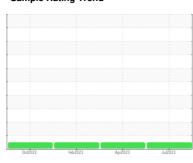


OIL ANALYSIS REPORT

Sample Rating Trend



NORMAL



720034

Component

Diesel Engine

Diesel Engine

MOBIL 15W40 (--- GAL)

DIAGNOSIS

Recommendation

Resample at the next service interval to monitor.

Wear

Metal levels are typical for a new component breaking in.

Contamination

There is no indication of any contamination in the oil.

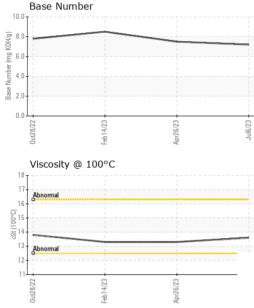
Fluid Condition

The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

		Oct202	2 Feb2023	Apr2023 Ji	uI2023	
SAMPLE INFOR	MATION	method	limit/base	current	history1	history2
Sample Number		Client Info		GFL0066194	GFL0066203	GFL0060369
Sample Date		Client Info		06 Jul 2023	26 Apr 2023	14 Feb 2023
Machine Age	hrs	Client Info		500	500	500
Oil Age	hrs	Client Info		500	500	500
Oil Changed		Client Info		Changed	Changed	Changed
Sample Status				NORMAL	NORMAL	NORMAL
CONTAMINAT	ION	method	limit/base	current	history1	history2
Fuel		WC Method	>5	<1.0	<1.0	<1.0
Glycol		WC Method		NEG	NEG	NEG
WEAR METAL	.S	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>110	12	9	12
Chromium	ppm	ASTM D5185m	>4	<1	<1	<1
Nickel	ppm	ASTM D5185m	>2	0	0	0
Titanium	ppm	ASTM D5185m		0	0	0
Silver	ppm	ASTM D5185m	>2	0	0	0
Aluminum	ppm	ASTM D5185m	>25	3	<1	5
Lead	ppm	ASTM D5185m	>45	0	<1	0
Copper	ppm	ASTM D5185m	>85	0	1	<1
Tin	ppm	ASTM D5185m	>4	0	0	<1
Vanadium	ppm	ASTM D5185m		0	0	0
Cadmium	ppm	ASTM D5185m		0	0	0
ADDITIVES		method	limit/base	current	history1	history2
	ppm	method ASTM D5185m	limit/base	current 6	history1	history2 15
ADDITIVES Boron Barium	ppm		limit/base			
Boron Barium		ASTM D5185m	limit/base	6	8	15
Boron Barium Molybdenum	ppm	ASTM D5185m ASTM D5185m	limit/base	6 0	8	15 0
Boron Barium Molybdenum Manganese	ppm	ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	6 0 63	8 0 64	15 0 64
Boron Barium Molybdenum Manganese	ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	6 0 63 0	8 0 64 <1	15 0 64 <1
Boron Barium Molybdenum Manganese Magnesium	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	6 0 63 0 977	8 0 64 <1 901	15 0 64 <1 866
Boron Barium Molybdenum Manganese Magnesium Calcium	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	6 0 63 0 977 1140	8 0 64 <1 901 1149	15 0 64 <1 866 1179
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus	ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	6 0 63 0 977 1140 1018	8 0 64 <1 901 1149 1011	15 0 64 <1 866 1179 910
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 ASTM D5185m	limit/base	6 0 63 0 977 1140 1018 1273 3380	8 0 64 <1 901 1149 1011 1253	15 0 64 <1 866 1179 910
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 ASTM D5185m		6 0 63 0 977 1140 1018 1273 3380	8 0 64 <1 901 1149 1011 1253 2977	15 0 64 <1 866 1179 910 1121 2992
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m	limit/base	6 0 63 0 977 1140 1018 1273 3380 current	8 0 64 <1 901 1149 1011 1253 2977 history1	15 0 64 <1 866 1179 910 1121 2992 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m	limit/base	6 0 63 0 977 1140 1018 1273 3380 current	8 0 64 <1 901 1149 1011 1253 2977 history1	15 0 64 <1 866 1179 910 1121 2992 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium	ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m	limit/base >30 >118	6 0 63 0 977 1140 1018 1273 3380 current 2 1	8 0 64 <1 901 1149 1011 1253 2977 history1 3 0	15 0 64 <1 866 1179 910 1121 2992 history2 5 <1
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium	ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m	limit/base >30 >118 >20	6 0 63 0 977 1140 1018 1273 3380 current 2 1	8 0 64 <1 901 1149 1011 1253 2977 history1 3 0 3	15 0 64 <1 866 1179 910 1121 2992 history2 5 <1 3
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m	limit/base >30 >118 >20 limit/base >3	6 0 63 0 977 1140 1018 1273 3380 current 2 1 0	8 0 64 <1 901 1149 1011 1253 2977 history1 3 0 3	15 0 64 <1 866 1179 910 1121 2992 history2 5 <1 3
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot %	ppm	ASTM D5185m Method *ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base >30 >118 >20 limit/base >3	6 0 63 0 977 1140 1018 1273 3380 current 2 1 0	8 0 64 <1 901 1149 1011 1253 2977 history1 3 0 3 history1 0.4	15 0 64 <1 866 1179 910 1121 2992 history2 5 <1 3 history2 0.4
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Nitration	ppm	ASTM D5185m method *ASTM D5185m *ASTM D5185m *ASTM D5185m *ASTM D5185m *ASTM D5185m *ASTM D5185m *ASTM D7844 *ASTM D7624 *ASTM D76145	limit/base >30 >118 >20 limit/base >3 >20	6 0 63 0 977 1140 1018 1273 3380 current 2 1 0 current 0.5 8.7 21.2	8 0 64 <1 901 1149 1011 1253 2977 history1 3 0 3 history1 0.4 7.3	15 0 64 <1 866 1179 910 1121 2992 history2 5 <1 3 history2 0.4 8.7
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Nitration Sulfation	ppm	ASTM D5185m method *ASTM D5185m *ASTM D5185m *ASTM D5185m *ASTM D5185m *ASTM D5185m *ASTM D5185m *ASTM D7844 *ASTM D7624 *ASTM D76145	limit/base >30 >118 >20 limit/base >3 >20 >30	6 0 63 0 977 1140 1018 1273 3380 current 2 1 0 current 0.5 8.7 21.2	8 0 64 <1 901 1149 1011 1253 2977 history1 3 0 3 history1 0.4 7.3 17.7	15 0 64 <1 866 1179 910 1121 2992 history2 5 <1 3 history2 0.4 8.7 18.8
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Nitration Sulfation FLUID DEGRA	ppm	ASTM D5185m MEthod *ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m Method *ASTM D7844 *ASTM D7624 *ASTM D7415 Method	limit/base >30 >118 >20 limit/base >3 >20 >30 limit/base	6 0 63 0 977 1140 1018 1273 3380 current 2 1 0 current 0.5 8.7 21.2 current	8 0 64 <1 901 1149 1011 1253 2977 history1 3 0 3 history1 0.4 7.3 17.7 history1	15 0 64 <1 866 1179 910 1121 2992 history2 5 <1 3 history2 0.4 8.7 18.8 history2



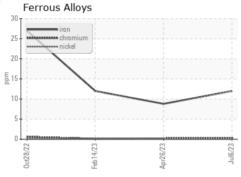
OIL ANALYSIS REPORT

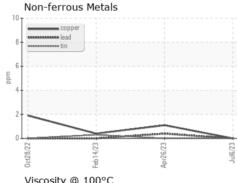


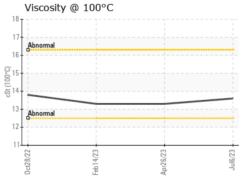
VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE	NONE
Appearance	scalar	*Visual	NORML	NORML	NORML	NORML
Odor	scalar	*Visual	NORML	NORML	NORML	NORML
Emulsified Water	scalar	*Visual	>0.2	NEG	NEG	NEG
Free Water	scalar	*Visual		NEG	NEG	NEG

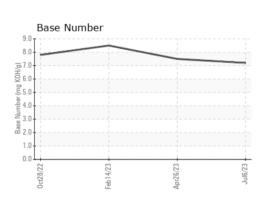
FLUID PROP	EHILO	method		riistory i	HISTORYZ
Visc @ 100°C	cSt	ASTM D445	13.6	13.3	13.3

GRAPHS













Certificate L2367

Laboratory Sample No. Lab Number Test Package : FLEET

: 05896018 Unique Number : 10551828

: WearCheck USA - 501 Madison Ave., Cary, NC 27513 : GFL0066194 Received : 12 Jul 2023

Diagnosed : 12 Jul 2023 Diagnostician : Wes Davis

GFL Environmental - 904 - Chippewa Falls HC

11888 & 11863 30th Avenue Chippewa Falls, WI US 54729

Contact: Andy Kane

To discuss this sample report, contact Customer Service at 1-800-237-1369.

* - Denotes test methods that are outside of the ISO 17025 scope of accreditation.

Statements of conformity to specifications are based on the simple acceptance decision rule (JCGM 106:2012)

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