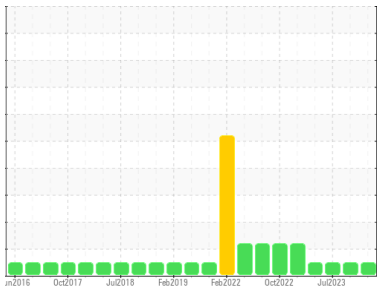
OIL ANALYSIS REPORT

Sample Rating Trend



NORMAL

Machine Id
4487
Component
Front Diesel Engine
Fluid
PETRO CANADA DURON XL SYN BLEND 15W40 (37 LTR)

DIAGNOSIS

Recommendation
Resample at the next service interval to monitor.

Wear
All component wear rates are normal.

Contamination
The water content is negligible. There is no indication of any contamination in the oil.

Fluid Condition
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

SAMPLE INFORMATION		method	limit/base	current	history1	history2
Sample Number		Client Info		**GFL0117275**	GFL0099620	GFL0084272
Sample Date		Client Info		**23 Apr 2024**	29 Jan 2024	10 Jul 2023
Machine Age	kms	Client Info		**11391164**	1134500	29591
Oil Age	kms	Client Info		**0**	0	0
Oil Changed		Client Info		**Changed**	Changed	N/A
Sample Status				**NORMAL**	NORMAL	NORMAL

CONTAMINATION	method	limit/base	current	history1	history2
Fuel	WC Method	>4.0	**<1.0**	<1.0	1.9

WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185(m)	>80	**3**	6	8
Chromium	ppm	ASTM D5185(m)	>6	**0**	<1	<1
Nickel	ppm	ASTM D5185(m)	>2	**0**	<1	0
Titanium	ppm	ASTM D5185(m)	>2	**0**	0	0
Silver	ppm	ASTM D5185(m)	>2	**0**	0	0
Aluminum	ppm	ASTM D5185(m)	>20	**1**	1	1
Lead	ppm	ASTM D5185(m)	>95	**0**	1	<1
Copper	ppm	ASTM D5185(m)	>85	**<1**	<1	<1
Tin	ppm	ASTM D5185(m)	>9	**0**	<1	<1
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

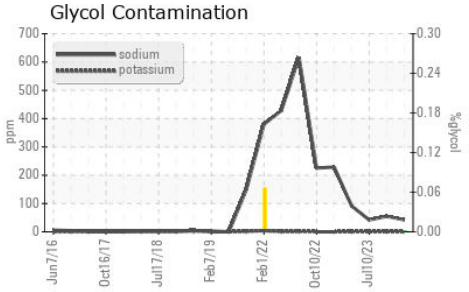
ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185(m)	1	**3**	3	2
Barium	ppm	ASTM D5185(m)	1	**0**	0	0
Molybdenum	ppm	ASTM D5185(m)	60	**57**	57	57
Manganese	ppm	ASTM D5185(m)	1	**0**	0	<1
Magnesium	ppm	ASTM D5185(m)	1010	**914**	913	944
Calcium	ppm	ASTM D5185(m)	1070	**1001**	1047	1031
Phosphorus	ppm	ASTM D5185(m)	1150	**975**	967	1013
Zinc	ppm	ASTM D5185(m)	1270	**1115**	1112	1121
Sulfur	ppm	ASTM D5185(m)	2060	**2474**	2665	2476
Lithium	ppm	ASTM D5185(m)		**<1**	<1	<1

CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185(m)	>25	**1**	3	3
Sodium	ppm	ASTM D5185(m)		**42**	55	42
Potassium	ppm	ASTM D5185(m)	>20	**<1**	<1	<1
Water	%	ASTM D6304*	>0.1	**0.021**	---	---
ppm Water	ppm	ASTM D6304*	>1000	**217**	---	---
Glycol	%	ASTM D7922*		**0.0**	NEG	NEG

INFRA-RED		method	limit/base	current	history1	history2
Soot %	%	ASTM D7844*		**0**	0.1	0.2
Nitration	Abs/cm	ASTM D7624*	>20	**5.4**	7.0	7.2
Sulfation	Abs/.1mm	ASTM D7415*	>30	**18.0**	19.5	19.9

OIL ANALYSIS REPORT

Glycol Contamination



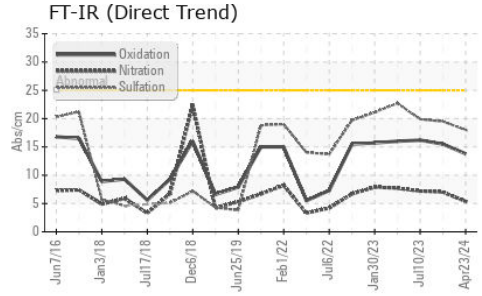
FLUID DEGRADATION		method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	ASTM D7414*	>25	**13.8**	15.5	16.2
Base Number (BN)	mg KOH/g	ASTM D2896*	9.6	**9.81**	9.32	8.69

VISUAL		method	limit/base	current	history1	history2
Emulsified Water	scalar	Visual*	>0.1	**.2%**	NEG	NEG
Free Water	scalar	Visual*		**NEG**	NEG	NEG

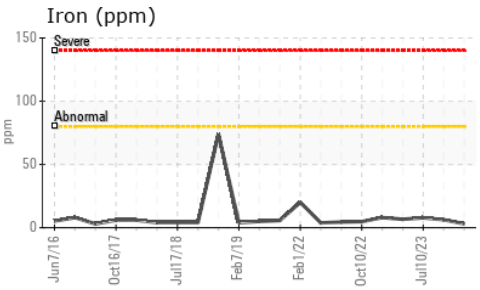
FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D7279(m)	15.5	**13.5**	13.1	13.1

GRAPHS

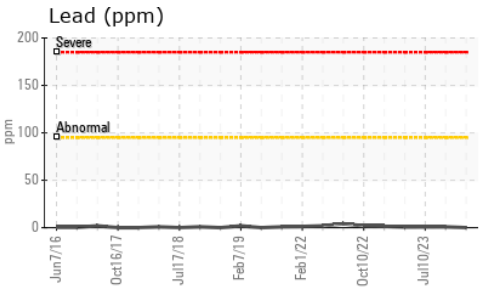
FT-IR (Direct Trend)



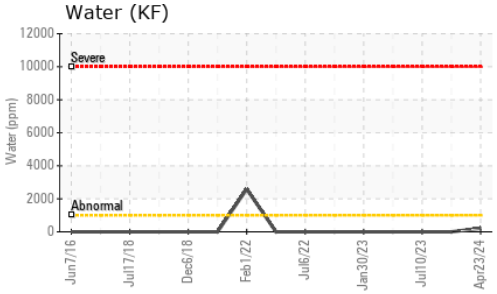
Iron (ppm)



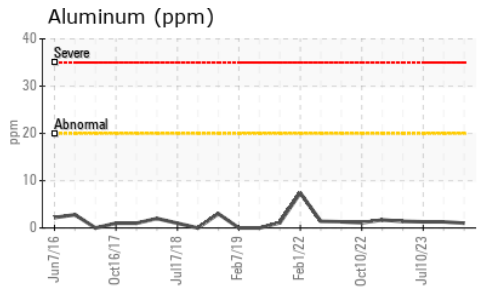
Lead (ppm)



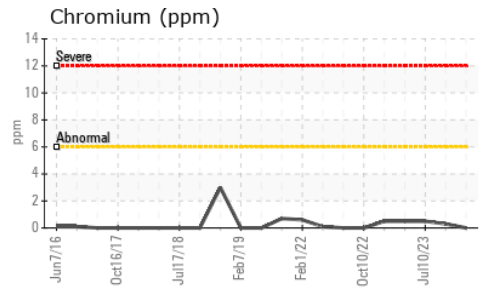
Water (KF)



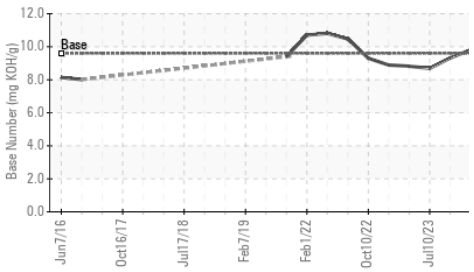
Aluminum (ppm)



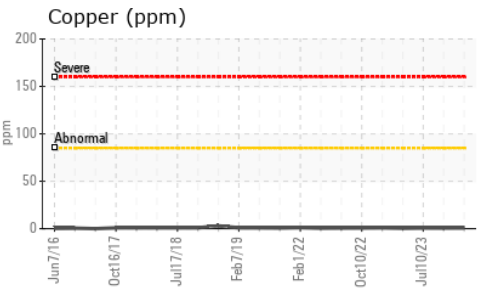
Chromium (ppm)



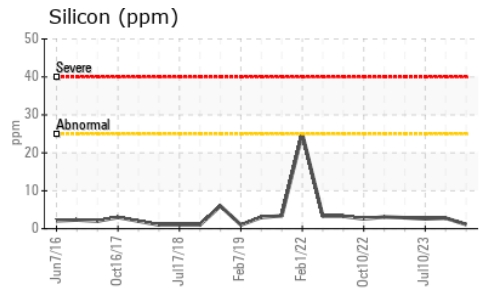
Base Number



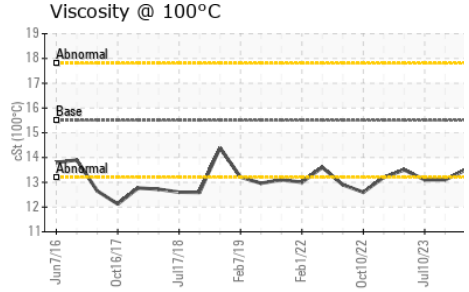
Copper (ppm)



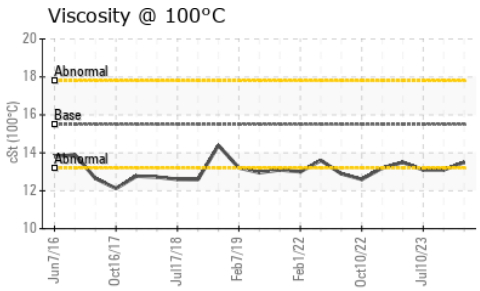
Silicon (ppm)



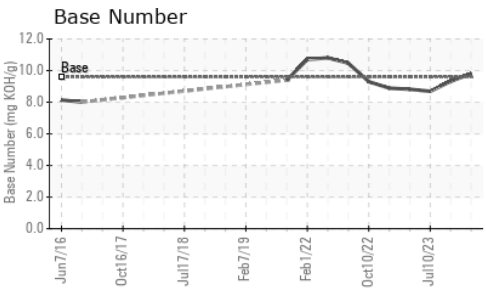
Viscosity @ 100°C



Viscosity @ 100°C



Base Number



ISO 17025:2017 Accredited Laboratory

Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
Sample No. : GFL0117275
Lab Number : 02632516
Unique Number : 5773669
Test Package : MOB 2 (Additional Tests: Glycol, KF)

Received : 01 May 2024
Tested : 02 May 2024
Diagnosed : 02 May 2024 - Wes Davis

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.

GFL Environmental - 550 - Rocky View County
220 Carmek Blvd
Rocky View County, AB
CA T1X 1X1
Contact: GFL Calgary
calgarymaintenance@gflenv.com
T:
F: (403)369-6163