



WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL

Machine Id
834093
 Component
Natural Gas Engine
 Fluid
PETRO CANADA DURON GEO LD 15W40 (29 QTS)

RECOMMENDATION

Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		GFL0114196	GFL0114152	GFL0114109
Sample Date		Client Info		04 Apr 2024	14 Mar 2024	27 Feb 2024
Machine Age	hrs	Client Info		615	477	322
Oil Age	hrs	Client Info		615	477	322
Filter Age	hrs	Client Info		0	0	0
Oil Changed		Client Info		Not Changd	Not Changd	Not Changd
Filter Changed		Client Info		Not Changd	Not Changd	Not Changd
Sample Status				NORMAL	NORMAL	NORMAL

WEAR

Metal levels are typical for a new component breaking in.

Iron	ppm	ASTM D5185m	>50	71	62	53
Chromium	ppm	ASTM D5185m	>4	3	1	1
Nickel	ppm	ASTM D5185m	>2	3	1	0
Titanium	ppm	ASTM D5185m		<1	0	0
Silver	ppm	ASTM D5185m	>3	0	0	0
Aluminum	ppm	ASTM D5185m	>9	45	37	31
Lead	ppm	ASTM D5185m	>30	3	<1	<1
Copper	ppm	ASTM D5185m	>35	21	20	20
Tin	ppm	ASTM D5185m	>4	2	<1	1
Vanadium	ppm	ASTM D5185m		<1	0	0
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE

CONTAMINATION

Elevated aluminum (Al) and/or lead (Pb) and potassium (K) levels in your metals analysis are likely a result of solder flux release into the lubricant and is common on new equipment/components. There is no indication of any contamination in the oil.

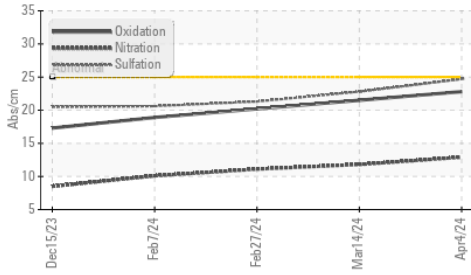
Silicon	ppm	ASTM D5185m	>+100	37	39	38
Potassium	ppm	ASTM D5185m	>20	161	138	120
Water		WC Method	>0.1	NEG	NEG	NEG
Soot %	%	*ASTM D7844		0	0	0
Nitration	Abs/cm	*ASTM D7624	>20	12.9	11.8	11.1
Sulfation	Abs/.1mm	*ASTM D7415	>30	24.7	22.8	21.3
Silt	scalar	*Visual	NONE	NONE	NONE	NONE
Debris	scalar	*Visual	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

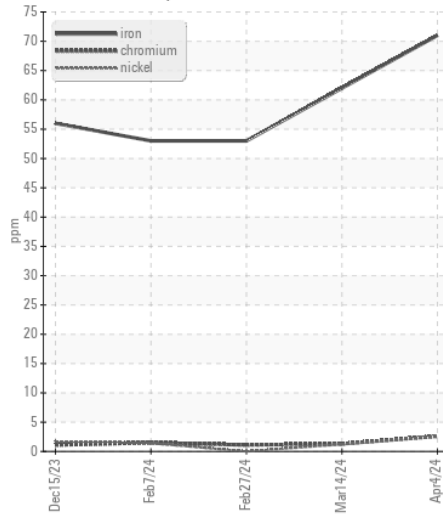
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

Sodium	ppm	ASTM D5185m		8	6	6
Boron	ppm	ASTM D5185m	50	8	14	20
Barium	ppm	ASTM D5185m	5	4	3	2
Molybdenum	ppm	ASTM D5185m	50	58	56	51
Manganese	ppm	ASTM D5185m	0	16	14	13
Magnesium	ppm	ASTM D5185m	560	839	815	732
Calcium	ppm	ASTM D5185m	1510	1259	1276	1086
Phosphorus	ppm	ASTM D5185m	780	759	697	604
Zinc	ppm	ASTM D5185m	870	932	915	822
Sulfur	ppm	ASTM D5185m	2040	2712	2701	2075
Oxidation	Abs/.1mm	*ASTM D7414	>25	22.8	21.5	20.2
Base Number (BN)	mg KOH/g	ASTM D2896	10.2	3.4	3.6	4.2
Visc @ 100°C	cSt	ASTM D445	15.1	14.3	14.2	14.2

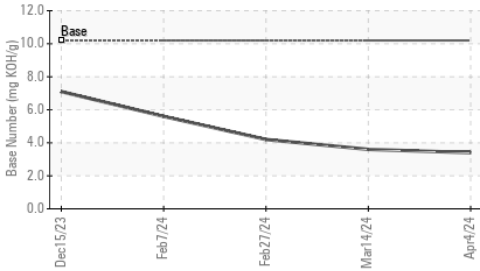
FT-IR (Direct Trend)



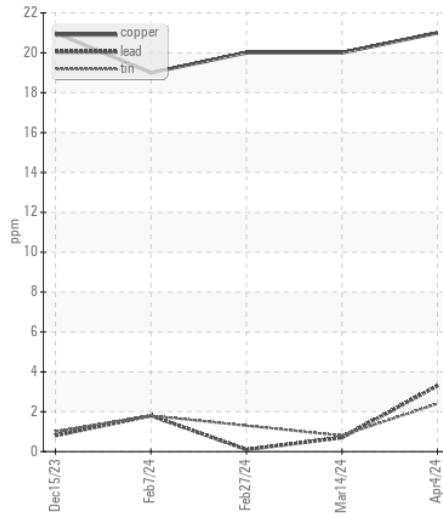
Ferrous Alloys



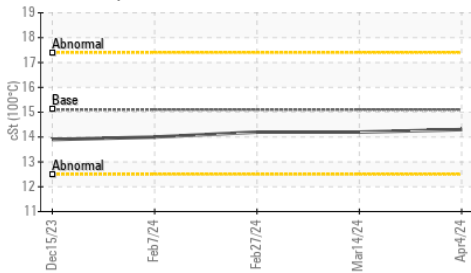
Base Number



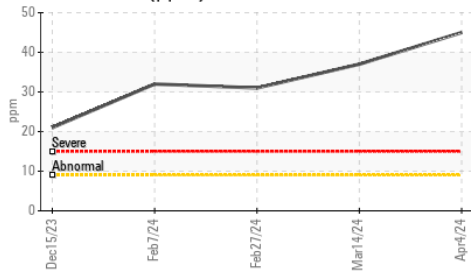
Non-ferrous Metals



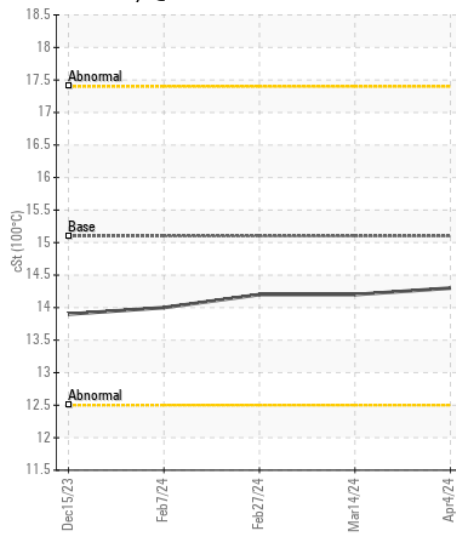
Viscosity @ 100°C



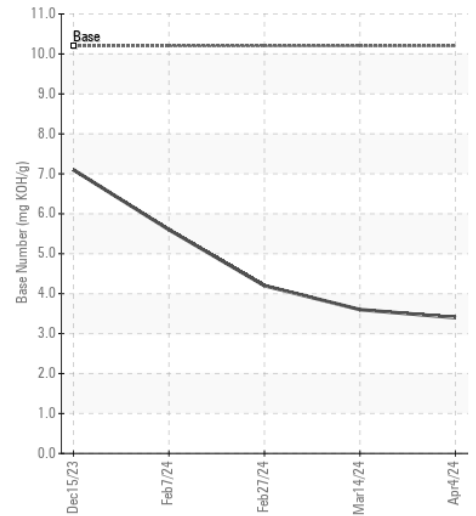
Aluminum (ppm)



Viscosity @ 100°C



Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : GFL0114196
Lab Number : 06150920
Unique Number : 10980998
Test Package : FLEET

Received : 16 Apr 2024
Tested : 17 Apr 2024
Diagnosed : 17 Apr 2024 - Wes Davis

GFL Environmental - 836 - Kansas City Hauling
 7801 East Truman Road
 Kansas City, MO
 US 64126
 Contact: Christopher Gilkey
 cgilkey@gflenv.com

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)

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F: