

OIL ANALYSIS REPORT



Machine Id **1357** Component **Diesel Engine** Fluid **DIESEL ENGINE OIL SAE 5W40 (--- 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 BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

SAMPLE INFORM	IATION	method	limit/base	current	history1	history2
Sample Number		Client Info		WC0917110	WC0878838	
Sample Date		Client Info		07 May 2024	10 Jan 2024	
Machine Age	hrs	Client Info		548	494	
Oil Age	hrs	Client Info		0	0	
Oil Changed		Client Info		Changed	Changed	
Sample Status				NORMAL	NORMAL	
CONTAMINATION	٧	method	limit/base	current	history1	history2
Fuel		WC Method	>5	<1.0	<1.0	
Water		WC Method	>0.2	NEG	NEG	
Glycol		WC Method		NEG	NEG	
WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>100	5	4	
Chromium	ppm	ASTM D5185m	>20	<1	<1	
Nickel	ppm	ASTM D5185m	>4	0	0	
Titanium	ppm	ASTM D5185m		0	<1	
Silver	ppm	ASTM D5185m	>3	0	0	
Aluminum	ppm	ASTM D5185m	>20	2	2	
Lead	ppm	ASTM D5185m	>40	0	<1	
Copper	ppm	ASTM D5185m	>330	<1	0	
Tin	ppm	ASTM D5185m	>15	0	<1	
Vanadium	ppm	ASTM D5185m		0	<1	
Cadmium	ppm	ASTM D5185m		0	<1	
				-		
ADDITIVES		method	limit/base	current	history1	history2
ADDITIVES Boron	ppm	method ASTM D5185m	limit/base 250	current		history2
	ppm ppm				history1	
Boron		ASTM D5185m	250	89	history1 77	
Boron Barium	ppm	ASTM D5185m ASTM D5185m	250 10	89 0	history1 77 0	
Boron Barium Molybdenum	ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	250 10	89 0 65	history1 77 0 59	
Boron Barium Molybdenum Manganese	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	250 10 100	89 0 65 0	history1 77 0 59 <1	
Boron Barium Molybdenum Manganese Magnesium	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	250 10 100 450	89 0 65 0 967	history1 77 0 59 <1 987	
Boron Barium Molybdenum Manganese Magnesium Calcium	ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	250 10 100 450 3000	89 0 65 0 967 1257	history1 77 0 59 <1 987 1238	
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur	ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	250 10 100 450 3000 1150	89 0 65 0 967 1257 921	history1 77 0 59 <1 987 1238 871 964 2414	
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc	ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	250 10 100 450 3000 1150 1350	89 0 65 0 967 1257 921 1011	history1 77 0 59 <1 987 1238 871 964	
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur	ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	250 10 100 450 3000 1150 1350 4250	89 0 65 0 967 1257 921 1011 2379	history1 77 0 59 <1 987 1238 871 964 2414	
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS	ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	250 10 100 450 3000 1150 1350 4250	89 0 65 0 967 1257 921 1011 2379 current	history1 77 0 59 <1 987 1238 871 964 2414 history1	 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	250 10 100 450 3000 1150 1350 4250 limit/base >25 >44 >20	89 0 65 0 967 1257 921 1011 2379 current 4	history1 77 0 59 <1 987 1238 871 964 2414 history1 4	 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium INFRA-RED	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	250 10 100 450 3000 1150 1350 4250 Imit/base >25 >44 >20	89 0 65 0 967 1257 921 1011 2379 current 4 - 1 2 2 current	history1 77 0 59 <1 987 1238 871 964 2414 history1 4 1 1 history1	 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium INFRA-RED Soot %	ppm	ASTM D5185m ASTM D5185m	250 10 100 450 3000 1150 1350 4250 Iimit/base >25 >44 >20 Iimit/base	89 0 65 0 967 1257 921 1011 2379 current 4 4 <1 2 current 0.1	history1 77 0 59 <1 987 1238 871 964 2414 history1 4 1 history1 0	 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium INFRA-RED Soot % Nitration	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	250 10 100 450 3000 1150 1350 4250 imit/base >25 >44 >20 imit/base >3 >20	89 0 65 0 967 1257 921 1011 2379 <i>current</i> 4 <1 2 <i>current</i> 0.1 7.8	history1 77 0 59 <1 987 1238 871 964 2414 history1 4 1 1 0 6.9	history2 history2 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium INFRA-RED Soot %	ppm	ASTM D5185m ASTM D5185m	250 10 100 450 3000 1150 1350 4250 Iimit/base >25 >44 >20 Iimit/base	89 0 65 0 967 1257 921 1011 2379 current 4 4 <1 2 current 0.1	history1 77 0 59 <1 987 1238 871 964 2414 history1 4 1 history1 0	 history2 history2 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium INFRA-RED Soot % Nitration	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	250 10 100 450 3000 1150 1350 4250 imit/base >25 >44 >20 imit/base >3 >20	89 0 65 0 967 1257 921 1011 2379 <i>current</i> 4 <1 2 <i>current</i> 0.1 7.8	history1 77 0 59 <1 987 1238 871 964 2414 history1 4 1 1 0 6.9	history2 history2 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium INFRA-RED Soot % Nitration Sulfation	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	250 10 100 450 3000 1150 1350 4250 imit/base >25 >44 >20 imit/base >3 >20 >30	89 0 65 0 967 1257 921 1011 2379 current 4 <1 2 2 current 0.1 7.8 12.6	history1 77 0 59 <1 987 1238 871 964 2414 history1 4 1 history1 0 6.9 13.0	 history2 history2 history2



3

30

25

Abs/cm

10

14

0.212.0 0.0 KOH/g) 0.8 Base Number (mg KOH/g) 0.9 CON KOH/g)

2.0

0.0

18

16 cSt (100°C) Ba

Abnormal

10/24 Jan1

E

Ab

Base

OIL ANALYSIS REPORT



Contact/Location: BRYAN VANNIMAN - CONFAY