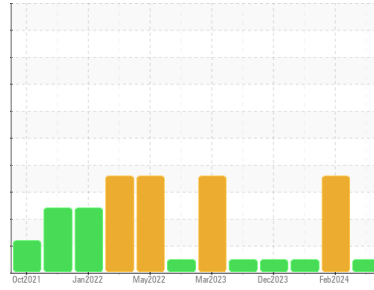




OIL ANALYSIS REPORT

Sample Rating Trend



NORMAL



Area
(F989HW)

Machine Id
720031

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		GFL0098895	GFL0098856	GFL0098973
Sample Date	Client Info		03 May 2024	28 Feb 2024	03 Jan 2024
Machine Age	hrs	Client Info	25012	24844	24741
Oil Age	hrs	Client Info	24844	24491	24491
Oil Changed	Client Info		N/A	Changed	N/A
Sample Status			NORMAL	ABNORMAL	NORMAL

CONTAMINATION

	method	limit/base	current	history1	history2
Fuel	WC Method	>3.0	<1.0	▲ 2.0	1.7
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 >150	17	16	8
Chromium	ppm	ASTM D5185m >15	<1	<1	0
Nickel	ppm	ASTM D5185m >4	0	0	<1
Titanium	ppm	ASTM D5185m	<1	0	0
Silver	ppm	ASTM D5185m >3	0	0	0
Aluminum	ppm	ASTM D5185m >15	3	3	3
Lead	ppm	ASTM D5185m >70	0	4	3
Copper	ppm	ASTM D5185m >175	<1	<1	<1
Tin	ppm	ASTM D5185m >5	<1	0	<1
Vanadium	ppm	ASTM D5185m	<1	0	0
Cadmium	ppm	ASTM D5185m	0	0	0

ADDITIVES

	method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m 0	0	1	0
Barium	ppm	ASTM D5185m 0	0	0	0
Molybdenum	ppm	ASTM D5185m 60	59	72	61
Manganese	ppm	ASTM D5185m 0	0	0	<1
Magnesium	ppm	ASTM D5185m 1010	857	960	920
Calcium	ppm	ASTM D5185m 1070	1040	1134	986
Phosphorus	ppm	ASTM D5185m 1150	969	1165	1021
Zinc	ppm	ASTM D5185m 1270	1129	1256	1230
Sulfur	ppm	ASTM D5185m 2060	2838	3452	3130

CONTAMINANTS

	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m >25	8	4	2
Sodium	ppm	ASTM D5185m	36	▲ 122	66
Potassium	ppm	ASTM D5185m >20	33	▲ 77	37

INFRA-RED

	method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844 >3	0.3	0.4	0.2
Nitration	Abs/cm	*ASTM D7624 >20	9.3	6.3	5.3
Sulfation	Abs/.1mm	*ASTM D7415 >30	19.5	18.4	17.6

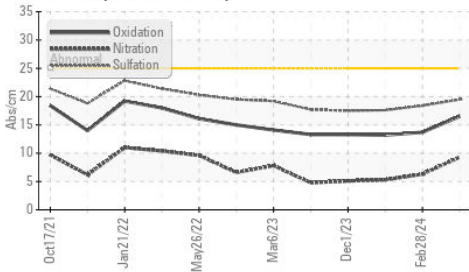
FLUID DEGRADATION

	method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414 >25	16.5	13.7	13.2
Base Number (BN)	mg KOH/g	ASTM D2896 9.8	7.0	8.9	9.2

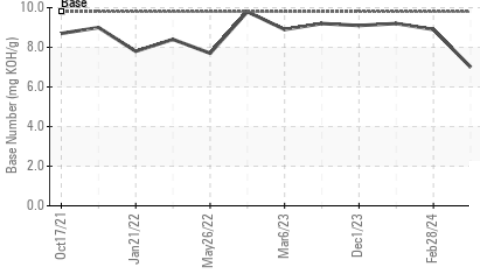


OIL ANALYSIS REPORT

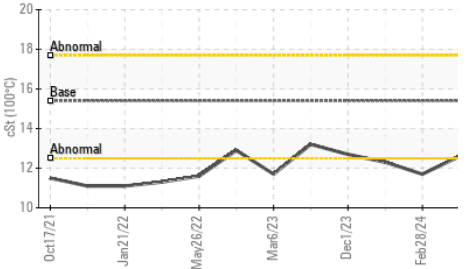
FT-IR (Direct Trend)



Base Number



Viscosity @ 100°C

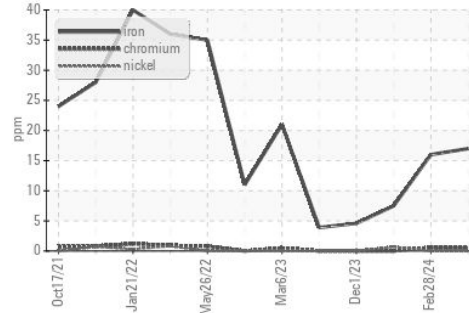


PARAMETER	method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE
Appearance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

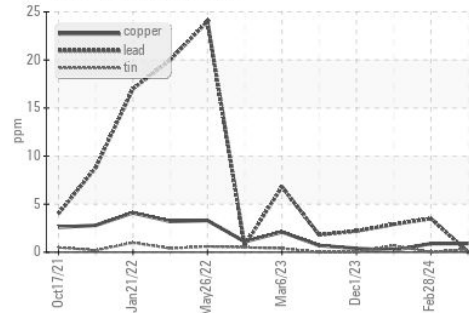
FLUID PROPERTIES	method	limit/base	current	history1	history2	
Visc @ 100°C	cSt	ASTM D445	15.4	12.6	11.7	12.3

GRAPHS

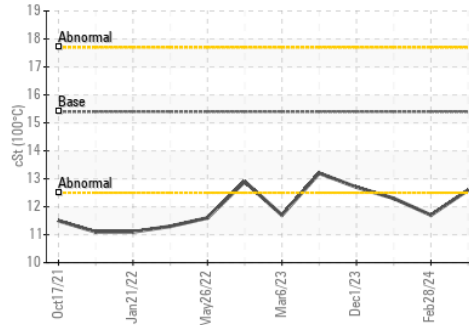
Ferrous Alloys



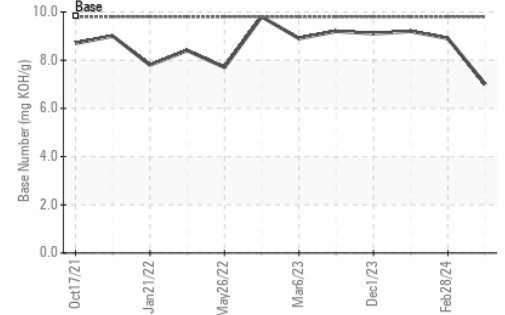
Non-ferrous Metals



Viscosity @ 100°C



Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
 Sample No. : GFL0098895
 Lab Number : 06174957
 Unique Number : 11021010
 Test Package : FLEET

Received : 09 May 2024

Tested : 10 May 2024

Diagnosed : 10 May 2024 - Wes Davis

GFL Environmental - 084 - Clarksville

699 Jack Miller Boulevard

Clarksville, TN

US 37042

Contact: ROBERT THIBAUT

robert.thibault@gflenv.com

T: (931)552-7276

F: (931)572-9674

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)