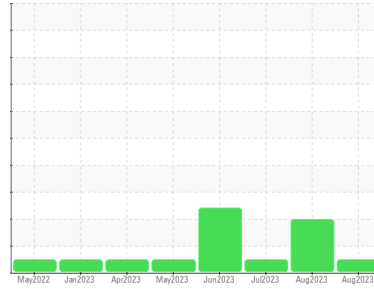




OIL ANALYSIS REPORT

Sample Rating Trend



NORMAL



Machine Id
731113-310101

Component
Natural Gas Engine

Fluid
PETRO CANADA DURON GEO LD 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	GFL0090652	GFL0087220	GFL0087232
Sample Date	Client Info	31 Aug 2023	01 Aug 2023	07 Jul 2023
Machine Age	hrs	4552	4399	4251
Oil Age	hrs	0	0	1200
Oil Changed	Client Info	Not Chngd	Not Chngd	Changed
Sample Status		NORMAL	ABNORMAL	NORMAL

WEAR METALS

method	limit/base	current	history1	history2	
Iron	ppm	ASTM D5185m >50	10	43	26
Chromium	ppm	ASTM D5185m >4	<1	1	2
Nickel	ppm	ASTM D5185m >2	0	2	<1
Titanium	ppm	ASTM D5185m	0	0	0
Silver	ppm	ASTM D5185m >3	0	<1	0
Aluminum	ppm	ASTM D5185m >9	2	▲ 38	3
Lead	ppm	ASTM D5185m >30	2	1	14
Copper	ppm	ASTM D5185m >35	0	22	0
Tin	ppm	ASTM D5185m >4	<1	1	0
Vanadium	ppm	ASTM D5185m	0	0	0
Cadmium	ppm	ASTM D5185m	0	0	0

ADDITIVES

method	limit/base	current	history1	history2	
Boron	ppm	ASTM D5185m 50	18	9	9
Barium	ppm	ASTM D5185m 5	0	2	0
Molybdenum	ppm	ASTM D5185m 50	52	54	59
Manganese	ppm	ASTM D5185m 0	<1	13	0
Magnesium	ppm	ASTM D5185m 560	624	697	622
Calcium	ppm	ASTM D5185m 1510	1646	1132	1639
Phosphorus	ppm	ASTM D5185m 780	806	658	749
Zinc	ppm	ASTM D5185m 870	1008	873	1016
Sulfur	ppm	ASTM D5185m 2040	2994	2229	2907

CONTAMINANTS

method	limit/base	current	history1	history2	
Silicon	ppm	ASTM D5185m >+100	4	34	5
Sodium	ppm	ASTM D5185m	6	0	9
Potassium	ppm	ASTM D5185m >20	0	▲ 132	0

INFRA-RED

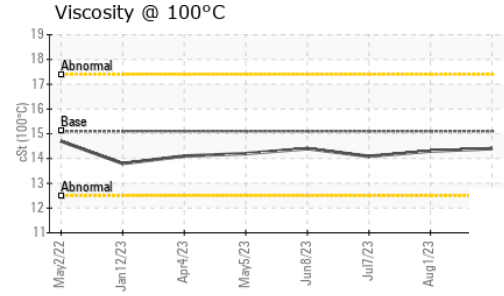
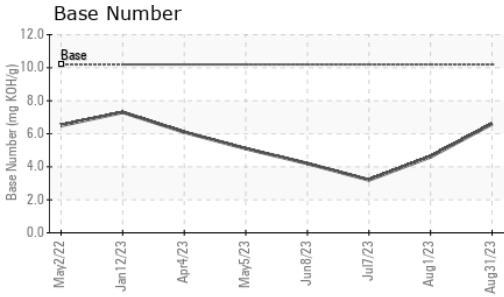
method	limit/base	current	history1	history2	
Soot %	%	*ASTM D7844	0.1	0.1	0.1
Nitration	Abs/cm	*ASTM D7624 >20	9.1	11.0	12.1
Sulfation	Abs/.1mm	*ASTM D7415 >30	19.5	21.7	26.0

FLUID DEGRADATION

method	limit/base	current	history1	history2	
Oxidation	Abs/.1mm	*ASTM D7414 >25	16.1	20.0	21.1
Base Number (BN)	mg KOH/g	ASTM D2896 10.2	6.6	4.6	3.2



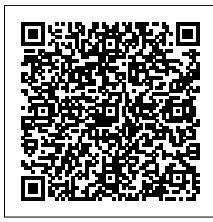
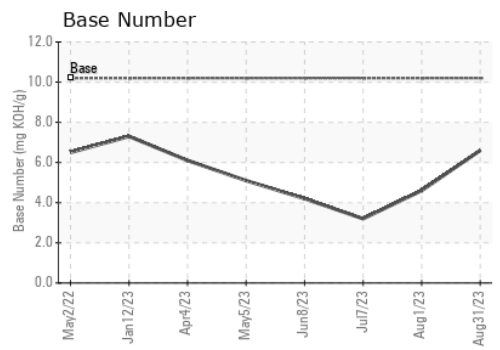
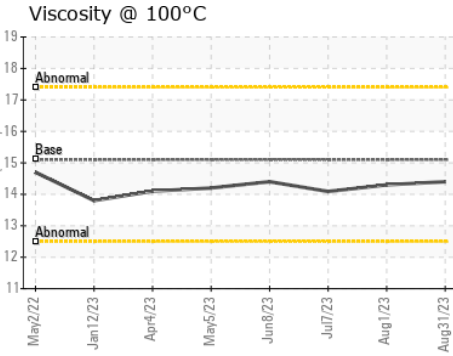
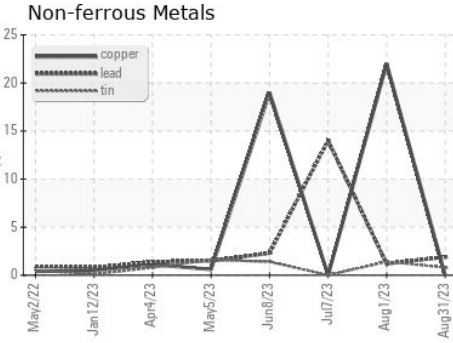
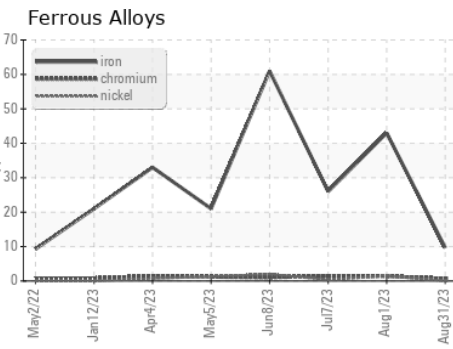
OIL ANALYSIS REPORT



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	>0.1	NEG	NEG
Free Water	scalar	*Visual		NEG	NEG

FLUID PROPERTIES	method	limit/base	current	history1	history2	
Visc @ 100°C	cSt	ASTM D445	15.1	14.4	14.3	14.09

GRAPHS



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : GFL0090652
Lab Number : **05945024**
Unique Number : 10635636
Test Package : FLEET
Received : 07 Sep 2023
Diagnosed : 08 Sep 2023
Diagnostician : Wes Davis

GFL Environmental - 836 - Kansas City Hauling
 7801 East Truman Road
 Kansas City, MO
 US 64126
 Contact: Robert Hart
 rhart@gflenv.com
 T: (580)461-1509
 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)