WEAR CONTAMINATION FLUID CONDITION

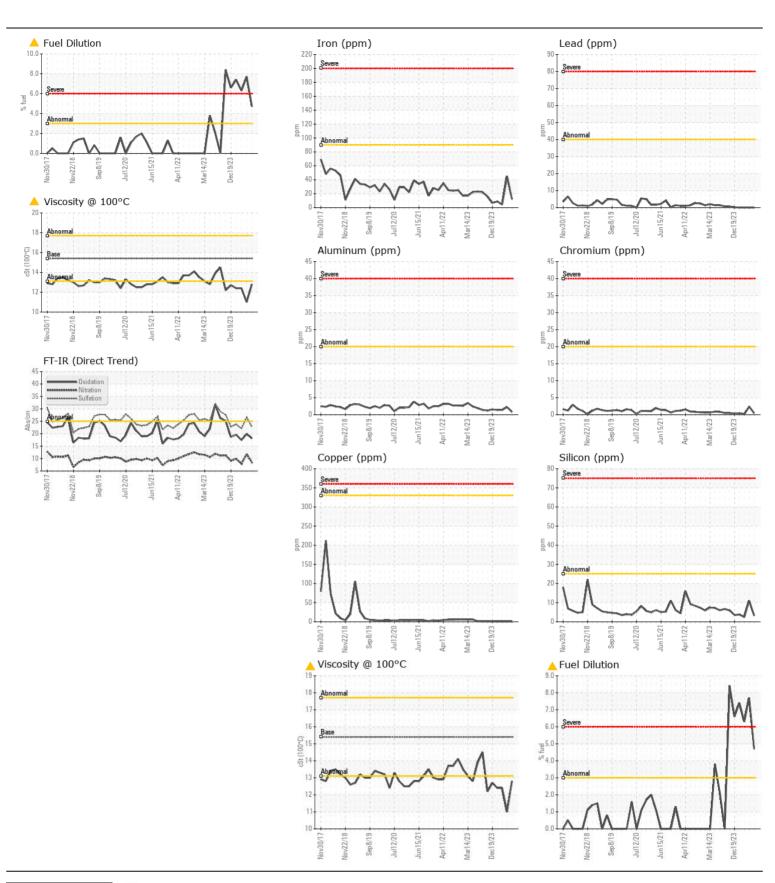
NORMAL ABNORMAL ABNORMAL

Machine Id

167

## Component Rear Diesel Engine

RECOMMENDATION	Test	UOM	Method	Limit/Abn	Current	History1	History2
The oil change at the time of sampling has been noted. We recommend an early resample to monitor this condition.	Sample Number		Client Info		WC0889021	WC0888989	WC0889094
	Sample Date		Client Info		01 May 2024	15 Apr 2024	15 Jan 2024
	Machine Age	kms	Client Info		0	0	0
	Oil Age	kms	Client Info		2662	8807	9263
	Filter Age	kms	Client Info		2662	8807	9263
	Oil Changed		Client Info		Changed	Changed	Changed
	Filter Changed		Client Info		N/A	N/A	N/A
	Sample Status				ABNORMAL	SEVERE	SEVERE
WEAR	Iron	ppm	ASTM D5185(m)	>90	12	45	4
All component wear rates are normal.	Chromium	ppm	ASTM D5185(m)		<1	2	<1
	Nickel	ppm	ASTM D5185(m)	>2	0	<1	<1
	Titanium	ppm	ASTM D5185(m)	>2	0	0	0
	Silver	ppm	ASTM D5185(m)	>2	0	0	0
	Aluminum	ppm	ASTM D5185(m)	>20	<1	2	1
	Lead	ppm	ASTM D5185(m)	>40	0	0	0
	Copper	ppm	ASTM D5185(m)	>330	<1	<1	<1
	Tin	ppm	ASTM D5185(m)	>15	0	0	0
	Vanadium	ppm	ASTM D5185(m)		0	0	0
CONTAMINATION	Silicon	ppm	ASTM D5185(m)	>25	3	11	2
There is a moderate amount of fuel present in the oil. Tests confirm the presence of fuel in the oil.	Potassium	ppm	ASTM D5185(m)	>20	5	2	4
	Fuel	%	ASTM D7593*	>3.0	<b>4</b> .7	<b>▲</b> 7.7	<b>▲</b> 6.3
	Water		WC Method	>0.2	NEG	NEG	NEG
	Glycol		WC Method		NEG	NEG	NEG
	Soot %	%	ASTM D7844*	>6	0.7	1.9	0.4
	Nitration	Abs/cm	ASTM D7624*	>20	8.4	11.8	7.9
	Sulfation	Abs/.1mm	ASTM D7415*	>30	22.7	26.7	22.0
	Emulsified Water	scalar	Visual*	>0.2	NEG	NEG	NEG
FLUID CONDITION	Sodium	ppm	ASTM D5185(m)	>192	4	5	2
Fuel is present in the oil and is lowering the viscosity. The oil is no longer serviceable due to the presence of contaminants.	Boron	ppm	ASTM D5185(m)		105	21	114
	Barium	ppm	ASTM D5185(m)		0	0	0
	Molybdenum	ppm	ASTM D5185(m)		2	18	1
	Manganese	ppm	ASTM D5185(m)		0	<1	0
	Magnesium	ppm	ASTM D5185(m)		26	123	21
	Calcium	ppm	ASTM D5185(m)	3780	2131	2011	2063
	Phosphorus	ppm		1370	933	845	931
	Zinc	ppm	ASTM D5185(m)	1500	1090	1010	1071
	Sulfur	ppm	ASTM D5185(m)	3800	2773	2565	2938
	Oxidation	Abs/.1mm		>25	18.1	19.9	17.4
	Visc @ 100°C	cSt	ASTM D7279(m)	15.4	<u> </u>	<u> </u>	<b>12.4</b>





CALA ISO 17025:2017 Accredited Laboratory

Laboratory Sample No.

: WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9 : WC0889021 Lab Number : 02633468

Unique Number : 5774621

Received **Tested** 

: 06 May 2024 : 07 May 2024 Diagnosed Test Package: MOB 1 (Additional Tests: PercentFuel)

: 07 May 2024 - Wes Davis

**CITY OF THUNDER BAY** AUTO MAINTENANCE STORES, 570 FORT WILLIAM ROAD THUNDER BAY, ON **CA P7B 2Z8** 

> Contact: Sean Malcolm sean.malcolm@thunderbay.ca T: (807)684-2716

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.

F: (807)344-0237