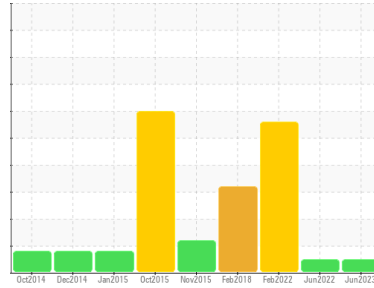




OIL ANALYSIS REPORT

Sample Rating Trend



NORMAL



Area
(P507246)

Machine Id
10494

Component
Diesel Engine

Fluid
PETRO CANADA DURON SHP 15W40 (32 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	GFL0082205	GFL0053700	GFL0039973
Sample Date	Client Info	07 Jun 2023	24 Jun 2022	03 Feb 2022
Machine Age	hrs	2130	143	14090
Oil Age	hrs	2130	143	14090
Oil Changed	Client Info	Changed	Changed	Not Changed
Sample Status		NORMAL	NORMAL	ABNORMAL

CONTAMINATION

method	limit/base	current	history1	history2
Fuel	WC Method >5	<1.0	<1.0	▲ 2.5
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	77	67	▲ 112
Chromium	ppm ASTM D5185m >20	9	2	3
Nickel	ppm ASTM D5185m >4	<1	0	<1
Titanium	ppm ASTM D5185m	<1	0	<1
Silver	ppm ASTM D5185m >3	0	0	<1
Aluminum	ppm ASTM D5185m >20	17	35	● 57
Lead	ppm ASTM D5185m >40	<1	<1	2
Copper	ppm ASTM D5185m >330	4	14	24
Tin	ppm ASTM D5185m >15	0	<1	<1
Antimony	ppm ASTM D5185m	---	---	0
Vanadium	ppm ASTM D5185m	0	0	<1
Cadmium	ppm ASTM D5185m	0	0	0

ADDITIVES

method	limit/base	current	history1	history2
Boron	ppm ASTM D5185m 0	14	35	27
Barium	ppm ASTM D5185m 0	0	0	0
Molybdenum	ppm ASTM D5185m 60	61	68	73
Manganese	ppm ASTM D5185m 0	1	<1	1
Magnesium	ppm ASTM D5185m 1010	917	825	810
Calcium	ppm ASTM D5185m 1070	1180	1153	1338
Phosphorus	ppm ASTM D5185m 1150	1005	1011	949
Zinc	ppm ASTM D5185m 1270	1259	1231	1056
Sulfur	ppm ASTM D5185m 2060	3694	3074	2257
Lithium	ppm ASTM D5185m	---	---	---

CONTAMINANTS

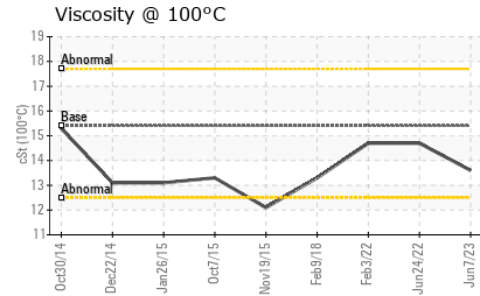
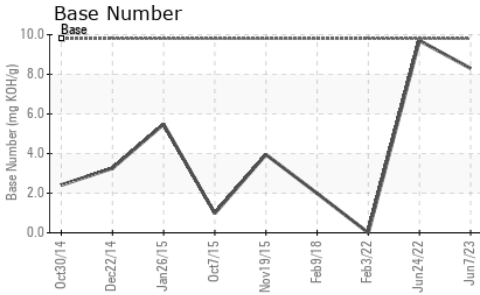
method	limit/base	current	history1	history2
Silicon	ppm ASTM D5185m >25	20	6	9
Sodium	ppm ASTM D5185m	5	3	3
Potassium	ppm ASTM D5185m >20	26	78	● 150

INFRA-RED

method	limit/base	current	history1	history2
Soot %	% *ASTM D7844 >3	1.4	1.9	▲ 3.6
Nitration	Abs/cm *ASTM D7624 >20	11.0	9.0	13.2
Sulfation	Abs./1mm *ASTM D7415 >30	22.0	22.7	27.6



OIL ANALYSIS REPORT

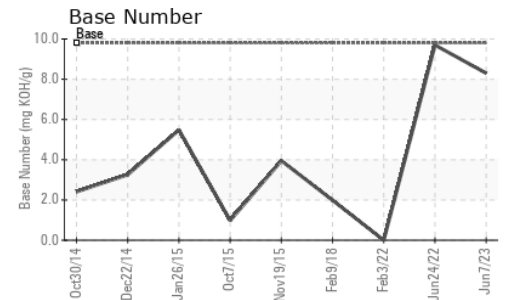
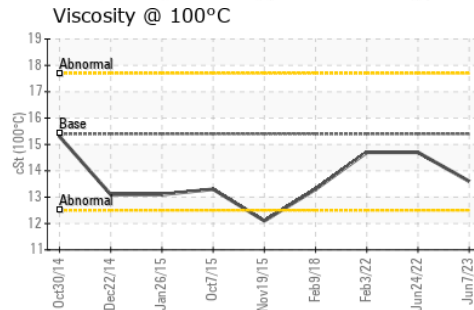
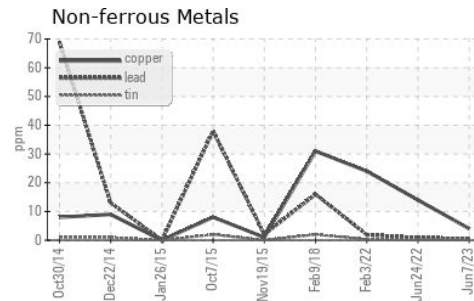
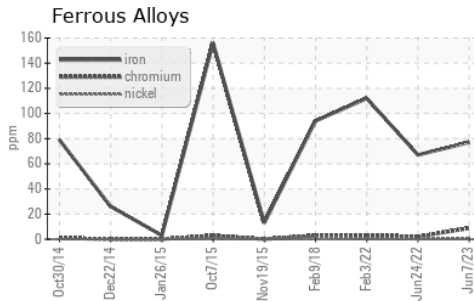


FLUID DEGRADATION		method	limit/base	current	history1	history2
Oxidation	Abs./1mm	*ASTM D7414	>25	19.0	15.6	18.5
Base Number (BN)	mg KOH/g	ASTM D2896	9.8	8.3	9.7	▲ 0.0

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

FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	15.4	13.6	14.7	14.7

GRAPHS



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : GFL0082205
Lab Number : **05871835**
Unique Number : 10511619
Test Package : FLEET

Received : 13 Jun 2023
Tested : 13 Jun 2023
Diagnosed : 13 Jun 2023 - Wes Davis

GFL Environmental - 015 - Columbia
 7800 Farrow Road
 Columbia, SC
 US 29203-3219
 Contact: NOEL MATTHEWS
 nmatthewsjr@gflenv.com
 T: (803)935-0249
 F: (803)935-0244

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)