

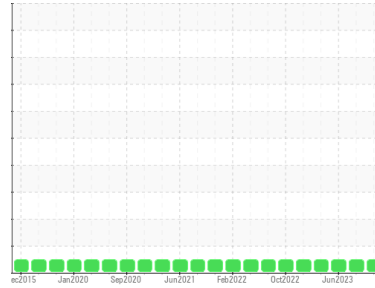
# OIL ANALYSIS REPORT

Sample Rating Trend

**NORMAL**



Machine Id  
**CATERPILLAR 980H LOADER 6821 (S/N JMS06208)**  
Component  
**Rear Left Final Drive**  
Fluid  
**TULCO LUBSOIL TO-4 50 (--- GAL)**



## DIAGNOSIS

### Recommendation

Resample at the next service interval to monitor.

### Wear

All component wear rates are normal.

### Contamination

There is no indication of any contamination in the oil.

### Fluid Condition

The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.

## SAMPLE INFORMATION

	method	limit/base	current	history1	history2
Sample Number	Client Info		<b>TO10002864</b>	TO10002464	TO10002351
Sample Date	Client Info		<b>13 Nov 2023</b>	28 Aug 2023	15 Jun 2023
Machine Age	hrs	Client Info	<b>28310</b>	27775	27269
Oil Age	hrs	Client Info	<b>4444</b>	249	3660
Oil Changed	Client Info		<b>Not Chngd</b>	Not Chngd	Not Chngd
Sample Status			<b>NORMAL</b>	NORMAL	NORMAL

## CONTAMINATION

	method	limit/base	current	history1	history2
Water	WC Method	>0.2	<b>NEG</b>	NEG	NEG

## WEAR METALS

	method	limit/base	current	history1	history2	
PQ	ASTM D8184	>500	<b>17</b>	19	21	
Iron	ppm	ASTM D5185m	>800	<b>10</b>	7	16
Chromium	ppm	ASTM D5185m	>10	<b>&lt;1</b>	<1	<1
Nickel	ppm	ASTM D5185m	>5	<b>&lt;1</b>	0	0
Titanium	ppm	ASTM D5185m	>15	<b>&lt;1</b>	<1	<1
Silver	ppm	ASTM D5185m	>2	<b>0</b>	0	0
Aluminum	ppm	ASTM D5185m	>75	<b>2</b>	2	3
Lead	ppm	ASTM D5185m	>10	<b>&lt;1</b>	<1	0
Copper	ppm	ASTM D5185m	>75	<b>1</b>	<1	<1
Tin	ppm	ASTM D5185m	>8	<b>&lt;1</b>	<1	<1
Vanadium	ppm	ASTM D5185m		<b>&lt;1</b>	<1	0
Cadmium	ppm	ASTM D5185m		<b>&lt;1</b>	<1	0

## ADDITIVES

	method	limit/base	current	history1	history2	
Boron	ppm	ASTM D5185m		<b>0</b>	0	0
Barium	ppm	ASTM D5185m		<b>0</b>	0	0
Molybdenum	ppm	ASTM D5185m		<b>&lt;1</b>	0	<1
Manganese	ppm	ASTM D5185m		<b>&lt;1</b>	<1	<1
Magnesium	ppm	ASTM D5185m		<b>0</b>	17	21
Calcium	ppm	ASTM D5185m		<b>3431</b>	3619	4753
Phosphorus	ppm	ASTM D5185m		<b>813</b>	909	854
Zinc	ppm	ASTM D5185m		<b>1124</b>	1178	1073
Sulfur	ppm	ASTM D5185m		<b>4403</b>	5654	6188

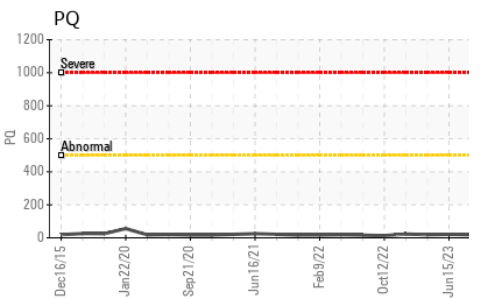
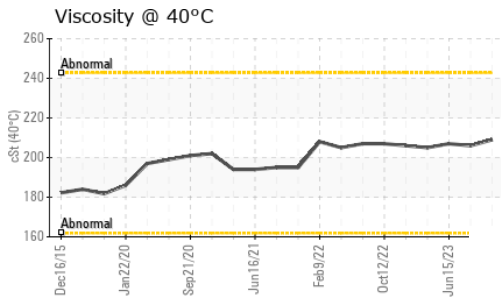
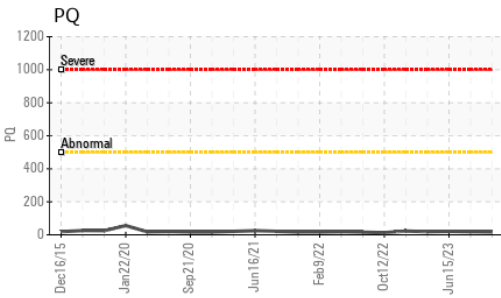
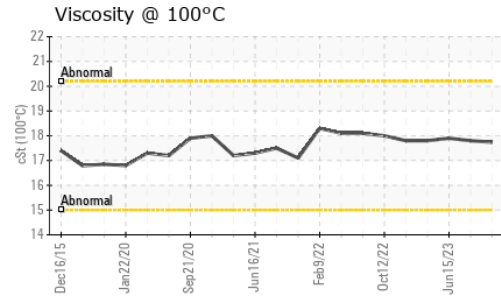
## CONTAMINANTS

	method	limit/base	current	history1	history2	
Silicon	ppm	ASTM D5185m	>400	<b>16</b>	13	17
Sodium	ppm	ASTM D5185m		<b>5</b>	4	4
Potassium	ppm	ASTM D5185m	>20	<b>0</b>	1	0

## FLUID DEGRADATION

	method	limit/base	current	history1	history2	
Acid Number (AN)	mg KOH/g	ASTM D8045		<b>1.16</b>	1.21	0.91

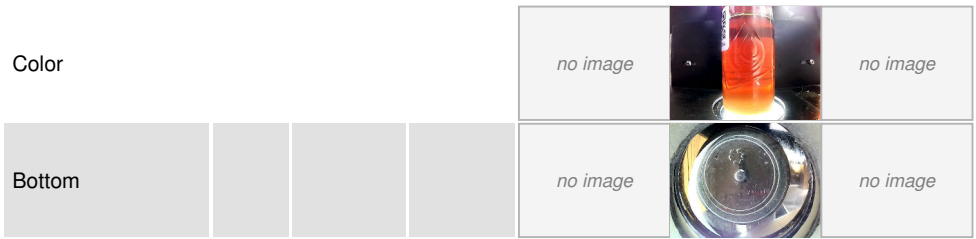
# OIL ANALYSIS REPORT



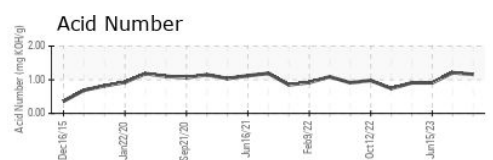
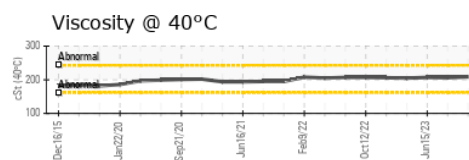
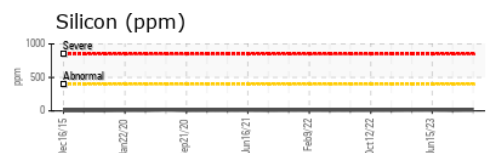
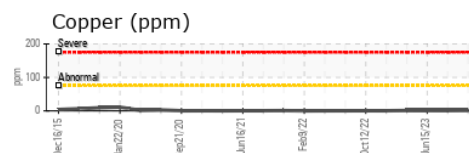
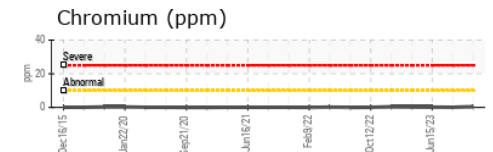
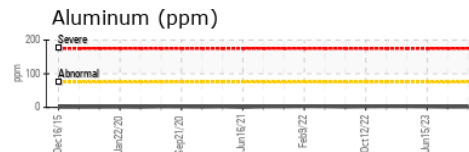
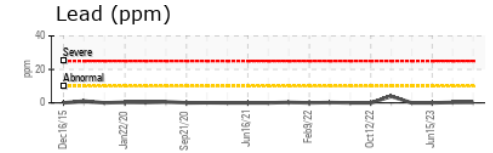
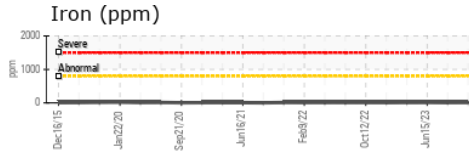
VISUAL	method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE
Appearance	scalar	*Visual	NORML	NORML	NORML
Odor	scalar	*Visual	NORML	NORML	NORML
Emulsified Water	scalar	*Visual	>0.2	NEG	NEG
Free Water	scalar	*Visual		NEG	NEG

FLUID PROPERTIES	method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D445	<b>209</b>	206	207
Visc @ 100°C	cSt	ASTM D445	<b>17.74</b>	17.8	17.9
Viscosity Index (VI)	Scale	ASTM D2270	<b>91</b>	93	94

SAMPLE IMAGES	method	limit/base	current	history1	history2
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## GRAPHS



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : TO10002864 **Received** : 17 Nov 2023  
**Lab Number** : **06011561** **Diagnosed** : 29 Nov 2023  
**Unique Number** : 10750705 **Diagnostician** : Jonathan Hester  
**Test Package** : MOB 2 ( Additional Tests: KV100, PQ, 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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