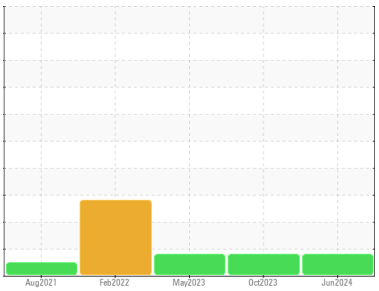
OIL ANALYSIS REPORT

Sample Rating Trend



FUEL

Machine Id
9115
Component
Diesel Engine
Fluid
PETRO CANADA DURON SHP 10W30 (--- GAL)

DIAGNOSIS

Recommendation
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
Elevated aluminum (Al) and/or lead (Pb) and potassium (K) levels in your metals analysis are likely a result of solder flux release into the lubricant and is common on new equipment/components. There is a moderate amount of fuel present in the oil. Tests confirm the presence of fuel in the oil.

Fluid Condition
The oil is no longer serviceable due to the presence of contaminants.

SAMPLE INFORMATION		method	limit/base	current	history1	history2
Sample Number		Client Info		**GFL0111788**	GFL0081957	GFL0081951
Sample Date		Client Info		**13 Jun 2024**	22 Oct 2023	25 May 2023
Machine Age	hrs	Client Info		**3926**	2820	2384
Oil Age	hrs	Client Info		**525**	435	350
Oil Changed		Client Info		**Changed**	Changed	Changed
Sample Status				**ABNORMAL**	ABNORMAL	ABNORMAL

CONTAMINATION		method	limit/base	current	history1	history2
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)	>75	**46**	45	34
Chromium	ppm	ASTM D5185(m)	>5	**3**	2	2
Nickel	ppm	ASTM D5185(m)	>4	**<1**	0	<1
Titanium	ppm	ASTM D5185(m)	>2	**0**	0	0
Silver	ppm	ASTM D5185(m)	>2	**<1**	<1	<1
Aluminum	ppm	ASTM D5185(m)	>15	**5**	12	11
Lead	ppm	ASTM D5185(m)	>25	**1**	1	<1
Copper	ppm	ASTM D5185(m)	>100	**2**	2	2
Tin	ppm	ASTM D5185(m)	>4	**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

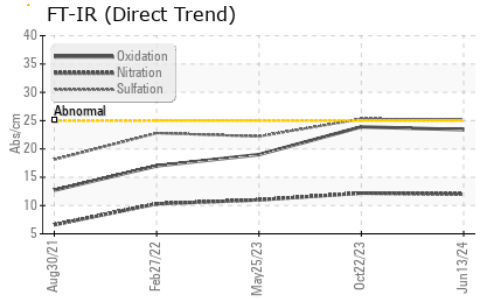
ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185(m)	2	**4**	<1	1
Barium	ppm	ASTM D5185(m)	0	**<1**	<1	<1
Molybdenum	ppm	ASTM D5185(m)	50	**58**	58	59
Manganese	ppm	ASTM D5185(m)	0	**<1**	<1	0
Magnesium	ppm	ASTM D5185(m)	950	**923**	922	933
Calcium	ppm	ASTM D5185(m)	1050	**1041**	1010	1003
Phosphorus	ppm	ASTM D5185(m)	995	**950**	962	953
Zinc	ppm	ASTM D5185(m)	1180	**1143**	1147	1139
Sulfur	ppm	ASTM D5185(m)	2600	**2335**	2298	2360
Lithium	ppm	ASTM D5185(m)		**<1**	<1	<1

CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185(m)	>25	**14**	6	4
Sodium	ppm	ASTM D5185(m)		**6**	6	5
Potassium	ppm	ASTM D5185(m)	>20	**6**	21	17
Fuel	%	ASTM D7593*	>3.0	▲ **5.6**	▲ 4.7	▲ 4.7

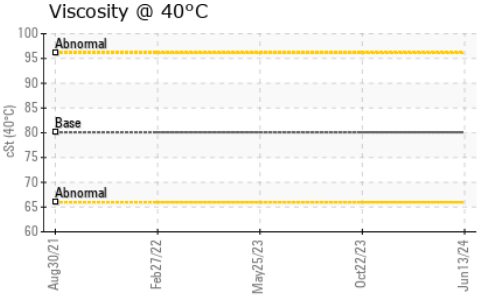
INFRA-RED		method	limit/base	current	history1	history2
Soot %	%	ASTM D7844*	>6	**1.3**	1.3	1
Nitration	Abs/cm	ASTM D7624*	>20	**12.0**	12.2	11.0
Sulfation	Abs/.1mm	ASTM D7415*	>30	**25.2**	25.3	22.2

OIL ANALYSIS REPORT

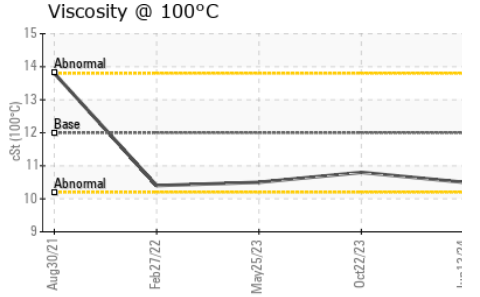
FT-IR (Direct Trend)



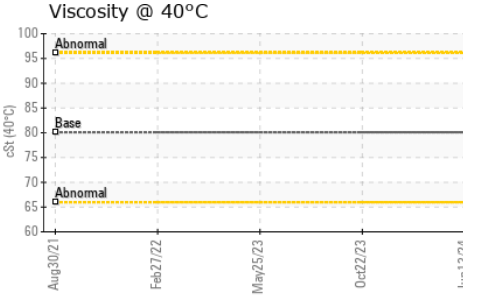
Viscosity @ 40°C



Viscosity @ 100°C



Viscosity @ 40°C



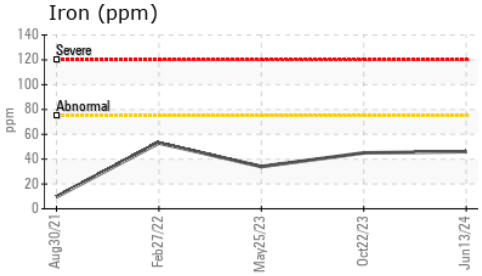
FLUID DEGRADATION		method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	ASTM D7414*	>25	**23.4**	23.9	19.0

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

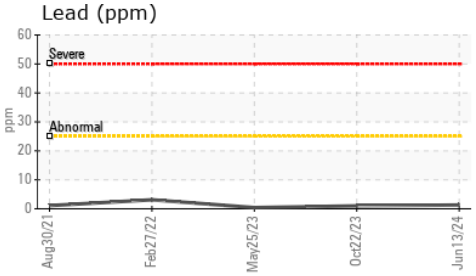
FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D7279(m)	80.1	**67.2**	---	---
Visc @ 100°C	cSt	ASTM D7279(m)	12.00	**10.5**	10.8	10.5
Viscosity Index (VI)	Scale	ASTM D2270*	144	**144**	---	---

GRAPHS

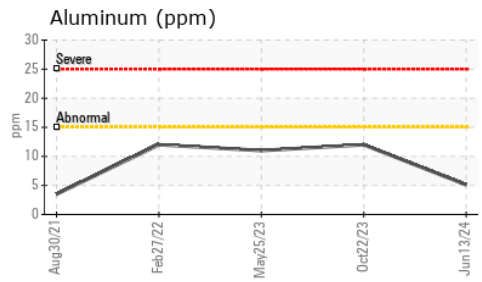
Iron (ppm)



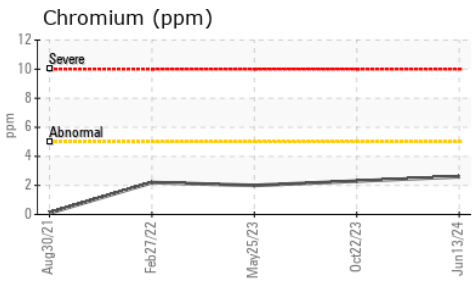
Lead (ppm)



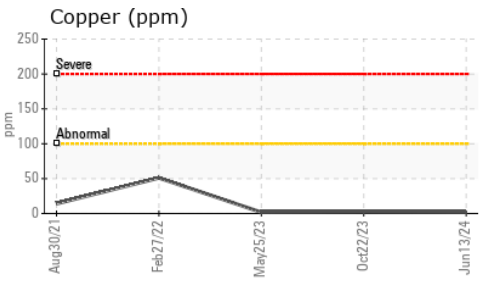
Aluminum (ppm)



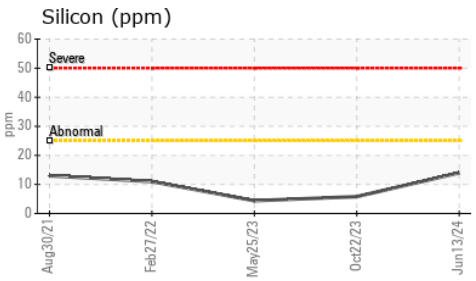
Chromium (ppm)



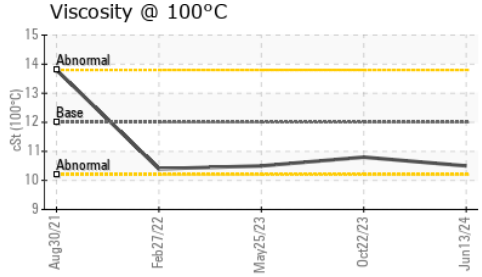
Copper (ppm)



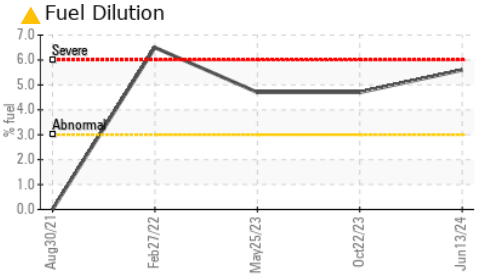
Silicon (ppm)



Viscosity @ 100°C



Fuel Dilution



ISO 17025:2017 Accredited Laboratory

Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
Sample No. : GFL0111788
Lab Number : 02642489
Unique Number : 5800028
Test Package : MOB 1 (Additional Tests: KV40, PercentFuel, VI, Visual)

Received : 18 Jun 2024
Tested : 19 Jun 2024
Diagnosed : 19 Jun 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.

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