



TRAAP

Texas Refinery Advanced Analysis Program

OIL ANALYSIS REPORT

WEAR	ABNORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL

Machine Id
CATERPILLAR 558 10-18 (S/N F5L00339)
 Component
Diesel Engine
 Fluid
TRC PRO-SPEC V SYN BLEND 15W40 (--- GAL)

RECOMMENDATION

Oil and filter change at the time of sampling has been noted. No corrective action is recommended at this time. Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		TR06177394	TR06108223	---
Sample Date		Client Info		18 Apr 2024	19 Feb 2024	---
Machine Age	hrs	Client Info		2036	1588	---
Oil Age	hrs	Client Info		448	437	---
Filter Age	hrs	Client Info		448	437	---
Oil Changed		Client Info		Changed	Changed	---
Filter Changed		Client Info		Changed	Changed	---
Sample Status				ABNORMAL	ABNORMAL	---

WEAR

The aluminum level is abnormal. All other component wear rates are normal.

Iron	ppm	ASTM D5185m	>100	20	18	---
Chromium	ppm	ASTM D5185m	>20	2	1	---
Nickel	ppm	ASTM D5185m	>2	<1	<1	---
Titanium	ppm	ASTM D5185m	>2	<1	<1	---
Silver	ppm	ASTM D5185m	>2	0	0	---
Aluminum	ppm	ASTM D5185m	>25	▲ 44	▲ 34	---
Lead	ppm	ASTM D5185m	>40	<1	1	---
Copper	ppm	ASTM D5185m	>330	6	4	---
Tin	ppm	ASTM D5185m	>15	<1	<1	---
Vanadium	ppm	ASTM D5185m		<1	<1	---
White Metal	scalar	*Visual	NONE	NONE	NONE	---
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	---

CONTAMINATION

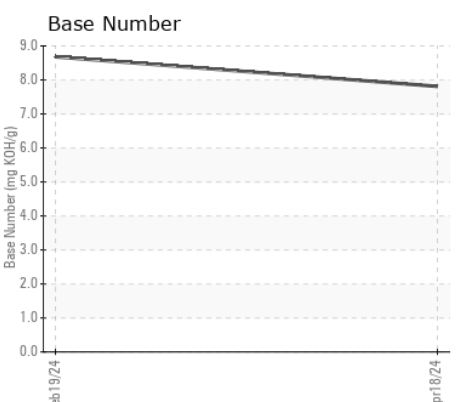
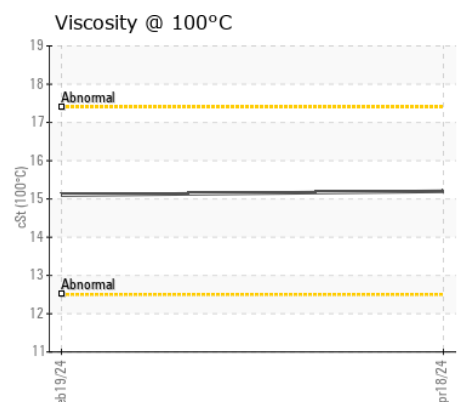
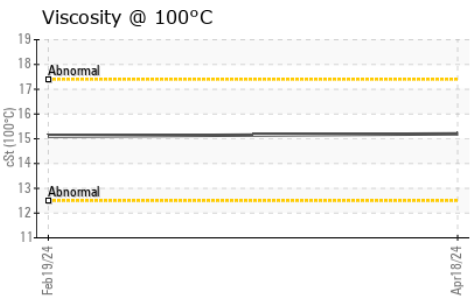
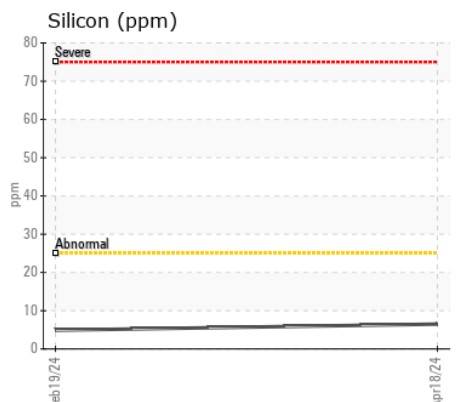
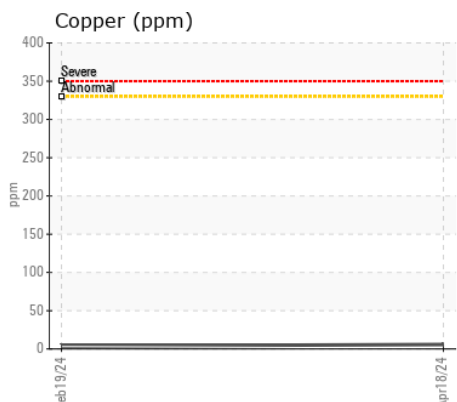
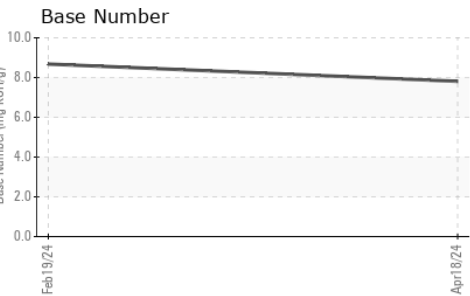
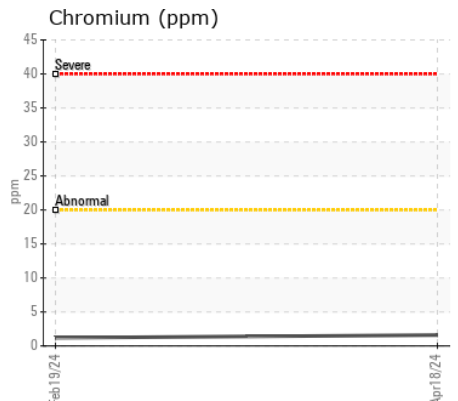
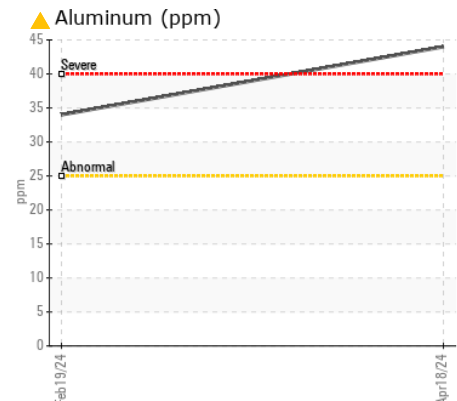
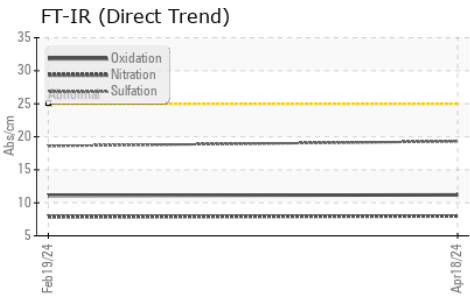
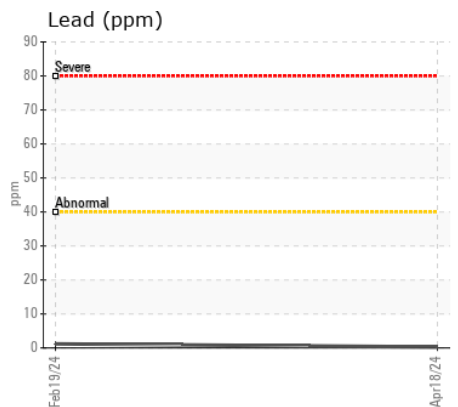
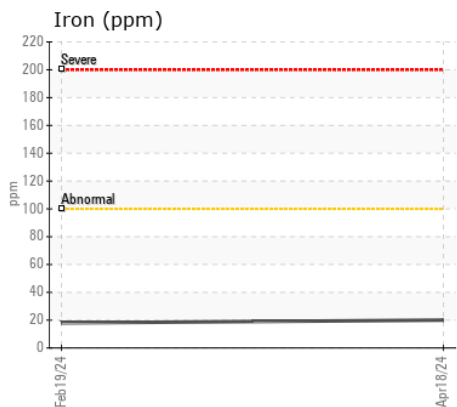
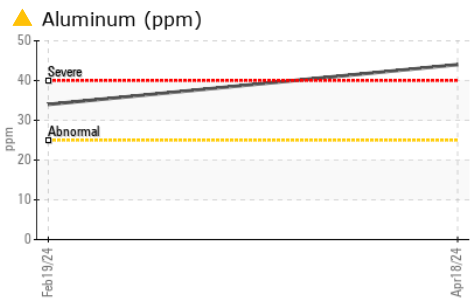
There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185m	>25	6	5	---
Potassium	ppm	ASTM D5185m	>20	6	7	---
Fuel		WC Method	>5	<1.0	<1.0	---
Water		WC Method	>0.2	NEG	NEG	---
Glycol		WC Method		NEG	NEG	---
Soot %	%	*ASTM D7844	>3	0.6	0.5	---
Nitration	Abs/cm	*ASTM D7624	>20	8.0	7.9	---
Sulfation	Abs/.1mm	*ASTM D7415	>30	19.3	18.6	---
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	---

FLUID CONDITION

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

Sodium	ppm	ASTM D5185m		0	1	---
Boron	ppm	ASTM D5185m		0	0	---
Barium	ppm	ASTM D5185m		1	0	---
Molybdenum	ppm	ASTM D5185m		2	2	---
Manganese	ppm	ASTM D5185m		<1	<1	---
Magnesium	ppm	ASTM D5185m		26	10	---
Calcium	ppm	ASTM D5185m		2528	2454	---
Phosphorus	ppm	ASTM D5185m		1092	966	---
Zinc	ppm	ASTM D5185m		1144	1113	---
Sulfur	ppm	ASTM D5185m		4428	3859	---
Oxidation	Abs/.1mm	*ASTM D7414	>25	11.2	11.1	---
Base Number (BN)	mg KOH/g	ASTM D2896		7.81	8.68	---
Visc @ 100°C	cSt	ASTM D445		15.2	15.1	---



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : TR06177394 **Received** : 13 May 2024
Lab Number : 06177394 **Tested** : 14 May 2024
Unique Number : 11023447 **Diagnosed** : 15 May 2024 - Don Baldrige
Test Package : MOB 2

KASKI LOGGING
 22411 HE CEDAR CREEK RD
 AMBOY, WA
 US 98601
 Contact: NATHAN BYRD

To discuss this sample report, contact Customer Service at 1-800-827-0711.

* - 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: