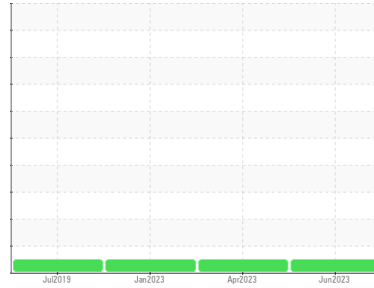




OIL ANALYSIS REPORT

Sample Rating Trend

NORMAL



Machine Id
422030-402328

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	history 1	history 2	
Sample Number	Client Info	GFL0067698	GFL0067646	GFL0067795	
Sample Date	Client Info	30 Jun 2023	24 Apr 2023	02 Jan 2023	
Machine Age	hrs	Client Info	0	0	32239
Oil Age	hrs	Client Info	0	0	0
Oil Changed	Client Info	N/A	N/A	Not Chngd	
Sample Status		NORMAL	NORMAL	NORMAL	

CONTAMINATION

method	limit/base	current	history 1	history 2
Fuel	WC Method >5	<1.0	<1.0	<1.0
Glycol	WC Method	NEG	NEG	NEG

WEAR METALS

method	limit/base	current	history 1	history 2
Iron	ppm ASTM D5185m >110	31	52	8
Chromium	ppm ASTM D5185m >4	2	3	<1
Nickel	ppm ASTM D5185m >2	0	0	<1
Titanium	ppm ASTM D5185m	0	0	0
Silver	ppm ASTM D5185m >2	0	0	0
Aluminum	ppm ASTM D5185m >25	4	4	<1
Lead	ppm ASTM D5185m >45	2	15	1
Copper	ppm ASTM D5185m >85	3	2	<1
Tin	ppm ASTM D5185m >4	<1	1	<1
Antimony	ppm ASTM D5185m	---	---	---
Vanadium	ppm ASTM D5185m	0	0	0
Cadmium	ppm ASTM D5185m	0	0	0

ADDITIVES

method	limit/base	current	history 1	history 2
Boron	ppm ASTM D5185m 0	5	22	48
Barium	ppm ASTM D5185m 0	0	0	0
Molybdenum	ppm ASTM D5185m 60	62	58	49
Manganese	ppm ASTM D5185m 0	<1	<1	<1
Magnesium	ppm ASTM D5185m 1010	976	846	747
Calcium	ppm ASTM D5185m 1070	1139	1234	1188
Phosphorus	ppm ASTM D5185m 1150	1071	857	697
Zinc	ppm ASTM D5185m 1270	1302	1031	861
Sulfur	ppm ASTM D5185m 2060	3838	2472	2472
Lithium	ppm ASTM D5185m	---	---	---

CONTAMINANTS

method	limit/base	current	history 1	history 2
Silicon	ppm ASTM D5185m >30	10	18	8
Sodium	ppm ASTM D5185m	8	9	4
Potassium	ppm ASTM D5185m >20	3	5	<1

INFRA-RED

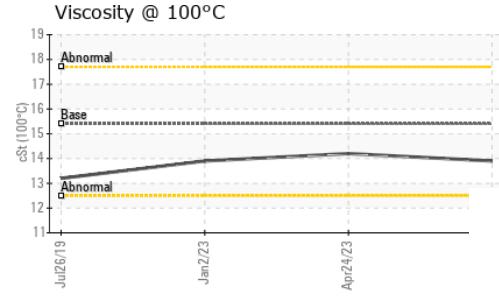
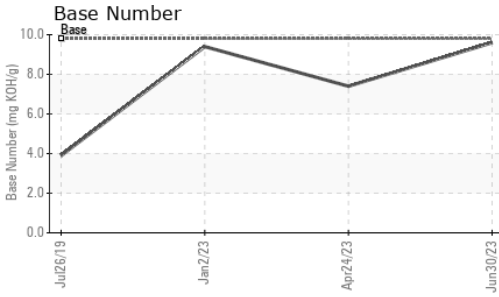
method	limit/base	current	history 1	history 2
Soot %	% *ASTM D7844 >3	0.6	1.1	0.1
Nitration	Abs/cm *ASTM D7624 >20	9.0	14.2	6.6
Sulfation	Abs/.1mm *ASTM D7415 >30	21.1	26.1	19.8

FLUID DEGRADATION

method	limit/base	current	history 1	history 2
Oxidation	Abs/.1mm *ASTM D7414 >25	16.8	26.0	16
Base Number (BN)	mg KOH/g ASTM D2896 9.8	9.6	7.4	9.4



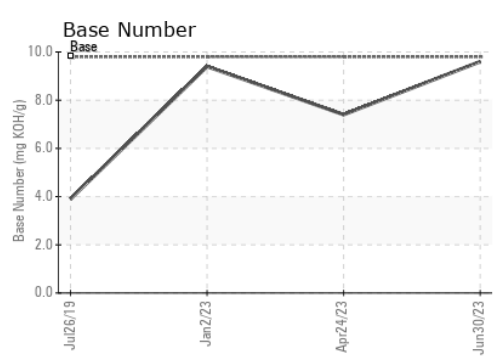
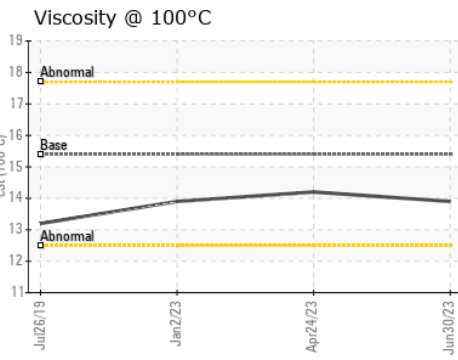
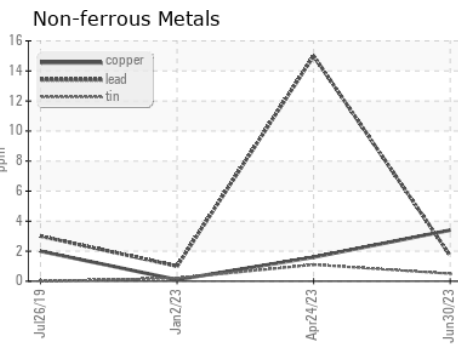
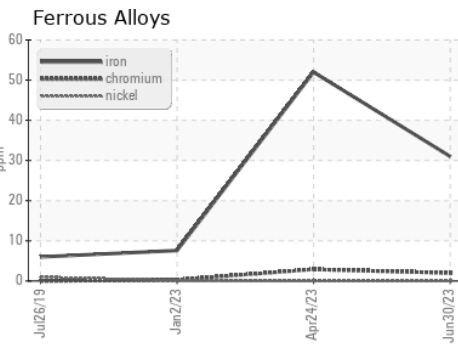
OIL ANALYSIS REPORT



VISUAL	method	limit/base	current	history 1	history 2
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	history 1	history 2	
Visc @ 100°C	cSt	ASTM D445	15.4	13.9	14.2	13.9

GRAPHS



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : GFL0067698 **Received** : 07 Jul 2023
Lab Number : **05892027** **Diagnosed** : 07 Jul 2023
Unique Number : 10547837 **Diagnostician** : Wes Davis
Test Package : FLEET

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

Certificate L2367
 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)