



OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL

Machine Id
LAKESHORE E1 FIRE
 Component
Diesel Engine
 Fluid
SHELL ROTELLA T4 15W40 (20 LTR)

RECOMMENDATION

Confirm the source of the lubricant being utilized for top-up/fill.
 Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		WC0867254	WC0760643	WC0623513
Sample Date		Client Info		11 Mar 2024	26 Jan 2023	12 Jan 2022
Machine Age	hrs	Client Info		243	4382	4142
Oil Age	hrs	Client Info		243	240	200
Filter Age	hrs	Client Info		243	240	200
Oil Changed		Client Info		Changed	Changed	Changed
Filter Changed		Client Info		Changed	Changed	Changed
Sample Status				NORMAL	ABNORMAL	NORMAL

WEAR

Metal levels are typical for a new component breaking in.

Iron	ppm	ASTM D5185(m)	>100	29	10	8
Chromium	ppm	ASTM D5185(m)	>20	<1	0	<1
Nickel	ppm	ASTM D5185(m)	>4	<1	<1	<1
Titanium	ppm	ASTM D5185(m)		0	<1	0
Silver	ppm	ASTM D5185(m)	>3	0	0	0
Aluminum	ppm	ASTM D5185(m)	>20	4	<1	2
Lead	ppm	ASTM D5185(m)	>40	0	1	1
Copper	ppm	ASTM D5185(m)	>330	15	4	3
Tin	ppm	ASTM D5185(m)	>15	0	<1	<1
Vanadium	ppm	ASTM D5185(m)		0	0	0

CONTAMINATION

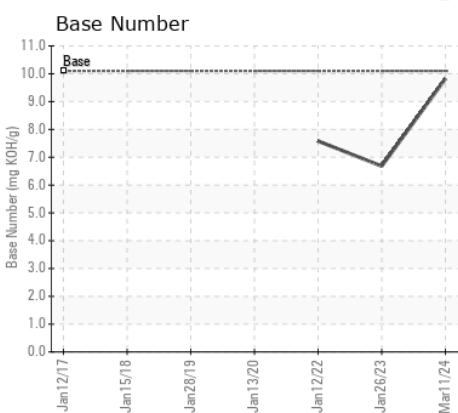
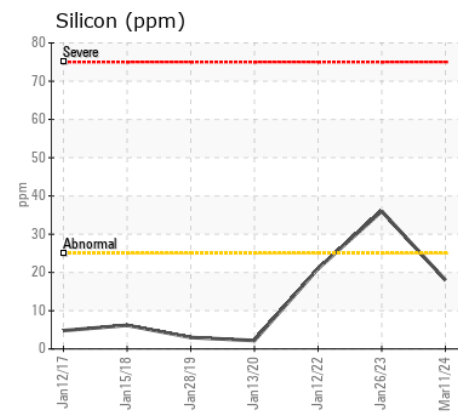
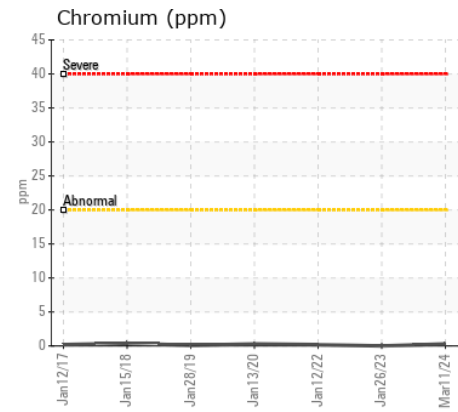
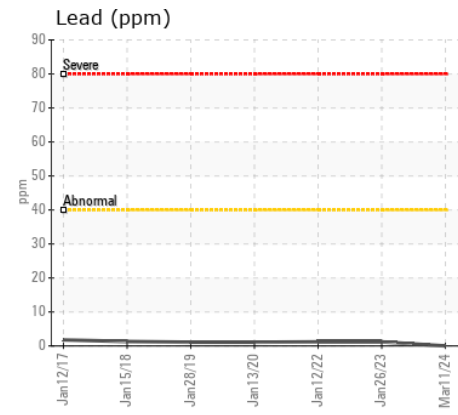
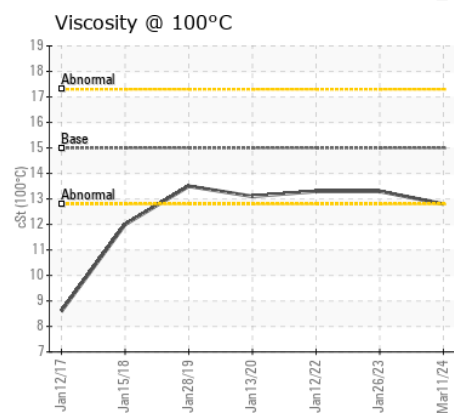
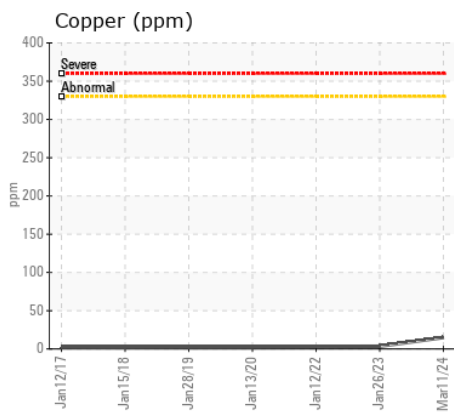
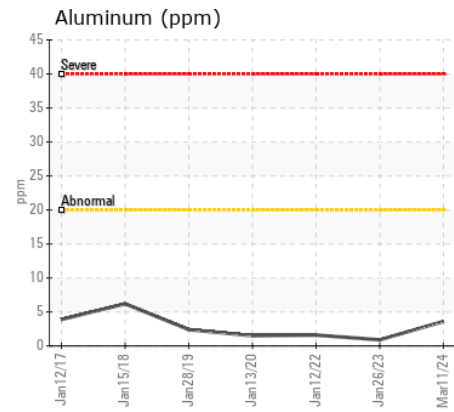
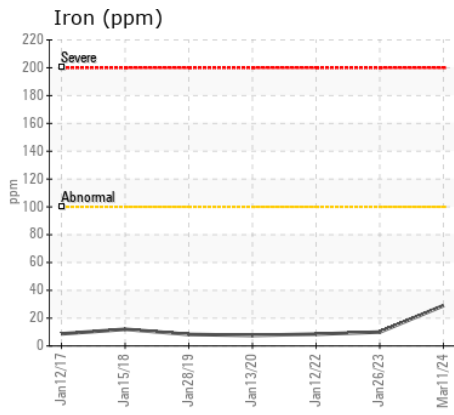
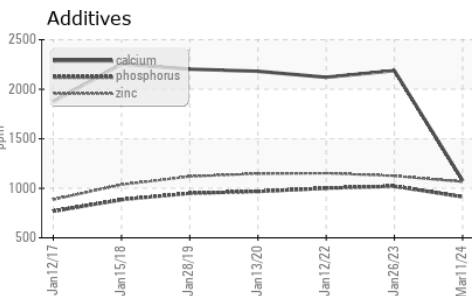
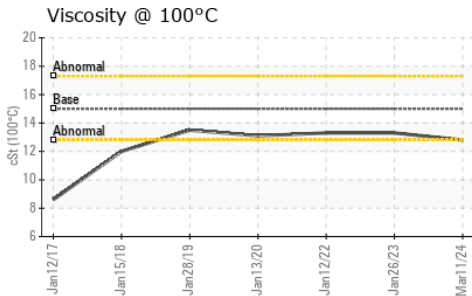
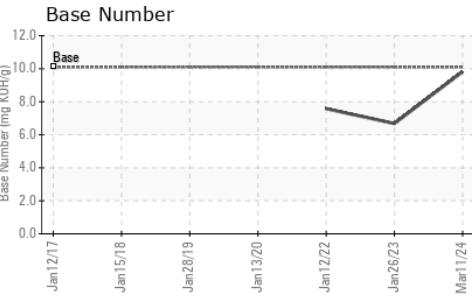
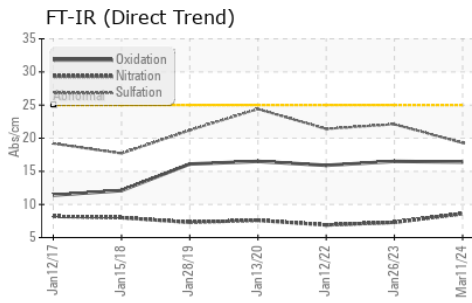
There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185(m)	>25	18	▲ 36	21
Potassium	ppm	ASTM D5185(m)	>20	3	12	7
Fuel		WC Method	>5	<1.0	<1.0	<1.0
Water		WC Method	>0.2	NEG	NEG	NEG
Glycol		WC Method		NEG	0.0	NEG
Soot %	%	ASTM D7844*	>3	0.1	0.1	0.1
Nitration	Abs/cm	ASTM D7624*	>20	8.6	7.3	6.9
Sulfation	Abs/.1mm	ASTM D7415*	>30	19.3	22.1	21.4
Emulsified Water	scalar	Visual*	>0.2	NEG	NEG	NEG

FLUID CONDITION

Additive levels indicate the addition of a different brand, or type of oil.
 The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

Sodium	ppm	ASTM D5185(m)		7	12	2
Boron	ppm	ASTM D5185(m)		10	155	165
Barium	ppm	ASTM D5185(m)		5	0	0
Molybdenum	ppm	ASTM D5185(m)		56	1	1
Manganese	ppm	ASTM D5185(m)		7	<1	<1
Magnesium	ppm	ASTM D5185(m)		900	12	13
Calcium	ppm	ASTM D5185(m)		1078	2188	2121
Phosphorus	ppm	ASTM D5185(m)		914	1021	1001
Zinc	ppm	ASTM D5185(m)		1066	1125	1152
Sulfur	ppm	ASTM D5185(m)		2415	3001	2977
Oxidation	Abs/.1mm	ASTM D7414*	>25	16.4	16.5	15.9
Base Number (BN)	mg KOH/g	ASTM D2896*	10.1	9.82	6.68	7.58
Visc @ 100°C	cSt	ASTM D7279(m)	15	12.8	13.3	13.3



Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
Sample No. : WC0867254
Lab Number : 02626524
Unique Number : 5759656
Test Package : MOB 2
Received : 04 Apr 2024
Tested : 05 Apr 2024
Diagnosed : 05 Apr 2024 - Wes Davis

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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.