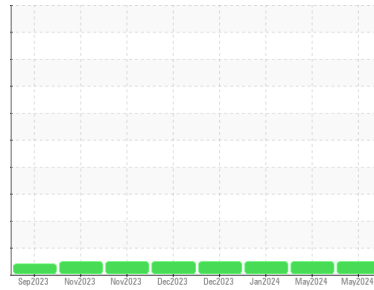




OIL ANALYSIS REPORT

Sample Rating Trend



NORMAL



Machine Id

913149

Component

Diesel Engine

Fluid

PETRO CANADA DURON SHP 15W40 (--- GAL)

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		GFL0098926	GFL0098912	GFL0105549
Sample Date	Client Info		16 May 2024	01 May 2024	25 Jan 2024
Machine Age	hrs	Client Info	1929	1819	0
Oil Age	hrs	Client Info	1929	0	0
Oil Changed		Client Info	N/A	N/A	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 >110	13	12	15
Chromium	ppm	ASTM D5185m >4	0	<1	<1
Nickel	ppm	ASTM D5185m >2	<1	<1	0
Titanium	ppm	ASTM D5185m	0	<1	0
Silver	ppm	ASTM D5185m >2	<1	<1	0
Aluminum	ppm	ASTM D5185m >25	5	4	7
Lead	ppm	ASTM D5185m >45	<1	0	<1
Copper	ppm	ASTM D5185m >85	8	6	4
Tin	ppm	ASTM D5185m >4	<1	<1	0
Vanadium	ppm	ASTM D5185m	0	<1	<1
Cadmium	ppm	ASTM D5185m	0	0	0

ADDITIVES

	method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m 0	4	3	4
Barium	ppm	ASTM D5185m 0	0	0	0
Molybdenum	ppm	ASTM D5185m 60	57	58	65
Manganese	ppm	ASTM D5185m 0	<1	<1	<1
Magnesium	ppm	ASTM D5185m 1010	887	901	868
Calcium	ppm	ASTM D5185m 1070	1191	1197	1389
Phosphorus	ppm	ASTM D5185m 1150	1001	971	1093
Zinc	ppm	ASTM D5185m 1270	1215	1239	1361
Sulfur	ppm	ASTM D5185m 2060	3227	3214	3272

CONTAMINANTS

	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m >30	6	7	5
Sodium	ppm	ASTM D5185m	3	7	2
Potassium	ppm	ASTM D5185m >20	8	7	10

INFRA-RED

	method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844 >3	0.5	0.4	0.5
Nitration	Abs/cm	*ASTM D7624 >20	9.9	8.9	10.6
Sulfation	Abs/.1mm	*ASTM D7415 >30	20.6	19.9	21.9

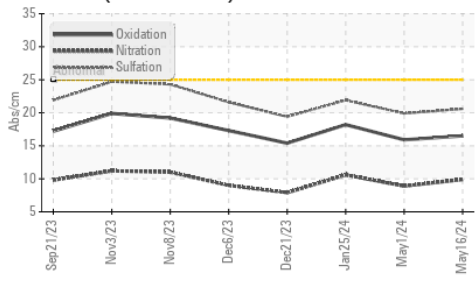
FLUID DEGRADATION

	method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414 >25	16.5	15.9	18.2
Base Number (BN)	mg KOH/g	ASTM D2896 9.8	7.0	7.7	5.8

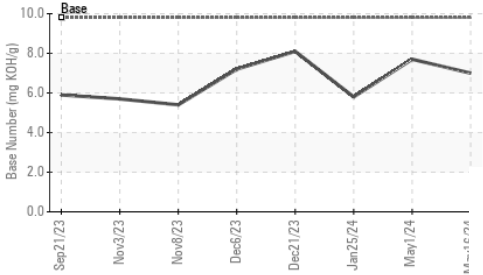


OIL ANALYSIS REPORT

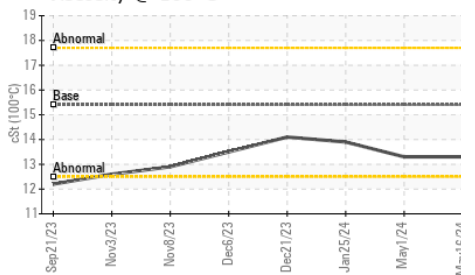
FT-IR (Direct Trend)



Base Number



Viscosity @ 100°C

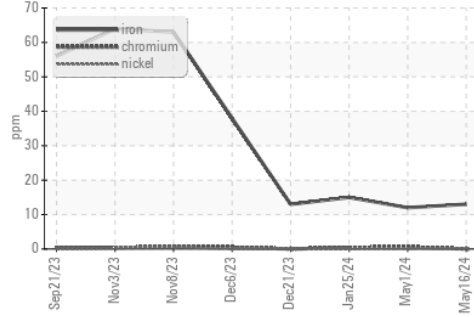


VISUAL	method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE
Appearance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

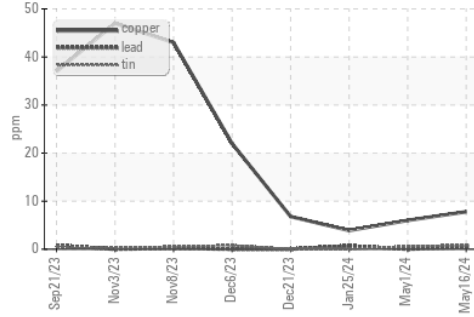
FLUID PROPERTIES	method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	15.4	13.3	13.9

GRAPHS

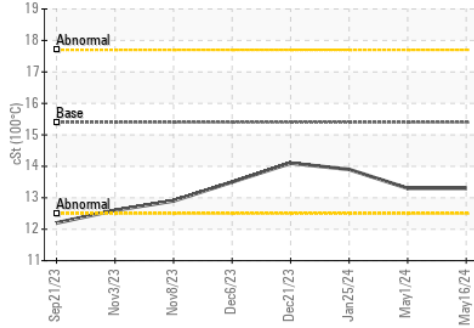
Ferrous Alloys



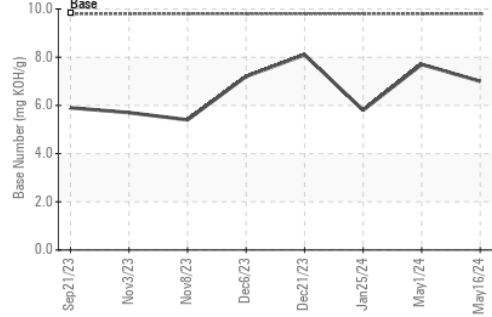
Non-ferrous Metals



Viscosity @ 100°C



Base Number



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : GFL0098926 **Received** : 29 May 2024
Lab Number : 06193750 **Tested** : 30 May 2024
Unique Number : 11050502 **Diagnosed** : 30 May 2024 - Wes Davis
Test Package : FLEET

GFL Environmental - 846 - Mayfield Hauling
 3426 State Route 45
 Mayfield, KY
 US 42066
 Contact: Jack Lindsey
 jack.lindsey@gflenv.com
 T: (270)970-3690
 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)