



# OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	ABNORMAL
FLUID CONDITION	NORMAL



Machine Id  
**CATERPILLAR 6494 (S/N 4FR00287)**  
Component  
**Hydraulic System**  
Fluid  
**TULCO LUBSOIL SUPER HYDRAULIC HZ 46 (--- GAL)**

## RECOMMENDATION

We recommend you service the filters on this component. Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		<b>TO10003665</b>	TO10002747	TO10002210
Sample Date		Client Info		<b>22 Jun 2024</b>	29 Sep 2023	24 Apr 2023
Machine Age	hrs	Client Info		<b>31455</b>	30989	30493
Oil Age	hrs	Client Info		<b>2194</b>	1728	1232
Filter Age	hrs	Client Info		<b>2194</b>	496	491
Oil Changed		Client Info		<b>Not Changd</b>	Not Changd	Not Changd
Filter Changed		Client Info		<b>None</b>	Changed	Changed
Sample Status				<b>ABNORMAL</b>	NORMAL	NORMAL

## WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>26	<b>5</b>	0	0
Chromium	ppm	ASTM D5185m	>5	<b>&lt;1</b>	0	0
Nickel	ppm	ASTM D5185m	>10	<b>&lt;1</b>	0	0
Titanium	ppm	ASTM D5185m		<b>0</b>	0	0
Silver	ppm	ASTM D5185m		<b>0</b>	0	0
Aluminum	ppm	ASTM D5185m	>11	<b>2</b>	0	0
Lead	ppm	ASTM D5185m	>10	<b>0</b>	0	0
Copper	ppm	ASTM D5185m	>31	<b>&lt;1</b>	<1	0
Tin	ppm	ASTM D5185m	>10	<b>&lt;1</b>	0	0
Vanadium	ppm	ASTM D5185m		<b>0</b>	<1	0
White Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE

## CONTAMINATION

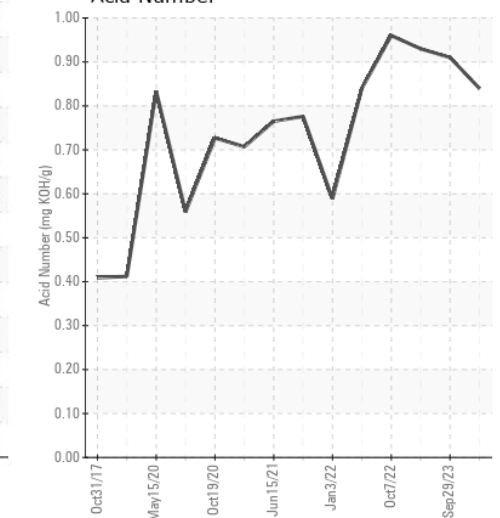
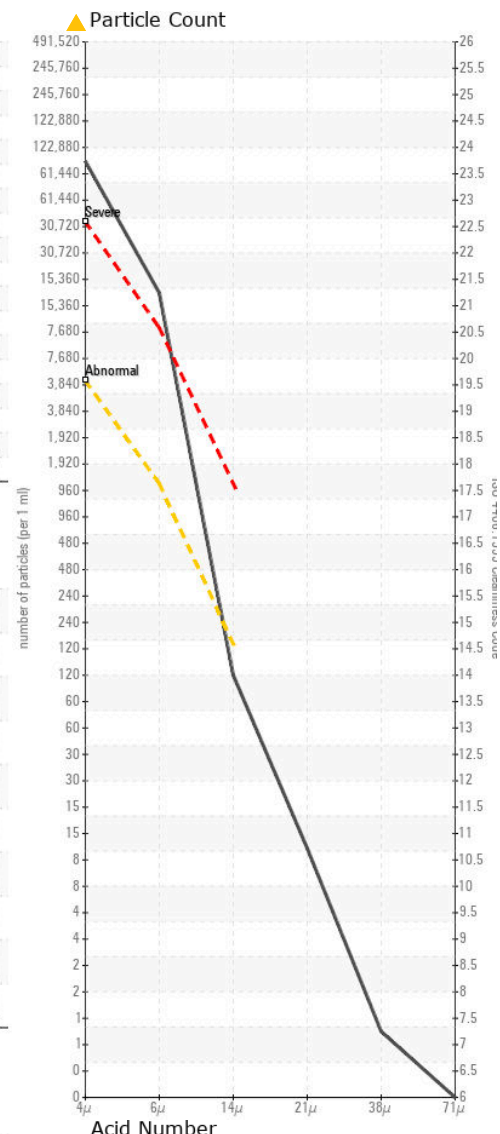
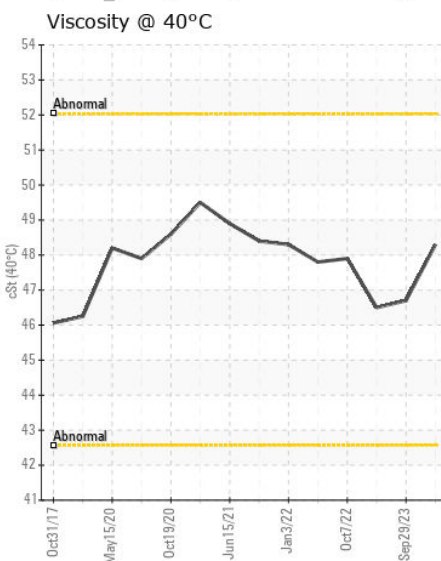
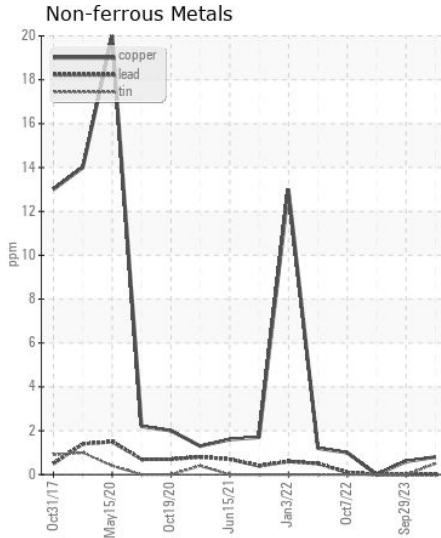
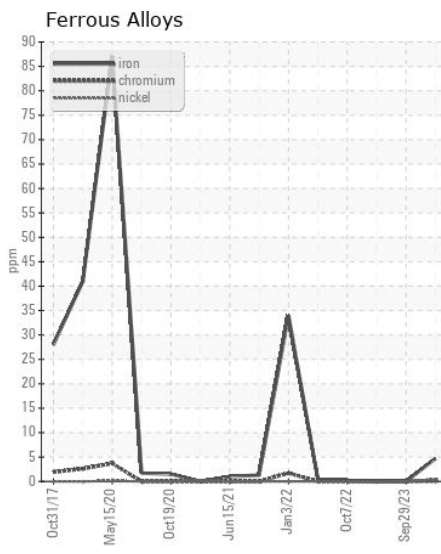
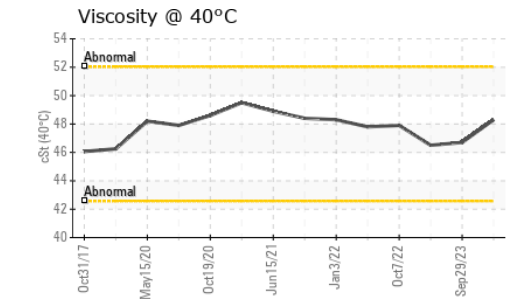
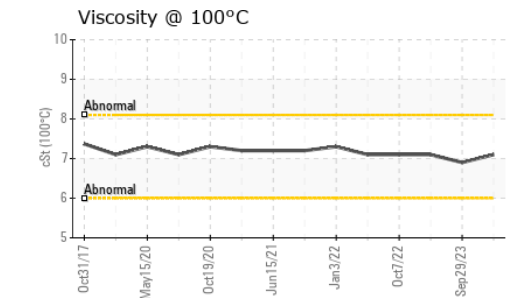
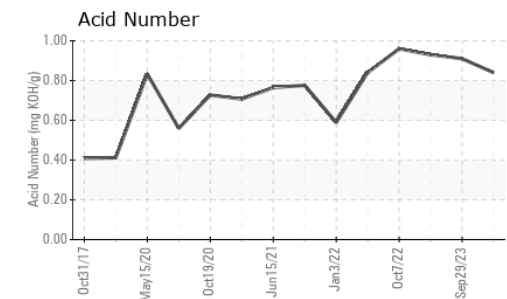
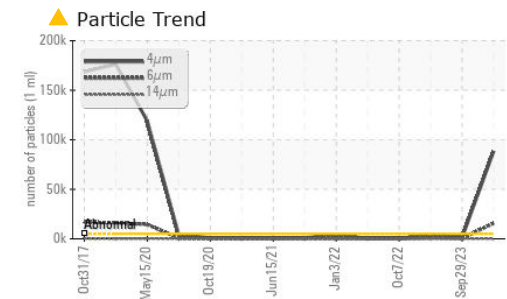
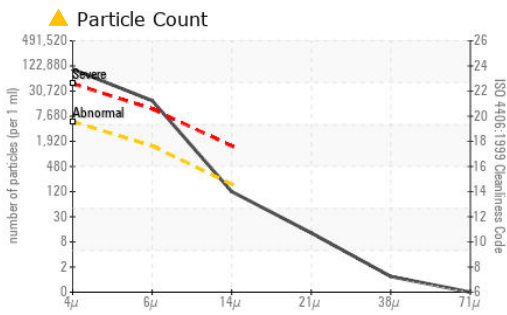
There is a high amount of silt (particulates < 14 microns in size) present in the oil.

Silicon	ppm	ASTM D5185m	>21	<b>6</b>	1	<1
Potassium	ppm	ASTM D5185m	>20	<b>3</b>	1	<1
Water	%	ASTM D6304	>0.1	<b>NEG</b>	NEG	NEG
Particles >4µm		ASTM D7647	>5000	<b>▲ 88398</b>	1383	4254
Particles >6µm		ASTM D7647	>1300	<b>▲ 15784</b>	268	1184
Particles >14µm		ASTM D7647	>160	<b>106</b>	18	76
Particles >21µm		ASTM D7647	>40	<b>11</b>	6	18
Particles >38µm		ASTM D7647	>10	<b>1</b>	0	0
Particles >71µm		ASTM D7647	>3	<b>0</b>	0	0
Oil Cleanliness		ISO 4406 (c)	>19/17/14	<b>▲ 24/21/14</b>	18/15/11	19/17/13
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	>0.1	<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>3</b>	3	1
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	0
Manganese	ppm	ASTM D5185m		<b>&lt;1</b>	0	0
Magnesium	ppm	ASTM D5185m		<b>232</b>	166	140
Calcium	ppm	ASTM D5185m		<b>289</b>	164	157
Phosphorus	ppm	ASTM D5185m		<b>822</b>	750	826
Zinc	ppm	ASTM D5185m		<b>1042</b>	971	1038
Sulfur	ppm	ASTM D5185m		<b>3769</b>	2978	2924
Acid Number (AN)	mg KOH/g	ASTM D8045		<b>0.84</b>	0.91	0.93
Visc @ 40°C	cSt	ASTM D445		<b>48.3</b>	46.7	46.5
Visc @ 100°C	cSt	ASTM D445		<b>7.1</b>	6.9	7.1
Viscosity Index (VI)	Scale	ASTM D2270		<b>104</b>	102	111



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : TO10003665 **Received** : 01 Jul 2024  
**Lab Number** : 06225013 **Tested** : 03 Jul 2024  
**Unique Number** : 11103210 **Diagnosed** : 03 Jul 2024 - Don Baldridge  
**Test Package** : MOB 2 ( Additional Tests: KF, KV100, VI )

**ANCHOR STONE TULSA ROCK**  
 TULSA ROCK QUARRY, 66TH ST N 145TH AVENUE  
 TULSA, OK  
 US 74137

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 T: (417)850-9635

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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