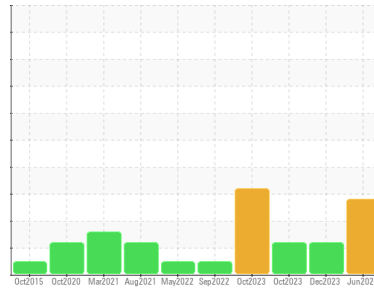




OIL ANALYSIS REPORT

Sample Rating Trend



WATER



Machine Id

4501

Component

Front Natural Gas Engine

Fluid

PETRO CANADA DURON GEO LD 15W40 (42 LTR)

DIAGNOSIS

Recommendation

Check for low coolant level. We advise that you check for the source of water entry. The oil change at the time of sampling has been noted. We recommend an early resample to monitor this condition.

Wear

All component wear rates are normal.

Contamination

Water treatment chemicals present, indicating slow coolant leak. There is a moderate concentration of water present in the oil. Test for glycol is negative.

Fluid Condition

The condition of the oil is acceptable for the time in service (see recommendation). The oil is no longer serviceable due to the presence of contaminants.

SAMPLE INFORMATION

method	limit/base	current	history1	history2
Sample Number	Client Info	GFL0118925	GFL0094383	GFL0094396
Sample Date	Client Info	05 Jun 2024	15 Dec 2023	20 Oct 2023
Machine Age	hrs	21308	20364	17366
Oil Age	hrs	21308	20364	17366
Oil Changed	Client Info	Changed	Changed	N/A
Sample Status		ABNORMAL	ATTENTION	ATTENTION

WEAR METALS

method	limit/base	current	history1	history2	
Iron	ppm	ASTM D5185(m) >50	18	15	11
Chromium	ppm	ASTM D5185(m) >4	<1	<1	<1
Nickel	ppm	ASTM D5185(m) >2	0	<1	0
Titanium	ppm	ASTM D5185(m)	0	0	0
Silver	ppm	ASTM D5185(m) >3	0	<1	<1
Aluminum	ppm	ASTM D5185(m) >9	1	3	3
Lead	ppm	ASTM D5185(m) >30	13	5	4
Copper	ppm	ASTM D5185(m) >35	4	2	1
Tin	ppm	ASTM D5185(m) >4	0	0	0
Antimony	ppm	ASTM D5185(m)	0	0	0
Vanadium	ppm	ASTM D5185(m)	0	0	0
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) 50	8	16	37
Barium	ppm	ASTM D5185(m) 5	0	<1	<1
Molybdenum	ppm	ASTM D5185(m) 50	56	63	60
Manganese	ppm	ASTM D5185(m) 0	<1	0	0
Magnesium	ppm	ASTM D5185(m) 560	560	524	535
Calcium	ppm	ASTM D5185(m) 1510	1525	1494	1458
Phosphorus	ppm	ASTM D5185(m) 780	628	675	727
Zinc	ppm	ASTM D5185(m) 870	887	873	851
Sulfur	ppm	ASTM D5185(m) 2040	2080	2121	2045
Lithium	ppm	ASTM D5185(m)	<1	<1	<1

CONTAMINANTS

method	limit/base	current	history1	history2	
Silicon	ppm	ASTM D5185(m) >+100	4	6	6
Sodium	ppm	ASTM D5185(m)	453	1214	1075
Potassium	ppm	ASTM D5185(m) >20	32	89	80
Water	%	ASTM D6304* >0.1	0.135	---	---
ppm Water	ppm	ASTM D6304* >1000	1357	---	---
Glycol	%	ASTM D7922*	0.0	0.0	0.0

INFRA-RED

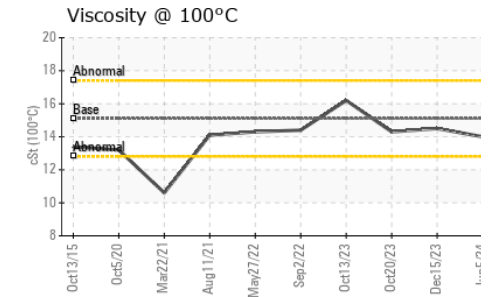
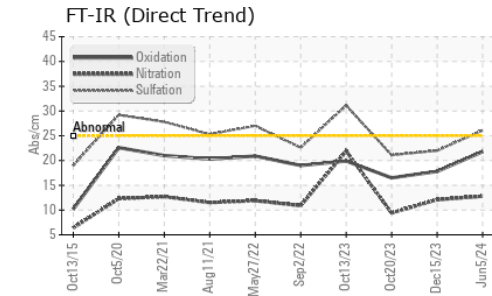
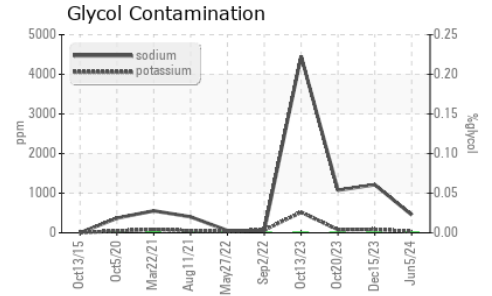
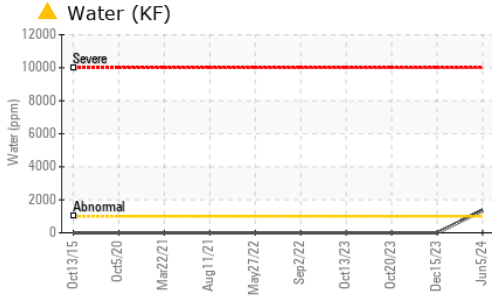
method	limit/base	current	history1	history2	
Soot %	%	ASTM D7844*	0	0	0
Nitration	Abs/cm	ASTM D7624* >20	12.8	12.1	9.4
Sulfation	Abs/.1mm	ASTM D7415* >30	26.1	22.0	21.1

FLUID DEGRADATION

method	limit/base	current	history1	history2	
Oxidation	Abs/.1mm	ASTM D7414* >25	21.8	17.8	16.5



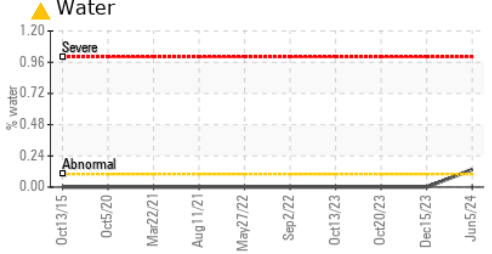
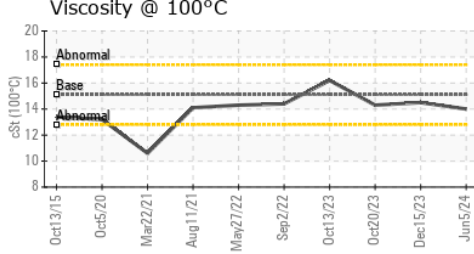
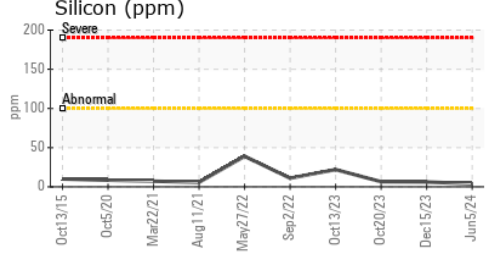
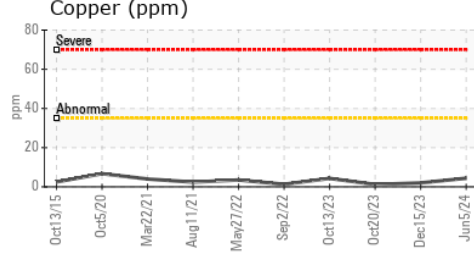
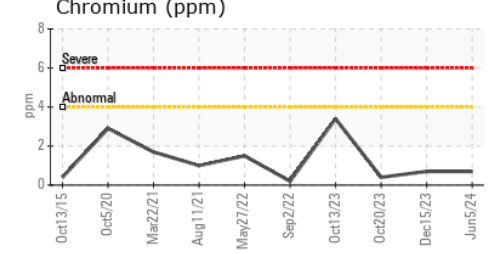
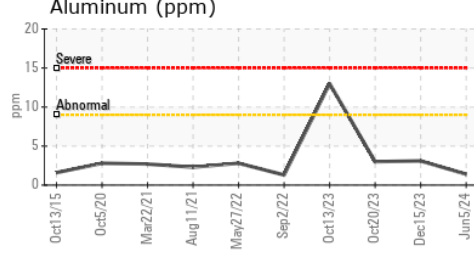
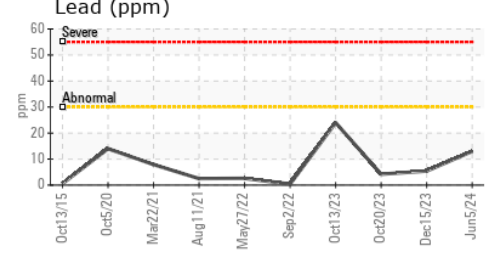
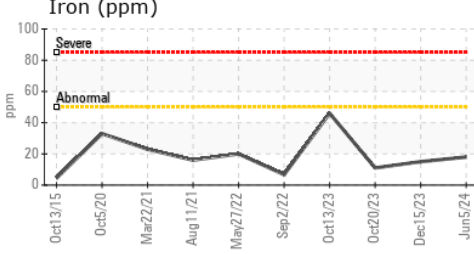
OIL ANALYSIS REPORT



PARAMETER	method	limit/base	current	history1	history2
White Metal	scalar	Visual*	NONE	---	NONE
Yellow Metal	scalar	Visual*	NONE	---	NONE
Precipitate	scalar	Visual*	NONE	---	NONE
Silt	scalar	Visual*	NONE	---	NONE
Debris	scalar	Visual*	NONE	---	VLITE
Sand/Dirt	scalar	Visual*	NONE	---	NONE
Appearance	scalar	Visual*	NORML	---	NORML
Odor	scalar	Visual*	NORML	NORML	NORML
Emulsified Water	scalar	Visual*	>0.1	NEG	NEG
Free Water	scalar	Visual*	▲.2%	NEG	NEG

FLUID PROPERTIES	method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D7279(m)	15.1	14.5	14.3

GRAPHS



Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
Sample No. : GFL0118925
Lab Number : 02640208
Unique Number : 5789370
Test Package : MOB 1 (Additional Tests: Glycol, KF, Visual)

GFL Environmental - 222 - Sandhill
 SANDHILL DISPOSAL & RECYCLING DIVIS, 19 COMMERCE ROAD
 ORANGEVILLE, ON
 CA L9W 3X5

*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.*

Contact: GLENN COOK
 gcook@gflenv.com
 T: (519)940-4167
 F: