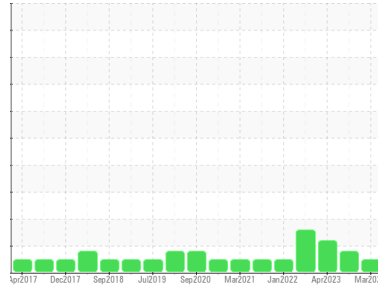




OIL ANALYSIS REPORT

Sample Rating Trend



NORMAL



Area
3000 Series
 Machine Id
Freightliner 3227

Component
Diesel Engine
 Fluid
PETRO CANADA DURON SHP 15W40 (26 LTR)

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

SAMPLE INFORMATION		method	limit/base	current	history1	history2
Sample Number	Client Info			WC0899680	WC0837223	WC0797610
Sample Date	Client Info			11 Mar 2024	22 Sep 2023	10 Apr 2023
Machine Age	hrs	Client Info		387664	277599	269462
Oil Age	hrs	Client Info		10065	8137	7980
Oil Changed	Client Info			Changed	Changed	Changed
Sample Status				NORMAL	MARGINAL	ABNORMAL

CONTAMINATION		method	limit/base	current	history1	history2
Fuel	WC Method	>3.0		<1.0	▲ 2	▲ 6.1
Water	WC Method	>0.2		NEG	NEG	NEG

WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185(m)	>75	39	47	47
Chromium	ppm	ASTM D5185(m)	>5	1	2	2
Nickel	ppm	ASTM D5185(m)	>4	<1	<1	<1
Titanium	ppm	ASTM D5185(m)	>2	0	0	<1
Silver	ppm	ASTM D5185(m)	>2	0	<1	0
Aluminum	ppm	ASTM D5185(m)	>15	3	5	6
Lead	ppm	ASTM D5185(m)	>25	<1	1	<1
Copper	ppm	ASTM D5185(m)	>100	20	2	2
Tin	ppm	ASTM D5185(m)	>4	0	<1	<1
Antimony	ppm	ASTM D5185(m)		0	0	0
Vanadium	ppm	ASTM D5185(m)		0	0	0
Beryllium	ppm	ASTM D5185(m)		0	0	0
Cadmium	ppm	ASTM D5185(m)		0	0	0

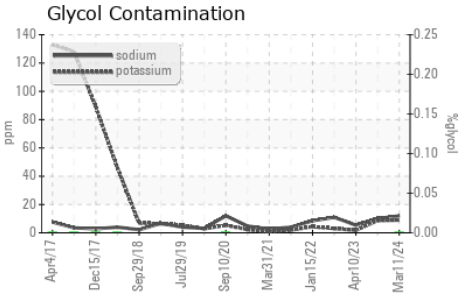
ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185(m)	0	3	5	2
Barium	ppm	ASTM D5185(m)	0	0	<1	0
Molybdenum	ppm	ASTM D5185(m)	60	62	65	59
Manganese	ppm	ASTM D5185(m)	0	0	0	<1
Magnesium	ppm	ASTM D5185(m)	1010	934	971	928
Calcium	ppm	ASTM D5185(m)	1070	1121	1073	1070
Phosphorus	ppm	ASTM D5185(m)	1150	913	938	1005
Zinc	ppm	ASTM D5185(m)	1270	1167	1198	1142
Sulfur	ppm	ASTM D5185(m)	2060	2264	2390	2370
Lithium	ppm	ASTM D5185(m)		<1	<1	<1

CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185(m)	>25	5	5	5
Sodium	ppm	ASTM D5185(m)		12	10	5
Potassium	ppm	ASTM D5185(m)	>20	9	9	2
Glycol	%	ASTM D7922*		0.0	NEG	NEG

INFRA-RED		method	limit/base	current	history1	history2
Soot %	%	ASTM D7844*	>6	0.9	1.2	2.1
Nitration	Abs/cm	ASTM D7624*	>20	14.6	14.8	17.1
Sulfation	Abs/.1mm	ASTM D7415*	>30	25.4	26.7	29.7



OIL ANALYSIS REPORT

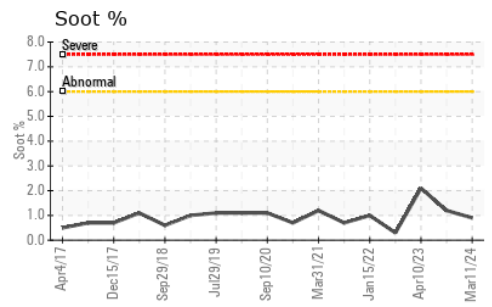
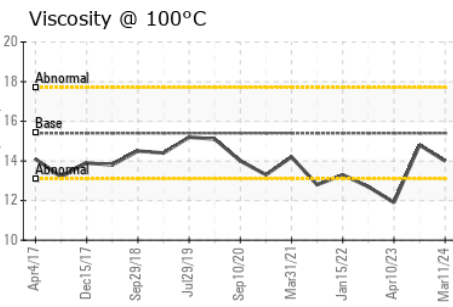
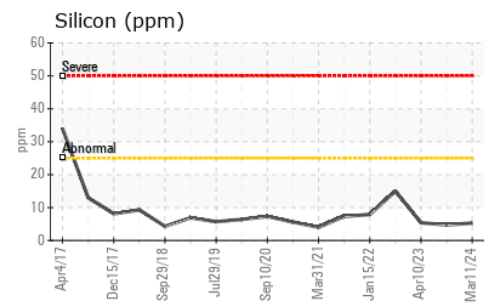
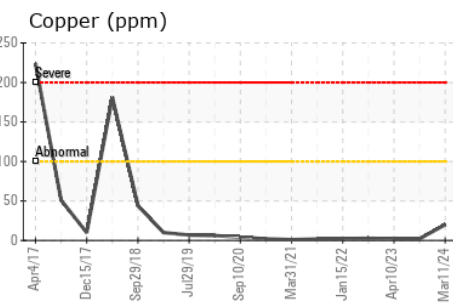
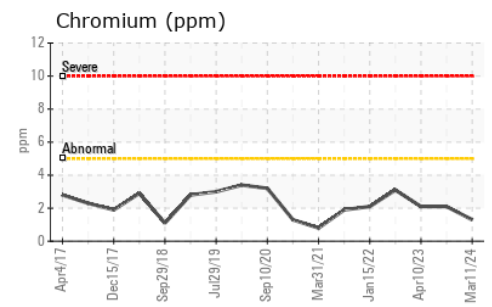
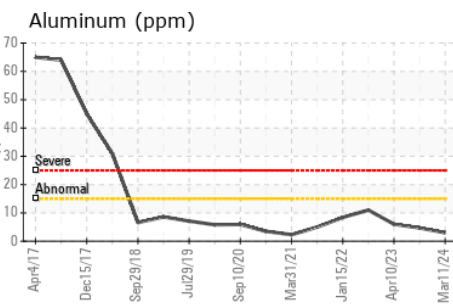
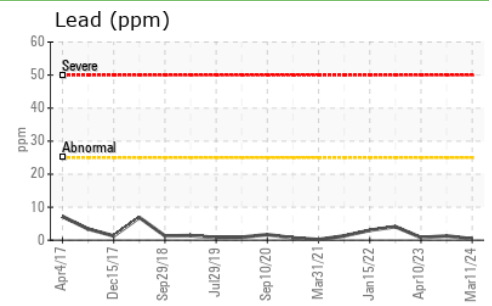
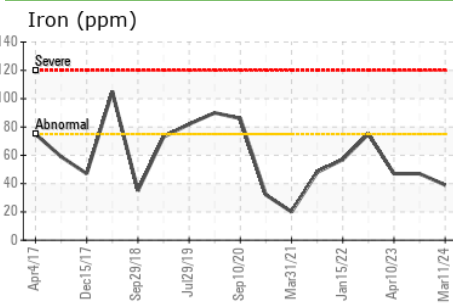
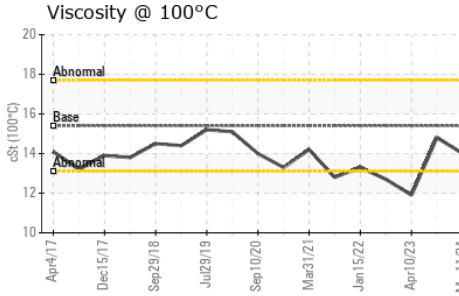


FLUID DEGRADATION	method	limit/base	current	history1	history2
Oxidation	Abs./1mm	ASTM D7414*	>25	22.5	23.8

VISUAL	method	limit/base	current	history1	history2
Emulsified Water	scalar	Visual*	>0.2	NEG	NEG
Free Water	scalar	Visual*	NEG	NEG	NEG

FLUID PROPERTIES	method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D7279(m)	15.4	14.0	14.8 ▲ 11.9

GRAPHS



Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
Sample No. : WC0899680 **Received** : 20 Mar 2024
Lab Number : 02623276 **Tested** : 20 Mar 2024
Unique Number : 5748395 **Diagnosed** : 20 Mar 2024 - Wes Davis
Test Package : MOB 1 (Additional Tests: Glycol)

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 1335 SHAWSON DRIVE
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 Contact: Travis Spence
 tspence@manitoulintransport.com
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 F: (905)564-6361

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.