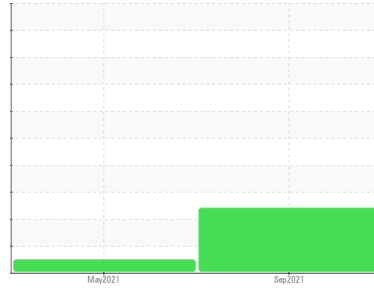




OIL ANALYSIS REPORT

Sample Rating Trend



FUEL



Machine Id
425023-840

Component
Diesel Engine

Fluid
PETRO CANADA DURON SHP 15W40 (--- GAL)

DIAGNOSIS

Recommendation

We advise that you check the fuel injection system. Oil and filter change at the time of sampling has been noted. We recommend an early resample to monitor this condition.

Wear

All component wear rates are normal.

Contamination

There is a high amount of fuel present in the oil.

Fluid Condition

Fuel is present in the oil and is lowering the viscosity. The BN result indicates that there is suitable alkalinity remaining in the oil.

SAMPLE INFORMATION

method	limit/base	current	history1	history2
Sample Number	Client Info	GFL0029269	GFL0018737	---
Sample Date	Client Info	21 Sep 2021	10 May 2021	---
Machine Age	hrs	13776	12931	---
Oil Age	hrs	855	600	---
Oil Changed	Client Info	Changed	Changed	---
Sample Status		SEVERE	NORMAL	---

CONTAMINATION

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

WEAR METALS

method	limit/base	current	history1	history2	
Iron	ppm	ASTM D5185m >110	27	24	---
Chromium	ppm	ASTM D5185m >4	2	2	---
Nickel	ppm	ASTM D5185m >2	0	0	---
Titanium	ppm	ASTM D5185m	<1	3	---
Silver	ppm	ASTM D5185m >2	<1	<1	---
Aluminum	ppm	ASTM D5185m >25	3	2	---
Lead	ppm	ASTM D5185m >45	12	11	---
Copper	ppm	ASTM D5185m >85	2	2	---
Tin	ppm	ASTM D5185m >4	<1	1	---
Antimony	ppm	ASTM D5185m	<1	0	---
Vanadium	ppm	ASTM D5185m	0	<1	---
Cadmium	ppm	ASTM D5185m	0	0	---

ADDITIVES

method	limit/base	current	history1	history2	
Boron	ppm	ASTM D5185m 0	10	11	---
Barium	ppm	ASTM D5185m 0	0	0	---
Molybdenum	ppm	ASTM D5185m 60	70	74	---
Manganese	ppm	ASTM D5185m 0	<1	<1	---
Magnesium	ppm	ASTM D5185m 1010	1074	1074	---
Calcium	ppm	ASTM D5185m 1070	1285	1321	---
Phosphorus	ppm	ASTM D5185m 1150	1154	1214	---
Zinc	ppm	ASTM D5185m 1270	1385	1406	---
Sulfur	ppm	ASTM D5185m 2060	2672	2915	---

CONTAMINANTS

method	limit/base	current	history1	history2	
Silicon	ppm	ASTM D5185m >30	5	4	---
Sodium	ppm	ASTM D5185m	3	4	---
Potassium	ppm	ASTM D5185m >20	7	3	---
Fuel	%	ASTM D3524 >5	10.2	<1.0	---

INFRA-RED

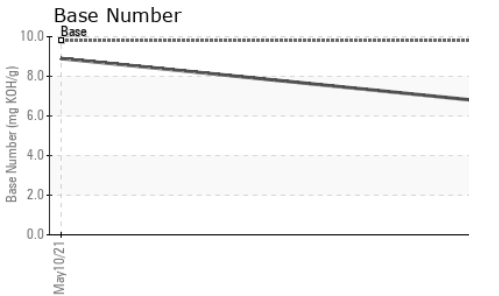
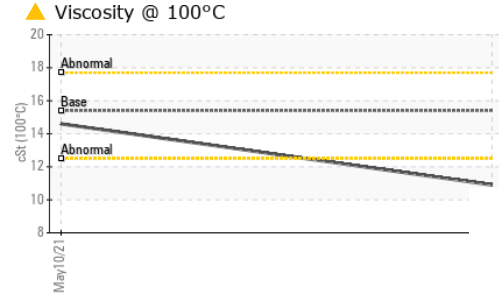
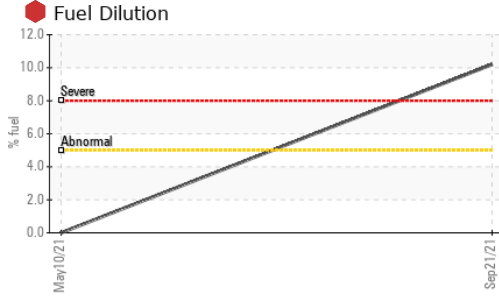
method	limit/base	current	history1	history2	
Soot %	%	*ASTM D7844 >3	0.6	0.6	---
Nitration	Abs/cm	*ASTM D7624 >20	12.8	13.7	---
Sulfation	Abs/.1mm	*ASTM D7415 >30	26.1	27.2	---

FLUID DEGRADATION

method	limit/base	current	history1	history2	
Oxidation	Abs/.1mm	*ASTM D7414 >25	23	23.7	---
Base Number (BN)	mg KOH/g	ASTM D2896 9.8	6.7	8.9	---



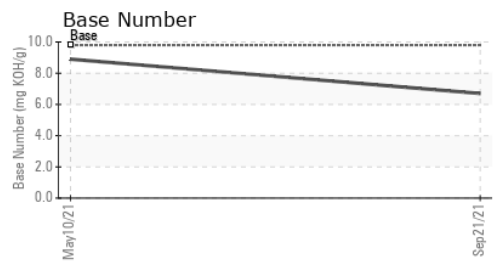
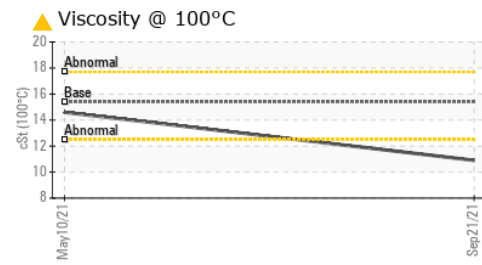
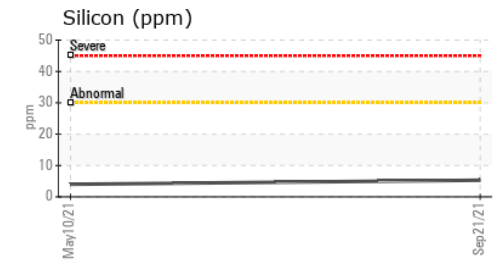
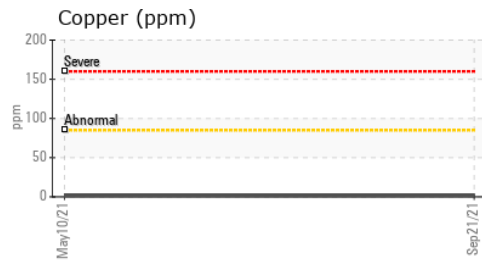
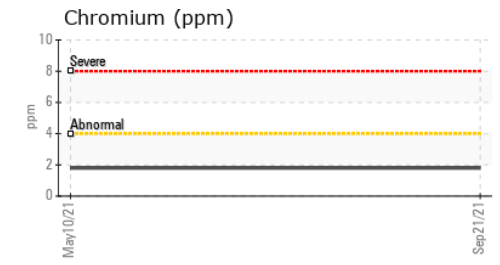
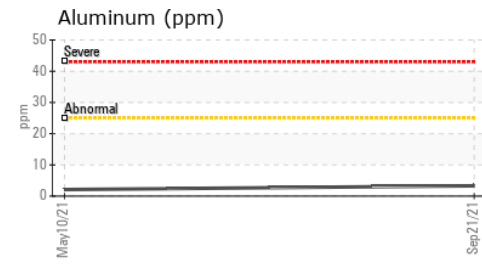
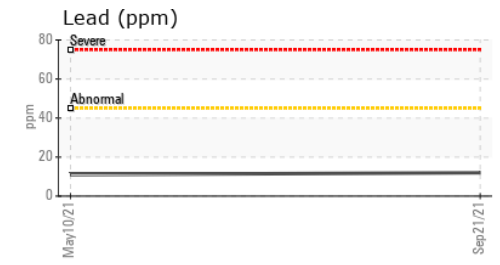
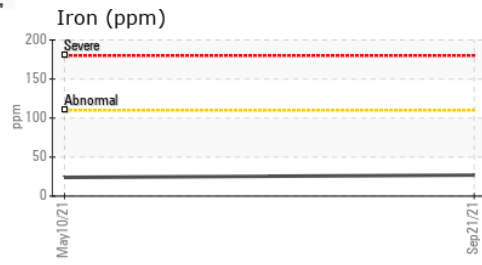
OIL ANALYSIS REPORT



VISUAL	method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	---
Yellow Metal	scalar	*Visual	NONE	NONE	---
Precipitate	scalar	*Visual	NONE	NONE	---
Silt	scalar	*Visual	NONE	NONE	---
Debris	scalar	*Visual	NONE	NONE	---
Sand/Dirt	scalar	*Visual	NONE	NONE	---
Appearance	scalar	*Visual	NORML	NORML	---
Odor	scalar	*Visual	NORML	NORML	---
Emulsified Water	scalar	*Visual	>0.2	NEG	---
Free Water	scalar	*Visual		NEG	---

FLUID PROPERTIES	method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	▲ 10.9	14.6	---

GRAPHS



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : GFL0029269 **Received** : 29 Sep 2021
Lab Number : 05361451 **Diagnosed** : 30 Sep 2021
Unique Number : 9675544 **Diagnostician** : Don Baldrige
Test Package : MOB1+ (Additional Tests: FuelDilution, PercentFuel)

GFL Environmental - 630 - Northern A1 PA
 117 Moonlite Dr
 Smithfield, PA
 US 15478
 Contact: MIKE NEWMAN
 miken@northerna1.com
 T: (231)564-2362
 F:

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)