



WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL

Machine Id
814019
 Component
Diesel Engine
 Fluid
NOT GIVEN (--- GAL)

RECOMMENDATION

Oil and filter change at the time of sampling has been noted. Resample at the next service interval to monitor. Please specify the brand, type, and viscosity of the oil on your next sample.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		GFL0123008	GFL0123021	GFL0119402
Sample Date		Client Info		06 Jul 2024	04 Jun 2024	25 Apr 2024
Machine Age	hrs	Client Info		525	372	204
Oil Age	hrs	Client Info		153	168	204
Filter Age	hrs	Client Info		0	0	0
Oil Changed		Client Info		Changed	Changed	Changed
Filter Changed		Client Info		Changed	Changed	Changed
Sample Status				NORMAL	NORMAL	NORMAL

WEAR

Metal levels are typical for a new component breaking in.

Iron	ppm	ASTM D5185m	>100	28	25	19
Chromium	ppm	ASTM D5185m	>20	<1	<1	<1
Nickel	ppm	ASTM D5185m	>4	4	5	2
Titanium	ppm	ASTM D5185m		<1	0	0
Silver	ppm	ASTM D5185m	>3	<1	<1	<1
Aluminum	ppm	ASTM D5185m	>20	6	6	6
Lead	ppm	ASTM D5185m	>40	2	3	0
Copper	ppm	ASTM D5185m	>330	271	196	8
Tin	ppm	ASTM D5185m	>15	2	3	2
Vanadium	ppm	ASTM D5185m		0	<1	0
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE

CONTAMINATION

There is no indication of any contamination in the oil.

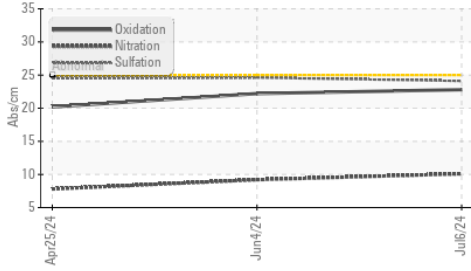
Silicon	ppm	ASTM D5185m	>25	56	64	68
Potassium	ppm	ASTM D5185m	>20	7	7	1
Fuel	%	ASTM D3524	>5	<1.0	<1.0	0.2
Water		WC Method	>0.2	NEG	NEG	NEG
Glycol		WC Method		NEG	NEG	NEG
Soot %	%	*ASTM D7844	>3	0.3	0.2	0.2
Nitration	Abs/cm	*ASTM D7624	>20	10.1	9.2	7.8
Sulfation	Abs/.1mm	*ASTM D7415	>30	24.1	24.6	24.5
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

FLUID CONDITION

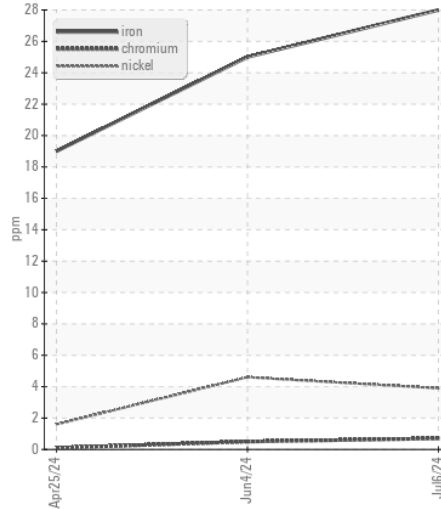
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

Sodium	ppm	ASTM D5185m		4	4	3
Boron	ppm	ASTM D5185m		146	268	459
Barium	ppm	ASTM D5185m		<1	0	<1
Molybdenum	ppm	ASTM D5185m		122	132	133
Manganese	ppm	ASTM D5185m		5	5	5
Magnesium	ppm	ASTM D5185m		773	751	780
Calcium	ppm	ASTM D5185m		1557	1571	1506
Phosphorus	ppm	ASTM D5185m		780	742	750
Zinc	ppm	ASTM D5185m		903	896	873
Sulfur	ppm	ASTM D5185m		2762	2804	2898
Oxidation	Abs/.1mm	*ASTM D7414	>25	22.8	22.2	20.2
Base Number (BN)	mg KOH/g	ASTM D2896		7.9	8.4	9.2
Visc @ 100°C	cSt	ASTM D445		10.3	9.95	9.8

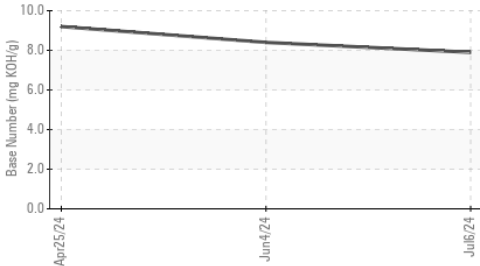
FT-IR (Direct Trend)



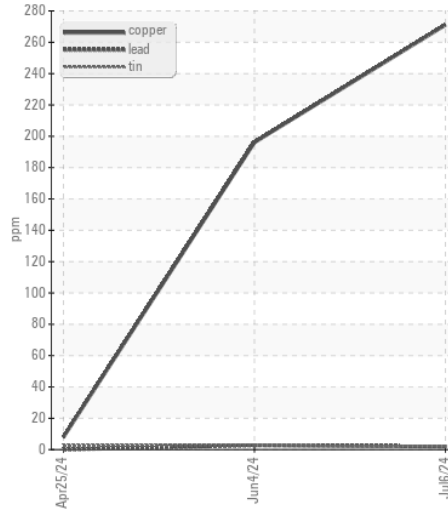
Ferrous Alloys



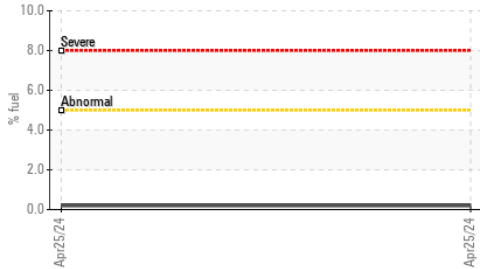
Base Number



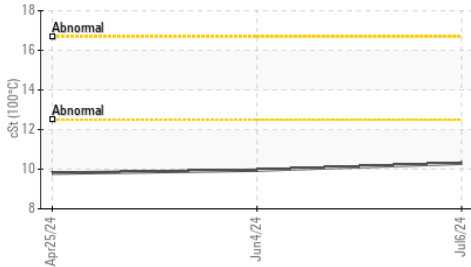
Non-ferrous Metals



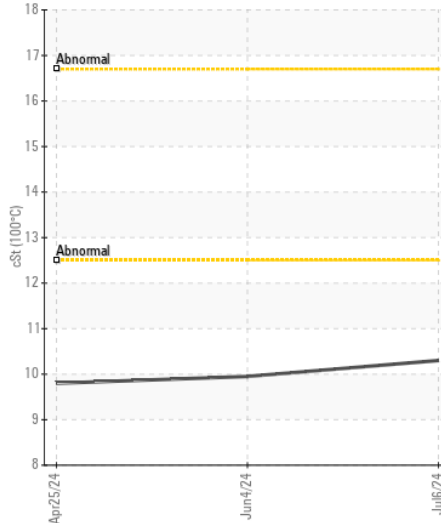
Fuel Dilution



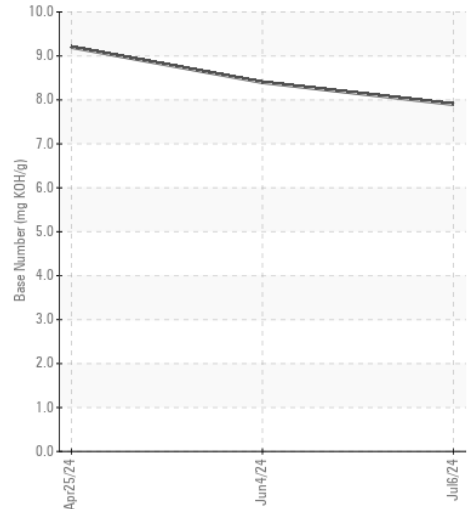
Viscosity @ 100°C



Viscosity @ 100°C



Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : GFL0123008 **Received** : 11 Jul 2024
Lab Number : 06234346 **Tested** : 12 Jul 2024
Unique Number : 11123180 **Diagnosed** : 14 Jul 2024 - Don Baldrige
Test Package : FLEET (Additional Tests: FuelDilution)

GFL Environmental - 814 - Little Rock Hauling
 4005 Hwy 161 N.
 Little Rock, AR
 US 72117
 Contact: Brad Koenig
 bkoenig@gflenv.com

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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F: