



OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL



Machine Id
CATERPILLAR 990 LOADER G 6427 (S/N BCR00127)
Component
Rear Left Final Drive
Fluid
TULCO LUBSOIL TO-4 50 (--- GAL)

RECOMMENDATION

Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		TO10002888	TO10002399	TO10001760
Sample Date		Client Info		13 Nov 2023	18 Jul 2023	27 Mar 2023
Machine Age	hrs	Client Info		48135	47549	47048
Oil Age	hrs	Client Info		3070	2484	1983
Filter Age	hrs	Client Info		0	0	0
Oil Changed		Client Info		Not Changd	Not Changd	Not Changd
Filter Changed		Client Info		None	None	None
Sample Status				NORMAL	NORMAL	NORMAL

WEAR

All component wear rates are normal.

PQ		ASTM D8184	>500	16	15	10
Iron	ppm	ASTM D5185m	>800	14	11	11
Chromium	ppm	ASTM D5185m	>10	<1	<1	0
Nickel	ppm	ASTM D5185m	>5	2	<1	0
Titanium	ppm	ASTM D5185m	>15	<1	0	0
Silver	ppm	ASTM D5185m	>2	0	1	0
Aluminum	ppm	ASTM D5185m	>75	4	4	3
Lead	ppm	ASTM D5185m	>10	<1	0	0
Copper	ppm	ASTM D5185m	>75	4	2	1
Tin	ppm	ASTM D5185m	>8	<1	<1	0
Vanadium	ppm	ASTM D5185m		<1	0	0
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE

CONTAMINATION

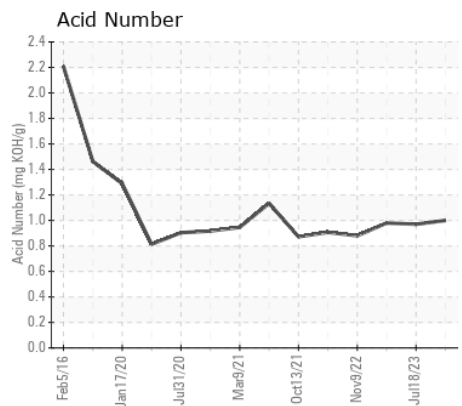
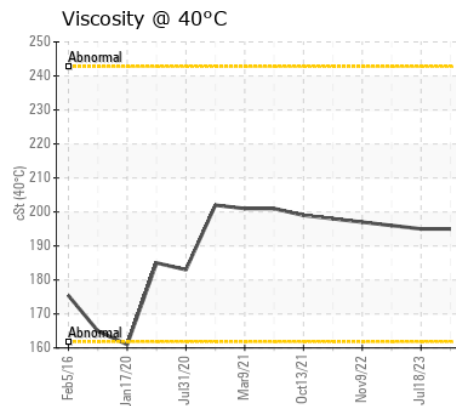
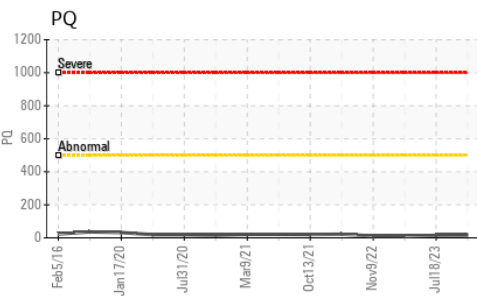
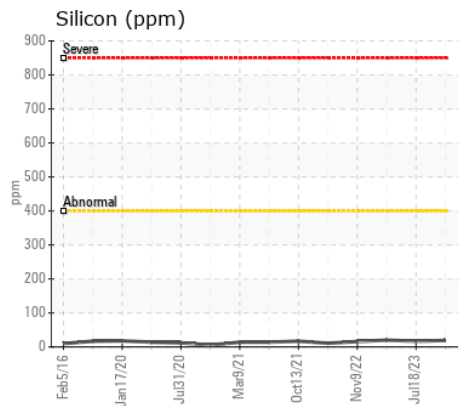
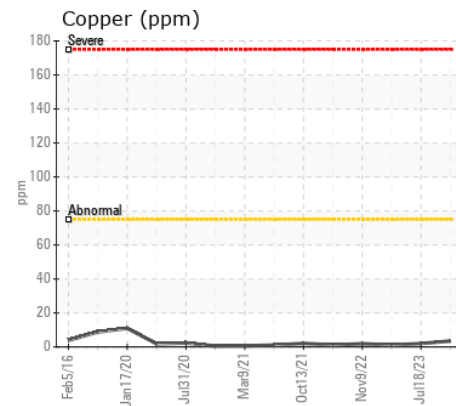
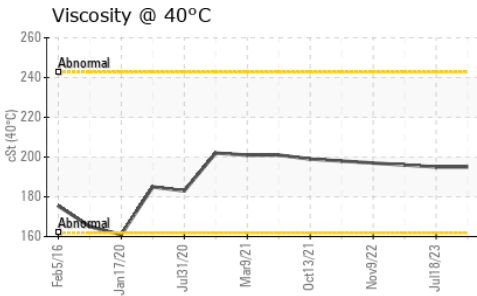
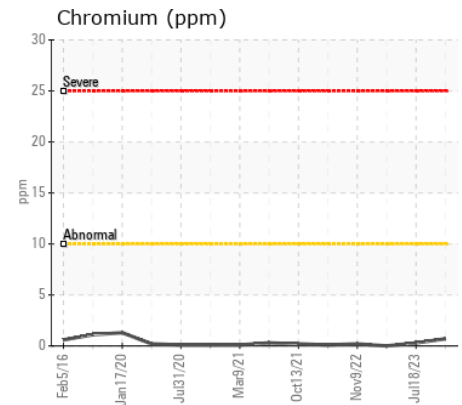
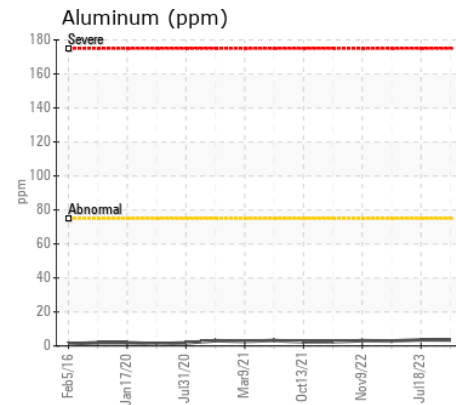
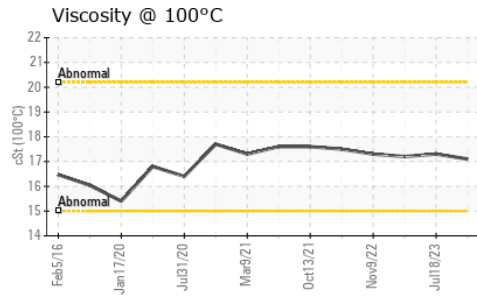
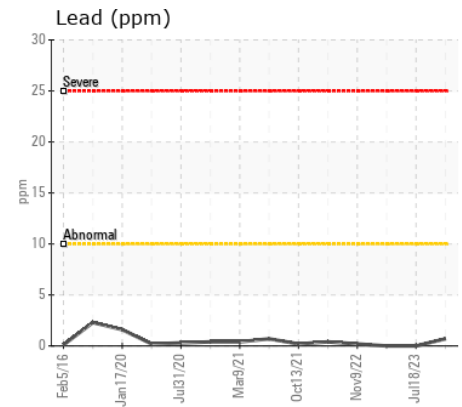
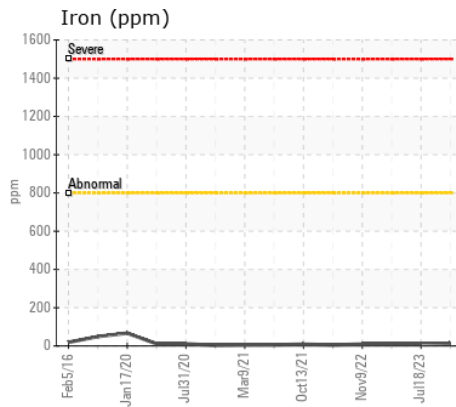
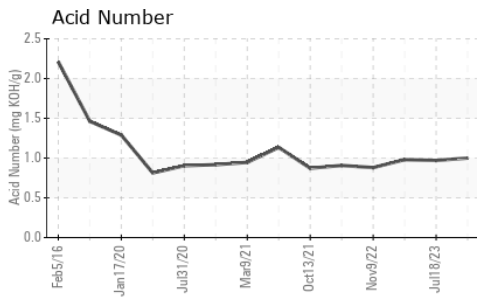
There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185m	>400	19	17	20
Potassium	ppm	ASTM D5185m	>20	0	<1	0
Water		WC Method	>0.2	NEG	NEG	NEG
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	>0.2	NEG	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		4	4	3
Boron	ppm	ASTM D5185m		0	0	0
Barium	ppm	ASTM D5185m		0	0	0
Molybdenum	ppm	ASTM D5185m		<1	<1	0
Manganese	ppm	ASTM D5185m		<1	<1	0
Magnesium	ppm	ASTM D5185m		0	28	24
Calcium	ppm	ASTM D5185m		4114	4543	4799
Phosphorus	ppm	ASTM D5185m		734	875	904
Zinc	ppm	ASTM D5185m		974	1095	1089
Sulfur	ppm	ASTM D5185m		4315	6229	5712
Acid Number (AN)	mg KOH/g	ASTM D8045		1.00	0.97	0.98
Visc @ 40°C	cSt	ASTM D445		195	195	196
Visc @ 100°C	cSt	ASTM D445		17.1	17.3	17.2
Viscosity Index (VI)	Scale	ASTM D2270		93	94	93



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : TO10002888 **Received** : 17 Nov 2023
Lab Number : 06011564 **Tested** : 20 Nov 2023
Unique Number : 10750708 **Diagnosed** : 20 Nov 2023 - Wes Davis
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)