

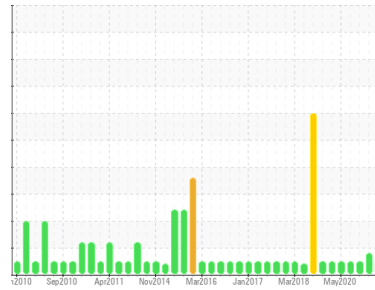


OIL ANALYSIS REPORT



Area
(RB32704)
Machine Id
2332
Component
Diesel Engine
Fluid
PETRO CANADA DURON SHP 15W40 (40 QTS)

Sample Rating Trend



NORMAL



DIAGNOSIS

Recommendation

Resample at the next service interval to monitor.

Wear

All component wear rates are normal.

Contamination

There is no indication of any contamination in the oil.

Fluid Condition

The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

SAMPLE INFORMATION

method	limit/base	current	history1	history2
Sample Number	Client Info	GFL0100429	GFL0055204	GFL0006308
Sample Date	Client Info	18 Apr 2024	19 Oct 2023	02 Nov 2020
Machine Age	hrs	40441	40288	39124
Oil Age	hrs	153	446	507
Oil Changed	Client Info	Changed	Changed	N/A
Sample Status		NORMAL	ABNORMAL	NORMAL

CONTAMINATION

method	limit/base	current	history1	history2
Fuel	WC Method >3.0	<1.0	<1.0	<1.0
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 D5185m >120	4	31	41
Chromium	ppm ASTM D5185m >20	<1	<1	1
Nickel	ppm ASTM D5185m >5	0	<1	<1
Titanium	ppm ASTM D5185m >2	0	<1	<1
Silver	ppm ASTM D5185m >2	0	0	0
Aluminum	ppm ASTM D5185m >20	1	2	2
Lead	ppm ASTM D5185m >40	0	4	19
Copper	ppm ASTM D5185m >330	7	446	30
Tin	ppm ASTM D5185m >15	0	2	<1
Antimony	ppm ASTM D5185m	---	---	0
Vanadium	ppm ASTM D5185m	0	0	0
Cadmium	ppm ASTM D5185m	0	<1	0

ADDITIVES

method	limit/base	current	history1	history2
Boron	ppm ASTM D5185m 0	15	10	9
Barium	ppm ASTM D5185m 0	0	0	0
Molybdenum	ppm ASTM D5185m 60	58	58	53
Manganese	ppm ASTM D5185m 0	<1	<1	<1
Magnesium	ppm ASTM D5185m 1010	952	846	891
Calcium	ppm ASTM D5185m 1070	1061	1055	1060
Phosphorus	ppm ASTM D5185m 1150	999	928	985
Zinc	ppm ASTM D5185m 1270	1214	1129	1100
Sulfur	ppm ASTM D5185m 2060	3546	3193	2328

CONTAMINANTS

method	limit/base	current	history1	history2
Silicon	ppm ASTM D5185m >25	3	4	4
Sodium	ppm ASTM D5185m	<1	8	2
Potassium	ppm ASTM D5185m >20	0	5	<1

INFRA-RED

method	limit/base	current	history1	history2
Soot %	% *ASTM D7844 >4	0.1	1.4	1.8
Nitration	Abs/cm *ASTM D7624 >20	4.5	8.5	8.6
Sulfation	Abs/.1mm *ASTM D7415 >30	17.6	20.0	23.5

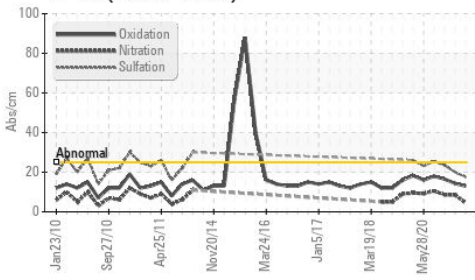
FLUID DEGRADATION

method	limit/base	current	history1	history2
Oxidation	Abs/.1mm *ASTM D7414 >25	13.0	14.3	16.5
Base Number (BN)	mg KOH/g ASTM D2896 9.8	9.5	7.7	8.1

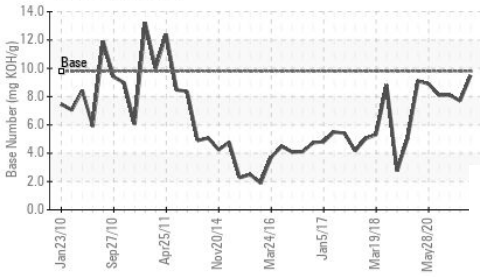


OIL ANALYSIS REPORT

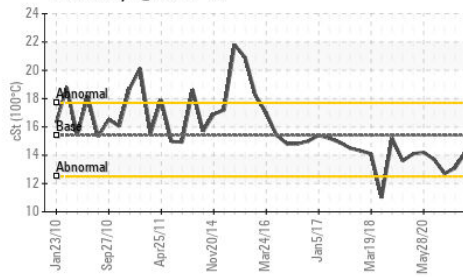
FT-IR (Direct Trend)



Base Number



Viscosity @ 100°C

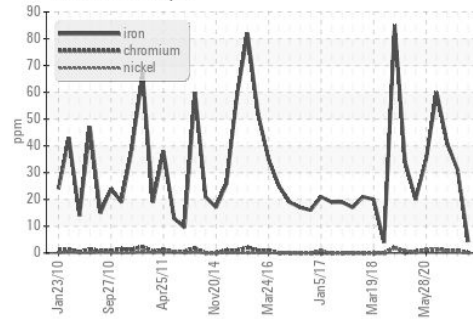


VISUAL	method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE
Appearance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

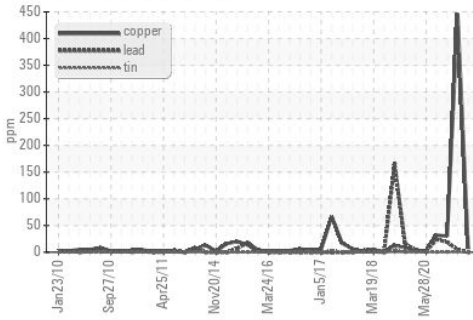
FLUID PROPERTIES	method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	15.4	14.2	13.1

GRAPHS

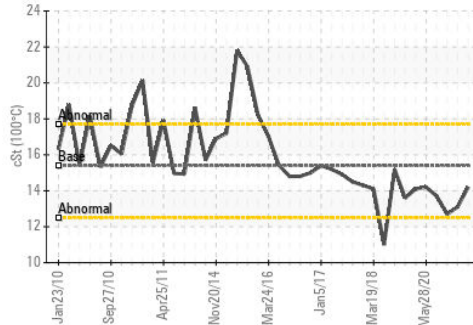
Ferrous Alloys



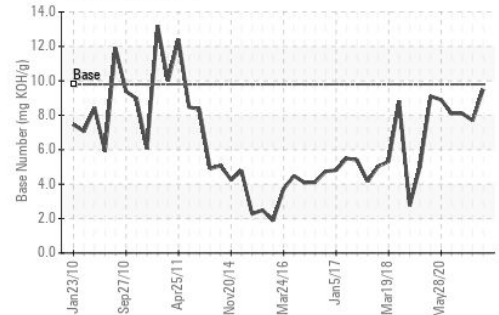
Non-ferrous Metals



Viscosity @ 100°C



Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
 Sample No. : GFL0100429
 Lab Number : 06158370
 Unique Number : 10993793
 Test Package : FLEET

GFL Environmental - 900 - Antigo HC
 1715 Deleglise St.
 Antigo, WI
 US 54409
 Contact: Kirk Koss
 kirk.koss@gflenv.com
 T: (715)571-2784
 F:

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)