



OIL ANALYSIS REPORT

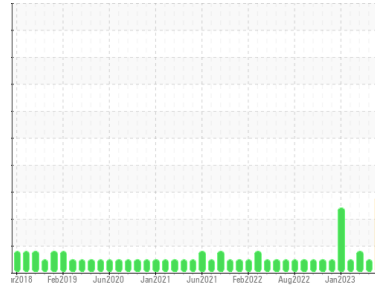
Sample Rating Trend

DEGRADATION

Machine Id
3687C

Component
Natural Gas Engine

Fluid
PETRO CANADA DURON GEO LD 15W40 (38 QTS)



DIAGNOSIS

Recommendation

Oil and filter change at the time of sampling has been noted. No corrective action is recommended at this time. Resample at the next service interval to monitor.

Wear

The aluminum level is abnormal. Valve wear is indicated.

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	GFL0098527	GFL0087754	GFL0082237
Sample Date	Client Info	28 Dec 2023	19 Sep 2023	01 Jun 2023
Machine Age	hrs	18692	11926	17213
Oil Age	hrs	1200	0	1106
Oil Changed	Client Info	Changed	Not Changd	Not Changd
Sample Status		ABNORMAL	NORMAL	ABNORMAL

CONTAMINATION

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

WEAR METALS

method	limit/base	current	history1	history2		
Iron	ppm	ASTM D5185m	>50	35	15	37
Chromium	ppm	ASTM D5185m	>4	7	2	4
Nickel	ppm	ASTM D5185m	>2	1	0	<1
Titanium	ppm	ASTM D5185m		0	0	0
Silver	ppm	ASTM D5185m	>3	0	0	0
Aluminum	ppm	ASTM D5185m	>9	16	6	19
Lead	ppm	ASTM D5185m	>30	2	<1	<1
Copper	ppm	ASTM D5185m	>35	2	<1	1
Tin	ppm	ASTM D5185m	>4	1	<1	0
Vanadium	ppm	ASTM D5185m		0	<1	0
Cadmium	ppm	ASTM D5185m		0	0	0

ADDITIVES

method	limit/base	current	history1	history2		
Boron	ppm	ASTM D5185m	50	3	7	3
Barium	ppm	ASTM D5185m	5	0	0	0
Molybdenum	ppm	ASTM D5185m	50	57	55	53
Manganese	ppm	ASTM D5185m	0	2	1	<1
Magnesium	ppm	ASTM D5185m	560	593	584	567
Calcium	ppm	ASTM D5185m	1510	1567	1672	1770
Phosphorus	ppm	ASTM D5185m	780	741	717	721
Zinc	ppm	ASTM D5185m	870	943	965	960
Sulfur	ppm	ASTM D5185m	2040	2409	2877	3078

CONTAMINANTS

method	limit/base	current	history1	history2		
Silicon	ppm	ASTM D5185m	>+100	12	12	6
Sodium	ppm	ASTM D5185m		10	6	9
Potassium	ppm	ASTM D5185m	>20	5	4	3

INFRA-RED

method	limit/base	current	history1	history2		
Soot %	%	*ASTM D7844		0	0.1	0
Nitration	Abs/cm	*ASTM D7624	>20	11.5	10.1	12.0
Sulfation	Abs/.1mm	*ASTM D7415	>30	27.7	19.4	25.1

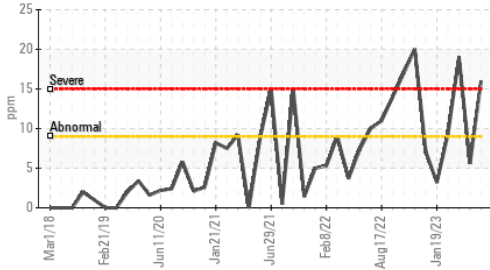
FLUID DEGRADATION

method	limit/base	current	history1	history2		
Oxidation	Abs/.1mm	*ASTM D7414	>25	21.1	16.1	19.9
Base Number (BN)	mg KOH/g	ASTM D2896	10.2	2.5	4.8	3.5

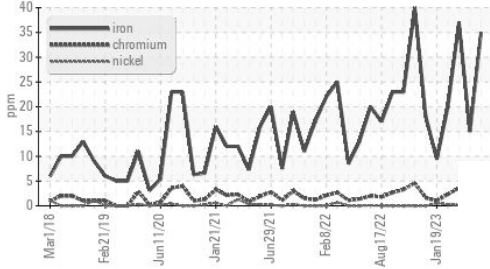


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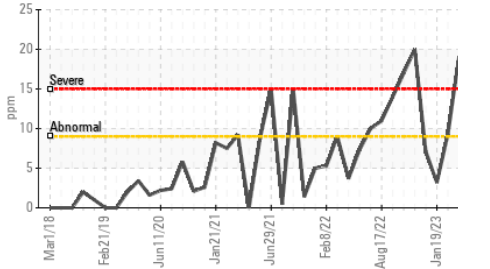
▲ Aluminum (ppm)



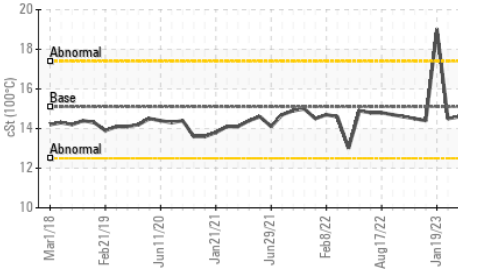
▲ Ferrous Alloys



▲ Aluminum (ppm)



Viscosity @ 100°C

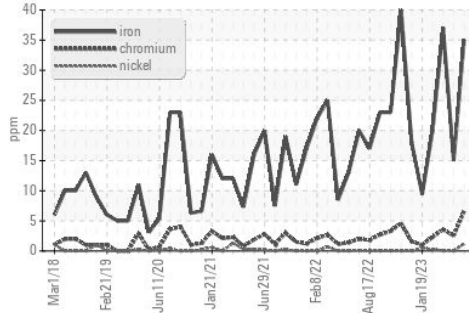


VISUAL	method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE
Appearance	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

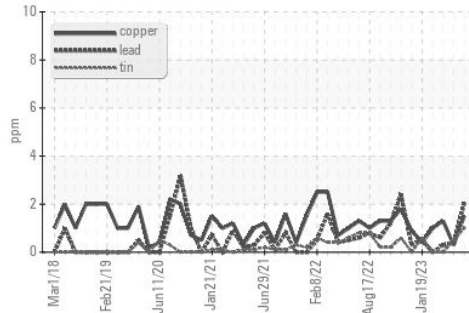
FLUID PROPERTIES	method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	15.1	13.8	14.3

GRAPHS

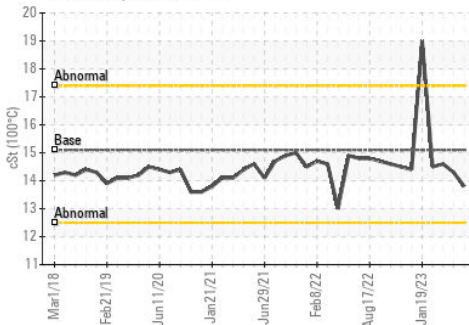
▲ Ferrous Alloys



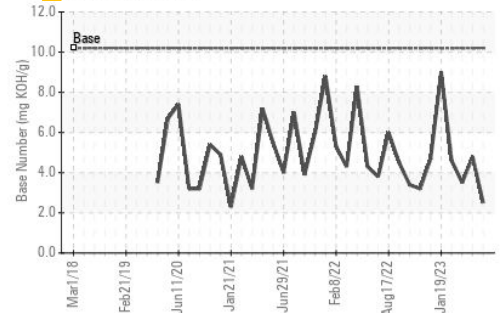
Non-ferrous Metals



Viscosity @ 100°C



▲ Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
 Sample No. : GFL0098527
 Lab Number : 06050679
 Unique Number : 10816628
 Test Package : FLEET

GFL Environmental - 006 - Wilmington
 3618 US Highway 421 N
 Wilmington, NC
 US 28401
 Contact: Eric Wood
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 T: (717)723-1956
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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)