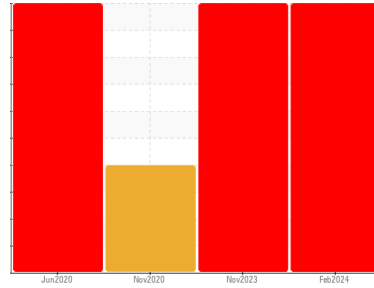




OIL ANALYSIS REPORT

Sample Rating Trend



WEAR



Machine Id
OR681
Component
Rear Right Final Drive
Fluid
PETRO CANADA GEARLUBE TOS 80W140 (6 LTR)

DIAGNOSIS

Recommendation

We advise that you check for the source of water entry. We advise that you check all areas where dirt can enter the system. The oil change at the time of sampling has been noted. Confirm the source of the lubricant being utilized for top-up/fill. We recommend an early resample to monitor this condition.

Wear

Iron ppm levels are severe. Chromium ppm levels are abnormal. Aluminum ppm levels are noted. The low ferrous density (PQ) index indicates the wear metal levels are due to corrosion.

Contamination

There is a high concentration of water present in the oil. Elemental levels of silicon (Si) and aluminum (Al) indicate alumina-silicate (coarse dirt) ingress. High amount of ingressed dirt has caused abrasive wear to the component.

Fluid Condition

Additive levels indicate the addition of a different brand, or type of oil. The oil is no longer serviceable as a result of the abnormal and/or severe wear.

SAMPLE INFORMATION

	method	limit/base	current	history1	history2
Sample Number	Client Info		GFL0092220	GFL0092223	GFL0010879
Sample Date	Client Info		09 Feb 2024	16 Nov 2023	23 Nov 2020
Machine Age	hrs	Client Info	10645	10033	5143
Oil Age	hrs	Client Info	5143	1000	1000
Oil Changed	Client Info		Changed	N/A	Changed
Sample Status			SEVERE	SEVERE	ABNORMAL

WEAR METALS

	method	limit/base	current	history1	history2
PQ	ASTM D8184*	>1250	663	11	147
Iron	ppm	ASTM D5185(m) >750	1690	1320	929
Chromium	ppm	ASTM D5185(m) >9	13	10	10
Nickel	ppm	ASTM D5185(m) >10	4	2	3
Titanium	ppm	ASTM D5185(m)	10	3	4
Silver	ppm	ASTM D5185(m)	<1	<1	<1
Aluminum	ppm	ASTM D5185(m) >40	184	77	79
Lead	ppm	ASTM D5185(m) >15	<1	<1	<1
Copper	ppm	ASTM D5185(m) >40	5	2	2
Tin	ppm	ASTM D5185(m) >10	0	0	0
Antimony	ppm	ASTM D5185(m) >5	0	0	0
Vanadium	ppm	ASTM D5185(m)	0	0	<1
Beryllium	ppm	ASTM D5185(m)	0	0	0
Cadmium	ppm	ASTM D5185(m)	0	0	0

ADDITIVES

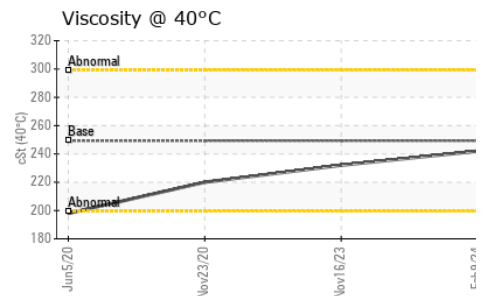
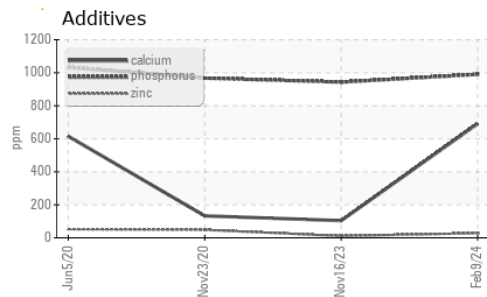
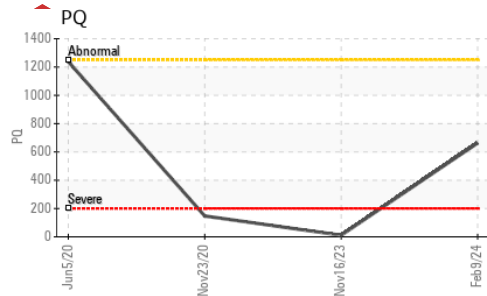
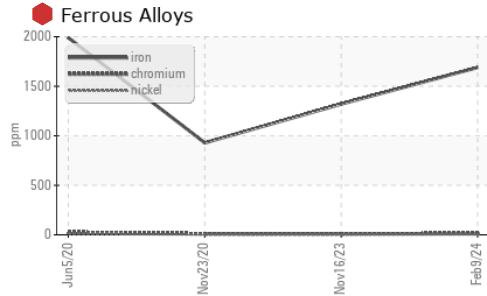
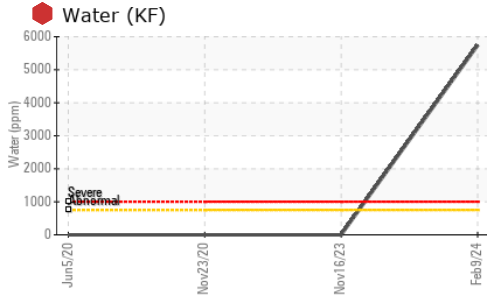
	method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185(m) 170	210	213	137
Barium	ppm	ASTM D5185(m) 4	<1	<1	0
Molybdenum	ppm	ASTM D5185(m)	<1	0	<1
Manganese	ppm	ASTM D5185(m)	15	9	10
Magnesium	ppm	ASTM D5185(m) 1.0	74	25	25
Calcium	ppm	ASTM D5185(m) 16	691	104	133
Phosphorus	ppm	ASTM D5185(m) 920	990	943	967
Zinc	ppm	ASTM D5185(m) 8	28	11	48
Sulfur	ppm	ASTM D5185(m) 1630	16324	15768	18930
Lithium	ppm	ASTM D5185(m)	<1	<1	<1

CONTAMINANTS

	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185(m) >75	722	283	278
Sodium	ppm	ASTM D5185(m) >51	47	22	21
Potassium	ppm	ASTM D5185(m) >20	66	28	38
Water	%	ASTM D6304* >0.075	0.573	---	---
ppm Water	ppm	ASTM D6304* >750	5739	---	---



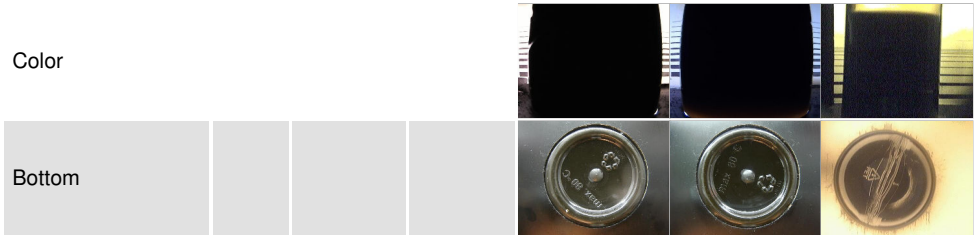
OIL ANALYSIS REPORT



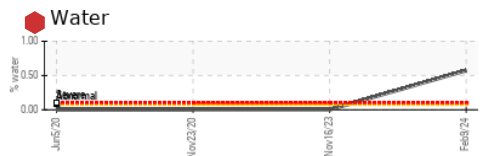
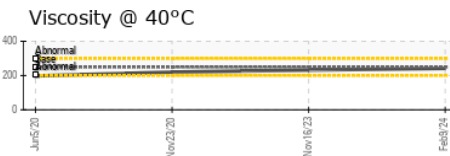
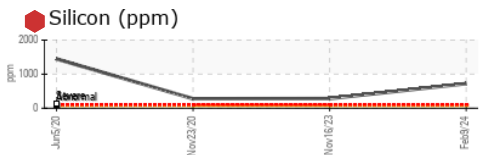
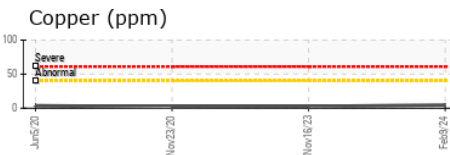
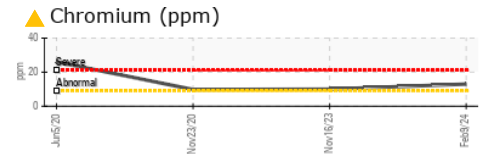
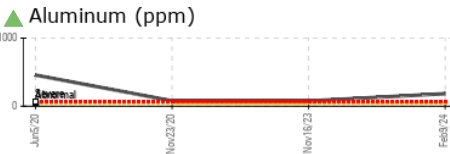
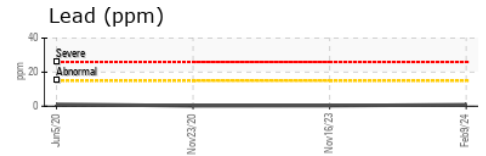
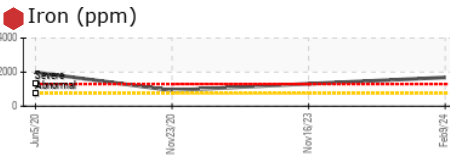
VISUAL	method	limit/base	current	history1	history2
White Metal	scalar	Visual*	NONE	NONE	NONE
Yellow Metal	scalar	Visual*	NONE	NONE	NONE
Precipitate	scalar	Visual*	NONE	NONE	NONE
Silt	scalar	Visual*	NONE	NONE	LTMOD
Debris	scalar	Visual*	NONE	VLITE	NONE
Sand/Dirt	scalar	Visual*	NONE	NONE	NONE
Appearance	scalar	Visual*	NORML	NORML	NORML
Odor	scalar	Visual*	NORML	NORML	NORML
Emulsified Water	scalar	Visual*	>0.075 ▲ 1%	NEG	NEG
Free Water	scalar	Visual*	NEG	NEG	NEG

FLUID PROPERTIES	method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D7279(m)	249.3	242	232

SAMPLE IMAGES	method	limit/base	current	history1	history2
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GRAPHS



ISO 17025:2017
Accredited
Laboratory

Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
 Sample No. : GFL0092220
 Lab Number : 02615458
 Unique Number : 5724553
 Test Package : MOB 1 (Additional Tests: KF, PQ)

GFL Environmental - 720 - Lafleche - Landfill
 17125 Lafleche Road,
 Moose Creek, ON
 CA K0C 1W0
 Contact: Charles Bergeron
 cbergeron@gflenv.com
 T: (613)538-4853
 F:

To discuss this sample report, contact Customer Service at 1-800-268-2131.
 Test denoted (*) outside scope of accreditation, (m) method modified, (e) tested at external lab.
 Validity of results and interpretation are based on the sample and information as supplied.