



# OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	ATTENTION



Area  
**DE Samples - CAT LAB**  
Machine Id  
**CATERPILLAR 420 FST BACKHOE 6010 (S/N SKR04232)**  
Component  
**Rear Differential**  
Fluid  
**TULCO LUBSOIL TO-4 50 (--- GAL)**

## RECOMMENDATION

No corrective action is recommended at this time. Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		<b>TO10003637</b>	TO10002036	TO10002854
Sample Date		Client Info		<b>01 Jul 2024</b>	15 Mar 2024	14 Nov 2023
Machine Age	hrs	Client Info		<b>13787</b>	13344	12883
Oil Age	hrs	Client Info		<b>904</b>	461	1594
Filter Age	hrs	Client Info		<b>0</b>	461	0
Oil Changed		Client Info		<b>Not Changd</b>	Not Changd	Not Changd
Filter Changed		Client Info		<b>None</b>	None	None
Sample Status				<b>ATTENTION</b>	ATTENTION	ATTENTION

## WEAR

All component wear rates are normal.

PQ	UOM	Method	Limit/Abn	Current	History1	History2
PQ		ASTM D8184		<b>32</b>	39	25
Iron	ppm	ASTM D5185m	>500	<b>45</b>	40	27
Chromium	ppm	ASTM D5185m	>3	<b>0</b>	0	0
Nickel	ppm	ASTM D5185m	>3	<b>0</b>	0	0
Titanium	ppm	ASTM D5185m	>2	<b>0</b>	<1	0
Silver	ppm	ASTM D5185m	>2	<b>0</b>	<1	0
Aluminum	ppm	ASTM D5185m	>30	<b>4</b>	3	3
Lead	ppm	ASTM D5185m	>13	<b>&lt;1</b>	0	0
Copper	ppm	ASTM D5185m	>103	<b>6</b>	4	2
Tin	ppm	ASTM D5185m	>5	<b>&lt;1</b>	<1	<1
Vanadium	ppm	ASTM D5185m		<b>0</b>	0	0
White Metal	scalar	*Visual	NONE	<b>NONE</b>	LIGHT	NONE
Yellow Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE

## CONTAMINATION

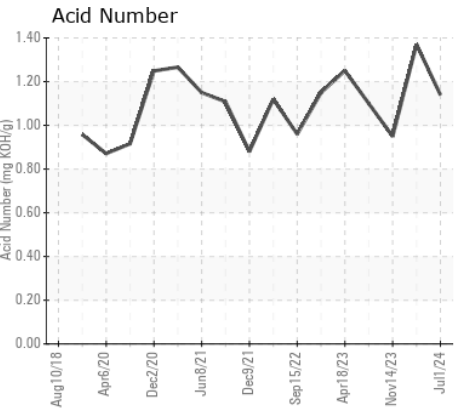
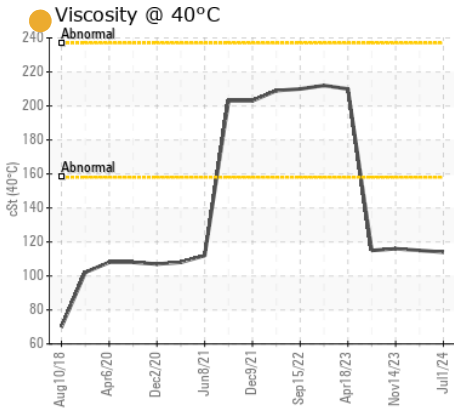
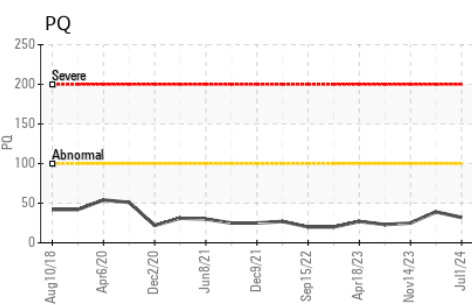
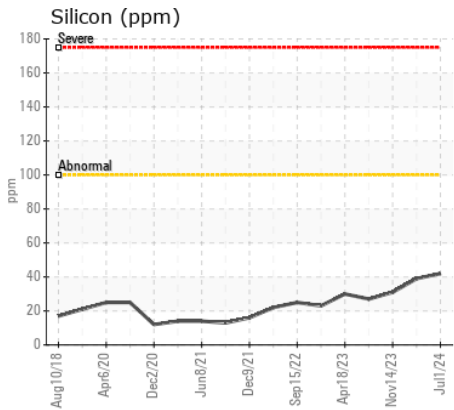
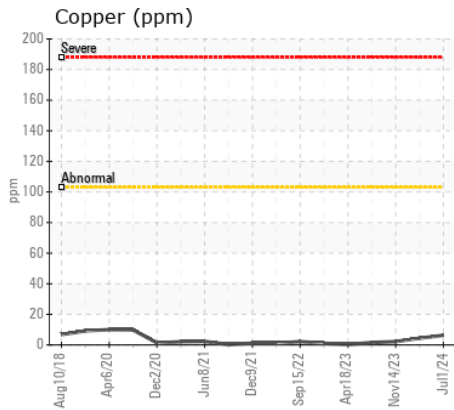
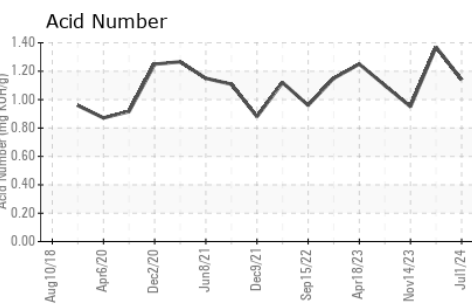
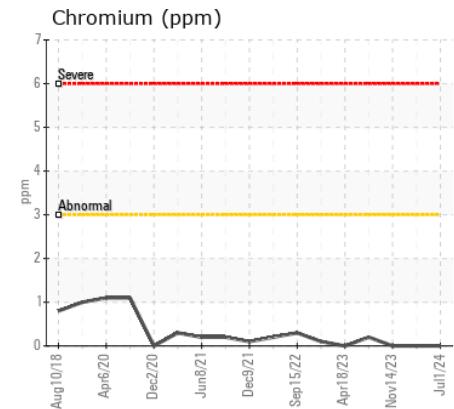
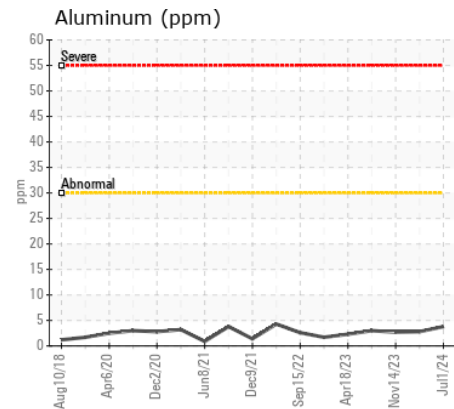
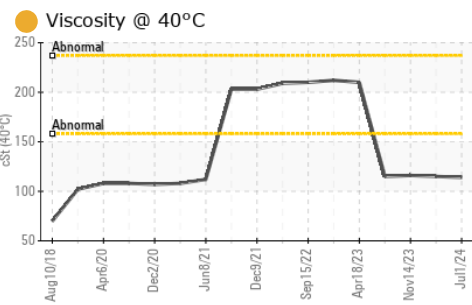
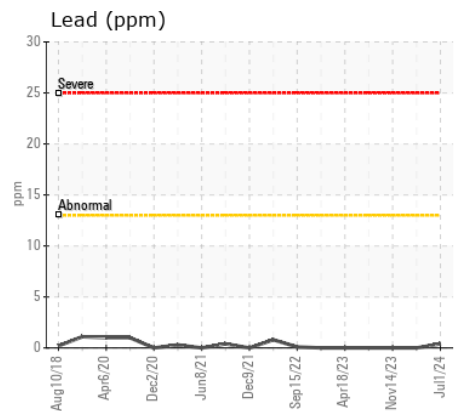
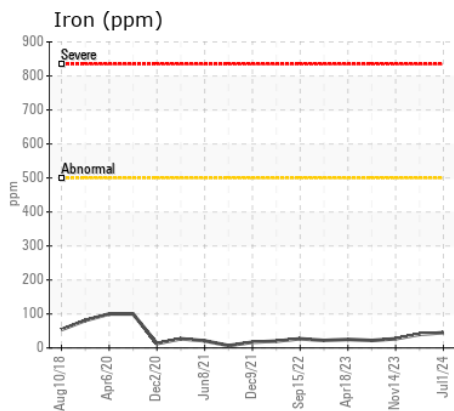
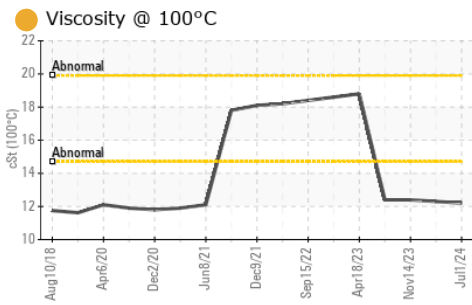
There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185m	>100	<b>42</b>	39	31
Potassium	ppm	ASTM D5185m	>20	<b>3</b>	<1	0
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 oil viscosity is lower than normal. Confirm oil type. The AN level is acceptable for this fluid.

Sodium	ppm	ASTM D5185m		<b>10</b>	10	5
Boron	ppm	ASTM D5185m		<b>&lt;1</b>	1	0
Barium	ppm	ASTM D5185m		<b>0</b>	0	0
Molybdenum	ppm	ASTM D5185m		<b>1</b>	<1	0
Manganese	ppm	ASTM D5185m		<b>&lt;1</b>	<1	<1
Magnesium	ppm	ASTM D5185m		<b>13</b>	13	10
Calcium	ppm	ASTM D5185m		<b>3299</b>	3100	2959
Phosphorus	ppm	ASTM D5185m		<b>929</b>	887	871
Zinc	ppm	ASTM D5185m		<b>1128</b>	1077	1046
Sulfur	ppm	ASTM D5185m		<b>5019</b>	4807	4036
Acid Number (AN)	mg KOH/g	ASTM D8045		<b>1.14</b>	1.37	0.95
Visc @ 40°C	cSt	ASTM D445		<b>114</b>	115	116
Visc @ 100°C	cSt	ASTM D445		<b>12.2</b>	12.3	12.4
Viscosity Index (VI)	Scale	ASTM D2270		<b>96</b>	96	97



Certificate L2367

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

Sample No. : TO10003637

Lab Number : 06229244

Unique Number : 11112737

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

Received : 05 Jul 2024

Tested : 09 Jul 2024

Diagnosed : 09 Jul 2024 - Don Baldrige

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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