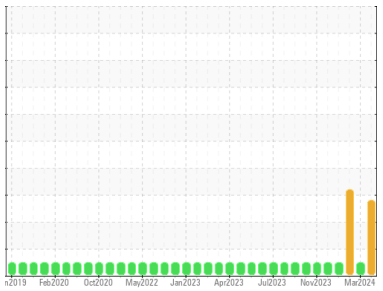
OIL ANALYSIS REPORT

Machine Id
424045-402329
Component
Diesel Engine
Fluid
PETRO CANADA DURON SHP 15W40 (--- GAL)

Sample Rating Trend



GLYCOL

DIAGNOSIS

Recommendation
No corrective action is recommended at this time. We recommend an early resample to monitor this condition.

Wear
All component wear rates are normal.

Contamination
Sodium and/or potassium levels are high. Fuel content negligible. Test for glycol is negative.

Fluid Condition
The oil viscosity is lower than normal. The BN result indicates that there is suitable alkalinity remaining in the oil.

SAMPLE INFORMATION		method	limit/base	current	history1	history2
Sample Number		Client Info		**GFL0117160**	GFL0114044	GFL0109785
Sample Date		Client Info		**23 Apr 2024**	21 Mar 2024	26 Feb 2024
Machine Age	hrs	Client Info		**21950**	21286	21641
Oil Age	hrs	Client Info		**0**	0	0
Oil Changed		Client Info		**Not Changd**	Not Changd	Not Changd
Sample Status				**ABNORMAL**	NORMAL	SEVERE

CONTAMINATION		method	limit/base	current	history1	history2
Water		WC Method	>0.2	**NEG**	NEG	NEG

WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>120	**35**	<1	▲ 103
Chromium	ppm	ASTM D5185m	>20	**2**	0	5
Nickel	ppm	ASTM D5185m	>5	**1**	0	<1
Titanium	ppm	ASTM D5185m	>2	**<1**	0	<1
Silver	ppm	ASTM D5185m	>2	**<1**	0	0
Aluminum	ppm	ASTM D5185m	>20	**7**	<1	6
Lead	ppm	ASTM D5185m	>40	**2**	0	9
Copper	ppm	ASTM D5185m	>330	**2**	0	4
Tin	ppm	ASTM D5185m	>15	**1**	0	1
Vanadium	ppm	ASTM D5185m		**<1**	0	0
Cadmium	ppm	ASTM D5185m		**<1**	0	0

ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m	0	**3**	7	5
Barium	ppm	ASTM D5185m	0	**<1**	0	0
Molybdenum	ppm	ASTM D5185m	60	**63**	56	59
Manganese	ppm	ASTM D5185m	0	**1**	0	1
Magnesium	ppm	ASTM D5185m	1010	**882**	939	891
Calcium	ppm	ASTM D5185m	1070	**1104**	1160	1037
Phosphorus	ppm	ASTM D5185m	1150	**964**	1059	932
Zinc	ppm	ASTM D5185m	1270	**1182**	1262	1174
Sulfur	ppm	ASTM D5185m	2060	**3248**	3765	2671

CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>25	**10**	2	12
Sodium	ppm	ASTM D5185m		▲ **73**	<1	4
Potassium	ppm	ASTM D5185m	>20	▲ **67**	0	3
Fuel	%	ASTM D3524	>3.0	**2.1**	0.4	▲ 11.1
Glycol	%	*ASTM D2982		**NEG**	NEG	NEG

INFRA-RED		method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844	>4	**0.4**	0.1	1.7
Nitration	Abs/cm	*ASTM D7624	>20	**8.0**	4.7	16.5
Sulfation	Abs/.1mm	*ASTM D7415	>30	**19.2**	17.4	31.9

FLUID DEGRADATION		method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414	>25	**15.1**	13.7	36.0
Base Number (BN)	mg KOH/g	ASTM D2896	9.8	**8.1**	8.7	4.7

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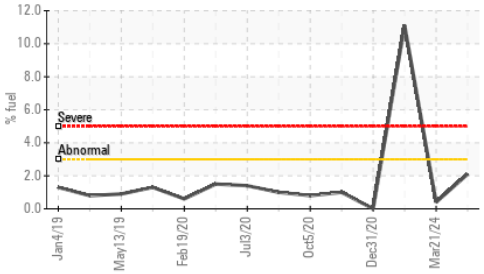
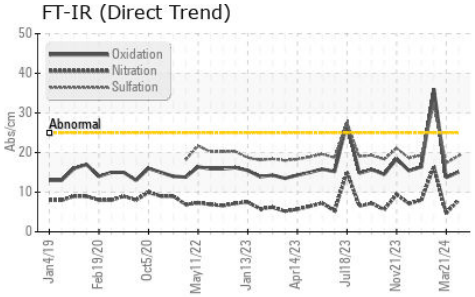
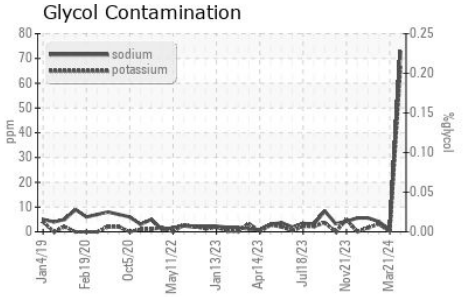
Fuel Dilution



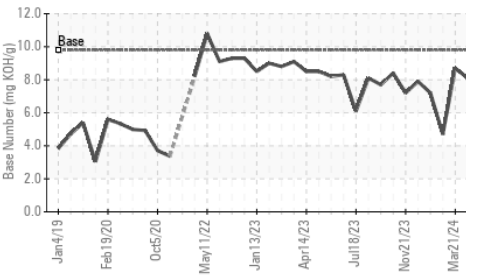
FT-IR (Direct Trend)



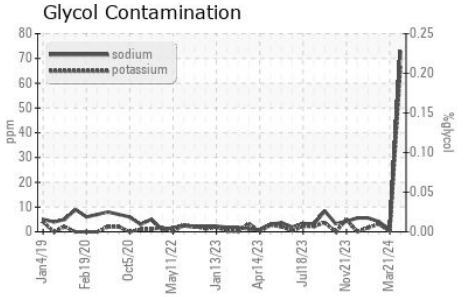
Glycol Contamination



Base Number



Glycol Contamination

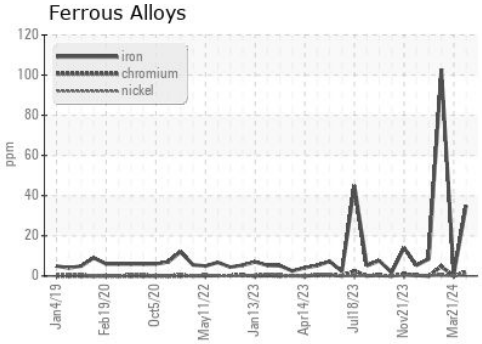


VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Precipitate	scalar	*Visual	NONE	**NONE**	NONE	NONE
Silt	scalar	*Visual	NONE	**NONE**	NONE	NONE
Debris	scalar	*Visual	NONE	**NONE**	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	**NONE**	NONE	NONE
Appearance	scalar	*Visual	NORML	**NORML**	NORML	NORML
Odor	scalar	*Visual	NORML	**NORML**	NORML	NORML
Emulsified Water	scalar	*Visual	>0.2	**NEG**	NEG	NEG
Free Water	scalar	*Visual		**NEG**	NEG	NEG

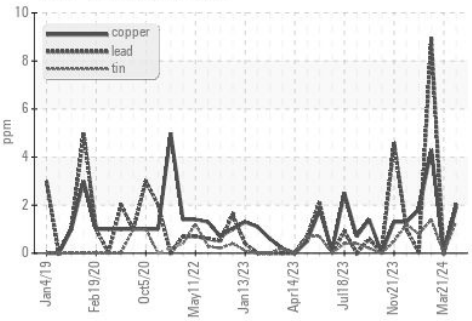
FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	15.4	▲ **12.3**	14.1	▲ 12.0

GRAPHS

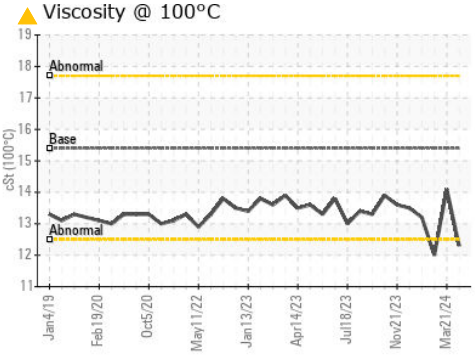
Ferrous Alloys



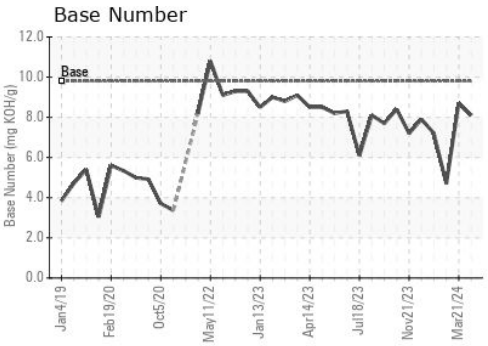
Non-ferrous Metals



▲ Viscosity @ 100°C



Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : GFL0117160
Lab Number : 06160217
Unique Number : 10995640
Test Package : FLEET (Additional Tests: FuelDilution, Glycol, PercentFuel)

Received : 25 Apr 2024
Tested : 30 Apr 2024
Diagnosed : 30 Apr 2024 - Jonathan Hester

To discuss this sample report, contact Customer Service at 1-800-237-1369.
** - Denotes test methods that are outside of the ISO 17025 scope of accreditation.*
Statements of conformity to specifications are based on the simple acceptance decision rule (JCGM 106:2012)

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