

OIL ANALYSIS REPORT

Area [1495014] 2367

Component **Natural Gas Engine**

DIESEL ENGINE OIL SAE 15W40 (--- GAL)

Sample Rating Trend



Recommendation

Resample at the next service interval to monitor. Please specify the component make and model with your next sample.

Metal levels are typical for a new component breaking in.

Contamination

There is no indication of any contamination in the

Fluid Condition

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

			Nov2023	Dec2023		
SAMPLE INFORM	MATION	method	limit/base	current	history1	history2
		Client Info		WC0878179	WC0877904	
Sample Number Sample Date		Client Info		18 Dec 2023	02 Nov 2023	
Machine Age	kms	Client Info		18043	10246	
Oil Age	kms	Client Info		0	0	
Oil Changed	KIIIS	Client Info		N/A	N/A	
Sample Status		Oliciti IIIIo		NORMAL	NORMAL	
		.1	11 11 11			
CONTAMINATION	V	method	limit/base	current	history1	history2
Water		WC Method	>0.1	NEG	NEG	
WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185(m)	>50	13	31	
Chromium	ppm	ASTM D5185(m)	>4	<1	<1	
Nickel	ppm	ASTM D5185(m)	>2	<1	<1	
Titanium	ppm	ASTM D5185(m)		0	0	
Silver	ppm	ASTM D5185(m)	>3	0	<1	
Aluminum	ppm	ASTM D5185(m)	>9	2	3	
Lead	ppm	ASTM D5185(m)	>30	<1	1	
Copper	ppm	ASTM D5185(m)	>35	3	15	
Tin	ppm	ASTM D5185(m)	>4	<1	<1	
Antimony	ppm	ASTM D5185(m)		0	0	
Vanadium	ppm	ASTM D5185(m)		0	0	
Beryllium	ppm	ASTM D5185(m)		0	0	
Cadmium	ppm	ASTM D5185(m)		0	0	
ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185(m)	250	11	19	
Boron Barium	ppm	ASTM D5185(m) ASTM D5185(m)	250 10	11 0	19 2	
		. ,				
Barium	ppm	ASTM D5185(m)	10	0	2	
Barium Molybdenum	ppm ppm	ASTM D5185(m) ASTM D5185(m)	10	0 55	2 87	
Barium Molybdenum Manganese	ppm ppm ppm	ASTM D5185(m) ASTM D5185(m) ASTM D5185(m)	100	0 55 1	2 87 10	
Barium Molybdenum Manganese Magnesium	ppm ppm ppm	ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m)	10 100 450	0 55 1 747	2 87 10 564	
Barium Molybdenum Manganese Magnesium Calcium	ppm ppm ppm ppm	ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m)	10 100 450 3000	0 55 1 747 1177	2 87 10 564 1124	
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur	ppm ppm ppm ppm ppm ppm	ASTM D5185(m)	10 100 450 3000 1150 1350 4250	0 55 1 747 1177 658	2 87 10 564 1124 553	
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc	ppm ppm ppm ppm ppm ppm	ASTM D5185(m)	10 100 450 3000 1150 1350 4250	0 55 1 747 1177 658 803	2 87 10 564 1124 553 614	
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur	ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185(m)	10 100 450 3000 1150 1350 4250	0 55 1 747 1177 658 803 1976	2 87 10 564 1124 553 614 1835	
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium	ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185(m)	10 100 450 3000 1150 1350 4250	0 55 1 747 1177 658 803 1976	2 87 10 564 1124 553 614 1835 <1	
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium	ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185(m)	10 100 450 3000 1150 1350 4250	0 55 1 747 1177 658 803 1976 <1	2 87 10 564 1124 553 614 1835 <1	 history2
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium CONTAMINANTS	ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185(m)	10 100 450 3000 1150 1350 4250	0 55 1 747 1177 658 803 1976 <1	2 87 10 564 1124 553 614 1835 <1 history1	 history2
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium CONTAMINANTS Silicon Sodium	ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185(m)	10 100 450 3000 1150 1350 4250 limit/base >+100 >158	0 55 1 747 1177 658 803 1976 <1 current	2 87 10 564 1124 553 614 1835 <1 history1 33	history2
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)	10 100 450 3000 1150 1350 4250 limit/base >+100 >158 >20	0 55 1 747 1177 658 803 1976 <1 current 9 2 <1	2 87 10 564 1124 553 614 1835 <1 history1 33 3	history2
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium CONTAMINANTS Silicon Sodium Potassium INFRA-RED	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185(m) method ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m)	10 100 450 3000 1150 1350 4250 limit/base >+100 >158 >20	0 55 1 747 1177 658 803 1976 <1 current 9 2 <1 current	2 87 10 564 1124 553 614 1835 <1 history1 33 3 <1	history2
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium CONTAMINANTS Silicon Sodium Potassium INFRA-RED Soot %	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185(m)	10 100 450 3000 1150 1350 4250 limit/base >+100 >158 >20	0 55 1 747 1177 658 803 1976 <1 current 9 2 <1	2 87 10 564 1124 553 614 1835 <1 history1 33 3 <1	history2 history2
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium CONTAMINANTS Silicon Sodium Potassium INFRA-RED Soot % Nitration Sulfation	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185(m) METHOD ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D7844* ASTM D7624* ASTM D7624*	10 100 450 3000 1150 1350 4250 limit/base >+100 >158 >20 limit/base	0 55 1 747 1177 658 803 1976 <1 current 9 2 <1 current 0 12.2 22.7	2 87 10 564 1124 553 614 1835 <1 history1 33 3 <1 history1 0 7.6 20.6	history2 history2
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium CONTAMINANTS Silicon Sodium Potassium INFRA-RED Soot % Nitration	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185(m) METHOD ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D7844* ASTM D7624*	10 100 450 3000 1150 1350 4250 limit/base >+100 >158 >20 limit/base	0 55 1 747 1177 658 803 1976 <1 current 9 2 <1 current 0 12.2	2 87 10 564 1124 553 614 1835 <1 history1 33 3 <1 history1 0 7.6	history2 history2



OIL ANALYSIS REPORT





CALA ISO 17025:2017 Accredited Laboratory

Laboratory Sample No. Lab Number Unique Number

St (10

13

: WC0878179 : 02604584

Copper (ppm)

Viscosity @ 100°C

70 60

: WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9 Recieved Diagnosed : 5697669

: 21 Dec 2023 : 21 Dec 2023 Diagnostician : Kevin Marson Test Package : MOB 1 (Additional Tests: FT-IR(Diff))

CITY OF HAMILTON 2200 UPPER JAMES,, MOUNTAIN TRANSIT STOREROOM MOUNT HOPE, ON CA LOR 1W0

Silicon (ppm)

Additives

150

800

700 600 500

> Contact: Ron Skinner ron.skinner@hamilton.ca T:

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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