



TRAAP

Texas Refinery Advanced Analysis Program

OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL

Machine Id
ENTWISTLE MHE-270 4K (S/N 8909-181)
 Component
Diesel Engine
 Fluid
CJ-4 15W40 (12 GAL)

RECOMMENDATION

Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		TR06145368	---	---
Sample Date		Client Info		18 Mar 2024	---	---
Machine Age	hrs	Client Info		859	---	---
Oil Age	hrs	Client Info		100	---	---
Filter Age	hrs	Client Info		100	---	---
Oil Changed		Client Info		Not Changd	---	---
Filter Changed		Client Info		Not Changd	---	---
Sample Status				NORMAL	---	---

WEAR

Metal levels are typical for a new component breaking in.

Iron	ppm	ASTM D5185m	>90	29	---	---
Chromium	ppm	ASTM D5185m	>20	5	---	---
Nickel	ppm	ASTM D5185m	>2	0	---	---
Titanium	ppm	ASTM D5185m	>2	<1	---	---
Silver	ppm	ASTM D5185m	>2	0	---	---
Aluminum	ppm	ASTM D5185m	>20	7	---	---
Lead	ppm	ASTM D5185m	>40	0	---	---
Copper	ppm	ASTM D5185m	>330	4	---	---
Tin	ppm	ASTM D5185m	>15	<1	---	---
Vanadium	ppm	ASTM D5185m		0	---	---
White Metal	scalar	*Visual	NONE	NONE	---	---
Yellow Metal	scalar	*Visual	NONE	NONE	---	---

CONTAMINATION

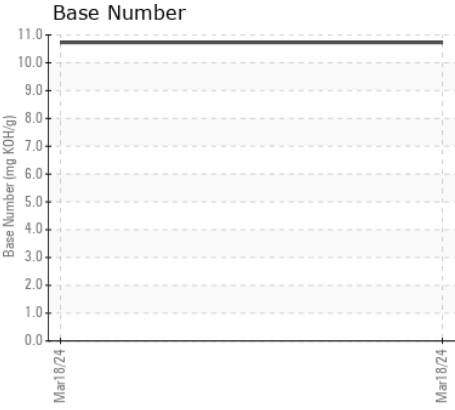
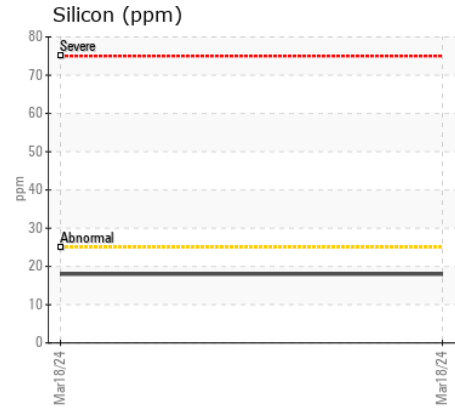
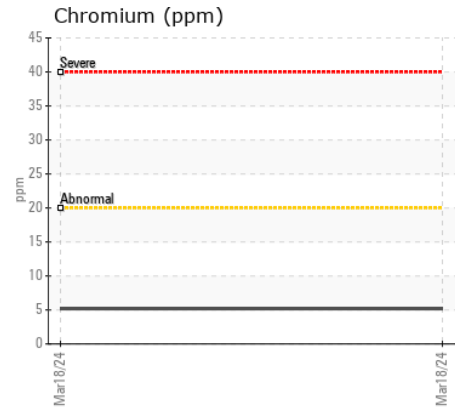
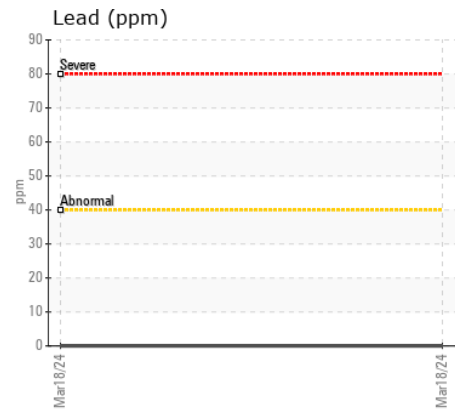
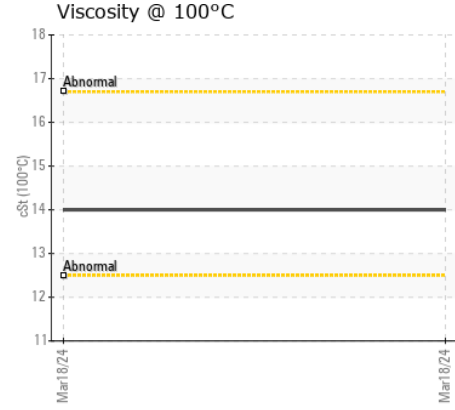
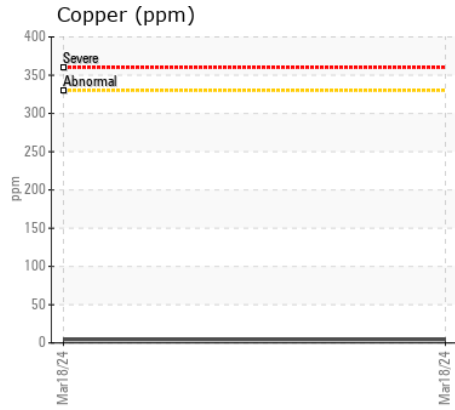
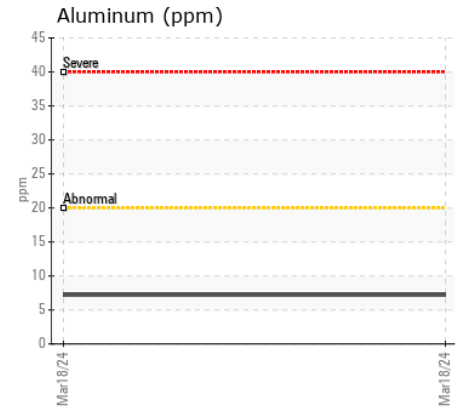
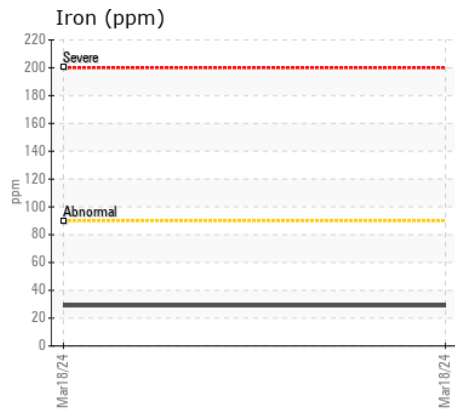
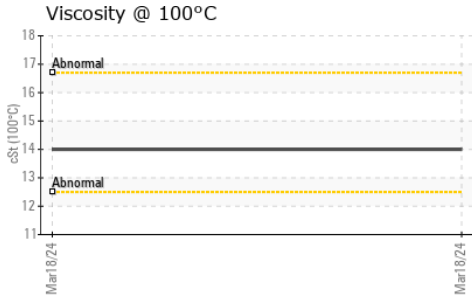
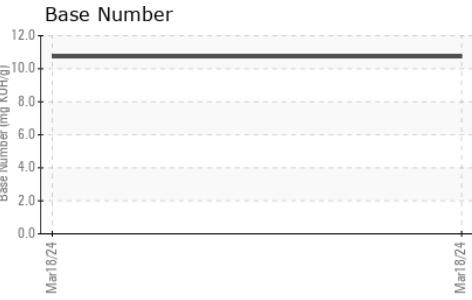
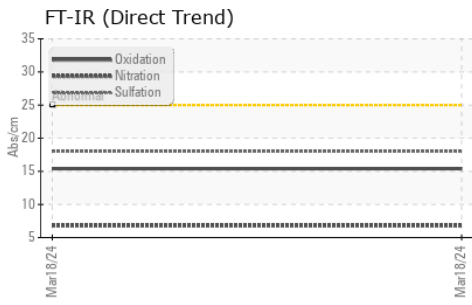
There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185m	>25	18	---	---
Potassium	ppm	ASTM D5185m	>20	3	---	---
Fuel		WC Method	>3.0	<1.0	---	---
Water		WC Method	>0.2	NEG	---	---
Glycol		WC Method		NEG	---	---
Soot %	%	*ASTM D7844	>6	0.1	---	---
Nitration	Abs/cm	*ASTM D7624	>20	6.8	---	---
Sulfation	Abs/.1mm	*ASTM D7415	>30	18.0	---	---
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		1	---	---
Boron	ppm	ASTM D5185m		8	---	---
Barium	ppm	ASTM D5185m		0	---	---
Molybdenum	ppm	ASTM D5185m		61	---	---
Manganese	ppm	ASTM D5185m		<1	---	---
Magnesium	ppm	ASTM D5185m		889	---	---
Calcium	ppm	ASTM D5185m		1157	---	---
Phosphorus	ppm	ASTM D5185m		1104	---	---
Zinc	ppm	ASTM D5185m		1212	---	---
Sulfur	ppm	ASTM D5185m		3798	---	---
Oxidation	Abs/.1mm	*ASTM D7414	>25	15.4	---	---
Base Number (BN)	mg KOH/g	ASTM D2896		10.73	---	---
Visc @ 100°C	cSt	ASTM D445		14.0	---	---



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : TR06145368
Lab Number : 06145368
Unique Number : 10970176
Test Package : MOB 2

Received : 10 Apr 2024
Tested : 12 Apr 2024
Diagnosed : 12 Apr 2024 - Wes Davis

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)

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F: