

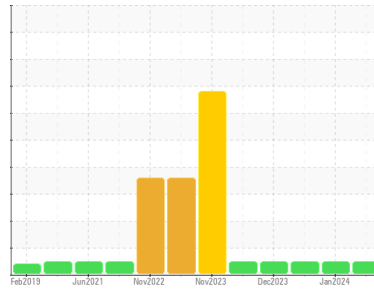


OIL ANALYSIS REPORT



Area
(726895)
 Machine Id
425045-402188
 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		GFL0101811	GFL0107966	GFL0102570
Sample Date	Client Info		11 Apr 2024	29 Jan 2024	27 Dec 2023
Machine Age	hrs	Client Info	36201	36024	35924
Oil Age	hrs	Client Info	0	0	0
Oil Changed	Client Info		Not Chngd	Not Chngd	Not Chngd
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	65	58	36
Chromium	ppm	ASTM D5185m >20	4	3	2
Nickel	ppm	ASTM D5185m >5	<1	<1	<1
Titanium	ppm	ASTM D5185m >2	<1	<1	<1
Silver	ppm	ASTM D5185m >2	0	0	0
Aluminum	ppm	ASTM D5185m >20	3	2	2
Lead	ppm	ASTM D5185m >40	11	4	4
Copper	ppm	ASTM D5185m >330	2	<1	1
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	3	<1	10
Barium	ppm	ASTM D5185m 0	0	0	0
Molybdenum	ppm	ASTM D5185m 60	70	63	66
Manganese	ppm	ASTM D5185m 0	1	<1	<1
Magnesium	ppm	ASTM D5185m 1010	1091	943	1079
Calcium	ppm	ASTM D5185m 1070	1259	1039	1176
Phosphorus	ppm	ASTM D5185m 1150	1172	1040	1141
Zinc	ppm	ASTM D5185m 1270	1396	1189	1334
Sulfur	ppm	ASTM D5185m 2060	3499	2884	3651

CONTAMINANTS

	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m >25	11	9	6
Sodium	ppm	ASTM D5185m	<1	1	4
Potassium	ppm	ASTM D5185m >20	3	<1	7

INFRA-RED

	method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844 >4	3.2	2.1	1.3
Nitration	Abs/cm	*ASTM D7624 >20	10.6	8.3	6.8
Sulfation	Abs/.1mm	*ASTM D7415 >30	25.9	22.8	20.4

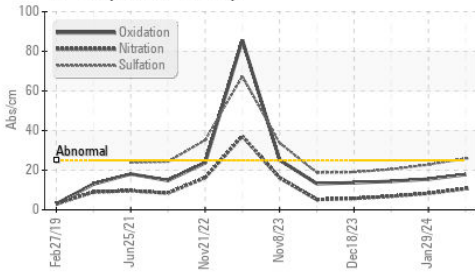
FLUID DEGRADATION

	method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414 >25	17.8	15.5	14.4
Base Number (BN)	mg KOH/g	ASTM D2896 9.8	8.1	9.0	9.0

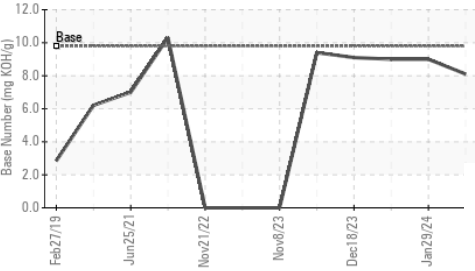


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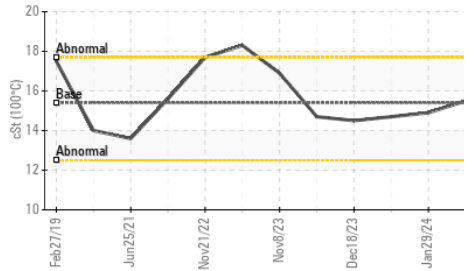
FT-IR (Direct Trend)



Base Number



Viscosity @ 100°C

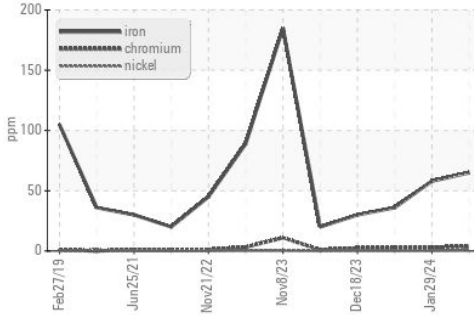


VISUAL	method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE
Appearance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

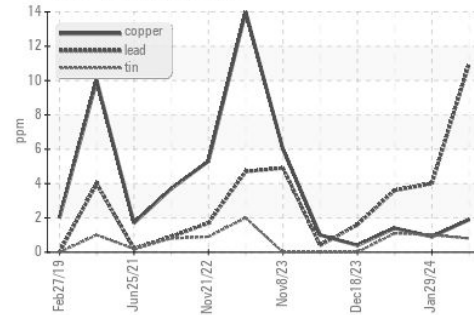
FLUID PROPERTIES	method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	15.4	15.5	14.9

GRAPHS

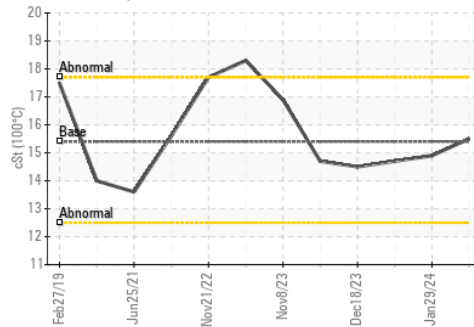
Ferrous Alloys



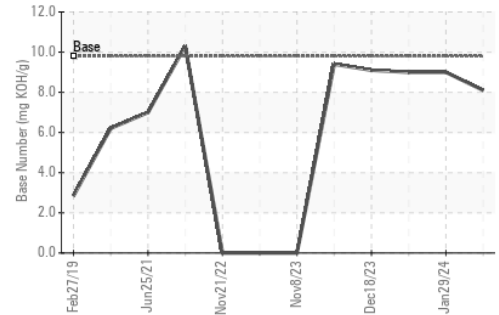
Non-ferrous Metals



Viscosity @ 100°C



Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
 Sample No. : GFL0101811
 Lab Number : 06148381
 Unique Number : 10978459
 Test Package : FLEET

Received : 15 Apr 2024
 Tested : 15 Apr 2024
 Diagnosed : 15 Apr 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)