



WEAR	<b>NORMAL</b>
CONTAMINATION	<b>NORMAL</b>
FLUID CONDITION	<b>ABNORMAL</b>

Machine Id  
**3720103**  
 Component  
**Diesel Engine**  
 Fluid  
**SHELL ROTELLA T 10W30 (--- GAL)**

**RECOMMENDATION**

Confirm the source of the lubricant being utilized for top-up/fill. Resample at the next service interval to monitor. The fluid was specified as SHELL ROTELLA T 10W30, however, a fluid match indicates that this fluid is SAE 15W40 Diesel Engine Oil. Please confirm the oil type and grade on your next sample.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		<b>PC0083978</b>	PC0074766	PC0074748
Sample Date		Client Info		<b>12 Mar 2024</b>	31 Jul 2023	05 Jun 2023
Machine Age	mls	Client Info		<b>453690</b>	342917	377594
Oil Age	mls	Client Info		<b>61000</b>	15000	40000
Filter Age	mls	Client Info		<b>61000</b>	15000	40000
Oil Changed		Client Info		<b>Changed</b>	Changed	Changed
Filter Changed		Client Info		<b>Changed</b>	Changed	Changed
Sample Status				<b>ABNORMAL</b>	NORMAL	NORMAL

**WEAR**

All component wear rates are normal.

Iron	ppm	ASTM D5185(m)	>200	<b>13</b>	29	11
Chromium	ppm	ASTM D5185(m)	>6	<b>&lt;1</b>	2	<1
Nickel	ppm	ASTM D5185(m)	>3	<b>0</b>	<1	<1
Titanium	ppm	ASTM D5185(m)	>2	<b>0</b>	<1	0
Silver	ppm	ASTM D5185(m)	>2	<b>0</b>	<1	0
Aluminum	ppm	ASTM D5185(m)	>50	<b>9</b>	16	6
Lead	ppm	ASTM D5185(m)	>10	<b>0</b>	<1	0
Copper	ppm	ASTM D5185(m)	>50	<b>3</b>	9	5
Tin	ppm	ASTM D5185(m)	>6	<b>0</b>	<1	<1
Vanadium	ppm	ASTM D5185(m)		<b>0</b>	0	0
White Metal	scalar	Visual*	NONE	<b>NONE</b>	---	NONE
Yellow Metal	scalar	Visual*	NONE	<b>NONE</b>	---	NONE

**CONTAMINATION**

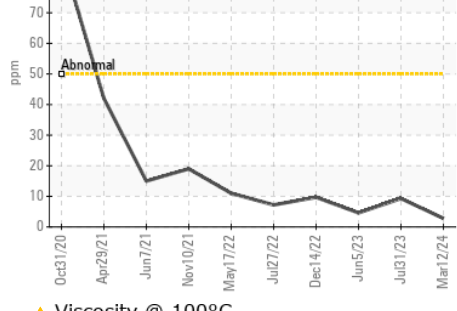
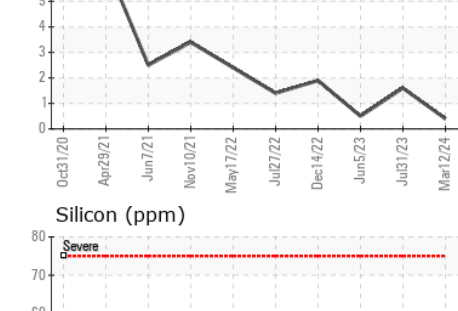
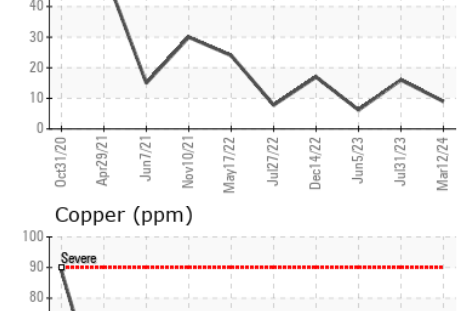
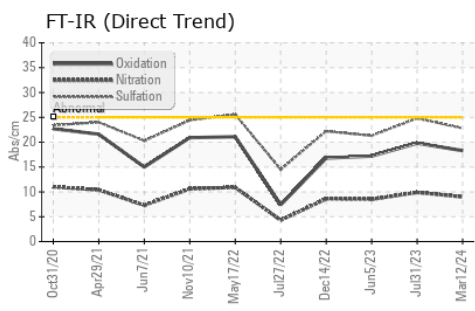
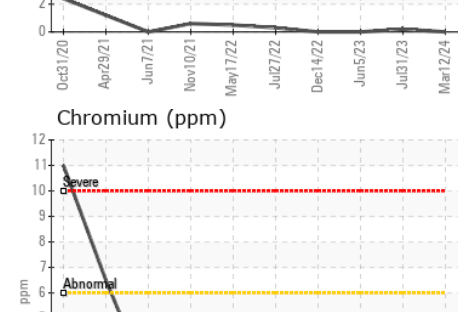
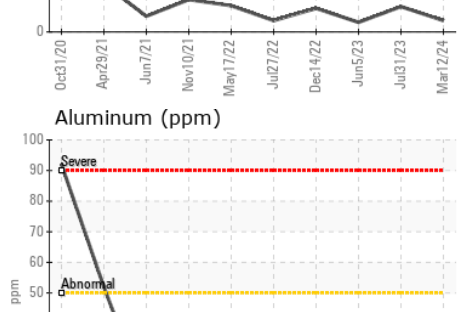
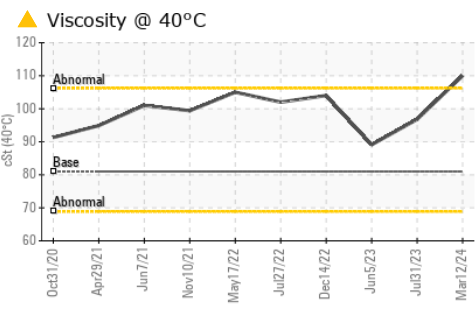
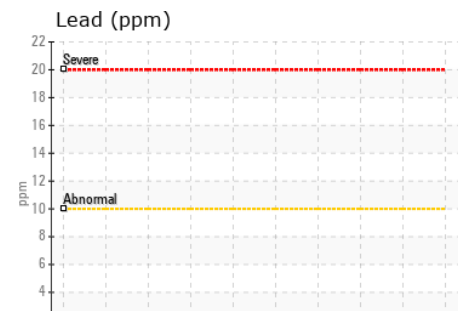
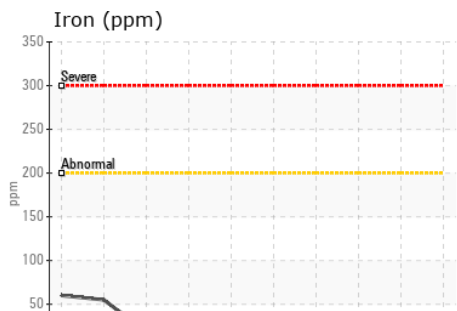
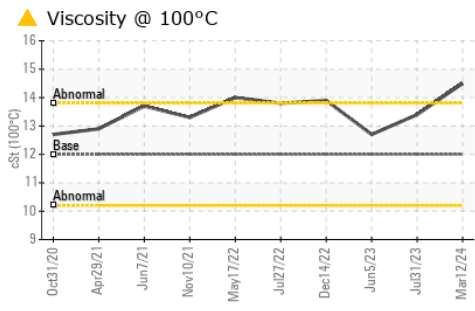
Elevated aluminum (Al) and/or lead (Pb) and potassium (K) levels in your metals analysis are likely a result of solder flux release into the lubricant and is common on new equipment/components. There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185(m)	>50	<b>4</b>	7	4
Potassium	ppm	ASTM D5185(m)	>20	<b>9</b>	18	6
Fuel		WC Method	>3.0	<b>&lt;1.0</b>	<1.0	0.5
Water		WC Method	>0.2	<b>NEG</b>	NEG	NEG
Glycol		WC Method		<b>NEG</b>	NEG	NEG
Soot %	%	ASTM D7844*	>3	<b>0.2</b>	0.4	0.2
Nitration	Abs/cm	ASTM D7624*	>20	<b>9.0</b>	9.9	8.5
Sulfation	Abs/.1mm	ASTM D7415*	>30	<b>22.8</b>	24.8	21.3
Silt	scalar	Visual*	NONE	<b>NONE</b>	---	VLITE
Debris	scalar	Visual*	NONE	<b>NONE</b>	---	NONE
Sand/Dirt	scalar	Visual*	NONE	<b>NONE</b>	---	NONE
Appearance	scalar	Visual*	NORML	<b>NORML</b>	---	NORML
Odor	scalar	Visual*	NORML	<b>NORML</b>	NORML	NORML
Emulsified Water	scalar	Visual*	>0.2	<b>NEG</b>	NEG	NEG

**FLUID CONDITION**

Viscosity of sample indicates oil is within SAE 15W40 range, advise investigate. This plus the additive levels indicates that this is not the same brand, or type of oil as reported. The condition of the oil is acceptable for the time in service.

Sodium	ppm	ASTM D5185(m)		<b>2</b>	6	2
Boron	ppm	ASTM D5185(m)		<b>90</b>	19	34
Barium	ppm	ASTM D5185(m)		<b>0</b>	0	0
Molybdenum	ppm	ASTM D5185(m)		<b>2</b>	51	51
Manganese	ppm	ASTM D5185(m)		<b>&lt;1</b>	<1	0
Magnesium	ppm	ASTM D5185(m)		<b>34</b>	508	367
Calcium	ppm	ASTM D5185(m)		<b>2244</b>	1723	1859
Phosphorus	ppm	ASTM D5185(m)		<b>936</b>	1061	1018
Zinc	ppm	ASTM D5185(m)		<b>1132</b>	1228	1204
Sulfur	ppm	ASTM D5185(m)		<b>2766</b>	2397	2861
Oxidation	Abs/.1mm	ASTM D7414*	>25	<b>18.3</b>	19.8	17.2
Visc @ 40°C	cSt	ASTM D7279(m)	81	<b>▲ 110</b>	96.8	89.1
Visc @ 100°C	cSt	ASTM D7279(m)	12.	<b>▲ 14.5</b>	13.4	12.7
Viscosity Index (VI)	Scale	ASTM D2270*	141	<b>134</b>	138	139



**Laboratory** : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9  
**Sample No.** : PC0083978 **Received** : 03 Jun 2024  
**Lab Number** : 02639357 **Tested** : 03 Jun 2024  
**Unique Number** : 5788519 **Diagnosed** : 03 Jun 2024 - Kevin Marson  
**Test Package** : MOB 1 ( Additional Tests: KV40, VI, Visual )

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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.