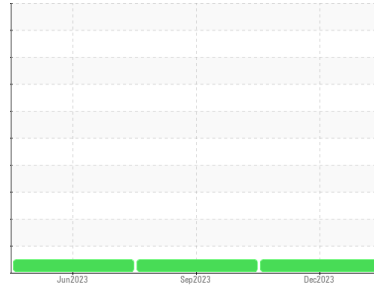




OIL ANALYSIS REPORT

Sample Rating Trend

NORMAL



Machine Id
52924

Component
Diesel Engine

Fluid
DIESEL ENGINE OIL SAE 10W30 (--- GAL)

DIAGNOSIS

Recommendation

Resample at the next service interval to monitor. Please specify the component make and model with your next sample.

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		WC0864521	WC0805753	WC0817375
Sample Date	Client Info		05 Dec 2023	07 Sep 2023	06 Jun 2023
Machine Age	mls	Client Info	102976	109224	35823
Oil Age	mls	Client Info	35107	51573	35386
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	1.3
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	28	31	59
Chromium	ppm	ASTM D5185(m)	>20	2	2	3
Nickel	ppm	ASTM D5185(m)	>4	1	<1	1
Titanium	ppm	ASTM D5185(m)		0	0	<1
Silver	ppm	ASTM D5185(m)	>3	<1	<1	<1
Aluminum	ppm	ASTM D5185(m)	>20	24	51	47
Lead	ppm	ASTM D5185(m)	>40	6	6	6
Copper	ppm	ASTM D5185(m)	>330	3	8	23
Tin	ppm	ASTM D5185(m)	>15	1	2	4
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)	250	2	5	43
Barium	ppm	ASTM D5185(m)	10	<1	<1	5
Molybdenum	ppm	ASTM D5185(m)	100	61	61	67
Manganese	ppm	ASTM D5185(m)		<1	2	6
Magnesium	ppm	ASTM D5185(m)	450	984	951	455
Calcium	ppm	ASTM D5185(m)	3000	1096	1142	1697
Phosphorus	ppm	ASTM D5185(m)	1150	979	1066	1028
Zinc	ppm	ASTM D5185(m)	1350	1220	1235	1182
Sulfur	ppm	ASTM D5185(m)	4250	2416	2435	2319
Lithium	ppm	ASTM D5185(m)		<1	<1	<1

CONTAMINANTS

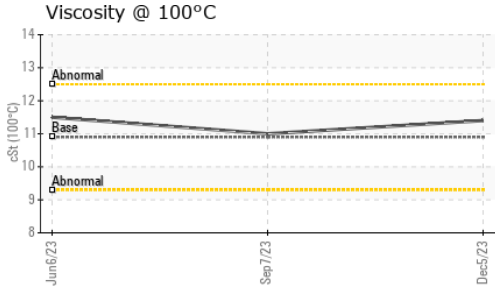
	method	limit/base	current	history1	history2	
Silicon	ppm	ASTM D5185(m)	>25	7	12	40
Sodium	ppm	ASTM D5185(m)		2	3	4
Potassium	ppm	ASTM D5185(m)	>20	58	153	144

INFRA-RED

	method	limit/base	current	history1	history2	
Soot %	%	ASTM D7844*	>3	0.3	0.2	0.2
Nitration	Abs/cm	ASTM D7624*	>20	9.7	8.7	9.1
Sulfation	Abs.1mm	ASTM D7415*	>30	22.0	21.7	22.5



OIL ANALYSIS REPORT

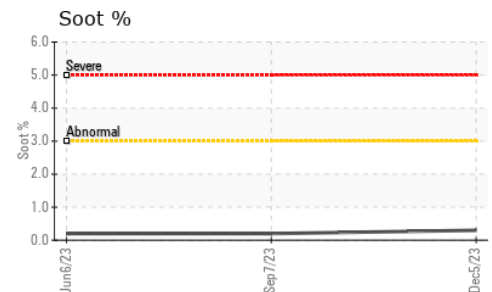
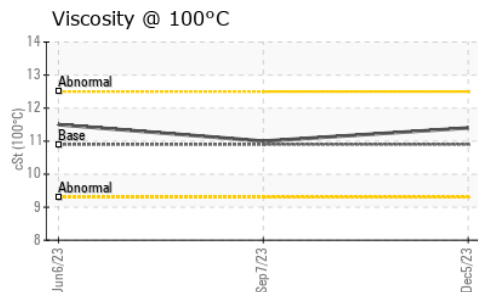
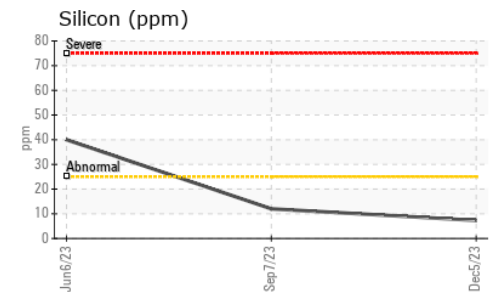
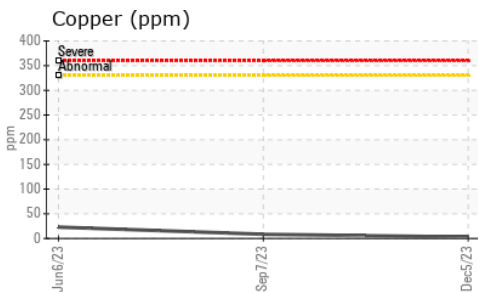
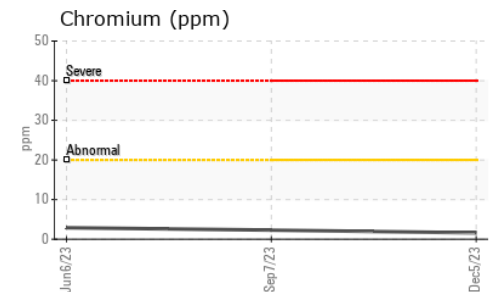
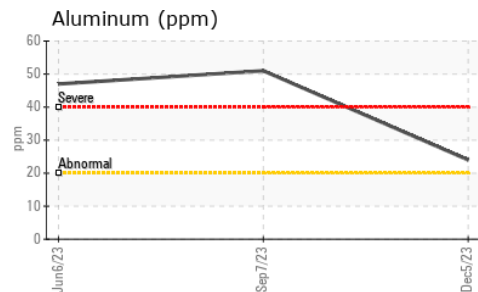
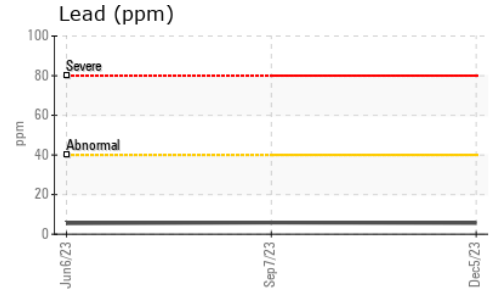
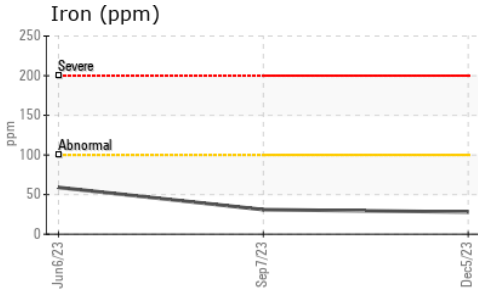
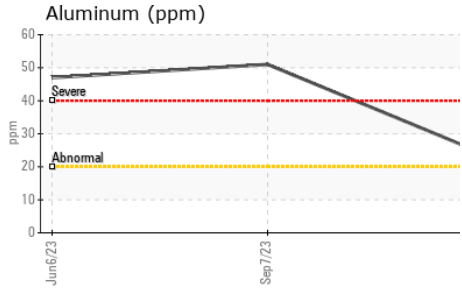


FLUID DEGRADATION		method	limit/base	current	history1	history2
Oxidation	Abs./1mm	ASTM D7414*	>25	19.0	18.5	19.9

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)	10.9	11.4	11.0	11.5

GRAPHS



Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9 **MANITOU LIN TRANSPORT (GARAGE)**
Sample No. : WC0864521 **Received** : 12 Dec 2023 1335 SHAWSON DRIVE
Lab Number : **02602510** **Diagnosed** : 12 Dec 2023 MISSISSAUGA, ON
Unique Number : 5695595 **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: Shane Irwin
 sirwin@manitoulintransport.com
 T: x:
 F: (905)564-6361