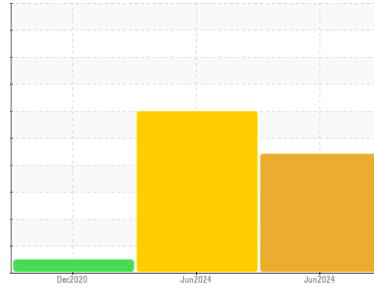




OIL ANALYSIS REPORT

Sample Rating Trend



WATER



Machine Id
700990
 Component
Natural Gas Engine
 Fluid
IRVING 15W40 (--- GAL)

DIAGNOSIS

Recommendation

We advise that you check for the source of the coolant leak. Check for low coolant level. We recommend an early resample to monitor this condition.

Wear

The iron level is abnormal. The copper level is abnormal.

Contamination

Sodium and/or potassium levels remain high. There is a moderate concentration of water present in the oil.

Fluid Condition

The BN result indicates that there is suitable alkalinity remaining in the oil.

SAMPLE INFORMATION

method	limit/base	current	history1	history2
Sample Number	Client Info	GFL0123381	GFL0123441	GFL0011110
Sample Date	Client Info	27 Jun 2024	10 Jun 2024	09 Dec 2020
Machine Age	hrs	0	0	8673
Oil Age	hrs	0	250	1200
Oil Changed	Client Info	N/A	Changed	Changed
Sample Status		ABNORMAL	SEVERE	NORMAL

WEAR METALS

method	limit/base	current	history1	history2	
Iron	ppm	ASTM D5185m >50	▲ 60	▲ 77	20
Chromium	ppm	ASTM D5185m >4	3	3	1
Nickel	ppm	ASTM D5185m >2	1	2	<1
Titanium	ppm	ASTM D5185m	0	<1	<1
Silver	ppm	ASTM D5185m >3	0	<1	<1
Aluminum	ppm	ASTM D5185m >9	4	4	2
Lead	ppm	ASTM D5185m >30	10	16	5
Copper	ppm	ASTM D5185m >35	▲ 52	6	6
Tin	ppm	ASTM D5185m >4	<1	3	<1
Antimony	ppm	ASTM D5185m	---	---	0
Vanadium	ppm	ASTM D5185m	0	<1	0
Beryllium	ppm	ASTM D5185m	---	---	0
Cadmium	ppm	ASTM D5185m	0	0	0

ADDITIVES

method	limit/base	current	history1	history2	
Boron	ppm	ASTM D5185m	50	64	38
Barium	ppm	ASTM D5185m	0	<1	0
Molybdenum	ppm	ASTM D5185m	33	30	52
Manganese	ppm	ASTM D5185m	3	4	1
Magnesium	ppm	ASTM D5185m	269	224	32
Calcium	ppm	ASTM D5185m	1630	1982	1882
Phosphorus	ppm	ASTM D5185m	804	932	737
Zinc	ppm	ASTM D5185m	974	1166	944
Sulfur	ppm	ASTM D5185m	2213	3154	2169
Lithium	ppm	ASTM D5185m	---	---	<1

CONTAMINANTS

method	limit/base	current	history1	history2	
Silicon	ppm	ASTM D5185m >+100	18	21	8
Sodium	ppm	ASTM D5185m >101	▲ 168	▲ 167	3
Potassium	ppm	ASTM D5185m >20	6	7	<1
Water	%	ASTM D6304 >0.1	▲ 0.451	▲ 2.41	---
ppm Water	ppm	ASTM D6304 >1000	▲ 4510	▲ 24100	---

INFRA-RED

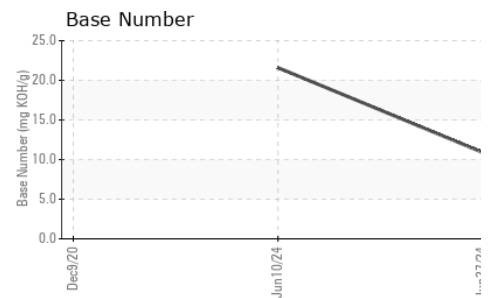
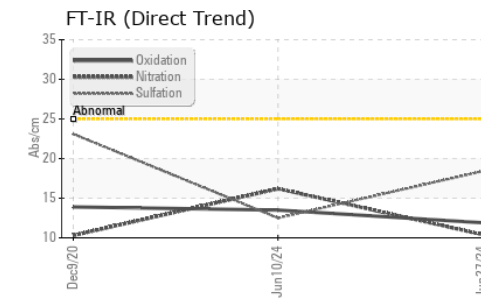
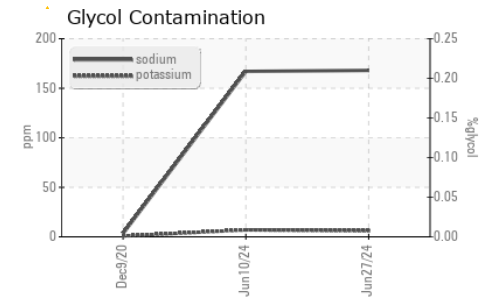
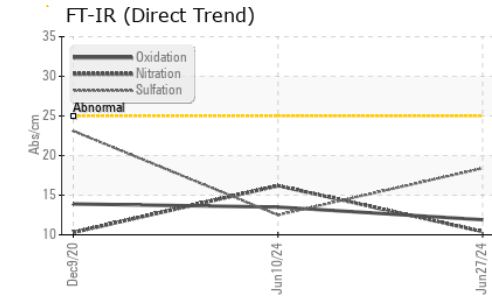
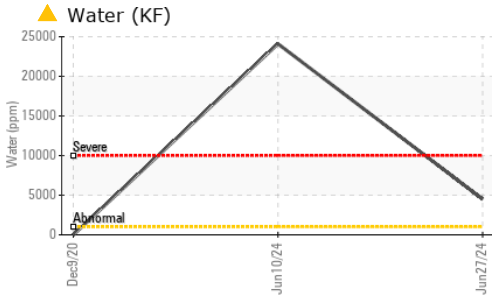
method	limit/base	current	history1	history2	
Soot %	%	*ASTM D7844	0.1	0.1	0
Nitration	Abs/cm	*ASTM D7624 >20	10.4	16.2	10.3
Sulfation	Abs/.1mm	*ASTM D7415 >30	18.4	12.5	23.1

FLUID DEGRADATION

method	limit/base	current	history1	history2	
Oxidation	Abs/.1mm	*ASTM D7414 >25	11.9	13.5	13.9
Base Number (BN)	mg KOH/g	ASTM D2896	10.9	21.6	---



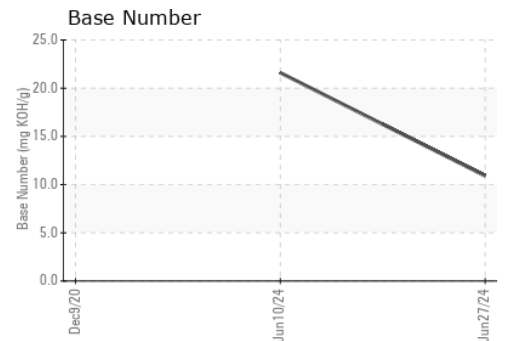
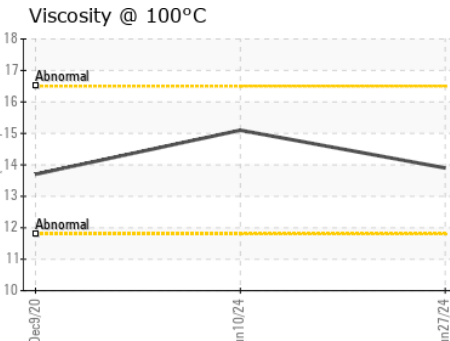
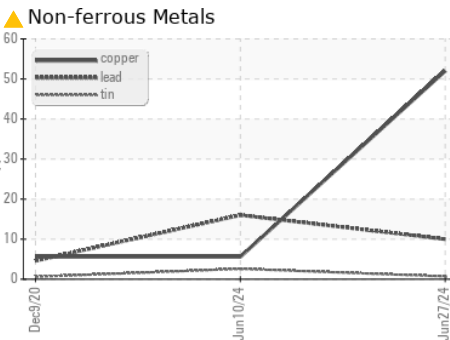
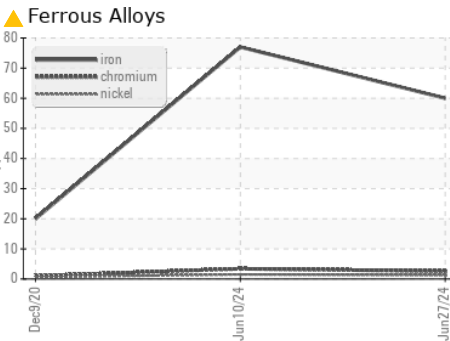
OIL ANALYSIS REPORT



VISUAL	method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	VLITE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE
Appearance	scalar	*Visual	NORML	MILKY	NORML
Odor	scalar	*Visual	NORML	NORML	NORML
Emulsified Water	scalar	*Visual	>0.1	0.2%	NEG
Free Water	scalar	*Visual	NEG	NEG	NEG

FLUID PROPERTIES	method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	13.9	15.1	13.7

GRAPHS



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513

Sample No. : GFL0123381

Lab Number : 06227102

Unique Number : 11110595

Test Package : FLEET (Additional Tests: Glycol, KF)

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)

Received : 03 Jul 2024

Tested : 08 Jul 2024

Diagnosed : 08 Jul 2024 - Jonathan Hester

GFL Environmental - 007 - Brunswick

2809 Galloway Road

Bolivia, NC

US 28422

Contact: DONALD CRAVEN

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