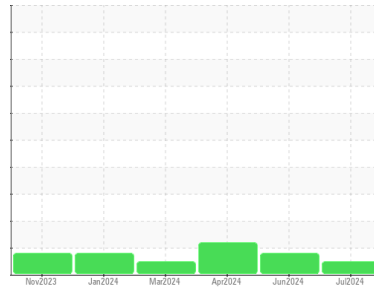


OIL ANALYSIS REPORT



Machine Id
CATERPILLAR 775F HAUL TRUCK 6151 (S/N DLS00524)
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			TO10003728	TO10002115	TO10003022
Sample Date	Client Info			13 Jul 2024	01 Jun 2024	20 Apr 2024
Machine Age	hrs	Client Info		2161	1911	1657
Oil Age	hrs	Client Info		504	254	584
Oil Changed	Client Info			Changed	Not Changd	Changed
Sample Status				NORMAL	MARGINAL	ABNORMAL

CONTAMINATION		method	limit/base	current	history1	history2
Fuel	WC Method	>5		<1.0	▲ 4.0	▲ 5.0
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	21	10	18
Chromium	ppm	ASTM D5185m	>20	0	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	<1	3
Lead	ppm	ASTM D5185m	>40	0	0	2
Copper	ppm	ASTM D5185m	>330	2	<1	2
Tin	ppm	ASTM D5185m	>15	<1	0	2
Vanadium	ppm	ASTM D5185m		0	0	<1
Cadmium	ppm	ASTM D5185m		0	0	<1

ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m		6	<1	6
Barium	ppm	ASTM D5185m		0	0	0
Molybdenum	ppm	ASTM D5185m	65	61	63	63
Manganese	ppm	ASTM D5185m		0	0	0
Magnesium	ppm	ASTM D5185m	1060	1014	1093	1000
Calcium	ppm	ASTM D5185m	1140	1207	1265	1171
Phosphorus	ppm	ASTM D5185m	1170	1173	1224	1203
Zinc	ppm	ASTM D5185m	1230	1378	1436	1323
Sulfur	ppm	ASTM D5185m	3130	4363	4562	3772

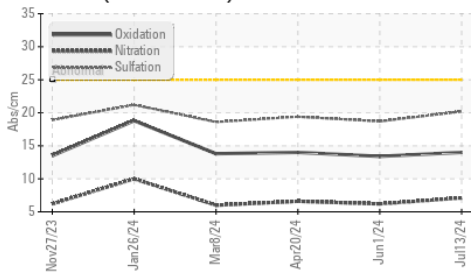
CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>25	4	3	6
Sodium	ppm	ASTM D5185m		2	1	2
Potassium	ppm	ASTM D5185m	>20	1	0	3

INFRA-RED		method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844	>3	0.8	0.5	0.7
Nitration	Abs/cm	*ASTM D7624	>20	7.1	6.2	6.6
Sulfation	Abs/.1mm	*ASTM D7415	>30	20.2	18.7	19.4

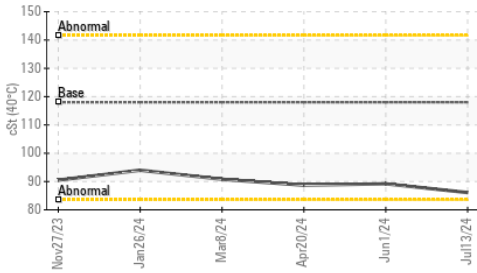
FLUID DEGRADATION		method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414	>25	14.0	13.4	14.0
Base Number (BN)	mg KOH/g	ASTM D2896	10.8	9.98	10.28	10.51

OIL ANALYSIS REPORT

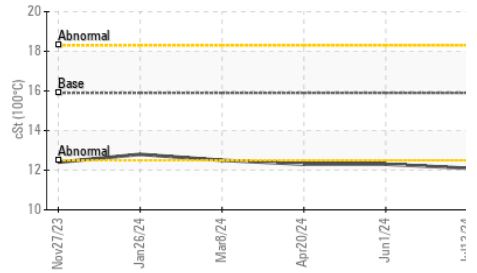
FT-IR (Direct Trend)



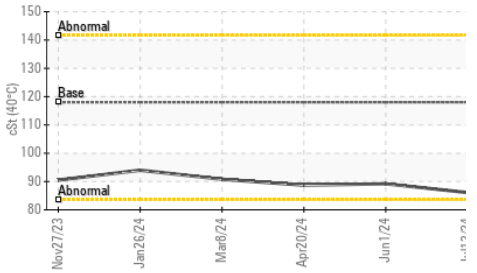
Viscosity @ 40°C



Viscosity @ 100°C



Viscosity @ 40°C



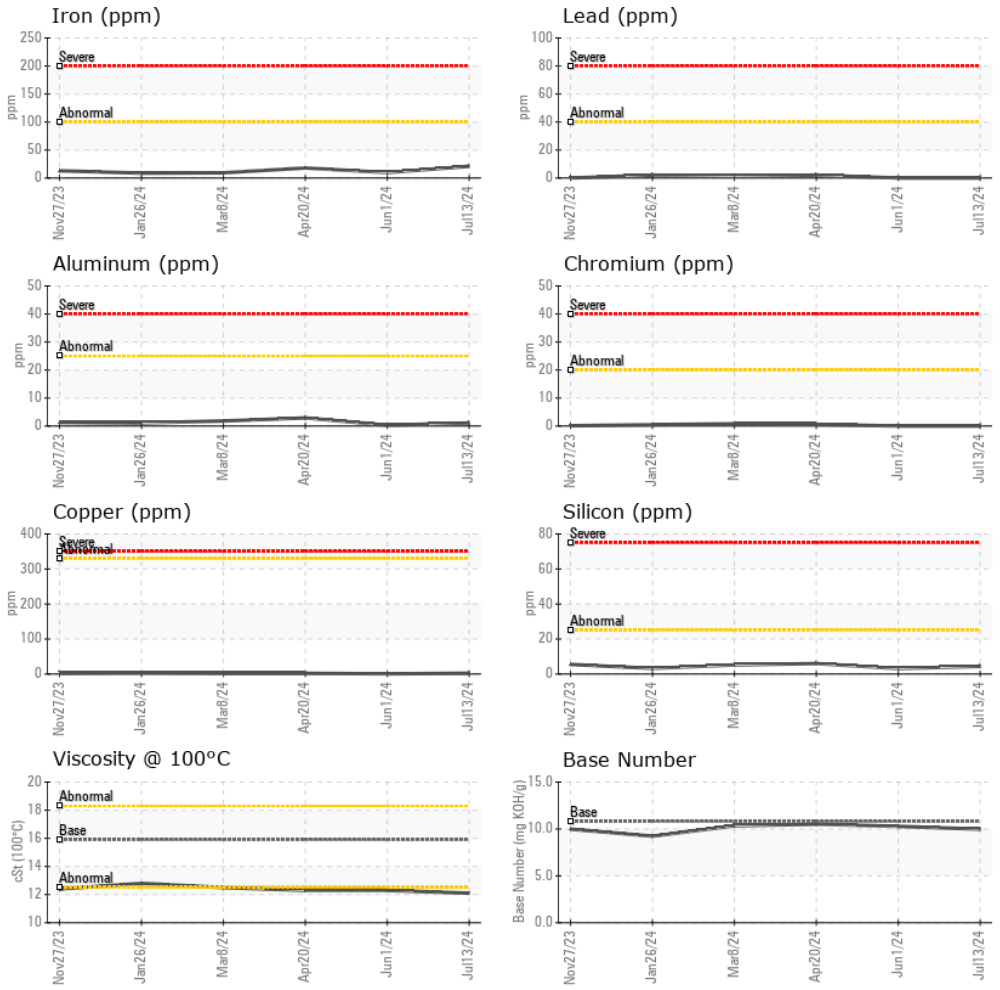
Viscosity @ 100°C



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	118	86.1	89.2
Visc @ 100°C	cSt	ASTM D445	15.9	12.1	12.3
Viscosity Index (VI)	Scale	ASTM D2270	143	134	133

GRAPHS



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513

Sample No. : TO10003728

Lab Number : 06241007

Unique Number : 11129841

Test Package : MOB 2 (Additional Tests: KV40, 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)

Received : 18 Jul 2024

Tested : 22 Jul 2024

Diagnosed : 22 Jul 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

T: (918)928-4575

F: