



OIL ANALYSIS REPORT

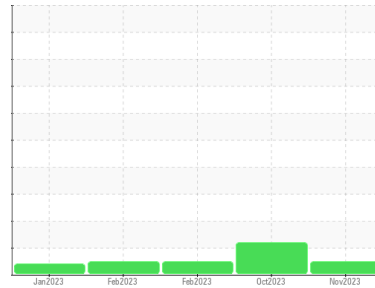
Sample Rating Trend

NORMAL



Area
TALLASSEE
Machine Id
924017-142594

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



DIAGNOSIS

Recommendation

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

Wear

All component wear rates are normal.

Contamination

Light fuel dilution occurring. No other contaminants were detected 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	GFL0079715	GFL0092429	GFL0071701	
Sample Date	Client Info	08 Nov 2023	18 Oct 2023	28 Feb 2023	
Machine Age	hrs	Client Info	722	427954	746
Oil Age	hrs	Client Info	722	0	746
Oil Changed	Client Info	N/A	N/A	N/A	
Sample Status		NORMAL	ABNORMAL	NORMAL	

CONTAMINATION

method	limit/base	current	history1	history2
Glycol	WC Method	NEG	NEG	NEG

WEAR METALS

method	limit/base	current	history1	history2	
Iron	ppm	ASTM D5185m >120	7	56	6
Chromium	ppm	ASTM D5185m >20	<1	<1	<1
Nickel	ppm	ASTM D5185m >5	1	5	<1
Titanium	ppm	ASTM D5185m >2	0	<1	<1
Silver	ppm	ASTM D5185m >2	<1	0	0
Aluminum	ppm	ASTM D5185m >20	2	8	3
Lead	ppm	ASTM D5185m >40	0	2	0
Copper	ppm	ASTM D5185m >330	1	4	14
Tin	ppm	ASTM D5185m >15	<1	1	1
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	17	49	108
Barium	ppm	ASTM D5185m 0	0	0	2
Molybdenum	ppm	ASTM D5185m 60	54	69	62
Manganese	ppm	ASTM D5185m 0	<1	1	<1
Magnesium	ppm	ASTM D5185m 1010	834	336	713
Calcium	ppm	ASTM D5185m 1070	987	1230	1184
Phosphorus	ppm	ASTM D5185m 1150	951	760	865
Zinc	ppm	ASTM D5185m 1270	1150	986	1029
Sulfur	ppm	ASTM D5185m 2060	2883	2778	2845

CONTAMINANTS

method	limit/base	current	history1	history2	
Silicon	ppm	ASTM D5185m >25	4	15	6
Sodium	ppm	ASTM D5185m	2	6	22
Potassium	ppm	ASTM D5185m >20	<1	2	5
Fuel	%	ASTM D3524 >3.0	2.2	▲ 4.1	<1.0

INFRA-RED

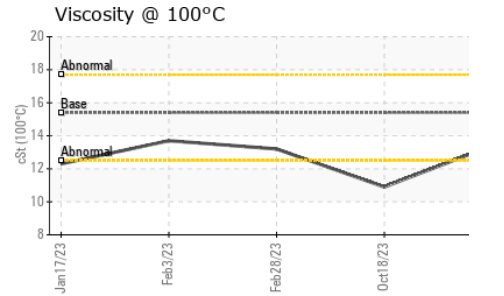
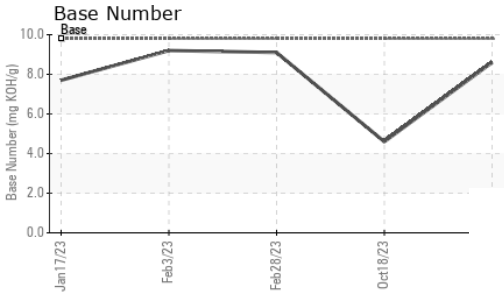
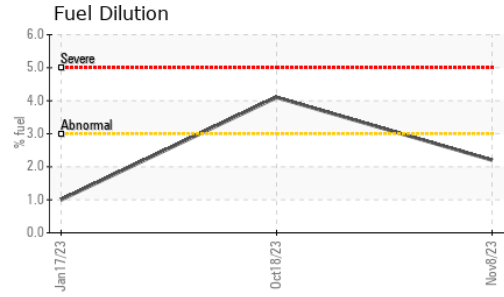
method	limit/base	current	history1	history2	
Soot %	%	*ASTM D7844 >4	0.4	1.7	0.2
Nitration	Abs/cm	*ASTM D7624 >20	6.1	9.2	6.1
Sulfation	Abs/.1mm	*ASTM D7415 >30	18.5	23.4	18.4

FLUID DEGRADATION

method	limit/base	current	history1	history2	
Oxidation	Abs/.1mm	*ASTM D7414 >25	13.7	15.0	13.3
Base Number (BN)	mg KOH/g	ASTM D2896 9.8	8.6	4.6	9.1



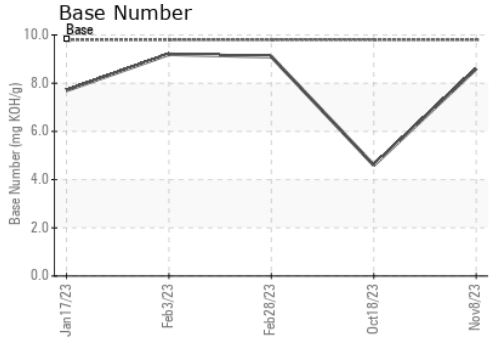
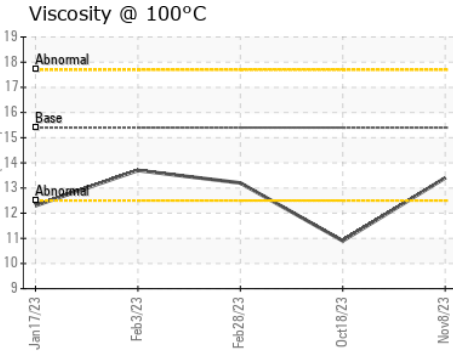
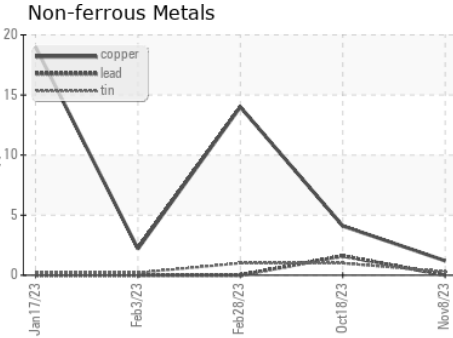
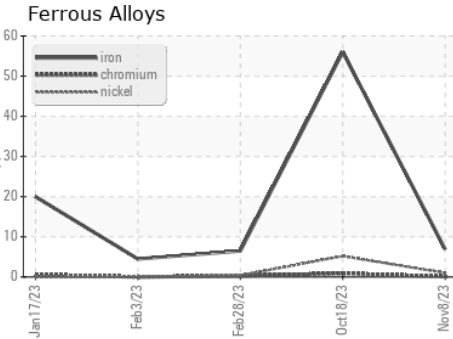
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VISUAL	method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE
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	13.4	▲ 10.9	13.2

GRAPHS



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : GFL0079715 **Received** : 15 Nov 2023
Lab Number : 06008963 **Diagnosed** : 16 Nov 2023
Unique Number : 10742725 **Diagnostician** : Wes Davis
Test Package : FLEET (Additional Tests: PercentFuel)

GFL Environmental - 172 - Montgomery-Alexander City-Tallahassee
 Multiple Sites
 Montgomery, AL
 US 36108
 Contact: RICHARD HATFIELD
 rhatfield@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)