

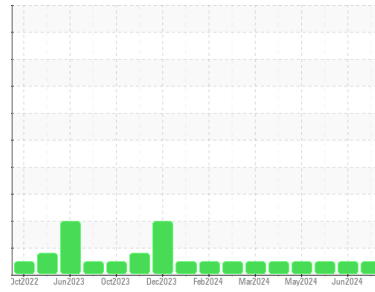


OIL ANALYSIS REPORT



Machine Id
423031-402164
 Component
Diesel Engine
 Fluid
PETRO CANADA DURON SHP 15W40 (--- GAL)

Sample Rating Trend



NORMAL

DIAGNOSIS

Recommendation
 Resample at the next service interval to monitor.

Wear
 All 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	GFL0093490	GFL0093468	GFL0093446
Sample Date	Client Info	12 Jul 2024	20 Jun 2024	30 May 2024
Machine Age	hrs	46028	45920	45802
Oil Age	hrs	226	118	159
Oil Changed	Client Info	Not Chngd	Not Chngd	Changed
Sample Status		NORMAL	NORMAL	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
Glycol	WC Method	NEG	NEG	NEG

WEAR METALS

method	limit/base	current	history1	history2
Iron	ppm ASTM D5185m >120	15	9	27
Chromium	ppm ASTM D5185m >20	<1	<1	1
Nickel	ppm ASTM D5185m >5	0	0	0
Titanium	ppm ASTM D5185m >2	7	7	8
Silver	ppm ASTM D5185m >2	0	0	0
Aluminum	ppm ASTM D5185m >20	1	1	2
Lead	ppm ASTM D5185m >40	<1	0	2
Copper	ppm ASTM D5185m >330	0	<1	<1
Tin	ppm ASTM D5185m >15	<1	0	<1
Vanadium	ppm ASTM D5185m	0	<1	0
Cadmium	ppm ASTM D5185m	0	0	0

ADDITIVES

method	limit/base	current	history1	history2
Boron	ppm ASTM D5185m 0	0	8	9
Barium	ppm ASTM D5185m 0	0	0	0
Molybdenum	ppm ASTM D5185m 60	55	55	55
Manganese	ppm ASTM D5185m 0	0	<1	<1
Magnesium	ppm ASTM D5185m 1010	909	979	922
Calcium	ppm ASTM D5185m 1070	1122	1204	1112
Phosphorus	ppm ASTM D5185m 1150	1082	1086	1038
Zinc	ppm ASTM D5185m 1270	1270	1350	1245
Sulfur	ppm ASTM D5185m 2060	3648	3806	3306

CONTAMINANTS

method	limit/base	current	history1	history2
Silicon	ppm ASTM D5185m >25	4	3	5
Sodium	ppm ASTM D5185m	1	0	1
Potassium	ppm ASTM D5185m >20	<1	0	<1

INFRA-RED

method	limit/base	current	history1	history2
Soot %	% *ASTM D7844 >4	2	1	3.6
Nitration	Abs/cm *ASTM D7624 >20	7.5	5.9	9.7
Sulfation	Abs/.1mm *ASTM D7415 >30	21.4	19.3	25.3

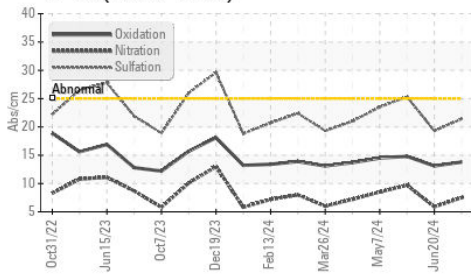
FLUID DEGRADATION

method	limit/base	current	history1	history2
Oxidation	Abs/.1mm *ASTM D7414 >25	13.8	13.1	14.8
Base Number (BN)	mg KOH/g ASTM D2896 9.8	9.1	9.2	7.4

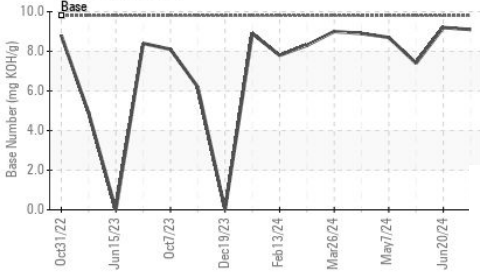


OIL ANALYSIS REPORT

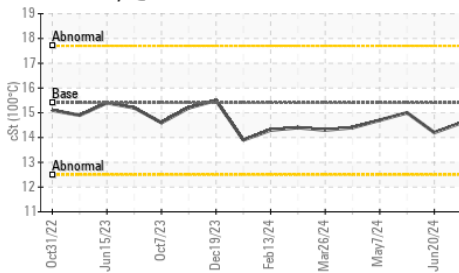
FT-IR (Direct Trend)



Base Number



Viscosity @ 100°C

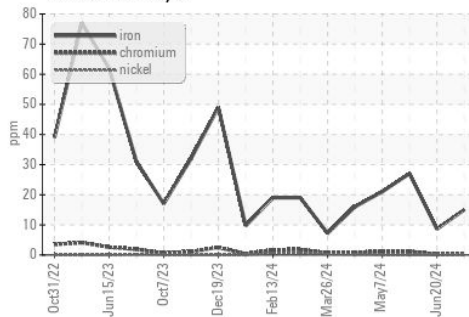


VISUAL	method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE
Appearance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

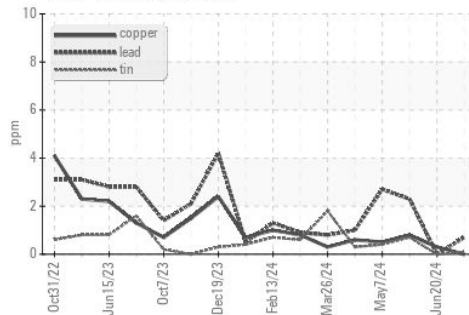
FLUID PROPERTIES	method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	15.4	14.6	14.2

GRAPHS

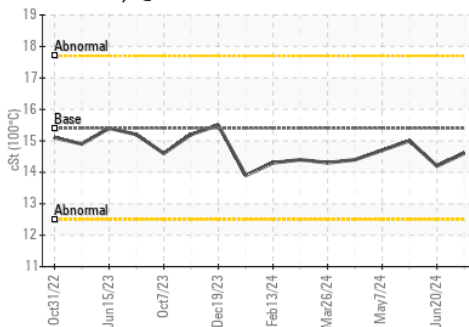
Ferrous Alloys



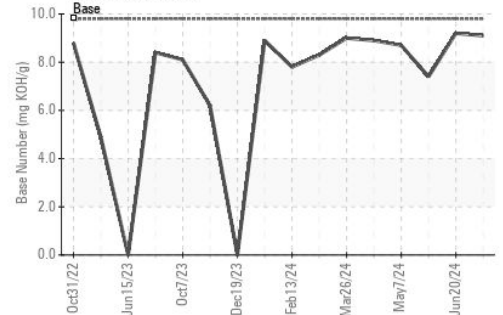
Non-ferrous Metals



Viscosity @ 100°C



Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
 Sample No. : GFL0093490
 Lab Number : 06237365
 Unique Number : 11126199
 Test Package : FLEET

Received : 15 Jul 2024
 Tested : 17 Jul 2024
 Diagnosed : 17 Jul 2024 - Wes Davis

GFL Environmental - 891 - Oklahoma City Hauling
 1001 South Rockwell
 Oklahoma City, OK
 US 73128
 Contact: Andy Smith
 andrew.smith@gflenv.com
 T: (405)306-1651
 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)