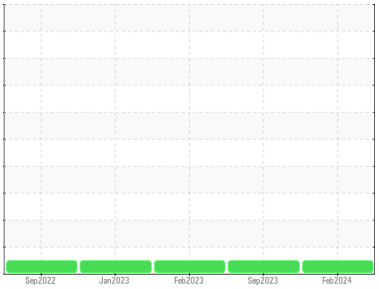
OIL ANALYSIS REPORT

Sample Rating Trend



NORMAL

Machine Id
831053
Component
Diesel Engine
Fluid
PETRO CANADA DURON GEO LD 15W40 (--- GAL)

DIAGNOSIS

Recommendation
Resample at the next service interval to monitor.

Wear
All component wear rates are normal.

Contamination
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		**GFL0099567**	GFL0091640	GFL0070716
Sample Date		Client Info		**01 Feb 2024**	29 Sep 2023	17 Feb 2023
Machine Age	hrs	Client Info		**3512**	2867	1828
Oil Age	hrs	Client Info		**0**	0	788
Oil Changed		Client Info		**Changed**	Changed	N/A
Sample Status				**NORMAL**	NORMAL	NORMAL

CONTAMINATION		method	limit/base	current	history1	history2
Fuel		WC Method	>3.0	**<1.0**	<1.0	<1.0
Water		WC Method	>0.2	**NEG**	NEG	NEG
Glycol		WC Method		**NEG**	NEG	NEG

WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185(m)	>120	**14**	23	14
Chromium	ppm	ASTM D5185(m)	>20	**1**	2	2
Nickel	ppm	ASTM D5185(m)	>5	**<1**	<1	<1
Titanium	ppm	ASTM D5185(m)	>2	**0**	0	<1
Silver	ppm	ASTM D5185(m)	>2	**0**	<1	0
Aluminum	ppm	ASTM D5185(m)	>20	**3**	3	3
Lead	ppm	ASTM D5185(m)	>40	**2**	6	<1
Copper	ppm	ASTM D5185(m)	>330	**1**	2	2
Tin	ppm	ASTM D5185(m)	>15	**<1**	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

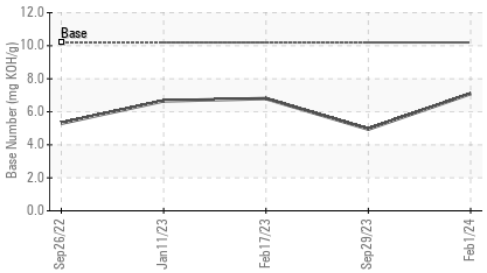
ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185(m)	50	**9**	9	20
Barium	ppm	ASTM D5185(m)	5	**0**	<1	0
Molybdenum	ppm	ASTM D5185(m)	50	**53**	58	53
Manganese	ppm	ASTM D5185(m)	0	**0**	<1	1
Magnesium	ppm	ASTM D5185(m)	560	**567**	603	588
Calcium	ppm	ASTM D5185(m)	1510	**1678**	1666	1683
Phosphorus	ppm	ASTM D5185(m)	780	**716**	750	827
Zinc	ppm	ASTM D5185(m)	870	**925**	950	922
Sulfur	ppm	ASTM D5185(m)	2040	**2039**	1999	2093
Lithium	ppm	ASTM D5185(m)		**<1**	<1	<1

CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185(m)	>25	**5**	8	16
Sodium	ppm	ASTM D5185(m)		**7**	9	5
Potassium	ppm	ASTM D5185(m)	>20	**2**	4	2

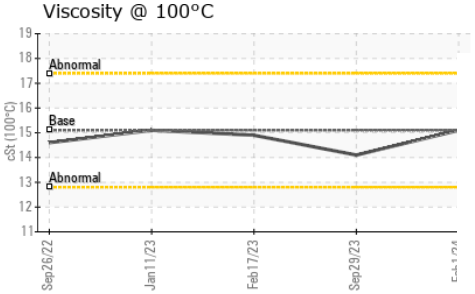
INFRA-RED		method	limit/base	current	history1	history2
Soot %	%	ASTM D7844*	>4	**0**	0	0
Nitration	Abs/cm	ASTM D7624*	>20	**11.7**	11.5	6.0
Sulfation	Abs/.1mm	ASTM D7415*	>30	**24.0**	27.5	17.5

OIL ANALYSIS REPORT

Base Number



Viscosity @ 100°C



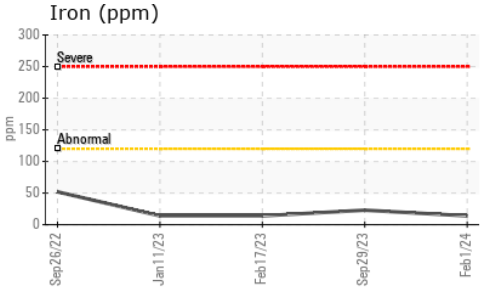
FLUID DEGRADATION		method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	ASTM D7414*	>25	**20.0**	24.2	10.4
Base Number (BN)	mg KOH/g	ASTM D2896*	10.2	**7.10**	4.95	6.80

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

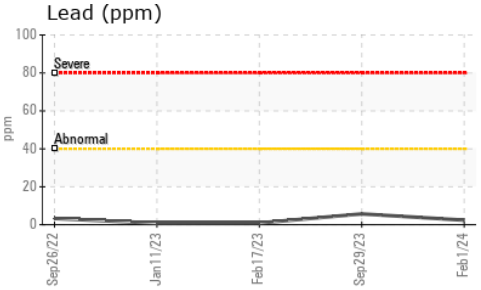
FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D7279(m)	15.1	**15.1**	14.1	14.9

GRAPHS

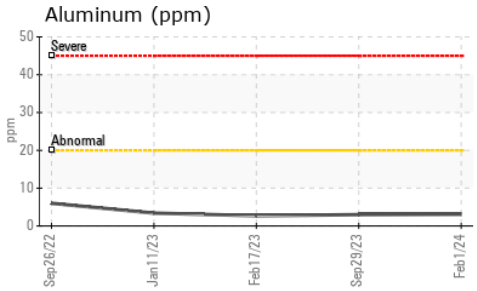
Iron (ppm)



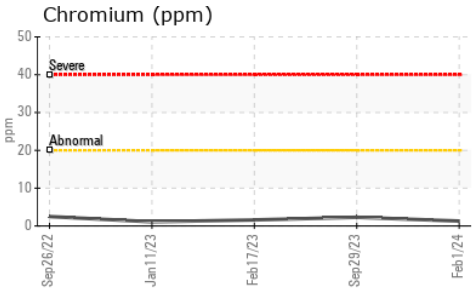
Lead (ppm)



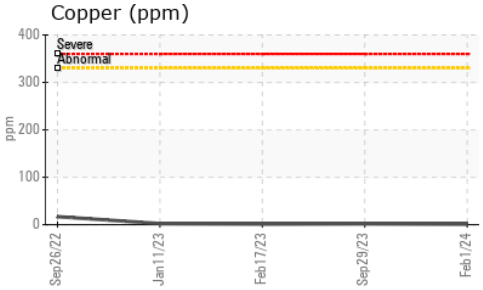
Aluminum (ppm)



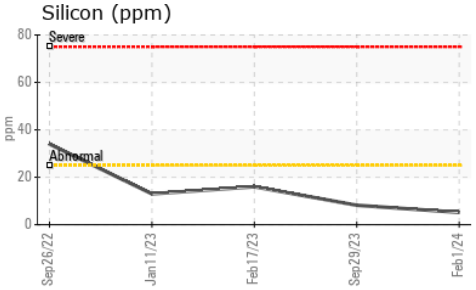
Chromium (ppm)



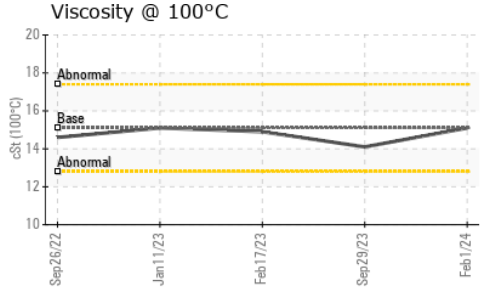
Copper (ppm)



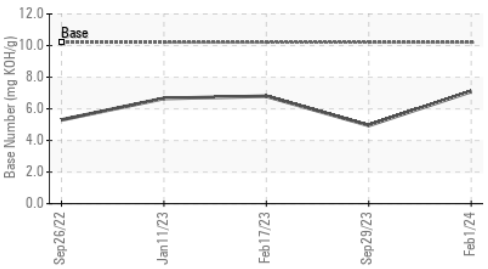
Silicon (ppm)



Viscosity @ 100°C



Base Number



ISO 17025:2017 Accredited Laboratory

Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
Sample No. : GFL0099567
Lab Number : 02615272
Unique Number : 5724367
Test Package : MOB 2

Received : 13 Feb 2024
Tested : 14 Feb 2024
Diagnosed : 14 Feb 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

Report Id: GFL550 [WCAMIS] 02615272 (Generated: 02/14/2024 10:32:54) Rev: 1

Submitted By: GFL Calgary