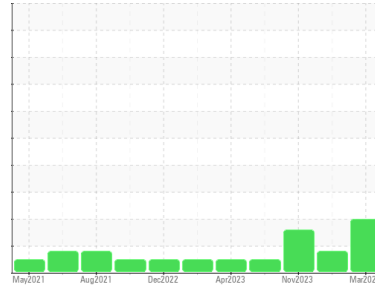




OIL ANALYSIS REPORT

Sample Rating Trend



DEGRADATION



Area
(P8963D)
Machine Id
945008-260260
Component
Natural Gas Engine
Fluid
PETRO CANADA DURON GEO LD 15W40 (7 GAL)

DIAGNOSIS

Recommendation

Oil and filter change at the time of sampling has been noted. No corrective action is recommended at this time. We recommend an early resample to monitor this condition.

Wear

Cylinder, crank, or cam shaft wear is indicated. All other component wear rates are normal.

Contamination

There is no indication of any contamination in the oil.

Fluid Condition

The BN level is low. The condition of the oil is acceptable for the time in service.

SAMPLE INFORMATION

method	limit/base	current	history1	history2
Sample Number	Client Info	GFL0114562	GFL0081090	GFL0081108
Sample Date	Client Info	14 Mar 2024	21 Feb 2024	02 Nov 2023
Machine Age	hrs	4323	17066	3192
Oil Age	hrs	1200	941	1200
Oil Changed	Client Info	Changed	Not Changd	Changed
Sample Status		ABNORMAL	ABNORMAL	ABNORMAL

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 D5185m >50	▲ 79	▲ 69	▲ 107
Chromium	ppm ASTM D5185m >4	4	3	▲ 8
Nickel	ppm ASTM D5185m >2	3	2	4
Titanium	ppm ASTM D5185m	<1	<1	1
Silver	ppm ASTM D5185m >3	0	0	0
Aluminum	ppm ASTM D5185m >9	9	6	12
Lead	ppm ASTM D5185m >30	4	2	3
Copper	ppm ASTM D5185m >35	3	1	1
Tin	ppm ASTM D5185m >4	2	2	2
Vanadium	ppm ASTM D5185m	0	<1	<1
Cadmium	ppm ASTM D5185m	0	0	<1

ADDITIVES

method	limit/base	current	history1	history2
Boron	ppm ASTM D5185m 50	8	5	153
Barium	ppm ASTM D5185m 5	0	0	0
Molybdenum	ppm ASTM D5185m 50	68	61	101
Manganese	ppm ASTM D5185m 0	1	1	3
Magnesium	ppm ASTM D5185m 560	600	536	446
Calcium	ppm ASTM D5185m 1510	1785	1699	1559
Phosphorus	ppm ASTM D5185m 780	850	758	977
Zinc	ppm ASTM D5185m 870	1084	946	1349
Sulfur	ppm ASTM D5185m 2040	2633	2265	3245

CONTAMINANTS

method	limit/base	current	history1	history2
Silicon	ppm ASTM D5185m >+100	20	12	56
Sodium	ppm ASTM D5185m	11	11	4
Potassium	ppm ASTM D5185m >20	8	2	5

INFRA-RED

method	limit/base	current	history1	history2
Soot %	% *ASTM D7844	0.1	0.8	0.1
Nitration	Abs/cm *ASTM D7624 >20	11.8	9.7	7.6
Sulfation	Abs/.1mm *ASTM D7415 >30	26.7	23.7	21.2

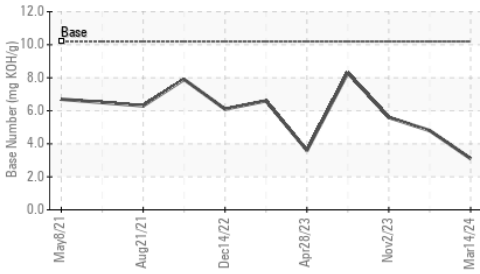
FLUID DEGRADATION

method	limit/base	current	history1	history2
Oxidation	Abs/.1mm *ASTM D7414 >25	22.9	18.5	15.8
Base Number (BN)	mg KOH/g ASTM D2896 10.2	▲ 3.1	4.8	5.6

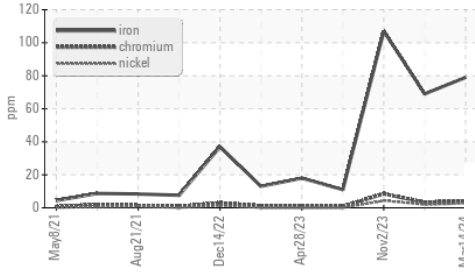


OIL ANALYSIS REPORT

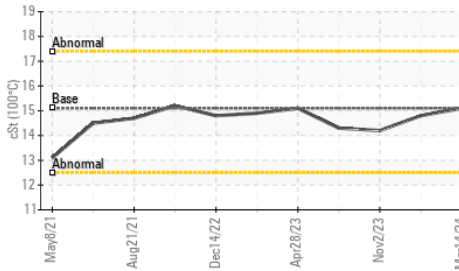
▲ Base Number



▲ Ferrous Alloys



Viscosity @ 100°C



VISUAL

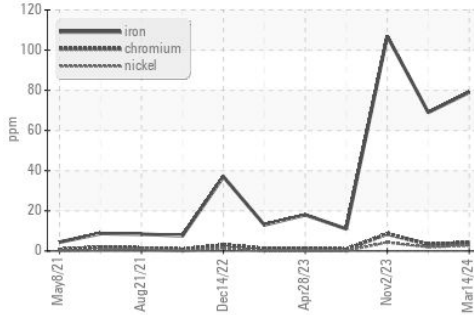
	method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE
Appearance	scalar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

FLUID PROPERTIES

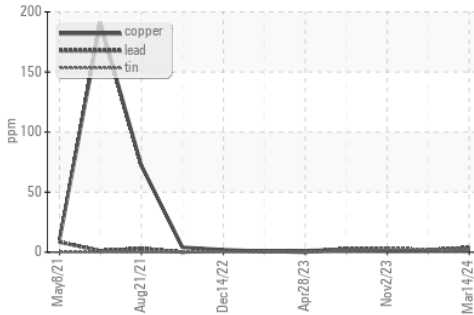
	method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	15.1	14.8	14.2

GRAPHS

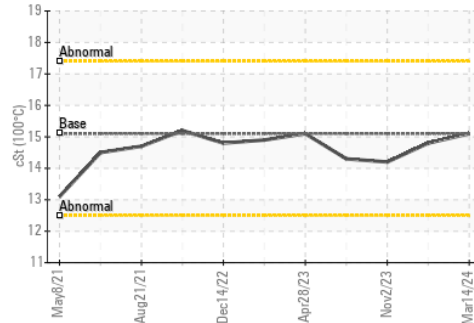
▲ Ferrous Alloys



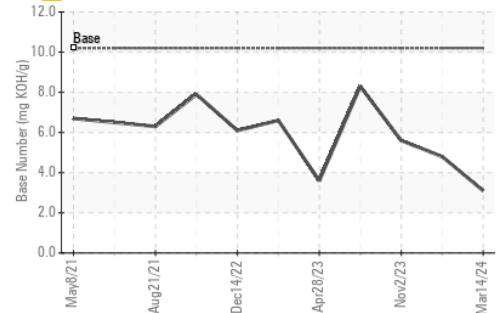
Non-ferrous Metals



Viscosity @ 100°C



▲ Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
 Sample No. : GFL0114562
 Lab Number : 06121360
 Unique Number : 10930193
 Test Package : FLEET

Received : 18 Mar 2024
 Tested : 19 Mar 2024
 Diagnosed : 20 Mar 2024 - Don Baldrige

GFL Environmental - 884 - Lake County - Tavares
 321 Southridge Industrial Way
 Tavares, FL
 US 32778
 Contact: RON FERAGOTTI

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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F: