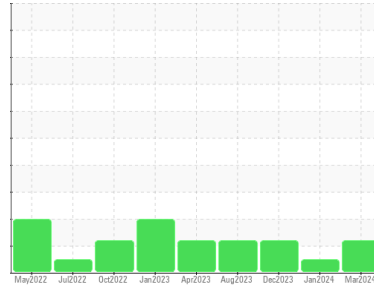




OIL ANALYSIS REPORT

Sample Rating Trend



GLYCOL



Machine Id
4632M

Component
Diesel Engine

Fluid
PETRO CANADA DURON SHP 15W40 (6 GAL)

DIAGNOSIS

Recommendation

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 remain high. Test for glycol is negative.

Fluid Condition

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

SAMPLE INFORMATION

method	limit/base	current	history1	history2
Sample Number	Client Info	GFL0115179	GFL0106660	GFL0097688
Sample Date	Client Info	18 Mar 2024	12 Jan 2024	17 Dec 2023
Machine Age	hrs	21104	20707	20499
Oil Age	hrs	605	208	663
Oil Changed	Client Info	Changed	Not Changd	Changed
Sample Status		ATTENTION	NORMAL	ABNORMAL

CONTAMINATION

method	limit/base	current	history1	history2
Fuel	WC Method >5	<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 >100	12	24	13
Chromium	ppm ASTM D5185m >20	<1	1	<1
Nickel	ppm ASTM D5185m >4	<1	3	0
Titanium	ppm ASTM D5185m	<1	0	0
Silver	ppm ASTM D5185m >3	0	<1	0
Aluminum	ppm ASTM D5185m >20	2	<1	2
Lead	ppm ASTM D5185m >40	<1	0	0
Copper	ppm ASTM D5185m >330	1	31	3
Tin	ppm ASTM D5185m >15	<1	1	0
Vanadium	ppm ASTM D5185m	<1	<1	<1
Cadmium	ppm ASTM D5185m	<1	0	0

ADDITIVES

method	limit/base	current	history1	history2
Boron	ppm ASTM D5185m 0	4	9	11
Barium	ppm ASTM D5185m 0	<1	0	0
Molybdenum	ppm ASTM D5185m 60	65	66	62
Manganese	ppm ASTM D5185m 0	<1	1	0
Magnesium	ppm ASTM D5185m 1010	945	1044	860
Calcium	ppm ASTM D5185m 1070	1057	1195	942
Phosphorus	ppm ASTM D5185m 1150	1084	1091	996
Zinc	ppm ASTM D5185m 1270	1230	1361	1189
Sulfur	ppm ASTM D5185m 2060	3075	3121	2843

CONTAMINANTS

method	limit/base	current	history1	history2
Silicon	ppm ASTM D5185m >25	6	8	8
Sodium	ppm ASTM D5185m	112	2	▲ 319
Potassium	ppm ASTM D5185m >20	2	<1	3
Glycol	% *ASTM D2982	NEG	NEG	NEG

INFRA-RED

method	limit/base	current	history1	history2
Soot %	% *ASTM D7844 >3	0.2	0.4	0.3
Nitration	Abs/cm *ASTM D7624 >20	7.1	8.9	9.4
Sulfation	Abs/.1mm *ASTM D7415 >30	18.8	20.5	19.9

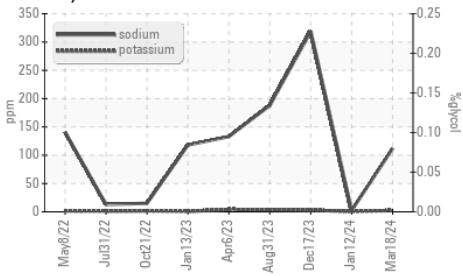
FLUID DEGRADATION

method	limit/base	current	history1	history2
Oxidation	Abs/.1mm *ASTM D7414 >25	14.9	16.9	15.7
Base Number (BN)	mg KOH/g ASTM D2896 9.8	8.3	7.0	7.9

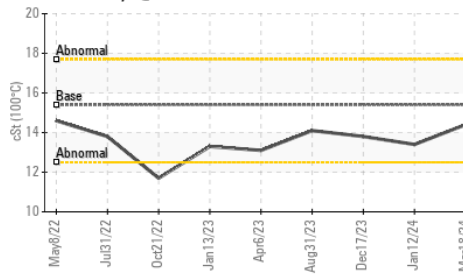


OIL ANALYSIS REPORT

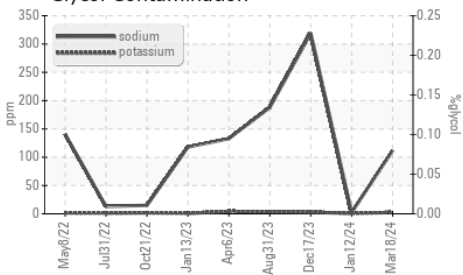
Glycol Contamination



Viscosity @ 100°C



Glycol Contamination

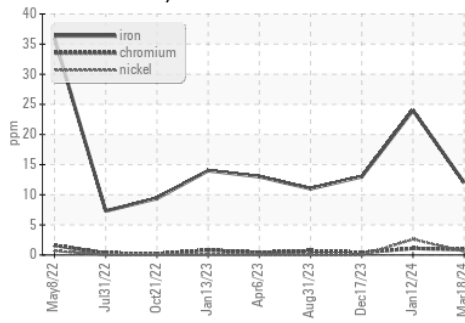


PARAMETER	method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE
Appearance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

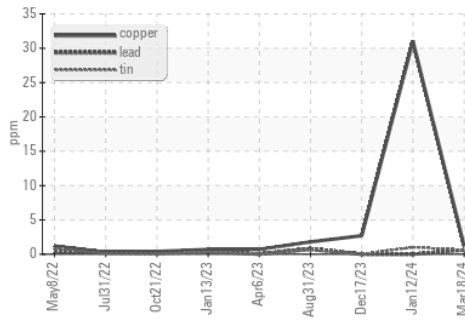
FLUID PROPERTIES	method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	15.4	14.4	13.4

GRAPHS

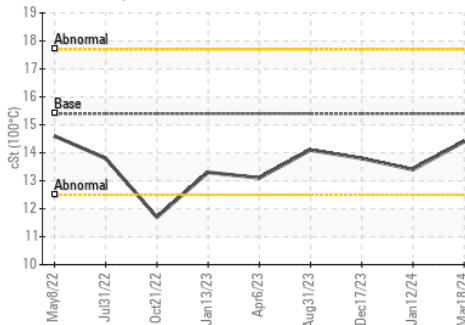
Ferrous Alloys



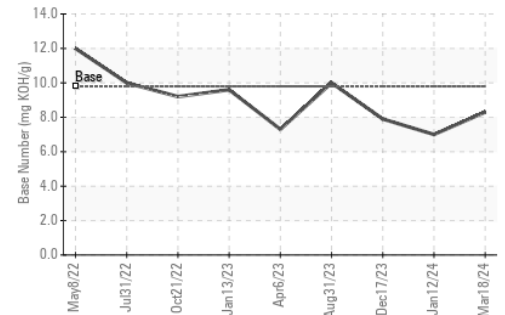
Non-ferrous Metals



Viscosity @ 100°C



Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
 Sample No. : GFL0115179 Received : 22 Mar 2024
 Lab Number : 06126933 Tested : 26 Mar 2024
 Unique Number : 10941084 Diagnosed : 26 Mar 2024 - Sean Felton
 Test Package : FLEET (Additional Tests: Glycol)

GFL Environmental - 405 - Arbor Hills
 7400 Napier Rd
 NORTHVILLE, MI
 US 48168
 Contact: John Nahal
 jnahal@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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