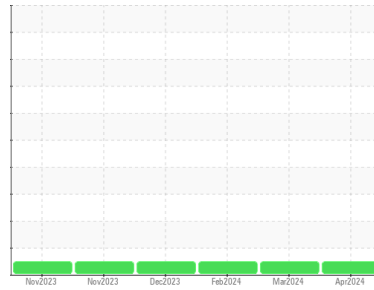


OIL ANALYSIS REPORT



Machine Id
CATERPILLAR 980M 6141 (S/N KRS00885)
 Component
Diesel Engine
 Fluid
DIESEL ENGINE OIL SAE 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			TO10003323	TO10003366	TO10002989
Sample Date	Client Info			08 Apr 2024	04 Mar 2024	01 Feb 2024
Machine Age	hrs	Client Info		13425	13158	12901
Oil Age	hrs	Client Info		524	257	517
Oil Changed	Client Info			Changed	Not Changd	Changed
Sample Status				NORMAL	NORMAL	NORMAL

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	12	5	13
Chromium	ppm	ASTM D5185m	>20	<1	0	<1
Nickel	ppm	ASTM D5185m	>2	0	0	0
Titanium	ppm	ASTM D5185m	>2	0	0	0
Silver	ppm	ASTM D5185m	>2	0	0	0
Aluminum	ppm	ASTM D5185m	>25	<1	<1	2
Lead	ppm	ASTM D5185m	>40	0	0	0
Copper	ppm	ASTM D5185m	>330	3	<1	3
Tin	ppm	ASTM D5185m	>15	<1	0	0
Vanadium	ppm	ASTM D5185m		0	0	0
Cadmium	ppm	ASTM D5185m		0	0	0

ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m	250	2	2	3
Barium	ppm	ASTM D5185m	10	0	0	5
Molybdenum	ppm	ASTM D5185m	100	58	60	58
Manganese	ppm	ASTM D5185m		0	0	0
Magnesium	ppm	ASTM D5185m	450	958	997	933
Calcium	ppm	ASTM D5185m	3000	1118	1084	1084
Phosphorus	ppm	ASTM D5185m	1150	1028	1071	981
Zinc	ppm	ASTM D5185m	1350	1196	1221	1174
Sulfur	ppm	ASTM D5185m	4250	3700	3798	3444

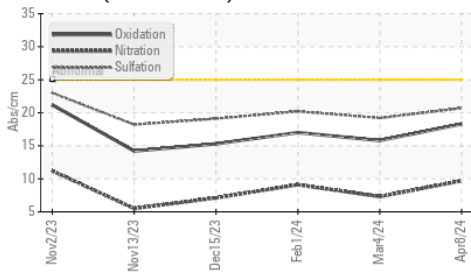
CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>25	2	2	3
Sodium	ppm	ASTM D5185m	>158	3	1	0
Potassium	ppm	ASTM D5185m	>20	<1	<1	2

INFRA-RED		method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844	>3	0.4	0.2	0.4
Nitration	Abs/cm	*ASTM D7624	>20	9.7	7.3	9.1
Sulfation	Abs/.1mm	*ASTM D7415	>30	20.7	19.2	20.2

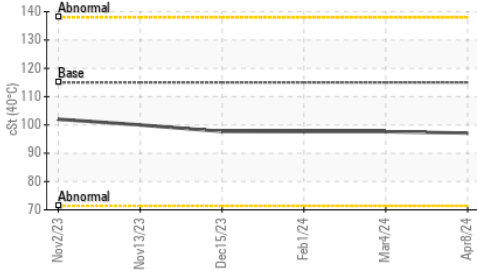
FLUID DEGRADATION		method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414	>25	18.3	15.8	17.0
Base Number (BN)	mg KOH/g	ASTM D2896	8.5	8.43	10.48	9.60

OIL ANALYSIS REPORT

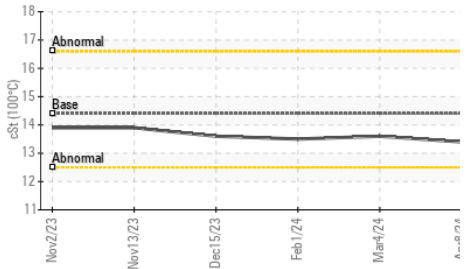
FT-IR (Direct Trend)



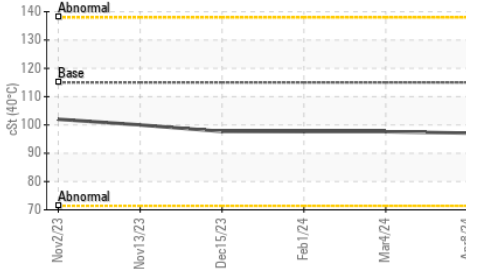
Viscosity @ 40°C



Viscosity @ 100°C



Viscosity @ 40°C



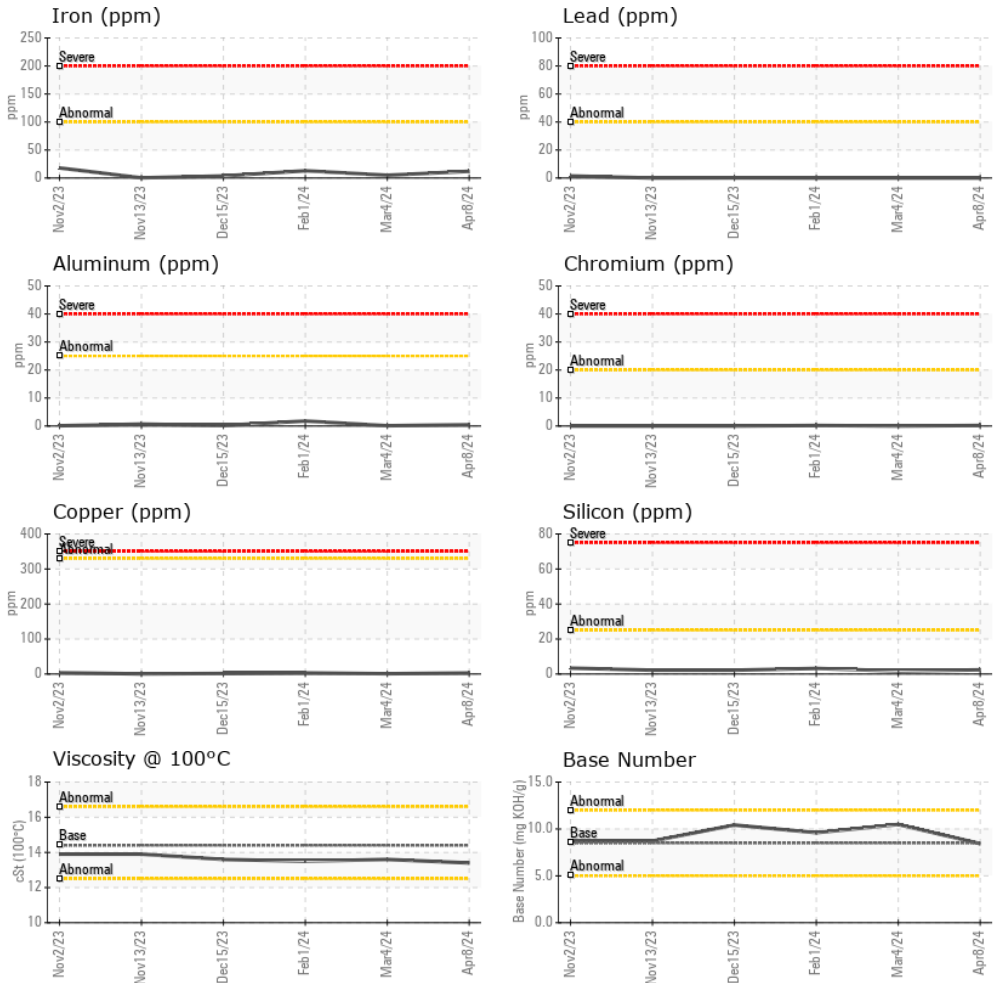
Viscosity @ 100°C



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	115	97.1	97.6
Visc @ 100°C	cSt	ASTM D445	14.4	13.4	13.6
Viscosity Index (VI)	Scale	ASTM D2270	126	137	139

GRAPHS



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : TO10003323
Lab Number : 06149596
Unique Number : 10979674
Test Package : MOB 2 (Additional Tests: KV40, VI)

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

To discuss this sample report, contact Customer Service at 1-800-237-1369.

Contact: SKIP SAENGERHAUSEN
 skip@anchorstoneco.com

* - Denotes test methods that are outside of the ISO 17025 scope of accreditation.

T: (918)928-4575

Statements of conformity to specifications are based on the simple acceptance decision rule (JCGM 106:2012)

F: