



OIL ANALYSIS REPORT

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



Machine Id  
**CATERPILLAR 990K 6088 (S/N A9P00362)**  
 Component  
**Front Differential**  
 Fluid  
**TULCO LUBSOIL TO-4 50 (52 GAL)**

**RECOMMENDATION**

Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		<b>TO10003629</b>	TO10003014	TO10002890
Sample Date		Client Info		<b>13 Jun 2024</b>	22 Mar 2024	06 Nov 2023
Machine Age	hrs	Client Info		<b>15988</b>	15413	14829
Oil Age	hrs	Client Info		<b>4500</b>	3925	3341
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>N/A</b>	N/A	None
Sample Status				<b>NORMAL</b>	NORMAL	NORMAL

**WEAR**

All component wear rates are normal.

PQ		ASTM D8184		<b>25</b>	33	28
Iron	ppm	ASTM D5185m	>500	<b>33</b>	34	24
Chromium	ppm	ASTM D5185m	>3	<b>&lt;1</b>	<1	0
Nickel	ppm	ASTM D5185m	>3	<b>2</b>	2	<1
Titanium	ppm	ASTM D5185m	>2	<b>&lt;1</b>	<1	0
Silver	ppm	ASTM D5185m	>2	<b>&lt;1</b>	0	0
Aluminum	ppm	ASTM D5185m	>30	<b>3</b>	4	2
Lead	ppm	ASTM D5185m	>13	<b>&lt;1</b>	<1	0
Copper	ppm	ASTM D5185m	>103	<b>2</b>	3	2
Tin	ppm	ASTM D5185m	>5	<b>&lt;1</b>	<1	0
Vanadium	ppm	ASTM D5185m		<b>&lt;1</b>	<1	0
White Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE

**CONTAMINATION**

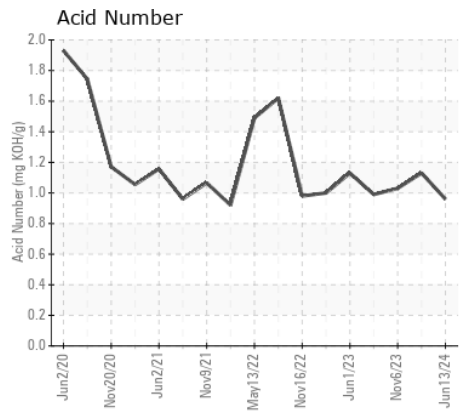
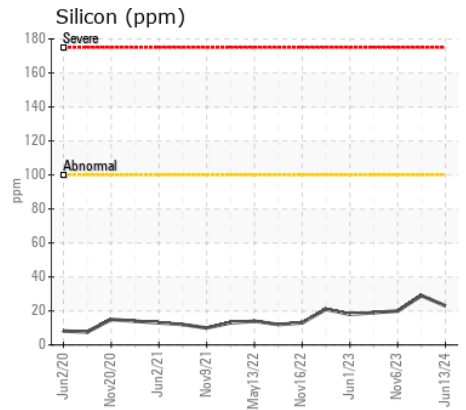
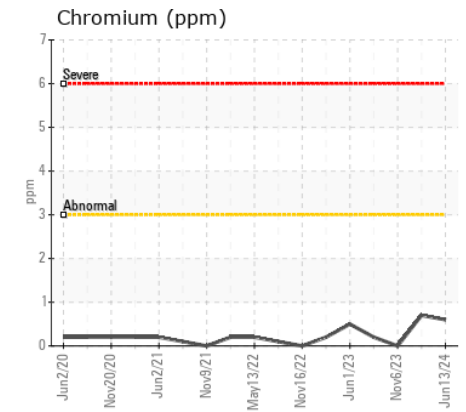
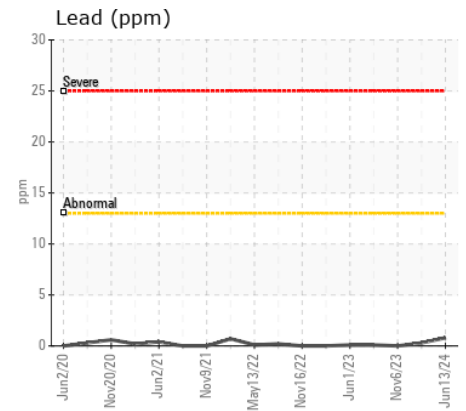
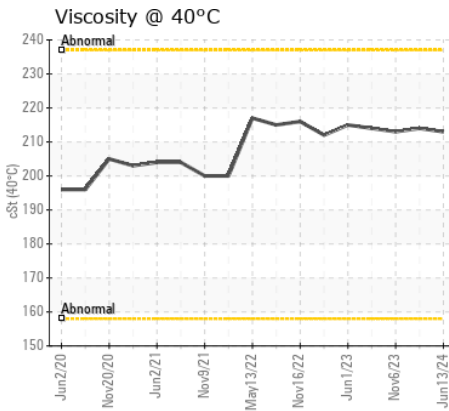
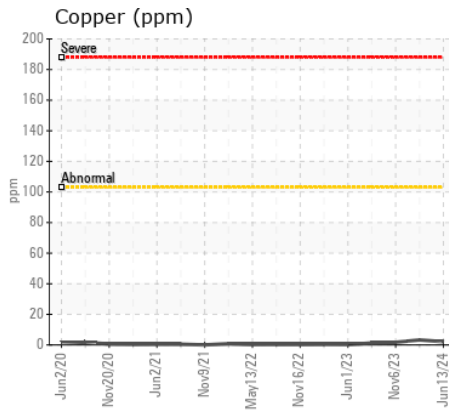
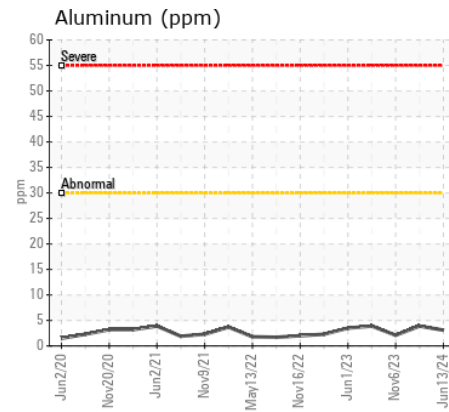
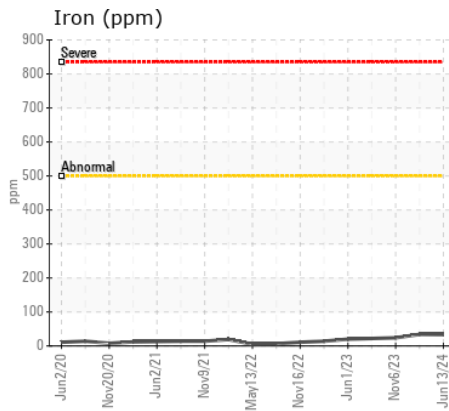
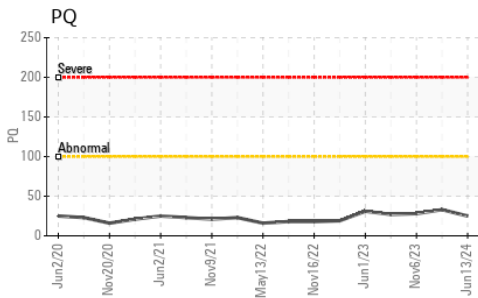
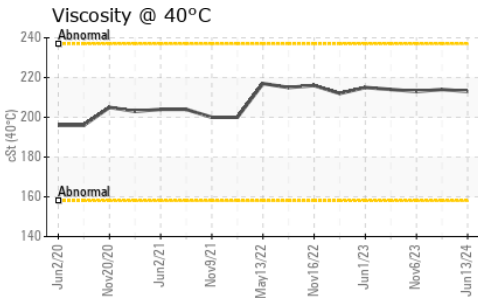
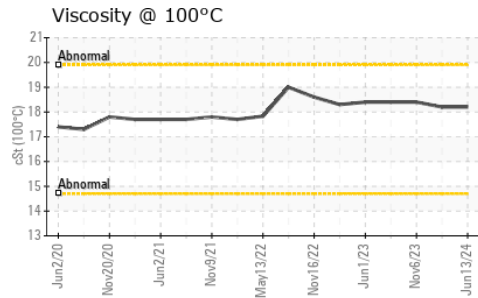
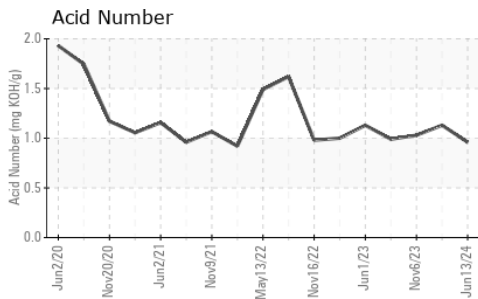
There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185m	>100	<b>23</b>	29	20
Potassium	ppm	ASTM D5185m	>20	<b>3</b>	3	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 AN level is acceptable for this fluid. The condition of the oil is suitable for further service.

Sodium	ppm	ASTM D5185m		<b>&lt;1</b>	3	4
Boron	ppm	ASTM D5185m		<b>0</b>	0	0
Barium	ppm	ASTM D5185m		<b>1</b>	0	0
Molybdenum	ppm	ASTM D5185m		<b>&lt;1</b>	<1	0
Manganese	ppm	ASTM D5185m		<b>&lt;1</b>	<1	0
Magnesium	ppm	ASTM D5185m		<b>12</b>	13	12
Calcium	ppm	ASTM D5185m		<b>3382</b>	3399	3086
Phosphorus	ppm	ASTM D5185m		<b>1034</b>	979	925
Zinc	ppm	ASTM D5185m		<b>1180</b>	1183	1146
Sulfur	ppm	ASTM D5185m		<b>5243</b>	5611	4788
Acid Number (AN)	mg KOH/g	ASTM D8045		<b>0.96</b>	1.13	1.03
Visc @ 40°C	cSt	ASTM D445		<b>213</b>	214	213
Visc @ 100°C	cSt	ASTM D445		<b>18.2</b>	18.2	18.4
Viscosity Index (VI)	Scale	ASTM D2270		<b>93</b>	93	95



**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : TO10003629 **Received** : 21 Jun 2024  
**Lab Number** : 06217396 **Tested** : 24 Jun 2024  
**Unique Number** : 11090260 **Diagnosed** : 24 Jun 2024 - Wes Davis  
**Test Package** : MOB 2 ( Additional Tests: KV100, PQ, VI )

**ANCHOR STONE TULSA ROCK**  
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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)