <1 739 1341 735 787 2523 <1	21 <1 10 1 738 1427 779 842 2435 <1 history1	23 <1 60 4 474 1879 1093 1250 2584 <1 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium CONTAMINANTS	ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185(m)	250 10 100 450 3000 1150 1350 4250	40 0 2 <1 739 1341 735 787 2523 <1 current	21 <1 10 1 738 1427 779 842 2435 <1 history1	23 <1 60 4 474 1879 1093 1250 2584 <1 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium CONTAMINANTS Silicon Sodium	ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185(m)	250 10 100 450 3000 1150 1350 4250 limit/base	40 0 2 <1 739 1341 735 787 2523 <1 current 6 3	21 <1 10 1 738 1427 779 842 2435 <1 history1 10 4	23 <1 60 4 474 1879 1093 1250 2584 <1 history2 14 5
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium CONTAMINANTS Silicon Sodium Potassium	ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185(m)	250 10 100 450 3000 1150 1350 4250 limit/base >25 >20	40 0 2 <1 739 1341 735 787 2523 <1 current 6 3 27	21	23 <1 60 4 474 1879 1093 1250 2584 <1 history2 14 5 91
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium CONTAMINANTS Silicon Sodium Potassium Fuel	ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185(m)	250 10 100 450 3000 1150 1350 4250 limit/base >25 >20 >3.0	40 0 2 <1 739 1341 735 787 2523 <1 current 6 3 27 0.6	21 <1 10 1 738 1427 779 842 2435 <1 history1 10 4 28 <1.0	23 <1 60 4 474 1879 1093 1250 2584 <1 history2 14 5 91 0.6
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium CONTAMINANTS Silicon Sodium Potassium Fuel INFRA-RED	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185(m)	250 10 100 450 3000 1150 1350 4250 limit/base >25 >20 >3.0 limit/base	40 0 2 <1 739 1341 735 787 2523 <1 current 6 3 27 0.6 current	21 <1 10 1 738 1427 779 842 2435 <1 history1 10 4 28 <1.0 history1	23 <1 60 4 474 1879 1093 1250 2584 <1 history2 14 5 91 0.6 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium CONTAMINANTS Silicon Sodium Potassium Fuel INFRA-RED Soot %	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185(m) ASTM D7593* method ASTM D7844*	250 10 100 450 3000 1150 1350 4250 limit/base >25 >20 >3.0 limit/base >6	40 0 2 <1 739 1341 735 787 2523 <1 current 6 3 27 0.6 current 1.4	21 <1 10 1 738 1427 779 842 2435 <1 history1 10 4 28 <1.0 history1 3.1	23 <1 60 4 474 1879 1093 1250 2584 <1 history2 14 5 91 0.6 history2 2.4
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium CONTAMINANTS Silicon Sodium Potassium Fuel INFRA-RED Soot % Nitration	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185(m) ASTM D7844* ASTM D7624*	250 10 100 450 3000 1150 1350 4250 limit/base >25 >20 >3.0 limit/base >6 >20	40 0 2 <1 739 1341 735 787 2523 <1 current 6 3 27 0.6 current 1.4 9.7	21 <1 10 1 738 1427 779 842 2435 <1 history1 10 4 28 <1.0 history1 3.1 12.0	23 <1 60 4 474 1879 1093 1250 2584 <1 history2 14 5 91 0.6 history2 2.4 11.4



OIL ANALYSIS REPORT



VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	Visual*	NONE	VLITE		
Yellow Metal	scalar	Visual*	NONE	NONE		
Precipitate	scalar	Visual*	NONE	NONE		
Silt	scalar	Visual*	NONE	NONE		
Debris	scalar	Visual*	NONE	NONE		
Sand/Dirt	scalar	Visual*	NONE	NONE		
Appearance	scalar	Visual*	NORML	NORML		
Odor	scalar	Visual*	NORML	NORML	NORML	NORML
Emulsified Water	scalar	Visual*	>0.2	NEG	NEG	NEG
Free Water	scalar	Visual*		NEG	NEG	NEG
FLUID PROPERT	IES	method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D7279(m)	10.9	11.8	12.1	12.2
ODABUO						

Visc @ 100°C	cSt	ASIM D/2/9(m) 10.9	11.8	12.1	12.2
GRAPHS					
Iron (ppm)			Lead (ppm)	
250 Severe			Severe	1	
			E 30		
Abnormal			Abnormal		
50			10		
2/22	Jun3/23 -	6/23	2/22	Jun3/23 —	- 67/3
0ct22/22	July	Aug26/23	0ct22/22	Jun	Aug26/23
Aluminum (ppm	n)		Chromium	(ppm)	
30 Severe			Severe		
Abnormal	!		Abnormal		
10			Abnormal		
0			5		
0ct22/22	Jun3/23 -	Aug26/23	0ct22/22	Jun3/23 +	Aug26/23 -
	Ju	Aug2			Augž
Copper (ppm)			Silicon (ppi	n) 	
250 - Severe			50 Severe		
200 - Abnormal			40 - Abnormal		
100			20		
50			10		
0ct22/22	Jun3/23	Aug26/23	Oct22/22	Jun3/23	Aug26/23 -
		Aug		7	Aug
Viscosity @ 100			Soot %		
Abnormal			6.0 Abnormal		
Signature Base Base Abnormal			6° 4.0		
Auttoittiai			2.0		
9 9 9 9 9 9 9 9 9 9			0.0		
ct22/22	Jun3/23	mg26/23	ct22/22	Jun3/23	.ug26/23 ·
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CALA ISO 17025:2017 Accredited Laboratory

Laboratory Sample No.

Lab Number Unique Number : 5632309

: WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9 : WC0853319 : 02579249

Received

: 30 Aug 2023 Diagnosed : 30 Aug 2023 Diagnostician : Wes Davis

Test Package : MOB 1 (Additional Tests: FuelDilution, PercentFuel, Visual)

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. Validity of results and interpretation are based on the sample and information as supplied.

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