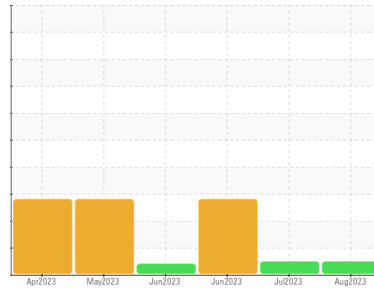




OIL ANALYSIS REPORT

Sample Rating Trend

NORMAL



Machine Id
913181
Component
Diesel Engine
Fluid
PETRO CANADA DURON SHP 15W40 (--- GAL)

DIAGNOSIS

Recommendation

Resample at the next service interval to monitor.

Wear

Metal levels are typical for a new component breaking in.

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		GFL0088401	GFL0088425	GFL0088381
Sample Date	Client Info		15 Aug 2023	24 Jul 2023	30 Jun 2023
Machine Age	hrs	Client Info	900	755	613
Oil Age	hrs	Client Info	613	613	420
Oil Changed	Client Info		N/A	N/A	Changed
Sample Status			NORMAL	NORMAL	ABNORMAL

CONTAMINATION

	method	limit/base	current	history1	history2
Fuel	WC Method	>3.0	<1.0	<1.0	<1.0
Glycol	WC Method		NEG	NEG	NEG

WEAR METALS

	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m >120	22	15	51
Chromium	ppm	ASTM D5185m >20	<1	<1	1
Nickel	ppm	ASTM D5185m >5	2	<1	▲ 8
Titanium	ppm	ASTM D5185m >2	<1	0	<1
Silver	ppm	ASTM D5185m >2	1	<1	<1
Aluminum	ppm	ASTM D5185m >20	2	2	<1
Lead	ppm	ASTM D5185m >40	<1	0	<1
Copper	ppm	ASTM D5185m >330	14	13	72
Tin	ppm	ASTM D5185m >15	1	<1	3
Vanadium	ppm	ASTM D5185m	<1	0	<1
Cadmium	ppm	ASTM D5185m	0	0	0

ADDITIVES

	method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m 0	6	11	137
Barium	ppm	ASTM D5185m 0	0	0	0
Molybdenum	ppm	ASTM D5185m 60	65	68	113
Manganese	ppm	ASTM D5185m 0	1	<1	5
Magnesium	ppm	ASTM D5185m 1010	959	992	783
Calcium	ppm	ASTM D5185m 1070	1149	1168	1515
Phosphorus	ppm	ASTM D5185m 1150	972	1057	771
Zinc	ppm	ASTM D5185m 1270	1204	1282	979
Sulfur	ppm	ASTM D5185m 2060	3388	3731	2925

CONTAMINANTS

	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m >25	10	11	▲ 59
Sodium	ppm	ASTM D5185m	2	2	3
Potassium	ppm	ASTM D5185m >20	3	2	10

INFRA-RED

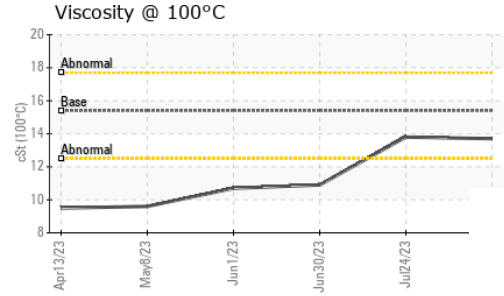
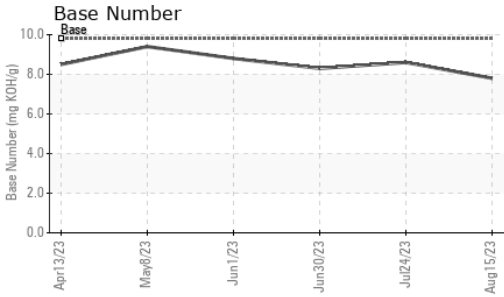
	method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844 >4	0.6	0.4	0.8
Nitration	Abs/cm	*ASTM D7624 >20	7.2	6.4	10.4
Sulfation	Abs/.1mm	*ASTM D7415 >30	19.8	19.3	25.2

FLUID DEGRADATION

	method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414 >25	14.6	14.5	21.9
Base Number (BN)	mg KOH/g	ASTM D2896 9.8	7.8	8.6	8.3



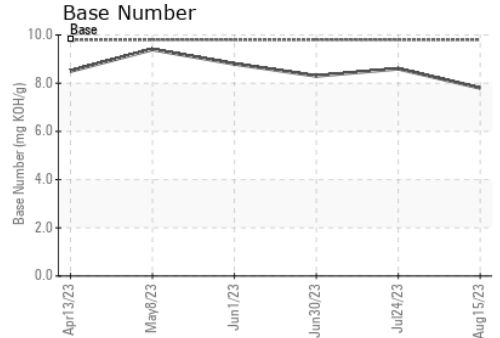
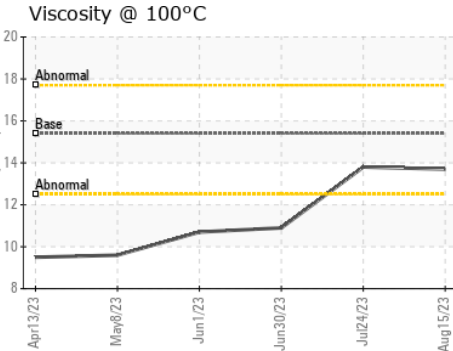
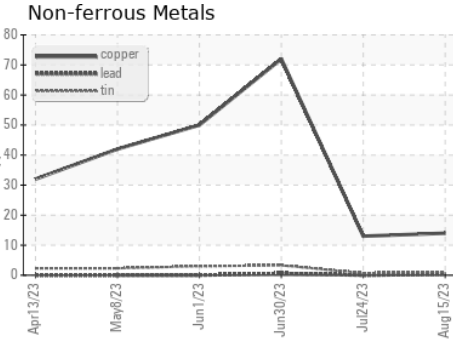
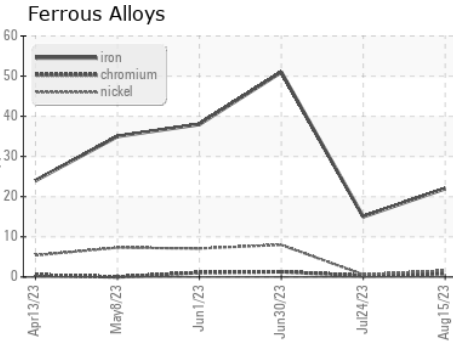
OIL ANALYSIS REPORT



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	13.7	13.8	▲ 10.9

GRAPHS



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : GFL0088401 **Received** : 18 Aug 2023
Lab Number : **05928603** **Diagnosed** : 20 Aug 2023
Unique Number : 10608550 **Diagnostician** : Wes Davis
Test Package : FLEET

GFL Environmental - 084 - Clarksville
 699 Jack Miller Boulevard
 Clarksville, TN
 US 37042
 Contact: ROBERT THIBAUT
 robert.thibault@gflenv.com
 T: (931)552-7276
 F: (931)572-9674

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)