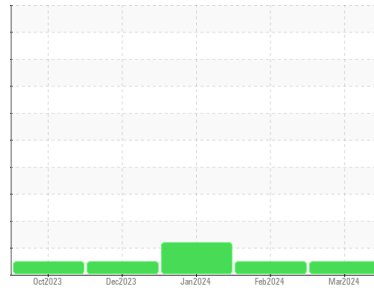


OIL ANALYSIS REPORT



Machine Id
CATERPILLAR 980M 6161 (S/N MK210767)
Component
Diesel Engine
Fluid
TULCO LUBSOIL CK-4 15W40 (--- GAL)

Sample Rating Trend



NORMAL



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 BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

SAMPLE INFORMATION		method	limit/base	current	history1	history2
Sample Number	Client Info			TO10003352	TO10003123	TO10003034
Sample Date	Client Info			31 Mar 2024	24 Feb 2024	26 Jan 2024
Machine Age	hrs	Client Info		9552	9267	8990
Oil Age	hrs	Client Info		562	277	456
Oil Changed	Client Info			Changed	Not Changd	Changed
Sample Status				NORMAL	NORMAL	ATTENTION

CONTAMINATION		method	limit/base	current	history1	history2
Fuel	WC Method	>5		<1.0	<1.0	▲ 2.3
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	19	5	17
Chromium	ppm	ASTM D5185m	>20	<1	0	<1
Nickel	ppm	ASTM D5185m	>2	0	0	<1
Titanium	ppm	ASTM D5185m	>2	0	0	<1
Silver	ppm	ASTM D5185m	>2	0	0	<1
Aluminum	ppm	ASTM D5185m	>25	<1	2	1
Lead	ppm	ASTM D5185m	>40	<1	<1	2
Copper	ppm	ASTM D5185m	>330	4	2	2
Tin	ppm	ASTM D5185m	>15	<1	1	2
Vanadium	ppm	ASTM D5185m		0	0	<1
Cadmium	ppm	ASTM D5185m		0	0	0

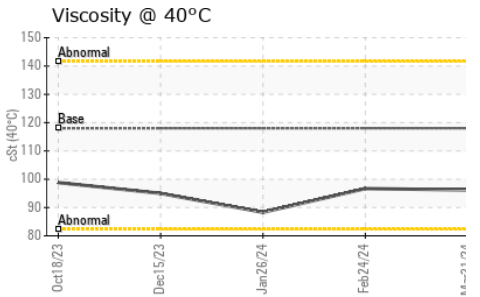
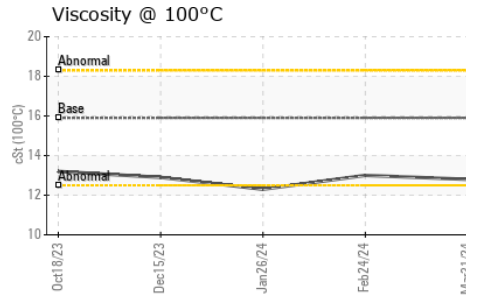
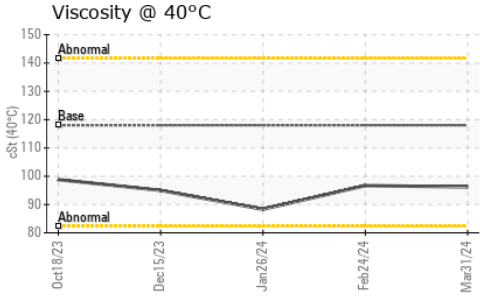
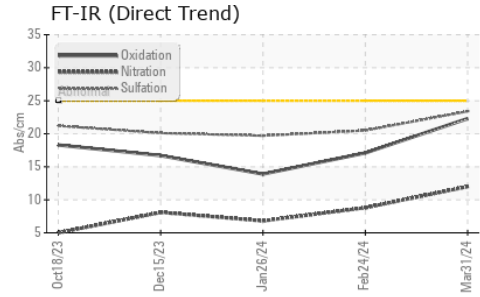
ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m		5	6	11
Barium	ppm	ASTM D5185m		0	0	0
Molybdenum	ppm	ASTM D5185m	65	66	61	56
Manganese	ppm	ASTM D5185m		<1	<1	<1
Magnesium	ppm	ASTM D5185m	1060	987	927	912
Calcium	ppm	ASTM D5185m	1140	1118	1063	1015
Phosphorus	ppm	ASTM D5185m	1170	1096	1050	1024
Zinc	ppm	ASTM D5185m	1230	1320	1285	1204
Sulfur	ppm	ASTM D5185m	3130	3488	3287	3154

CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>25	3	3	6
Sodium	ppm	ASTM D5185m		24	14	2
Potassium	ppm	ASTM D5185m	>20	4	4	1

INFRA-RED		method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844	>3	0.4	0.2	0.7
Nitration	Abs/cm	*ASTM D7624	>20	12.0	8.8	6.8
Sulfation	Abs/.1mm	*ASTM D7415	>30	23.4	20.5	19.7

FLUID DEGRADATION		method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414	>25	22.3	17.1	13.9
Base Number (BN)	mg KOH/g	ASTM D2896	10.8	8.55	10.20	9.84

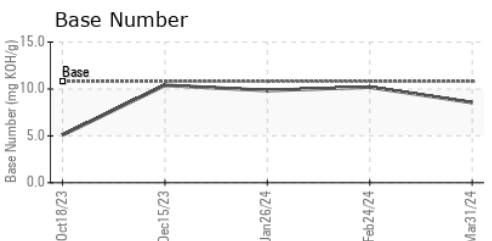
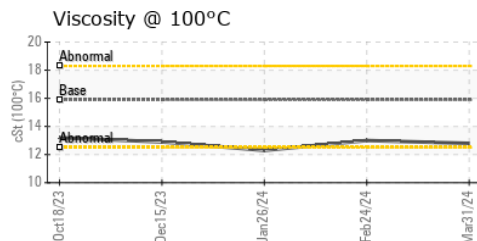
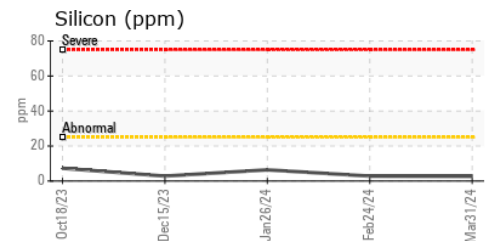
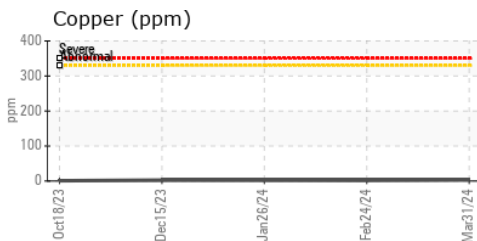
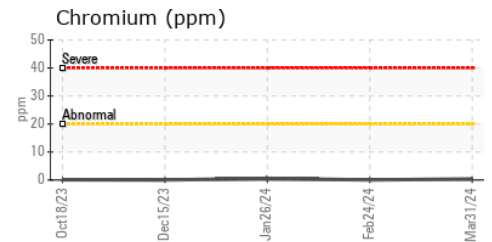
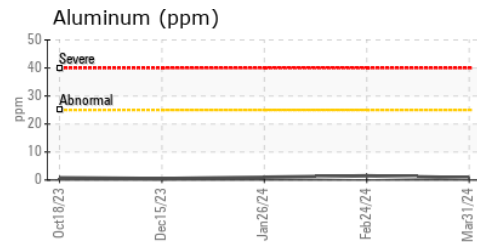
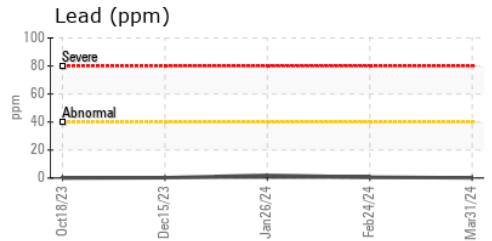
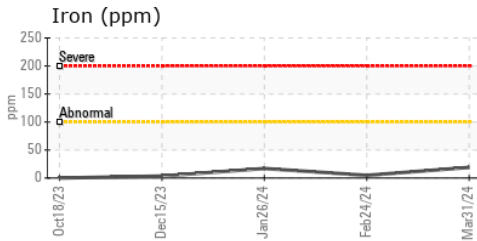
OIL ANALYSIS REPORT



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	118	96.2	96.7	88.3
Visc @ 100°C	cSt	ASTM D445	15.9	12.8	13.0	12.3
Viscosity Index (VI)	Scale	ASTM D2270	143	129	131	134

GRAPHS



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : TO10003352
Lab Number : 06142473
Unique Number : 10967281
Test Package : MOB 2 (Additional Tests: KV40, VI)

Received : 08 Apr 2024
Tested : 09 Apr 2024
Diagnosed : 09 Apr 2024 - Wes Davis

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)

T: (918)928-4575

F: