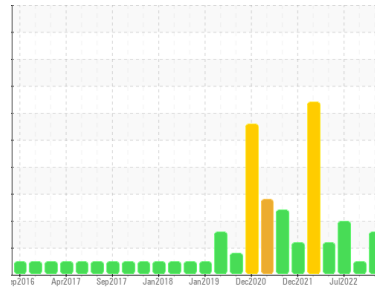




OIL ANALYSIS REPORT

Sample Rating Trend



COOL CHEMICALS



Area
(YA130602)

Machine Id
3661C

Component
Natural Gas Engine

Fluid
PETRO CANADA DURON GEO LD 15W40 (8 GAL)

DIAGNOSIS

Recommendation

Check for low coolant level. We advise that you check for the source of the coolant leak. Oil and filter change at the time of sampling has been noted. We recommend an early resample to monitor this condition.

Wear

All component wear rates are normal.

Contamination

Sodium and/or potassium levels are high. Moderate concentration of visible dirt/debris present in the oil.

Fluid Condition

The BN result indicates that there is suitable alkalinity remaining in the oil.

SAMPLE INFORMATION

method	limit/base	current	history1	history2
Sample Number	Client Info	GFL0109527	GFL0058797	GFL0048076
Sample Date	Client Info	04 Jun 2024	26 May 2023	06 Jul 2022
Machine Age	hrs	7722	9098	9098
Oil Age	hrs	1200	9098	9098
Oil Changed	Client Info	Changed	N/A	N/A
Sample Status		ABNORMAL	NORMAL	ATTENTION

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	5	25	19
Chromium	ppm	ASTM D5185m >4	<1	1	2
Nickel	ppm	ASTM D5185m >2	0	1	<1
Titanium	ppm	ASTM D5185m	<1	<1	0
Silver	ppm	ASTM D5185m >3	0	0	0
Aluminum	ppm	ASTM D5185m >9	4	3	4
Lead	ppm	ASTM D5185m >30	<1	2	<1
Copper	ppm	ASTM D5185m >35	1	2	5
Tin	ppm	ASTM D5185m >4	<1	2	<1
Vanadium	ppm	ASTM D5185m	0	<1	0
Cadmium	ppm	ASTM D5185m	0	0	0

ADDITIVES

method	limit/base	current	history1	history2	
Boron	ppm	ASTM D5185m 50	50	5	10
Barium	ppm	ASTM D5185m 5	1	0	0
Molybdenum	ppm	ASTM D5185m 50	67	63	56
Manganese	ppm	ASTM D5185m 0	<1	4	<1
Magnesium	ppm	ASTM D5185m 560	620	951	517
Calcium	ppm	ASTM D5185m 1510	1599	1233	1493
Phosphorus	ppm	ASTM D5185m 780	773	1010	605
Zinc	ppm	ASTM D5185m 870	1015	1366	859
Sulfur	ppm	ASTM D5185m 2040	2799	3227	2785

CONTAMINANTS

method	limit/base	current	history1	history2	
Silicon	ppm	ASTM D5185m >+100	10	19	5
Sodium	ppm	ASTM D5185m	299	4	87
Potassium	ppm	ASTM D5185m >20	35	3	2

INFRA-RED

method	limit/base	current	history1	history2	
Soot %	%	*ASTM D7844	0	0	0.1
Nitration	Abs/cm	*ASTM D7624 >20	7.9	10.2	10.9
Sulfation	Abs/.1mm	*ASTM D7415 >30	18.3	19.7	22.7

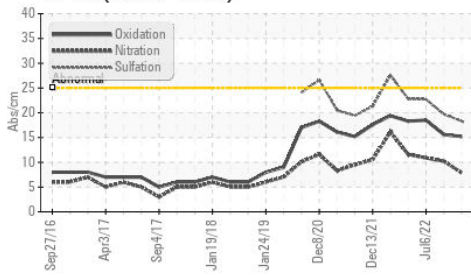
FLUID DEGRADATION

method	limit/base	current	history1	history2	
Oxidation	Abs/.1mm	*ASTM D7414 >25	15.2	15.6	18.5
Base Number (BN)	mg KOH/g	ASTM D2896 10.2	8.5	5.0	4.5

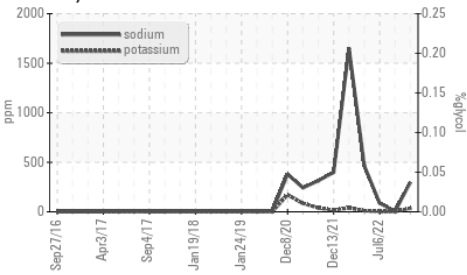


OIL ANALYSIS REPORT

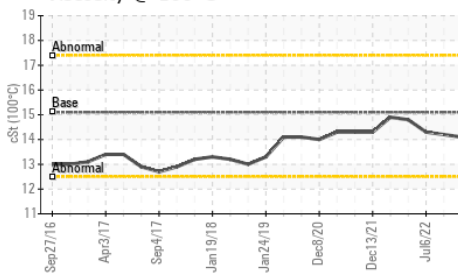
FT-IR (Direct Trend)



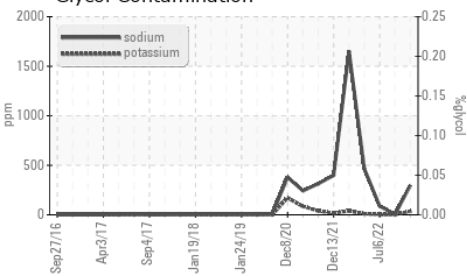
Glycol Contamination



Viscosity @ 100°C



Glycol Contamination

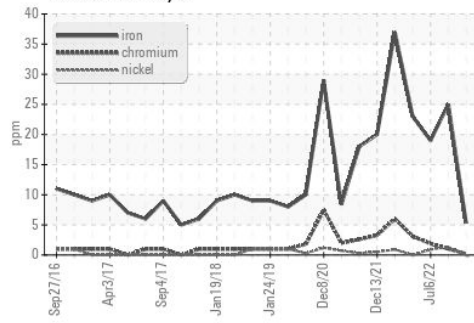


VISUAL	method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	▲ MODER	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE
Appearance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

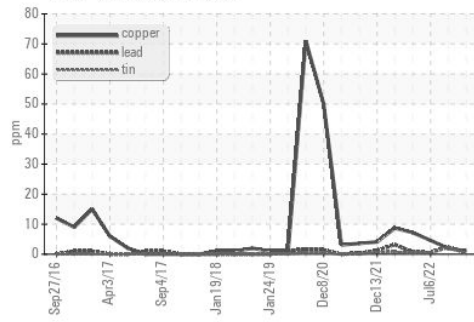
FLUID PROPERTIES	method	limit/base	current	history1	history2	
Visc @ 100°C	cSt	ASTM D445	15.1	14.1	14.2	14.3

GRAPHS

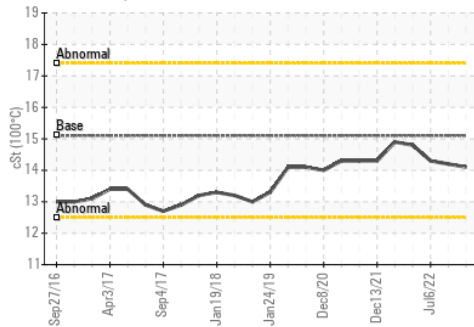
Ferrous Alloys



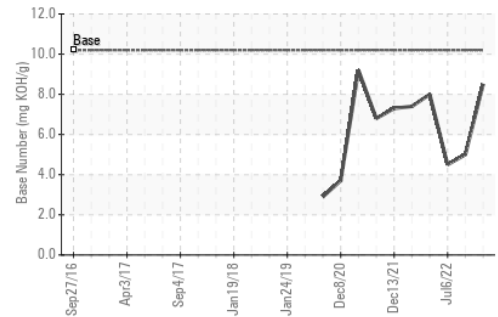
Non-ferrous Metals



Viscosity @ 100°C



Base Number



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : GFL0109527 **Received** : 06 Jun 2024
Lab Number : **06201314** **Tested** : 11 Jun 2024
Unique Number : 11063437 **Diagnosed** : 11 Jun 2024 - Sean Felton
Test Package : FLEET (Additional Tests: Glycol)

GFL Environmental - 019 - Greenville/TriEast
 415 Staton Road
 Greenville, NC
 US 27834
 Contact: Spencer Ligon
 spencer.ligon@gflenv.com
 T: (800)207-6618
 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)