

Machine Id
2721001
Component
Diesel Engine
Fluid
SHELL ROTELLA T 10W30 (--- GAL)

RECOMMENDATION

Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		PC0083995	PC0058995	PC0038399
Sample Date		Client Info		16 Apr 2024	02 May 2022	16 Apr 2021
Machine Age	kms	Client Info		133234	65143	35086
Oil Age	kms	Client Info		30000	30000	14000
Filter Age	kms	Client Info		30000	30000	14000
Oil Changed		Client Info		Changed	Changed	Changed
Filter Changed		Client Info		Changed	Changed	Changed
Sample Status				NORMAL	NORMAL	NORMAL

WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185(m)	>200	52	40	21
Chromium	ppm	ASTM D5185(m)	>6	4	4	2
Nickel	ppm	ASTM D5185(m)	>3	0	1	<1
Titanium	ppm	ASTM D5185(m)	>2	<1	0	<1
Silver	ppm	ASTM D5185(m)	>2	0	<1	<1
Aluminum	ppm	ASTM D5185(m)	>50	13	10	11
Lead	ppm	ASTM D5185(m)	>10	0	2	4
Copper	ppm	ASTM D5185(m)	>50	14	53	115
Tin	ppm	ASTM D5185(m)	>6	2	4	4
Vanadium	ppm	ASTM D5185(m)		0	0	0

CONTAMINATION

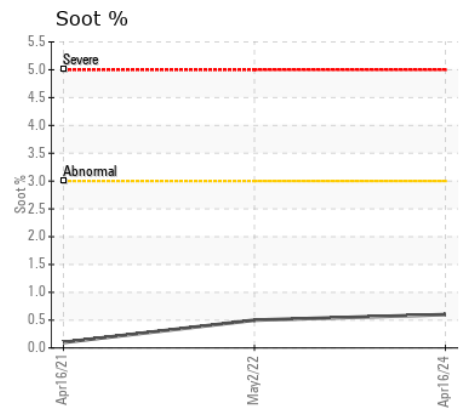
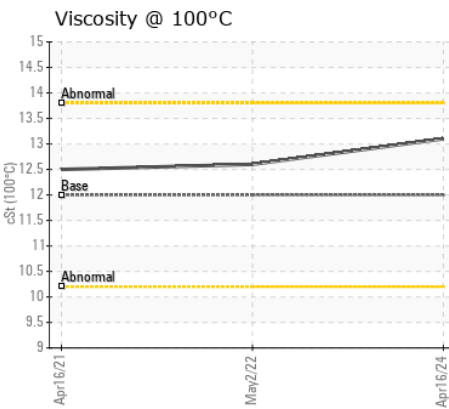
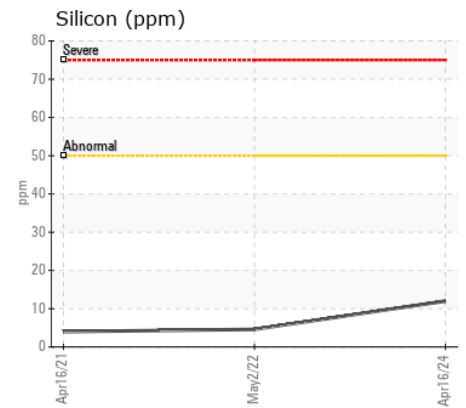
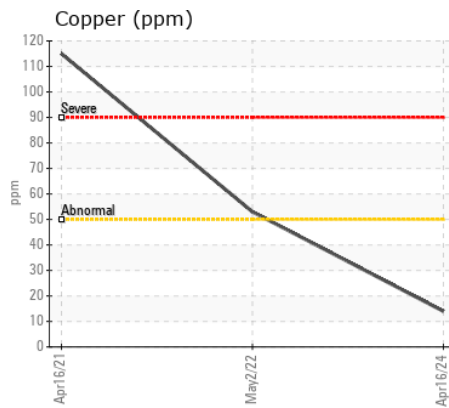
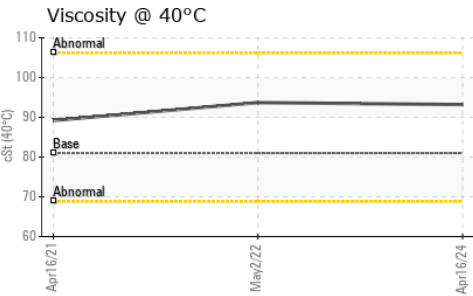
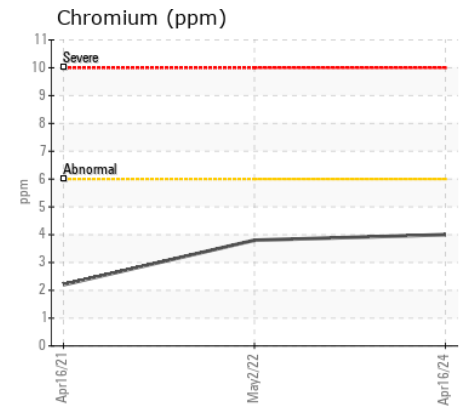
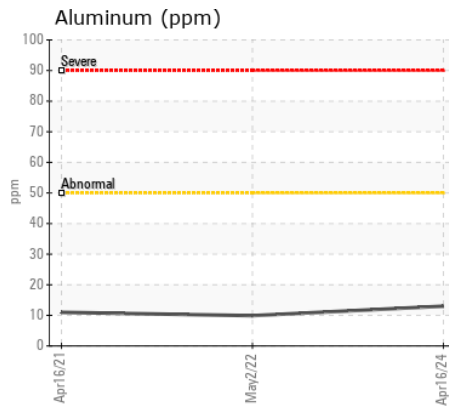
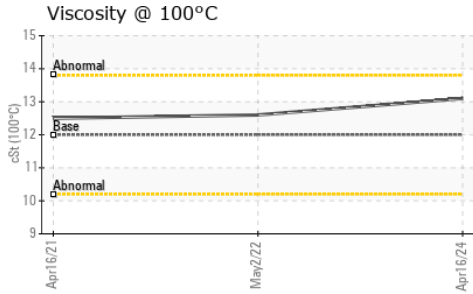
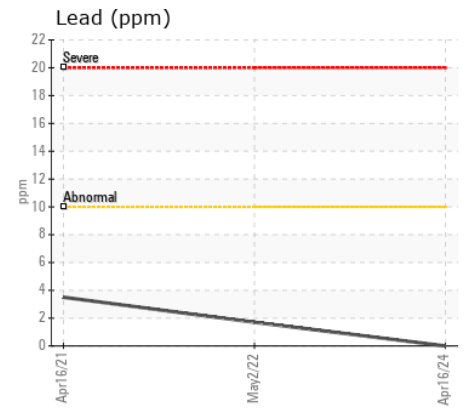
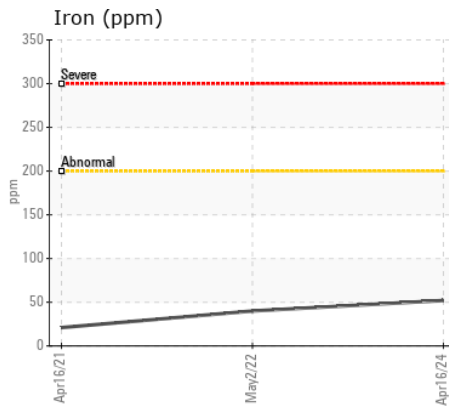
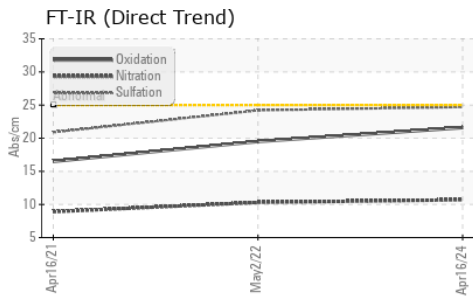
Elevated aluminum (Al) and/or lead (Pb) and potassium (K) levels in your metals analysis are likely a result of solder flux release into the lubricant and is common on new equipment/components. There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185(m)	>50	12	5	4
Potassium	ppm	ASTM D5185(m)	>20	18	16	28
Fuel		WC Method	>3.0	<1.0	<1.0	0.1
Water		WC Method	>0.2	NEG	NEG	NEG
Glycol		WC Method		NEG	NEG	0.0
Soot %	%	ASTM D7844*	>3	0.6	0.5	0.1
Nitration	Abs/cm	ASTM D7624*	>20	10.7	10.3	8.9
Sulfation	Abs/.1mm	ASTM D7415*	>30	24.7	24.2	20.9
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)		4	2	2
Boron	ppm	ASTM D5185(m)		21	3	8
Barium	ppm	ASTM D5185(m)		0	0	0
Molybdenum	ppm	ASTM D5185(m)		54	56	50
Manganese	ppm	ASTM D5185(m)		1	1	1
Magnesium	ppm	ASTM D5185(m)		463	939	911
Calcium	ppm	ASTM D5185(m)		1820	1224	1077
Phosphorus	ppm	ASTM D5185(m)		980	1027	864
Zinc	ppm	ASTM D5185(m)		1222	1244	1169
Sulfur	ppm	ASTM D5185(m)		2341	1974	2276
Oxidation	Abs/.1mm	ASTM D7414*	>25	21.6	19.5	16.5
Visc @ 40°C	cSt	ASTM D7279(m)	81	93.2	93.7	89.2
Visc @ 100°C	cSt	ASTM D7279(m)	12.	13.1	12.6	12.5
Viscosity Index (VI)	Scale	ASTM D2270*	141	139	130	136



ISO 17025:2017
Accredited
Laboratory

Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
Sample No. : PC0083995 **Received** : 03 Jun 2024
Lab Number : 02639358 **Tested** : 03 Jun 2024
Unique Number : 5788520 **Diagnosed** : 03 Jun 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.