

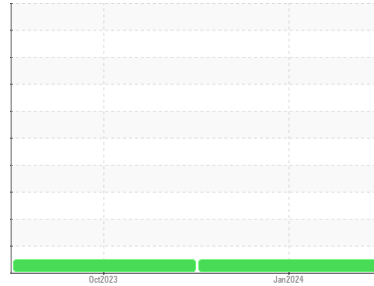
OIL ANALYSIS REPORT

Sample Rating Trend

NORMAL



Machine Id
CATERPILLAR 980M 6161 (S/N MK210767)
Component
Rear Right 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

Confirm oil type. 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			TO10003033	TO10002794	---
Sample Date	Client Info			26 Jan 2024	18 Oct 2023	---
Machine Age	hrs	Client Info		8990	8534	---
Oil Age	hrs	Client Info		756	300	---
Oil Changed	Client Info			Not Changed	Not Changed	---
Sample Status				NORMAL	NORMAL	---

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

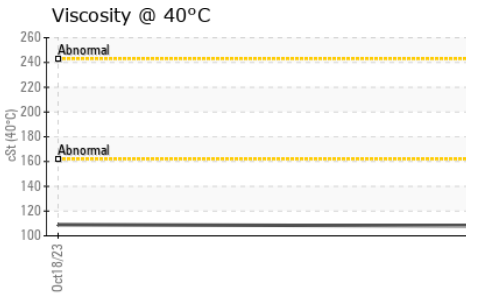
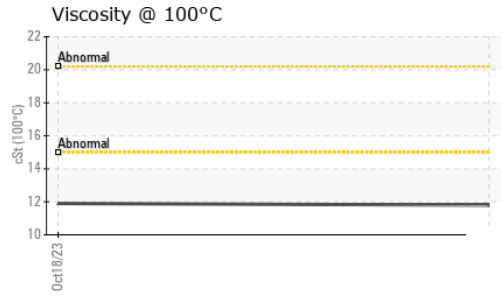
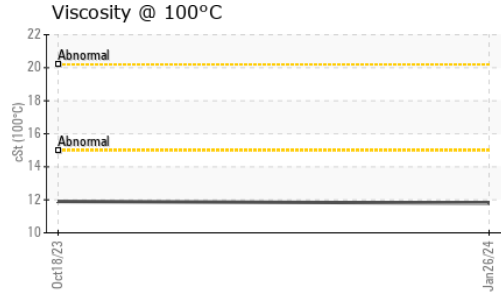
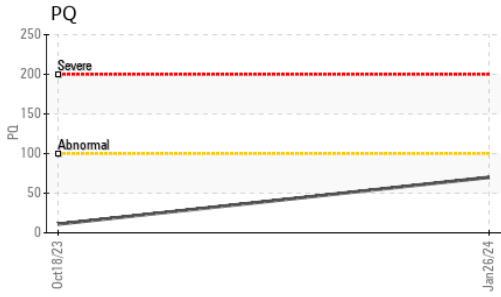
WEAR METALS		method	limit/base	current	history1	history2
PQ		ASTM D8184		70	11	---
Iron	ppm	ASTM D5185m	>500	97	14	---
Chromium	ppm	ASTM D5185m	>3	<1	<1	---
Nickel	ppm	ASTM D5185m	>3	0	0	---
Titanium	ppm	ASTM D5185m	>2	<1	0	---
Silver	ppm	ASTM D5185m	>2	0	0	---
Aluminum	ppm	ASTM D5185m	>30	2	1	---
Lead	ppm	ASTM D5185m	>13	<1	0	---
Copper	ppm	ASTM D5185m	>103	7	2	---
Tin	ppm	ASTM D5185m	>5	<1	0	---
Vanadium	ppm	ASTM D5185m		<1	0	---
Cadmium	ppm	ASTM D5185m		<1	0	---

ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m		1	0	---
Barium	ppm	ASTM D5185m		0	0	---
Molybdenum	ppm	ASTM D5185m		3	1	---
Manganese	ppm	ASTM D5185m		1	<1	---
Magnesium	ppm	ASTM D5185m		28	28	---
Calcium	ppm	ASTM D5185m		2855	2945	---
Phosphorus	ppm	ASTM D5185m		1048	1013	---
Zinc	ppm	ASTM D5185m		1201	1244	---
Sulfur	ppm	ASTM D5185m		6342	6407	---

CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>100	7	7	---
Sodium	ppm	ASTM D5185m		<1	0	---
Potassium	ppm	ASTM D5185m	>20	0	<1	---

FLUID DEGRADATION		method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g	ASTM D8045		1.60	1.51	---

OIL ANALYSIS REPORT

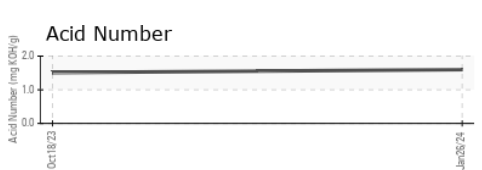
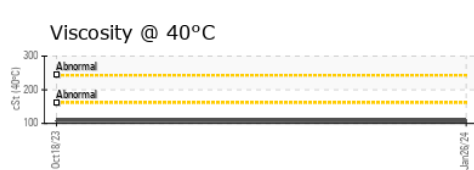
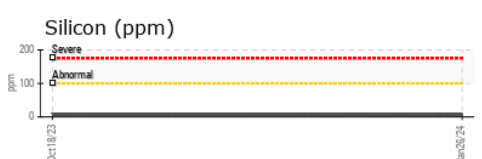
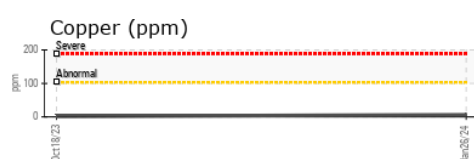
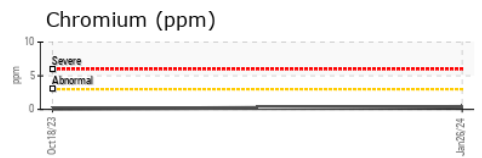
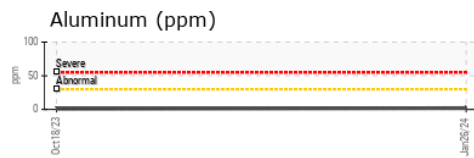
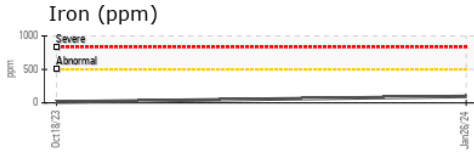


VISUAL	method	limit/base	current	history1	history2	
White Metal	scalar	*Visual	NONE	LIGHT	NONE	---
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	---
Precipitate	scalar	*Visual	NONE	NONE	NONE	---
Silt	scalar	*Visual	NONE	NONE	NONE	---
Debris	scalar	*Visual	NONE	NONE	NONE	---
Sand/Dirt	scalar	*Visual	NONE	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	108	109	---
Visc @ 100°C	cSt	ASTM D445	11.8	11.9	---
Viscosity Index (VI)	Scale	ASTM D2270	97	97	---

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

GRAPHS



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : TO10003033 **Recieved** : 31 Jan 2024
Lab Number : **06076421** **Diagnosed** : 02 Feb 2024
Unique Number : 10858512 **Diagnostician** : Don Baldrige
Test Package : MOB 2 (Additional Tests: KV100, PQ, VI)

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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)