



# OIL ANALYSIS REPORT

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



Machine Id  
**CATERPILLAR 980K 6058 (S/N W7K00517)**  
Component  
**Rear Differential**  
Fluid  
**TULCO LUBSOIL TO-4 50 (12 GAL)**

## RECOMMENDATION

Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		<b>TO10003652</b>	TO10003308	TO10002977
Sample Date		Client Info		<b>15 Jun 2024</b>	06 Apr 2024	26 Jan 2024
Machine Age	hrs	Client Info		<b>20455</b>	19983	19449
Oil Age	hrs	Client Info		<b>5640</b>	5168	4634
Filter Age	hrs	Client Info		<b>0</b>	0	0
Oil Changed		Client Info		<b>Not Changd</b>	Not Changd	Not Changd
Filter Changed		Client Info		<b>None</b>	N/A	None
Sample Status				<b>NORMAL</b>	NORMAL	NORMAL

## WEAR

All component wear rates are normal.

PQ	UOM	Method	Limit/Abn	Current	History1	History2
Iron	ppm	ASTM D5185m	>500	<b>88</b>	75	74
Chromium	ppm	ASTM D5185m	>3	<b>&lt;1</b>	0	<1
Nickel	ppm	ASTM D5185m	>3	<b>0</b>	0	<1
Titanium	ppm	ASTM D5185m	>2	<b>&lt;1</b>	0	<1
Silver	ppm	ASTM D5185m	>2	<b>0</b>	0	0
Aluminum	ppm	ASTM D5185m	>30	<b>10</b>	9	9
Lead	ppm	ASTM D5185m	>13	<b>0</b>	0	<1
Copper	ppm	ASTM D5185m	>103	<b>12</b>	12	11
Tin	ppm	ASTM D5185m	>5	<b>&lt;1</b>	0	<1
Vanadium	ppm	ASTM D5185m		<b>0</b>	0	<1
White Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE

## CONTAMINATION

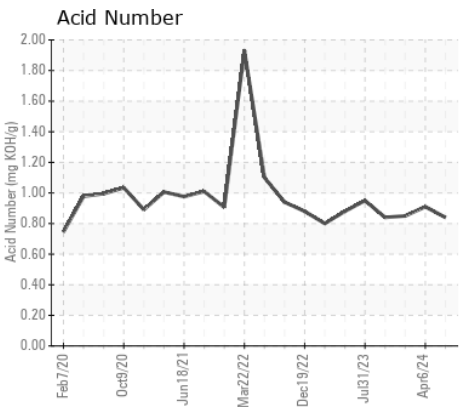
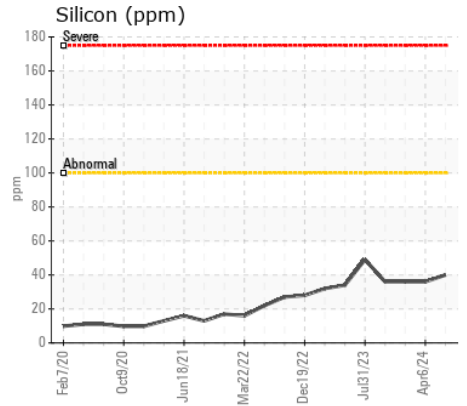
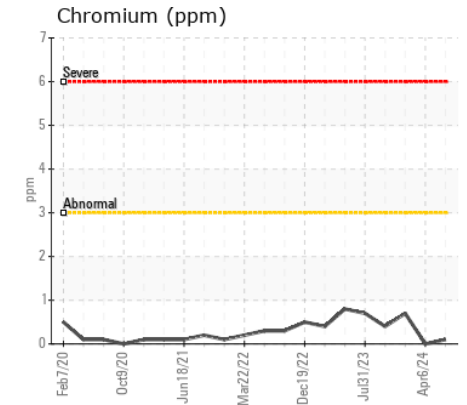
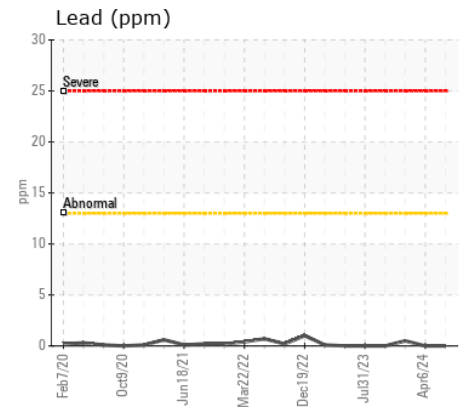
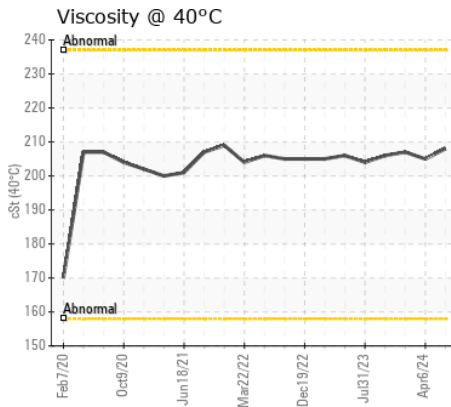
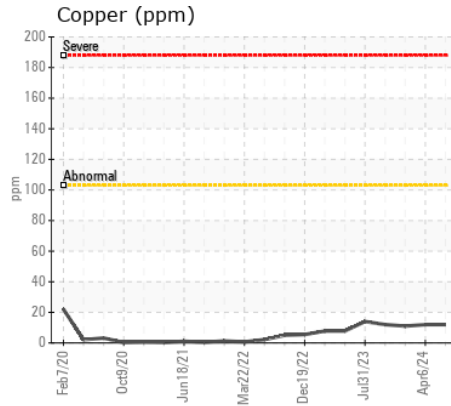
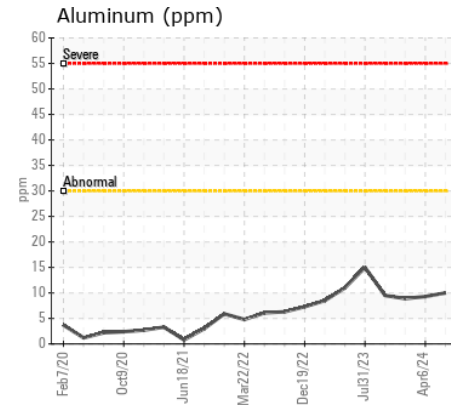
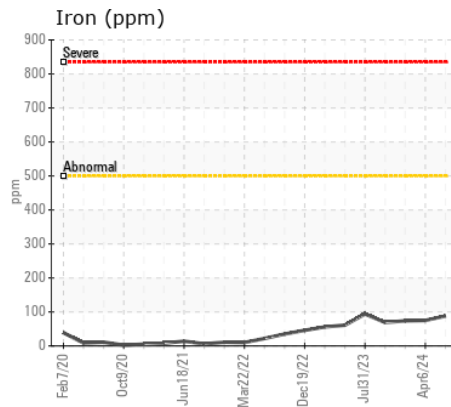
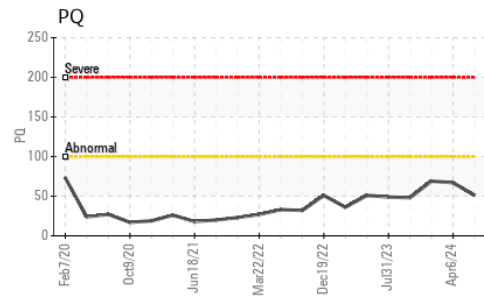
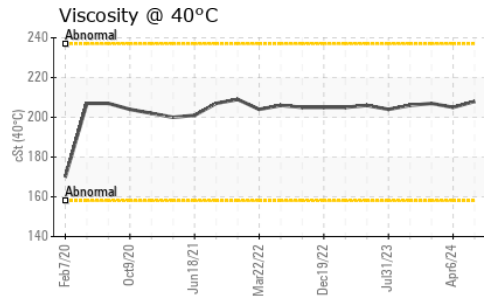
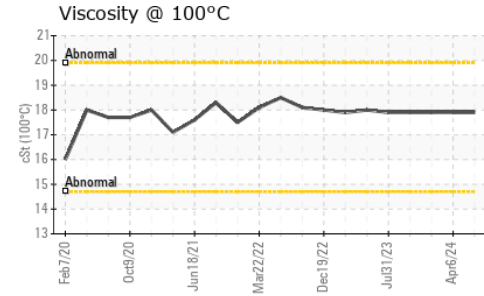
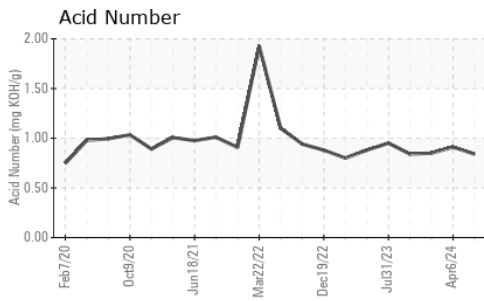
There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185m	>100	<b>40</b>	36	36
Potassium	ppm	ASTM D5185m	>20	<b>5</b>	0	2
Water		WC Method	>.2	<b>NEG</b>	NEG	NEG
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	>.2	<b>NEG</b>	NEG	NEG

## FLUID CONDITION

The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.

Sodium	ppm	ASTM D5185m		<b>7</b>	8	5
Boron	ppm	ASTM D5185m		<b>0</b>	0	0
Barium	ppm	ASTM D5185m		<b>0</b>	0	0
Molybdenum	ppm	ASTM D5185m		<b>0</b>	0	<1
Manganese	ppm	ASTM D5185m		<b>2</b>	<1	1
Magnesium	ppm	ASTM D5185m		<b>24</b>	17	24
Calcium	ppm	ASTM D5185m		<b>4637</b>	4010	4290
Phosphorus	ppm	ASTM D5185m		<b>897</b>	693	852
Zinc	ppm	ASTM D5185m		<b>1066</b>	827	988
Sulfur	ppm	ASTM D5185m		<b>5832</b>	4496	4808
Acid Number (AN)	mg KOH/g	ASTM D8045		<b>0.84</b>	0.91	0.85
Visc @ 40°C	cSt	ASTM D445		<b>208</b>	205	207
Visc @ 100°C	cSt	ASTM D445		<b>17.9</b>	17.9	17.9
Viscosity Index (VI)	Scale	ASTM D2270		<b>93</b>	95	94



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513

Sample No. : TO10003652

Lab Number : 06216332

Unique Number : 11089196

Test Package : MOB 2 ( Additional Tests: KV100, PQ, VI )

Received : 20 Jun 2024

Tested : 21 Jun 2024

Diagnosed : 21 Jun 2024 - Wes Davis

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)

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