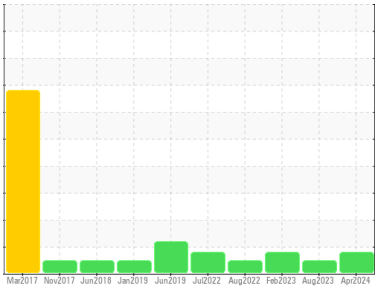
OIL ANALYSIS REPORT

Machine Id
8400
Component
Natural Gas Engine
Fluid
PETRO CANADA DURON GEO LD 15W40 (--- LTR)

Sample Rating Trend



WEAR

DIAGNOSIS

Recommendation
We recommend that you drain the oil from the component if this has not already been done. We recommend an early resample to monitor this condition.

Wear
Chromium ppm levels are abnormal. Ring wear is indicated.

Contamination
There is no indication of any contamination in the oil.

Fluid Condition
The oil is no longer serviceable as a result of the abnormal and/or severe wear.

SAMPLE INFORMATION		method	limit/base	current	history1	history2
Sample Number		Client Info		**GFL0112556**	GFL0090625	GFL0072856
Sample Date		Client Info		**13 Apr 2024**	07 Aug 2023	18 Feb 2023
Machine Age	hrs	Client Info		**15235**	14213	13349
Oil Age	hrs	Client Info		**0**	0	0
Oil Changed		Client Info		**N/A**	Changed	N/A
Sample Status				**ABNORMAL**	NORMAL	MARGINAL

CONTAMINATION		method	limit/base	current	history1	history2
Water		WC Method	>0.1	**NEG**	NEG	NEG

WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185(m)	>50	**30**	20	32
Chromium	ppm	ASTM D5185(m)	>5	▲ **7**	3	▲ 4
Nickel	ppm	ASTM D5185(m)	>4	**1**	<1	1
Titanium	ppm	ASTM D5185(m)	>5	**0**	0	<1
Silver	ppm	ASTM D5185(m)	>3	**0**	0	0
Aluminum	ppm	ASTM D5185(m)	>25	**2**	2	2
Lead	ppm	ASTM D5185(m)	>40	**8**	5	4
Copper	ppm	ASTM D5185(m)	>150	**2**	1	2
Tin	ppm	ASTM D5185(m)	>4	**<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	**7**	6	6
Barium	ppm	ASTM D5185(m)	5	**<1**	0	0
Molybdenum	ppm	ASTM D5185(m)	50	**55**	56	58
Manganese	ppm	ASTM D5185(m)	0	**1**	<1	1
Magnesium	ppm	ASTM D5185(m)	560	**602**	637	649
Calcium	ppm	ASTM D5185(m)	1510	**1729**	1683	1842
Phosphorus	ppm	ASTM D5185(m)	780	**775**	820	871
Zinc	ppm	ASTM D5185(m)	870	**940**	955	990
Sulfur	ppm	ASTM D5185(m)	2040	**1966**	2027	2109
Lithium	ppm	ASTM D5185(m)		**<1**	<1	<1

CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185(m)	>25	**6**	4	6
Sodium	ppm	ASTM D5185(m)		**13**	13	16
Potassium	ppm	ASTM D5185(m)	>20	**1**	<1	1

INFRA-RED		method	limit/base	current	history1	history2
Soot %	%	ASTM D7844*		**0**	0	0
Nitration	Abs/cm	ASTM D7624*	>20	**13.5**	11.5	6.9
Sulfation	Abs/.1mm	ASTM D7415*	>30	**27.0**	25.8	19.4

FLUID DEGRADATION		method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	ASTM D7414*	>25	**23.2**	20.3	11.0

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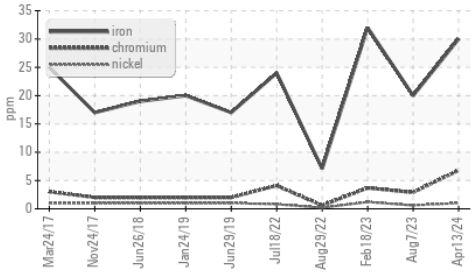
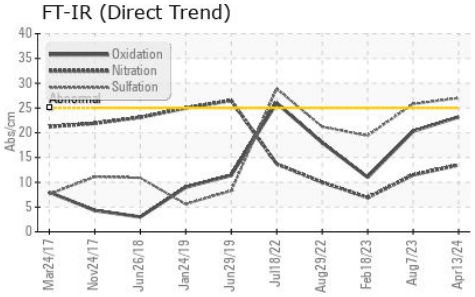
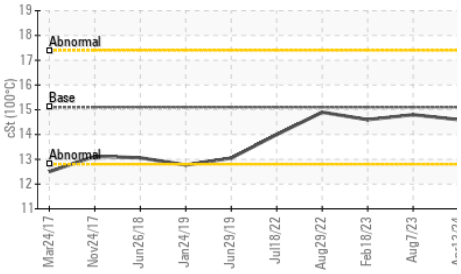
Ferrous Alloys



FT-IR (Direct Trend)



Viscosity @ 100°C

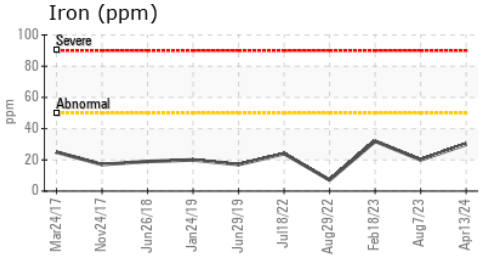


VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	Visual*	NONE	**VLITE**	---	---
Yellow Metal	scalar	Visual*	NONE	**NONE**	---	---
Precipitate	scalar	Visual*	NONE	**NONE**	---	---
Silt	scalar	Visual*	NONE	**NONE**	---	---
Debris	scalar	Visual*	NONE	**NONE**	---	---
Sand/Dirt	scalar	Visual*	NONE	**NONE**	---	---
Appearance	scalar	Visual*	NORML	**NORML**	---	---
Odor	scalar	Visual*	NORML	**NORML**	NORML	NORML
Emulsified Water	scalar	Visual*	>0.1	**NEG**	NEG	NEG
Free Water	scalar	Visual*		**NEG**	NEG	NEG

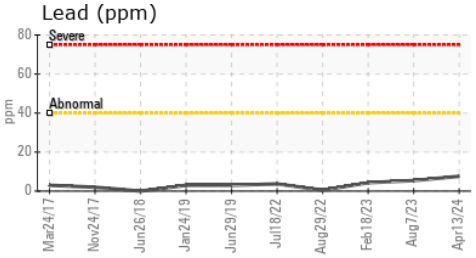
FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D7279(m)	15.1	**14.6**	14.8	14.6

GRAPHS

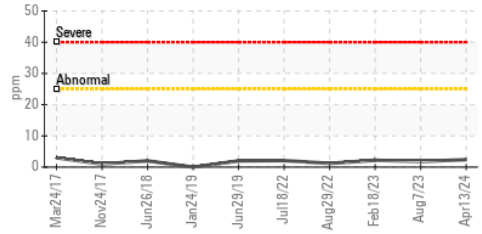
Iron (ppm)



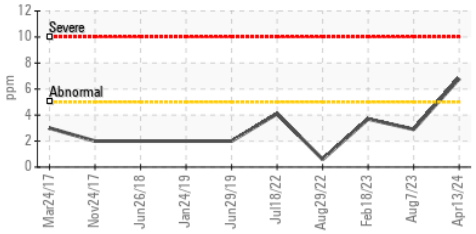
Lead (ppm)



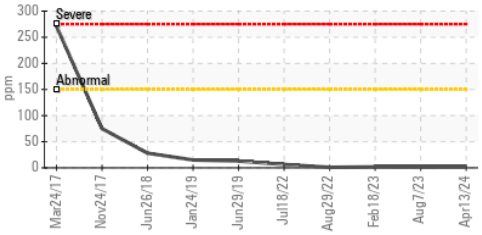
Aluminum (ppm)



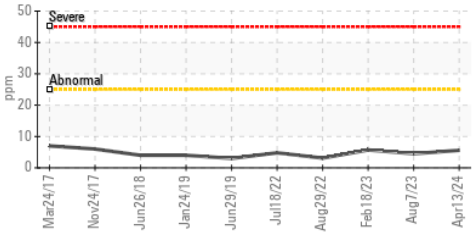
Chromium (ppm)



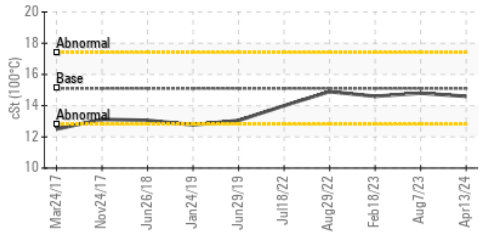
Copper (ppm)



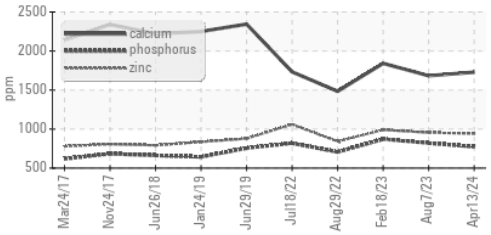
Silicon (ppm)



Viscosity @ 100°C



Additives



ISO 17025:2017 Accredited Laboratory

Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
Sample No. : GFL0112556
Lab Number : 02631563
Unique Number : 5772716
Test Package : MOB 1 (Additional Tests: Visual)

Received : 26 Apr 2024
Tested : 26 Apr 2024
Diagnosed : 26 Apr 2024 - Kevin Marson

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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