



WEAR	ABNORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL

Machine Id
948006-205261
 Component
Natural Gas Engine
 Fluid
PETRO CANADA DURON GEO LD 15W40 (--- LTR)

RECOMMENDATION

Oil and filter change at the time of sampling has been noted. No corrective action is recommended at this time. Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		GFL0096020	GFL0096068	GFL0096048
Sample Date		Client Info		20 Jun 2024	10 Jun 2024	07 Feb 2024
Machine Age	hrs	Client Info		16929	16837	16035
Oil Age	hrs	Client Info		600	600	600
Filter Age	hrs	Client Info		600	600	600
Oil Changed		Client Info		Changed	Changed	Changed
Filter Changed		Client Info		Changed	Changed	Changed
Sample Status				ABNORMAL	ABNORMAL	ABNORMAL

WEAR

The copper level is abnormal. In the absence of other significant wear metals, suspect copper due to sources other than wear (i.e. cooling core). All other component wear rates are normal.

Iron	ppm	ASTM D5185m	>50	7	10	9
Chromium	ppm	ASTM D5185m	>4	<1	<1	<1
Nickel	ppm	ASTM D5185m	>2	0	<1	0
Titanium	ppm	ASTM D5185m		<1	<1	2
Silver	ppm	ASTM D5185m	>3	0	0	0
Aluminum	ppm	ASTM D5185m	>9	3	4	1
Lead	ppm	ASTM D5185m	>30	1	1	2
Copper	ppm	ASTM D5185m	>35	▲ 144	▲ 168	▲ 54
Tin	ppm	ASTM D5185m	>4	<1	1	1
Vanadium	ppm	ASTM D5185m		0	<1	<1
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE

CONTAMINATION

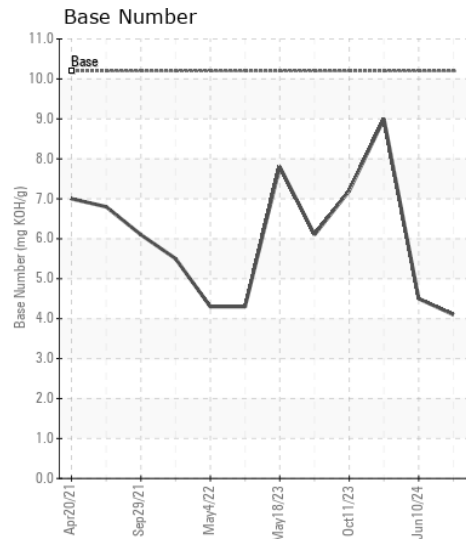
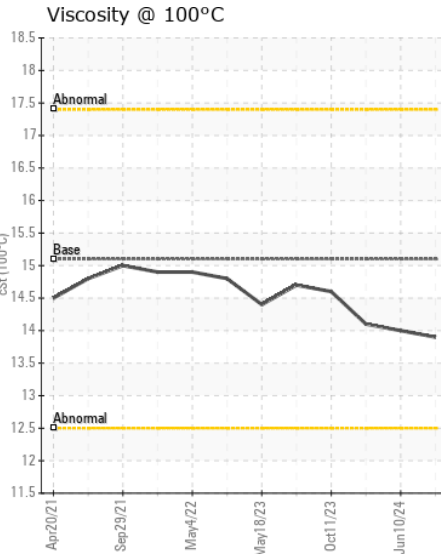
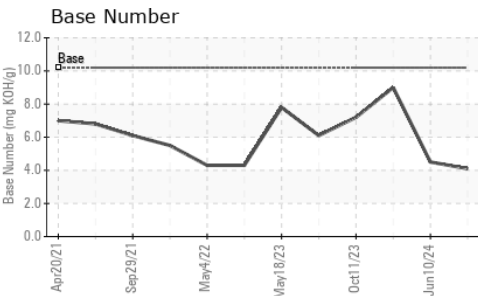
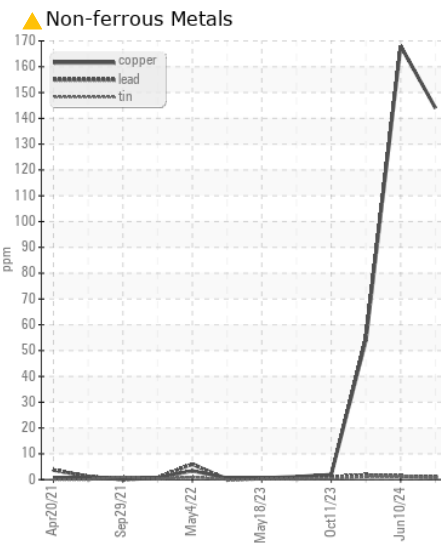
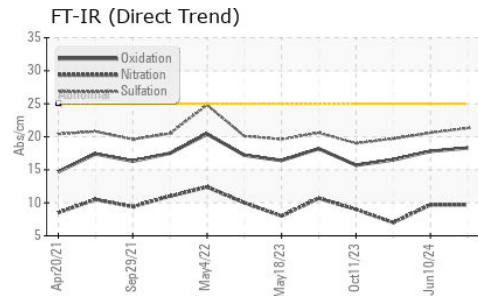
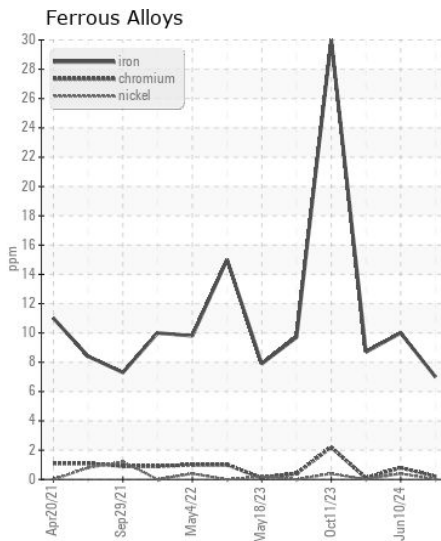
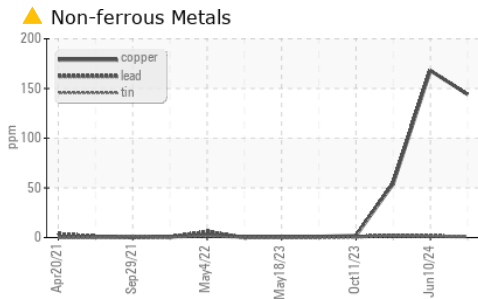
There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185m	>+100	7	8	14
Potassium	ppm	ASTM D5185m	>20	3	2	1
Water		WC Method	>0.1	NEG	NEG	NEG
Soot %	%	*ASTM D7844		0	0	0
Nitration	Abs/cm	*ASTM D7624	>20	9.7	9.7	7.0
Sulfation	Abs/.1mm	*ASTM D7415	>30	21.3	20.6	19.7
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 suitable for further service.

Sodium	ppm	ASTM D5185m		7	9	19
Boron	ppm	ASTM D5185m	50	6	6	30
Barium	ppm	ASTM D5185m	5	0	0	1
Molybdenum	ppm	ASTM D5185m	50	50	59	52
Manganese	ppm	ASTM D5185m	0	2	1	7
Magnesium	ppm	ASTM D5185m	560	572	612	829
Calcium	ppm	ASTM D5185m	1510	1525	1631	1151
Phosphorus	ppm	ASTM D5185m	780	701	734	722
Zinc	ppm	ASTM D5185m	870	937	1023	852
Sulfur	ppm	ASTM D5185m	2040	2581	2867	2401
Oxidation	Abs/.1mm	*ASTM D7414	>25	18.3	17.8	16.5
Base Number (BN)	mg KOH/g	ASTM D2896	10.2	4.1	4.5	9.0
Visc @ 100°C	cSt	ASTM D445	15.1	13.9	14.0	14.1



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : GFL0096020 **Received** : 21 Jun 2024
Lab Number : 06216689 **Tested** : 24 Jun 2024
Unique Number : 11089553 **Diagnosed** : 24 Jun 2024 - Sean Felton
Test Package : FLEET

GFL Environmental - 883 - Orange City
 1378 South Volusia Ave
 Orange City, FL
 US 32763
 Contact: JEFF COOPERSMITH
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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)