



WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL

Area

[84156]

Machine Id

132 BELLEVUE AVE FIRE STATION 315 CITY OF TORONTO 39003062

Component

Rear Diesel Engine

Fluid

ESSO XD-3 EXTRA 15W40 (10 LTR)

RECOMMENDATION

Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		PN0005825	PN0004389	PN0003291
Sample Date		Client Info		22 Feb 2024	28 Feb 2023	22 Feb 2022
Machine Age	hrs	Client Info		79	67	53
Oil Age	hrs	Client Info		12	0	14
Filter Age	hrs	Client Info		12	0	14
Oil Changed		Client Info		Changed	Changed	Changed
Filter Changed		Client Info		Changed	Changed	Changed
Sample Status				NORMAL	NORMAL	NORMAL

WEAR

Metal levels are typical for a new component breaking in.

Iron	ppm	ASTM D5185(m)	>100	10	13	20
Chromium	ppm	ASTM D5185(m)	>20	0	0	<1
Nickel	ppm	ASTM D5185(m)	>4	<1	0	<1
Titanium	ppm	ASTM D5185(m)		0	1	2
Silver	ppm	ASTM D5185(m)	>3	0	0	0
Aluminum	ppm	ASTM D5185(m)	>20	3	4	6
Lead	ppm	ASTM D5185(m)	>40	2	3	5
Copper	ppm	ASTM D5185(m)	>330	12	19	29
Tin	ppm	ASTM D5185(m)	>15	0	<1	<1
Vanadium	ppm	ASTM D5185(m)		0	<1	0

CONTAMINATION

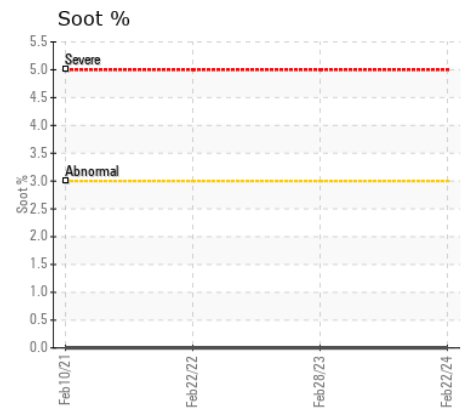
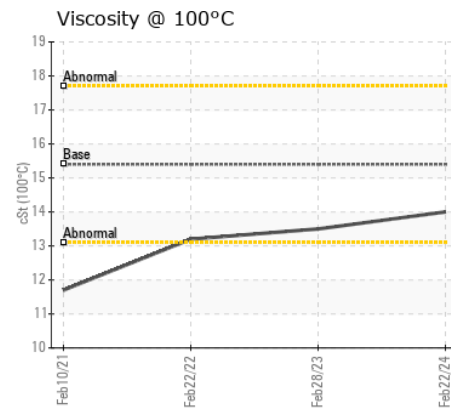
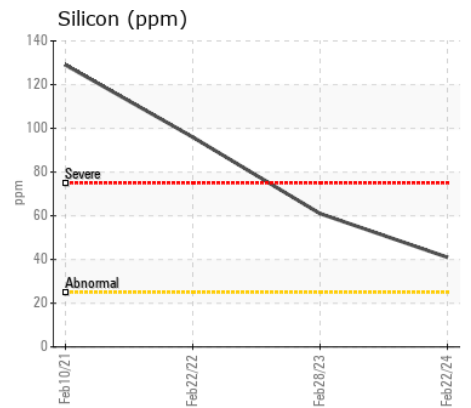
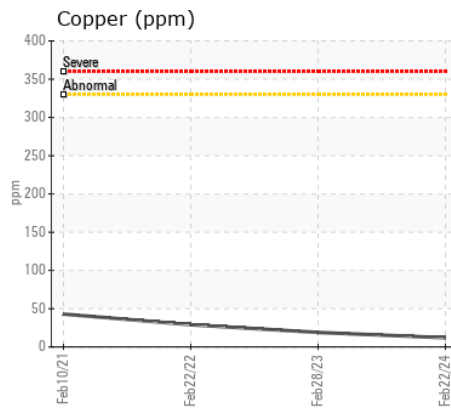
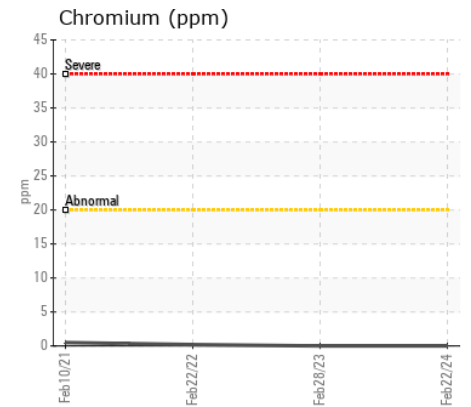
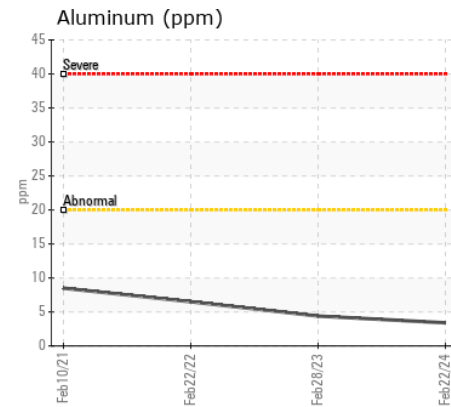
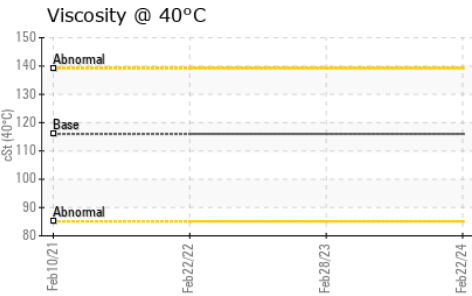
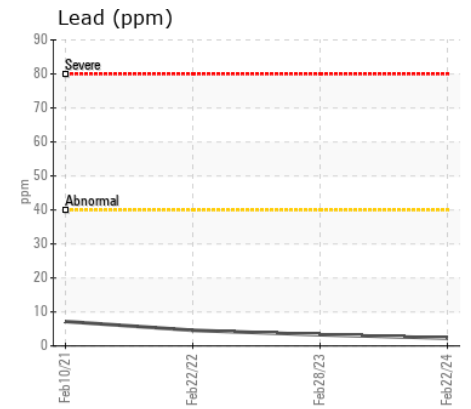
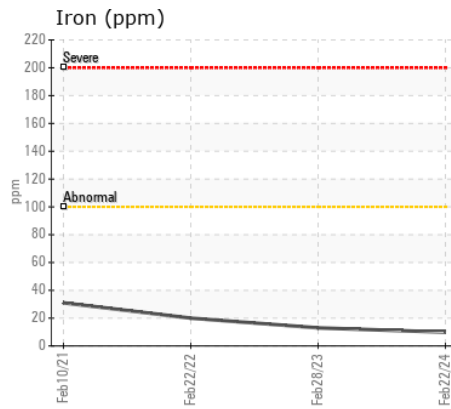
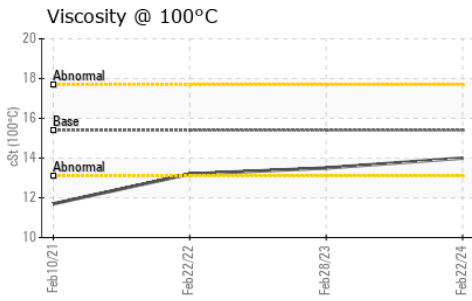
There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185(m)	>25	41	61	96
Potassium	ppm	ASTM D5185(m)	>20	3	5	9
Fuel		WC Method	>5	<1.0	<1.0	<1.0
Water		WC Method	>0.2	NEG	NEG	NEG
Glycol		WC Method		NEG	NEG	NEG
Soot %	%	ASTM D7844*	>3	0	0	0
Nitration	Abs/cm	ASTM D7624*	>20	6.6	7.9	7.7
Sulfation	Abs/.1mm	ASTM D7415*	>30	17.9	20.9	19.9
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	4	7	10
Boron	ppm	ASTM D5185(m)		28	62	59
Barium	ppm	ASTM D5185(m)		0	0	0
Molybdenum	ppm	ASTM D5185(m)		68	84	75
Manganese	ppm	ASTM D5185(m)		<1	2	3
Magnesium	ppm	ASTM D5185(m)		544	64	140
Calcium	ppm	ASTM D5185(m)	3780	1504	2121	1899
Phosphorus	ppm	ASTM D5185(m)	1370	976	989	874
Zinc	ppm	ASTM D5185(m)	1500	1122	1099	1054
Sulfur	ppm	ASTM D5185(m)	3800	2933	3021	2796
Oxidation	Abs/.1mm	ASTM D7414*	>25	13.7	14.0	14.3
Visc @ 40°C	cSt	ASTM D7279(m)	116	102	---	---
Visc @ 100°C	cSt	ASTM D7279(m)	15.4	14.0	13.5	13.2
Viscosity Index (VI)	Scale	ASTM D2270*	140	139	---	---



Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
Sample No. : PN0005825 **Received** : 29 Feb 2024
Lab Number : 02618935 **Tested** : 29 Feb 2024
Unique Number : 5736045 **Diagnosed** : 29 Feb 2024 - Wes Davis
Test Package : MOB 1 (Additional Tests: KV40, VI)

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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.