



OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL

Machine Id
147
 Component
Rear Diesel Engine
 Fluid
ESSO XD-3 EXTRA 15W40 (--- LTR)

RECOMMENDATION

Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		WC0866542	WC0889031	WC0889161
Sample Date		Client Info		16 May 2024	25 Mar 2024	01 Feb 2024
Machine Age	kms	Client Info		1134823	1126269	0
Oil Age	kms	Client Info		8733	9118	9032
Filter Age	kms	Client Info		8733	9118	9032
Oil Changed		Client Info		Changed	Changed	Changed
Filter Changed		Client Info		N/A	N/A	N/A
Sample Status				NORMAL	NORMAL	NORMAL

WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185(m)	>75	8	4	10
Chromium	ppm	ASTM D5185(m)	>5	0	0	<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	0	0	<1
Aluminum	ppm	ASTM D5185(m)	>15	1	<1	2
Lead	ppm	ASTM D5185(m)	>25	<1	0	2
Copper	ppm	ASTM D5185(m)	>100	<1	<1	2
Tin	ppm	ASTM D5185(m)	>4	0	0	<1
Vanadium	ppm	ASTM D5185(m)		0	0	0

CONTAMINATION

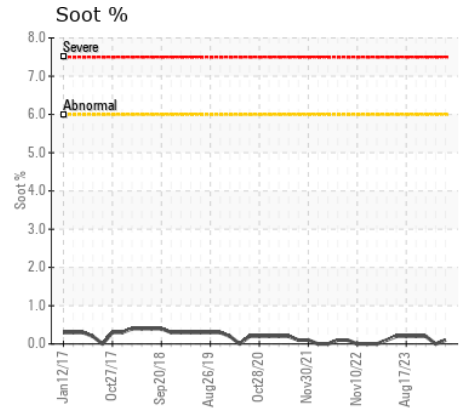
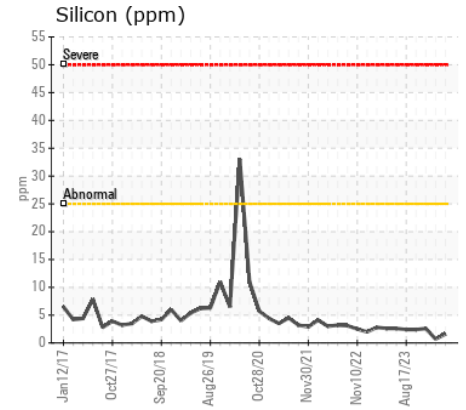
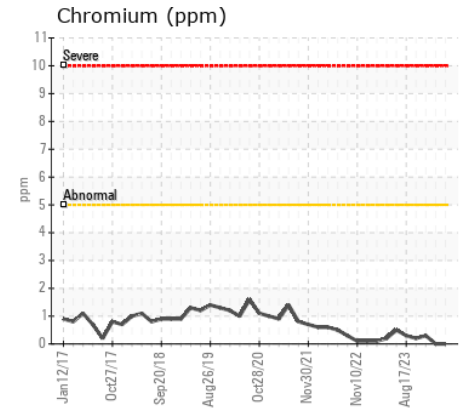
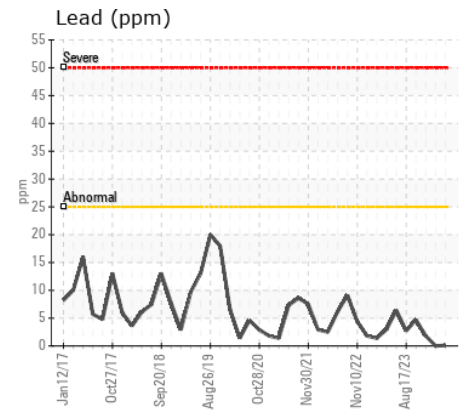
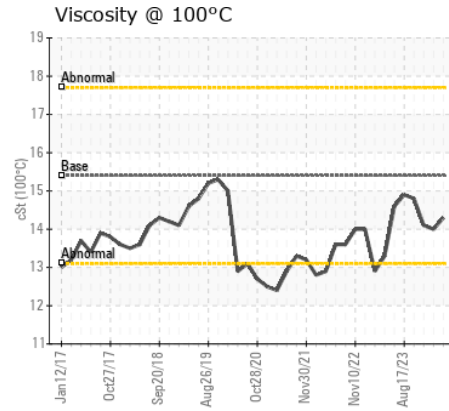
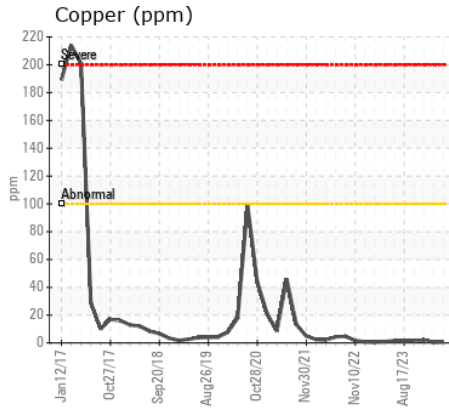
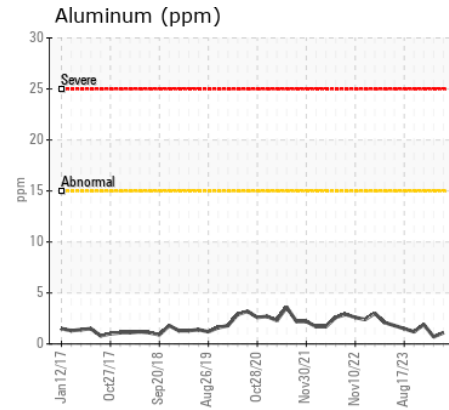
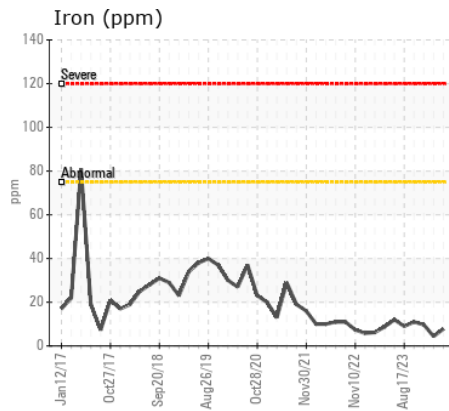
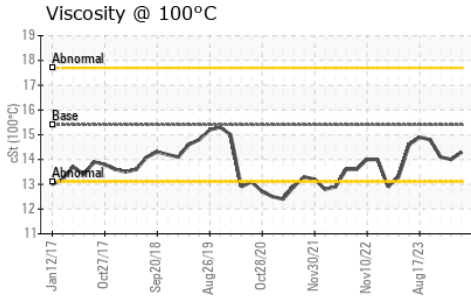
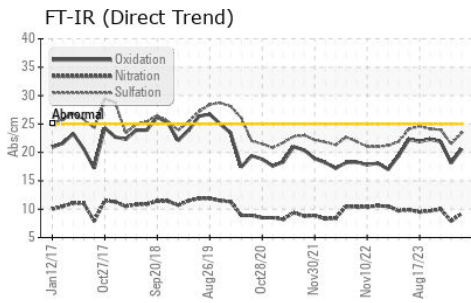
There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185(m)	>25	2	<1	3
Potassium	ppm	ASTM D5185(m)	>20	5	6	6
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
Soot %	%	ASTM D7844*	>6	0.1	0	0.2
Nitration	Abs/cm	ASTM D7624*	>20	9.2	7.9	10.0
Sulfation	Abs/.1mm	ASTM D7415*	>30	23.4	21.5	24.0
Emulsified Water	scalar	Visual*	>0.2	NEG	NEG	NEG

FLUID CONDITION

The condition of the oil is acceptable for the time in service.

Sodium	ppm	ASTM D5185(m)	>192	2	2	2
Boron	ppm	ASTM D5185(m)		112	136	107
Barium	ppm	ASTM D5185(m)		0	0	0
Molybdenum	ppm	ASTM D5185(m)		0	0	<1
Manganese	ppm	ASTM D5185(m)		0	0	0
Magnesium	ppm	ASTM D5185(m)		13	13	13
Calcium	ppm	ASTM D5185(m)	3780	2324	2186	2292
Phosphorus	ppm	ASTM D5185(m)	1370	944	943	974
Zinc	ppm	ASTM D5185(m)	1500	1188	1133	1164
Sulfur	ppm	ASTM D5185(m)	3800	2835	2822	3087
Oxidation	Abs/.1mm	ASTM D7414*	>25	20.6	18.1	21.9
Visc @ 100°C	cSt	ASTM D7279(m)	15.4	14.3	14.0	14.1



Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
Sample No. : WC0866542
Lab Number : 02637069
Unique Number : 5786231
Test Package : MOB 1

Received : 23 May 2024
Tested : 23 May 2024
Diagnosed : 23 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
 F: (807)344-0237

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.