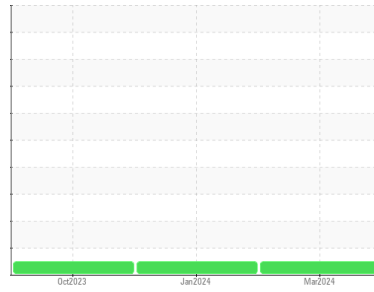


OIL ANALYSIS REPORT



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

Sample Rating Trend



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		TO10003350	TO10003039	TO10002792
Sample Date	Client Info		31 Mar 2024	26 Jan 2024	18 Oct 2023
Machine Age	hrs	Client Info	9552	8990	8534
Oil Age	hrs	Client Info	1318	756	300
Oil Changed		Client Info	Not Changed	Not Changd	Not Changed
Sample Status			NORMAL	NORMAL	NORMAL

CONTAMINATION method limit/base current history1 history2

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

PQ		ASTM D8184		74	71	16
Iron	ppm	ASTM D5185m	>500	122	90	16
Chromium	ppm	ASTM D5185m	>3	0	<1	<1
Nickel	ppm	ASTM D5185m	>3	0	0	0
Titanium	ppm	ASTM D5185m	>2	0	<1	0
Silver	ppm	ASTM D5185m	>2	0	0	0
Aluminum	ppm	ASTM D5185m	>30	2	2	1
Lead	ppm	ASTM D5185m	>13	0	<1	0
Copper	ppm	ASTM D5185m	>103	10	6	3
Tin	ppm	ASTM D5185m	>5	<1	<1	0
Vanadium	ppm	ASTM D5185m		0	<1	0
Cadmium	ppm	ASTM D5185m		0	<1	0

ADDITIVES method limit/base current history1 history2

Boron	ppm	ASTM D5185m		1	2	0
Barium	ppm	ASTM D5185m		0	0	0
Molybdenum	ppm	ASTM D5185m		2	3	1
Manganese	ppm	ASTM D5185m		2	1	<1
Magnesium	ppm	ASTM D5185m		26	29	29
Calcium	ppm	ASTM D5185m		3043	2819	2956
Phosphorus	ppm	ASTM D5185m		1057	1043	1025
Zinc	ppm	ASTM D5185m		1252	1201	1251
Sulfur	ppm	ASTM D5185m		7093	6314	6430

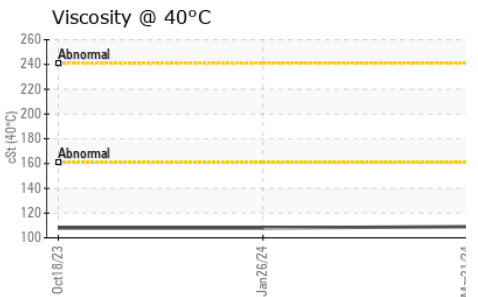
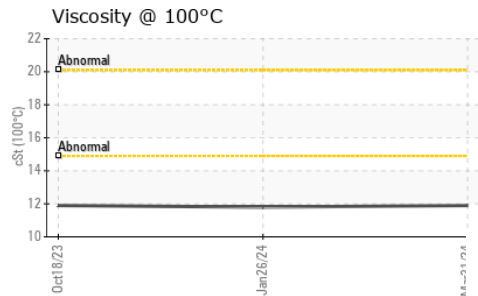
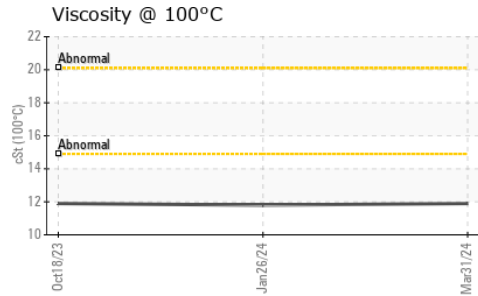
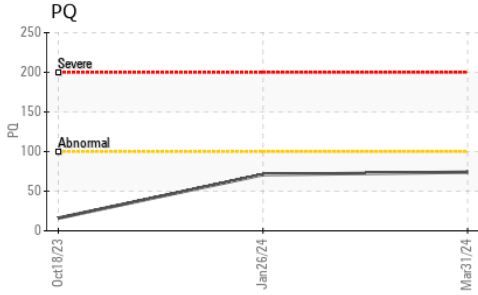
CONTAMINANTS method limit/base current history1 history2

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

FLUID DEGRADATION method limit/base current history1 history2

Acid Number (AN)	mg KOH/g	ASTM D8045		1.71	1.55	1.53
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OIL ANALYSIS REPORT

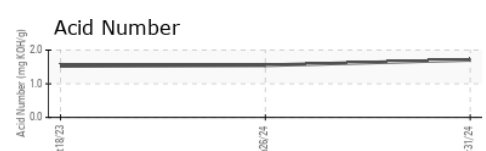
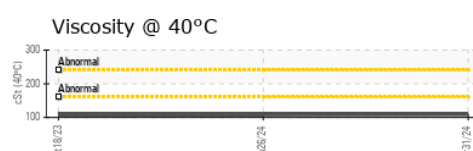
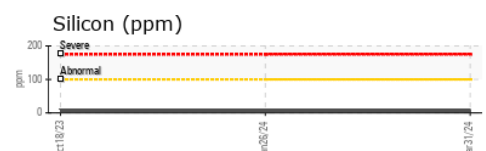
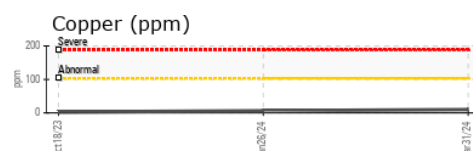
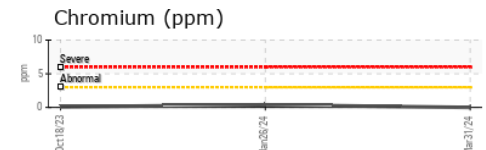
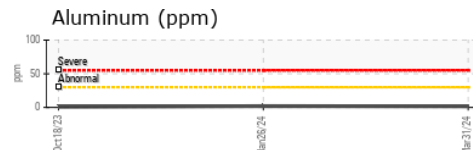
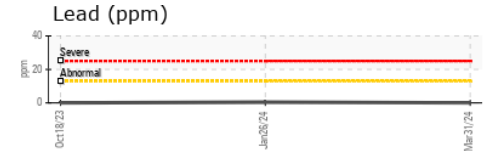
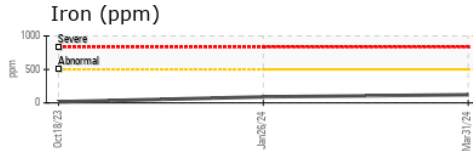


VISUAL	method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	LIGHT
Yellow Metal	scalar	*Visual	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE
Appearance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

FLUID PROPERTIES	method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D445	109	108	108
Visc @ 100°C	cSt	ASTM D445	11.9	11.8	11.9
Viscosity Index (VI)	Scale	ASTM D2270	97	97	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. : TO10003350 **Received** : 08 Apr 2024
Lab Number : **06142432** **Tested** : 09 Apr 2024
Unique Number : 10967240 **Diagnosed** : 11 Apr 2024 - Jonathan Hester
Test Package : MOB 2 (Additional Tests: KV100, PQ, VI)

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 TULSA, OK 74137
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 T: (918)928-4575
 F:

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)