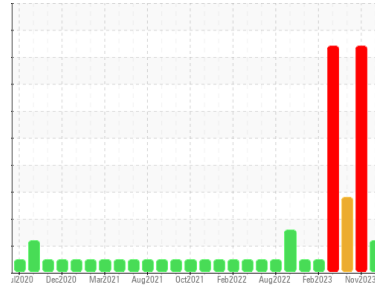




OIL ANALYSIS REPORT

Sample Rating Trend



GLYCOL



Area
(71652P)
Machine Id
810016

Component
Diesel Engine
Fluid

PETRO CANADA DURON SHP 15W40 (10 GAL)

DIAGNOSIS

Recommendation

We advise that you check for possible coolant leak. Check for low coolant level. 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.

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	GFL0093749	GFL0093765	GFL0079029
Sample Date	Client Info	06 Feb 2024	13 Nov 2023	14 Aug 2023
Machine Age	hrs	2973	2403	1786
Oil Age	hrs	0	13156	13156
Oil Changed	Client Info	Changed	Changed	Changed
Sample Status		ATTENTION	SEVERE	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 >90	41	54	51
Chromium	ppm ASTM D5185m >20	2	2	2
Nickel	ppm ASTM D5185m >2	1	<1	1
Titanium	ppm ASTM D5185m >2	<1	0	<1
Silver	ppm ASTM D5185m >2	0	<1	0
Aluminum	ppm ASTM D5185m >20	4	3	4
Lead	ppm ASTM D5185m >40	<1	0	0
Copper	ppm ASTM D5185m >330	3	6	5
Tin	ppm ASTM D5185m >15	<1	<1	<1
Vanadium	ppm ASTM D5185m	<1	0	0
Cadmium	ppm ASTM D5185m	<1	0	0

ADDITIVES

method	limit/base	current	history1	history2
Boron	ppm ASTM D5185m 0	5	6	22
Barium	ppm ASTM D5185m 0	13	0	0
Molybdenum	ppm ASTM D5185m 60	85	69	162
Manganese	ppm ASTM D5185m 0	1	<1	1
Magnesium	ppm ASTM D5185m 1010	1233	911	729
Calcium	ppm ASTM D5185m 1070	1433	1022	1013
Phosphorus	ppm ASTM D5185m 1150	1369	899	725
Zinc	ppm ASTM D5185m 1270	1699	1232	1110
Sulfur	ppm ASTM D5185m 2060	4572	2558	3037

CONTAMINANTS

method	limit/base	current	history1	history2
Silicon	ppm ASTM D5185m >25	10	19	▲ 56
Sodium	ppm ASTM D5185m	▲ 106	▲ 405	▲ 2987
Potassium	ppm ASTM D5185m >20	4	▲ 5	37
Glycol	% *ASTM D2982	NEG	◆ 0.10	NEG

INFRA-RED

method	limit/base	current	history1	history2
Soot %	% *ASTM D7844 >6	0.9	1.5	1.4
Nitration	Abs/cm *ASTM D7624 >20	9.4	11.7	15.7
Sulfation	Abs/.1mm *ASTM D7415 >30	20.7	23.9	25.9

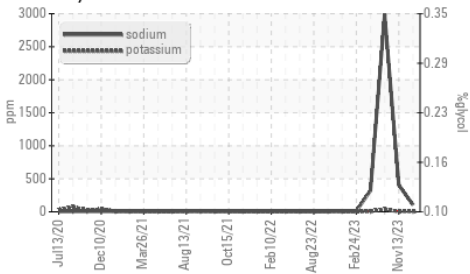
FLUID DEGRADATION

method	limit/base	current	history1	history2
Oxidation	Abs/.1mm *ASTM D7414 >25	16.9	18.6	17.4
Base Number (BN)	mg KOH/g ASTM D2896 9.8	7.4	7.1	12.6

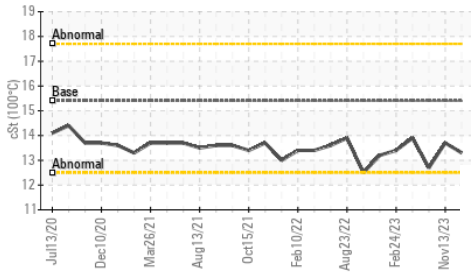


OIL ANALYSIS REPORT

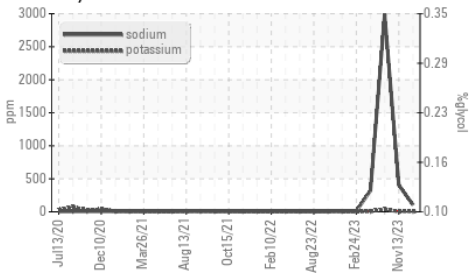
Glycol Contamination



Viscosity @ 100°C



Glycol Contamination

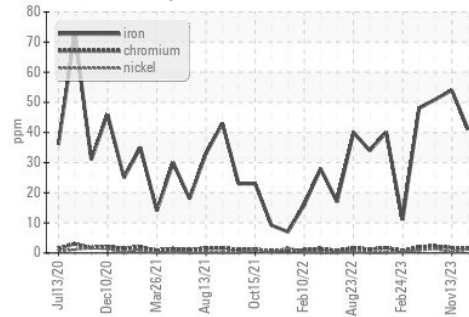


VISUAL	method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE
Appearance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

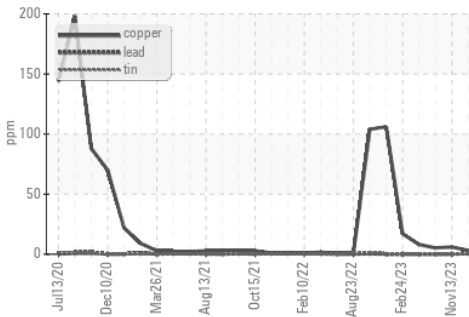
FLUID PROPERTIES	method	limit/base	current	history1	history2	
Visc @ 100°C	cSt	ASTM D445	15.4	13.3	13.7	12.7

GRAPHS

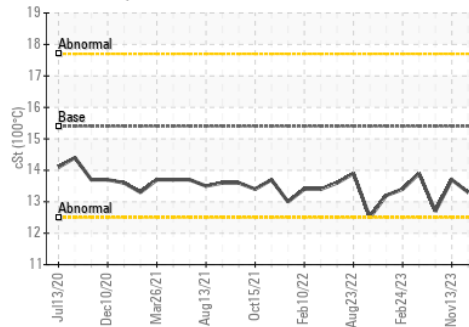
Ferrous Alloys



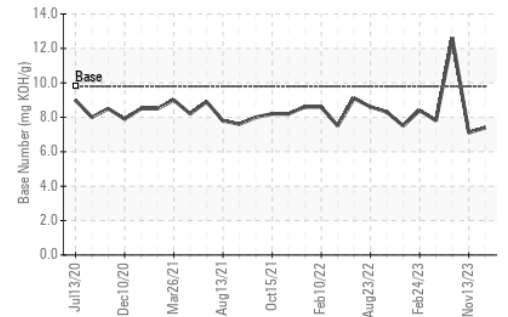
Non-ferrous Metals



Viscosity @ 100°C



Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
 Sample No. : GFL0093749
 Lab Number : 06086603
 Unique Number : 10874048
 Test Package : FLEET

Received : 12 Feb 2024
 Tested : 14 Feb 2024
 Diagnosed : 14 Feb 2024 - Jonathan Hester

GFL Environmental - 029 - Wytheville
 2390 North 4th Street
 Wytheville, VA
 US 24382

Contact: CHARLES CORVIN
 charles.corvin@gflenv.com; canastasio@wearcheckusa.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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