



WEAR	ABNORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL

Machine Id
731116
Component
Natural Gas Engine
Fluid
PETRO CANADA DURON GEO LD 15W40 (--- GAL)

RECOMMENDATION

Oil and filter change at the time of sampling has been noted. No corrective action is recommended at this time. We recommend an early resample to monitor this condition.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		GFL0103302	GFL0099913	GFL0099965
Sample Date		Client Info		16 Jan 2024	06 Dec 2023	10 Nov 2023
Machine Age	hrs	Client Info		6307	6168	6011
Oil Age	hrs	Client Info		1200	0	0
Filter Age	hrs	Client Info		1200	0	0
Oil Changed		Client Info		Changed	Not Changd	Not Changd
Filter Changed		Client Info		Changed	Not Changd	Not Changd
Sample Status				ABNORMAL	ABNORMAL	ABNORMAL

WEAR

Piston, ring and cylinder wear is indicated. Valve wear is indicated.

Iron	ppm	ASTM D5185m	>50	▲ 235	▲ 101	▲ 141
Chromium	ppm	ASTM D5185m	>4	▲ 13	▲ 9	▲ 9
Nickel	ppm	ASTM D5185m	>2	▲ 8	▲ 5	▲ 5
Titanium	ppm	ASTM D5185m		<1	<1	<1
Silver	ppm	ASTM D5185m	>3	0	0	<1
Aluminum	ppm	ASTM D5185m	>9	▲ 17	▲ 13	▲ 10
Lead	ppm	ASTM D5185m	>30	14	11	10
Copper	ppm	ASTM D5185m	>35	4	2	3
Tin	ppm	ASTM D5185m	>4	2	<1	1
Vanadium	ppm	ASTM D5185m		0	0	0
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE

CONTAMINATION

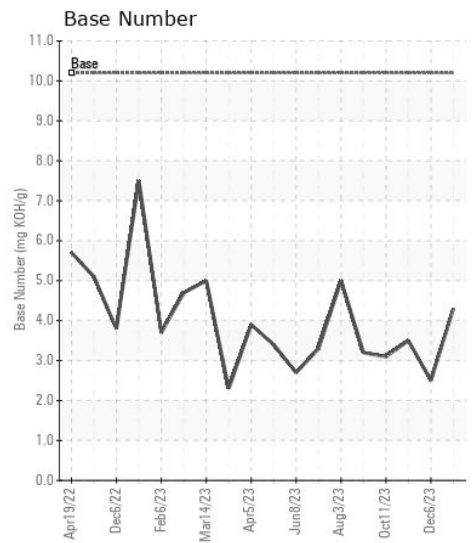
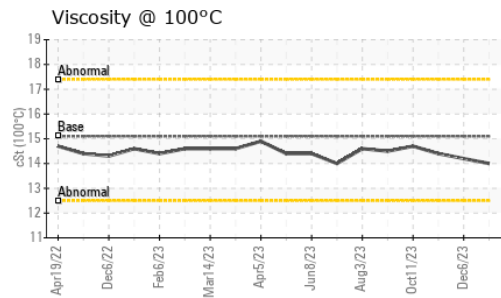
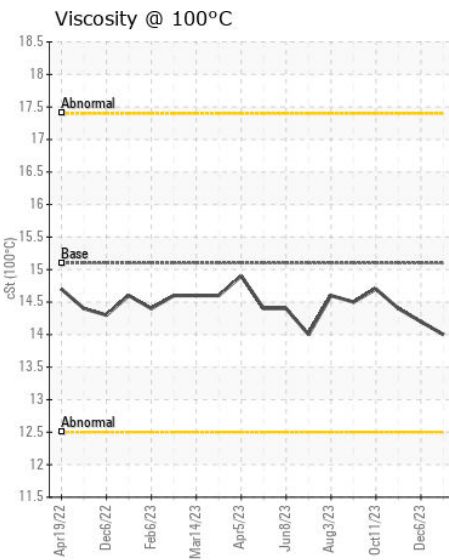
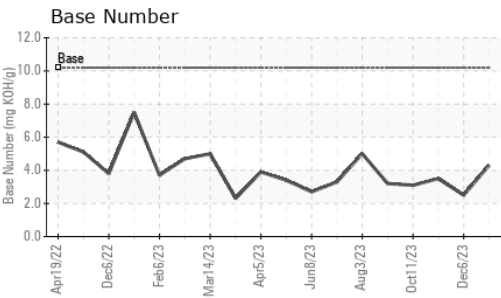
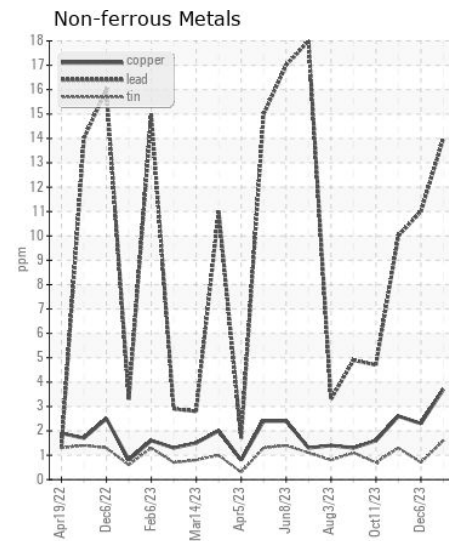
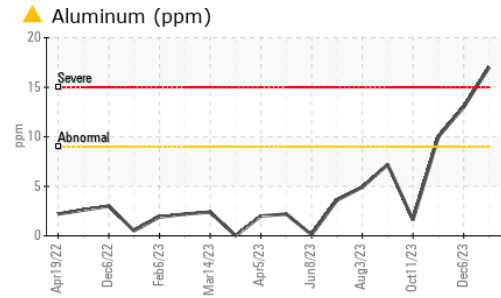
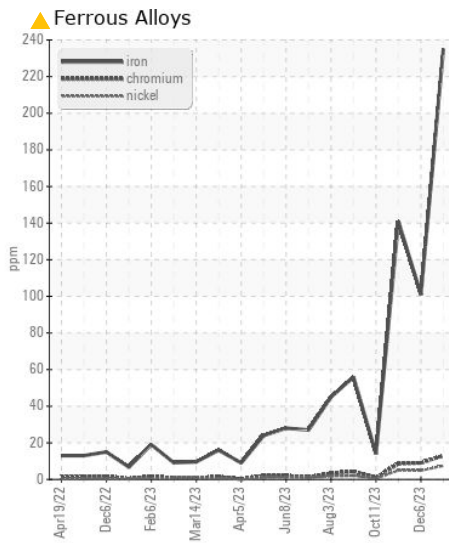
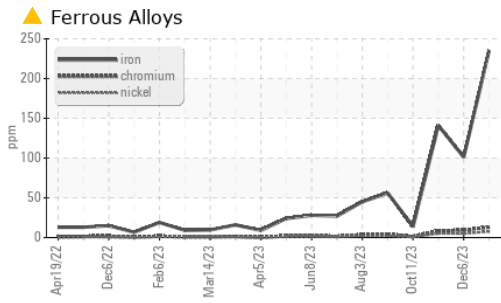
There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185m	>+100	80	54	51
Potassium	ppm	ASTM D5185m	>20	8	2	6
Water		WC Method	>0.1	NEG	NEG	NEG
Soot %	%	*ASTM D7844		0.1	0.1	0.1
Nitration	Abs/cm	*ASTM D7624	>20	15.3	13.2	12.8
Sulfation	Abs/.1mm	*ASTM D7415	>30	28.7	28.4	27.0
Silt	scalar	*Visual	NONE	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE	NONE
Appearance	scalar	*Visual	NORML	NORML	NORML	NORML
Odor	scalar	*Visual	NORML	NORML	NORML	NORML
Emulsified Water	scalar	*Visual	>0.1	NEG	NEG	NEG

FLUID CONDITION

The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is acceptable for the time in service.

Sodium	ppm	ASTM D5185m		13	14	6
Boron	ppm	ASTM D5185m	50	6	5	7
Barium	ppm	ASTM D5185m	5	4	0	7
Molybdenum	ppm	ASTM D5185m	50	89	75	75
Manganese	ppm	ASTM D5185m	0	5	3	4
Magnesium	ppm	ASTM D5185m	560	708	626	593
Calcium	ppm	ASTM D5185m	1510	1877	1800	1671
Phosphorus	ppm	ASTM D5185m	780	851	773	818
Zinc	ppm	ASTM D5185m	870	1136	1007	981
Sulfur	ppm	ASTM D5185m	2040	2719	2474	2383
Oxidation	Abs/.1mm	*ASTM D7414	>25	26.3	25.1	23.0
Base Number (BN)	mg KOH/g	ASTM D2896	10.2	4.3	2.5	3.5
Visc @ 100°C	cSt	ASTM D445	15.1	14.0	14.2	14.4



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : GFL0103302 **Received** : 18 Jan 2024
Lab Number : 06064141 **Diagnosed** : 20 Jan 2024
Unique Number : 10835523 **Diagnostician** : Don Baldrige
Test Package : FLEET

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
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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)