



OIL ANALYSIS REPORT

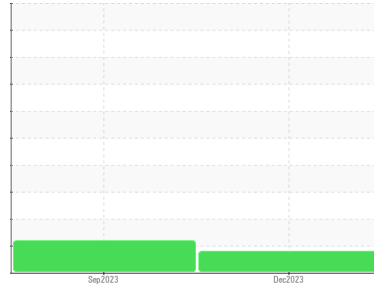
Sample Rating Trend

WEAR

Area
S0916A-Suamico
Machine Id
514030

Component
Front Center Diesel Engine
Fluid

PETRO CANADA DURON SHP 15W40 (44 QTS)



DIAGNOSIS

Recommendation

Oil and filter change at the time of sampling has been noted. No corrective action is recommended at this time. Resample at the next service interval to monitor.

Wear

The copper level has decreased, but is still abnormal. All other 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		GFL0095949	GFL0074841	---
Sample Date	Client Info		14 Dec 2023	05 Sep 2023	---
Machine Age	hrs	Client Info	1196	599	---
Oil Age	hrs	Client Info	597	599	---
Oil Changed	Client Info		Changed	Changed	---
Sample Status			ABNORMAL	ABNORMAL	---

CONTAMINATION

	method	limit/base	current	history1	history2
Fuel	WC Method	>3.0	<1.0	0.4	---
Water	WC Method	>0.2	NEG	NEG	---
Glycol	WC Method		NEG	NEG	---

WEAR METALS

	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>200	14	23
Chromium	ppm	ASTM D5185m	>20	<1	2
Nickel	ppm	ASTM D5185m	>2	0	<1
Titanium	ppm	ASTM D5185m	>2	0	<1
Silver	ppm	ASTM D5185m	>2	0	<1
Aluminum	ppm	ASTM D5185m	>30	5	9
Lead	ppm	ASTM D5185m	>30	0	4
Copper	ppm	ASTM D5185m	>30	71	331
Tin	ppm	ASTM D5185m	>15	<1	4
Vanadium	ppm	ASTM D5185m		0	0
Cadmium	ppm	ASTM D5185m		0	<1

ADDITIVES

	method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m	0	6	30
Barium	ppm	ASTM D5185m	0	0	45
Molybdenum	ppm	ASTM D5185m	60	49	43
Manganese	ppm	ASTM D5185m	0	<1	3
Magnesium	ppm	ASTM D5185m	1010	780	440
Calcium	ppm	ASTM D5185m	1070	1246	1572
Phosphorus	ppm	ASTM D5185m	1150	776	639
Zinc	ppm	ASTM D5185m	1270	1038	821
Sulfur	ppm	ASTM D5185m	2060	1896	2001

CONTAMINANTS

	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>30	5	10
Sodium	ppm	ASTM D5185m		2	5
Potassium	ppm	ASTM D5185m	>20	18	29

INFRA-RED

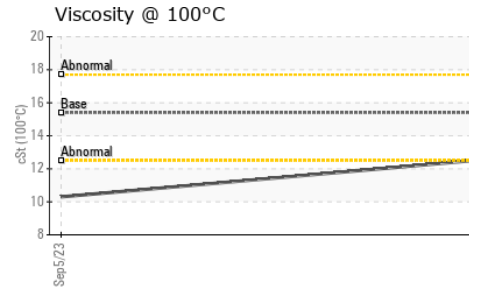
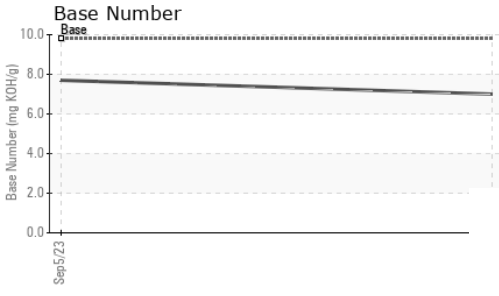
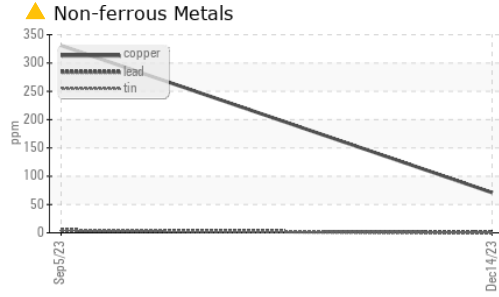
	method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844	>3	0.3	0.3
Nitration	Abs/cm	*ASTM D7624	>20	8.5	9.6
Sulfation	Abs/.1mm	*ASTM D7415	>30	20.3	20.4

FLUID DEGRADATION

	method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414	>25	18.5	20.6
Base Number (BN)	mg KOH/g	ASTM D2896	9.8	7.0	7.7



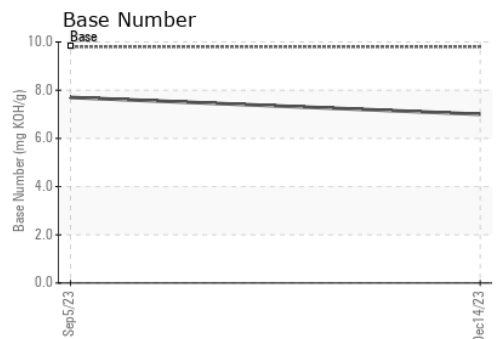
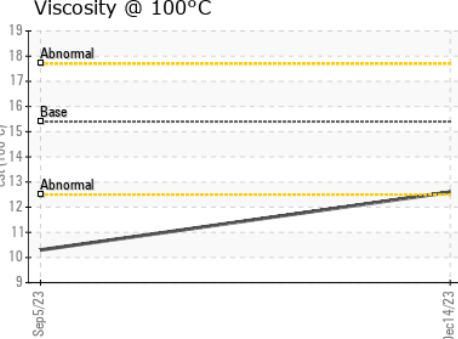
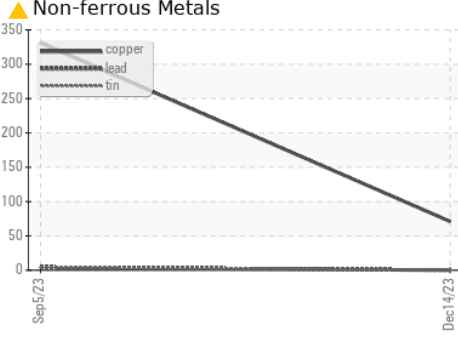
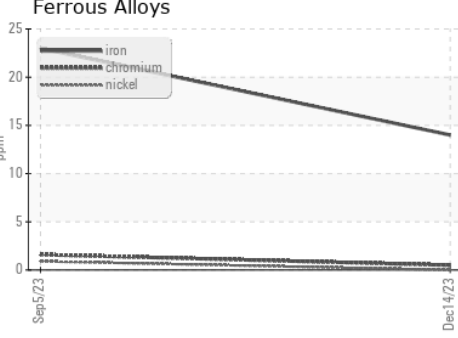
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VISUAL	method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	---
Yellow Metal	scalar	*Visual	NONE	NONE	---
Precipitate	scalar	*Visual	NONE	NONE	---
Silt	scalar	*Visual	NONE	NONE	---
Debris	scalar	*Visual	NONE	NONE	---
Sand/Dirt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

FLUID PROPERTIES	method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	15.4	12.6	▲ 10.3

GRAPHS



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : GFL0095949 **Received** : 26 Dec 2023
Lab Number : 06044477 **Diagnosed** : 27 Dec 2023
Unique Number : 10805085 **Diagnostician** : Don Baldrige
Test Package : FLEET

GFL Environmental - 916A - Suamico
 2300 Deerfield Ave E
 Suamico, WI
 US 54313
 Contact: NICHOLAS WEIDNER
 nweidner@gflenv.com

Certificate L2367
 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)