



TRAAP

Texas Refinery Advanced Analysis Program

OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL

Machine Id  
**CATERPILLAR 988F WRCH 2 (S/N 2ZR01298)**

Component  
**Diesel Engine**

Fluid  
**CJ-4 10W30 (5 GAL)**

**RECOMMENDATION**

Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		TR06085460	---	---
Sample Date		Client Info		30 Jan 2024	---	---
Machine Age	hrs	Client Info		916	---	---
Oil Age	hrs	Client Info		150	---	---
Filter Age	hrs	Client Info		150	---	---
Oil Changed		Client Info		Not Changd	---	---
Filter Changed		Client Info		Not Changd	---	---
Sample Status				NORMAL	---	---

**WEAR**

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>100	40	---	---
Chromium	ppm	ASTM D5185m	>20	<1	---	---
Nickel	ppm	ASTM D5185m	>2	0	---	---
Titanium	ppm	ASTM D5185m	>2	<1	---	---
Silver	ppm	ASTM D5185m	>2	0	---	---
Aluminum	ppm	ASTM D5185m	>25	1	---	---
Lead	ppm	ASTM D5185m	>40	2	---	---
Copper	ppm	ASTM D5185m	>330	161	---	---
Tin	ppm	ASTM D5185m	>15	<1	---	---
Vanadium	ppm	ASTM D5185m		0	---	---
White Metal	scalar	*Visual	NONE	NONE	---	---
Yellow Metal	scalar	*Visual	NONE	NONE	---	---

**CONTAMINATION**

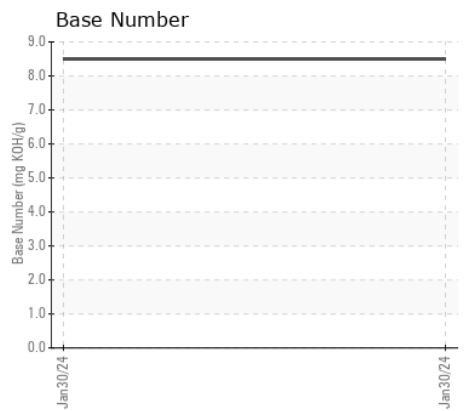
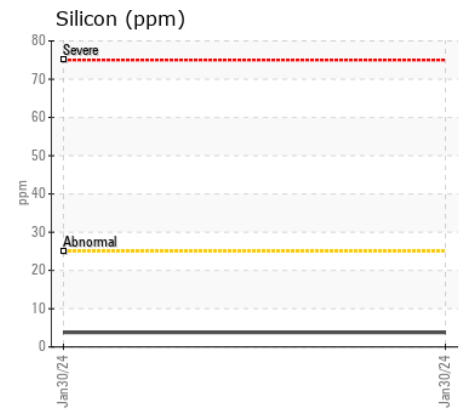
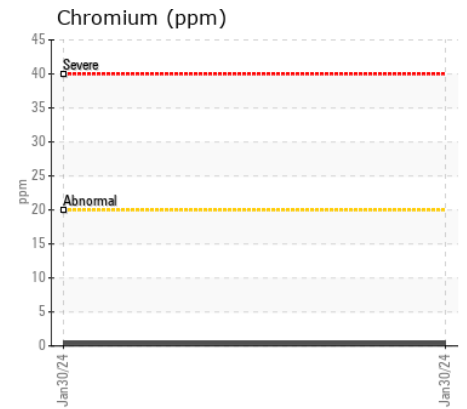
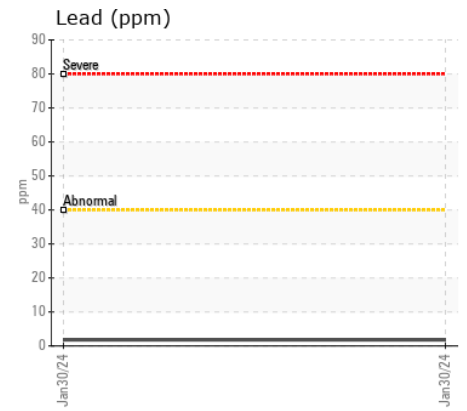
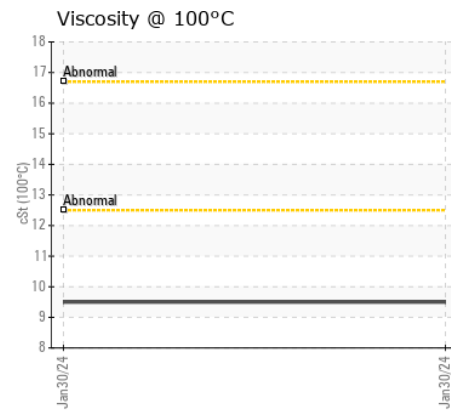
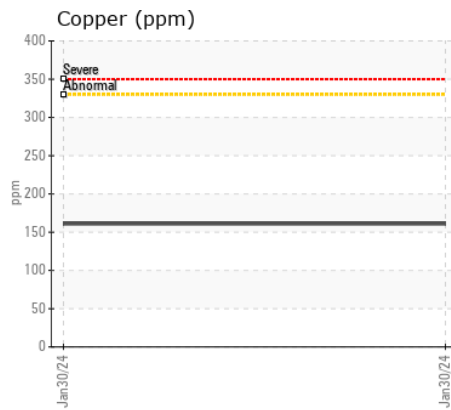
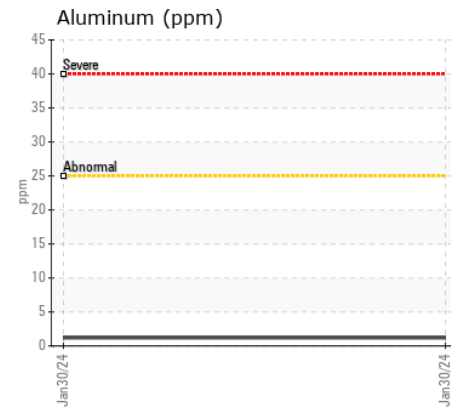
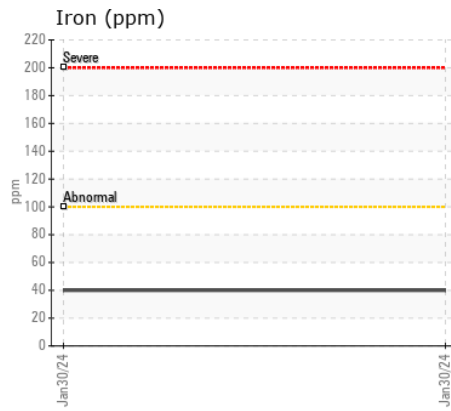
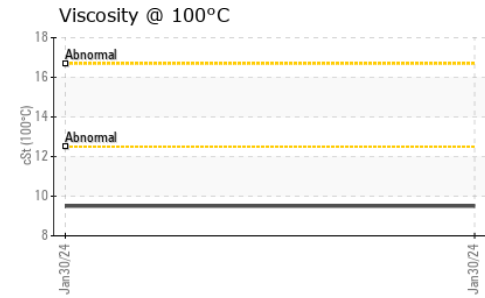
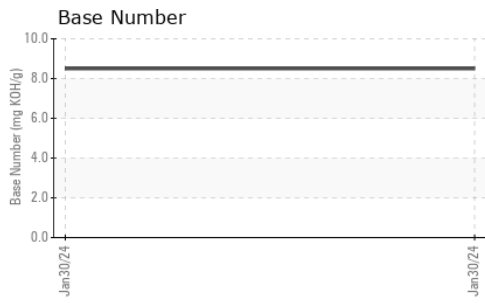
There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185m	>25	4	---	---
Potassium	ppm	ASTM D5185m	>20	0	---	---
Fuel	%	ASTM D3524	>5	<1.0	---	---
Water		WC Method	>0.2	NEG	---	---
Glycol		WC Method		NEG	---	---
Soot %	%	*ASTM D7844	>3	0.3	---	---
Nitration	Abs/cm	*ASTM D7624	>20	4.9	---	---
Sulfation	Abs/.1mm	*ASTM D7415	>30	15.8	---	---
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		2	---	---
Boron	ppm	ASTM D5185m		<1	---	---
Barium	ppm	ASTM D5185m		<1	---	---
Molybdenum	ppm	ASTM D5185m		29	---	---
Manganese	ppm	ASTM D5185m		<1	---	---
Magnesium	ppm	ASTM D5185m		41	---	---
Calcium	ppm	ASTM D5185m		2343	---	---
Phosphorus	ppm	ASTM D5185m		752	---	---
Zinc	ppm	ASTM D5185m		953	---	---
Sulfur	ppm	ASTM D5185m		3792	---	---
Oxidation	Abs/.1mm	*ASTM D7414	>25	9.9	---	---
Base Number (BN)	mg KOH/g	ASTM D2896		8.50	---	---
Visc @ 100°C	cSt	ASTM D445		9.5	---	---



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : TR06085460 **Received** : 09 Feb 2024  
**Lab Number** : 06085460 **Tested** : 12 Feb 2024  
**Unique Number** : 10872905 **Diagnosed** : 12 Feb 2024 - Doug Bogart  
**Test Package** : MOB 2 ( Additional Tests: FuelDilution, PercentFuel )

**WIE - WESTERN INDUSTRIAL EQUIPMENT**  
 10761 N WILSON RD  
 LAKE CITY, MI  
 US 49651  
 Contact: JOHN HIGGINS

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)

T:  
F: