



OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	ABNORMAL
FLUID CONDITION	NORMAL



Machine Id
CATERPILLAR 980M 6141 (S/N KRS00885)

Component
Hydraulic System

Fluid
TULCO LUBSOIL SUPER HYDRAULIC HZ 46 (75 GAL)

RECOMMENDATION

No corrective action is recommended at this time. The filter change at the time of sampling has been noted. Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		TO10002043	TO10003374	TO10002988
Sample Date		Client Info		08 Apr 2024	04 Mar 2024	01 Feb 2024
Machine Age	hrs	Client Info		13425	13158	12901
Oil Age	hrs	Client Info		1249	982	725
Filter Age	hrs	Client Info		524	257	517
Oil Changed		Client Info		Not Changed	Not Changed	Not Changed
Filter Changed		Client Info		Changed	Changed	Changed
Sample Status				ABNORMAL	NORMAL	ABNORMAL

WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>20	2	3	2
Chromium	ppm	ASTM D5185m	>20	0	0	<1
Nickel	ppm	ASTM D5185m	>20	0	0	0
Titanium	ppm	ASTM D5185m		0	0	0
Silver	ppm	ASTM D5185m		0	0	0
Aluminum	ppm	ASTM D5185m	>20	0	0	2
Lead	ppm	ASTM D5185m	>20	0	0	0
Copper	ppm	ASTM D5185m	>20	3	2	3
Tin	ppm	ASTM D5185m	>20	0	0	0
Vanadium	ppm	ASTM D5185m		0	0	0
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE

CONTAMINATION

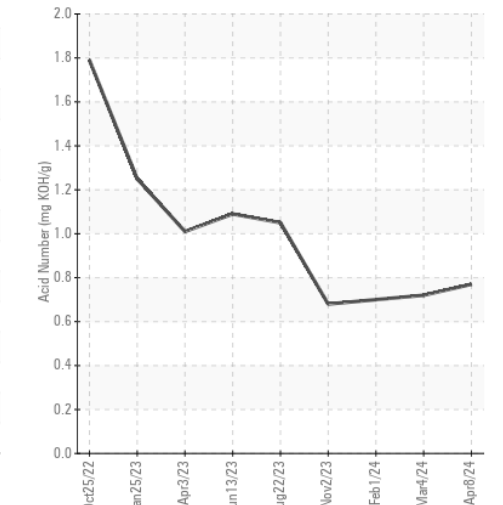
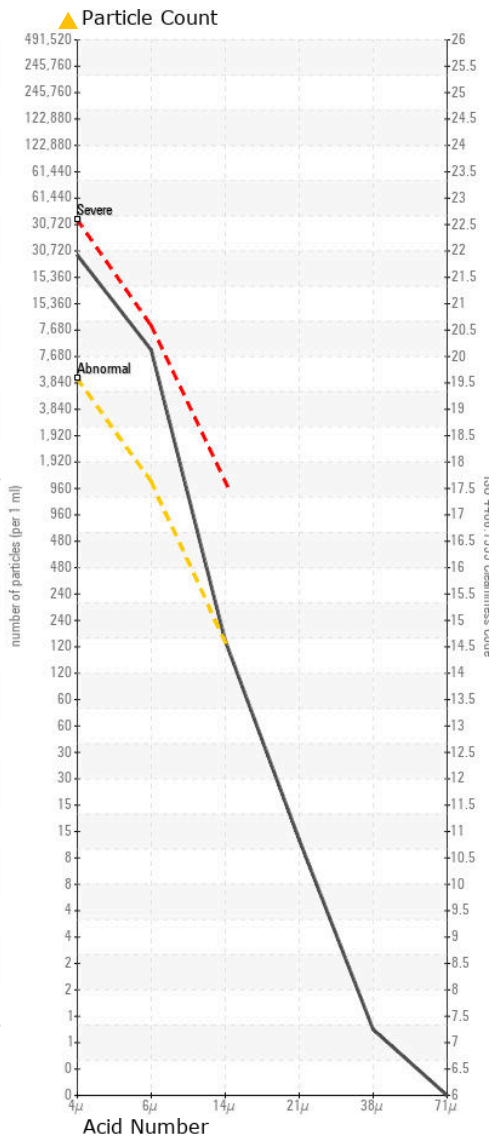
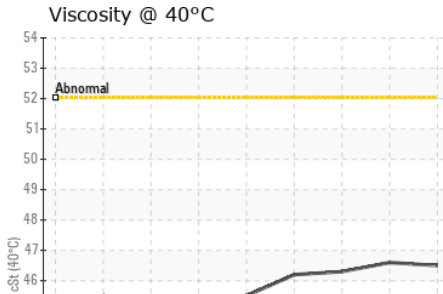
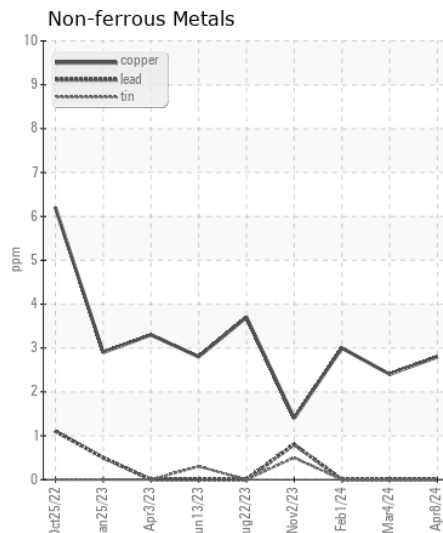
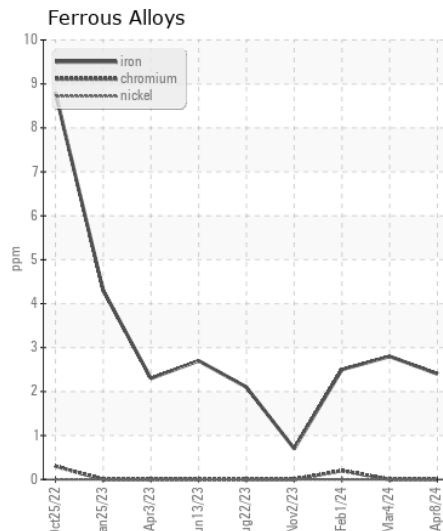
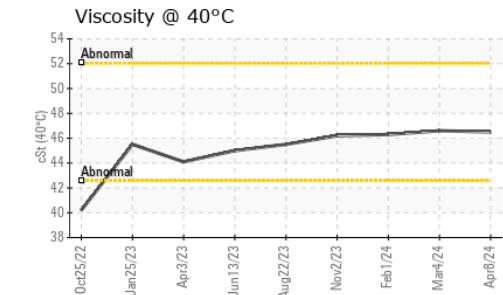
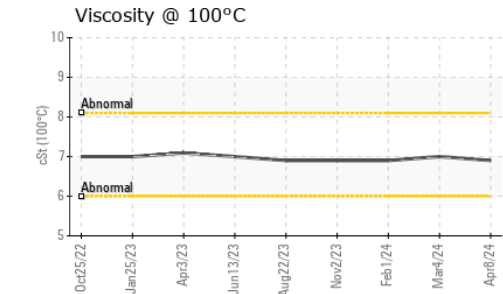
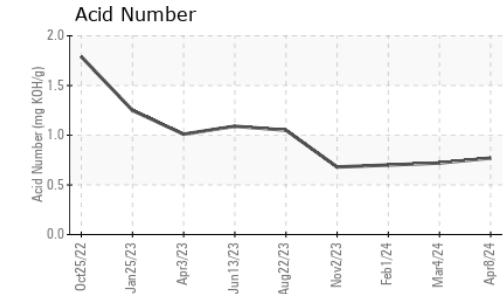
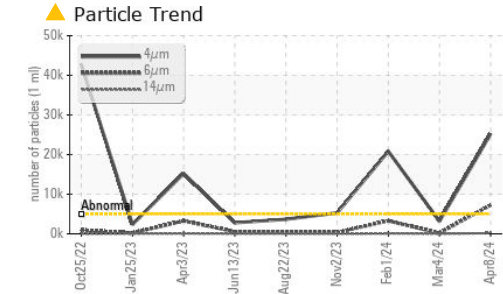
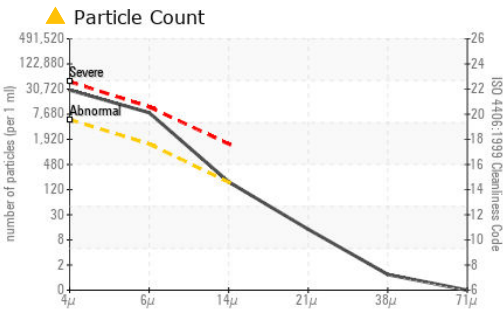
There is a high amount of particulates present in the oil.

Silicon	ppm	ASTM D5185m	>15	2	2	1
Potassium	ppm	ASTM D5185m	>20	0	0	2
Water	%	ASTM D6304	>0.05	NEG	NEG	NEG
ppm Water	ppm	ASTM D6304	>500	---	---	---
Particles >4µm		ASTM D7647	>5000	▲ 25224	3164	▲ 20824
Particles >6µm		ASTM D7647	>1300	▲ 7266	192	▲ 3284
Particles >14µm		ASTM D7647	>160	▲ 162	11	84
Particles >21µm		ASTM D7647	>40	12	3	14
Particles >38µm		ASTM D7647	>10	1	0	0
Particles >71µm		ASTM D7647	>3	0	0	0
Oil Cleanliness		ISO 4406 (c)	>19/17/14	▲ 22/20/15	19/15/11	▲ 22/19/14
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	>0.05	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		5	4	0
Boron	ppm	ASTM D5185m		0	0	0
Barium	ppm	ASTM D5185m		0	0	5
Molybdenum	ppm	ASTM D5185m		0	<1	0
Manganese	ppm	ASTM D5185m		0	0	0
Magnesium	ppm	ASTM D5185m		146	152	176
Calcium	ppm	ASTM D5185m		429	453	493
Phosphorus	ppm	ASTM D5185m		675	740	720
Zinc	ppm	ASTM D5185m		774	800	950
Sulfur	ppm	ASTM D5185m		2760	3054	3158
Acid Number (AN)	mg KOH/g	ASTM D8045		0.77	0.72	0.70
Visc @ 40°C	cSt	ASTM D445		46.5	46.6	46.3
Visc @ 100°C	cSt	ASTM D445		6.9	7.0	6.9
Viscosity Index (VI)	Scale	ASTM D2270		103	107	104



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : TO10002043
Lab Number : 06149510
Unique Number : 10979588
Test Package : MOB 2 (Additional Tests: KF, KV100, VI)

ANCHOR STONE TULSA ROCK
 TULSA ROCK QUARRY, 66TH ST N 145TH AVENUE
 TULSA, OK
 US 74137

Contact: MIKE SNYDER
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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)