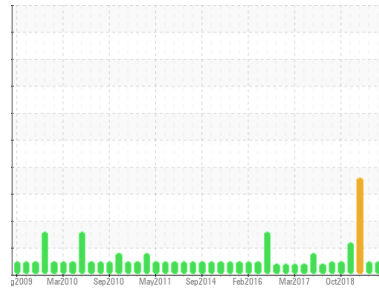




# OIL ANALYSIS REPORT

Sample Rating Trend



**NORMAL**



Machine Id  
**MACK 3300**  
 Component  
**Diesel Engine**  
 Fluid  
**PETRO CANADA DURON SHP 15W40 (10 GAL)**

## 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		<b>GFL0013420</b>	GFL0013436	GFL0007205
Sample Date	Client Info		<b>04 Feb 2021</b>	13 Jan 2021	25 Jun 2020
Machine Age	hrs	Client Info	<b>24506</b>	24737	24054
Oil Age	hrs	Client Info	<b>0</b>	0	0
Oil Changed	Client Info		<b>Changed</b>	Not Changd	Changed
Sample Status			<b>NORMAL</b>	NORMAL	SEVERE

## CONTAMINATION

	method	limit/base	current	history1	history2
Fuel	WC Method	>3.0	<b>&lt;1.0</b>	<1.0	<1.0
Water	WC Method	>0.2	<b>NEG</b>	NEG	NEG
Glycol	WC Method		<b>NEG</b>	NEG	NEG

## WEAR METALS

	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m >120	<b>24</b>	21	67
Chromium	ppm	ASTM D5185m >20	<b>&lt;1</b>	<1	2
Nickel	ppm	ASTM D5185m >5	<b>&lt;1</b>	1	1
Titanium	ppm	ASTM D5185m >2	<b>&lt;1</b>	<1	<1
Silver	ppm	ASTM D5185m >2	<b>0</b>	0	0
Aluminum	ppm	ASTM D5185m >20	<b>3</b>	3	8
Lead	ppm	ASTM D5185m >40	<b>2</b>	0	13
Copper	ppm	ASTM D5185m >330	<b>7</b>	8	13
Tin	ppm	ASTM D5185m >15	<b>0</b>	0	0
Antimony	ppm	ASTM D5185m	<b>0</b>	0	0
Vanadium	ppm	ASTM D5185m	<b>0</b>	0	0
Cadmium	ppm	ASTM D5185m	<b>0</b>	0	0

## ADDITIVES

	method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m	<b>19</b>	23	102
Barium	ppm	ASTM D5185m	<b>0</b>	0	0
Molybdenum	ppm	ASTM D5185m	<b>63</b>	58	91
Manganese	ppm	ASTM D5185m	<b>&lt;1</b>	<1	<1
Magnesium	ppm	ASTM D5185m	<b>985</b>	909	719
Calcium	ppm	ASTM D5185m	<b>1156</b>	1093	1441
Phosphorus	ppm	ASTM D5185m	<b>925</b>	930	778
Zinc	ppm	ASTM D5185m	<b>1104</b>	1098	883
Sulfur	ppm	ASTM D5185m	<b>2403</b>	2378	1963
Lithium	ppm	ASTM D5185m	<b>---</b>	---	---

## CONTAMINANTS

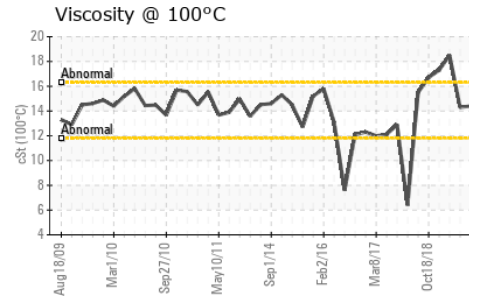
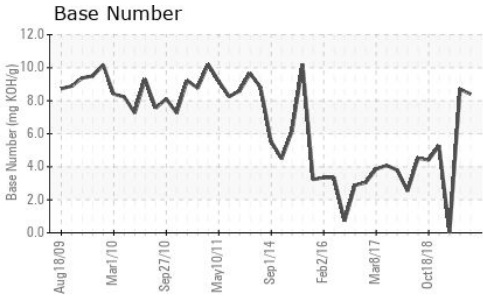
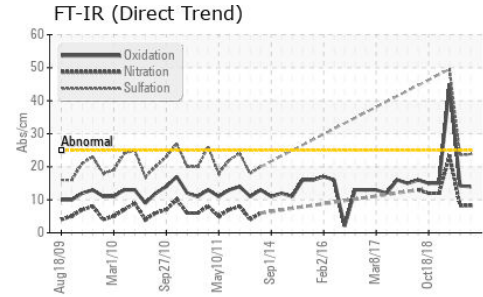
	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m >25	<b>5</b>	5	12
Sodium	ppm	ASTM D5185m	<b>2</b>	2	3
Potassium	ppm	ASTM D5185m >20	<b>0</b>	13	11

## INFRA-RED

	method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844 >4	<b>2.8</b>	2.7	▲ 7.7
Nitration	Abs/cm	*ASTM D7624 >20	<b>8.3</b>	8.2	23.4
Sulfation	Abs/.1mm	*ASTM D7415 >30	<b>23.8</b>	23.5	49.6



# OIL ANALYSIS REPORT

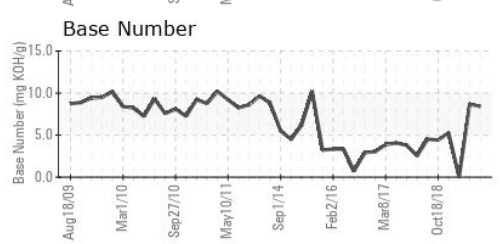
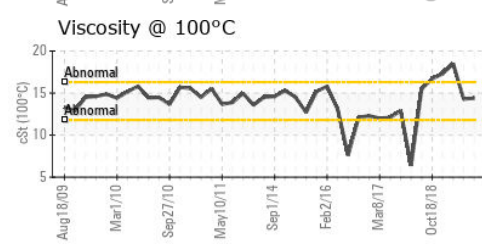
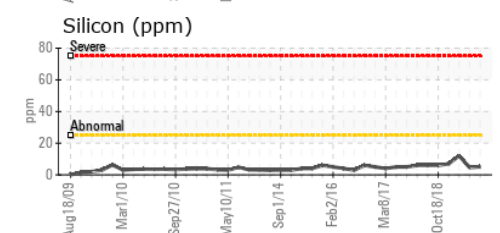
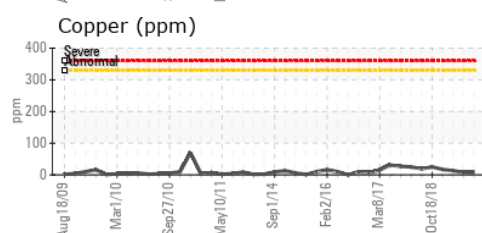
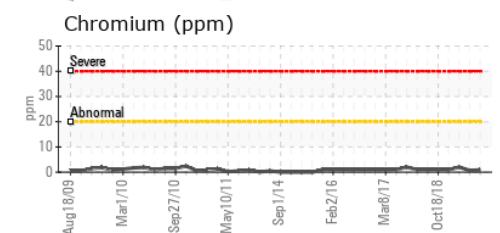
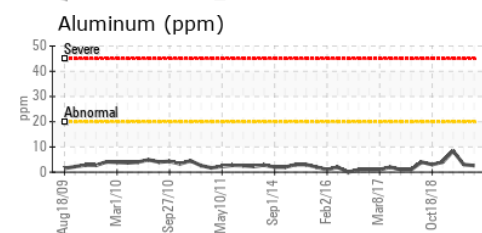
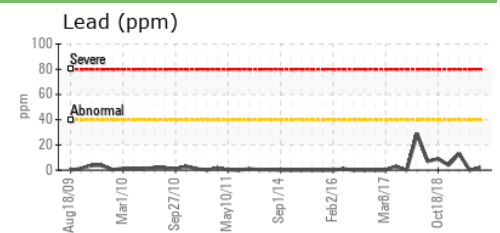
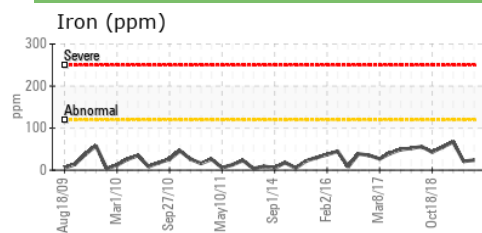


FLUID DEGRADATION		method	limit/base	current	history1	history2
Oxidation	Abs./1mm	*ASTM D7414	>25	<b>14</b>	14.2	45
Base Number (BN)	mg KOH/g	ASTM D2896		<b>8.4</b>	8.7	▲ 0.0

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

FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445		<b>14.4</b>	14.3	▲ 18.5

## GRAPHS



**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : GFL0013420  
**Lab Number** : 05177281  
**Unique Number** : 9352564  
**Test Package** : MOB 2  
**Received** : 08 Feb 2021  
**Tested** : 09 Feb 2021  
**Diagnosed** : 09 Feb 2021 - Don Baldrige

**GFL Environmental - 036 - North Wilksboro**  
 489 Boone Trail  
 Wilkesboro, NC  
 US 28659  
 Contact: JAMES KRESGE  
 jkresge@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)