OIL ANALYSIS REPORT

WEAR CHECK

Sample Rating Trend

Nov2022 Dec2022 May2023 Oct2023 Jan2024 Apr2024

VISCOSITY ⚠️

Machine Id
412049
Component
Diesel Engine
Fluid
PETRO CANADA DURON SHP 15W40 (--- GAL)

DIAGNOSIS

⚠️ **Recommendation**
No corrective action is recommended at this time. Confirm the source of the lubricant being utilized for top-up/fill. Resample at the next service interval to monitor.

Wear
All component wear rates are normal.

Contamination
Light fuel dilution occurring. No other contaminants were detected in the oil.

⚠️ **Fluid Condition**
Viscosity of sample indicates oil is within SAE 30 range, advise investigate. This plus the additive levels indicates that this is not the same brand, or type of oil as reported. The condition of the oil is acceptable for the time in service.

SAMPLE INFORMATION	method	limit/base	current	history1	history2
Sample Number	Client Info		**GFL0102915**	GFL0102856	GFL0055377
Sample Date	Client Info		**03 Apr 2024**	18 Jan 2024	18 Oct 2023
Machine Age	hrs	Client Info	**0**	0	0
Oil Age	hrs	Client Info	**4061**	3722	44052
Oil Changed		Client Info	**N/A**	N/A	N/A
Sample Status			**ABNORMAL**	NORMAL	NORMAL

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)	>120	**5**	8	8
Chromium	ppm	ASTM D5185(m)	>20	**0**	0	0
Nickel	ppm	ASTM D5185(m)	>5	**<1**	1	1
Titanium	ppm	ASTM D5185(m)	>2	**0**	0	0
Silver	ppm	ASTM D5185(m)	>2	**0**	<1	<1
Aluminum	ppm	ASTM D5185(m)	>20	**2**	3	3
Lead	ppm	ASTM D5185(m)	>40	**0**	<1	<1
Copper	ppm	ASTM D5185(m)	>330	**<1**	1	2
Tin	ppm	ASTM D5185(m)	>15	**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)	0	**59**	103	8
Barium	ppm	ASTM D5185(m)	0	**0**	0	<1
Molybdenum	ppm	ASTM D5185(m)	60	**35**	14	57
Manganese	ppm	ASTM D5185(m)	0	**0**	0	0
Magnesium	ppm	ASTM D5185(m)	1010	**446**	181	882
Calcium	ppm	ASTM D5185(m)	1070	**1693**	1969	1121
Phosphorus	ppm	ASTM D5185(m)	1150	**748**	985	946
Zinc	ppm	ASTM D5185(m)	1270	**865**	1144	1128
Sulfur	ppm	ASTM D5185(m)	2060	**2128**	2991	2485
Lithium	ppm	ASTM D5185(m)		**<1**	<1	<1

CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185(m)	>25	**2**	3	4
Sodium	ppm	ASTM D5185(m)		**2**	2	2
Potassium	ppm	ASTM D5185(m)	>20	**4**	8	4
Fuel	%	ASTM D7593*	>3.0	**1.2**	<1.0	<1.0

INFRA-RED		method	limit/base	current	history1	history2
Soot %	%	ASTM D7844*	>4	**0**	0.1	0
Nitration	Abs/cm	ASTM D7624*	>20	**7.5**	9.1	6.6
Sulfation	Abs/.1mm	ASTM D7415*	>30	**21.8**	21.6	18.3

OIL ANALYSIS REPORT

Fuel Dilution

FT-IR (Direct Trend)

Additives

Additives
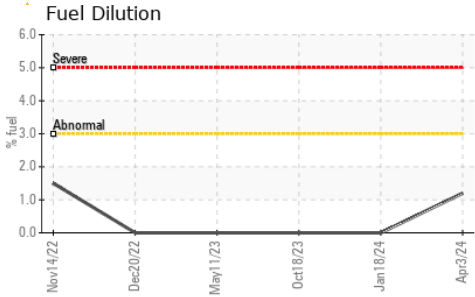
FLUID DEGRADATION	method		limit/base	current	history1	history2
Oxidation	Abs/.1mm	ASTM D7414*	>25	**19.8**	17.3	14.0

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	▲ **11.4**	13.7	13.3

GRAPHS
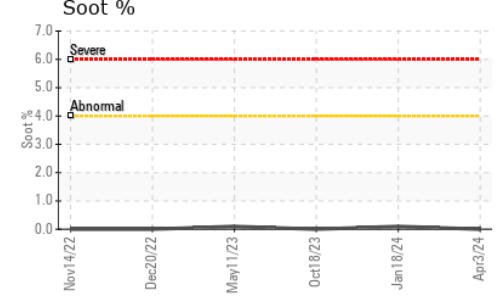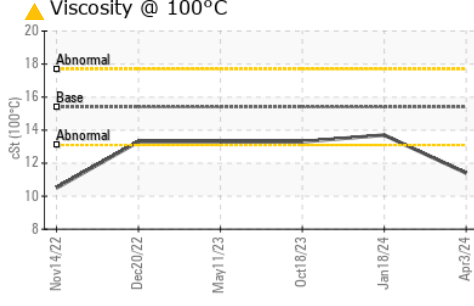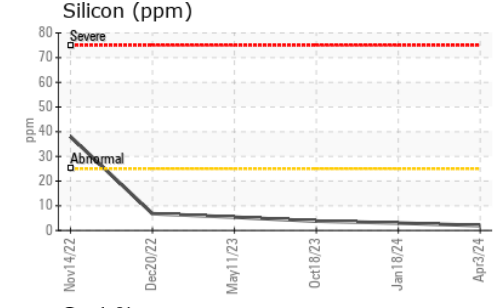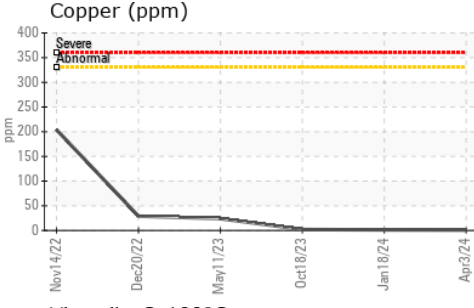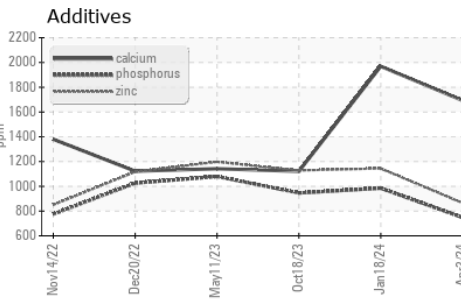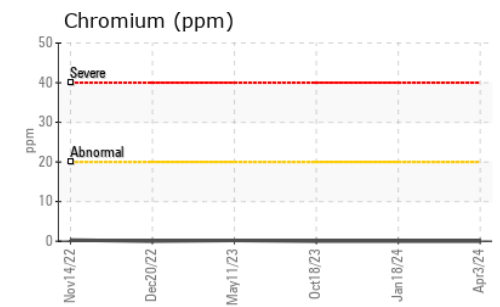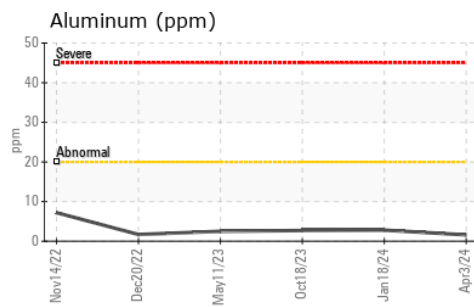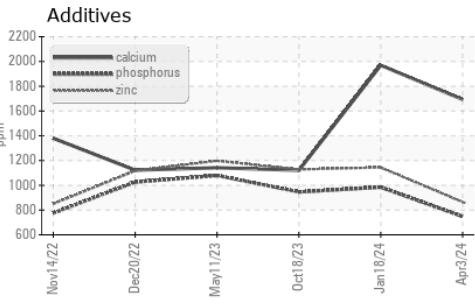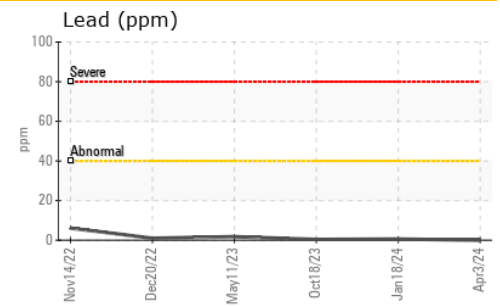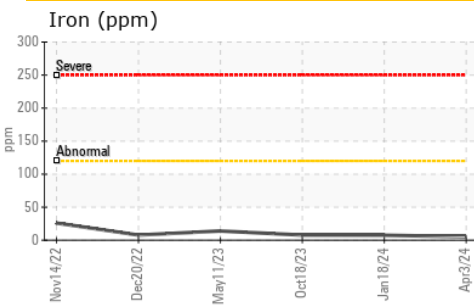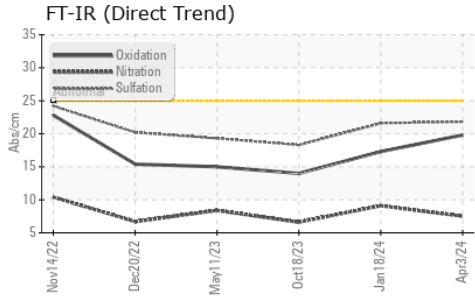
Iron (ppm)

Lead (ppm)

Aluminum (ppm)

Chromium (ppm)

Copper (ppm)

Silicon (ppm)

▲ Viscosity @ 100°C

Soot %

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.

ISO 17025:2017 Accredited Laboratory