



Machine Id  
**CATERPILLAR T-49**  
Component  
**Diesel Engine**  
Fluid  
**PETRO CANADA 15W40 (--- QTS)**

### RECOMMENDATION

Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		<b>PCA0079206</b>	PCA0047002	PCA0007679
Sample Date		Client Info		<b>02 Jul 2024</b>	12 Apr 2022	30 Jun 2021
Machine Age	hrs	Client Info		<b>0</b>	0	0
Oil Age	hrs	Client Info		<b>0</b>	0	0
Filter Age	hrs	Client Info		<b>0</b>	0	0
Oil Changed		Client Info		<b>N/A</b>	N/A	N/A
Filter Changed		Client Info		<b>N/A</b>	N/A	N/A
Sample Status				<b>NORMAL</b>	NORMAL	NORMAL

### WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>100	<b>19</b>	18	8
Chromium	ppm	ASTM D5185m	>20	<b>1</b>	<1	<1
Nickel	ppm	ASTM D5185m	>2	<b>1</b>	<1	<1
Titanium	ppm	ASTM D5185m	>2	<b>1</b>	0	0
Silver	ppm	ASTM D5185m	>2	<b>&lt;1</b>	<1	0
Aluminum	ppm	ASTM D5185m	>25	<b>3</b>	1	<1
Lead	ppm	ASTM D5185m	>40	<b>1</b>	<1	1
Copper	ppm	ASTM D5185m	>330	<b>5</b>	3	3
Tin	ppm	ASTM D5185m	>15	<b>&lt;1</b>	<1	<1
Vanadium	ppm	ASTM D5185m		<b>&lt;1</b>	0	0
White Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE

### CONTAMINATION

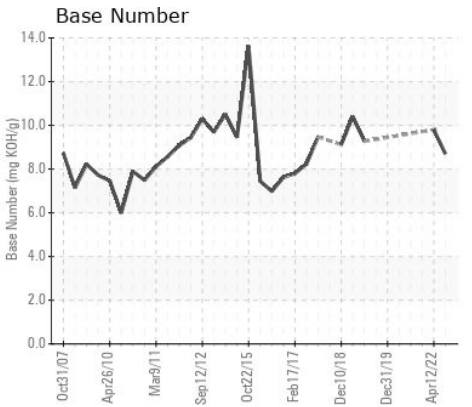
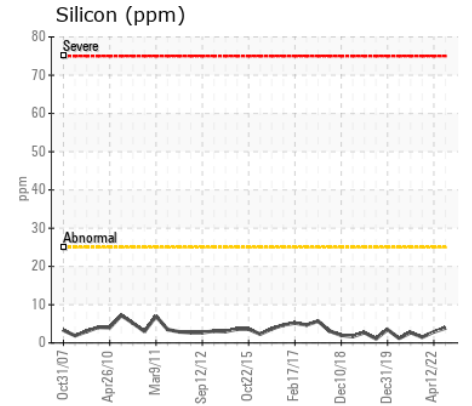
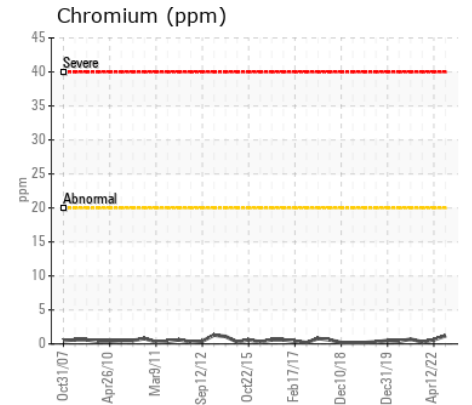
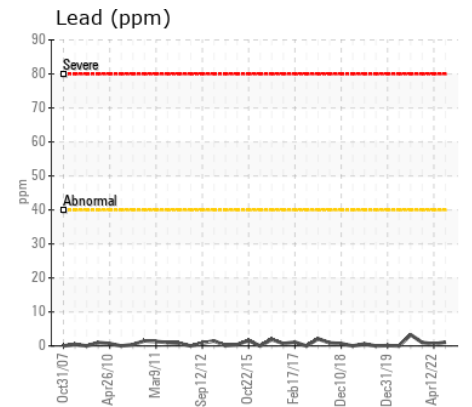
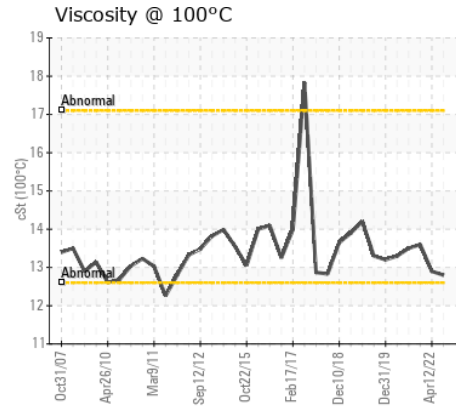
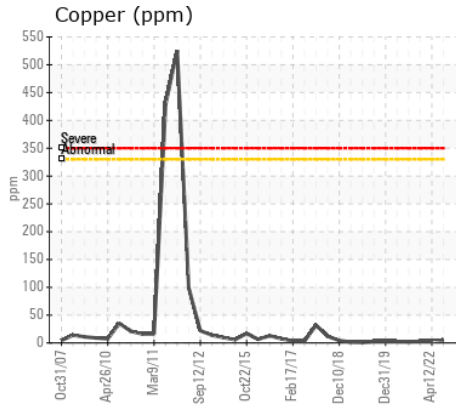
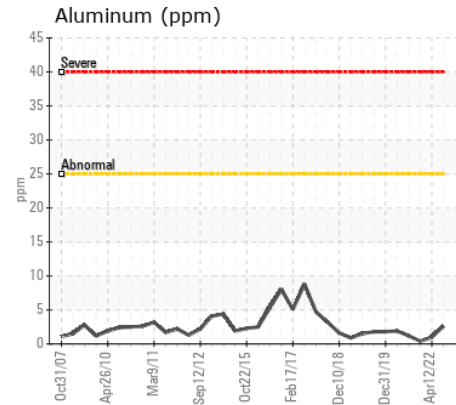
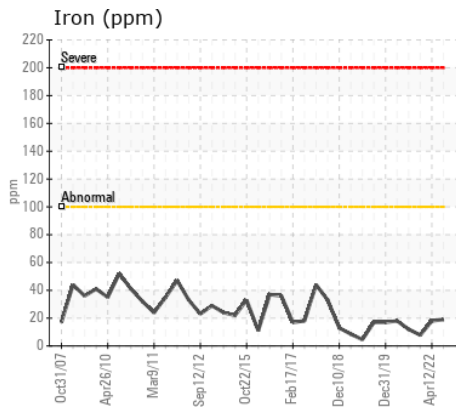
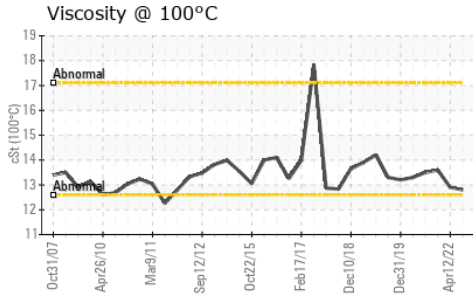
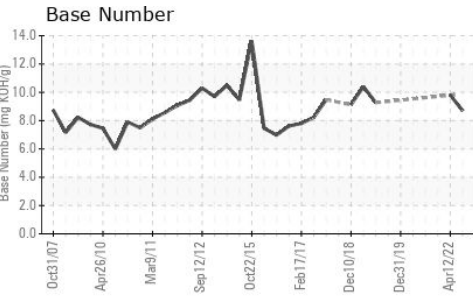
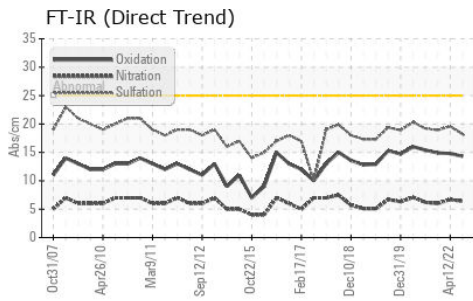
There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185m	>25	<b>4</b>	3	2
Potassium	ppm	ASTM D5185m	>20	<b>2</b>	<1	<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>0.3</b>	0.4	0.2
Nitration	Abs/cm	*ASTM D7624	>20	<b>6.4</b>	6.7	6
Sulfation	Abs/.1mm	*ASTM D7415	>30	<b>18.2</b>	19.6	18.9
Silt	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Debris	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Appearance	scalar	*Visual	NORML	<b>NORML</b>	NORML	NORML
Odor	scalar	*Visual	NORML	<b>NORML</b>	NORML	NORML
Emulsified Water	scalar	*Visual	>0.2	<b>NEG</b>	NEG	NEG

### FLUID CONDITION

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 D5185m		<b>2</b>	1	<1
Boron	ppm	ASTM D5185m		<b>9</b>	8	<1
Barium	ppm	ASTM D5185m		<b>0</b>	0	0
Molybdenum	ppm	ASTM D5185m		<b>60</b>	60	58
Manganese	ppm	ASTM D5185m		<b>&lt;1</b>	<1	<1
Magnesium	ppm	ASTM D5185m		<b>958</b>	961	905
Calcium	ppm	ASTM D5185m		<b>1099</b>	1142	1037
Phosphorus	ppm	ASTM D5185m		<b>1043</b>	1115	1004
Zinc	ppm	ASTM D5185m		<b>1274</b>	1359	1197
Sulfur	ppm	ASTM D5185m		<b>3208</b>	3000	2736
Oxidation	Abs/.1mm	*ASTM D7414	>25	<b>14.3</b>	14.8	14.9
Base Number (BN)	mg KOH/g	ASTM D2896		<b>8.7</b>	9.8	---
Visc @ 100°C	cSt	ASTM D445		<b>12.8</b>	12.9	13.6



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : PCA0079206 **Received** : 08 Jul 2024  
**Lab Number** : 06229694 **Tested** : 09 Jul 2024  
**Unique Number** : 11113187 **Diagnosed** : 09 Jul 2024 - Wes Davis  
**Test Package** : MOB 1 ( Additional Tests: TBN )

**BORCGAARD CONSTRUCTION**  
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 T:  
 F: (508)839-9625

To discuss this sample report, contact Customer Service at 1-800-237-1369.

\* - Denotes test methods that are outside of the ISO 17025 scope of accreditation.

Statements of conformity to specifications are based on the simple acceptance decision rule (JCGM 106:2012)