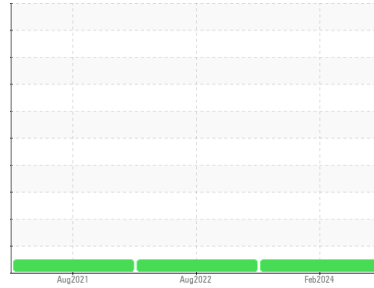




OIL ANALYSIS REPORT

Sample Rating Trend

NORMAL



Machine Id
123013-1059

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		GFL0054116	GFL0054138	GFL0029274
Sample Date	Client Info		01 Feb 2024	18 Aug 2022	31 Aug 2021
Machine Age	hrs	Client Info	14402	0	12615
Oil Age	hrs	Client Info	902	0	813
Oil Changed	Client Info		Changed	Changed	Changed
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	43	17	22
Chromium	ppm	ASTM D5185m >20	1	<1	1
Nickel	ppm	ASTM D5185m >4	0	0	0
Titanium	ppm	ASTM D5185m	<1	<1	4
Silver	ppm	ASTM D5185m >3	0	<1	0
Aluminum	ppm	ASTM D5185m >20	4	2	3
Lead	ppm	ASTM D5185m >40	7	1	2
Copper	ppm	ASTM D5185m >330	<1	<1	<1
Tin	ppm	ASTM D5185m >15	1	<1	<1
Antimony	ppm	ASTM D5185m	---	---	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	8	7	9
Barium	ppm	ASTM D5185m 0	0	0	0
Molybdenum	ppm	ASTM D5185m 60	68	64	70
Manganese	ppm	ASTM D5185m 0	<1	<1	<1
Magnesium	ppm	ASTM D5185m 1010	929	971	969
Calcium	ppm	ASTM D5185m 1070	1102	1100	1220
Phosphorus	ppm	ASTM D5185m 1150	1054	1086	1075
Zinc	ppm	ASTM D5185m 1270	1305	1231	1313
Sulfur	ppm	ASTM D5185m 2060	2855	3265	2755

CONTAMINANTS

	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m >25	8	4	6
Sodium	ppm	ASTM D5185m	29	18	34
Potassium	ppm	ASTM D5185m >20	29	16	30

INFRA-RED

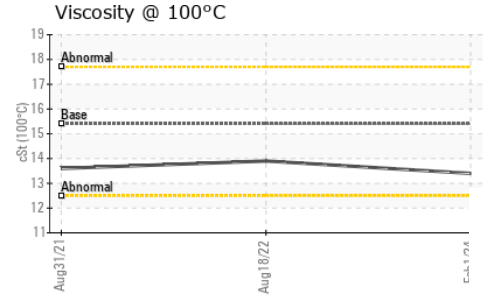
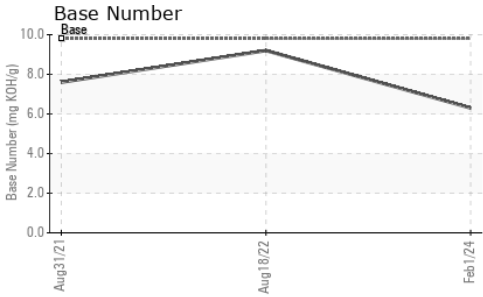
	method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844 >3	1	0.5	0.6
Nitration	Abs/cm	*ASTM D7624 >20	12.4	9.8	10.9
Sulfation	Abs/.1mm	*ASTM D7415 >30	24.8	21.0	21.4

FLUID DEGRADATION

	method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414 >25	20.1	16.4	16.7
Base Number (BN)	mg KOH/g	ASTM D2896 9.8	6.3	9.2	7.6



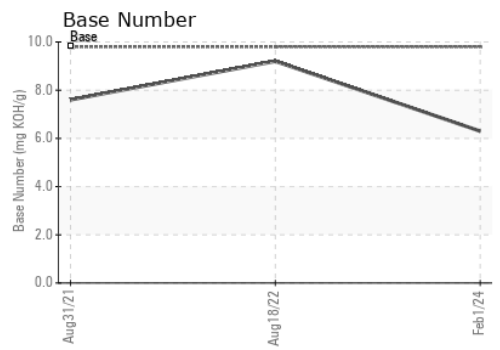
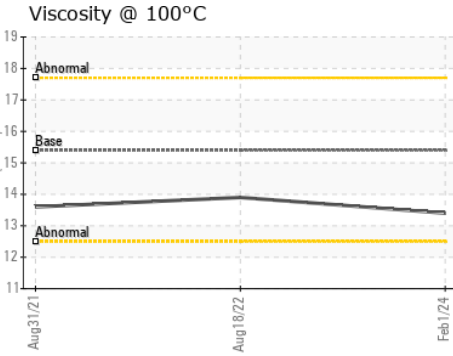
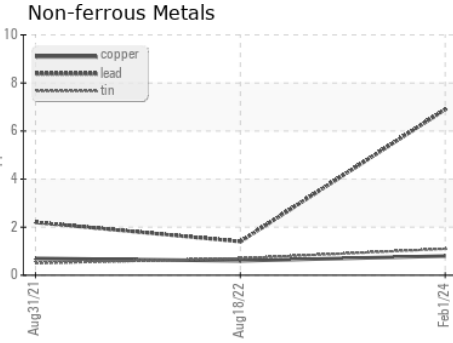
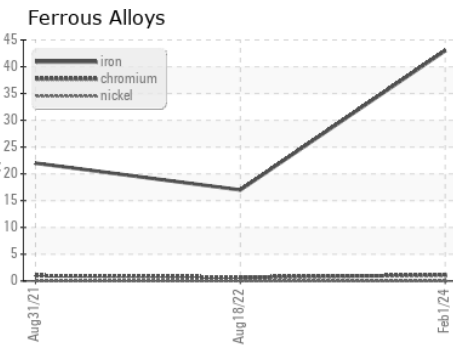
OIL ANALYSIS REPORT



VISUAL	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	13.4	13.9	13.6

GRAPHS



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : GFL0054116 **Received** : 07 Feb 2024
Lab Number : 06082971 **Tested** : 08 Feb 2024
Unique Number : 10870416 **Diagnosed** : 08 Feb 2024 - Wes Davis
Test Package : FLEET

GFL Environmental - 630 - Northern A1 PA
 117 Moonlite Dr
 Smithfield, PA
 US 15478
 Contact: MIKE NEWMAN
 miken@northerna1.com
 T: (231)564-2362
 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)