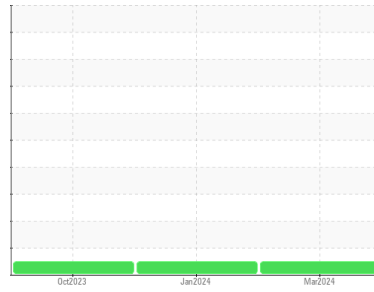


# OIL ANALYSIS REPORT



Machine Id  
**CATERPILLAR 980M 6161 (S/N MK210767)**  
 Component  
**Front Differential**  
 Fluid  
**TULCO LUBSOIL TO-4 50 (--- GAL)**

Sample Rating Trend



**NORMAL**

**DIAGNOSIS**

**Recommendation**  
 Resample at the next service interval to monitor.

**Wear**  
 All component wear rates are normal.

**Contamination**  
 There is no indication of any contamination in the oil.

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

**SAMPLE INFORMATION**    method    limit/base    current    history1    history2

Sample Number	Client Info		<b>TO10003351</b>	TO10003038	TO10002791
Sample Date	Client Info		<b>31 Mar 2024</b>	26 Jan 2024	18 Oct 2023
Machine Age	hrs	Client Info	<b>9552</b>	8990	8534
Oil Age	hrs	Client Info	<b>1318</b>	756	300
Oil Changed		Client Info	<b>Not Chngd</b>	Not Chngd	Not Chngd
Sample Status			<b>NORMAL</b>	NORMAL	NORMAL

**CONTAMINATION**    method    limit/base    current    history1    history2

Water	WC Method	>.2	<b>NEG</b>	NEG	NEG
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**WEAR METALS**    method    limit/base    current    history1    history2

PQ		ASTM D8184		<b>72</b>	61	18
Iron	ppm	ASTM D5185m	>500	<b>115</b>	93	16
Chromium	ppm	ASTM D5185m	>3	<b>0</b>	<1	<1
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>	0	0
Aluminum	ppm	ASTM D5185m	>30	<b>2</b>	2	1
Lead	ppm	ASTM D5185m	>13	<b>0</b>	<1	0
Copper	ppm	ASTM D5185m	>103	<b>9</b>	6	3
Tin	ppm	ASTM D5185m	>5	<b>&lt;1</b>	<1	0
Vanadium	ppm	ASTM D5185m		<b>0</b>	<1	0
Cadmium	ppm	ASTM D5185m		<b>0</b>	<1	0

**ADDITIVES**    method    limit/base    current    history1    history2

Boron	ppm	ASTM D5185m		<b>2</b>	2	0
Barium	ppm	ASTM D5185m		<b>0</b>	0	0
Molybdenum	ppm	ASTM D5185m		<b>2</b>	3	1
Manganese	ppm	ASTM D5185m		<b>1</b>	1	<1
Magnesium	ppm	ASTM D5185m		<b>27</b>	29	29
Calcium	ppm	ASTM D5185m		<b>3027</b>	2797	2958
Phosphorus	ppm	ASTM D5185m		<b>1061</b>	1044	1023
Zinc	ppm	ASTM D5185m		<b>1237</b>	1205	1256
Sulfur	ppm	ASTM D5185m		<b>7075</b>	6324	6426

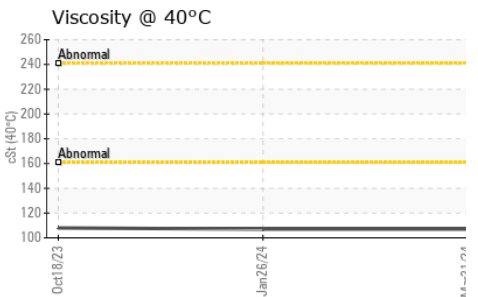
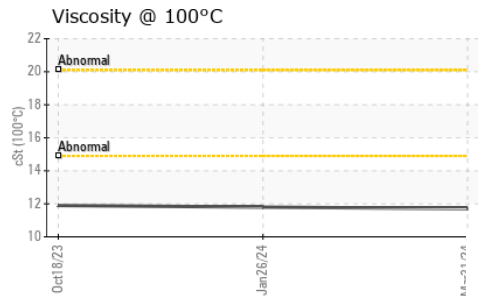
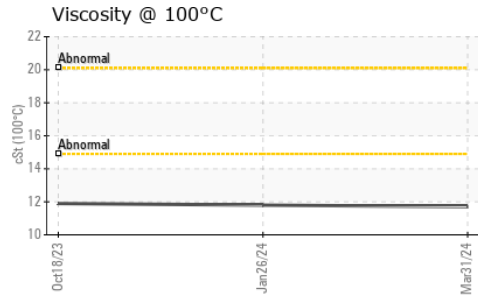
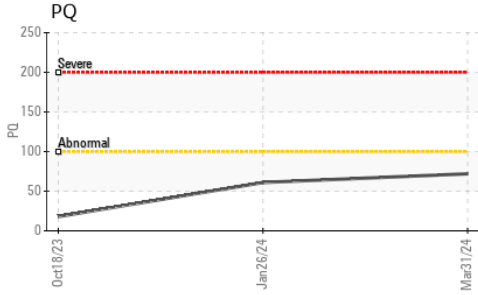
**CONTAMINANTS**    method    limit/base    current    history1    history2

Silicon	ppm	ASTM D5185m	>100	<b>7</b>	8	7
Sodium	ppm	ASTM D5185m		<b>2</b>	<1	0
Potassium	ppm	ASTM D5185m	>20	<b>0</b>	0	<1

**FLUID DEGRADATION**    method    limit/base    current    history1    history2

Acid Number (AN)	mg KOH/g	ASTM D8045		<b>1.76</b>	1.55	1.46
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# OIL ANALYSIS REPORT

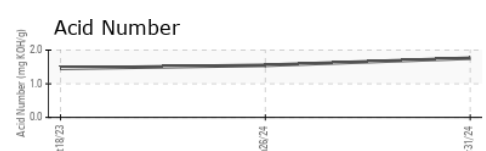
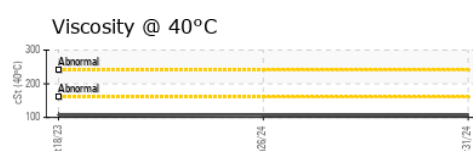
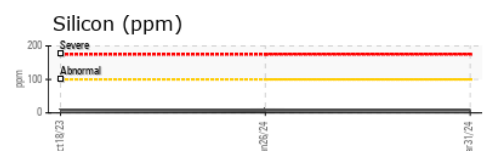
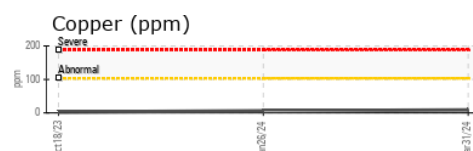
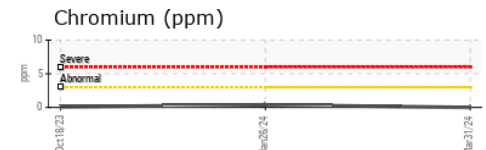
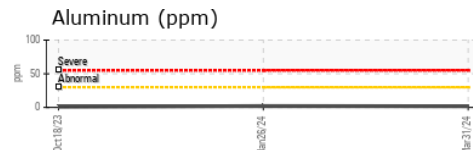
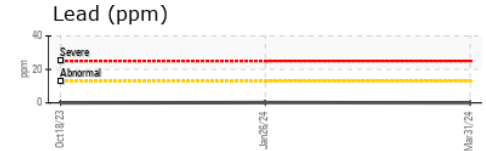
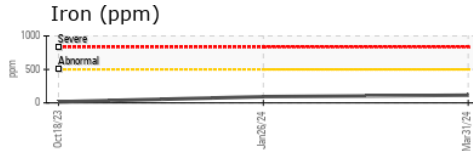


VISUAL	method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	LIGHT
Yellow Metal	scalar	*Visual	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	<b>LIGHT</b>	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE
Appearance	scalar	*Visual	NORML	NORML	NORML
Odor	scalar	*Visual	NORML	NORML	NORML
Emulsified Water	scalar	*Visual	>.2	<b>NEG</b>	NEG
Free Water	scalar	*Visual		<b>NEG</b>	NEG

FLUID PROPERTIES	method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D445	<b>107</b>	107	108
Visc @ 100°C	cSt	ASTM D445	<b>11.7</b>	11.8	11.9
Viscosity Index (VI)	Scale	ASTM D2270	<b>96</b>	98	98

SAMPLE IMAGES	method	limit/base	current	history1	history2
Color				no image	no image
Bottom				no image	no image

## GRAPHS



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : TO10003351  
**Lab Number** : **06142429**  
**Unique Number** : 10967237  
**Test Package** : MOB 2 ( Additional Tests: KV100, PQ, VI )

**Received** : 08 Apr 2024  
**Tested** : 09 Apr 2024  
**Diagnosed** : 11 Apr 2024 - Jonathan Hester

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

Contact: SKIP SAENGERHAUSEN  
 skip@anchorstoneco.com

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)

T: (918)928-4575

F: