

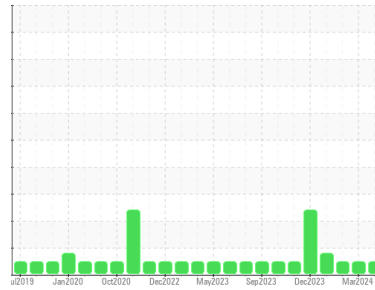


OIL ANALYSIS REPORT



Area
(81J0TW)
 Machine Id
423036-402352
 Component
Diesel Engine
 Fluid
PETRO CANADA DURON SHP 15W40 (--- GAL)

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	GFL0117198	GFL0114017	GFL0109792
Sample Date	Client Info	02 Apr 2024	08 Mar 2024	27 Feb 2024
Machine Age	hrs	14193	14017	13953
Oil Age	hrs	0	0	0
Oil Changed	Client Info	Not Changed	Not Changed	Not Changed
Sample Status		NORMAL	NORMAL	NORMAL

CONTAMINATION

method	limit/base	current	history1	history2
Fuel	WC Method >5	<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 >80	11	47	15
Chromium	ppm ASTM D5185m >5	<1	3	1
Nickel	ppm ASTM D5185m >2	2	<1	<1
Titanium	ppm ASTM D5185m	<1	<1	0
Silver	ppm ASTM D5185m >3	<1	0	0
Aluminum	ppm ASTM D5185m >30	7	17	2
Lead	ppm ASTM D5185m >30	1	<1	<1
Copper	ppm ASTM D5185m >150	2	6	0
Tin	ppm ASTM D5185m >5	<1	<1	<1
Vanadium	ppm ASTM D5185m	<1	0	<1
Cadmium	ppm ASTM D5185m	<1	0	0

ADDITIVES

method	limit/base	current	history1	history2
Boron	ppm ASTM D5185m 0	7	4	12
Barium	ppm ASTM D5185m 0	0	0	0
Molybdenum	ppm ASTM D5185m 60	59	64	61
Manganese	ppm ASTM D5185m 0	<1	<1	<1
Magnesium	ppm ASTM D5185m 1010	981	952	1033
Calcium	ppm ASTM D5185m 1070	1145	1152	1353
Phosphorus	ppm ASTM D5185m 1150	1128	1060	1011
Zinc	ppm ASTM D5185m 1270	1359	1300	1453
Sulfur	ppm ASTM D5185m 2060	4056	3287	3409

CONTAMINANTS

method	limit/base	current	history1	history2
Silicon	ppm ASTM D5185m >20	4	13	4
Sodium	ppm ASTM D5185m	1	3	21
Potassium	ppm ASTM D5185m >20	5	4	<1

INFRA-RED

method	limit/base	current	history1	history2
Soot %	% *ASTM D7844 >3	0.5	1.3	1.4
Nitration	Abs/cm *ASTM D7624 >20	6.5	10.3	8.4
Sulfation	Abs/.1mm *ASTM D7415 >30	18.7	22.1	20.9

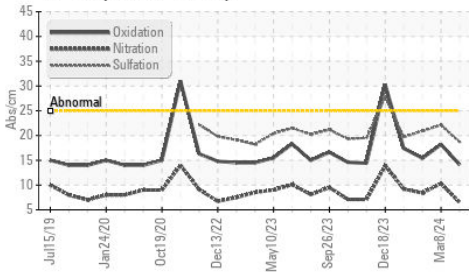
FLUID DEGRADATION

method	limit/base	current	history1	history2
Oxidation	Abs/.1mm *ASTM D7414 >25	14.1	18.2	15.4
Base Number (BN)	mg KOH/g ASTM D2896 9.8	8.8	7.1	9.1

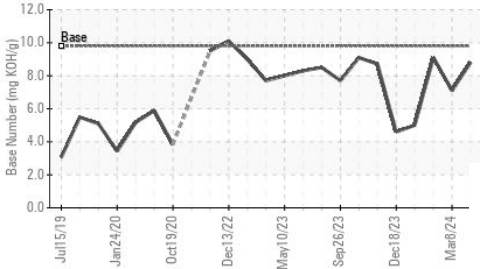


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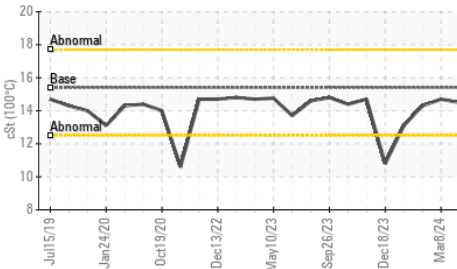
FT-IR (Direct Trend)



Base Number



Viscosity @ 100°C

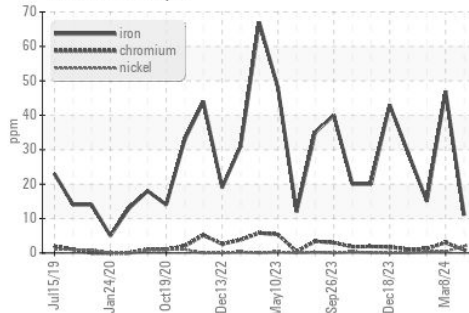


VISUAL	method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE
Appearance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

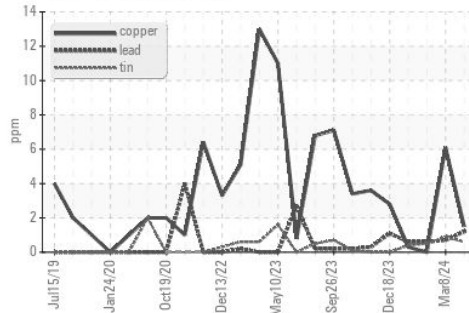
FLUID PROPERTIES	method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	15.4	14.5	14.7

GRAPHS

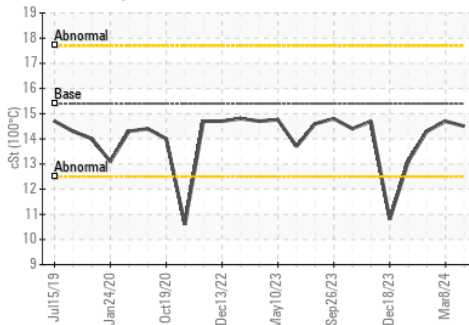
Ferrous Alloys



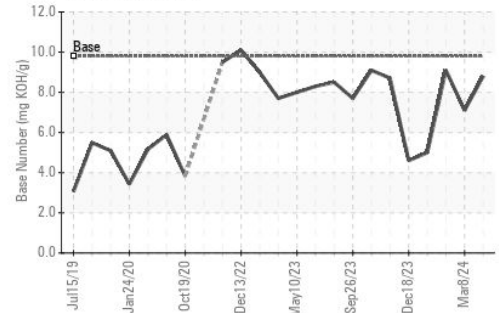
Non-ferrous Metals



Viscosity @ 100°C



Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
 Sample No. : GFL0117198
 Lab Number : 06139557
 Unique Number : 10964365
 Test Package : FLEET

GFL Environmental - 836 - Kansas City Hauling
 7801 East Truman Road
 Kansas City, MO
 US 64126
 Contact: Loyce Stewart
 loyce.stewart@gflenv.com

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: