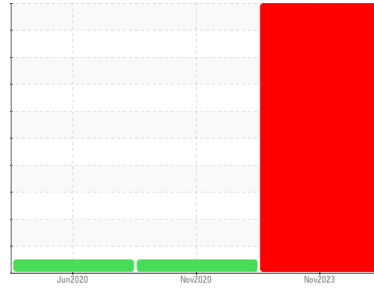




OIL ANALYSIS REPORT

Sample Rating Trend



WEAR



Machine Id
OR681

Component
Rear Left Final Drive

Fluid
PETRO CANADA GEARLUBE TOS 80W140 (6 LTR)

DIAGNOSIS

Recommendation

We advise that you check all areas where dirt can enter the system. We recommend that you drain the oil from the component if this has not already been done. We advise that you flush the component thoroughly before re-filling with oil. 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. Titanium ppm levels are marginal. The low ferrous density (PQ) index indicates the wear metal levels are due to corrosion.

Contamination

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		GFL0092227	GFL0010881	GFL0003059
Sample Date	Client Info		16 Nov 2023	23 Nov 2020	05 Jun 2020
Machine Age	hrs	Client Info	10033	5143	4490
Oil Age	hrs	Client Info	1000	1000	2000
Oil Changed	Client Info		N/A	Changed	Changed
Sample Status			SEVERE	NORMAL	NORMAL

CONTAMINATION

	method	limit/base	current	history1	history2
Water	WC Method	>0.075	NEG	NEG	NEG

WEAR METALS

	method	limit/base	current	history1	history2
PQ	ASTM D8184*	>1250	130	---	---
Iron	ppm	ASTM D5185(m) >750	2250	202	265
Chromium	ppm	ASTM D5185(m) >9	18	2	3
Nickel	ppm	ASTM D5185(m) >10	6	<1	1
Titanium	ppm	ASTM D5185(m)	12	2	2
Silver	ppm	ASTM D5185(m)	<1	<1	0
Aluminum	ppm	ASTM D5185(m) >40	220	34	37
Lead	ppm	ASTM D5185(m) >15	1	<1	<1
Copper	ppm	ASTM D5185(m) >40	5	<1	<1
Tin	ppm	ASTM D5185(m) >10	0	0	0
Antimony	ppm	ASTM D5185(m) >5	0	0	0
Vanadium	ppm	ASTM D5185(m)	<1	<1	<1
Beryllium	ppm	ASTM D5185(m)	0	0	0
Cadmium	ppm	ASTM D5185(m)	0	0	0

ADDITIVES

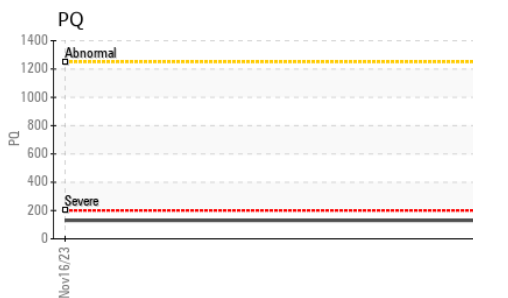
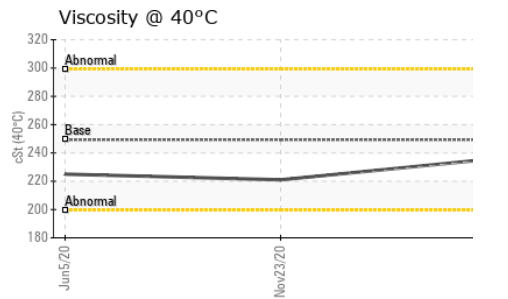
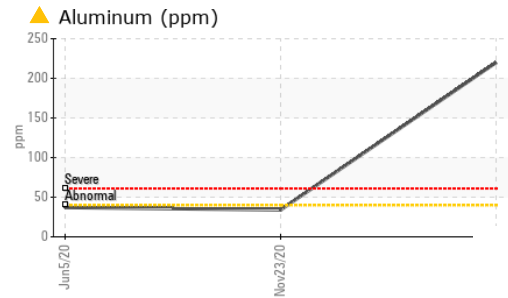
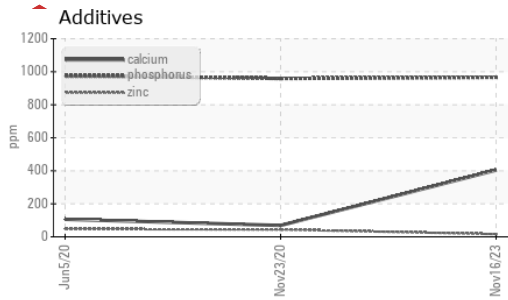
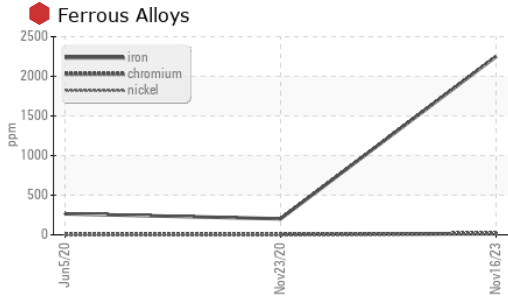
	method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185(m) 170	228	143	123
Barium	ppm	ASTM D5185(m) 4	1	<1	<1
Molybdenum	ppm	ASTM D5185(m)	<1	<1	0
Manganese	ppm	ASTM D5185(m)	18	3	4
Magnesium	ppm	ASTM D5185(m) 1.0	75	10	13
Calcium	ppm	ASTM D5185(m) 16	404	69	106
Phosphorus	ppm	ASTM D5185(m) 920	966	959	977
Zinc	ppm	ASTM D5185(m) 8	16	44	47
Sulfur	ppm	ASTM D5185(m) 1630	15840	18894	19118
Lithium	ppm	ASTM D5185(m)	<1	<1	<1

CONTAMINANTS

	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185(m) >75	757	109	127
Sodium	ppm	ASTM D5185(m) >51	52	10	8
Potassium	ppm	ASTM D5185(m) >20	82	13	19



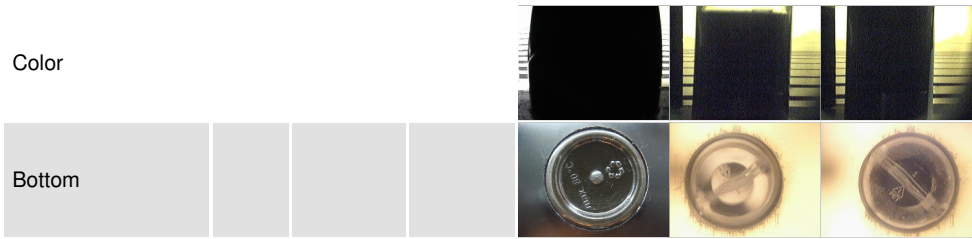
OIL ANALYSIS REPORT



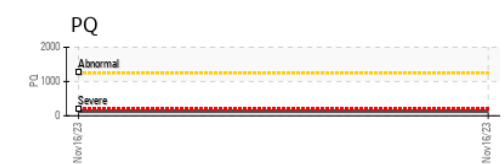
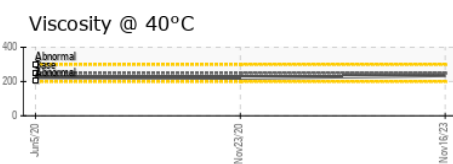
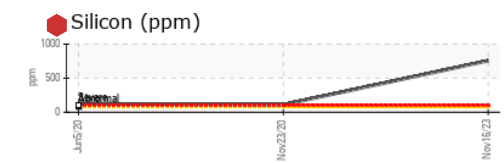
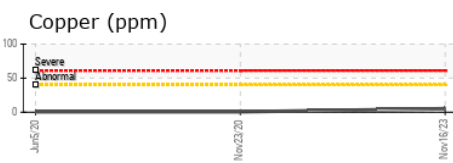
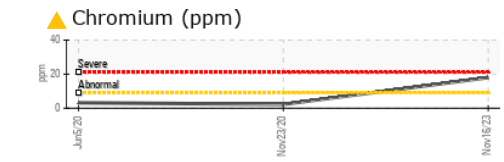
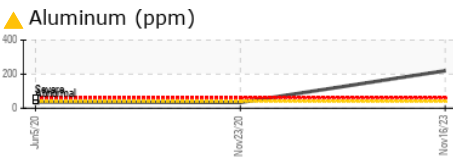
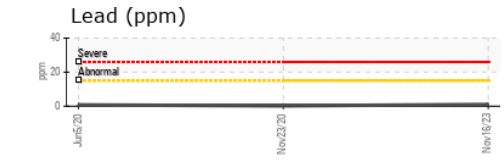
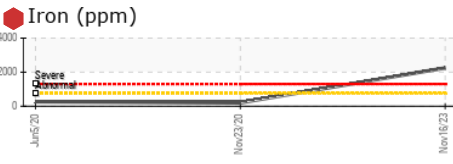
PARAMETER	method	limit/base	current	history1	history2
White Metal	scalar	Visual*	NONE	NONE	LIGHT
Yellow Metal	scalar	Visual*	NONE	NONE	NONE
Precipitate	scalar	Visual*	NONE	NONE	NONE
Silt	scalar	Visual*	NONE	VLITE	LTMOD
Debris	scalar	Visual*	NONE	VLITE	NONE
Sand/Dirt	scalar	Visual*	NONE	NONE	NONE
Appearance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

PARAMETER	method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D7279(m)	249.3	236	221

PARAMETER	method	limit/base	current	history1	history2
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GRAPHS



Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9 GFL Environmental - 720 - Lafleche - Landfill
Sample No. : GFL0092227 **Received** : 23 Nov 2023
Lab Number : 02598537 **Diagnosed** : 24 Nov 2023
Unique Number : 5683617 **Diagnostician** : Kevin Marson
Test Package : MOB 1 (Additional Tests: PQ)

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.