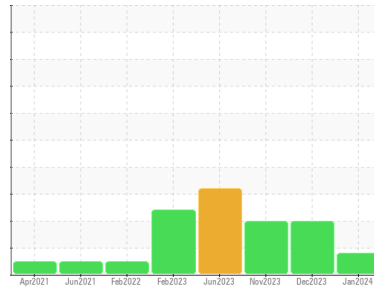




OIL ANALYSIS REPORT

Sample Rating Trend



FUEL



Machine Id
536M
Component
Diesel Engine
Fluid
PETRO CANADA DURON SHP 15W40 (--- GAL)

DIAGNOSIS

Recommendation

Oil and filter change at the time of sampling has been noted. No corrective action is recommended at this time. Resample at the next service interval to monitor.

Wear

All component wear rates are normal.

Contamination

Light fuel dilution occurring. No other contaminants were detected in the oil.

Fluid Condition

The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is acceptable for the time in service.

SAMPLE INFORMATION

method	limit/base	current	history1	history2
Sample Number	Client Info	GFL0108856	GFL0105763	GFL0101486
Sample Date	Client Info	17 Jan 2024	21 Dec 2023	30 Nov 2023
Machine Age	hrs	10206	10078	19926
Oil Age	hrs	0	19893	19893
Oil Changed	Client Info	Changed	Not Changd	Not Changd
Sample Status		MARGINAL	SEVERE	SEVERE

CONTAMINATION

method	limit/base	current	history1	history2
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 >90	59	58	39
Chromium	ppm ASTM D5185m >20	4	3	2
Nickel	ppm ASTM D5185m >2	0	<1	<1
Titanium	ppm ASTM D5185m >2	0	0	0
Silver	ppm ASTM D5185m >2	0	0	0
Aluminum	ppm ASTM D5185m >20	3	3	2
Lead	ppm ASTM D5185m >40	1	1	<1
Copper	ppm ASTM D5185m >330	3	3	9
Tin	ppm ASTM D5185m >15	<1	<1	<1
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	0	2	<1
Barium	ppm ASTM D5185m 0	0	<1	2
Molybdenum	ppm ASTM D5185m 60	50	55	53
Manganese	ppm ASTM D5185m 0	1	1	0
Magnesium	ppm ASTM D5185m 1010	791	873	794
Calcium	ppm ASTM D5185m 1070	872	997	953
Phosphorus	ppm ASTM D5185m 1150	892	1011	858
Zinc	ppm ASTM D5185m 1270	1046	1183	1061
Sulfur	ppm ASTM D5185m 2060	2348	2643	3565

CONTAMINANTS

method	limit/base	current	history1	history2
Silicon	ppm ASTM D5185m >25	10	11	8
Sodium	ppm ASTM D5185m	5	8	4
Potassium	ppm ASTM D5185m >20	0	<1	1
Fuel	% ASTM D3524 >3.0	▲ 2.0	◆ 8.3	◆ 8.3

INFRA-RED

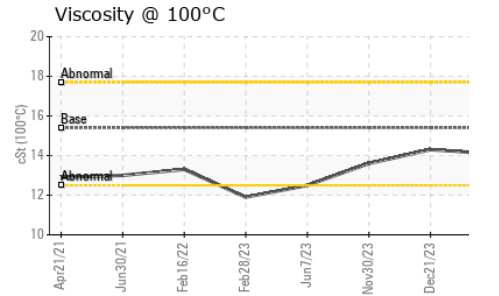
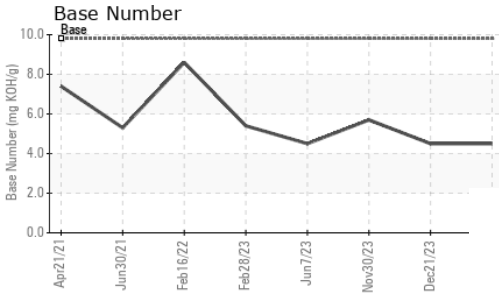
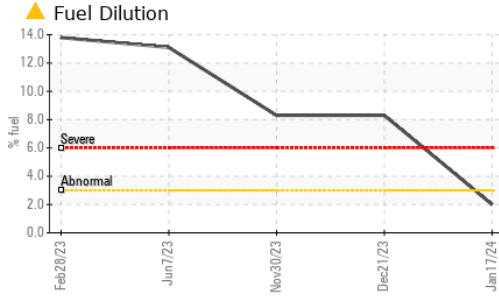
method	limit/base	current	history1	history2
Soot %	% *ASTM D7844 >6	1.4	1.3	1.1
Nitration	Abs/cm *ASTM D7624 >20	19.1	18.1	15.3
Sulfation	Abs/.1mm *ASTM D7415 >30	30.9	29.8	26.5

FLUID DEGRADATION

method	limit/base	current	history1	history2
Oxidation	Abs/.1mm *ASTM D7414 >25	40.6	38.8	30.9
Base Number (BN)	mg KOH/g ASTM D2896 9.8	4.5	4.5	5.7



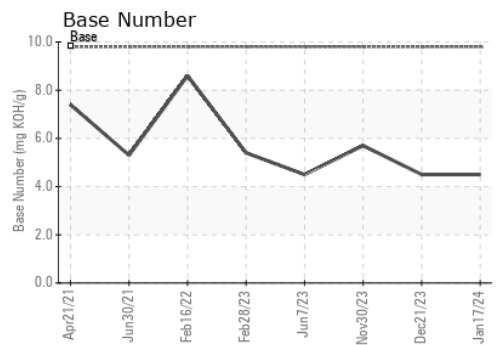
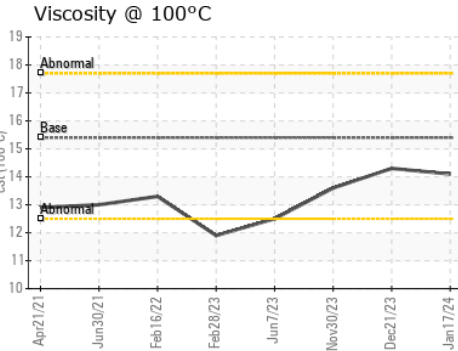
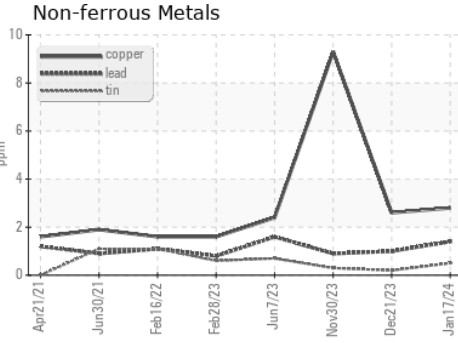
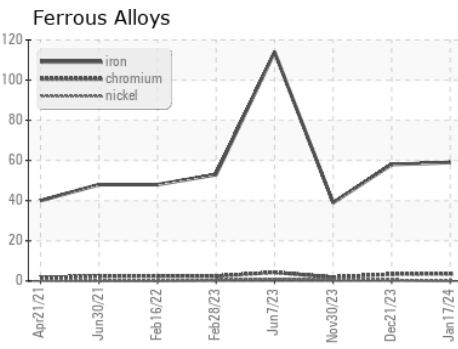
OIL ANALYSIS REPORT



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	14.1	14.3	13.6

GRAPHS



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : GFL0108856 **Received** : 19 Jan 2024
Lab Number : **06066109** **Diagnosed** : 23 Jan 2024
Unique Number : 10842786 **Diagnostician** : Don Baldrige
Test Package : FLEET (Additional Tests: PercentFuel)

GFL Environmental - 415 - Michigan East
 6200 Elmridge
 Sterling Heights, MI
 US 48313
 Contact: Frank Wolak
 fwolak@gflenv.com
 T: (586)825-9514
 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)