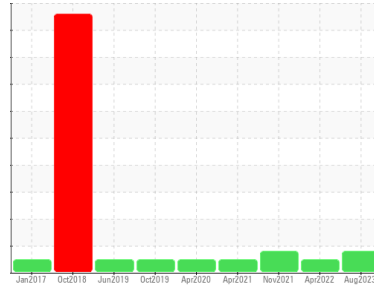




OIL ANALYSIS REPORT

Sample Rating Trend



FUEL



Area
3000 series
 Machine Id
Freightliner 3229

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

DIAGNOSIS

Recommendation

The oil change at the time of sampling has been noted. Resample at the next service interval to monitor. No other corrective action is recommended at this time.

Wear

All component wear rates are normal.

Contamination

Light fuel dilution occurring. No other contaminants were detected 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		WC0837217	WC0671307	WC0626981
Sample Date	Client Info		19 Aug 2023	05 Apr 2022	02 Nov 2021
Machine Age	mls	Client Info	205585	160944	234358
Oil Age	mls	Client Info	14317	25311	21396
Oil Changed	Client Info		Changed	Changed	Changed
Sample Status			MARGINAL	NORMAL	ATTENTION

WEAR METALS

	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185(m) >75	38	54	60
Chromium	ppm	ASTM D5185(m) >5	2	1	2
Nickel	ppm	ASTM D5185(m) >4	<1	<1	<1
Titanium	ppm	ASTM D5185(m) >2	0	0	0
Silver	ppm	ASTM D5185(m) >2	<1	<1	<1
Aluminum	ppm	ASTM D5185(m) >15	9	9	10
Lead	ppm	ASTM D5185(m) >25	1	1	4
Copper	ppm	ASTM D5185(m) >100	2	21	88
Tin	ppm	ASTM D5185(m) >4	<1	<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	<1	3	9
Barium	ppm	ASTM D5185(m) 0	0	<1	<1
Molybdenum	ppm	ASTM D5185(m) 60	63	63	61
Manganese	ppm	ASTM D5185(m) 0	<1	<1	<1
Magnesium	ppm	ASTM D5185(m) 1010	1032	976	942
Calcium	ppm	ASTM D5185(m) 1070	1098	1101	1297
Phosphorus	ppm	ASTM D5185(m) 1150	1079	972	1043
Zinc	ppm	ASTM D5185(m) 1270	1269	1215	1280
Sulfur	ppm	ASTM D5185(m) 2060	2490	2325	2389
Lithium	ppm	ASTM D5185(m)	<1	<1	<1

CONTAMINANTS

	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185(m) >25	8	6	6
Sodium	ppm	ASTM D5185(m)	15	29	4
Potassium	ppm	ASTM D5185(m) >20	32	93	14
Fuel	%	ASTM D7593* >3.0	1.8	<1.0	<1.0
Glycol	%	ASTM D7922*	0.0	0.0	NEG

INFRA-RED

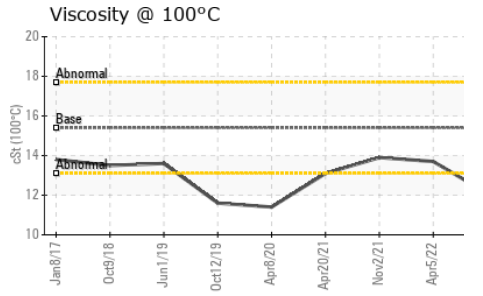
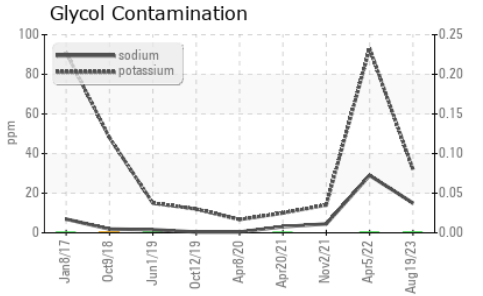
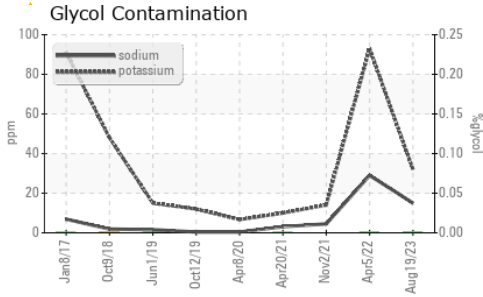
	method	limit/base	current	history1	history2
Soot %	%	ASTM D7844* >6	0.4	0.1	0.7
Nitration	Abs/cm	ASTM D7624* >20	12.1	5.4	14.1
Sulfation	Abs/.1mm	ASTM D7415* >30	24.1	16.1	27.3

FLUID DEGRADATION

	method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	ASTM D7414* >25	21.3	8.4	26.5



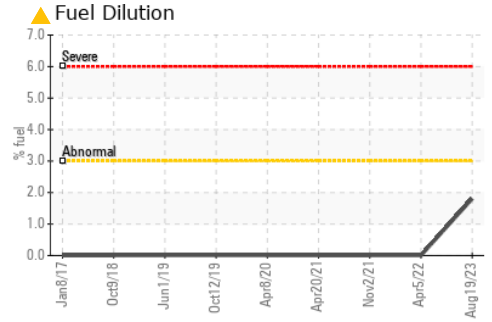
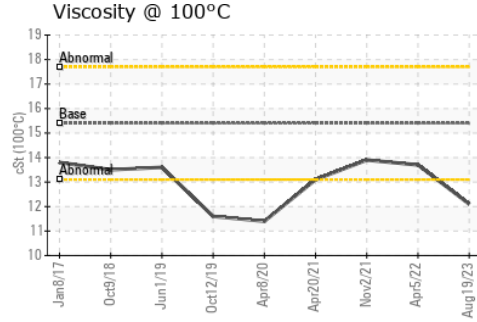
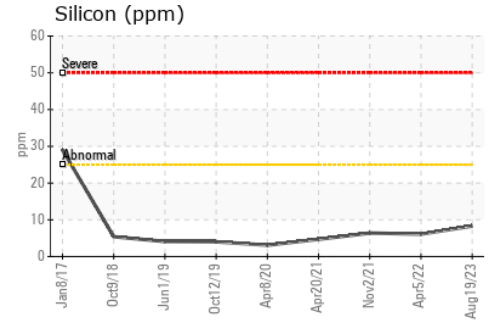
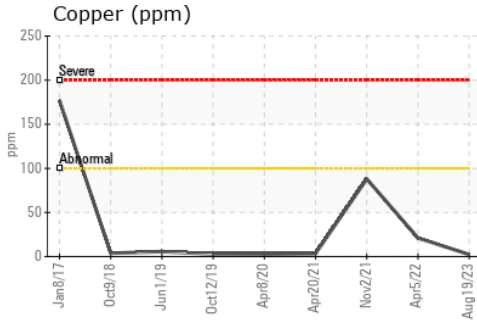
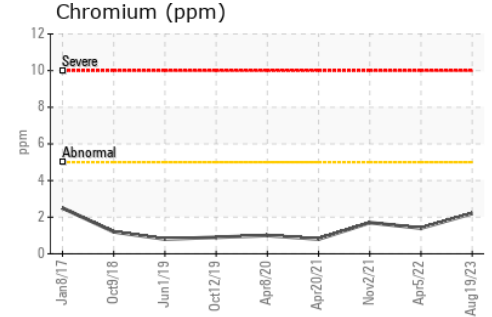
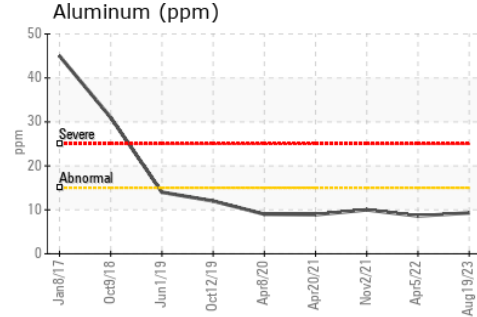
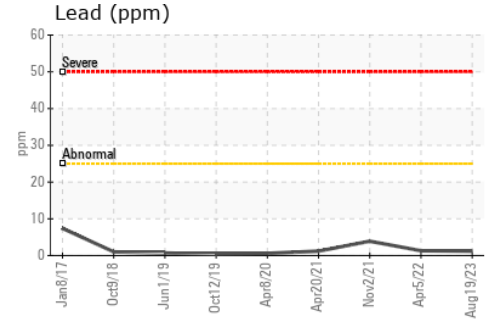
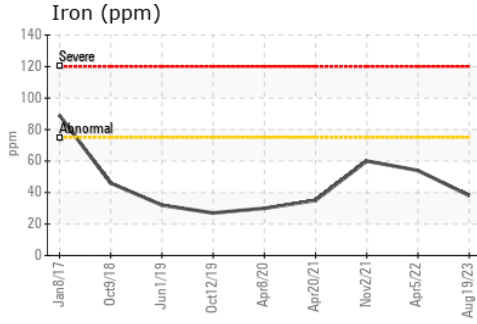
OIL ANALYSIS REPORT



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)	15.4	12.1	13.7

GRAPHS



Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9 **MANITOU LIN TRANSPORT (GARAGE)**
Sample No. : WC0837217 **Received** : 22 Aug 2023 1335 SHAWSON DRIVE
Lab Number : 02577424 **Diagnosed** : 23 Aug 2023 MISSISSAUGA, ON
Unique Number : 5630484 **Diagnostician** : Wes Davis CA L4W 1C4
Test Package : MOB 1 (Additional Tests: FuelDilution, Glycol, PercentFuel) Contact: Travis Spence

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.

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