

OIL ANALYSIS REPORT

Sample Rating Trend



Machine Id

834101 Component Natural Gas Engine Fluid DIESEL ENGINE OIL SAE 40 (--- GAL)

DIAGNOSIS

Recommendation

Resample at the next service interval to monitor. Please specify the brand, type, and viscosity of the oil on your next sample.

Wear

All component wear rates are normal.

Contamination

Elevated aluminum (Al) and/or lead (Pb) and potassium (K) levels in your metals analysis are likely a result of solder flux release into the lubricant and is common on new equipment/components. There is no indication of any contamination in the oil.

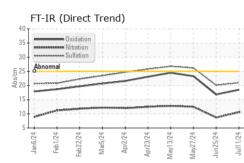
Fluid Condition

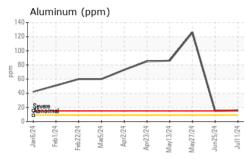
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

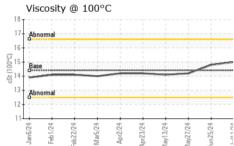
SAMPLE INFORM	MATION	method		current		history2
Sample Number		Client Info		GFL0127191	GFL0122016	GFL0122055
Sample Date		Client Info		11 Jul 2024	25 Jun 2024	27 May 2024
Machine Age	hrs	Client Info		1501	1386	1184
Oil Age	hrs	Client Info		1299	202	957
Oil Changed		Client Info		Not Changd	Not Changd	Changed
Sample Status				NORMAL	NORMAL	NORMAL
CONTAMINAT	ION	method	limit/base	current	history1	history2
Water		WC Method	>0.1	NEG	NEG	NEG
WEAR METAL	S	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>50	15	12	96
Chromium	ppm	ASTM D5185m	>4	1	1	8
Nickel	ppm	ASTM D5185m	>2	<1	<1	5
Titanium	ppm	ASTM D5185m		<1	<1	<1
Silver	ppm	ASTM D5185m	>3	<1	0	0
Aluminum	ppm	ASTM D5185m	>9	16	15	126
Lead	ppm	ASTM D5185m	>30	<1	<1	3
Copper	ppm	ASTM D5185m	>35	3	2	23
Tin	ppm	ASTM D5185m	>4	<1	<1	2
Vanadium	ppm	ASTM D5185m		<1	<1	<1
Cadmium	ppm	ASTM D5185m		0	0	<1
ADDITIVES						
ADDITIVE5		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m	limit/base 250	current 10	history1 21	history2 12
	ppm ppm					
Boron		ASTM D5185m	250	10	21	12
Boron Barium	ppm	ASTM D5185m ASTM D5185m	250 10	10 1	21 0	12 3
Boron Barium Molybdenum	ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	250 10 100 450	10 1 58	21 0 52	12 3 100
Boron Barium Molybdenum Manganese	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	250 10 100	10 1 58 2	21 0 52 2	12 3 100 20
Boron Barium Molybdenum Manganese Magnesium	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	250 10 100 450 3000 1150	10 1 58 2 598	21 0 52 2 624	12 3 100 20 1191
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	10 1 58 2 598 1586	21 0 52 2 624 1529	12 3 100 20 1191 1899
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	250 10 100 450 3000 1150	10 1 58 2 598 1586 713	21 0 52 2 624 1529 867	12 3 100 20 1191 1899 1238
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	10 1 58 2 598 1586 713 1022	21 0 52 2 624 1529 867 1065	12 3 100 20 1191 1899 1238 1514
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	10 1 58 2 598 1586 713 1022 2322	21 0 52 2 624 1529 867 1065 2848	12 3 100 20 1191 1899 1238 1514 4026
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN	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 ≥+100	10 1 58 2 598 1586 713 1022 2322 current	21 0 52 2 624 1529 867 1065 2848 history1	12 3 100 20 1191 1899 1238 1514 4026 history2
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 method ASTM D5185m	250 10 100 450 3000 1150 1350 4250 limit/base >+100 >216	10 1 58 2 598 1586 713 1022 2322 current 8	21 0 52 2 624 1529 867 1065 2848 history1 6	12 3 100 20 1191 1899 1238 1514 4026 history2 34
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium	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 method ASTM D5185m	250 10 100 450 3000 1150 1350 4250 limit/base >+100 >216	10 1 58 2 598 1586 713 1022 2322 current 8 4	21 0 52 2 624 1529 867 1065 2848 history1 6 9	12 3 100 20 1191 1899 1238 1514 4026 history2 34 12
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	250 10 100 450 3000 1150 1350 4250 limit/base >+100 >216 >20	10 1 58 2 598 1586 713 1022 2322 current 8 4 47	21 0 52 2 624 1529 867 1065 2848 history1 6 9 32	12 3 100 20 1191 1899 1238 1514 4026 history2 34 12 322
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED	ppm ppm ppm ppm ppm ppm ppm ppm TS ppm ppm ppm	ASTM D5185m ASTM D5185m	250 10 100 450 3000 1150 1350 4250 Iimit/base >216 >20 Iimit/base	10 1 58 2 598 1586 713 1022 2322 current 8 4 47 current	21 0 52 2 624 1529 867 1065 2848 history1 6 9 32 32 history1	12 3 100 20 1191 1899 1238 1514 4026 history2 34 12 322 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot %	ppm ppm ppm ppm ppm ppm ppm ppm TS ppm ppm ppm	ASTM D5185m ASTM D5185m	250 10 100 450 3000 1150 1350 4250 <i>limit/base</i> >+100 >216 >20 <i>limit/base</i>	10 1 58 2 598 1586 713 1022 2322 current 8 4 4 47 current 0	21 0 52 2 624 1529 867 1065 2848 history1 6 9 32 history1 0	12 3 100 20 1191 1899 1238 1514 4026 history2 34 12 322 history2 0.1
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 trs ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	250 10 100 450 3000 1150 1350 4250 <i>limit/base</i> >+100 >216 >20 <i>limit/base</i>	10 1 58 2 598 1586 713 1022 2322 current 8 4 47 current 0 10.6	21 0 52 2 624 1529 867 1065 2848 history1 6 9 32 history1 0 8.7	12 3 100 20 1191 1899 1238 1514 4026 history2 34 12 322 history2 0.1 12.5
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 ppm trs ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	250 10 100 450 3000 1150 1350 4250 limit/base >+100 >216 >20 limit/base >20 >30	10 1 58 2 598 1586 713 1022 2322 current 8 4 47 current 0 10.6 21.0	21 0 52 2 624 1529 867 1065 2848 history1 6 9 32 history1 0 8.7 20.1	12 3 100 20 1191 1899 1238 1514 4026 history2 34 12 322 history2 0.1 12.5 26.2

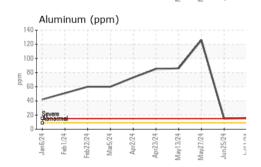


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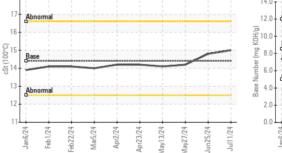


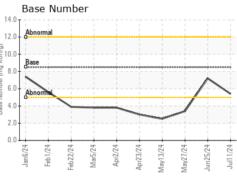




VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE	NONE
Appearance	scalar	*Visual	NORML	NORML	NORML	NORML
Odor	scalar	*Visual	NORML	NORML	NORML	NORML
Emulsified Water	scalar	*Visual	>0.1	NEG	NEG	NEG
Free Water	scalar	*Visual		NEG	NEG	NEG
FLUID PROPE	RTIES	method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	14.4	15.0	14.8	14.2
GRAPHS						

Ferrous Alloys 100 80 60 40 20 Jan6/24 Feb1/24 Jul11/24 Feb22/24 Mav27/24 un25/24 Apr73/74 Aav13/24 Mar5/04 un2/74 Non-ferrous Metals 2 20 15 Feb 1/24 av13/74 av27/24 ul11/24 CICCHe: Mar5/7 Viscosity @ 100°C 18 16





Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513 GFL Environmental - 652 - Fredericksburg Hauling Sample No. : GFL0127191 Received : 15 Jul 2024 10954 Houser Drive Lab Number : 06235532 Tested : 15 Jul 2024 Fredericksburg, VA Unique Number : 11124366 Diagnosed : 15 Jul 2024 - Wes Davis US 22408 Test Package : FLEET Contact: WILLIAM MILO Certificate 12367 To discuss this sample report, contact Customer Service at 1-800-237-1369. wmilo@gflenv.com * - Denotes test methods that are outside of the ISO 17025 scope of accreditation. T: F:

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

Report Id: GFL652 [WUSCAR] 06235532 (Generated: 07/15/2024 16:54:24) Rev: 1

Submitted By: TECHNICIAN ACCOUNT

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