



OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL



Machine Id **CATERPILLAR 980M 6161 (S/N MK210767)**

Component **Hydraulic System**

Fluid **TULCO LUBSOIL SUPER HYDRAULIC AW 46 (--- GAL)**

RECOMMENDATION

Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		TO10002787	---	---
Sample Date		Client Info		18 Oct 2023	---	---
Machine Age	hrs	Client Info		8534	---	---
Oil Age	hrs	Client Info		300	---	---
Filter Age	hrs	Client Info		300	---	---
Oil Changed		Client Info		Not Changd	---	---
Filter Changed		Client Info		Not Changd	---	---
Sample Status				NORMAL	---	---

WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>20	4	---	---
Chromium	ppm	ASTM D5185m	>20	<1	---	---
Nickel	ppm	ASTM D5185m	>20	<1	---	---
Titanium	ppm	ASTM D5185m		<1	---	---
Silver	ppm	ASTM D5185m		0	---	---
Aluminum	ppm	ASTM D5185m	>20	2	---	---
Lead	ppm	ASTM D5185m	>20	<1	---	---
Copper	ppm	ASTM D5185m	>20	5	---	---
Tin	ppm	ASTM D5185m	>20	0	---	---
Vanadium	ppm	ASTM D5185m		0	---	---
White Metal	scalar	*Visual	NONE	NONE	---	---
Yellow Metal	scalar	*Visual	NONE	NONE	---	---

CONTAMINATION

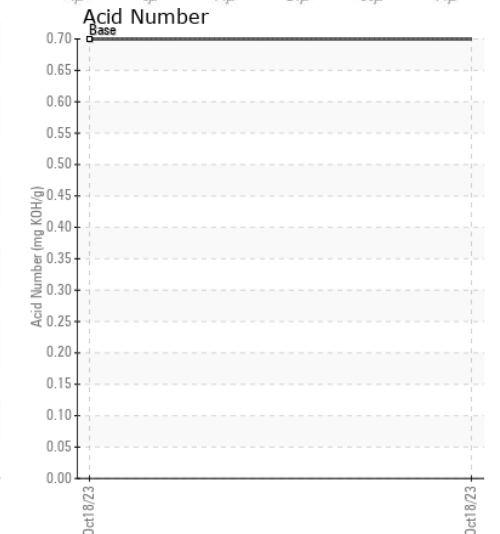
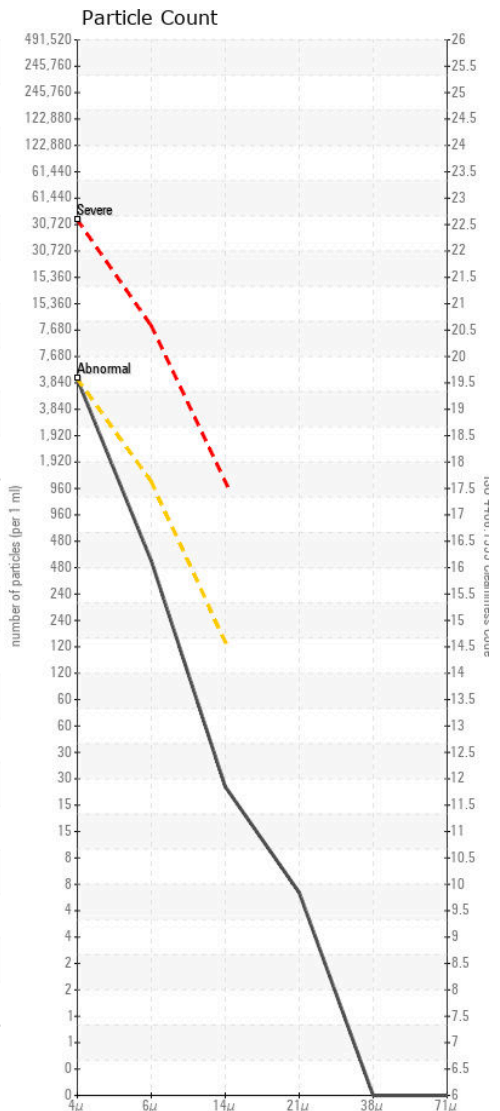
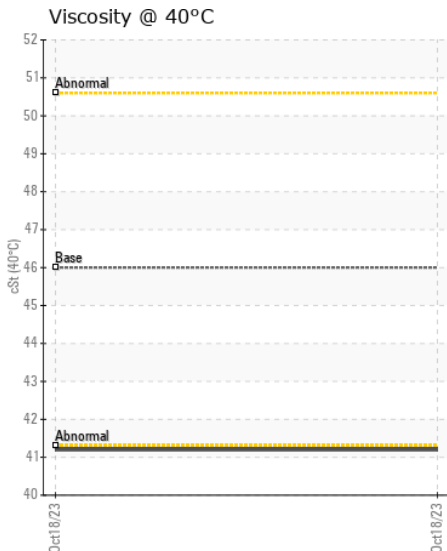
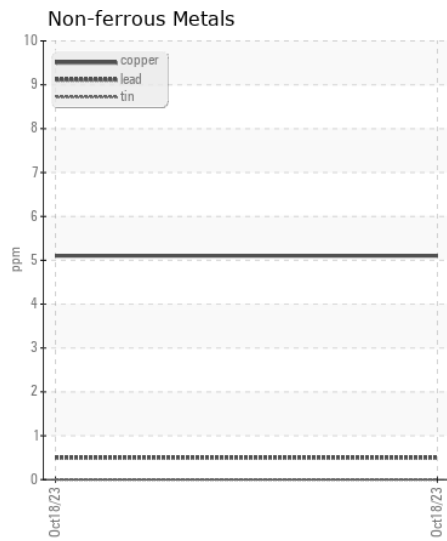
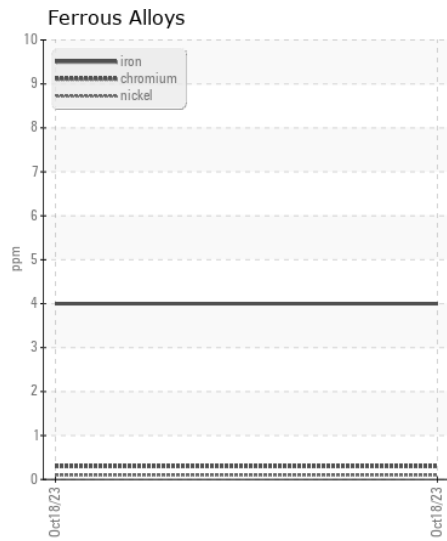
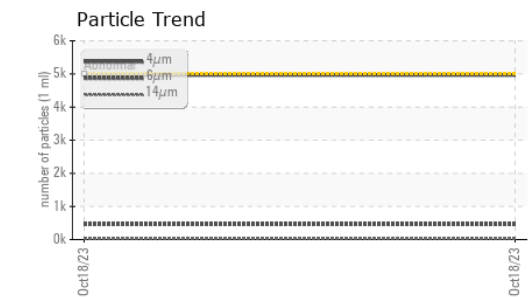
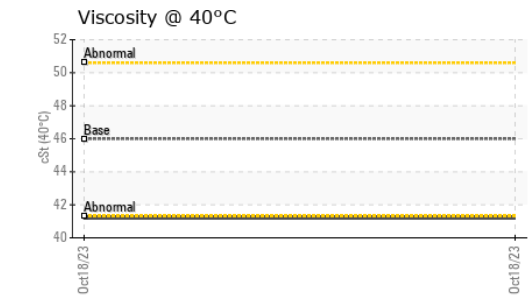
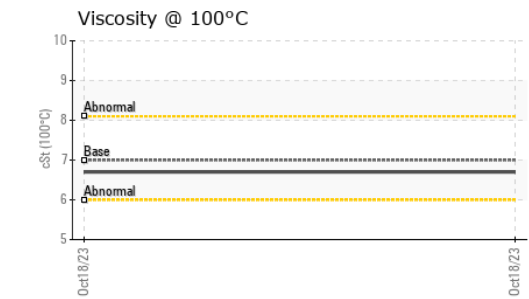
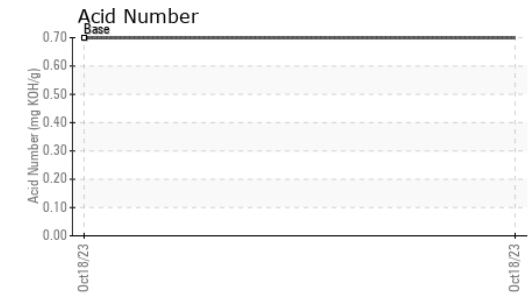
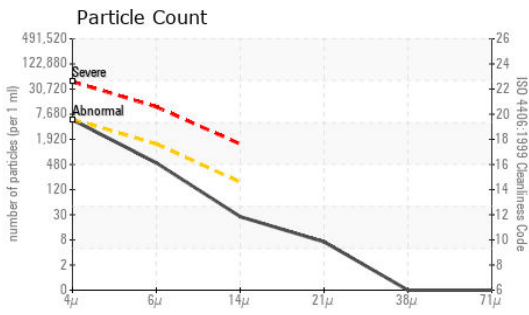
The amount and size of particulates present in the system are acceptable. There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185m	>15	5	---	---
Potassium	ppm	ASTM D5185m	>20	2	---	---
Water	%	ASTM D6304	>0.05	NEG	---	---
Particles >4µm		ASTM D7647	>5000	4964	---	---
Particles >6µm		ASTM D7647	>1300	461	---	---
Particles >14µm		ASTM D7647	>160	24	---	---
Particles >21µm		ASTM D7647	>40	6	---	---
Particles >38µm		ASTM D7647	>10	0	---	---
Particles >71µm		ASTM D7647	>3	0	---	---
Oil Cleanliness		ISO 4406 (c)	>19/17/14	19/16/12	---	---
Silt	scalar	*Visual	NONE	NONE	---	---
Debris	scalar	*Visual	NONE	NONE	---	---
Sand/Dirt	scalar	*Visual	NONE	NONE	---	---
Appearance	scalar	*Visual	NORML	NORML	---	---
Odor	scalar	*Visual	NORML	NORML	---	---
Emulsified Water	scalar	*Visual	>0.05	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		0	---	---
Boron	ppm	ASTM D5185m		0	---	---
Barium	ppm	ASTM D5185m		10	---	---
Molybdenum	ppm	ASTM D5185m		<1	---	---
Manganese	ppm	ASTM D5185m		0	---	---
Magnesium	ppm	ASTM D5185m		7	---	---
Calcium	ppm	ASTM D5185m		180	---	---
Phosphorus	ppm	ASTM D5185m	450	675	---	---
Zinc	ppm	ASTM D5185m	540	947	---	---
Sulfur	ppm	ASTM D5185m	1825	1840	---	---
Acid Number (AN)	mg KOH/g	ASTM D8045	.7	0.70	---	---
Visc @ 40°C	cSt	ASTM D445	46	41.2	---	---
Visc @ 100°C	cSt	ASTM D445	7	6.7	---	---
Viscosity Index (VI)	Scale	ASTM D2270	109	117	---	---



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
 Sample No. : TO10002787 Recieved : 24 Oct 2023
 Lab Number : 05988069 Diagnosed : 26 Oct 2023
 Unique Number : 10710731 Diagnostician : Don Baldrige
 Test Package : MOB 2 (Additional Tests: KF, KV100, VI)

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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