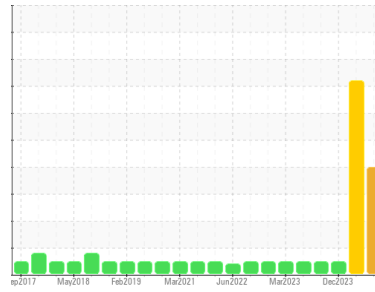




OIL ANALYSIS REPORT

Sample Rating Trend



GLYCOL



Machine Id
4490
Component
Diesel Engine
Fluid
PETRO CANADA DURON XL SYN BLEND 15W40 (--- GAL)

DIAGNOSIS

Recommendation

We advise that you check for the source of the coolant leak. The oil change at the time of sampling has been noted. We recommend an early resample to monitor this condition. No other corrective action is recommended at this time.

Wear

All component wear rates are normal.

Contamination

Test for glycol is positive. Light fuel dilution occurring. There is a moderate concentration of glycol present in the oil. No other contaminants were detected in the oil.

Fluid Condition

The BN result indicates that there is suitable alkalinity remaining in the oil. The oil is no longer serviceable due to the presence of contaminants.

SAMPLE INFORMATION

	method	limit/base	current	history1	history2
Sample Number	Client Info		GFL0117280	GFL0112415	GFL0099530
Sample Date	Client Info		03 Jun 2024	17 Feb 2024	18 Dec 2023
Machine Age	hrs	Client Info	39315	1127673	1120848
Oil Age	hrs	Client Info	715	0	0
Oil Changed	Client Info		Changed	Changed	Changed
Sample Status			ABNORMAL	SEVERE	NORMAL

CONTAMINATION

	method	limit/base	current	history1	history2
Water	WC Method	>0.2	NEG	NEG	NEG

WEAR METALS

	method	limit/base	current	history1	history2	
Iron	ppm	ASTM D5185(m)	>100	7	7	3
Chromium	ppm	ASTM D5185(m)	>20	0	0	0
Nickel	ppm	ASTM D5185(m)	>2	<1	<1	<1
Titanium	ppm	ASTM D5185(m)		0	0	0
Silver	ppm	ASTM D5185(m)	>2	0	0	0
Aluminum	ppm	ASTM D5185(m)	>25	2	1	2
Lead	ppm	ASTM D5185(m)	>40	0	<1	<1
Copper	ppm	ASTM D5185(m)	>330	6	4	<1
Tin	ppm	ASTM D5185(m)	>15	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)	1	5	4	4
Barium	ppm	ASTM D5185(m)	1	0	0	0
Molybdenum	ppm	ASTM D5185(m)	60	57	55	56
Manganese	ppm	ASTM D5185(m)	1	0	0	0
Magnesium	ppm	ASTM D5185(m)	1010	914	807	918
Calcium	ppm	ASTM D5185(m)	1070	1023	943	1047
Phosphorus	ppm	ASTM D5185(m)	1150	960	929	986
Zinc	ppm	ASTM D5185(m)	1270	1130	1120	1126
Sulfur	ppm	ASTM D5185(m)	2060	2486	2575	2674
Lithium	ppm	ASTM D5185(m)		<1	<1	<1

CONTAMINANTS

	method	limit/base	current	history1	history2	
Silicon	ppm	ASTM D5185(m)	>25	4	5	4
Sodium	ppm	ASTM D5185(m)		40	88	2
Potassium	ppm	ASTM D5185(m)	>20	1	1	2
Fuel	%	ASTM D7593*	>6.0	1.5	<1.0	2.8
Glycol	%	ASTM D7922*		0.058	0.739	NEG

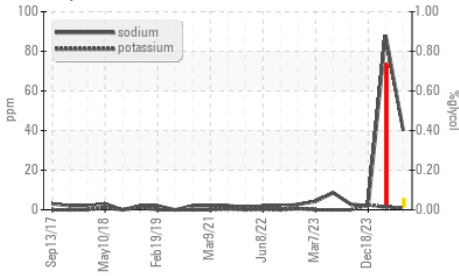
INFRA-RED

	method	limit/base	current	history1	history2	
Soot %	%	ASTM D7844*	>3	0	0	0
Nitration	Abs/cm	ASTM D7624*	>20	6.5	5.8	5.7
Sulfation	Abs./1mm	ASTM D7415*	>30	20.1	17.1	18.6



OIL ANALYSIS REPORT

▲ Glycol Contamination



FLUID DEGRADATION

method	limit/base	current	history1	history2
Oxidation	Abs./1mm ASTM D7414*	>25	13.9	15.0
Base Number (BN)	mg KOH/g ASTM D2896*	9.6	10.30	10.86

VISUAL

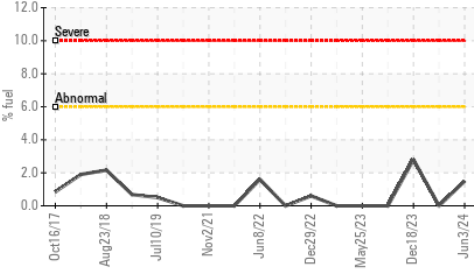
method	limit/base	current	history1	history2
Emulsified Water	scalar Visual*	>0.2	NEG	NEG
Free Water	scalar Visual*		NEG	NEG

FLUID PROPERTIES

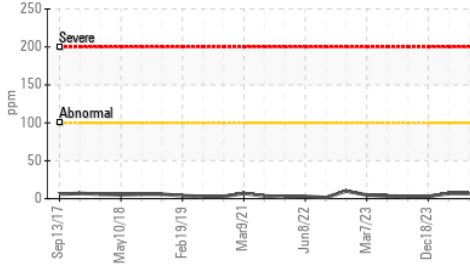
method	limit/base	current	history1	history2
Visc @ 100°C	cSt ASTM D7279(m)	15.5	13.3	12.8

GRAPHS

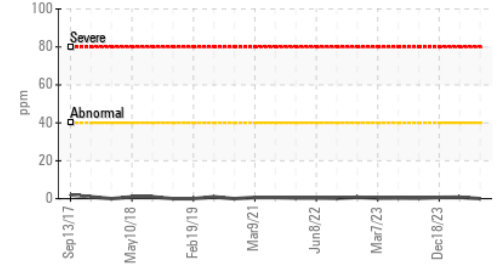
Fuel Dilution



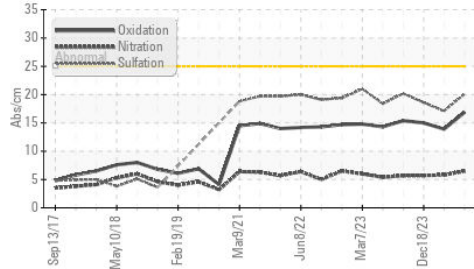
Iron (ppm)



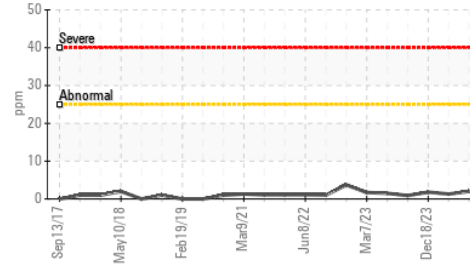
Lead (ppm)



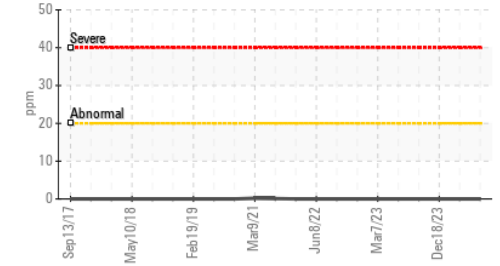
FT-IR (Direct Trend)



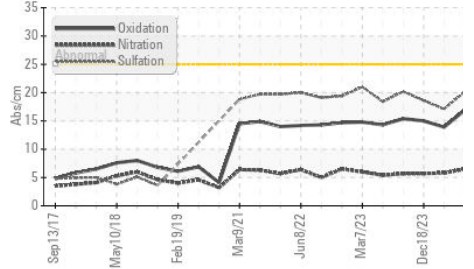
Aluminum (ppm)



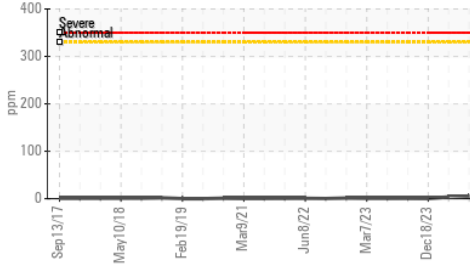
Chromium (ppm)



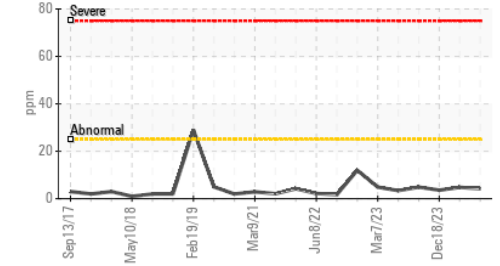
FT-IR (Direct Trend)



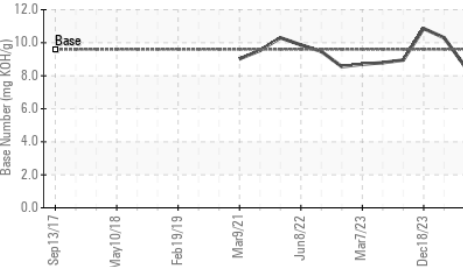
Copper (ppm)



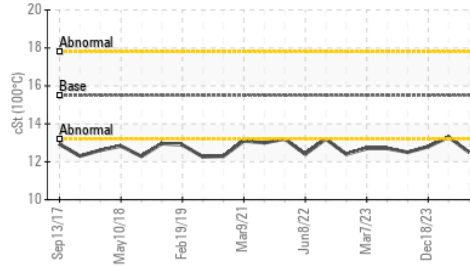
Silicon (ppm)



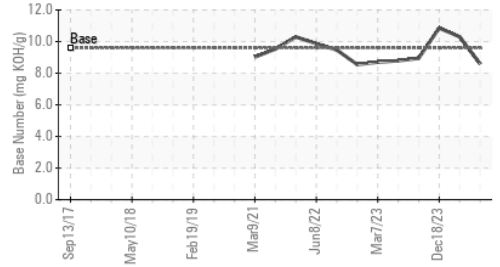
Base Number



▲ Viscosity @ 100°C



Base Number



ISO 17025:2017
Accredited
Laboratory

Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9 **GFL Environmental - 550 - Rocky View County**
Sample No. : GFL0117280 **Received** : 11 Jun 2024 **220 Carmek Blvd**
Lab Number : 02641069 **Tested** : 13 Jun 2024 **Rocky View County, AB**
Unique Number : 5798608 **Diagnosed** : 13 Jun 2024 - Wes Davis **CA T1X 1X1**
Test Package : MOB 2 (Additional Tests: FuelDilution, PercentFuel) **Contact: GFL Calgary**
calgarymaintenance@gflenv.com

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.

T:
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