



WEAR	ABNORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL

Machine Id
2414
 Component
Diesel Engine
 Fluid
PETRO CANADA DURON SHP 15W40 (--- LTR)

RECOMMENDATION

No corrective action is recommended at this time. Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		GFL0103486	GFL0100439	GFL0094798
Sample Date		Client Info		02 Jan 2024	18 Dec 2023	20 Nov 2023
Machine Age	hrs	Client Info		20430	20360	20212
Oil Age	hrs	Client Info		950	880	732
Filter Age	hrs	Client Info		0	0	0
Oil Changed		Client Info		N/A	Not Changd	N/A
Filter Changed		Client Info		N/A	N/A	N/A
Sample Status				ABNORMAL	NORMAL	NORMAL

WEAR

Exhaust valve wear is indicated.

Iron	ppm	ASTM D5185m	>100	8	6	2
Chromium	ppm	ASTM D5185m	>20	<1	<1	0
Nickel	ppm	ASTM D5185m	>2	▲ 4	2	<1
Titanium	ppm	ASTM D5185m		<1	0	0
Silver	ppm	ASTM D5185m	>2	0	0	0
Aluminum	ppm	ASTM D5185m	>25	4	4	2
Lead	ppm	ASTM D5185m	>40	<1	0	0
Copper	ppm	ASTM D5185m	>330	1	<1	<1
Tin	ppm	ASTM D5185m	>15	1	0	<1
Vanadium	ppm	ASTM D5185m		0	0	<1
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE

CONTAMINATION

Fuel content negligible. No other contaminants were detected in the oil.

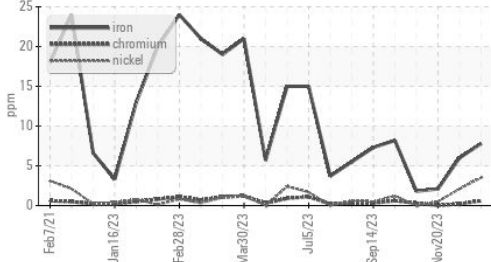
Silicon	ppm	ASTM D5185m	>25	5	4	3
Potassium	ppm	ASTM D5185m	>20	3	2	<1
Fuel	%	ASTM D3524	>6.0	1.2	<1.0	<1.0
Water		WC Method	>0.2	NEG	NEG	NEG
Glycol		WC Method		NEG	NEG	NEG
Soot %	%	*ASTM D7844	>3	0.5	0.4	0.2
Nitration	Abs/cm	*ASTM D7624	>20	8.0	7.4	6.2
Sulfation	Abs/.1mm	*ASTM D7415	>30	18.3	17.9	17.5
Silt	scalar	*Visual	NONE	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE	NONE
Appearance	scalar	*Visual	NORML	NORML	NORML	NORML
Odor	scalar	*Visual	NORML	NORML	NORML	NORML
Emulsified Water	scalar	*Visual	>0.2	NEG	NEG	NEG

FLUID CONDITION

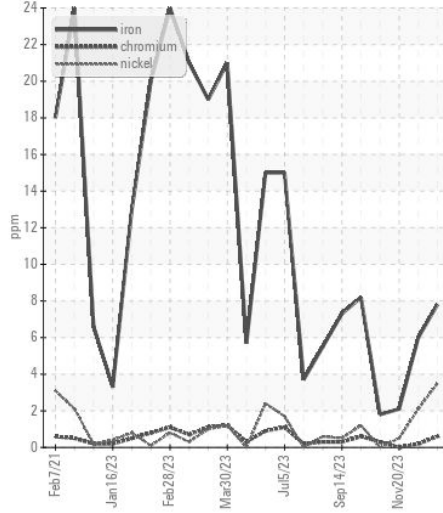
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is acceptable for the time in service.

Sodium	ppm	ASTM D5185m		0	2	3
Boron	ppm	ASTM D5185m	0	2	1	2
Barium	ppm	ASTM D5185m	0	0	0	0
Molybdenum	ppm	ASTM D5185m	60	57	59	62
Manganese	ppm	ASTM D5185m	0	<1	0	0
Magnesium	ppm	ASTM D5185m	1010	850	842	908
Calcium	ppm	ASTM D5185m	1070	967	953	1029
Phosphorus	ppm	ASTM D5185m	1150	845	836	1031
Zinc	ppm	ASTM D5185m	1270	1097	1096	1191
Sulfur	ppm	ASTM D5185m	2060	3209	2984	3032
Oxidation	Abs/.1mm	*ASTM D7414	>25	14.4	14.2	13.8
Base Number (BN)	mg KOH/g	ASTM D2896	9.8	7.9	8.2	8.4
Visc @ 100°C	cSt	ASTM D445	15.4	12.4	12.7	12.9

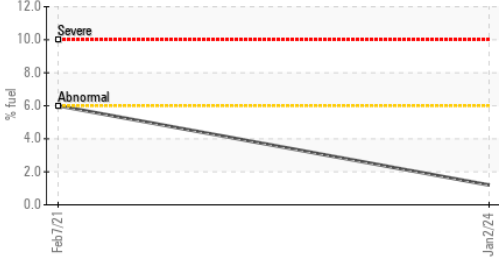
▲ Ferrous Alloys



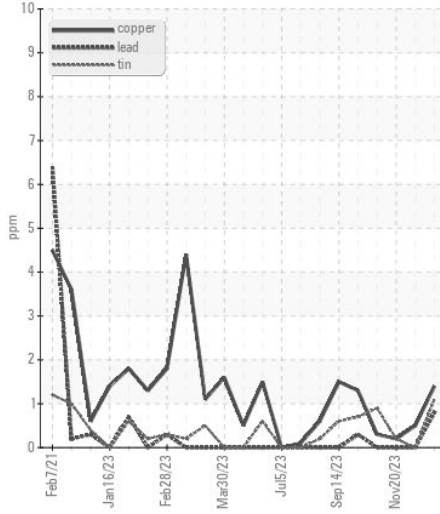
▲ Ferrous Alloys



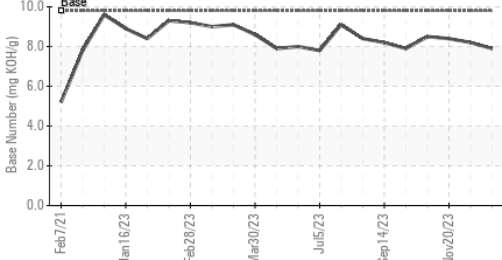
Fuel Dilution



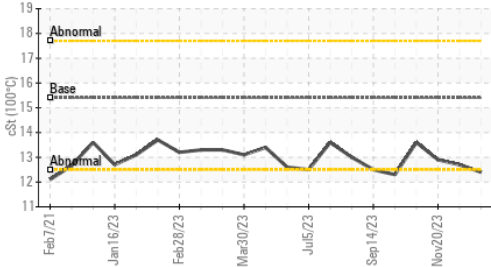
Non-ferrous Metals



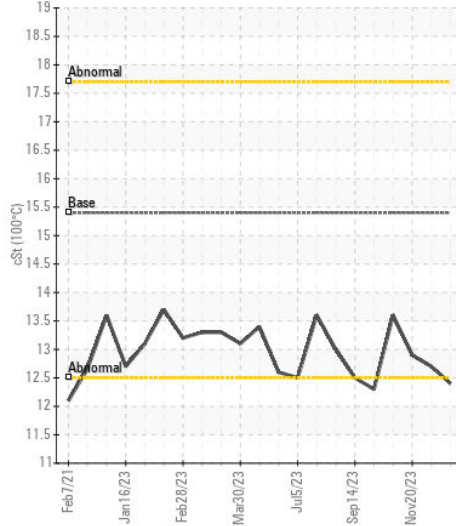
Base Number



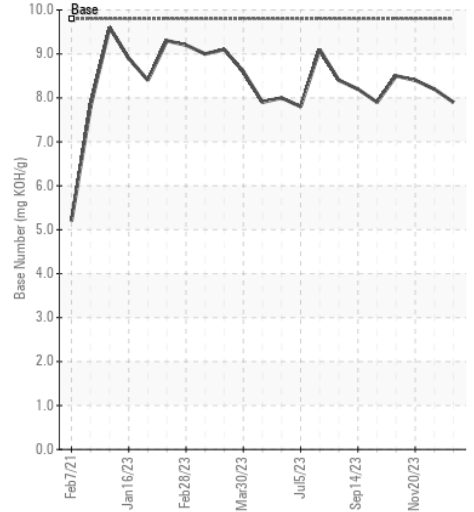
Viscosity @ 100°C



Viscosity @ 100°C



Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : GFL0103486 **Received** : 09 Jan 2024
Lab Number : 06055266 **Diagnosed** : 11 Jan 2024
Unique Number : 10821215 **Diagnostician** : Sean Felton
Test Package : FLEET (Additional Tests: FuelDilution, PercentFuel)

GFL Environmental - 868 - Childersburg Fines Hauling (Alpine)
 13737 Plant Rd
 Childersburg, AL
 US 35044
 Contact: JONATHAN WILLIAMS
 jonathan.williams@gflenv.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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