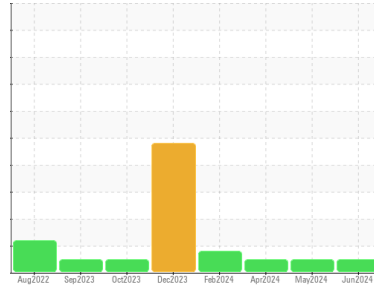




OIL ANALYSIS REPORT

Sample Rating Trend



NORMAL



Machine Id
923028-260204.1

Component
Diesel Engine

Fluid
PETRO CANADA DURON SHP 15W40 (--- 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.

SAMPLE INFORMATION

	method	limit/base	current	history1	history2
Sample Number	Client Info		GFL0123151	GFL0123158	GFL0104873
Sample Date	Client Info		18 Jun 2024	28 May 2024	25 Apr 2024
Machine Age	hrs	Client Info	5476	0	12857
Oil Age	hrs	Client Info	12857	0	12857
Oil Changed	Client Info		N/A	N/A	N/A
Sample Status			NORMAL	NORMAL	NORMAL

CONTAMINATION

	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 METALS

	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m >100	42	24	13
Chromium	ppm	ASTM D5185m >20	3	2	1
Nickel	ppm	ASTM D5185m >4	0	0	0
Titanium	ppm	ASTM D5185m	<1	<1	0
Silver	ppm	ASTM D5185m >3	0	0	0
Aluminum	ppm	ASTM D5185m >20	4	4	2
Lead	ppm	ASTM D5185m >40	<1	<1	0
Copper	ppm	ASTM D5185m >330	14	2	<1
Tin	ppm	ASTM D5185m >15	0	<1	0
Vanadium	ppm	ASTM D5185m	0	0	0
Cadmium	ppm	ASTM D5185m	0	0	0

ADDITIVES

	method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m 0	6	1	0
Barium	ppm	ASTM D5185m 0	0	1	0
Molybdenum	ppm	ASTM D5185m 60	57	58	55
Manganese	ppm	ASTM D5185m 0	<1	0	0
Magnesium	ppm	ASTM D5185m 1010	920	877	908
Calcium	ppm	ASTM D5185m 1070	1105	1075	1042
Phosphorus	ppm	ASTM D5185m 1150	1036	992	998
Zinc	ppm	ASTM D5185m 1270	1259	1209	1172
Sulfur	ppm	ASTM D5185m 2060	2855	3224	3466

CONTAMINANTS

	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m >25	8	5	3
Sodium	ppm	ASTM D5185m	6	1	3
Potassium	ppm	ASTM D5185m >20	2	2	0

INFRA-RED

	method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844 >3	2.4	1	0.7
Nitration	Abs/cm	*ASTM D7624 >20	11.2	8.6	6.8
Sulfation	Abs/.1mm	*ASTM D7415 >30	25.1	21.2	19.1

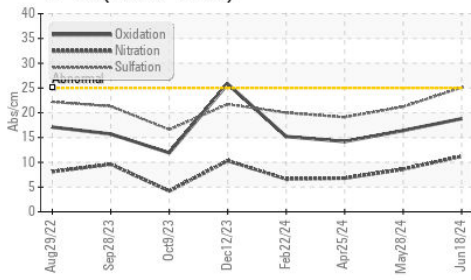
FLUID DEGRADATION

	method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414 >25	18.8	16.4	14.2
Base Number (BN)	mg KOH/g	ASTM D2896 9.8	7.8	8.0	8.5

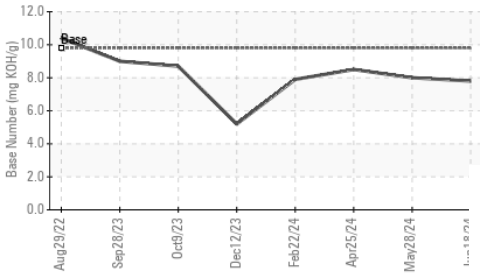


OIL ANALYSIS REPORT

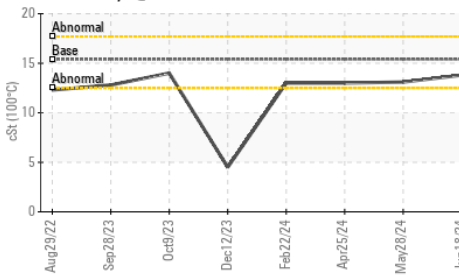
FT-IR (Direct Trend)



Base Number



Viscosity @ 100°C

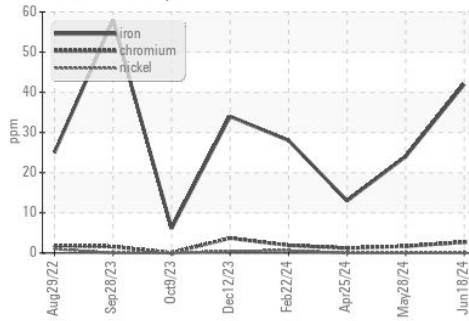


PARAMETER	method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE
Appearance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

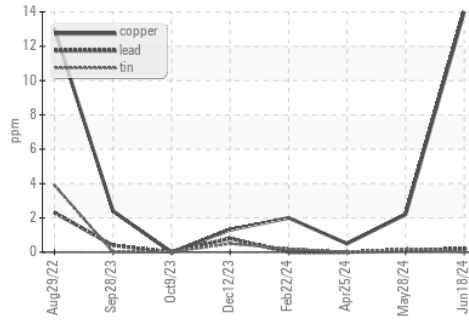
FLUID PROPERTIES	method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	15.4	13.8	13.1

GRAPHS

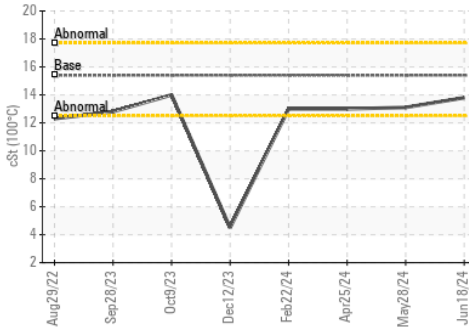
Ferrous Alloys



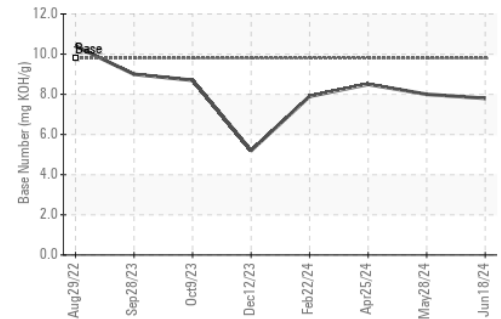
Non-ferrous Metals



Viscosity @ 100°C



Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
 Sample No. : GFL0123151
 Lab Number : 06216615
 Unique Number : 11089479
 Test Package : FLEET

Received : 21 Jun 2024
 Tested : 24 Jun 2024
 Diagnosed : 24 Jun 2024 - Wes Davis

GFL Environmental - 820 - Joplin Hauling
 3700 West 7th Street
 Joplin, MO
 US 64801
 Contact: James Jarrett
 jjarrett@gflenv.com
 T: (417)310-2802
 F:

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)