



TRAAP

Texas Refinery Advanced Analysis Program

# OIL ANALYSIS REPORT

WEAR	<b>ABNORMAL</b>
CONTAMINATION	<b>ABNORMAL</b>
FLUID CONDITION	<b>NORMAL</b>

Machine Id  
**CATERPILLAR 568 414 (S/N BRB00298)**

Component  
**Hydraulic System**

Fluid  
**MOBIL HYDRAULIC OIL AW 46 (85 GAL)**

## RECOMMENDATION

The filter change at the time of sampling has been noted. We advise that you inspect for the source(s) of wear. We recommend an early resample to monitor this condition.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		TR05930323	---	---
Sample Date		Client Info		10 Aug 2023	---	---
Machine Age	hrs	Client Info		14172	---	---
Oil Age	hrs	Client Info		2110	---	---
Filter Age	hrs	Client Info		200	---	---
Oil Changed		Client Info		Not Changed	---	---
Filter Changed		Client Info		Changed	---	---
Sample Status				ABNORMAL	---	---

## WEAR

High concentration of visible metal present. All component wear rates are normal.

Iron	ppm	ASTM D5185m	>20	17	---	---
Chromium	ppm	ASTM D5185m	>10	<1	---	---
Nickel	ppm	ASTM D5185m	>10	0	---	---
Titanium	ppm	ASTM D5185m		0	---	---
Silver	ppm	ASTM D5185m		0	---	---
Aluminum	ppm	ASTM D5185m	>10	0	---	---
Lead	ppm	ASTM D5185m	>10	<1	---	---
Copper	ppm	ASTM D5185m	>75	5	---	---
Tin	ppm	ASTM D5185m	>10	0	---	---
Vanadium	ppm	ASTM D5185m		0	---	---
White Metal	scalar	*Visual	NONE	▲ HEAVY	---	---
Yellow Metal	scalar	*Visual	NONE	NONE	---	---

## CONTAMINATION

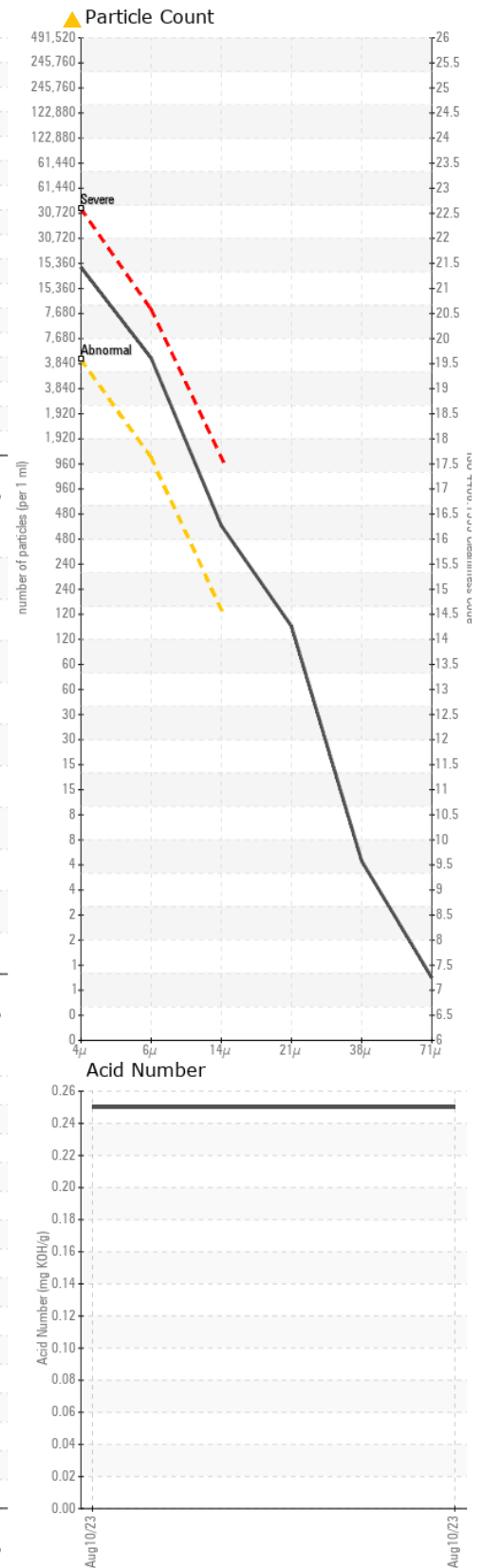
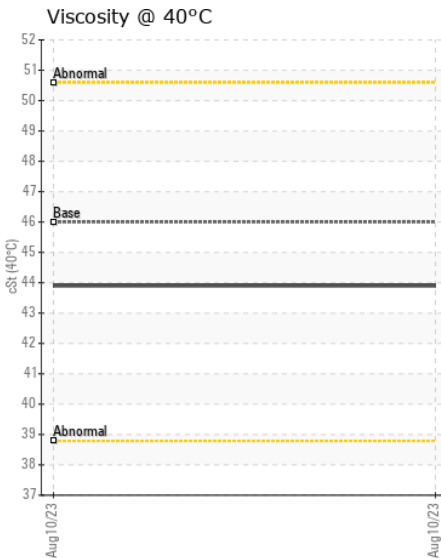
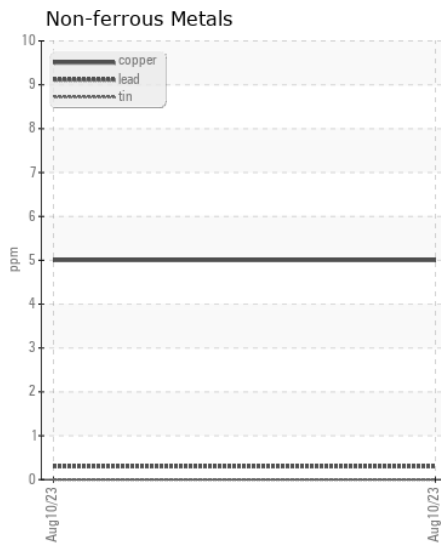
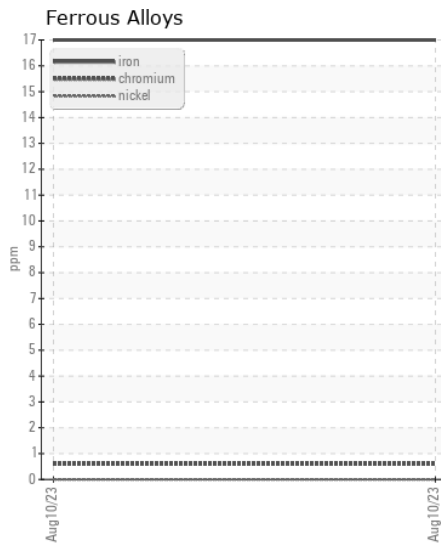
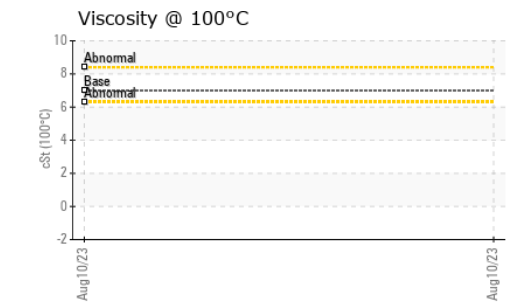
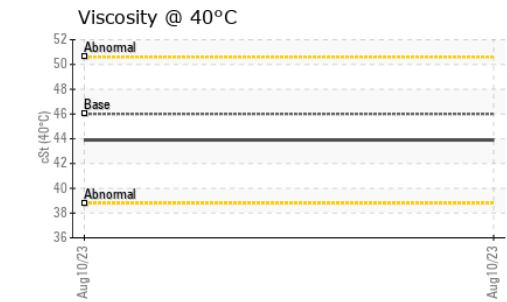
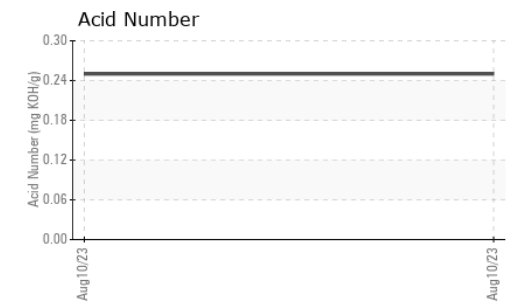
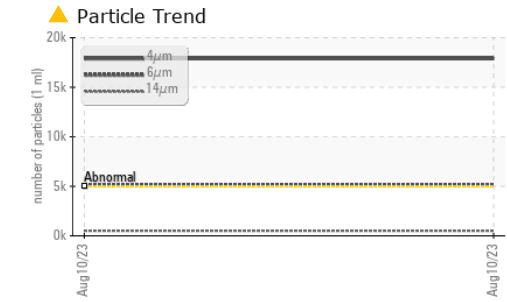
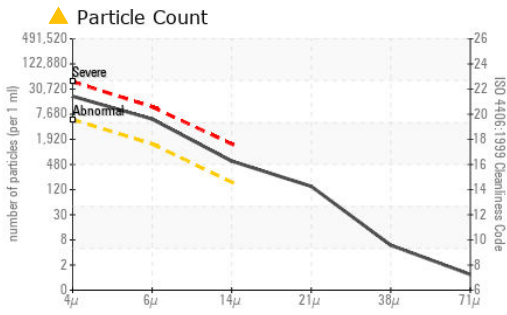
There is a high amount of particulates present in the oil.

Silicon	ppm	ASTM D5185m	>20	3	---	---
Potassium	ppm	ASTM D5185m	>20	<1	---	---
Water		WC Method	>0.1	NEG	---	---
Particles >4µm		ASTM D7647	>5000	▲ 17885	---	---
Particles >6µm		ASTM D7647	>1300	▲ 5114	---	---
Particles >14µm		ASTM D7647	>160	▲ 508	---	---
Particles >21µm		ASTM D7647	>40	▲ 127	---	---
Particles >38µm		ASTM D7647	>10	5	---	---
Particles >71µm		ASTM D7647	>3	1	---	---
Oil Cleanliness		ISO 4406 (c)	>19/17/14	▲ 21/20/16	---	---
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	>0.1	NEG	---	---

## FLUID CONDITION

The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.

Sodium	ppm	ASTM D5185m		2	---	---
Boron	ppm	ASTM D5185m		0	---	---
Barium	ppm	ASTM D5185m		0	---	---
Molybdenum	ppm	ASTM D5185m		<1	---	---
Manganese	ppm	ASTM D5185m		<1	---	---
Magnesium	ppm	ASTM D5185m		2	---	---
Calcium	ppm	ASTM D5185m		196	---	---
Phosphorus	ppm	ASTM D5185m		328	---	---
Zinc	ppm	ASTM D5185m		388	---	---
Sulfur	ppm	ASTM D5185m		1297	---	---
Acid Number (AN)	mg KOH/g	ASTM D8045		0.25	---	---
Visc @ 40°C	cSt	ASTM D445	46	43.9	---	---



**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : TR05930323 **Received** : 21 Aug 2023  
**Lab Number** : 05930323 **Tested** : 29 Aug 2023  
**Unique Number** : 10615594 **Diagnosed** : 29 Aug 2023 - Doug Bogart  
**Test Package** : MOB 2 ( Additional Tests: KV100 )

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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)