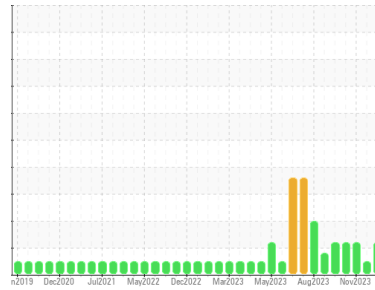




OIL ANALYSIS REPORT

Sample Rating Trend



GLYCOL



Machine Id
10986

Component
Diesel Engine

Fluid
PETRO CANADA DURON SHP 15W40 (36 QTS)

DIAGNOSIS

Recommendation

Check for low coolant level. We recommend an early resample to monitor this condition.

Wear

All component wear rates are normal.

Contamination

Sodium and/or potassium levels are high. Test for glycol is negative.

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	GFL0068885	GFL0097141	GFL0097190
Sample Date	Client Info	13 Jan 2024	25 Nov 2023	16 Nov 2023
Machine Age	hrs	Client Info	15326	15204
Oil Age	hrs	Client Info	122	522
Oil Changed	Client Info	Not Chngd	Not Chngd	Changed
Sample Status		ATTENTION	NORMAL	ABNORMAL

CONTAMINATION

method	limit/base	current	history1	history2
Fuel	WC Method >3.0	<1.0	<1.0	<1.0
Water	WC Method >0.2	NEG	NEG	NEG

WEAR METALS

method	limit/base	current	history1	history2
Iron	ppm ASTM D5185m >165	22	8	29
Chromium	ppm ASTM D5185m >5	<1	0	1
Nickel	ppm ASTM D5185m >4	0	0	<1
Titanium	ppm ASTM D5185m >2	<1	0	<1
Silver	ppm ASTM D5185m >2	0	0	0
Aluminum	ppm ASTM D5185m >20	3	1	4
Lead	ppm ASTM D5185m >150	0	0	0
Copper	ppm ASTM D5185m >90	1	<1	2
Tin	ppm ASTM D5185m >5	0	0	<1
Vanadium	ppm ASTM D5185m	<1	<1	<1
Cadmium	ppm ASTM D5185m	0	0	0

ADDITIVES

method	limit/base	current	history1	history2
Boron	ppm ASTM D5185m 0	5	7	4
Barium	ppm ASTM D5185m 0	0	0	0
Molybdenum	ppm ASTM D5185m 60	69	57	78
Manganese	ppm ASTM D5185m 0	<1	0	<1
Magnesium	ppm ASTM D5185m 1010	942	902	846
Calcium	ppm ASTM D5185m 1070	958	1034	1028
Phosphorus	ppm ASTM D5185m 1150	1028	1022	941
Zinc	ppm ASTM D5185m 1270	1221	1200	1156
Sulfur	ppm ASTM D5185m 2060	3006	2936	2395

CONTAMINANTS

method	limit/base	current	history1	history2
Silicon	ppm ASTM D5185m >35	12	7	17
Sodium	ppm ASTM D5185m	▲ 240	91	▲ 331
Potassium	ppm ASTM D5185m >20	12	5	22
Glycol	% *ASTM D2982	0.0	0.0	NEG

INFRA-RED

method	limit/base	current	history1	history2
Soot %	% *ASTM D7844 >7.5	0.7	0.3	0.8
Nitration	Abs/cm *ASTM D7624 >20	10.2	6.6	12.4
Sulfation	Abs/.1mm *ASTM D7415 >30	19.6	17.9	21.9

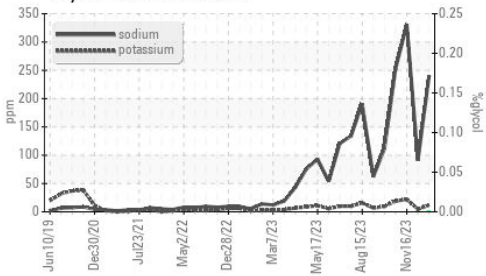
FLUID DEGRADATION

method	limit/base	current	history1	history2
Oxidation	Abs/.1mm *ASTM D7414 >25	16.0	13.5	18.8
Base Number (BN)	mg KOH/g ASTM D2896 9.8	7.5	8.7	7.0

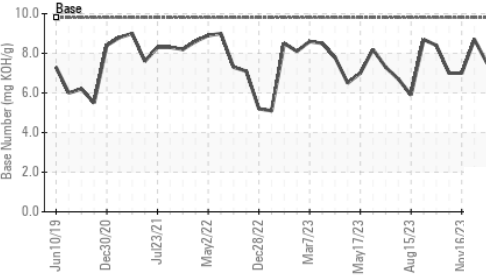


OIL ANALYSIS REPORT

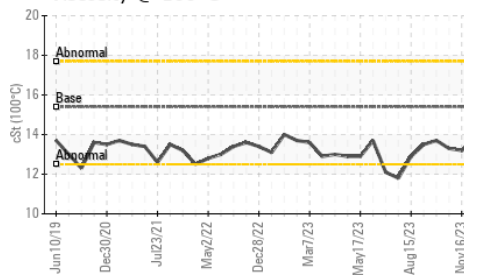
Glycol Contamination



Base Number



Viscosity @ 100°C

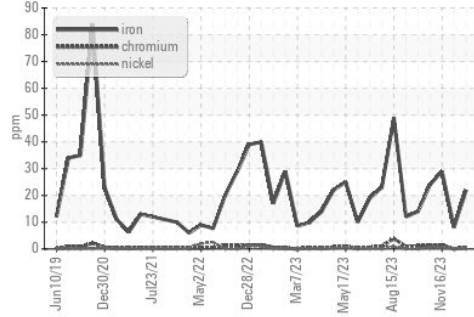


VISUAL	method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE
Appearance	scalar	*Visual	NORML	NORML	NORML
Odor	scalar	*Visual	NORML	NORML	NORML
Emulsified Water	scalar	*Visual	>0.2	NEG	NEG
Free Water	scalar	*Visual		NEG	NEG

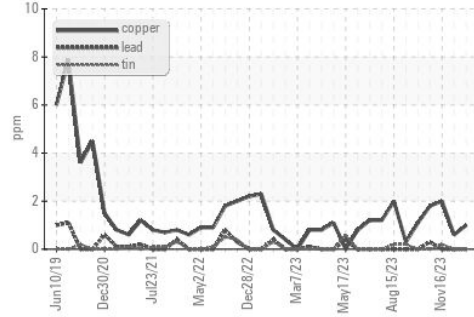
FLUID PROPERTIES	method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	15.4	13.1	13.6

GRAPHS

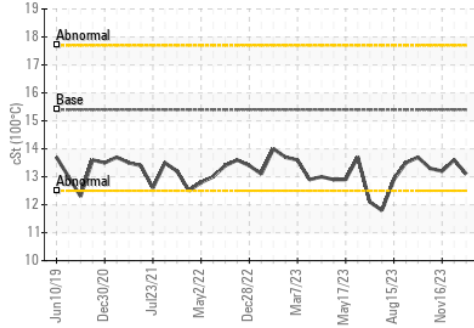
Ferrous Alloys



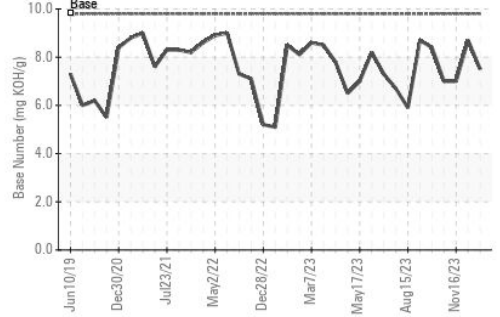
Non-ferrous Metals



Viscosity @ 100°C



Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : GFL0068885 **Received** : 19 Jan 2024
Lab Number : 06065347 **Diagnosed** : 02 Feb 2024
Unique Number : 10836729 **Diagnostician** : Doug Bogart
Test Package : FLEET (Additional Tests: Glycol)

GFL Environmental - 073 - Warner Robins - Transwaste
 155 Story Road
 Warner Robins, GA
 US 31093
 Contact: Mike Taft

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)

T:
F: