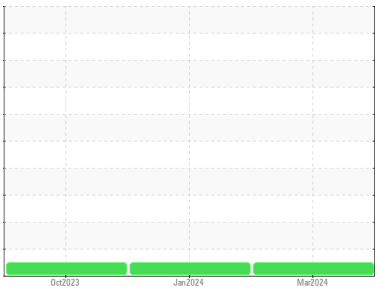
OIL ANALYSIS REPORT

Sample Rating Trend



NORMAL

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

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		**TO10003355**	TO10003035	TO10002790
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 Changd**	Not Changd	Not Changd
Sample Status				**NORMAL**	NORMAL	NORMAL

CONTAMINATION		method	limit/base	current	history1	history2
Water		WC Method	>.2	**NEG**	NEG	NEG

WEAR METALS		method	limit/base	current	history1	history2
PQ		ASTM D8184		**67**	72	19
Iron	ppm	ASTM D5185m	>500	**125**	100	14
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	**11**	7	2
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		**2**	1	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		**27**	28	28
Calcium	ppm	ASTM D5185m		**3114**	2846	2982
Phosphorus	ppm	ASTM D5185m		**1072**	1045	1016
Zinc	ppm	ASTM D5185m		**1247**	1189	1249
Sulfur	ppm	ASTM D5185m		**7031**	6286	6427

CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>100	**7**	8	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		**1.72**	1.62	1.51

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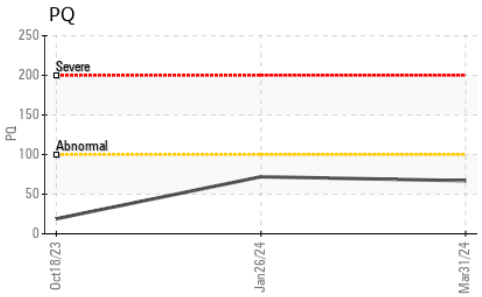
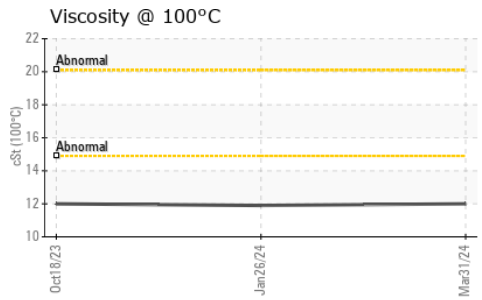
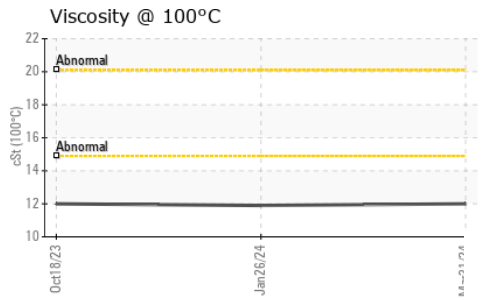
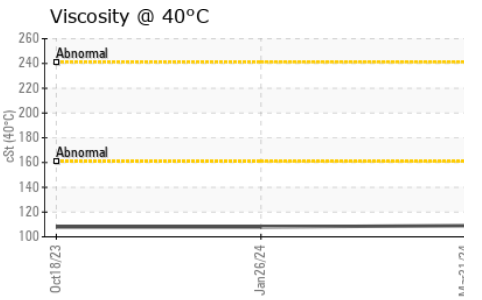






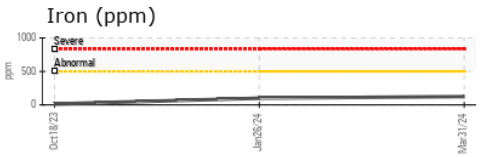


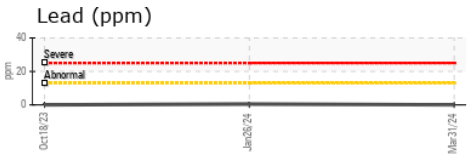
VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	**NONE**	LIGHT	NONE
Yellow Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Precipitate	scalar	*Visual	NONE	**NONE**	NONE	NONE
Silt	scalar	*Visual	NONE	**NONE**	NONE	NONE
Debris	scalar	*Visual	NONE	**NONE**	NONE	NONE
Sand/Dirt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

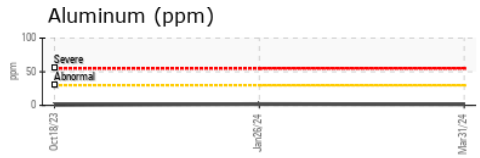
FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D445		**109**	108	108
Visc @ 100°C	cSt	ASTM D445		**12.0**	11.9	12.0
Viscosity Index (VI)	Scale	ASTM D2270		**98**	98	100

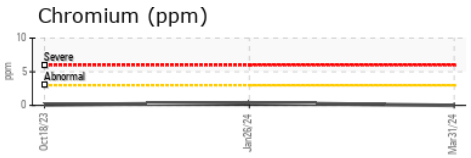
SAMPLE IMAGES	method	limit/base	current	history1	history2
Color			*no image*	*no image*	*no image*
Bottom			*no image*	*no image*	*no image*

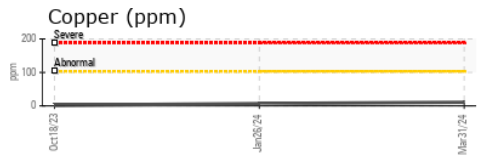
GRAPHS

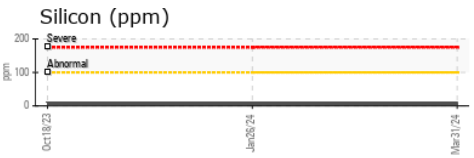


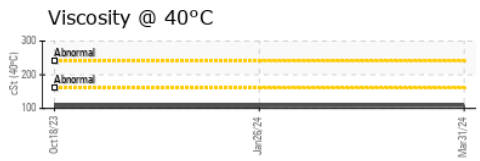


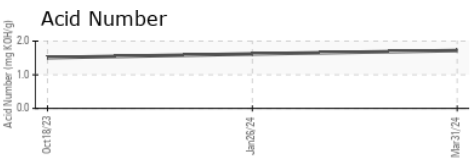












Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : TO10003355
Lab Number : 06142428
Unique Number : 10967236
Test Package : MOB 2 (Additional Tests: KV100, PQ, VI)

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

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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Report Id: ANCTUL [WUSCAR] 06142428 (Generated: 04/11/2024 22:48:48) Rev: 1

Submitted By: SKIP SAENGERHAUSEN