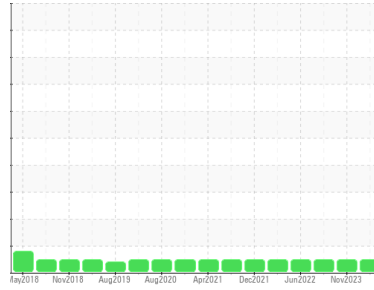




OIL ANALYSIS REPORT

Sample Rating Trend



NORMAL



Area
3000 Series
 Machine Id
Navistar 3257
 Component
Diesel Engine
 Fluid
PETRO CANADA DURON SHP 10W30 (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		WC0948258	WC0864542	WC0828275
Sample Date	Client Info		12 Jun 2024	10 Nov 2023	22 Jun 2023
Machine Age	mls	Client Info	322096	302657	284238
Oil Age	mls	Client Info	302657	19399	15004
Oil Changed	Client Info		Changed	Changed	Changed
Sample Status			NORMAL	NORMAL	NORMAL

CONTAMINATION

	method	limit/base	current	history1	history2
Fuel	WC Method	>3.0	<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)	>75	35	23	28
Chromium	ppm	ASTM D5185(m)	>5	1	<1	<1
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	6	4	6
Lead	ppm	ASTM D5185(m)	>25	0	0	<1
Copper	ppm	ASTM D5185(m)	>100	2	2	2
Tin	ppm	ASTM D5185(m)	>4	0	0	<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)	2	4	2	1
Barium	ppm	ASTM D5185(m)	0	0	0	0
Molybdenum	ppm	ASTM D5185(m)	50	65	62	65
Manganese	ppm	ASTM D5185(m)	0	<1	0	<1
Magnesium	ppm	ASTM D5185(m)	950	994	993	1062
Calcium	ppm	ASTM D5185(m)	1050	1158	1092	1170
Phosphorus	ppm	ASTM D5185(m)	995	987	997	1111
Zinc	ppm	ASTM D5185(m)	1180	1262	1231	1299
Sulfur	ppm	ASTM D5185(m)	2600	2472	2437	2688
Lithium	ppm	ASTM D5185(m)		<1	<1	<1

CONTAMINANTS

	method	limit/base	current	history1	history2	
Silicon	ppm	ASTM D5185(m)	>25	9	6	8
Sodium	ppm	ASTM D5185(m)		3	2	5
Potassium	ppm	ASTM D5185(m)	>20	2	<1	3

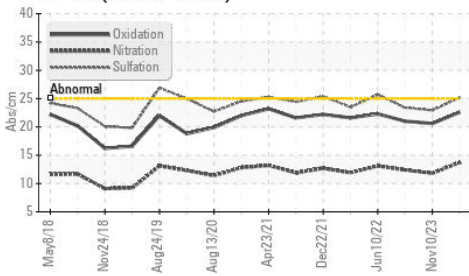
INFRA-RED

	method	limit/base	current	history1	history2	
Soot %	%	ASTM D7844*	>6	0.8	0.5	0.6
Nitration	Abs/cm	ASTM D7624*	>20	13.7	11.8	12.4
Sulfation	Abs./1mm	ASTM D7415*	>30	25.2	22.9	23.4

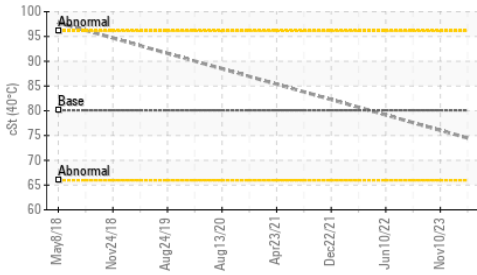


OIL ANALYSIS REPORT

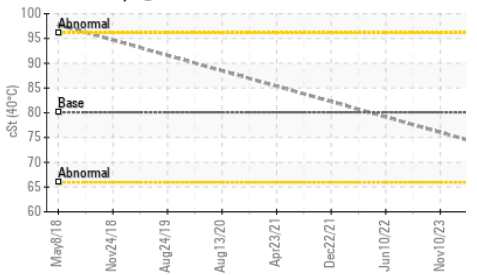
FT-IR (Direct Trend)



Viscosity @ 40°C



Viscosity @ 40°C



FLUID DEGRADATION method limit/base current history1 history2

Oxidation	Abs./1mm	ASTM D7414*	>25	22.6	20.6	21.0
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VISUAL method limit/base current history1 history2

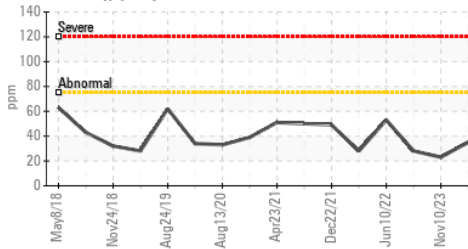
Odor	scalar	Visual*	NORML	NORML	NORML	NORML
Emulsified Water	scalar	Visual*	>0.2	NEG	NEG	NEG
Free Water	scalar	Visual*		NEG	NEG	NEG

FLUID PROPERTIES method limit/base current history1 history2

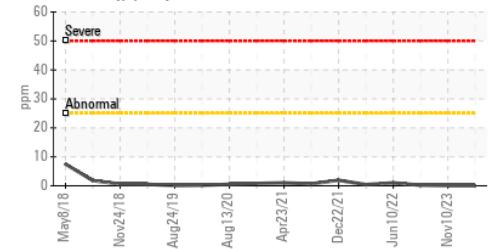
Visc @ 40°C	cSt	ASTM D7279(m)	80.1	74.5	---	---
Visc @ 100°C	cSt	ASTM D7279(m)	12.00	11.3	11.1	11.8
Viscosity Index (VI)	Scale	ASTM D2270*	144	143	---	---

GRAPHS

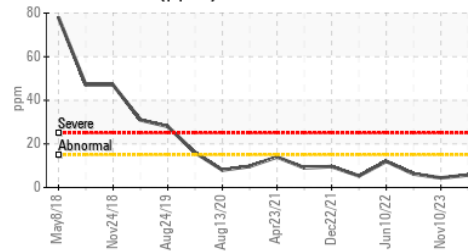
Iron (ppm)



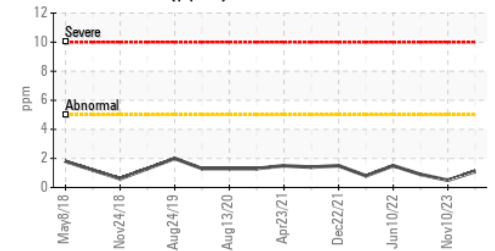
Lead (ppm)



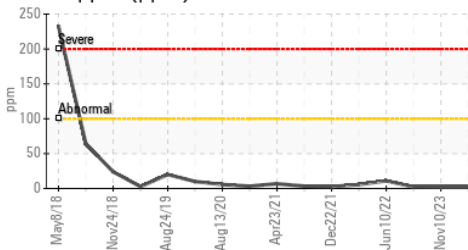
Aluminum (ppm)



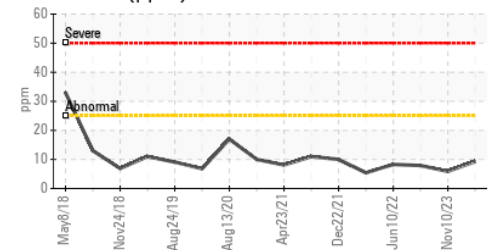
Chromium (ppm)



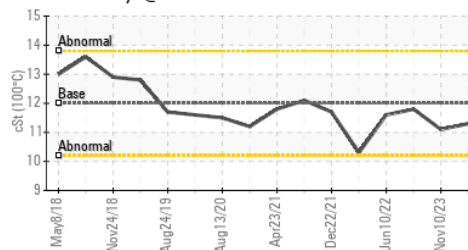
Copper (ppm)



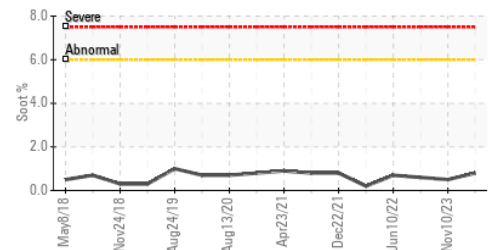
Silicon (ppm)



Viscosity @ 100°C



Soot %



Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
Sample No. : WC0948258
Lab Number : 02642475
Unique Number : 5800014
Test Package : MOB 1 (Additional Tests: KV40, VI, Visual)

MANITOU LIN TRANSPORT (GARAGE)
 1335 SHAWSON DRIVE
 MISSISSAUGA, ON
 CA L4W 1C4
 Contact: Travis Spence
 tspence@manitoulintransport.com

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.

T:
 F: (905)564-6361