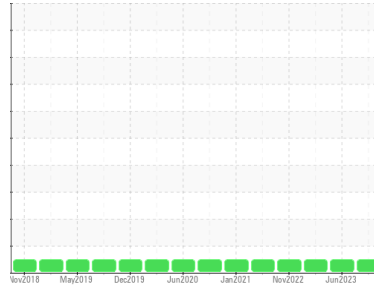




OIL ANALYSIS REPORT

Sample Rating Trend

NORMAL



Area
52000 series
 Machine Id
Navistar 52816

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

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			WC0864522	WC0817371	WC0785967
Sample Date	Client Info			05 Dec 2023	08 Jun 2023	07 Mar 2023
Machine Age	mls Client Info			465595	437292	417256
Oil Age	mls Client Info			38303	20036	22280
Oil Changed	Client Info			Changed	Changed	Changed
Sample Status				NORMAL	NORMAL	NORMAL

CONTAMINATION		method	limit/base	current	history1	history2
Fuel	WC Method	>5		<1.0	<1.0	<1.0
Water	WC Method	>0.2		NEG	NEG	NEG
Glycol	WC Method			NEG	NEG	NEG

WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185(m)	>100	37	23	27
Chromium	ppm	ASTM D5185(m)	>20	2	2	2
Nickel	ppm	ASTM D5185(m)	>4	<1	<1	<1
Titanium	ppm	ASTM D5185(m)		0	0	<1
Silver	ppm	ASTM D5185(m)	>3	0	<1	0
Aluminum	ppm	ASTM D5185(m)	>20	6	4	4
Lead	ppm	ASTM D5185(m)	>40	1	<1	<1
Copper	ppm	ASTM D5185(m)	>330	6	4	6
Tin	ppm	ASTM D5185(m)	>15	<1	<1	<1
Antimony	ppm	ASTM D5185(m)		0	0	<1
Vanadium	ppm	ASTM D5185(m)		0	0	0
Beryllium	ppm	ASTM D5185(m)		0	0	0
Cadmium	ppm	ASTM D5185(m)		0	0	0

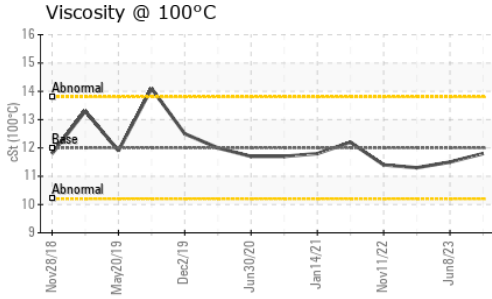
ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185(m)	2	1	1	2
Barium	ppm	ASTM D5185(m)	0	<1	0	0
Molybdenum	ppm	ASTM D5185(m)	50	64	62	62
Manganese	ppm	ASTM D5185(m)	0	<1	<1	<1
Magnesium	ppm	ASTM D5185(m)	950	1010	1008	989
Calcium	ppm	ASTM D5185(m)	1050	1129	1063	1132
Phosphorus	ppm	ASTM D5185(m)	995	1022	1123	1131
Zinc	ppm	ASTM D5185(m)	1180	1245	1208	1222
Sulfur	ppm	ASTM D5185(m)	2600	2521	2572	2570
Lithium	ppm	ASTM D5185(m)		<1	<1	<1

CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185(m)	>25	7	6	6
Sodium	ppm	ASTM D5185(m)		3	2	3
Potassium	ppm	ASTM D5185(m)	>20	1	<1	1

INFRA-RED		method	limit/base	current	history1	history2
Soot %	%	ASTM D7844*	>3	1.9	0.8	1
Nitration	Abs/cm	ASTM D7624*	>20	10.9	8.0	9.0
Sulfation	Abs.1mm	ASTM D7415*	>30	23.7	20.0	22.3



OIL ANALYSIS REPORT



FLUID DEGRADATION

	method	limit/base	current	history1	history2
Oxidation	Abs:1mm ASTM D7414*	>25	17.5	14.8	15.1

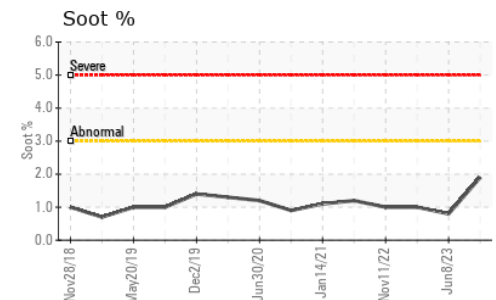
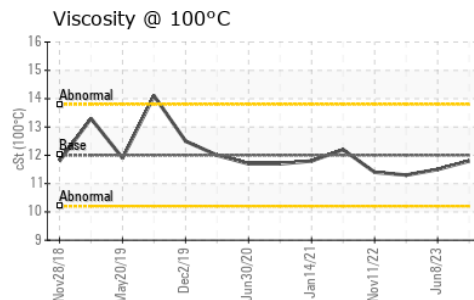
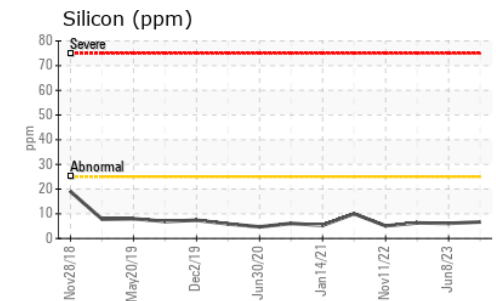
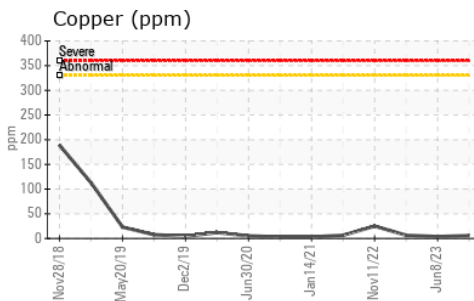
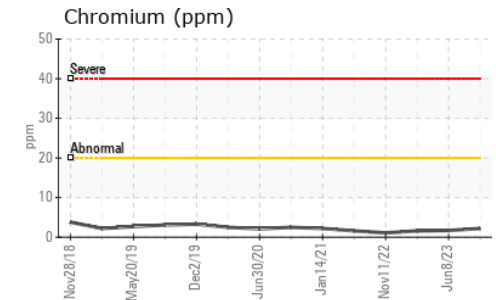
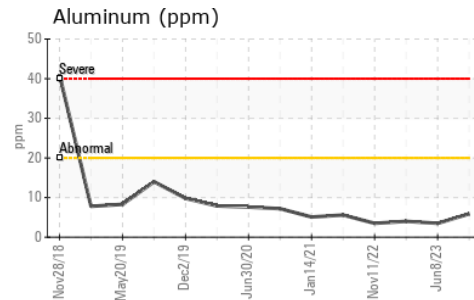
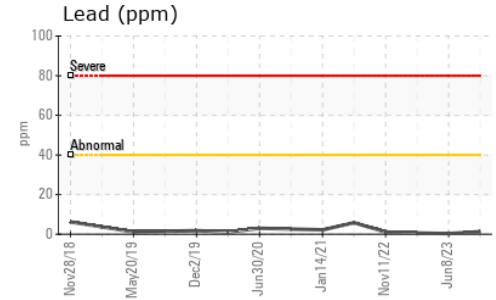
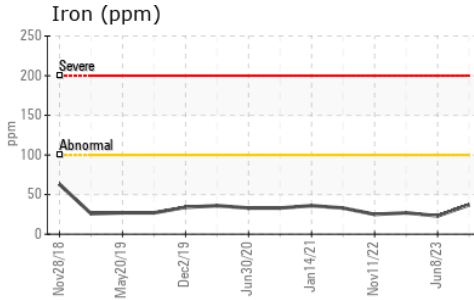
VISUAL

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

FLUID PROPERTIES

	method	limit/base	current	history1	history2
Visc @ 100°C	cSt ASTM D7279(m)	12.00	11.8	11.5	11.3

GRAPHS



Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9 **MANITOU LIN TRANSPORT (GARAGE)**
Sample No. : WC0864522 **Received** : 12 Dec 2023 1335 SHAWSON DRIVE
Lab Number : 02602487 **Diagnosed** : 12 Dec 2023 MISSISSAUGA, ON
Unique Number : 5695572 **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