



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**

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		<b>TO10003643</b>	TO10002043	TO10003374
Sample Date		Client Info		<b>15 Jun 2024</b>	08 Apr 2024	04 Mar 2024
Machine Age	hrs	Client Info		<b>13913</b>	13425	13158
Oil Age	hrs	Client Info		<b>1737</b>	1249	982
Filter Age	hrs	Client Info		<b>1737</b>	524	257
Oil Changed		Client Info		<b>Not Changed</b>	Not Changed	Not Changed
Filter Changed		Client Info		<b>Changed</b>	Changed	Changed
Sample Status				<b>ABNORMAL</b>	ABNORMAL	NORMAL

**WEAR**

All component wear rates are normal.

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

**CONTAMINATION**

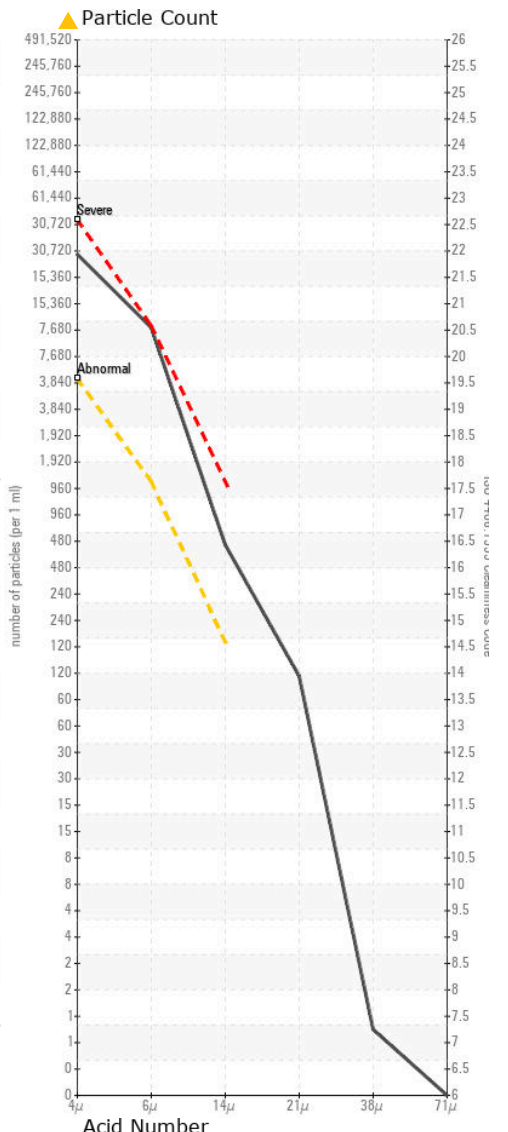
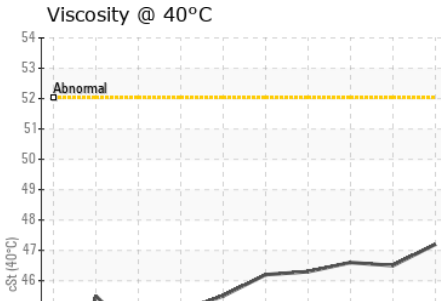
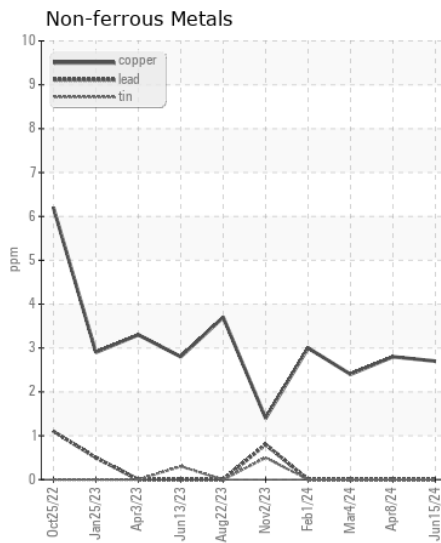
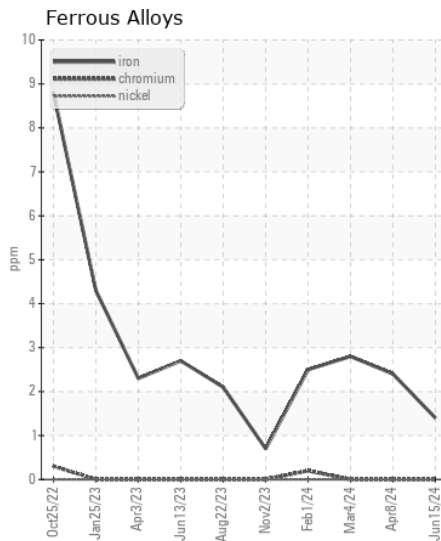
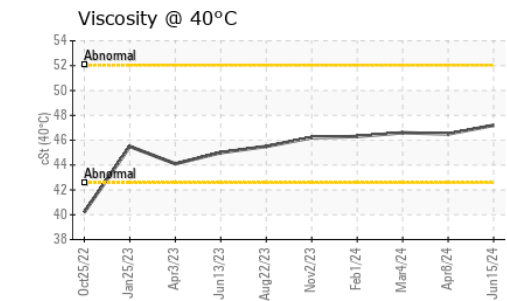
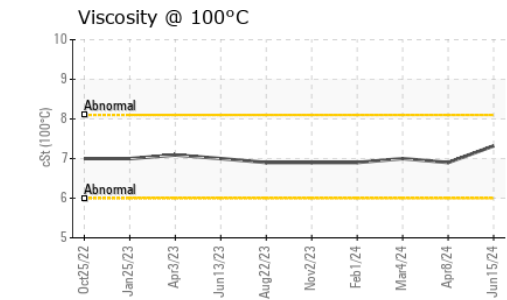
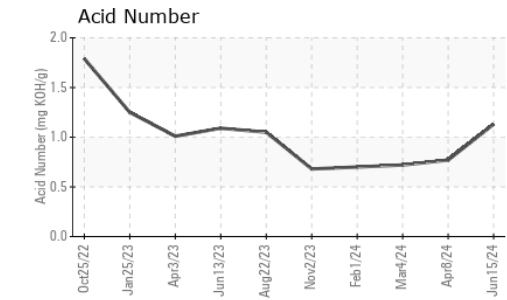
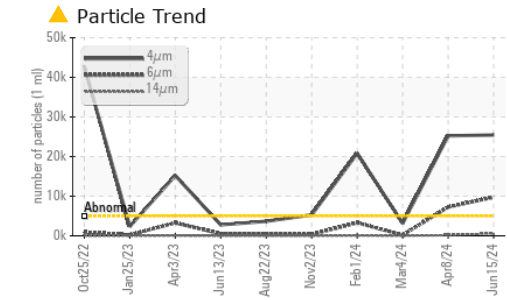
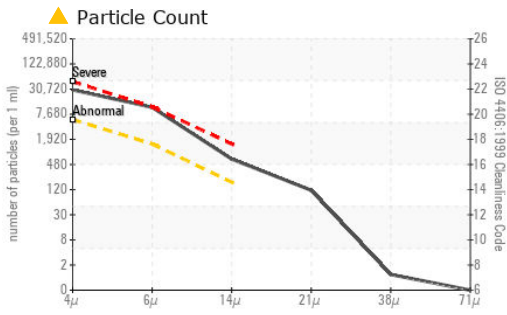
There is a high amount of particulates present in the oil.

Silicon	ppm	ASTM D5185m	>15	<b>3</b>	2	2
Potassium	ppm	ASTM D5185m	>20	<b>3</b>	0	0
Water	%	ASTM D6304	>0.05	<b>NEG</b>	NEG	NEG
Particles >4µm		ASTM D7647	>5000	<b>▲ 25440</b>	▲ 25224	3164
Particles >6µm		ASTM D7647	>1300	<b>▲ 9750</b>	▲ 7266	192
Particles >14µm		ASTM D7647	>160	<b>▲ 569</b>	▲ 162	11
Particles >21µm		ASTM D7647	>40	<b>▲ 102</b>	12	3
Particles >38µm		ASTM D7647	>10	<b>1</b>	1	0
Particles >71µm		ASTM D7647	>3	<b>0</b>	0	0
Oil Cleanliness		ISO 4406 (c)	>19/17/14	<b>▲ 22/20/16</b>	▲ 22/20/15	19/15/11
Silt	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Debris	scalar	*Visual	NONE	<b>LIGHT</b>	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Appearance	scalar	*Visual	NORML	<b>NORML</b>	NORML	NORML
Odor	scalar	*Visual	NORML	<b>NORML</b>	NORML	NORML
Emulsified Water	scalar	*Visual	>0.05	<b>NEG</b>	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		<b>5</b>	5	4
Boron	ppm	ASTM D5185m		<b>0</b>	0	0
Barium	ppm	ASTM D5185m		<b>0</b>	0	0
Molybdenum	ppm	ASTM D5185m		<b>0</b>	0	<1
Manganese	ppm	ASTM D5185m		<b>&lt;1</b>	0	0
Magnesium	ppm	ASTM D5185m		<b>183</b>	146	152
Calcium	ppm	ASTM D5185m		<b>516</b>	429	453
Phosphorus	ppm	ASTM D5185m		<b>841</b>	675	740
Zinc	ppm	ASTM D5185m		<b>1015</b>	774	800
Sulfur	ppm	ASTM D5185m		<b>3585</b>	2760	3054
Acid Number (AN)	mg KOH/g	ASTM D8045		<b>1.13</b>	0.77	0.72
Visc @ 40°C	cSt	ASTM D445		<b>47.2</b>	46.5	46.6
Visc @ 100°C	cSt	ASTM D445		<b>7.32</b>	6.9	7.0
Viscosity Index (VI)	Scale	ASTM D2270		<b>116</b>	103	107



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : TO10003643  
**Lab Number** : 06216290  
**Unique Number** : 11089154  
**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

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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