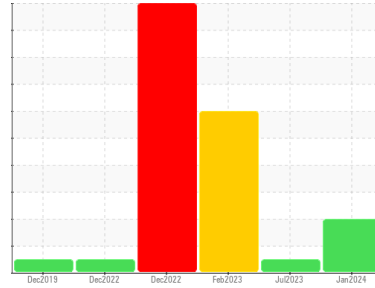




OIL ANALYSIS REPORT

Sample Rating Trend



WATER



Area
(EPI821)
Machine Id
10896C

Component
Natural Gas Engine

Fluid
PETRO CANADA DURON SHP 15W40 (7 GAL)

DIAGNOSIS

Recommendation

We advise that you check for the source of water entry. The oil change at the time of sampling has been noted. Resample at the next service interval to monitor.

Wear

All component wear rates are normal.

Contamination

There is a light concentration of water present in the oil. Moderate concentration of visible dirt/debris present 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	GFL0083172	GFL0083104	GFL0067447
Sample Date	Client Info	24 Jan 2024	25 Jul 2023	03 Feb 2023
Machine Age	hrs	0	0	0
Oil Age	hrs	0	0	600
Oil Changed	Client Info	Changed	N/A	N/A
Sample Status		ABNORMAL	NORMAL	SEVERE

WEAR METALS

method	limit/base	current	history1	history2	
Iron	ppm	ASTM D5185m >50	14	41	99
Chromium	ppm	ASTM D5185m >4	<1	<1	4
Nickel	ppm	ASTM D5185m >2	<1	<1	4
Titanium	ppm	ASTM D5185m	<1	<1	<1
Silver	ppm	ASTM D5185m >3	<1	0	0
Aluminum	ppm	ASTM D5185m >9	7	5	9
Lead	ppm	ASTM D5185m >30	1	<1	10
Copper	ppm	ASTM D5185m >35	10	2	3
Tin	ppm	ASTM D5185m >4	<1	<1	2
Vanadium	ppm	ASTM D5185m	<1	<1	0
Cadmium	ppm	ASTM D5185m	0	0	0

ADDITIVES

method	limit/base	current	history1	history2	
Boron	ppm	ASTM D5185m 0	32	57	5
Barium	ppm	ASTM D5185m 0	2	0	0
Molybdenum	ppm	ASTM D5185m 60	99	118	82
Manganese	ppm	ASTM D5185m 0	6	2	1
Magnesium	ppm	ASTM D5185m 1010	710	658	549
Calcium	ppm	ASTM D5185m 1070	1222	1396	1677
Phosphorus	ppm	ASTM D5185m 1150	767	683	814
Zinc	ppm	ASTM D5185m 1270	903	862	1101
Sulfur	ppm	ASTM D5185m 2060	2835	3515	2909

CONTAMINANTS

method	limit/base	current	history1	history2	
Silicon	ppm	ASTM D5185m >+100	27	19	27
Sodium	ppm	ASTM D5185m	19	42	8
Potassium	ppm	ASTM D5185m >20	10	7	<1
Water	%	ASTM D6304 >0.1	▲ 0.306	---	---
ppm Water	ppm	ASTM D6304 >1000	▲ 3060	---	---

INFRA-RED

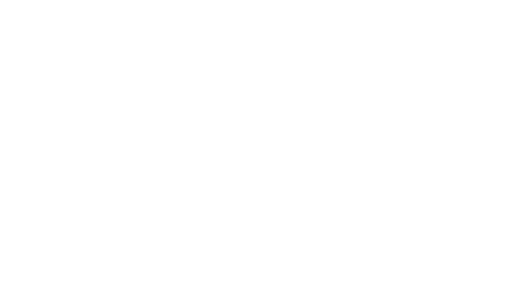
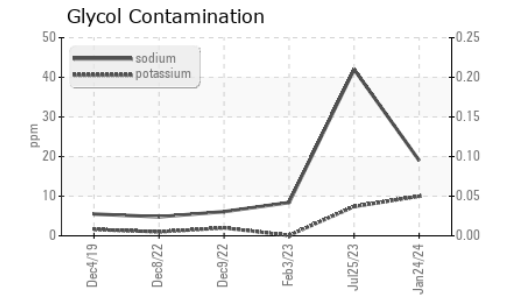
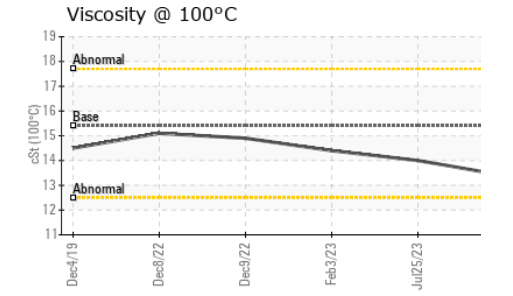
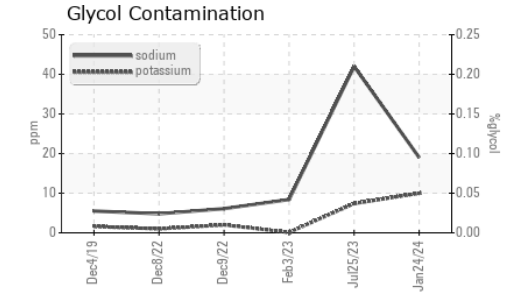
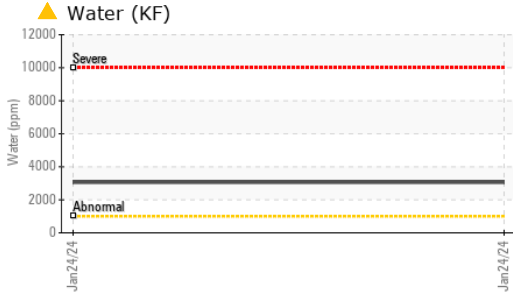
method	limit/base	current	history1	history2	
Soot %	%	*ASTM D7844	0	0.1	0.1
Nitration	Abs/cm	*ASTM D7624 >20	7.9	5.9	12.7
Sulfation	Abs/.1mm	*ASTM D7415 >30	20.2	20.9	28.2

FLUID DEGRADATION

method	limit/base	current	history1	history2	
Oxidation	Abs/.1mm	*ASTM D7414 >25	15.0	14.3	23.1
Base Number (BN)	mg KOH/g	ASTM D2896 9.8	6.9	7.8	2.6



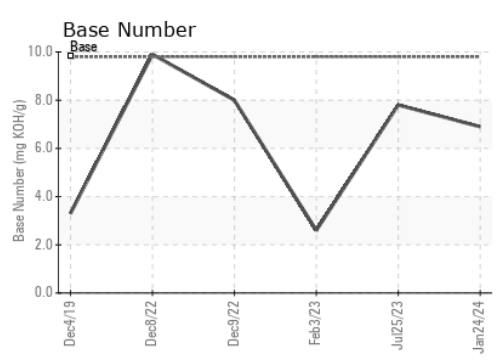
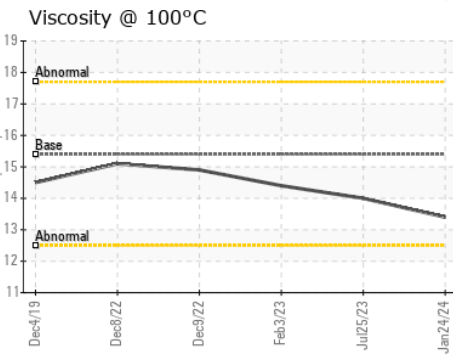
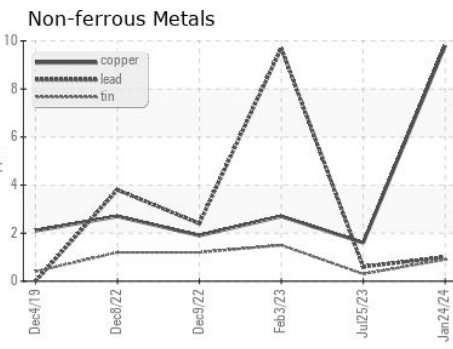
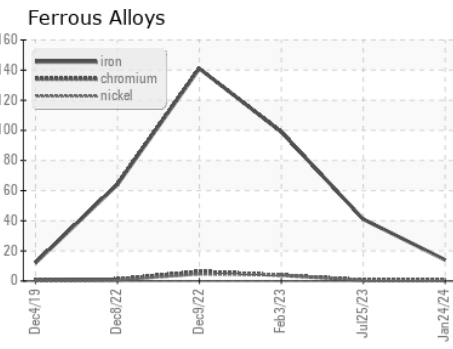
OIL ANALYSIS REPORT



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	▲ MODER	LIGHT	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE
Appearance	scalar	*Visual	NORML	NORML	NORML
Odor	scalar	*Visual	NORML	NORML	NORML
Emulsified Water	scalar	*Visual	>0.1	0.2%	NEG
Free Water	scalar	*Visual		NEG	NEG

FLUID PROPERTIES	method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	15.4	13.4	14.0

GRAPHS



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : GFL0083172 **Received** : 29 Jan 2024
Lab Number : 06072583 **Diagnosed** : 01 Feb 2024
Unique Number : 10849260 **Diagnostician** : Jonathan Hester
Test Package : FLEET (Additional Tests: Glycol, KF)

GFL Environmental - 074 - Douglas - Transwaste
 1219 Landfill Road
 Douglas, GA
 US 31533
 Contact: CURTIS JACOBS
 CURTIS.JACOBS@GFLENV.COM
 T: (912)384-6001
 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)