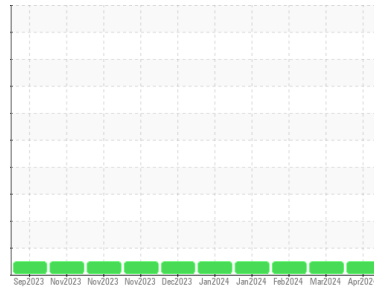




OIL ANALYSIS REPORT

Area
(41KM9B)
 Machine Id
834015
 Component
Natural Gas Engine
 Fluid
PETRO CANADA DURON GEO LD 15W40 (--- GAL)

Sample Rating Trend



NORMAL



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		GFL0114181	GFL0114154	GFL0108064
Sample Date	Client Info		10 Apr 2024	18 Mar 2024	21 Feb 2024
Machine Age	hrs	Client Info	1318	1172	1029
Oil Age	hrs	Client Info	1318	1029	1029
Oil Changed	Client Info		Not Chngd	Not Chngd	Not Chngd
Sample Status			NORMAL	NORMAL	NORMAL

CONTAMINATION

	method	limit/base	current	history1	history2
Water	WC Method	>0.1	NEG	NEG	NEG

WEAR METALS

	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m >50	82	74	72
Chromium	ppm	ASTM D5185m >4	2	2	2
Nickel	ppm	ASTM D5185m >2	3	2	2
Titanium	ppm	ASTM D5185m	<1	<1	0
Silver	ppm	ASTM D5185m >3	<1	<1	<1
Aluminum	ppm	ASTM D5185m >9	10	10	9
Lead	ppm	ASTM D5185m >30	8	6	5
Copper	ppm	ASTM D5185m >35	20	19	20
Tin	ppm	ASTM D5185m >4	4	3	3
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 50	3	3	9
Barium	ppm	ASTM D5185m 5	3	3	0
Molybdenum	ppm	ASTM D5185m 50	64	60	66
Manganese	ppm	ASTM D5185m 0	12	11	12
Magnesium	ppm	ASTM D5185m 560	853	807	887
Calcium	ppm	ASTM D5185m 1510	1455	1400	1486
Phosphorus	ppm	ASTM D5185m 780	836	776	861
Zinc	ppm	ASTM D5185m 870	983	933	1073
Sulfur	ppm	ASTM D5185m 2040	2601	2512	2498

CONTAMINANTS

	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m >+100	25	25	30
Sodium	ppm	ASTM D5185m	11	10	8
Potassium	ppm	ASTM D5185m >20	32	33	5

INFRA-RED

	method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844	0	0	0
Nitration	Abs/cm	*ASTM D7624 >20	14.7	14.1	13.6
Sulfation	Abs/.1mm	*ASTM D7415 >30	28.9	27.4	25.8

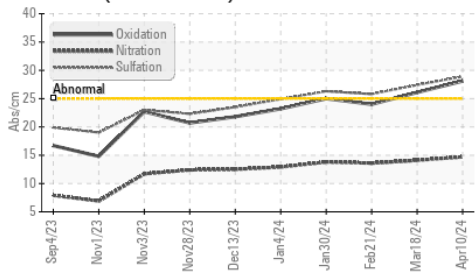
FLUID DEGRADATION

	method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414 >25	28.1	26.1	24.0
Base Number (BN)	mg KOH/g	ASTM D2896 10.2	2.6	3.1	3.9

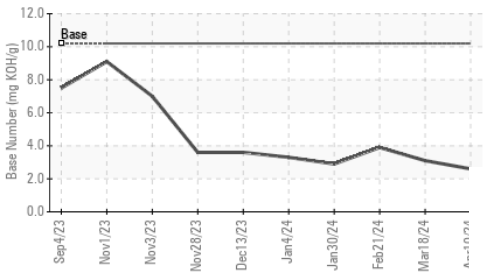


OIL ANALYSIS REPORT

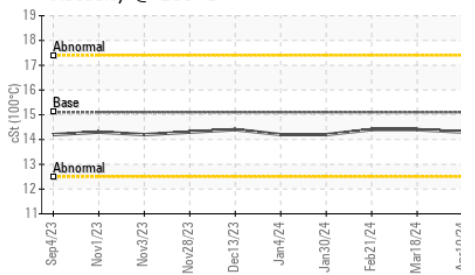
FT-IR (Direct Trend)



Base Number



Viscosity @ 100°C

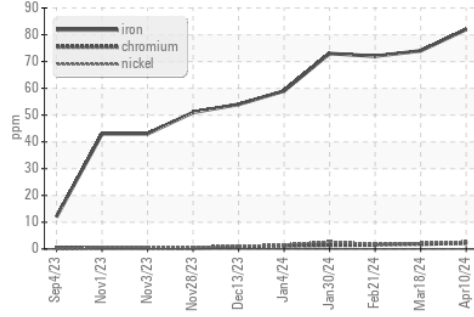


VISUAL	method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE
Appearance	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

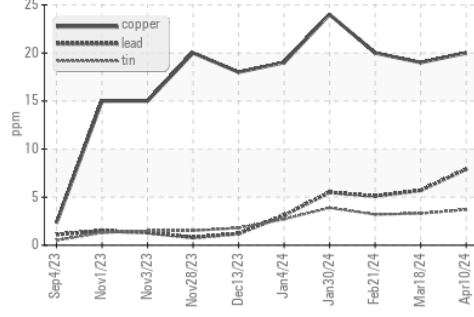
FLUID PROPERTIES	method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	15.1	14.3	14.4

GRAPHS

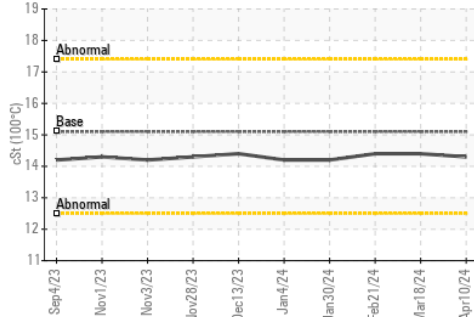
Ferrous Alloys



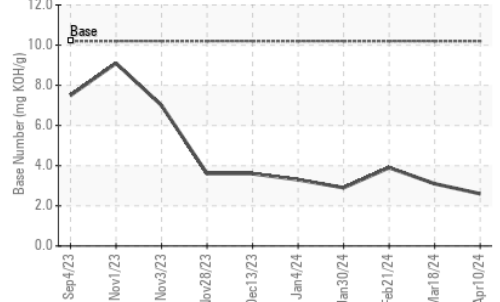
Non-ferrous Metals



Viscosity @ 100°C



Base Number



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : GFL0114181 **Received** : 16 Apr 2024
Lab Number : 06150940 **Tested** : 17 Apr 2024
Unique Number : 10981018 **Diagnosed** : 19 Apr 2024 - Wes Davis
Test Package : FLEET

GFL Environmental - 836 - Kansas City Hauling
 7801 East Truman Road
 Kansas City, MO
 US 64126
 Contact: Loyce Stewart
 loyce.stewart@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)