



TRAAP

Texas Refinery Advanced Analysis Program

OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	MARGINAL
FLUID CONDITION	NORMAL

Machine Id
CATERPILLAR 325 DFM 12-09 (S/N 201699)
 Component
Diesel Engine
 Fluid
DIESEL ENGINE OIL SAE 15W40 (--- GAL)

RECOMMENDATION

The oil change at the time of sampling has been noted. Resample at the next service interval to monitor. No other corrective action is recommended at this time.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		TR06196031	---	---
Sample Date		Client Info		01 May 2024	---	---
Machine Age	hrs	Client Info		13149	---	---
Oil Age	hrs	Client Info		176	---	---
Filter Age	hrs	Client Info		176	---	---
Oil Changed		Client Info		Changed	---	---
Filter Changed		Client Info		Changed	---	---
Sample Status				MARGINAL	---	---

WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>100	5	---	---
Chromium	ppm	ASTM D5185m	>20	0	---	---
Nickel	ppm	ASTM D5185m	>2	0	---	---
Titanium	ppm	ASTM D5185m	>2	0	---	---
Silver	ppm	ASTM D5185m	>2	0	---	---
Aluminum	ppm	ASTM D5185m	>25	<1	---	---
Lead	ppm	ASTM D5185m	>40	0	---	---
Copper	ppm	ASTM D5185m	>330	0	---	---
Tin	ppm	ASTM D5185m	>15	0	---	---
Vanadium	ppm	ASTM D5185m		<1	---	---
White Metal	scalar	*Visual	NONE	LIGHT	---	---
Yellow Metal	scalar	*Visual	NONE	NONE	---	---

CONTAMINATION

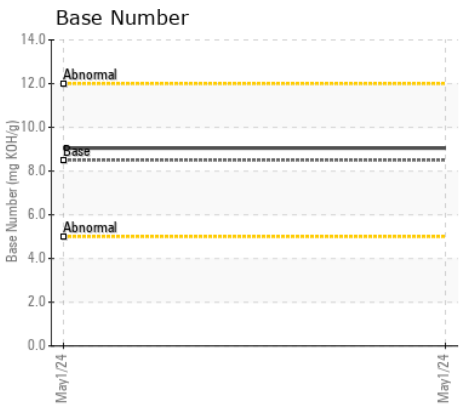
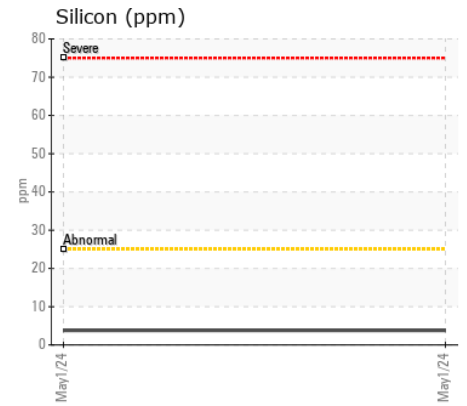
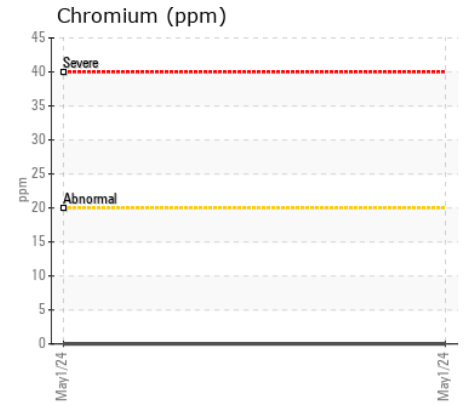
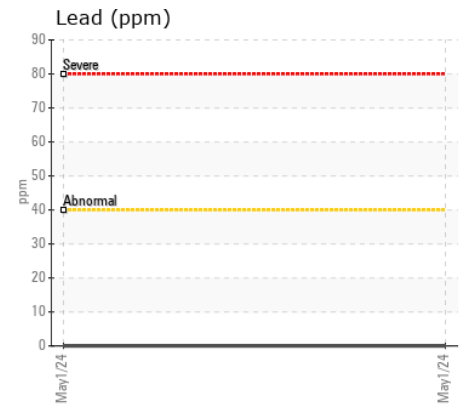
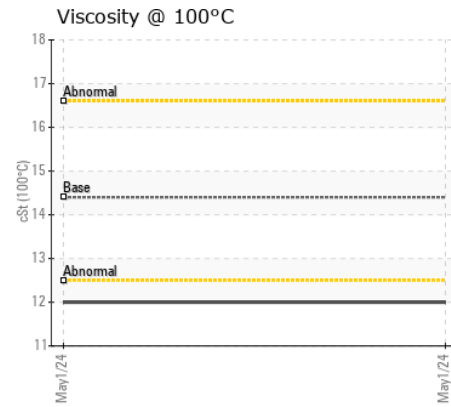
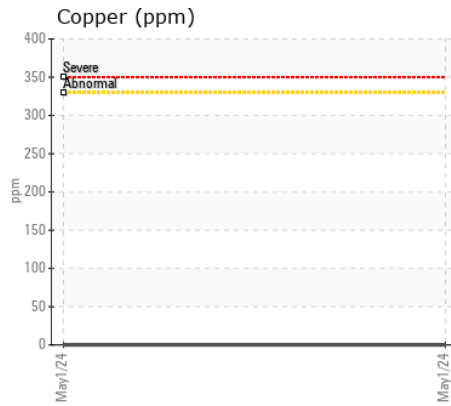
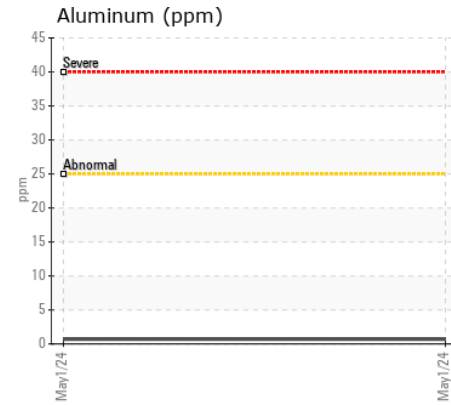
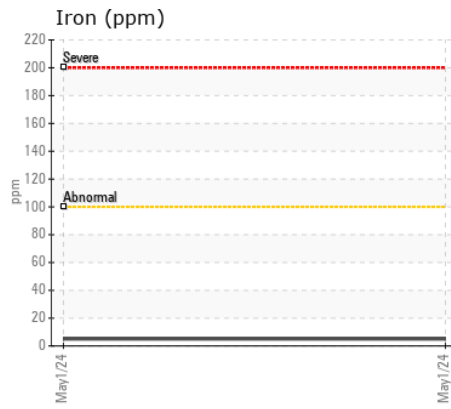
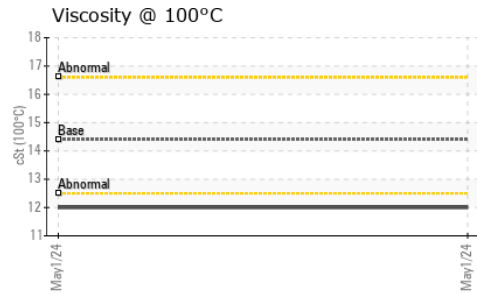
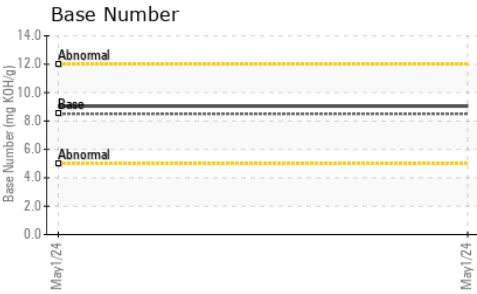
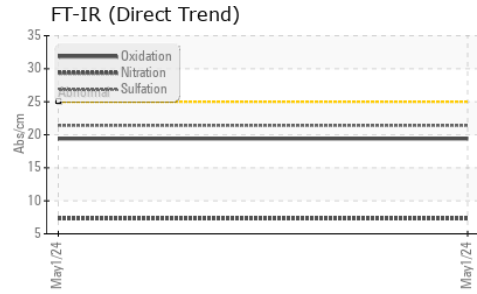
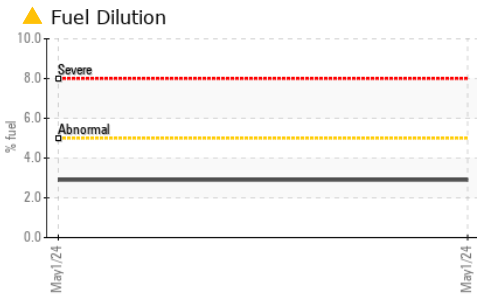
Light fuel dilution occurring. No other contaminants were detected in the oil.

Silicon	ppm	ASTM D5185m	>25	4	---	---
Potassium	ppm	ASTM D5185m	>20	3	---	---
Fuel	%	ASTM D3524	>5	▲ 2.9	---	---
Water		WC Method	>0.2	NEG	---	---
Glycol		WC Method		NEG	---	---
Soot %	%	*ASTM D7844	>3	0.2	---	---
Nitration	Abs/cm	*ASTM D7624	>20	7.3	---	---
Sulfation	Abs/.1mm	*ASTM D7415	>30	21.4	---	---
Silt	scalar	*Visual	NONE	NONE	---	---
Debris	scalar	*Visual	NONE	NONE	---	---
Sand/Dirt	scalar	*Visual	NONE	NONE	---	---
Appearance	scalar	*Visual	NORML	NORML	---	---
Odor	scalar	*Visual	NORML	NORML	---	---
Emulsified Water	scalar	*Visual	>0.2	NEG	---	---

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.

Sodium	ppm	ASTM D5185m	>158	2	---	---
Boron	ppm	ASTM D5185m	250	119	---	---
Barium	ppm	ASTM D5185m	10	0	---	---
Molybdenum	ppm	ASTM D5185m	100	19	---	---
Manganese	ppm	ASTM D5185m		0	---	---
Magnesium	ppm	ASTM D5185m	450	243	---	---
Calcium	ppm	ASTM D5185m	3000	2076	---	---
Phosphorus	ppm	ASTM D5185m	1150	978	---	---
Zinc	ppm	ASTM D5185m	1350	1187	---	---
Sulfur	ppm	ASTM D5185m	4250	3656	---	---
Oxidation	Abs/.1mm	*ASTM D7414	>25	19.4	---	---
Base Number (BN)	mg KOH/g	ASTM D2896	8.5	9.05	---	---
Visc @ 100°C	cSt	ASTM D445	14.4	12.0	---	---



Certificate L2367

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

Sample No. : TR06196031

Lab Number : 06196031

Unique Number : 11058154

Test Package : MOB 2 (Additional Tests: FuelDilution, PercentFuel)

Received : 30 May 2024

Tested : 04 Jun 2024

Diagnosed : 04 Jun 2024 - Wes Davis

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: