



# OIL ANALYSIS REPORT

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



Machine Id  
**CATERPILLAR L-12**  
Component  
**Right Diesel Engine**

Fluid  
**SAFETY-KLEEN PERFORMANCE PLUS SHD 15W40 (30 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		<b>WC0772780</b>	WC0550233	WC0438554
Sample Date		Client Info		<b>16 Apr 2024</b>	12 Apr 2022	08 Mar 2021
Machine Age	hrs	Client Info		<b>7897</b>	7217	7131
Oil Age	hrs	Client Info		<b>287</b>	1	231
Filter Age	hrs	Client Info		<b>287</b>	1	231
Oil Changed		Client Info		<b>Changed</b>	Not Chngd	Changed
Filter Changed		Client Info		<b>Changed</b>	N/A	N/A
Sample Status				<b>NORMAL</b>	NORMAL	NORMAL

## WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185(m)	>100	<b>28</b>	6	19
Chromium	ppm	ASTM D5185(m)	>20	<b>10</b>	<1	<1
Nickel	ppm	ASTM D5185(m)	>2	<b>0</b>	<1	<1
Titanium	ppm	ASTM D5185(m)	>2	<b>&lt;1</b>	0	0
Silver	ppm	ASTM D5185(m)	>2	<b>0</b>	0	0
Aluminum	ppm	ASTM D5185(m)	>25	<b>5</b>	1	3
Lead	ppm	ASTM D5185(m)	>40	<b>0</b>	0	2
Copper	ppm	ASTM D5185(m)	>330	<b>3</b>	6	2
Tin	ppm	ASTM D5185(m)	>15	<b>0</b>	<1	<1
Vanadium	ppm	ASTM D5185(m)		<b>0</b>	0	<1

## CONTAMINATION

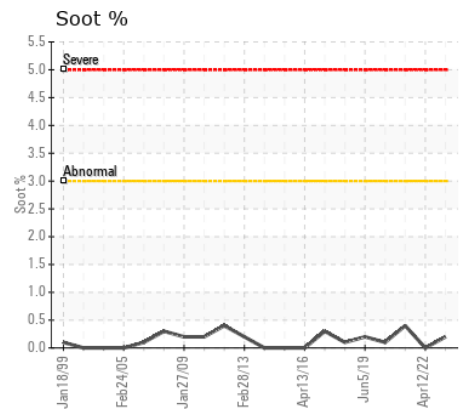
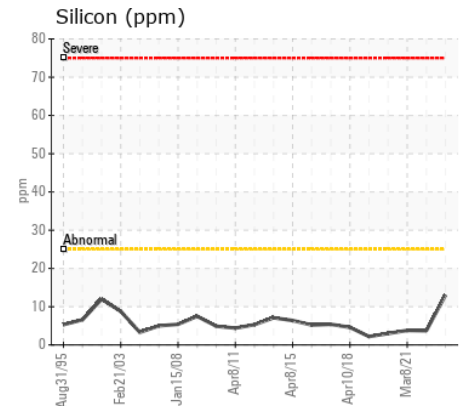
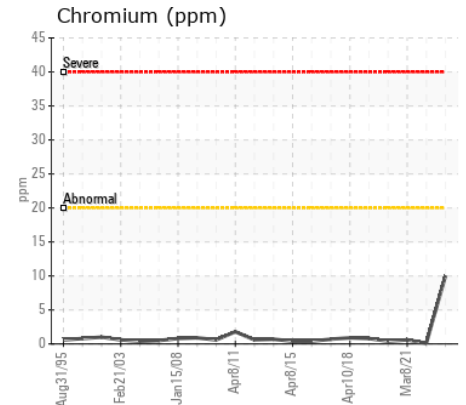
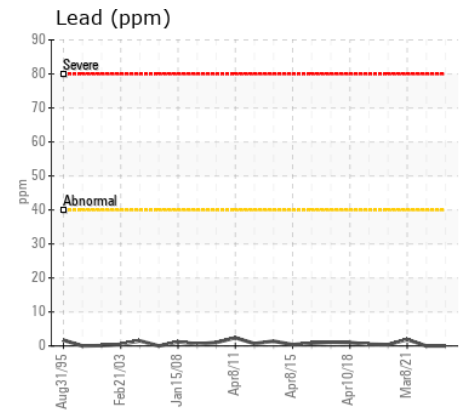
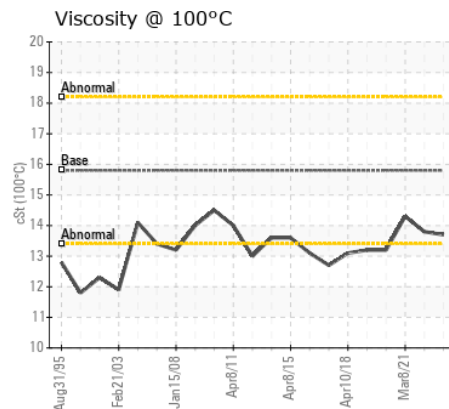
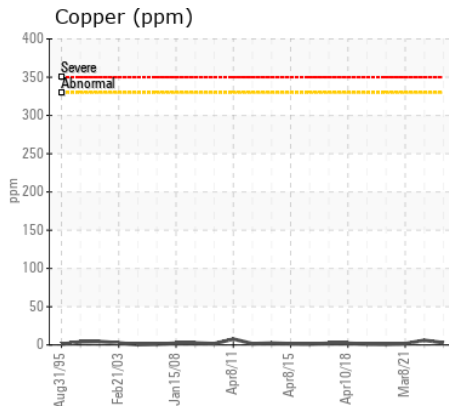
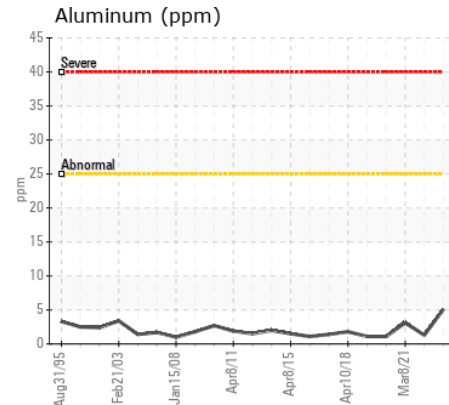
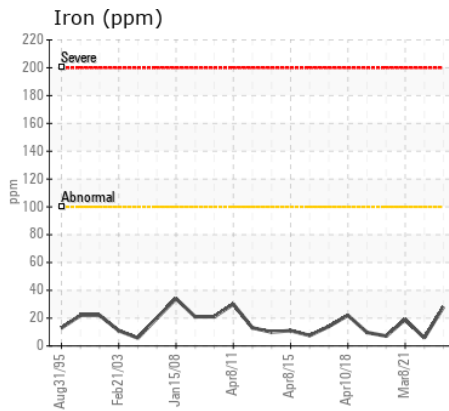
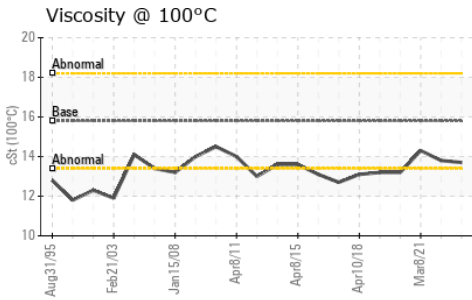
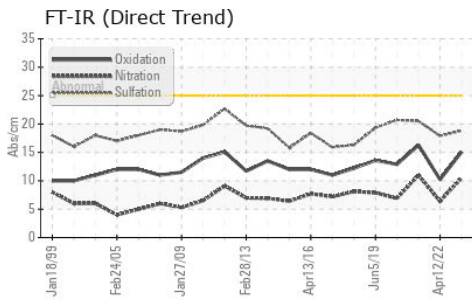
There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185(m)	>25	<b>13</b>	4	4
Potassium	ppm	ASTM D5185(m)	>20	<b>&lt;1</b>	3	<1
Fuel		WC Method	>5	<b>&lt;1.0</b>	<1.0	<1.0
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	0.4
Nitration	Abs/cm	ASTM D7624*	>20	<b>10.5</b>	6.4	11.0
Sulfation	Abs/.1mm	ASTM D7415*	>30	<b>18.8</b>	17.9	20.5
Emulsified Water	scalar	Visual*	>0.2	<b>NEG</b>	NEG	NEG

## FLUID CONDITION

Additive levels indicate the addition of a different brand, or type of oil.  
The condition of the oil is acceptable for the time in service.

Sodium	ppm	ASTM D5185(m)		<b>5</b>	2	3
Boron	ppm	ASTM D5185(m)	0	<b>49</b>	26	31
Barium	ppm	ASTM D5185(m)	0	<b>0</b>	0	<1
Molybdenum	ppm	ASTM D5185(m)	0	<b>86</b>	26	86
Manganese	ppm	ASTM D5185(m)		<b>&lt;1</b>	0	<1
Magnesium	ppm	ASTM D5185(m)	0	<b>39</b>	60	179
Calcium	ppm	ASTM D5185(m)	2800	<b>2232</b>	2000	2037
Phosphorus	ppm	ASTM D5185(m)	1200	<b>1015</b>	859	966
Zinc	ppm	ASTM D5185(m)	1350	<b>1165</b>	993	1188
Sulfur	ppm	ASTM D5185(m)	5500	<b>3109</b>	2889	3205
Oxidation	Abs/.1mm	ASTM D7414*	>25	<b>15.1</b>	10.2	16.3
Visc @ 100°C	cSt	ASTM D7279(m)	15.8	<b>13.7</b>	13.8	14.3



**Laboratory** : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9  
**Sample No.** : WC0772780  
**Lab Number** : 02629516  
**Unique Number** : 5762648  
**Test Package** : MOB 1

**MIDDLESEX COUNTY ROAD DEPARTMENT**  
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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.