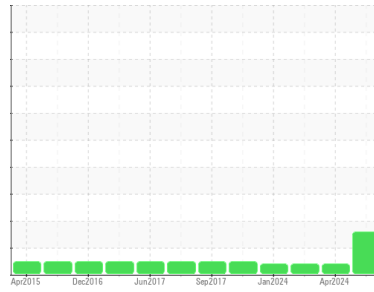


OIL ANALYSIS REPORT



Area
DE Samples - CAT LAB
 Machine ID
CATERPILLAR 990 LOADER G 6427 (S/N BCR00127)
 Component
Diesel Engine
 Fluid
TULCO LUBSOIL DT CI-4 15W40 (25 GAL)

Sample Rating Trend



VISUAL METAL



DIAGNOSIS

▲ Recommendation

The filter change at the time of sampling has been noted. Resample at the next service interval to monitor.

▲ Wear

Moderate concentration of visible metal present. All component wear rates are normal.

● Contamination

There is no indication of any contamination in the oil.

● Fluid Condition

The oil viscosity is lower than normal. The BN result indicates that there is suitable alkalinity remaining in the oil. Confirm oil type.

SAMPLE INFORMATION

	method	limit/base	current	history1	history2
Sample Number	Client Info		TO10003596	TO10003029	TO10003384
Sample Date	Client Info		31 May 2024	20 Apr 2024	04 Mar 2024
Machine Age	hrs	Client Info	49260	48981	48658
Oil Age	hrs	Client Info	602	323	523
Oil Changed	Client Info		N/A	Not Changd	Changed
Sample Status			ABNORMAL	ATTENTION	ATTENTION

CONTAMINATION

	method	limit/base	current	history1	history2
Fuel	WC Method	>5	<1.0	<1.0	<1.0
Water	WC Method	>0.2	NEG	NEG	NEG
Glycol	WC Method		NEG	NEG	NEG

WEAR METALS

	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m >100	38	19	31
Chromium	ppm	ASTM D5185m >20	<1	<1	0
Nickel	ppm	ASTM D5185m >2	0	0	0
Titanium	ppm	ASTM D5185m >2	<1	<1	0
Silver	ppm	ASTM D5185m >2	0	<1	0
Aluminum	ppm	ASTM D5185m >25	2	2	<1
Lead	ppm	ASTM D5185m >40	2	3	0
Copper	ppm	ASTM D5185m >330	1	1	<1
Tin	ppm	ASTM D5185m >15	<1	1	0
Vanadium	ppm	ASTM D5185m	<1	<1	0
Cadmium	ppm	ASTM D5185m	0	<1	0

ADDITIVES

	method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m	6	7	8
Barium	ppm	ASTM D5185m	0	0	0
Molybdenum	ppm	ASTM D5185m	63	67	60
Manganese	ppm	ASTM D5185m	0	0	<1
Magnesium	ppm	ASTM D5185m	996	1024	918
Calcium	ppm	ASTM D5185m	1157	1284	1104
Phosphorus	ppm	ASTM D5185m	1128	1248	1035
Zinc	ppm	ASTM D5185m	1290	1370	1152
Sulfur	ppm	ASTM D5185m	3560	3922	3681

CONTAMINANTS

	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m >25	3	5	2
Sodium	ppm	ASTM D5185m	<1	0	2
Potassium	ppm	ASTM D5185m >20	<1	2	0

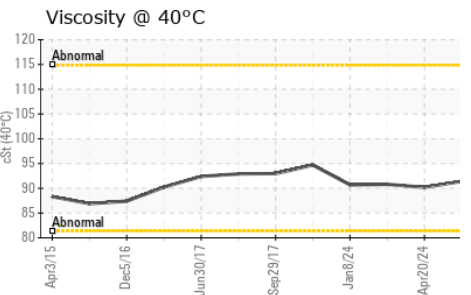
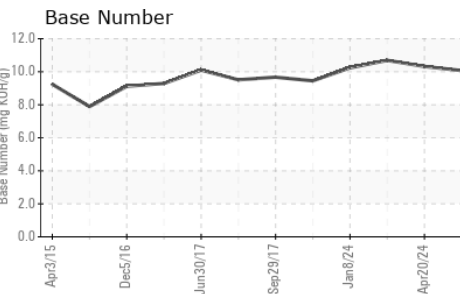
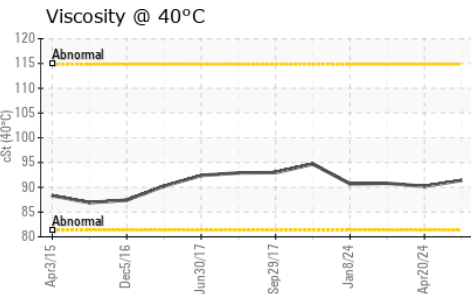
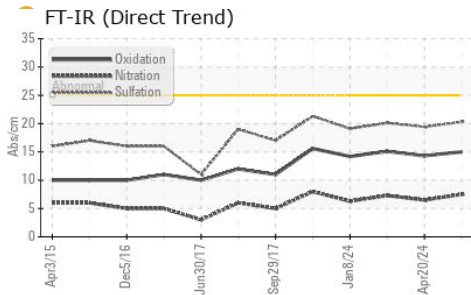
INFRA-RED

	method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844 >3	0.5	0.4	0.5
Nitration	Abs/cm	*ASTM D7624 >20	7.5	6.5	7.3
Sulfation	Abs/.1mm	*ASTM D7415 >30	20.3	19.4	20.1

FLUID DEGRADATION

	method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414 >25	15.0	14.3	15.1
Base Number (BN)	mg KOH/g	ASTM D2896	10.07	10.32	10.69

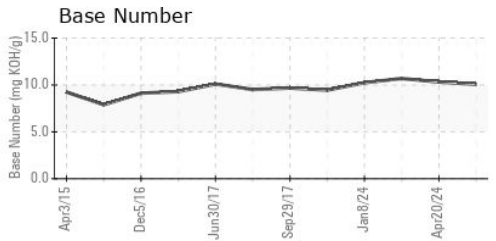
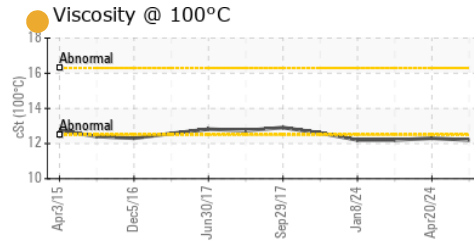
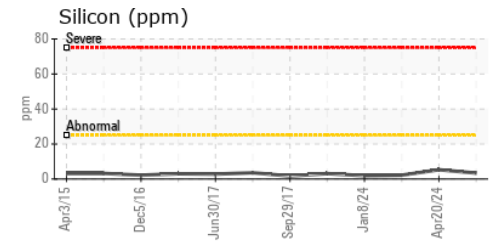
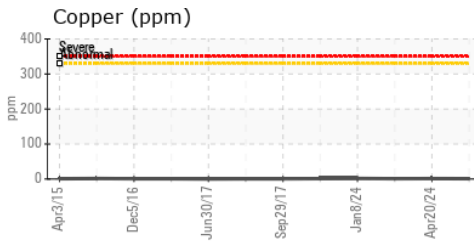
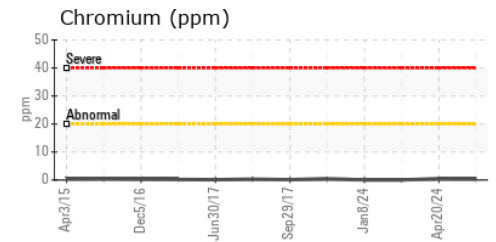
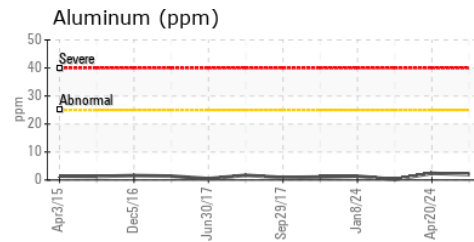
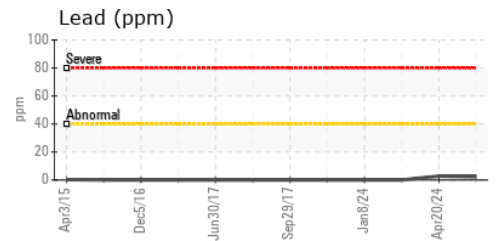
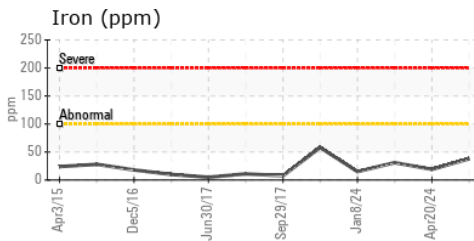
OIL ANALYSIS REPORT



VISUAL	method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	▲ MODER	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	91.4	90.2	90.8
Visc @ 100°C	cSt	ASTM D445	12.2	12.3	12.2
Viscosity Index (VI)	Scale	ASTM D2270	126	130	127

GRAPHS



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : TO10003596
Lab Number : 06205728
Unique Number : 11073189
Test Package : MOB 2 (Additional Tests: KV40, VI)

Received : 10 Jun 2024

Tested : 12 Jun 2024

Diagnosed : 13 Jun 2024 - Don Baldrige

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

Contact: DAVID MORRIS
 dmorris@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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