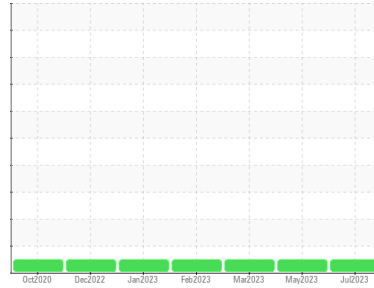




OIL ANALYSIS REPORT

Sample Rating Trend

NORMAL



Machine Id
420027-402380

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	GFL0076780	GFL0076836	GFL0065413
Sample Date	Client Info	04 Jul 2023	04 May 2023	06 Mar 2023
Machine Age	hrs	4580	4283	3955
Oil Age	hrs	600	200	200
Oil Changed	Client Info	Changed	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 >100	40	19	7
Chromium	ppm ASTM D5185m >20	1	<1	<1
Nickel	ppm ASTM D5185m >4	0	0	0
Titanium	ppm ASTM D5185m	0	0	0
Silver	ppm ASTM D5185m >3	0	0	0
Aluminum	ppm ASTM D5185m >20	2	0	<1
Lead	ppm ASTM D5185m >40	1	<1	<1
Copper	ppm ASTM D5185m >330	5	3	1
Tin	ppm ASTM D5185m >15	<1	<1	0
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	4	3	6
Barium	ppm ASTM D5185m 0	0	0	0
Molybdenum	ppm ASTM D5185m 60	61	59	57
Manganese	ppm ASTM D5185m 0	<1	<1	<1
Magnesium	ppm ASTM D5185m 1010	1001	907	894
Calcium	ppm ASTM D5185m 1070	1123	1043	1039
Phosphorus	ppm ASTM D5185m 1150	1050	974	990
Zinc	ppm ASTM D5185m 1270	1341	1229	1224
Sulfur	ppm ASTM D5185m 2060	3596	3010	3675

CONTAMINANTS

method	limit/base	current	history 1	history 2
Silicon	ppm ASTM D5185m >25	6	2	3
Sodium	ppm ASTM D5185m	1	<1	1
Potassium	ppm ASTM D5185m >20	2	1	<1

INFRA-RED

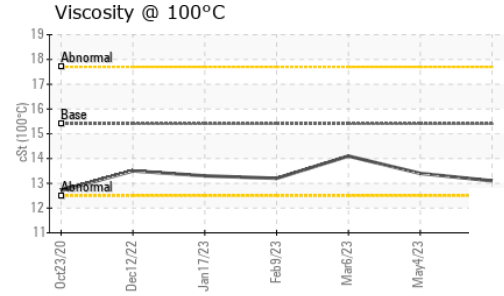
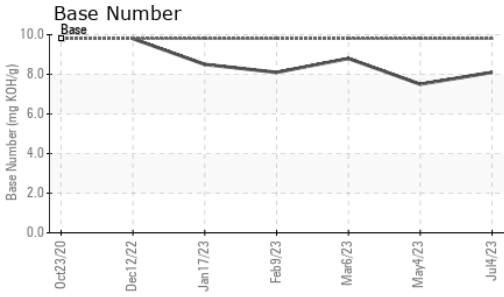
method	limit/base	current	history 1	history 2
Soot %	% *ASTM D7844 >3	0.5	0.3	0.1
Nitration	Abs/cm *ASTM D7624 >20	9.0	6.6	5.1
Sulfation	Abs/.1mm *ASTM D7415 >30	21.0	17.8	18.0

FLUID DEGRADATION

method	limit/base	current	history 1	history 2
Oxidation	Abs/.1mm *ASTM D7414 >25	17.2	14.6	13.4
Base Number (BN)	mg KOH/g ASTM D2896 9.8	8.1	7.5	8.8



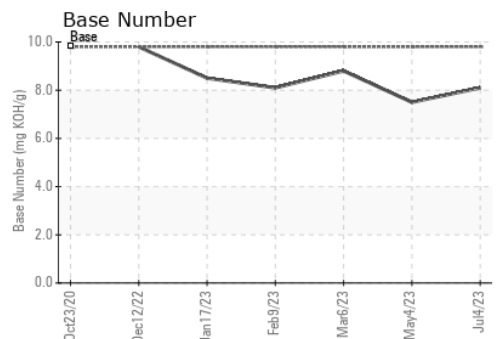
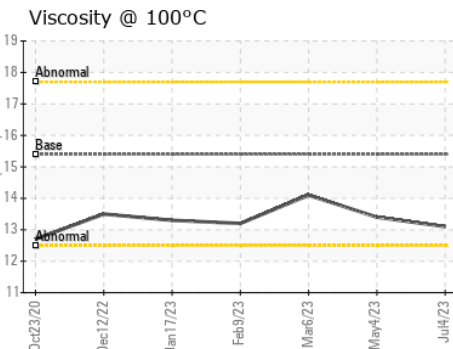
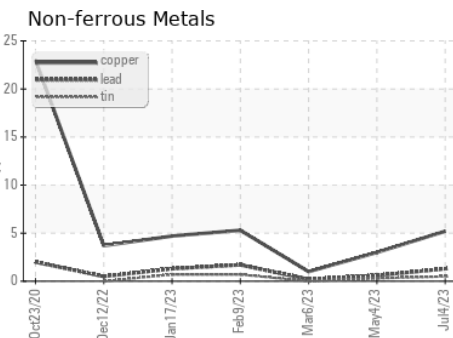
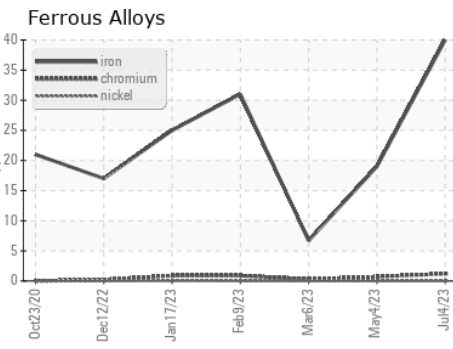
OIL ANALYSIS REPORT



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	13.1	13.4	14.1

GRAPHS



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : GFL0076780 **Received** : 07 Jul 2023
Lab Number : **05892060** **Diagnosed** : 07 Jul 2023
Unique Number : 10547870 **Diagnostician** : Wes Davis
Test Package : FLEET

GFL Environmental - 821 - Ozarks Hauling
 33924 Olath Drive
 Lebanon, MO
 US 65536
 Contact: Landen Johnson
 landen.johnson@gflenv.com
 T: (417)664-0010
 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)