

OIL ANALYSIS REPORT

Sample Rating Trend



Machine Id 2217

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

Metal levels are typical for a new component breaking in.

Contamination

There is no indication of any contamination in the oil.

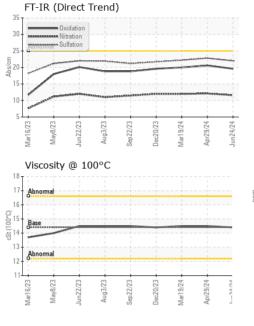
Fluid Condition

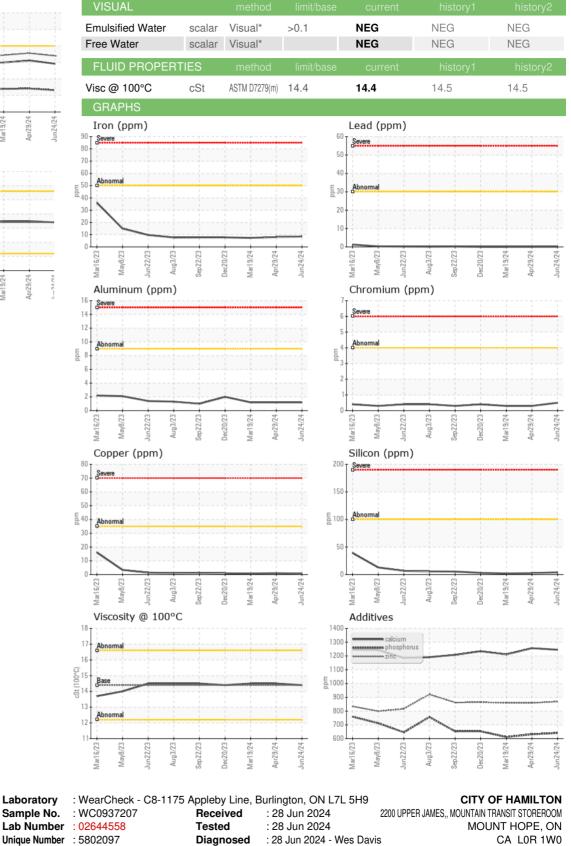
The condition of the oil is acceptable for the time in service.

SAMPLE INFORM	1ATION	method	limit/base	current	history1	history2
Sample Number		Client Info		WC0937207	WC0917555	WC0917598
Sample Date		Client Info		24 Jun 2024	29 Apr 2024	19 Mar 2024
Machine Age	kms	Client Info		96336	85694	76487
Oil Age	kms	Client Info		0	0	0
Oil Changed		Client Info		N/A	N/A	Changed
Sample Status				NORMAL	NORMAL	NORMAL
CONTAMINATION	١	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	7
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	1
Lead	ppm	ASTM D5185(m)	>30	0	0	0
Copper	ppm	ASTM D5185(m)	>35	<1	1	<1
Tin	ppm	ASTM D5185(m)	>4	0	0	0
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
Boron	ppm	method ASTM D5185(m)	limit/base 250	current 13	history1 10	history2 11
	ppm ppm		250			
Boron		ASTM D5185(m)	250	13	10	11
Boron Barium	ppm	ASTM D5185(m) ASTM D5185(m)	250 10	13 0	10 0	11 0
Boron Barium Molybdenum	ppm ppm	ASTM D5185(m) ASTM D5185(m) ASTM D5185(m)	250 10	13 0 53	10 0 55	11 0 53
Boron Barium Molybdenum Manganese	ppm ppm ppm	ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m)	250 10 100 450	13 0 53 <1	10 0 55 <1	11 0 53 0
Boron Barium Molybdenum Manganese Magnesium	ppm ppm ppm ppm	ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m)	250 10 100 450	13 0 53 <1 822	10 0 55 <1 832	11 0 53 0 800
Boron Barium Molybdenum Manganese Magnesium Calcium	ppm 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 3000	13 0 53 <1 822 1245	10 0 55 <1 832 1256	11 0 53 0 800 1211
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	13 0 53 <1 822 1245 641	10 0 55 <1 832 1256 632	11 0 53 0 800 1211 612
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	13 0 53 <1 822 1245 641 869	10 0 55 <1 832 1256 632 859	11 0 53 0 800 1211 612 860
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur	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	13 0 53 <1 822 1245 641 869 1935	10 0 55 <1 832 1256 632 859 1898	11 0 53 0 800 1211 612 860 1911
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium	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	13 0 53 <1 822 1245 641 869 1935 <1	10 0 55 <1 832 1256 632 859 1898 <1	11 0 53 0 800 1211 612 860 1911 <1
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) ASTM D5185(m)	250 10 100 450 3000 1150 1350 4250 limit/base >+100	13 0 53 <1 822 1245 641 869 1935 <1 vurrent	10 0 55 <1 832 1256 632 859 1898 <1 *1 history1	11 0 53 0 800 1211 612 860 1911 <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)	250 10 100 450 3000 1150 1350 4250 limit/base >+100	13 0 53 <1 822 1245 641 869 1935 <1 <i>current</i>	10 0 55 <1 832 1256 632 859 1898 <1 859 1898 <1 859	11 0 53 0 800 1211 612 860 1911 <1 history2 2
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 Iimit/base >+100 >158	13 0 53 <1 822 1245 641 869 1935 <1 Current 4 4	10 0 55 <1 832 1256 632 859 1898 <1 859 1898 <1 history1 3 2	11 0 53 0 800 1211 612 860 1911 <1 ×1 history2 2 2 2
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 k k k k k k k k k k	13 0 53 <1 822 1245 641 869 1935 <1 current 4 4 4 4	10 0 55 <1 832 1256 632 859 1898 <1 history1 3 2 <1	11 0 53 0 800 1211 612 860 1911 <1 history2 2 2 2 2 <1
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium CONTAMINANTS Silicon Sodium Potassium INFRA-RED	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	13 0 53 <1 822 1245 641 869 1935 <1 current 4 4 4 <1 current	10 0 55 <1 832 1256 632 859 1898 <1 1898 <1 history1 3 2 <1 history1	11 0 53 0 800 1211 612 860 1911 <1 * history2 2 2 2 <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 ppm	ASTM D5185(m) ASTM D5185(m)	250 10 100 450 3000 1150 1350 4250 imit/base >+100 >158 >20 imit/base	13 0 53 <1 822 1245 641 869 1935 <1 <i>current</i> 4 4 4 <1 <i>current</i> 0	10 0 55 <1 832 1256 632 859 1898 <1 history1 3 2 <1 history1 0	11 0 53 0 800 1211 612 860 1911 <1 * history2 2 2 2 2 <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 Imit/base >+100 >158 >20 Imit/base	13 0 53 <1 822 1245 641 869 1935 <1 <i>current</i> 4 4 4 <1 <i>current</i> 0 11.6	10 0 55 <1 832 1256 632 859 1898 <1 history1 3 2 <1 history1 0 12.1	11 0 53 0 800 1211 612 860 1911 <1 history2 2 2 2 2 2 1 history2 0 12.0
Boron 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) ASTM D7844* ASTM D7624*	250 10 100 450 3000 1150 1350 4250 imit/base >+100 >158 >20 imit/base >20	13 0 53 <1 822 1245 641 869 1935 <1 <i>current</i> 4 4 4 4 <1 <i>current</i> 0 11.6 22.0	10 0 55 <1 832 1256 632 859 1898 <1 history1 3 2 <1 history1 0 12.1 22.8	11 0 53 0 800 1211 612 860 1911 <1 history2 2 2 2 2 <1 history2 0 12.0 22.2



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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] 02644558 (Generated: 06/28/2024 13:34:51) Rev: 1

Laboratory

Sample No.

Test Package : MOB 1

Contact/Location: Cliff Bird - HAMHAM

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T:

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