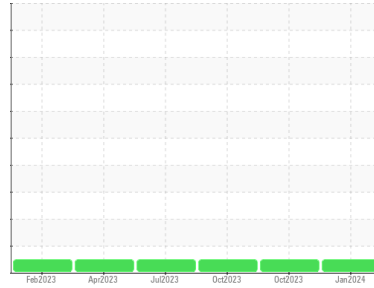




OIL ANALYSIS REPORT

Sample Rating Trend

NORMAL



Machine Id
420093 - SW4021
 Component
Diesel Engine
 Fluid
PETRO CANADA DURON SHP 15W40 (--- GAL)

DIAGNOSIS

Recommendation

Resample at the next service interval to monitor. (Customer Sample Comment: Engine)

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 acceptable for the time in service.

SAMPLE INFORMATION

	method	limit/base	current	history1	history2
Sample Number	Client Info		GFL0105497	GFL0094142	GFL0085477
Sample Date	Client Info		08 Jan 2024	17 Oct 2023	10 Oct 2023
Machine Age	mls	Client Info	130745	122637	121841
Oil Age	mls	Client Info	130745	122637	121841
Oil Changed	Client Info		Changed	N/A	N/A
Sample Status			NORMAL	NORMAL	NORMAL

CONTAMINATION

	method	limit/base	current	history1	history2
Fuel	WC Method	>3.0	<1.0	<1.0	<1.0
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 >120	3	0	1
Chromium	ppm	ASTM D5185m >20	0	<1	<1
Nickel	ppm	ASTM D5185m >5	0	0	<1
Titanium	ppm	ASTM D5185m >2	0	0	<1
Silver	ppm	ASTM D5185m >2	0	<1	0
Aluminum	ppm	ASTM D5185m >20	<1	<1	2
Lead	ppm	ASTM D5185m >40	1	0	2
Copper	ppm	ASTM D5185m >330	<1	0	2
Tin	ppm	ASTM D5185m >15	0	0	<1
Vanadium	ppm	ASTM D5185m	<1	0	0
Cadmium	ppm	ASTM D5185m	0	0	<1

ADDITIVES

	method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m 0	0	0	0
Barium	ppm	ASTM D5185m 0	0	0	9
Molybdenum	ppm	ASTM D5185m 60	51	44	41
Manganese	ppm	ASTM D5185m 0	<1	<1	<1
Magnesium	ppm	ASTM D5185m 1010	0	11	8
Calcium	ppm	ASTM D5185m 1070	2615	2398	2294
Phosphorus	ppm	ASTM D5185m 1150	1138	1061	877
Zinc	ppm	ASTM D5185m 1270	1303	1247	1161
Sulfur	ppm	ASTM D5185m 2060	3256	3160	3143

CONTAMINANTS

	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m >25	7	10	6
Sodium	ppm	ASTM D5185m	1	0	0
Potassium	ppm	ASTM D5185m >20	2	2	3

INFRA-RED

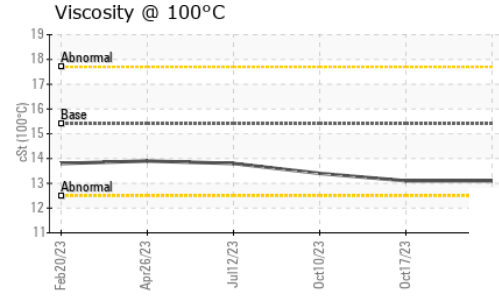
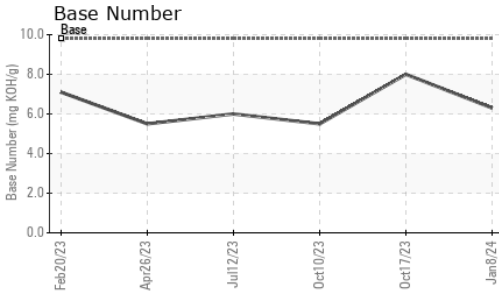
	method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844 >4	0.2	0.1	0.2
Nitration	Abs/cm	*ASTM D7624 >20	7.8	4.9	7.9
Sulfation	Abs/.1mm	*ASTM D7415 >30	18.9	14.4	19.1

FLUID DEGRADATION

	method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414 >25	10.9	8.2	11.9
Base Number (BN)	mg KOH/g	ASTM D2896 9.8	6.3	8.0	5.5



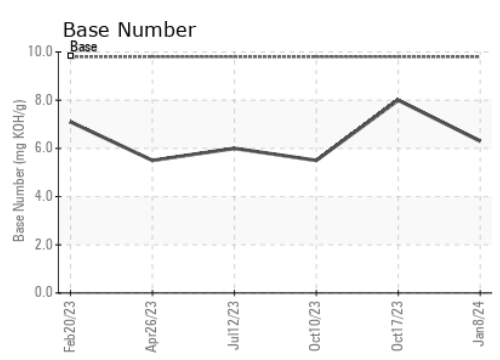
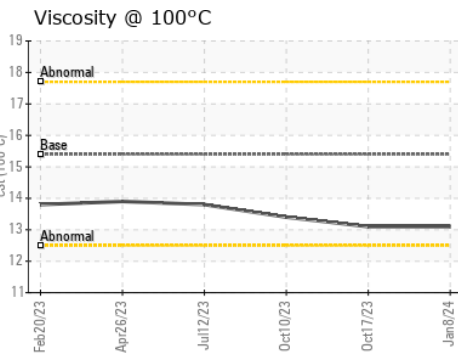
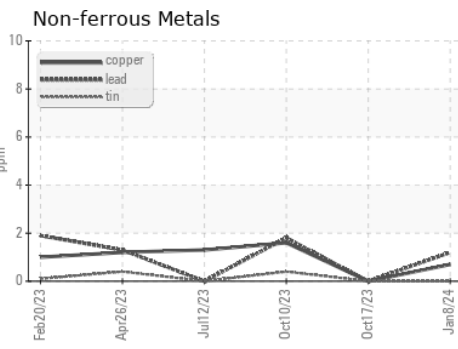
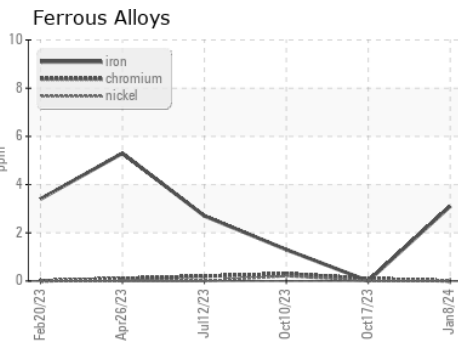
OIL ANALYSIS REPORT



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	13.1	13.1	13.4

GRAPHS



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : GFL0105497 **Recieved** : 12 Jan 2024
Lab Number : **06059981** **Diagnosed** : 16 Jan 2024
Unique Number : 10831363 **Diagnostician** : Don Baldrige
Test Package : FLEET

GFL Environmental - 983 - Sugar Land Hauling
 16011 West Belfort Street
 Sugar Land, TX
 US 77498
 Contact: Gino Griego
 ggriego@gflenv.com
 T: (720)999-0726
 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)