



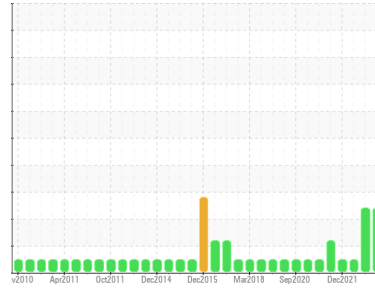
OIL ANALYSIS REPORT

Sample Rating Trend

DIRT



Area
(PG711F)
Machine Id
11041
Component
Diesel Engine
Fluid
PETRO CANADA DURON SHP 15W40 (9 GAL)



DIAGNOSIS

Recommendation

We advise that you check the air filter, air induction system, and any areas where dirt may enter the component. Oil and filter change at the time of sampling has been noted. Resample at the next service interval to monitor.

Wear

All component wear rates are normal.

Contamination

Elemental levels of silicon (Si) and aluminum (Al) indicate alumina-silicate (coarse dirt) ingress.

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		GFL0114500	GFL0074613	GFL0072044
Sample Date	Client Info		21 Mar 2024	17 Jan 2024	17 Oct 2023
Machine Age	hrs	Client Info	2098	2020	229387
Oil Age	hrs	Client Info	382	304	0
Oil Changed	Client Info		Changed	Not Changd	N/A
Sample Status			ATTENTION	ABNORMAL	NORMAL

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 >130	93	▲ 105	<1
Chromium	ppm	ASTM D5185m >10	2	2	0
Nickel	ppm	ASTM D5185m >4	<1	<1	0
Titanium	ppm	ASTM D5185m >2	0	0	<1
Silver	ppm	ASTM D5185m >2	0	0	0
Aluminum	ppm	ASTM D5185m >20	10	10	1
Lead	ppm	ASTM D5185m >20	3	3	0
Copper	ppm	ASTM D5185m >125	67	42	<1
Tin	ppm	ASTM D5185m >4	1	3	0
Antimony	ppm	ASTM D5185m	---	---	---
Vanadium	ppm	ASTM D5185m	0	<1	<1
Cadmium	ppm	ASTM D5185m	0	0	0

ADDITIVES

	method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m 0	15	20	2
Barium	ppm	ASTM D5185m 0	0	<1	0
Molybdenum	ppm	ASTM D5185m 60	66	69	60
Manganese	ppm	ASTM D5185m 0	1	2	0
Magnesium	ppm	ASTM D5185m 1010	956	987	1000
Calcium	ppm	ASTM D5185m 1070	1217	1127	1101
Phosphorus	ppm	ASTM D5185m 1150	1032	1025	1047
Zinc	ppm	ASTM D5185m 1270	1271	1272	1306
Sulfur	ppm	ASTM D5185m 2060	3466	3092	3271

CONTAMINANTS

	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m >25	▲ 61	▲ 74	5
Sodium	ppm	ASTM D5185m	14	17	2
Potassium	ppm	ASTM D5185m >20	50	59	3
Glycol	%	*ASTM D2982	NEG	0.0	NEG

INFRA-RED

	method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844 >6	1.2	1.3	0.1
Nitration	Abs/cm	*ASTM D7624 >20	8.7	9.0	4.1
Sulfation	Abs/.1mm	*ASTM D7415 >30	20.2	20.8	16.6

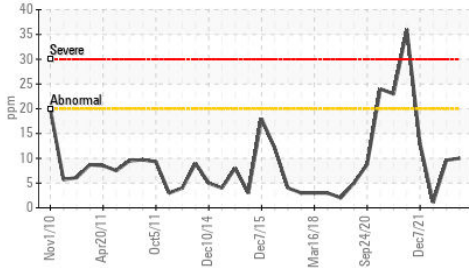
FLUID DEGRADATION

	method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414 >25	15.2	15.7	12.1
Base Number (BN)	mg KOH/g	ASTM D2896 9.8	7.8	8.1	9.2

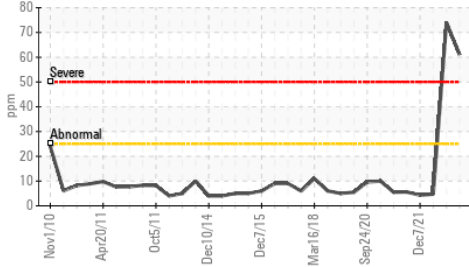


OIL ANALYSIS REPORT

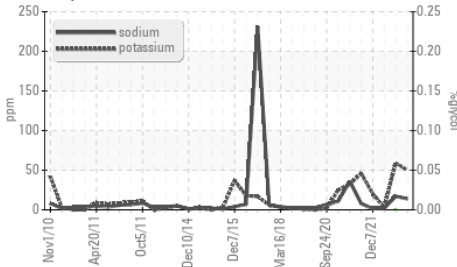
● Aluminum (ppm)



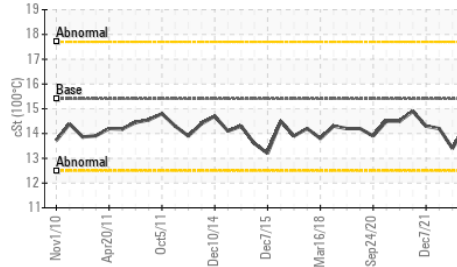
▲ Silicon (ppm)



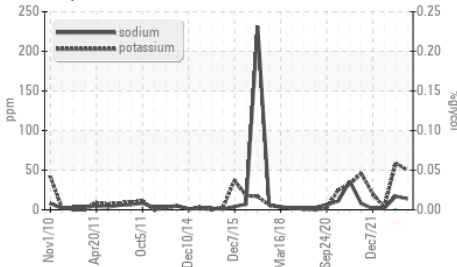
Glycol Contamination



Viscosity @ 100°C



Glycol Contamination

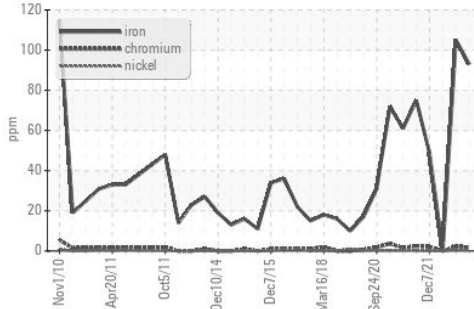


VISUAL	method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE
Appearance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

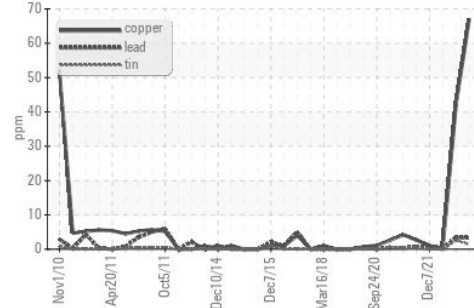
FLUID PROPERTIES	method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	15.4	14.3	13.4

GRAPHS

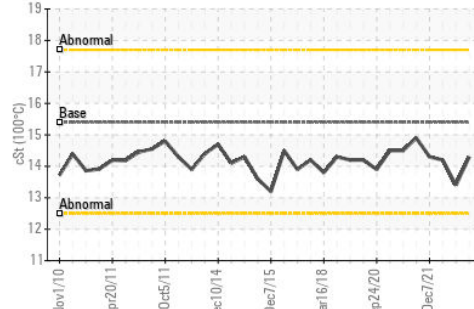
Ferrous Alloys



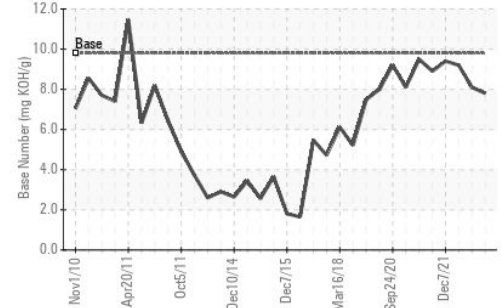
Non-ferrous Metals



Viscosity @ 100°C



Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
 Sample No. : GFL0114500 Received : 25 Mar 2024
 Lab Number : 06127542 Tested : 27 Mar 2024
 Unique Number : 10941693 Diagnosed : 27 Mar 2024 - Jonathan Hester
 Test Package : FLEET (Additional Tests: Glycol)

GFL Environmental - 094 - Cedartown
 2097 Buchanan Highway
 Cedartown, GA
 US 30125
 Contact: WILLIAM FOSTER
 william.foster@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)