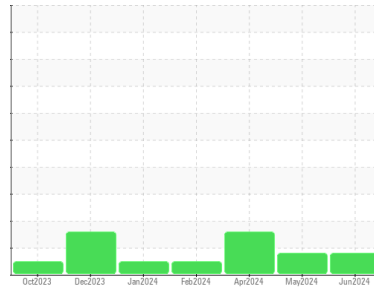


# OIL ANALYSIS REPORT



Machine Id  
**CATERPILLAR 980K 6058 (S/N W7K00517)**  
Component  
**Diesel Engine**  
Fluid  
**TULCO LUBSOIL CK-4 15W40 (--- GAL)**

Sample Rating Trend



**FUEL**



## DIAGNOSIS

### ▲ Recommendation

The oil change at the time of sampling has been noted. We recommend an early resample to monitor this condition.

### Wear

All component wear rates are normal.

### ▲ Contamination

There is a moderate amount of fuel present in the oil. Tests confirm the presence of fuel in the oil.

### Fluid Condition

The BN result indicates that there is suitable alkalinity remaining in the oil. The oil is no longer serviceable due to the presence of contaminants.

## SAMPLE INFORMATION

	method	limit/base	current	history1	history2
Sample Number	Client Info		<b>TO10003660</b>	TO10003101	TO10003311
Sample Date	Client Info		<b>15 Jun 2024</b>	18 May 2024	06 Apr 2024
Machine Age	hrs	Client Info	<b>20455</b>	20265	19983
Oil Age	hrs	Client Info	<b>472</b>	282	534
Oil Changed	Client Info		<b>Changed</b>	Not Changd	Changed
Sample Status			<b>ABNORMAL</b>	ABNORMAL	ABNORMAL

## CONTAMINATION

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

## WEAR METALS

	method	limit/base	current	history1	history2	
Iron	ppm	ASTM D5185m	>100	<b>17</b>	7	15
Chromium	ppm	ASTM D5185m	>20	<b>&lt;1</b>	<1	<1
Nickel	ppm	ASTM D5185m	>2	<b>0</b>	<1	0
Titanium	ppm	ASTM D5185m	>2	<b>0</b>	<1	0
Silver	ppm	ASTM D5185m	>2	<b>0</b>	1	0
Aluminum	ppm	ASTM D5185m	>25	<b>2</b>	1	1
Lead	ppm	ASTM D5185m	>40	<b>&lt;1</b>	1	0
Copper	ppm	ASTM D5185m	>330	<b>1</b>	4	2
Tin	ppm	ASTM D5185m	>15	<b>&lt;1</b>	2	1
Vanadium	ppm	ASTM D5185m		<b>0</b>	<1	0
Cadmium	ppm	ASTM D5185m		<b>0</b>	<1	0

## ADDITIVES

	method	limit/base	current	history1	history2	
Boron	ppm	ASTM D5185m		<b>4</b>	7	6
Barium	ppm	ASTM D5185m		<b>0</b>	<1	0
Molybdenum	ppm	ASTM D5185m	65	<b>60</b>	36	57
Manganese	ppm	ASTM D5185m		<b>&lt;1</b>	<1	<1
Magnesium	ppm	ASTM D5185m	1060	<b>995</b>	484	905
Calcium	ppm	ASTM D5185m	1140	<b>1231</b>	1004	1144
Phosphorus	ppm	ASTM D5185m	1170	<b>1191</b>	482	1002
Zinc	ppm	ASTM D5185m	1230	<b>1370</b>	623	1160
Sulfur	ppm	ASTM D5185m	3130	<b>4116</b>	2002	3848

## CONTAMINANTS

	method	limit/base	current	history1	history2	
Silicon	ppm	ASTM D5185m	>25	<b>4</b>	4	5
Sodium	ppm	ASTM D5185m		<b>9</b>	5	13
Potassium	ppm	ASTM D5185m	>20	<b>4</b>	2	<1
Fuel	%	ASTM D3524	>5	<b>▲ 6.2</b>	▲ 5.3	▲ 6.4

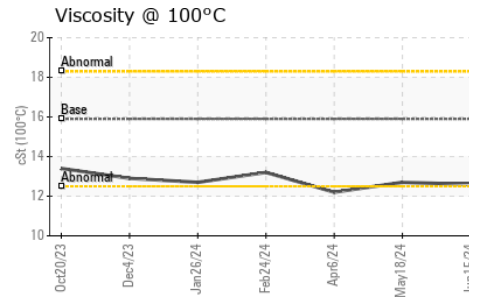
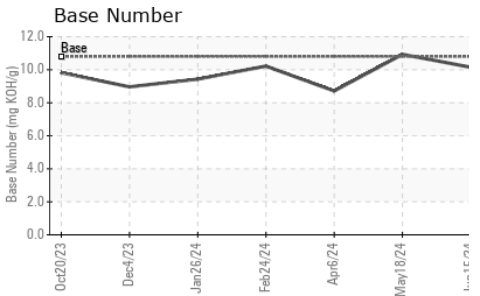
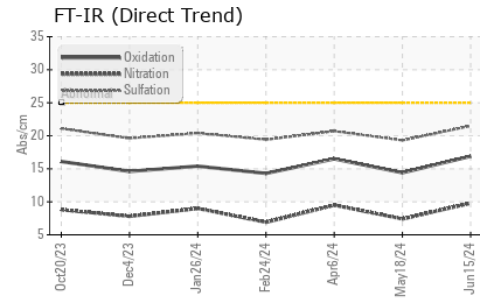
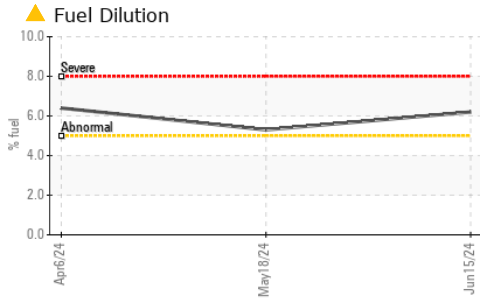
## INFRA-RED

	method	limit/base	current	history1	history2	
Soot %	%	*ASTM D7844	>3	<b>0.8</b>	0.4	0.7
Nitration	Abs/cm	*ASTM D7624	>20	<b>9.8</b>	7.4	9.5
Sulfation	Abs/.1mm	*ASTM D7415	>30	<b>21.5</b>	19.3	20.7

## FLUID DEGRADATION

	method	limit/base	current	history1	history2	
Oxidation	Abs/.1mm	*ASTM D7414	>25	<b>16.9</b>	14.4	16.5
Base Number (BN)	mg KOH/g	ASTM D2896	10.8	<b>10.15</b>	10.93	8.71

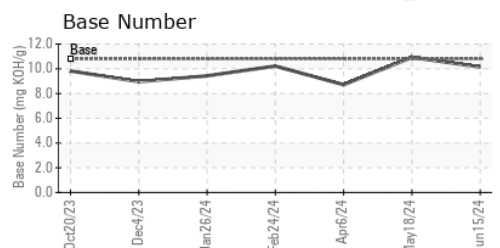
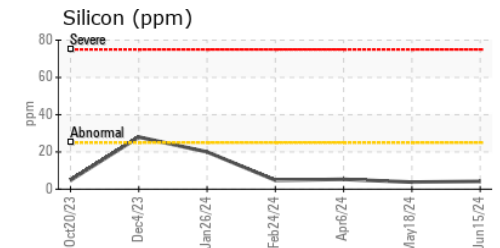
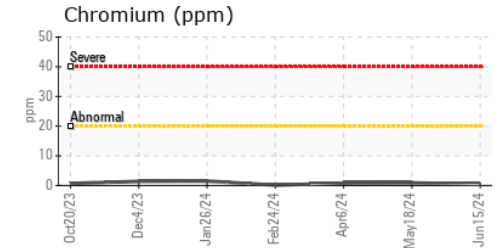
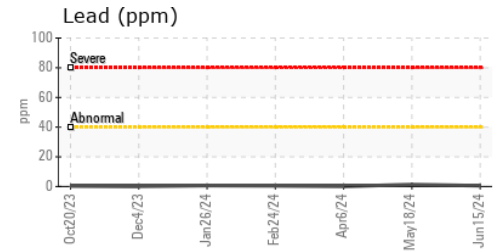
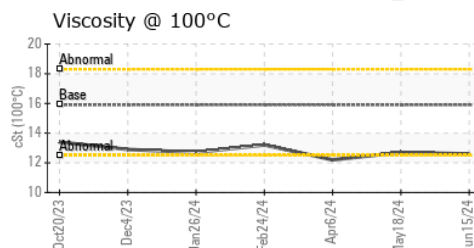
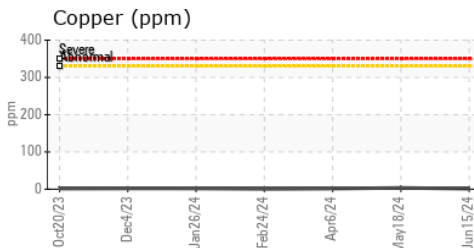
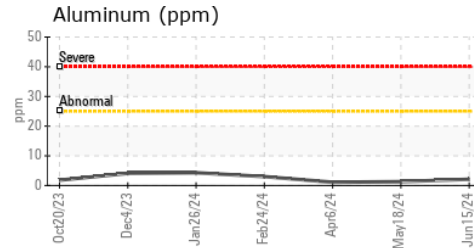
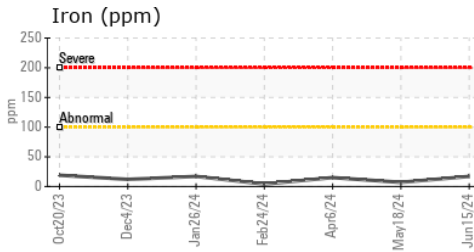
# OIL ANALYSIS REPORT



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 @ 100°C	cSt	ASTM D445	15.9	12.6	12.7
Viscosity Index (VI)	Scale	ASTM D2270	143	134	135

## GRAPHS



**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : TO10003660 **Received** : 20 Jun 2024  
**Lab Number** : 06216353 **Tested** : 24 Jun 2024  
**Unique Number** : 11089217 **Diagnosed** : 24 Jun 2024 - Wes Davis  
**Test Package** : MOB 2 ( Additional Tests: PercentFuel, VI )

**ANCHOR STONE TULSA ROCK**  
 TULSA ROCK QUARRY, 66TH ST N 145TH AVENUE  
 TULSA, OK  
 US 74137  
 Contact: SKIP SAENGERHAUSEN  
 skip@anchorstoneco.com

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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F: