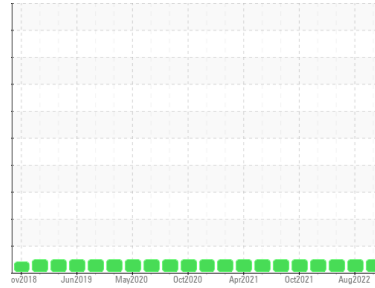




# OIL ANALYSIS REPORT

Sample Rating Trend



**NORMAL**



Area  
**51000 series**  
 Machine Id  
**Navistar 51859**

Component  
**Diesel Engine**  
 Fluid  
**PETRO CANADA DURON SHP 10W30 (40 LTR)**

## DIAGNOSIS

### Recommendation

Resample at the next service interval to monitor.

### Wear

All component wear rates are normal.

### Contamination

Elevated aluminum (Al) and/or lead (Pb) and potassium (K) levels in your metals analysis are likely a result of solder flux release into the lubricant and is common on new equipment/components. There is no indication of any contamination in the oil.

### Fluid Condition

The condition of the oil is acceptable for the time in service.

## SAMPLE INFORMATION

	method	limit/base	current	history1	history2
Sample Number	Client Info		<b>WC0848059</b>	WC0720956	WC0695790
Sample Date	Client Info		<b>11 Oct 2023</b>	17 Aug 2022	25 May 2022
Machine Age	mls	Client Info	<b>748401</b>	643686	0
Oil Age	mls	Client Info	<b>30951</b>	0	30088
Oil Changed	Client Info		<b>Changed</b>	Changed	Changed
Sample Status			<b>NORMAL</b>	NORMAL	NORMAL

## CONTAMINATION

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

## WEAR METALS

	method	limit/base	current	history1	history2	
Iron	ppm	ASTM D5185(m)	>90	<b>42</b>	27	31
Chromium	ppm	ASTM D5185(m)	>20	<b>4</b>	1	2
Nickel	ppm	ASTM D5185(m)	>2	<b>0</b>	<1	<1
Titanium	ppm	ASTM D5185(m)	>2	<b>0</b>	<1	0
Silver	ppm	ASTM D5185(m)	>2	<b>&lt;1</b>	0	0
Aluminum	ppm	ASTM D5185(m)	>20	<b>15</b>	2	3
Lead	ppm	ASTM D5185(m)	>40	<b>3</b>	4	4
Copper	ppm	ASTM D5185(m)	>330	<b>2</b>	<1	1
Tin	ppm	ASTM D5185(m)	>15	<b>&lt;1</b>	<1	<1
Antimony	ppm	ASTM D5185(m)		<b>0</b>	0	0
Vanadium	ppm	ASTM D5185(m)		<b>0</b>	0	0
Beryllium	ppm	ASTM D5185(m)		<b>0</b>	0	0
Cadmium	ppm	ASTM D5185(m)		<b>0</b>	0	0

## ADDITIVES

	method	limit/base	current	history1	history2	
Boron	ppm	ASTM D5185(m)	2	<b>2</b>	3	5
Barium	ppm	ASTM D5185(m)	0	<b>&lt;1</b>	0	0
Molybdenum	ppm	ASTM D5185(m)	50	<b>60</b>	63	67
Manganese	ppm	ASTM D5185(m)	0	<b>&lt;1</b>	<1	<1
Magnesium	ppm	ASTM D5185(m)	950	<b>969</b>	1030	1132
Calcium	ppm	ASTM D5185(m)	1050	<b>1042</b>	1233	1212
Phosphorus	ppm	ASTM D5185(m)	995	<b>958</b>	1055	1159
Zinc	ppm	ASTM D5185(m)	1180	<b>1203</b>	1299	1389
Sulfur	ppm	ASTM D5185(m)	2600	<b>2312</b>	2475	2493
Lithium	ppm	ASTM D5185(m)		<b>&lt;1</b>	<1	<1

## CONTAMINANTS

	method	limit/base	current	history1	history2	
Silicon	ppm	ASTM D5185(m)	>25	<b>8</b>	4	4
Sodium	ppm	ASTM D5185(m)		<b>10</b>	2	2
Potassium	ppm	ASTM D5185(m)	>20	<b>18</b>	<1	2

## INFRA-RED

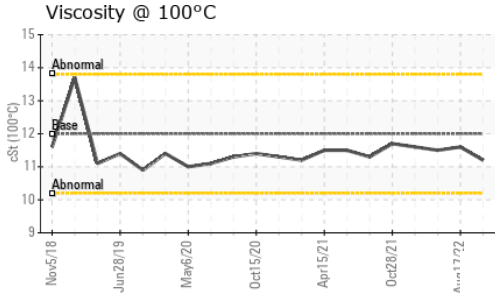
	method	limit/base	current	history1	history2	
Soot %	%	ASTM D7844*	>6	<b>0.8</b>	0.2	0.3
Nitration	Abs/cm	ASTM D7624*	>20	<b>10.2</b>	11.5	11.5
Sulfation	Abs/.1mm	ASTM D7415*	>30	<b>22.9</b>	26.0	26.0

## FLUID DEGRADATION

	method	limit/base	current	history1	history2	
Oxidation	Abs/.1mm	ASTM D7414*	>25	<b>19.5</b>	23.5	22.4



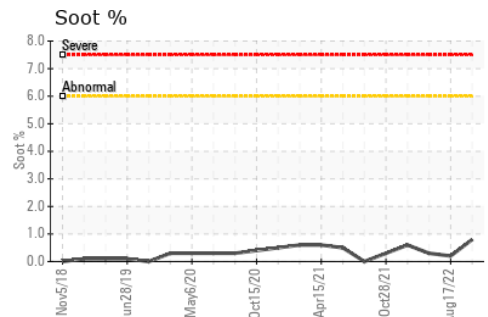
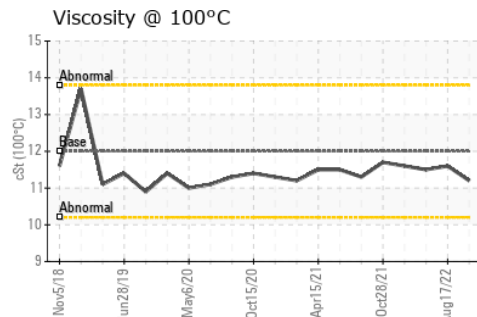
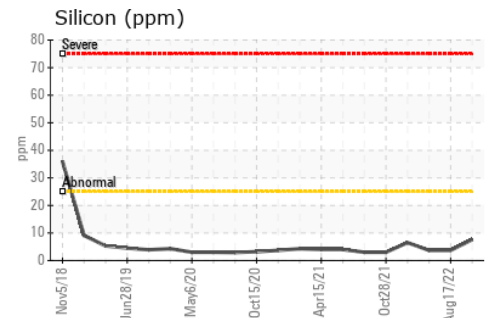
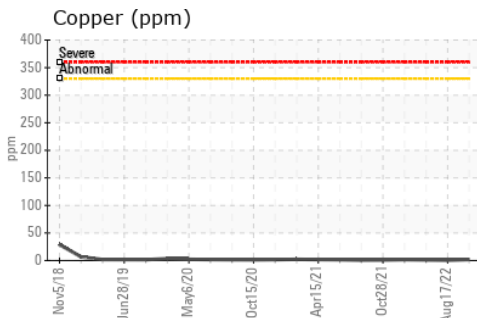
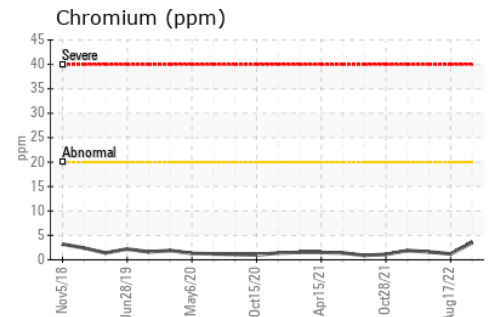
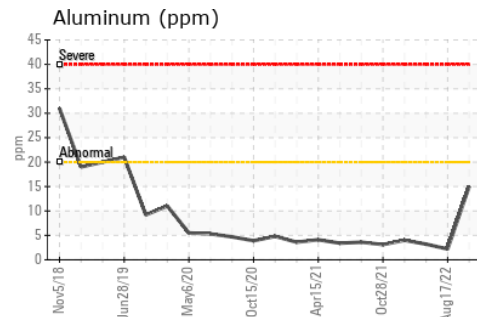
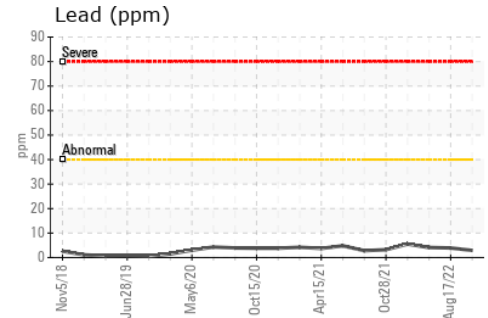
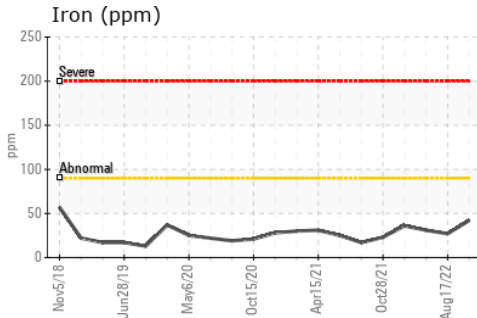
# OIL ANALYSIS REPORT



VISUAL	method	limit/base	current	history1	history2
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 D7279(m)	12.00	11.2	11.6

## GRAPHS



**Laboratory** : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9 **MANITOU LIN TRANSPORT (GARAGE)**  
**Sample No.** : WC0848059 **Received** : 17 Oct 2023 1335 SHAWSON DRIVE  
**Lab Number** : 02589466 **Diagnosed** : 17 Oct 2023 MISSISSAUGA, ON  
**Unique Number** : 5658532 **Diagnostician** : Wes Davis CA L4W 1C4  
**Test Package** : MOB 1

To discuss this sample report, contact Customer Service at 1-800-268-2131.  
 Test denoted (\*) outside scope of accreditation, (m) method modified, (e) tested at external lab.  
 Validity of results and interpretation are based on the sample and information as supplied.

Contact: Travis Spence  
 tspence@manitoulintransport.com  
 T:  
 F: (905)564-6361