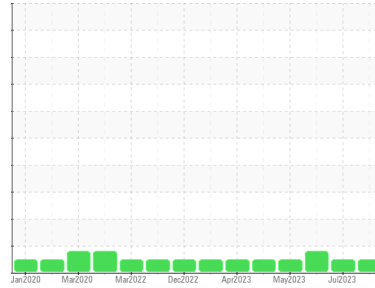




OIL ANALYSIS REPORT

Sample Rating Trend



NORMAL



Machine Id
820017-101301

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	GFL0080043	GFL0087087	GFL0083702
Sample Date	Client Info	01 Nov 2023	10 Jul 2023	28 Jun 2023
Machine Age	hrs	3367	3145	3068
Oil Age	hrs	0	0	0
Oil Changed	Client Info	Changed	Not Changd	Not Changd
Sample Status		NORMAL	NORMAL	ABNORMAL

CONTAMINATION

method	limit/base	current	history1	history2
Fuel	WC Method >5	<1.0	<1.0	<1.0
Glycol	WC Method	NEG	NEG	NEG

WEAR METALS

method	limit/base	current	history1	history2	
Iron	ppm	ASTM D5185m >100	42	11	57
Chromium	ppm	ASTM D5185m >20	<1	<1	2
Nickel	ppm	ASTM D5185m >4	0	0	0
Titanium	ppm	ASTM D5185m	<1	<1	0
Silver	ppm	ASTM D5185m >3	0	0	0
Aluminum	ppm	ASTM D5185m >20	9	12	8
Lead	ppm	ASTM D5185m >40	<1	<1	0
Copper	ppm	ASTM D5185m >330	2	<1	<1
Tin	ppm	ASTM D5185m >15	0	<1	0
Vanadium	ppm	ASTM D5185m	<1	<1	0
Cadmium	ppm	ASTM D5185m	0	0	0

ADDITIVES

method	limit/base	current	history1	history2	
Boron	ppm	ASTM D5185m 0	66	<1	1
Barium	ppm	ASTM D5185m 0	7	0	0
Molybdenum	ppm	ASTM D5185m 60	43	63	63
Manganese	ppm	ASTM D5185m 0	<1	<1	<1
Magnesium	ppm	ASTM D5185m 1010	416	1027	1009
Calcium	ppm	ASTM D5185m 1070	1520	1130	1120
Phosphorus	ppm	ASTM D5185m 1150	994	1054	1051
Zinc	ppm	ASTM D5185m 1270	1140	1293	1332
Sulfur	ppm	ASTM D5185m 2060	3268	3703	3720

CONTAMINANTS

method	limit/base	current	history1	history2	
Silicon	ppm	ASTM D5185m >25	8	3	11
Sodium	ppm	ASTM D5185m	3	4	4
Potassium	ppm	ASTM D5185m >20	4	21	<1

INFRA-RED

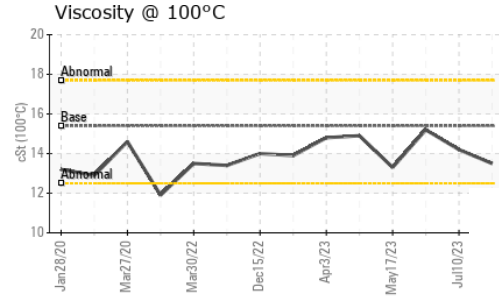
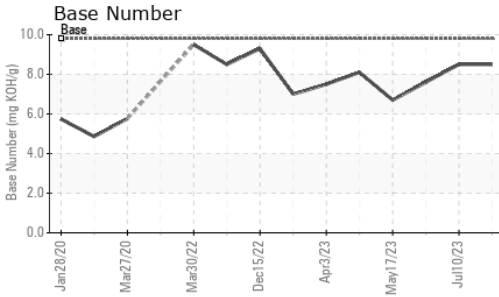
method	limit/base	current	history1	history2	
Soot %	%	*ASTM D7844 >3	1.4	0.3	▲ 3.1
Nitration	Abs/cm	*ASTM D7624 >20	7.8	7.6	10.6
Sulfation	Abs/.1mm	*ASTM D7415 >30	21.1	20.1	24.7

FLUID DEGRADATION

method	limit/base	current	history1	history2	
Oxidation	Abs/.1mm	*ASTM D7414 >25	15.5	16.6	16.6
Base Number (BN)	mg KOH/g	ASTM D2896 9.8	8.5	8.5	7.6



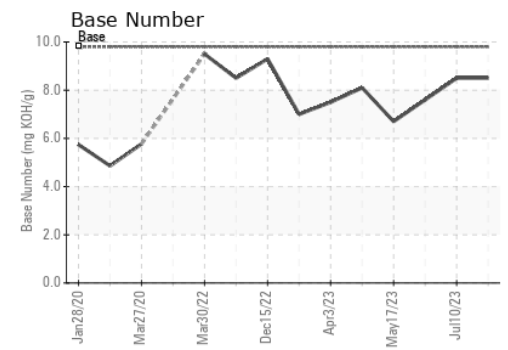
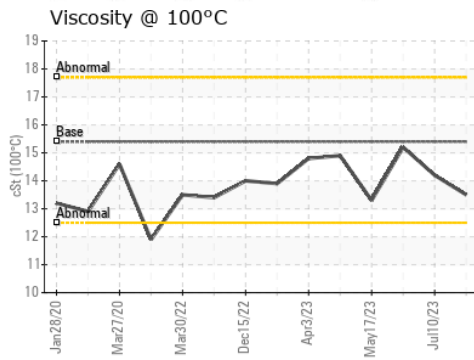
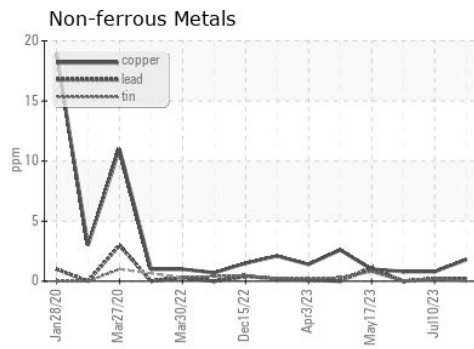
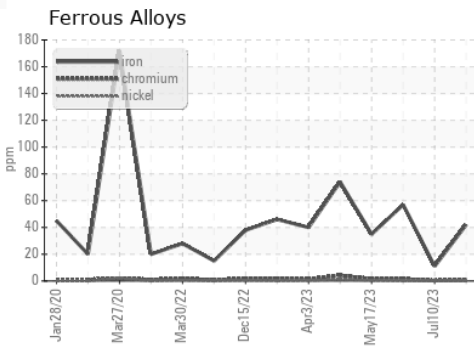
OIL ANALYSIS REPORT



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	13.5	14.2	15.2

GRAPHS



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : GFL0080043 **Received** : 10 Nov 2023
Lab Number : **06004020** **Diagnosed** : 14 Nov 2023
Unique Number : 10737782 **Diagnostician** : Don Baldrige
Test Package : FLEET

GFL Environmental - 844 - Princeton Hauling
 10129 Highway 62 West
 Princeton, KY
 US 42445
 Contact: Kenneth Bigers
 kbigers@gflenv.com
 T: (270)970-0371
 F:

Certificate L2367
 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)