

OIL ANALYSIS REPORT





DETROIT T0237

Component Diesel Engine Fluid DIESEL ENGINE OIL SAE 15W40 (35 LTR)

DIAGNOSIS

Recommendation

We advise that you check the fuel injection system. We recommend that you drain the oil from the component if this has not already been done. We recommend an early resample to monitor this condition.

Wear

Metal levels are typical for a new component breaking in.

Contamination

There is a high amount of fuel present in the oil. Tests confirm the presence of fuel in the oil.

Fluid Condition

Fuel is present in the oil and is lowering the viscosity. The oil is no longer serviceable due to the presence of contaminants.

SAMPLE INFORM	IATION	method	limit/base	current	history1	history2
Sample Number		Client Info		WC0764057	WC0582080	WC0442718
Sample Date		Client Info		13 Jul 2023	12 Jul 2021	20 Jul 2020
Machine Age	hrs	Client Info		759	679	637
Oil Age	hrs	Client Info		33	89	48
Oil Changed		Client Info		Not Changd	Not Changd	Not Changd
Sample Status				SEVERE	NORMAL	NORMAL
CONTAMINATION	J	method	limit/base	current	historv1	historv2
Glycol		WC Method		NEG	NEG	NEG
WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185(m)	>200	2	2	1
Chromium	ppm	ASTM D5185(m)	>10	0	0	0
Nickel	ppm	ASTM D5185(m)	>4	0	0	<1
Titanium	ppm	ASTM D5185(m)	>2	0	0	0
Silver	ppm	ASTM D5185(m)	>2	0	<1	0
Aluminum	ppm	ASTM D5185(m)	>30	<1	<1	<1
Lead	ppm	ASTM D5185(m)	>30	0	<1	0
Copper	ppm	ASTM D5185(m)	>30	<1	1	<1
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 5	history1 10	history2 13
ADDITIVES Boron Barium	ppm ppm	method ASTM D5185(m) ASTM D5185(m)	limit/base 250 10	current 5 0	history1 10 0	history2 13 0
ADDITIVES Boron Barium Molybdenum	ppm ppm ppm	method ASTM D5185(m) ASTM D5185(m) ASTM D5185(m)	limit/base 250 10 100	current 5 0 3	history1 10 0 40	history2 13 0 48
ADDITIVES Boron Barium Molybdenum Manganese	ppm ppm ppm ppm	method ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m)	limit/base 250 10 100	current 5 0 3 0	history1 10 0 40 <1	history2 13 0 48 <1
ADDITIVES Boron Barium Molybdenum Manganese Magnesium	ppm ppm ppm ppm ppm	method ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m)	limit/base 250 10 100 450	current 5 0 3 0 41	history1 10 0 40 <1 660	history2 13 0 48 <1 838
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium	ppm ppm ppm ppm ppm	method ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m)	limit/base 250 10 100 450 3000	Current 5 0 3 0 41 2044	history1 10 0 40 <1 660 1046	history2 13 0 48 <1 838 1008
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus	ppm ppm ppm ppm ppm ppm	method ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m)	limit/base 250 10 100 450 3000 1150	Current 5 0 3 0 41 2044 879	history1 10 0 40 <1 660 1046 874	history2 13 0 48 <1 838 1008 961
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc	ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m)	limit/base 250 10 100 450 3000 1150 1350	Current 5 0 3 0 41 2044 879 929	history1 10 0 40 <1 660 1046 874 956	history2 13 0 48 <1 838 1008 961 1101
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur	ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m)	limit/base 250 10 100 450 3000 1150 1350 4250	current 5 0 3 0 41 2044 879 929 2933	history1 10 0 40 <1 660 1046 874 956 2978	history2 13 0 48 <1 838 1008 961 1101 2868
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium	ppm ppm ppm ppm ppm ppm ppm ppm ppm	methodASTM D5185(m)ASTM D5185(m)	limit/base 250 10 100 450 3000 1150 1350 4250	current 5 0 3 0 41 2044 879 929 2933 <1	history1 10 0 40 <1 660 1046 874 956 2978 <1	history2 13 0 48 <1 838 1008 961 1101 2868 <1
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium CONTAMINANTS	ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185(m)	limit/base 250 10 100 450 3000 1150 1350 4250 limit/base	current 5 0 3 0 41 2044 879 929 2933 <1 current	history1 10 0 40 <1 660 1046 874 956 2978 <1 history1	history2 13 0 48 <1 838 1008 961 1101 2868 <1 history2
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium CONTAMINANTS Silicon	ppm	method ASTM D5185(m)	limit/base 250 10 100 450 3000 1150 1350 4250 limit/base >30	current 5 0 3 0 41 2044 879 929 2933 <1 current	history1 10 0 40 <1 660 1046 874 956 2978 <1 history1 22	history2 13 0 48 <1 838 1008 961 1101 2868 <1 history2
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium CONTAMINANTS Silicon Sodium	ppm	method ASTM D5185(m)	limit/base 250 10 100 450 3000 1150 1350 4250 20 10 10 10 10 20 20 20 20 20 20 20 20 20 20 20 20 20	current 5 0 3 0 41 2044 879 929 2933 <1 current 2 1	history1 10 0 40 <1 660 1046 874 956 2978 <1 history1 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	history2 13 0 48 <1 838 1008 961 1101 2868 <1 history2 2 <1
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium CONTAMINANTS Silicon Sodium Potassium	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185(m)	limit/base 250 10 100 450 3000 1150 1350 4250 limit/base >30 >158 >20	current 5 0 3 0 41 2044 879 929 2933 <1 current 2 1	history1 10 0 40 <1 660 1046 874 956 2978 <1 history1 2 3	history2 13 0 48 <1 838 1008 961 1101 2868 <1 history2 2 <1
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium CONTAMINANTS Silicon Sodium Potassium Fuel	ppm	method ASTM D5185(m)	limit/base 250 10 100 450 3000 1150 1350 4250 S S S S S S S S S S S S S	Current 5 0 3 0 41 2044 879 929 2933 <1 Current 2 1 1 1 1 1 1 1	history1 10 0 40 <1 660 1046 874 956 2978 <1 history1 2 2 <1	history2 13 0 48 <1 838 1008 961 1101 2868 <1 history2 2 <1 1 <100
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium CONTAMINANTS Silicon Sodium Potassium Fuel	ppm ppm ppm	method ASTM D5185(m)	limit/base 250 10 100 450 3000 1150 1350 4250 limit/base >30 >158 >20 >3.0	current 5 0 3 0 41 2044 879 929 2933 <1 current 2 1 1. 11.8	history1 10 0 40 <1 660 1046 874 956 2978 <1 history1 2 2 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1.0	history2 13 0 48 <1 838 1008 961 1101 2868 <1 history2 2 <1 1 <1.0
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium CONTAMINANTS Silicon Sodium Potassium Fuel INFRA-RED	ppm ppm	method ASTM D5185(m)	limit/base 250 10 100 450 3000 1150 1350 4250 limit/base >30 >158 >20 >3.0 limit/base	current 5 0 3 0 41 2044 879 929 2933 <1 current 2 1 11.8 current	history1 10 0 40 <1 660 1046 874 956 2978 <1 history1 2 2 <1 history1 2 <1 history1	history2 13 0 48 <1 838 1008 961 1101 2868 <1 history2 2 <1 1 <1.0 history2
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium CONTAMINANTS Silicon Sodium Potassium Fuel INFRA-RED Soot %	ppm	method ASTM D5185(m) ASTM D5185(m)	limit/base 250 10 100 450 3000 1150 1350 4250 limit/base >30 >158 >20 >3.0 limit/base >30	current 5 0 3 0 41 2044 879 929 2933 <1 current 2 1 1 11.8 current 0 2	history1 10 0 40 <1 660 1046 874 956 2978 <1 history1 2 2 <1 history1 2 <1.0 history1 0	history2 13 0 48 <1 838 1008 961 1101 2868 <1 history2 2 <1 1 <1.0 history2 0 0
ADDITIVES 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	method ASTM D5185(m) ASTM D7630* COMMONS	limit/base 250 10 100 450 3000 1150 1350 4250 limit/base >30 >158 >20 >3.0 limit/base >3 >20 >3	current 5 0 3 0 41 2044 879 929 2933 <1 current 2 1 1 11.8 current 0 6.4 10	history1 10 0 40 <1 660 1046 874 956 2978 <1 history1 2 2 <1 history1 2 <1 history1 0 6.4 40	history2 13 0 48 <1 838 1008 961 1101 2868 <1 history2 2 <1 1 <100 history2 0 6.9 20 6
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium CONTAMINANTS Silicon Sodium Potassium Fuel INFRA-RED Soot % Nitration Sulfation	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185(m) ASTM D7593* ASTM D7593* ASTM D7593* ASTM D7844* ASTM D7624*	limit/base 250 10 100 450 3000 1150 1350 4250 limit/base >30 >158 >20 >3.0 limit/base >3 >20 limit/base >3 >20 limit/base	current 5 0 3 0 41 2044 879 929 2933 <1 current 2 1 1 11.8 current 0 6.4 16.4	history1 10 0 40 <1 660 1046 874 956 2978 <1 history1 2 2 <1 history1 2 <1.0 history1 0 6.4 18.2	history2 13 0 48 <1 838 1008 961 1101 2868 <1 history2 2 <1 1 <10 history2 0 6.9 23.2
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium CONTAMINANTS Silicon Sodium Potassium Fuel INFRA-RED Soot % Nitration Sulfation FLUID DEGRADA	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185(m) ASTM D7624* ASTM D7624* ASTM D7415*	limit/base 250 10 100 450 3000 1150 1350 4250 limit/base >30 >158 >20 >3.0 limit/base >3 >20 >3.0	current 5 0 3 0 41 2044 879 929 2933 <1 current 1 11.8 current 0 6.4 16.4	history1 10 0 40 <1 660 1046 874 956 2978 <1 history1 2 21 <1 history1 0 6.4 18.2 history1	history2 13 0 48 <1 838 1008 961 1101 2868 <1 history2 2 <1 1 <100 history2 0 6.9 23.2
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium CONTAMINANTS Silicon Sodium Potassium Fuel NFRA-RED Soot % Nitration Sulfation FLUID DEGRADA Oxidation	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185(m) ASTM D7844* ASTM D7414*	limit/base 250 10 100 450 3000 1150 1350 4250 limit/base >30 >158 >20 >3.0 limit/base >3 >20 >30 20 >30 limit/base >3 >20 >30	current 5 0 3 0 41 2044 879 929 2933 <1 current 2 1 1 11.8 current 0 6.4 16.4 9.3	history1 10 0 40 <1 660 1046 874 956 2978 <1 history1 2 21 10 history1 0 6.4 18.2 history1 13.3	history2 13 0 48 <1 838 1008 961 1101 2868 <1 history2 2 <1 1 <100 history2 0 6.9 23.2 history2 12.9

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GENCARE SERVICES LTD. Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9 CALA Sample No. : WC0764057 Received : 10 Aug 2023 360 SOVEREIGN ROAD Lab Number : 02575107 Diagnosed : 11 Aug 2023 LONDON, ON ISO 17025:2017 Accredited Laboratory Diagnostician : Wes Davis Unique Number : 5620158 CA N6M 1A8 Test Package : MOB 1 (Additional Tests: FuelDilution, PercentFuel) Contact: Teresa Matthews To discuss this sample report, contact Customer Service at 1-800-268-2131. tmatthews@gencare.com Test denoted (*) outside scope of accreditation, (m) method modified, (e) tested at external lab. T: (519)659-7118 Validity of results and interpretation are based on the sample and information as supplied. F: (519)451-1707

Jun23/17

Jun20/18

Sep1/11

Jun 18/1