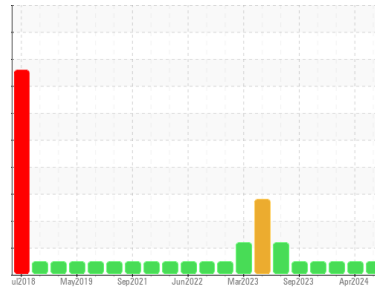




OIL ANALYSIS REPORT

Sample Rating Trend



NORMAL



Machine Id

801107

Component

Diesel Engine

Fluid

PETRO CANADA DURON SHP 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		GFL0112435	GFL0117330	GFL0099613
Sample Date	Client Info		30 Jun 2024	09 Apr 2024	03 Feb 2024
Machine Age	kms	Client Info	5616907	14866	14409
Oil Age	kms	Client Info	0	455	594
Oil Changed	Client Info		Changed	Changed	Changed
Sample Status			NORMAL	NORMAL	NORMAL

CONTAMINATION

	method	limit/base	current	history1	history2
Fuel	WC Method	>5	<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)	>80	20	14	18
Chromium	ppm	ASTM D5185(m)	>5	<1	<1	<1
Nickel	ppm	ASTM D5185(m)	>2	<1	<1	<1
Titanium	ppm	ASTM D5185(m)		0	0	0
Silver	ppm	ASTM D5185(m)	>3	<1	0	0
Aluminum	ppm	ASTM D5185(m)	>30	4	3	4
Lead	ppm	ASTM D5185(m)	>30	0	0	0
Copper	ppm	ASTM D5185(m)	>150	1	<1	1
Tin	ppm	ASTM D5185(m)	>5	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)	0	4	2	2
Barium	ppm	ASTM D5185(m)	0	0	0	0
Molybdenum	ppm	ASTM D5185(m)	60	59	57	57
Manganese	ppm	ASTM D5185(m)	0	<1	<1	0
Magnesium	ppm	ASTM D5185(m)	1010	955	944	927
Calcium	ppm	ASTM D5185(m)	1070	1036	1043	1065
Phosphorus	ppm	ASTM D5185(m)	1150	989	978	980
Zinc	ppm	ASTM D5185(m)	1270	1180	1171	1172
Sulfur	ppm	ASTM D5185(m)	2060	2435	2346	2461
Lithium	ppm	ASTM D5185(m)		<1	<1	<1

CONTAMINANTS

	method	limit/base	current	history1	history2	
Silicon	ppm	ASTM D5185(m)	>20	8	3	6
Sodium	ppm	ASTM D5185(m)		6	6	6
Potassium	ppm	ASTM D5185(m)	>20	1	<1	2

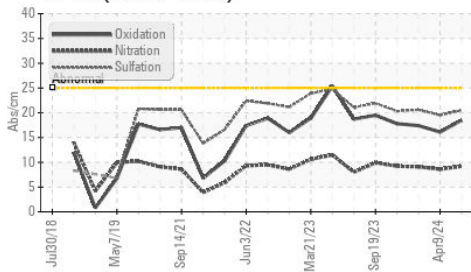
INFRA-RED

	method	limit/base	current	history1	history2	
Soot %	%	ASTM D7844*	>3	0.3	0.2	0.4
Nitration	Abs/cm	ASTM D7624*	>20	9.2	8.6	9.1
Sulfation	Abs./1mm	ASTM D7415*	>30	20.5	19.5	20.6

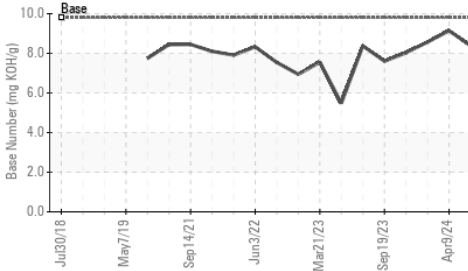


OIL ANALYSIS REPORT

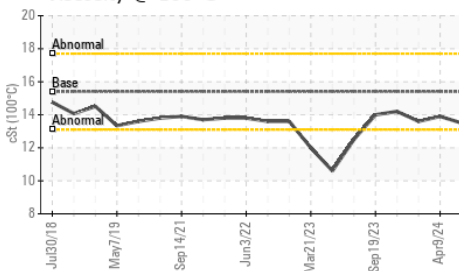
FT-IR (Direct Trend)



Base Number



Viscosity @ 100°C



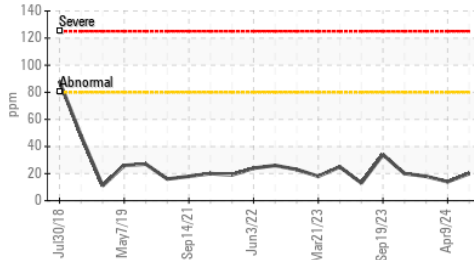
FLUID DEGRADATION		method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	ASTM D7414*	>25	18.5	16.1	17.4
Base Number (BN)	mg KOH/g	ASTM D2896*	9.8	8.39	9.14	8.57

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

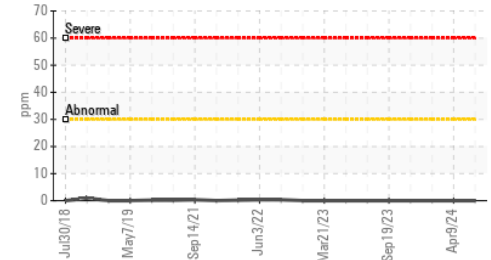
FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D7279(m)	15.4	13.5	13.9	13.6

GRAPHS

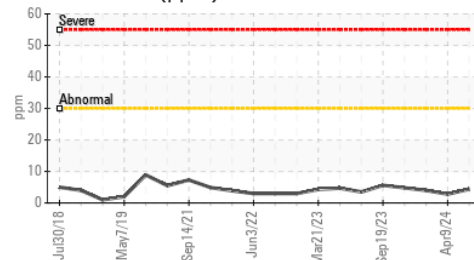
Iron (ppm)



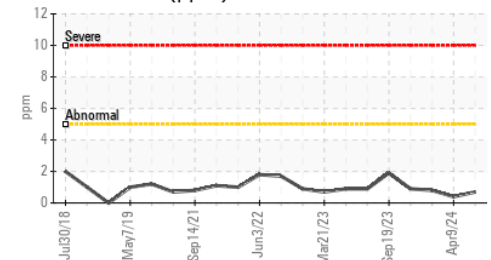
Lead (ppm)



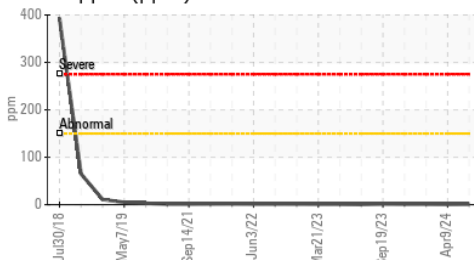
Aluminum (ppm)



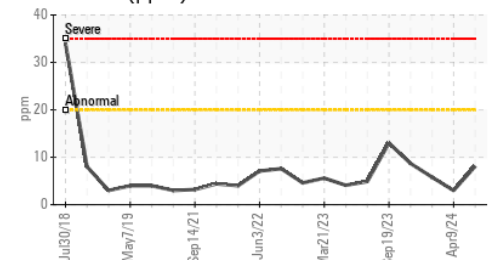
Chromium (ppm)



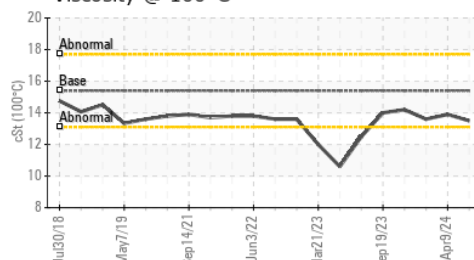
Copper (ppm)



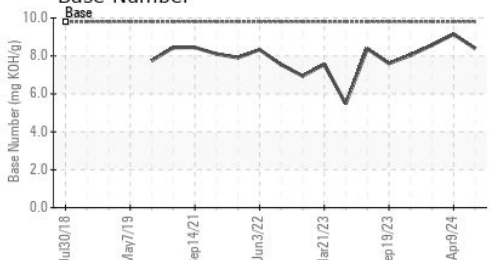
Silicon (ppm)



Viscosity @ 100°C



Base Number



Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9 **GFL Environmental - 550 - Rocky View County**
Sample No. : GFL0112435 **Received** : 05 Jul 2024 **220 Carmek Blvd**
Lab Number : **02645714** **Tested** : 05 Jul 2024 **Rocky View County, AB**
Unique Number : 5803253 **Diagnosed** : 05 Jul 2024 - Wes Davis **CA T1X 1X1**
Test Package : MOB 2 **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.

F: (403)369-6163