

## **OIL ANALYSIS REPORT**

SAMPLE INFORMATION method

Sample Rating Trend



Machine Id 426115 Component Diesel Engine Fluid MOBIL 15W40 (11 GAL)

### DIAGNOSIS

#### Recommendation

Resample at the next service interval to monitor.

#### Wear

All component wear rates are normal.

#### 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.

		methou	iiiiii/base	current	,	
Sample Number		Client Info		GFL0120462	GFL0120449	GFL0108604
Sample Date		Client Info		19 Jun 2024	08 May 2024	26 Apr 2024
Machine Age	hrs	Client Info		20411	19405	19405
Oil Age	hrs	Client Info		500	19405	500
Oil Changed		Client Info		Changed	Not Changd	Changed
Sample Status				NORMAL	NORMAL	NORMAL
-				NOTIMAL	NOTIVIAL	NOTIVIAL
CONTAMINAT	ION	method	limit/base	current	history1	history2
Fuel		WC Method	>5	<1.0	<1.0	<1.0
Water		WC Method	>0.2	NEG	NEG	NEG
Glycol		WC Method		NEG	NEG	NEG
WEAR METAL	S	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>110	32	8	12
Chromium	ppm	ASTM D5185m	>4	1	<1	<1
Nickel	ppm		>2	0	0	0
Titanium	ppm	ASTM D5185m		<1	<1	0
Silver	ppm	ASTM D5185m	>2	0	<1	0
Aluminum	ppm	ASTM D5185m	>25	<1	1	<1
Lead	ppm	ASTM D5185m	>45	8	<1	<1
			>85	6	2	2
Copper Tin	ppm	ASTM D5185m	>00	0	1	<1
	ppm		>4	-		
Vanadium	ppm	ASTM D5185m		<1	<1	0
Cadmium	ppm	ASTM D5185m		0	<1	0
ADDITIVES		method	limit/base	current	history1	history2
ADDITIVES Boron	ppm	method ASTM D5185m	limit/base	current 13	history1 9	history2 13
	ppm ppm		limit/base			
Boron		ASTM D5185m	limit/base	13	9	13
Boron Barium	ppm	ASTM D5185m ASTM D5185m	limit/base	13 0	9 0	13 <1
Boron Barium Molybdenum	ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	13 0 71	9 0 60	13 <1 57
Boron Barium Molybdenum Manganese	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	13 0 71 <1	9 0 60 <1	13 <1 57 <1
Boron Barium Molybdenum Manganese Magnesium	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	13 0 71 <1 1226	9 0 60 <1 1073	13 <1 57 <1 963
Boron Barium Molybdenum Manganese Magnesium Calcium	ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	13 0 71 <1 1226 1452	9 0 60 <1 1073 1250	13 <1 57 <1 963 1121
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus	ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	13 0 71 <1 1226 1452 1278	9 0 60 <1 1073 1250 1143	13 <1 57 <1 963 1121 1060
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	limit/base	13 0 71 <1 1226 1452 1278 1582	9 0 60 <1 1073 1250 1143 1430	13 <1 57 <1 963 1121 1060 1305
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m		13 0 71 <1 1226 1452 1278 1582 4304	9 0 60 <1 1073 1250 1143 1430 4131 history1	13 <1 57 <1 963 1121 1060 1305 3561
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon	ppm ppm ppm ppm ppm ppm ppm ppm TS	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m <b>method</b>	limit/base	13 0 71 <1 1226 1452 1278 1582 4304 current 3	9 0 60 <1 1073 1250 1143 1430 4131 history1 3	13 <1 57 <1 963 1121 1060 1305 3561 history2 2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium	ppm ppm ppm ppm ppm ppm ppm TS	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m <b>method</b> ASTM D5185m	limit/base >30 >118	13 0 71 <1 1226 1452 1278 1582 4304 <u>current</u> 3 3	9 0 60 <1 1073 1250 1143 1430 4131 <b>history1</b> 3 1	13 <1 57 <1 963 1121 1060 1305 3561 history2 2 1
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium	ppm ppm ppm ppm ppm ppm ppm ppm TS	ASTM D5185m ASTM D5185m	limit/base >30 >118 >20	13 0 71 <1 1226 1452 1278 1582 4304 current 3 3 1	9 0 60 <1 1073 1250 1143 1430 4131 <b>history1</b> 3 1 2	13 <1 57 <1 963 1121 1060 1305 3561 <b>history2</b> 2 1 0
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED	ppm ppm ppm ppm ppm ppm ppm TS ppm ppm ppm	ASTM D5185m ASTM D5185m	limit/base >30 >118 >20 limit/base	13 0 71 <1 1226 1452 1278 1582 4304 current 3 3 1 2 1 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	9 0 60 <1 1073 1250 1143 1430 4131 history1 3 1 2 history1	13 <1 57 <1 963 1121 1060 1305 3561 <b>history2</b> 2 1 0 0 <b>history2</b>
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot %	ppm ppm ppm ppm ppm ppm ppm TS ppm ppm ppm	ASTM D5185m ASTM D5185m	limit/base >30 >118 >20 limit/base >3	13 0 71 <1 1226 1452 1278 1582 4304 <i>current</i> 3 3 1 <i>current</i> 0.4	9 0 60 <1 1073 1250 1143 1430 4131 <b>history1</b> 3 1 2 <b>history1</b> 0.3	13 <1 57 <1 963 1121 1060 1305 3561 <b>history2</b> 2 1 1 0 <b>history2</b> 0.3
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Nitration	ppm ppm ppm ppm ppm ppm ppm ppm TS ppm ppm ppm	ASTM D5185m ASTM D5185m	limit/base >30 >118 >20 limit/base	13 0 71 <1 1226 1452 1278 1582 4304 <u>current</u> 3 3 1 <u>current</u> 0.4 10.2	9 0 60 <1 1073 1250 1143 1430 4131 <b>history1</b> 3 1 2 <b>history1</b> 0.3 7.7	13 <1 57 <1 963 1121 1060 1305 3561 history2 2 2 1 0 0 history2 0.3 9.4
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot %	ppm ppm ppm ppm ppm ppm ppm TS ppm ppm ppm	ASTM D5185m ASTM D5185m	limit/base >30 >118 >20 limit/base >3	13 0 71 <1 1226 1452 1278 1582 4304 <i>current</i> 3 3 1 <i>current</i> 0.4	9 0 60 <1 1073 1250 1143 1430 4131 <b>history1</b> 3 1 2 <b>history1</b> 0.3	13 <1 57 <1 963 1121 1060 1305 3561 <b>history2</b> 2 1 1 0 <b>history2</b> 0.3
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Nitration	ppm ppm ppm ppm ppm ppm ppm TS ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	limit/base >30 >118 >20 limit/base >3 >20	13 0 71 <1 1226 1452 1278 1582 4304 <u>current</u> 3 3 1 <u>current</u> 0.4 10.2	9 0 60 <1 1073 1250 1143 1430 4131 <b>history1</b> 3 1 2 <b>history1</b> 0.3 7.7	13 <1 57 <1 963 1121 1060 1305 3561 history2 2 2 1 0 0 history2 0.3 9.4
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Nitration Sulfation	ppm ppm ppm ppm ppm ppm ppm TS ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	Imit/base >30 >118 >20 Imit/base >3 >20 >3 >20 >30	13 0 71 <1 1226 1452 1278 1582 4304 <u>current</u> 3 3 1 <u>current</u> 0.4 10.2 23.0	9 0 60 <1 1073 1250 1143 1430 4131 <b>history1</b> 3 1 2 <b>history1</b> 0.3 7.7 20.0	13 <1 57 <1 963 1121 1060 1305 3561 <b>history2</b> 2 1 0 <b>history2</b> 0.3 9.4 21.0
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Nitration Sulfation FLUID DEGRAD	ppm ppm ppm ppm ppm ppm ppm TS ppm ppm ppm ppm ppm	ASTM D5185m ASTM D7844 *ASTM D7624 *ASTM D7415	imit/base 30 118 20 imit/base 33 20 33 20 30 30 imit/base	13 0 71 <1 1226 1452 1278 1582 4304 <i>current</i> 3 3 3 1 <i>current</i> 0.4 10.2 23.0 <i>current</i>	9 0 60 <1 1073 1250 1143 1430 4131 <b>history1</b> 3 1 2 <b>history1</b> 0.3 7.7 20.0 <b>history1</b>	13 <1 57 <1 963 1121 1060 1305 3561 <b>history2</b> 2 2 1 0 <b>history2</b> 0.3 9.4 21.0 <b>history2</b>

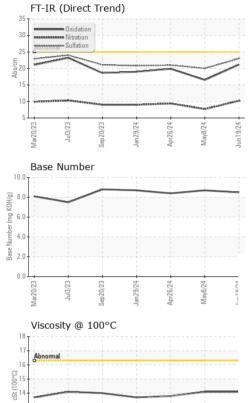


13 Abnormal

12 11

Mar20/23

# **OIL ANALYSIS REPORT**



Sep20/23

nd)		VISUAL		method	limit/base	current	history1	history2	
		White Metal	scalar	*Visual	NONE	NONE	NONE	NONE	
		Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE	
		Precipitate	scalar	*Visual	NONE	NONE	NONE	NONE	
	$\sim$	Silt	scalar	*Visual	NONE	NONE	NONE	NONE	
CONTRACTOR OF CONT	Debris	scalar	*Visual	NONE	NONE	NONE	NONE		
	Sand/Dirt	scalar	*Visual	NONE	NONE	NONE	NONE		
Jan29/24 Anr26/24	May8/24	Appearance	scalar	*Visual	NORML	NORML	NORML	NORML	
L Ja		Odor	scalar	*Visual	NORML	NORML	NORML	NORML	
		Emulsified Water	scalar	*Visual	>0.2	NEG	NEG	NEG	
		Free Water	scalar	*Visual		NEG	NEG	NEG	
		FLUID PROPE		method	limit/base	current	history1	history2	
		Visc @ 100°C	cSt	ASTM D445		14.1	14.1	13.8	
		GRAPHS Ferrous Alloys							
Jan29/24 -		Non-ferrous Meta	Jan2924	Apr26/24 Apr	un19/24				
		اللَّةُ بِعَامَةُ مَعَامَةُ مَعَامًا لَعَامَةُ لَعَامَةُ مَعَامًا لَعَامَةًا لَعَامَةً لَعَامَةًا لَعَامَةًا لَ Viscosity @ 100°(		Apri Ma	Jun				
					9.0	Base Number	ase Number		
		17- Abnormal			8.0 	$\sim$			
		(2) 15 00 [] 7 14			H 6.0 E 5.0				
		でです。 13 - Abnormal			(0,7.0 10,0000 10,00000 10,0000 10,0000 10,0000 10,00000 10,000000 10,00000000				
		12			1.0				
		Jul3/23	Jan29/24	Apr26/24 - May8/24 -	0.0	Mar20/23 + Jul3/23 +	Jan 29/24 +	May8/24 -	
		Marź Ju Sep 2	Jan2	Aprá	Jun1	Mará	Jan2	May Ma	
Certificate L2367	Laboratory Sample No. Lab Number Unique Number Test Package	: 11101413	01 Madiso Recei Teste Diagn	ved : 28 d : 28	v, NC 27513 3 Jun 2024 3 Jun 2024 Jun 2024 - Don		ronmental - 904B - Menomoni 1706 MIDWAY RI MENOMONIE, W US 5475 Contact: ANDY KANI		
To discuss th ' - Denotes to	nis sample report, est methods that	contact Customer Service at 1-800-237-1369. are outside of the ISO 17025 scope of accreditation. Decifications are based on the simple acceptance decision rule (JCGM 106:2012)							

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Submitted By: See also GFL904,A,B,C, 927, 938 - Andy Kane

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