



OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL



Machine Id  
**CATERPILLAR 980K LOADER 6775 (S/N W7K01443)**  
Component  
**Hydraulic System**  
Fluid  
**TULCO LUBSOIL SUPER HYDRAULIC HZ 46 (--- GAL)**

**RECOMMENDATION**

Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		<b>TO10002811</b>	TO10002489	TO10002359
Sample Date		Client Info		<b>04 Dec 2023</b>	12 Sep 2023	20 Jun 2023
Machine Age	hrs	Client Info		<b>27433</b>	26862	26348
Oil Age	hrs	Client Info		<b>5112</b>	4559	4045
Filter Age	hrs	Client Info		<b>571</b>	514	498
Oil Changed		Client Info		<b>Not Changd</b>	Not Changd	Not Changd
Filter Changed		Client Info		<b>Changd</b>	Changd	Changd
Sample Status				<b>NORMAL</b>	ATTENTION	NORMAL

**WEAR**

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>20	<b>0</b>	1	2
Chromium	ppm	ASTM D5185m	>10	<b>0</b>	0	<1
Nickel	ppm	ASTM D5185m	>10	<b>0</b>	0	0
Titanium	ppm	ASTM D5185m		<b>0</b>	0	0
Silver	ppm	ASTM D5185m		<b>0</b>	<1	0
Aluminum	ppm	ASTM D5185m	>10	<b>0</b>	0	<1
Lead	ppm	ASTM D5185m	>10	<b>0</b>	0	0
Copper	ppm	ASTM D5185m	>75	<b>2</b>	0	<1
Tin	ppm	ASTM D5185m	>10	<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**

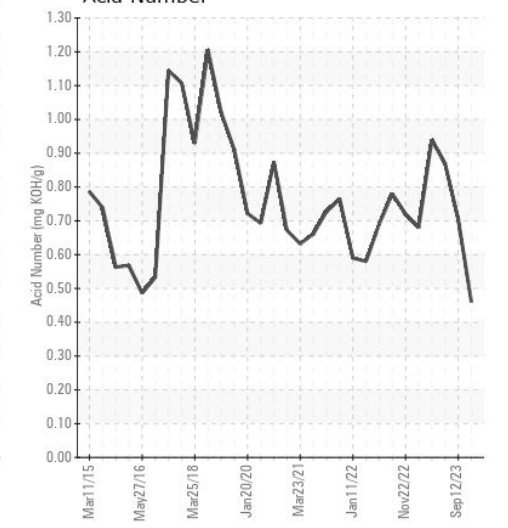
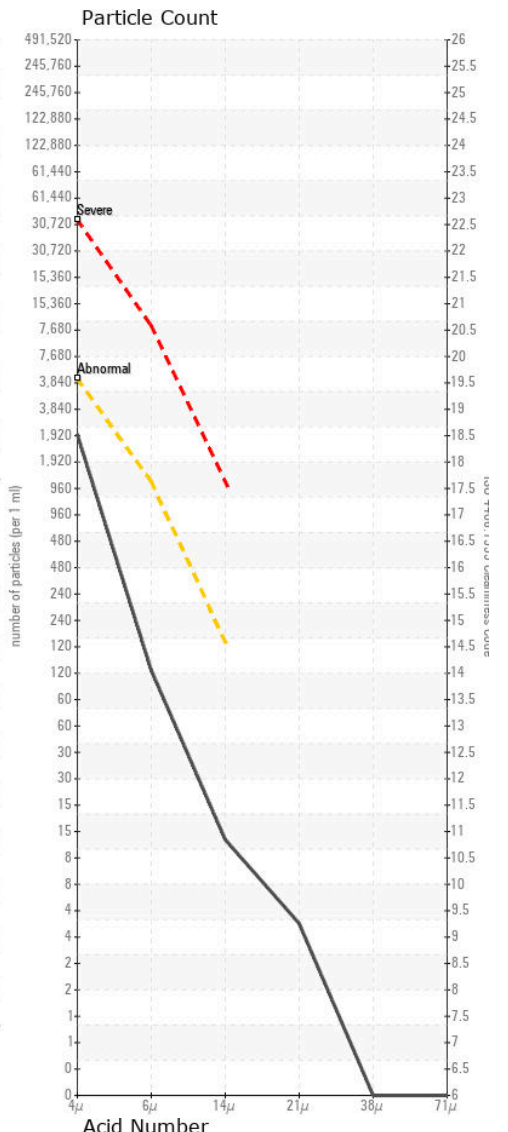
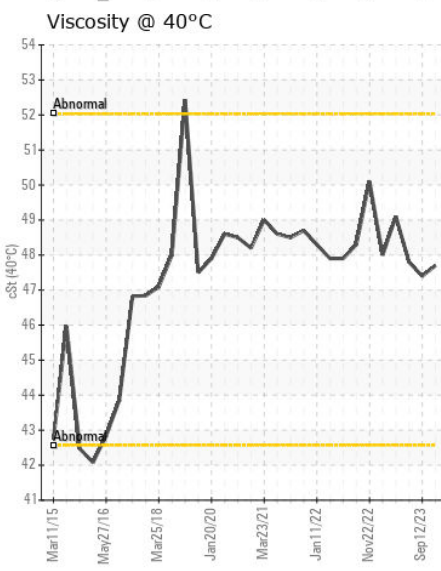
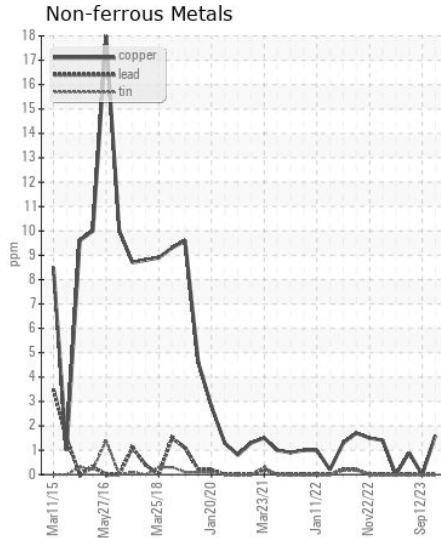
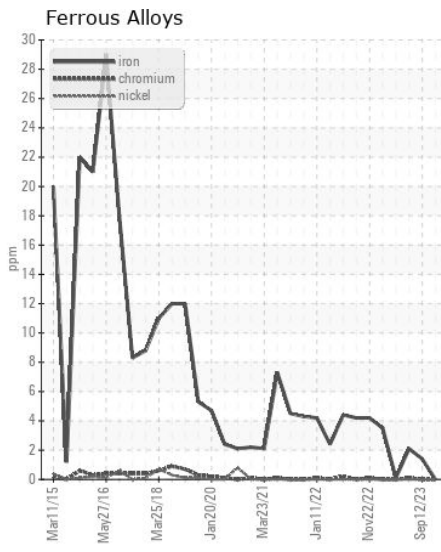
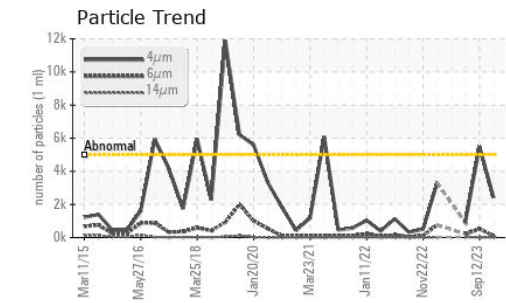
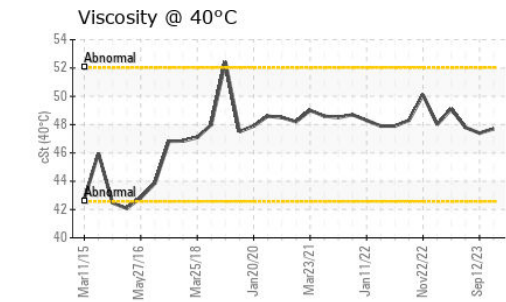
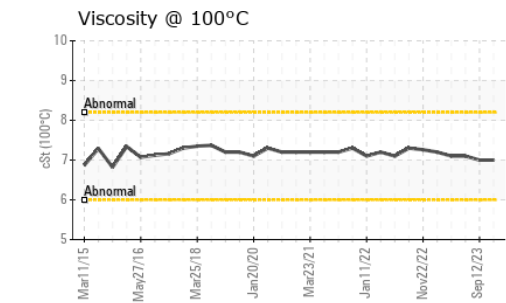
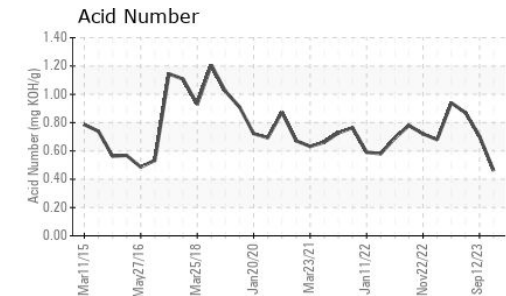
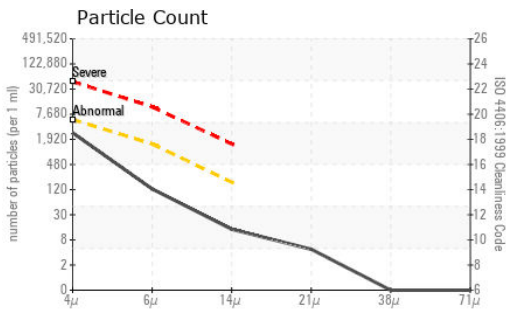
There is no indication of any contamination in the oil. The amount and size of particulates present in the system are acceptable.

Silicon	ppm	ASTM D5185m	>20	<b>&lt;1</b>	<1	1
Potassium	ppm	ASTM D5185m	>20	<b>0</b>	0	0
Water	%	ASTM D6304	>0.1	<b>NEG</b>	NEG	NEG
Particles >4µm		ASTM D7647	>5000	<b>2413</b>	▲ 5500	913
Particles >6µm		ASTM D7647	>1300	<b>110</b>	522	216
Particles >14µm		ASTM D7647	>160	<b>12</b>	12	24
Particles >21µm		ASTM D7647	>40	<b>4</b>	3	8
Particles >38µm		ASTM D7647	>10	<b>0</b>	0	0
Particles >71µm		ASTM D7647	>3	<b>0</b>	0	0
Oil Cleanliness		ISO 4406 (c)	>19/17/14	<b>18/14/11</b>	▲ 20/16/11	17/15/12
Silt	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Debris	scalar	*Visual	NONE	<b>NONE</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	>0.1	<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>4</b>	3	3
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	0
Manganese	ppm	ASTM D5185m		<b>&lt;1</b>	0	<1
Magnesium	ppm	ASTM D5185m		<b>209</b>	198	190
Calcium	ppm	ASTM D5185m		<b>192</b>	187	178
Phosphorus	ppm	ASTM D5185m		<b>722</b>	621	743
Zinc	ppm	ASTM D5185m		<b>897</b>	864	987
Sulfur	ppm	ASTM D5185m		<b>2728</b>	3231	3811
Acid Number (AN)	mg KOH/g	ASTM D8045		<b>0.46</b>	0.704	0.87
Visc @ 40°C	cSt	ASTM D445		<b>47.7</b>	47.4	47.8
Visc @ 100°C	cSt	ASTM D445		<b>7</b>	7	7.1
Viscosity Index (VI)	Scale	ASTM D2270		<b>103</b>	104	106



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : TO10002811 **Received** : 11 Dec 2023  
**Lab Number** : 06030492 **Tested** : 13 Dec 2023  
**Unique Number** : 10780283 **Diagnosed** : 13 Dec 2023 - 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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