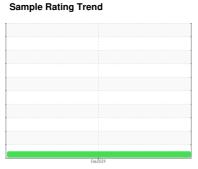


OIL ANALYSIS REPORT



NORMAL



Machine Id **82711439**

Component **Diesel Engine**

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

Recommendation

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

All component wear rates are normal.

Contamination

There is no indication of any contamination in the oil.

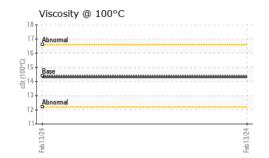
Fluid Condition

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

SAMPLE INFORMATION method imilibase current history1 history2							· ·
SAMPLE INFORMATION method limit/base current history1 history2					Feb 2024		
Sample Number Client Info WC0889839	SAMPLE INFORM	MATION	method			history1	history2
Sample Date		,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		mmesacc			,
Machine Age hrs Client Info 0	•						
Dil Age	•				10100 -0-1		
Contamped Client Info Changed Changed Contamped Contam							
CONTAMINATION		nrs			-		
CONTAMINATION	-		Client Info				
Fuel WC Method S5 <1.0	Sample Status				NORMAL		
Water Glycol WC Method >0.2 NEG WEAR METALS method limit/base current history1 history2 Iron ppm ASTM D5185(m) >100 68 Chromium ppm ASTM D5185(m) >20 1 Nickel ppm ASTM D5185(m) >4 <1	CONTAMINATION	N	method	limit/base	current	history1	history2
WEAR METALS	Fuel		WC Method	>5	<1.0		
WEAR METALS	Water		WC Method	>0.2	NEG		
Chromium	Glycol		WC Method		NEG		
Chromium	WEAR METALS		method	limit/base	current	history1	history2
Nickel	Iron	ppm	ASTM D5185(m)	>100	68		
Titanium	Chromium	ppm	ASTM D5185(m)	>20	1		
Silver	Nickel	ppm	ASTM D5185(m)	>4	<1		
Aluminum	Titanium	ppm	ASTM D5185(m)		0		
Lead	Silver	ppm	ASTM D5185(m)	>3	0		
Copper	Aluminum	ppm	ASTM D5185(m)	>20	3		
Antimony	Lead	ppm	ASTM D5185(m)	>40	0		
Antimony	Copper	ppm	ASTM D5185(m)	>330	25		
Vanadium ppm ASTM D5185(m) 0 Beryllium ppm ASTM D5185(m) 0 Cadmium ppm ASTM D5185(m) 0 ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185(m) 250 80 Barium ppm ASTM D5185(m) 10 4 Molybdenum ppm ASTM D5185(m) 100 30 Manganese ppm ASTM D5185(m) 10 4 Magnesium ppm ASTM D5185(m) 5 Calcium ppm ASTM D5185(m) 3000 1786 Phosphorus ppm ASTM D5185(m) 1350 1059 Sulfur ppm ASTM D5185(m) 4250 2540	Tin	ppm	ASTM D5185(m)	>15	<1		
Beryllium	Antimony	ppm	ASTM D5185(m)		0		
Cadmium ppm ASTM D5185(m) 0 ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185(m) 250 80 Barium ppm ASTM D5185(m) 10 4 Molybdenum ppm ASTM D5185(m) 100 30 Manganese ppm ASTM D5185(m) 100 320 Magnesium ppm ASTM D5185(m) 450 320 Calcium ppm ASTM D5185(m) 3000 1786 Phosphorus ppm ASTM D5185(m) 1350 1059 Zinc ppm ASTM D5185(m) 4250 2540 Sulfur ppm ASTM D5185(m) >25 19 CONTAMINANTS method limit/base <td>Vanadium</td> <td>ppm</td> <td>ASTM D5185(m)</td> <td></td> <th>0</th> <td></td> <td></td>	Vanadium	ppm	ASTM D5185(m)		0		
ADDITIVES	Beryllium	ppm	ASTM D5185(m)		0		
Boron	Cadmium	ppm	ASTM D5185(m)		0		
Barium	ADDITIVES		method	limit/base	current	history1	history2
Molybdenum ppm ASTM D5185(m) 100 30 Manganese ppm ASTM D5185(m) 5 Magnesium ppm ASTM D5185(m) 450 320 Calcium ppm ASTM D5185(m) 3000 1786 Phosphorus ppm ASTM D5185(m) 1150 870 Zinc ppm ASTM D5185(m) 1350 1059 Sulfur ppm ASTM D5185(m) 4250 2540 Lithium ppm ASTM D5185(m) <1 CONTAMINANTS method limit/base current history1 history2 Sodium ppm ASTM D5185(m) >25 19 Potassium ppm ASTM D5185(m) >20 5 INFRA-RED method limit/base c	Boron	ppm	ASTM D5185(m)	250	80		
Manganese ppm ASTM D5185(m) 5 Magnesium ppm ASTM D5185(m) 450 320 Calcium ppm ASTM D5185(m) 3000 1786 Phosphorus ppm ASTM D5185(m) 1150 870 Zinc ppm ASTM D5185(m) 1350 1059 Sulfur ppm ASTM D5185(m) 4250 2540 Lithium ppm ASTM D5185(m) <1	Barium	ppm	ASTM D5185(m)	10	4		
Magnesium ppm ASTM D5185(m) 450 320 Calcium ppm ASTM D5185(m) 3000 1786 Phosphorus ppm ASTM D5185(m) 1150 870 Zinc ppm ASTM D5185(m) 1350 1059 Sulfur ppm ASTM D5185(m) 4250 2540 Lithium ppm ASTM D5185(m) 4250 2540 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185(m) >25 19 Sodium ppm ASTM D5185(m) >158 7 Potassium ppm ASTM D5185(m) >20 5 INFRA-RED method limit/base current history1 history2 Soot % %	Molybdenum	ppm	ASTM D5185(m)	100	30		
Calcium ppm ASTM D5185(m) 3000 1786 Phosphorus ppm ASTM D5185(m) 1150 870 Zinc ppm ASTM D5185(m) 1350 1059 Sulfur ppm ASTM D5185(m) 4250 2540 Lithium ppm ASTM D5185(m) <1	Manganese	ppm	ASTM D5185(m)		5		
Phosphorus	Magnesium	ppm	ASTM D5185(m)	450	320		
Zinc	Calcium	ppm	ASTM D5185(m)	3000	1786		
Sulfur ppm ASTM D5185(m) 4250 2540 Lithium ppm ASTM D5185(m) 4250 2540 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185(m) >25 19 Sodium ppm ASTM D5185(m) >158 7 Potassium ppm ASTM D5185(m) >20 5 INFRA-RED method limit/base current history1 history2 Soot % % ASTM D7844* >3 1.1 Nitration Abs/cm ASTM D7624* >20 11.5	Phosphorus	ppm	ASTM D5185(m)	1150	870		
Lithium ppm ASTM D5185(m) <1 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185(m) >25 19 Sodium ppm ASTM D5185(m) >158 7 Potassium ppm ASTM D5185(m) >20 5 INFRA-RED method limit/base current history1 history2 Soot % % ASTM D7844* >3 1.1 Nitration Abs/cm ASTM D7624* >20 11.5	Zinc	ppm	ASTM D5185(m)	1350	1059		
CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185(m) >25 19 Sodium ppm ASTM D5185(m) >158 7 Potassium ppm ASTM D5185(m) >20 5 INFRA-RED method limit/base current history1 history2 Soot % % ASTM D7844* >3 1.1 Nitration Abs/cm ASTM D7624* >20 11.5	Sulfur	ppm	ASTM D5185(m)	4250	2540		
Silicon ppm ASTM D5185(m) >25 19 Sodium ppm ASTM D5185(m) >158 7 Potassium ppm ASTM D5185(m) >20 5 INFRA-RED method limit/base current history1 history2 Soot % % ASTM D7844* >3 1.1 Nitration Abs/cm ASTM D7624* >20 11.5	Lithium	ppm	ASTM D5185(m)		<1		
Sodium ppm ASTM D5185(m) >158 7 Potassium ppm ASTM D5185(m) >20 5 INFRA-RED method limit/base current history1 history2 Soot % % ASTM D7844* >3 1.1 Nitration Abs/cm ASTM D7624* >20 11.5	CONTAMINANTS	;	method	limit/base	current	history1	history2
Sodium ppm ASTM D5185(m) >158 7 Potassium ppm ASTM D5185(m) >20 5 INFRA-RED method limit/base current history1 history2 Soot % % ASTM D7844* >3 1.1 Nitration Abs/cm ASTM D7624* >20 11.5	Silicon	ppm	ASTM D5185(m)	>25	19		
INFRA-RED method limit/base current history1 history2 Soot % % ASTM D7844* >3 1.1 Nitration Abs/cm ASTM D7624* >20 11.5	Sodium		ASTM D5185(m)	>158	7		
Soot % % ASTM D7844* >3 1.1 Nitration Abs/cm ASTM D7624* >20 11.5	Potassium		ASTM D5185(m)	>20			
Nitration Abs/cm ASTM D7624* >20 11.5	INFRA-RED		method	limit/base	current	history1	history2
Nitration Abs/cm ASTM D7624* >20 11.5	Soot %	%	ASTM D7844*	>3	1.1		
	Sulfation			>30	24.5		



OIL ANALYSIS REPORT



FLUID DEGRADA	ATION	method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	ASTM D7414*	>25	19.4		
VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	Visual*	NONE	NONE		
Yellow Metal	scalar	Visual*	NONE	NONE		
Precipitate	scalar	Visual*	NONE	NONE		
Silt	scalar	Visual*	NONE	NONE		
Debris	scalar	Visual*	NONE	NONE		
Sand/Dirt	scalar	Visual*	NONE	NONE		
Appearance	scalar	Visual*	NORML	NORML		
Odor	scalar	Visual*	NORML	NORML		
Emulsified Water	scalar	Visual*	>0.2	NEG		
Free Water	scalar	Visual*		NEG		
FLUID PROPERT	TIES	method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D7279(m)	14.4	14.3		
GRAPHS						

FLUID PROPER	RTIES	method	limit/ba	se current	history1	history2
Visc @ 100°C	cSt	ASTM D7279(m)	14.4	14.3		
GRAPHS						
Iron (ppm)				Lead (ppm)		
250 T				100 Severe		
Abnormal				Abnormal		
Abnormal		***************************************		Abnormal		_
0				0		-
Feb 13/24			Feb13/24	Feb13/24		Feb13/24
ے Aluminum (ppm	1		æ	ு Chromium (pį	nm)	2
50 Severe	, 			50 T :		
40 7				40 - Severe		
Abnormal			-	Abnormal		-
10				10		
Feb13/24			Feb13/24	- Feb13/24		Feb13/24
			<u>e</u>			Feb
Copper (ppm)				Silicon (ppm)		
300 - Severe				60		
툂 200				E 40		
100				Abnormal 20	***************************************	-
0 44			24	0 + + 0		24
Feb13/24			Feb13/24	Feb13/24		Feb13/24
Viscosity @ 100°	°C			Soot %		
Abnormal				Severe		
(3) 16 Base Abnormal				Abnormal		
Abnormal				^S 2.0		
10				0.0		
Feb 13/24			Feb13/24	Feb13/24		Feb13/24
£.			<u>a</u>	2		굔



CALA ISO 17025:2017 Accredited Laboratory

Laboratory

Sample No.

Lab Number : 02623920 Unique Number : 5749039

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

: WC0889839 Received **Tested**

Diagnosed

: 22 Mar 2024 : 22 Mar 2024 : 22 Mar 2024 - Wes Davis

Test Package : MOB 1 (Additional Tests: Visual) 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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