

OIL ANALYSIS REPORT

Sample Rating Trend



Machine Id **2212** Component **Natural Gas Engine** Fluid **DIESEL ENGINE OIL SAE 15W40 (--- GAL)**

DIAGNOSIS

Recommendation

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

Wear

All component wear rates are normal.

Contamination

There is no indication of any contamination in the oil.

Fluid Condition

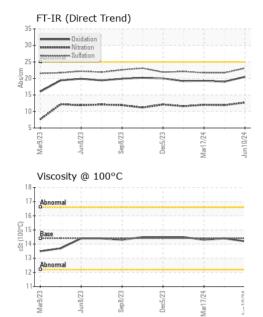
The condition of the oil is acceptable for the time in service.

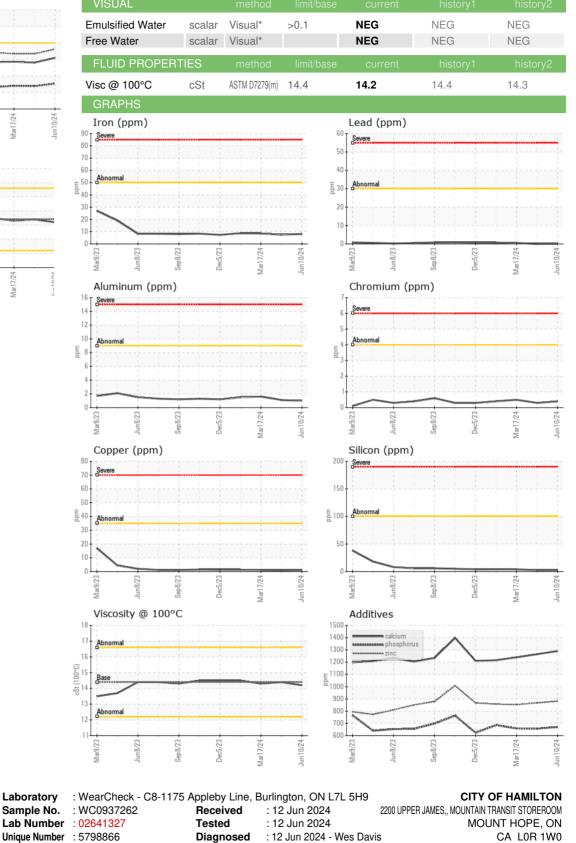
SAMPLE INFORM	IATION	method	limit/base	current	history1	history2
Sample Number		Client Info		WC0937262	WC0917433	WC0917396
Sample Date		Client Info		10 Jun 2024	22 Apr 2024	17 Mar 2024
Machine Age	kms	Client Info		0	83023	0
Oil Age	kms	Client Info		0	0	0
Oil Changed		Client Info		N/A	N/A	N/A
Sample Status				NORMAL	NORMAL	NORMAL
CONTAMINATIO	N	method	limit/base	current	history1	history2
Water		WC Method	>0.1	NEG	NEG	NEG
WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185(m)	>50	8	8	8
Chromium	ppm	ASTM D5185(m)	>4	<1	<1	<1
Nickel	ppm	ASTM D5185(m)	>2	<1	<1	<1
Titanium	ppm	ASTM D5185(m)		0	0	0
Silver	ppm	ASTM D5185(m)	>3	0	0	0
Aluminum	ppm	ASTM D5185(m)	>9	1	1	2
Lead	ppm	ASTM D5185(m)	>30	0	0	<1
Copper	ppm	ASTM D5185(m)	>35	1	1	1
Tin	ppm	ASTM D5185(m)	>4	0	0	<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 250	11	15	14
	ppm ppm					
Boron		ASTM D5185(m)	250	11	15 0 55	14 0 54
Boron Barium	ppm	ASTM D5185(m) ASTM D5185(m)	250 10	11 0	15 0	14 0
Boron Barium Molybdenum Manganese Magnesium	ppm ppm	ASTM D5185(m) ASTM D5185(m) ASTM D5185(m)	250 10	11 0 56 <1 853	15 0 55 <1 813	14 0 54 0 779
Boron Barium Molybdenum Manganese Magnesium Calcium	ppm ppm ppm	ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m)	250 10 100 450	11 0 56 <1 853 1290	15 0 55 <1 813 1265	14 0 54 0 779 1239
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus	ppm ppm ppm ppm ppm ppm	ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m)	250 10 100 450 3000 1150	11 0 56 <1 853 1290 670	15 0 55 <1 813 1265 657	14 0 54 0 779 1239 659
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc	ppm ppm ppm ppm ppm	ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m)	250 10 100 450 3000 1150 1350	11 0 56 <1 853 1290 670 881	15 0 55 <1 813 1265 657 867	14 0 54 0 779 1239 659 853
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur	ppm ppm ppm ppm ppm ppm	ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m)	250 10 100 450 3000 1150	11 0 56 <1 853 1290 670 881 1938	15 0 55 <1 813 1265 657 867 1959	14 0 54 0 779 1239 659 853 2095
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc	ppm ppm ppm ppm ppm ppm	ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m)	250 10 100 450 3000 1150 1350	11 0 56 <1 853 1290 670 881	15 0 55 <1 813 1265 657 867	14 0 54 0 779 1239 659 853
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium CONTAMINANTS	ppm ppm ppm ppm ppm ppm ppm ppm	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)	250 10 100 450 3000 1150 1350 4250 iimit/base	11 0 56 <1 853 1290 670 881 1938 <1 20 20 20 20 20 20 20 20 20 20 20 20 20	15 0 55 <1 813 1265 657 867 1959 <1 history1	14 0 54 0 779 1239 659 853 2095 <1 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium CONTAMINANTS Silicon	ppm ppm ppm ppm ppm ppm ppm ppm ppm	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 D5185(m)	250 10 100 450 3000 1150 1350 4250 limit/base >+100	11 0 56 <1 853 1290 670 881 1938 <1 2 current 3	15 0 55 <1 813 1265 657 867 1959 <1 history1 3	14 0 54 0 779 1239 659 853 2095 <1 history2 4
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) ASTM D5185(m)	250 10 100 450 3000 1150 1350 4250 4250 imit/base >+100 >158	11 0 56 <1 853 1290 670 881 1938 <1 Current 3 2	15 0 55 <1 813 1265 657 867 1959 <1 +istory1 3 2	14 0 54 0 779 1239 659 853 2095 <1 history2 4 3
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) ASTM D5185(m)	250 10 100 450 3000 1150 1350 4250 imit/base >+100 >158 >20	11 0 56 <1 853 1290 670 881 1938 <1 20 570 881 1938 3	15 0 55 <1 813 1265 657 867 1959 <1 history1 3	14 0 54 0 779 1239 659 853 2095 <1 history2 4
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) ASTM D5185(m)	250 10 100 450 3000 1150 1350 4250 4250 imit/base >+100 >158	11 0 56 <1 853 1290 670 881 1938 <1 Current 3 2	15 0 55 <1 813 1265 657 867 1959 <1 history1 3 2 0 history1	14 0 54 0 779 1239 659 853 2095 <1 history2 4 3 <1 history2
Boron 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) ASTM D5185(m)	250 10 100 450 3000 1150 1350 4250 imit/base >+100 >158 >20	11 0 56 <1 853 1290 670 881 1938 <1 0 current 3 2 0 0 current	15 0 55 <1 813 1265 657 867 1959 <1 history1 3 2 0 history1 0	14 0 54 0 779 1239 659 853 2095 <1 history2 4 3 <1 history2 0
Boron 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	ASTM D5185(m) ASTM D5185(m)	250 10 100 450 3000 1150 1350 4250 imit/base >+100 >158 >20	11 0 56 <1 853 1290 670 881 1938 <1 0 current 3 2 0 0 current 0 12.7	15 0 55 <1 813 1265 657 867 1959 <1 history1 3 2 0 history1 0 11.9	14 0 54 0 779 1239 659 853 2095 <1 history2 4 3 <1 history2 0 12.0
Boron 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) ASTM D5185(m)	250 10 100 450 3000 1150 1350 4250 Imit/base >+100 >158 >20 Imit/base	11 0 56 <1 853 1290 670 881 1938 <1 0 current 3 2 0 0 current	15 0 55 <1 813 1265 657 867 1959 <1 history1 3 2 0 history1 0	14 0 54 0 779 1239 659 853 2095 <1 history2 4 3 <1 history2 0
Boron 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) ASTM D5185(m)	250 10 100 450 3000 1150 1350 4250 Jimit/base >+100 >158 >20 Jimit/base	11 0 56 <1 853 1290 670 881 1938 <1 0 current 3 2 0 0 current 0 12.7	15 0 55 <1 813 1265 657 867 1959 <1 history1 3 2 0 history1 0 11.9	14 0 54 0 779 1239 659 853 2095 <1 history2 4 3 <1 history2 0 12.0

Contact/Location: Cliff Bird - HAMHAM Page 1 of 2



OIL ANALYSIS REPORT





Test Package : MOB 1 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.

Report Id: HAMHAM [WCAMIS] 02641327 (Generated: 06/12/2024 14:48:21) Rev: 1

CALA

ISO 17025:2017 Accredited Laboratory

Laboratory

Sample No.

Contact/Location: Cliff Bird - HAMHAM

Page 2 of 2

T:

Contact: Cliff Bird

F: (905)679-4502

cliff.bird@hamilton.ca