



# OIL ANALYSIS REPORT

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

Machine Id  
**ENGEL ENGEL 500/01**  
 Component  
**Hydraulic System**  
 Fluid  
**SHELL TELLUS S2 MX 46 (--- LTR)**

## RECOMMENDATION

Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		<b>TLC0001716</b>	---	---
Sample Date		Client Info		<b>20 May 2024</b>	---	---
Machine Age	hrs	Client Info		<b>0</b>	---	---
Oil Age	hrs	Client Info		<b>0</b>	---	---
Filter Age	hrs	Client Info		<b>0</b>	---	---
Oil Changed		Client Info		<b>N/A</b>	---	---
Filter Changed		Client Info		<b>N/A</b>	---	---
Sample Status				<b>NORMAL</b>	---	---

## WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>20	<b>4</b>	---	---
Chromium	ppm	ASTM D5185m	>20	<b>5</b>	---	---
Nickel	ppm	ASTM D5185m	>20	<b>&lt;1</b>	---	---
Titanium	ppm	ASTM D5185m		<b>&lt;1</b>	---	---
Silver	ppm	ASTM D5185m		<b>&lt;1</b>	---	---
Aluminum	ppm	ASTM D5185m	>20	<b>0</b>	---	---
Lead	ppm	ASTM D5185m	>20	<b>&lt;1</b>	---	---
Copper	ppm	ASTM D5185m	>20	<b>1</b>	---	---
Tin	ppm	ASTM D5185m	>20	<b>0</b>	---	---
Vanadium	ppm	ASTM D5185m		<b>&lt;1</b>	---	---
White Metal	scalar	*Visual	NONE	<b>NONE</b>	---	---
Yellow Metal	scalar	*Visual	NONE	<b>NONE</b>	---	---

## CONTAMINATION

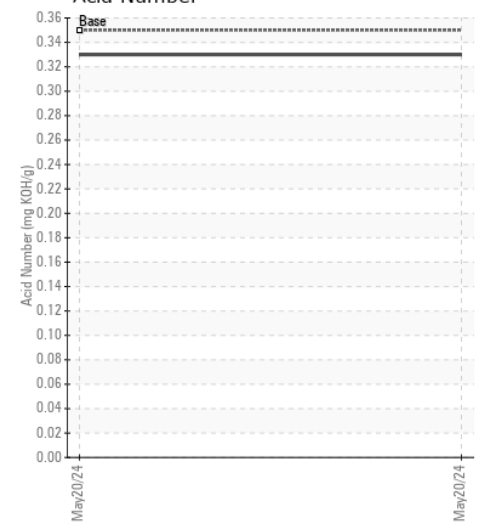
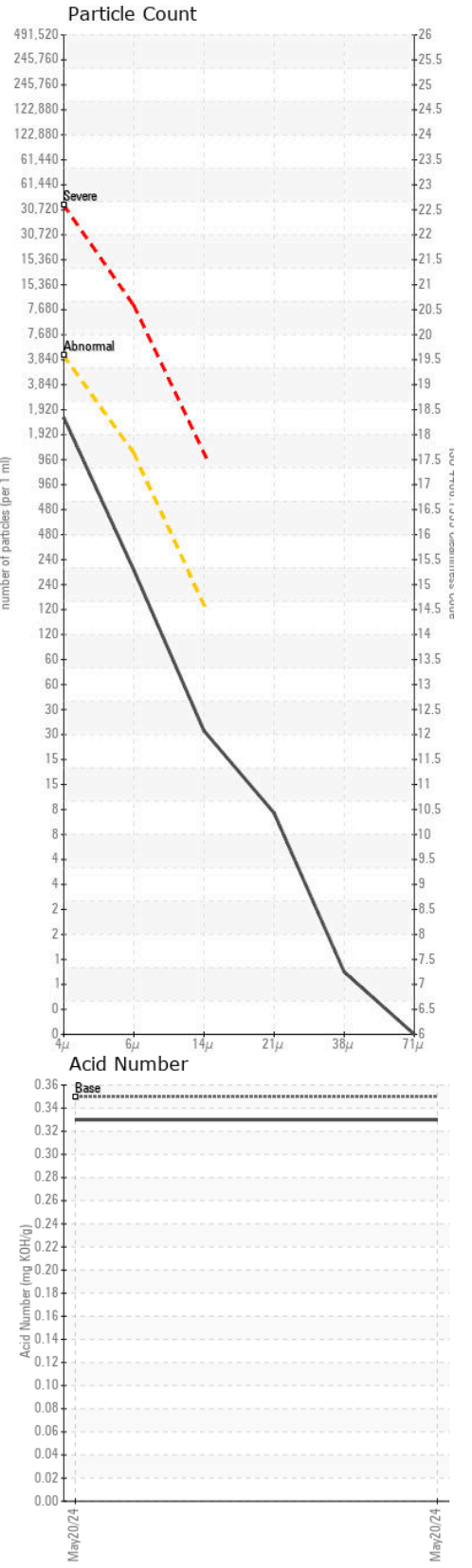
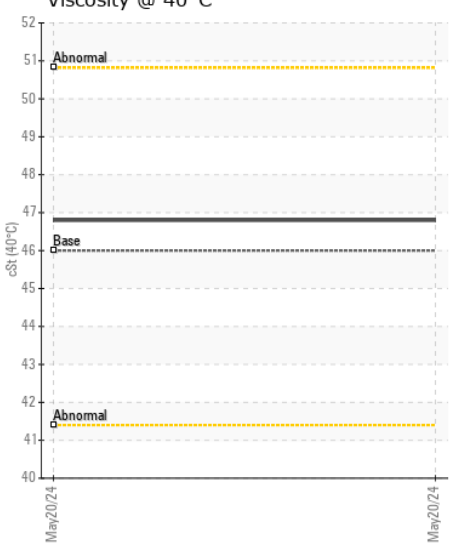
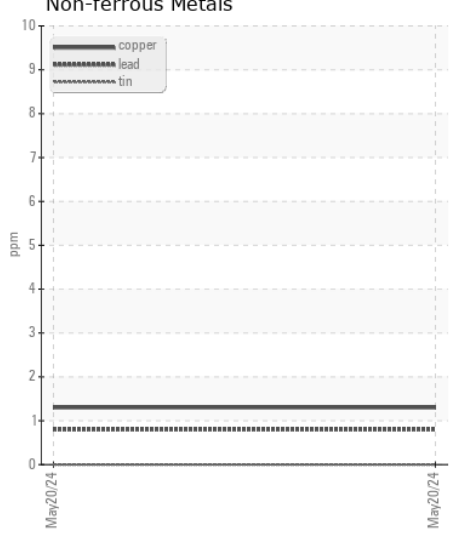
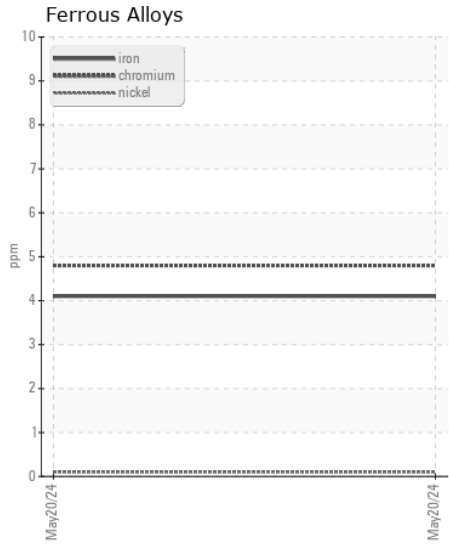
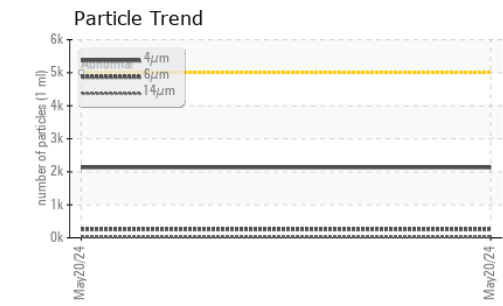
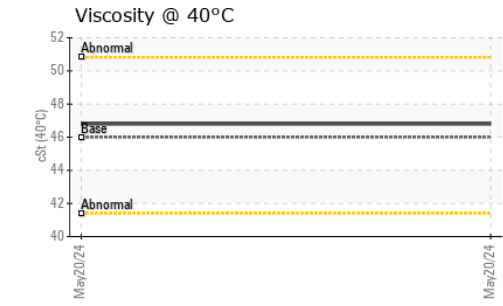
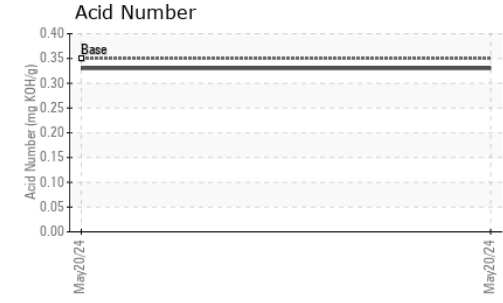
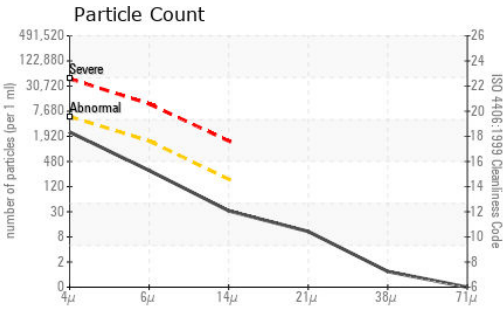
The amount and size of particulates present in the system are acceptable. There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185m	>15	<b>2</b>	---	---
Potassium	ppm	ASTM D5185m	>20	<b>0</b>	---	---
Water	%	ASTM D6304	>0.05	<b>NEG</b>	---	---
Particles >4µm		ASTM D7647	>5000	<b>2129</b>	---	---
Particles >6µm		ASTM D7647	>1300	<b>258</b>	---	---
Particles >14µm		ASTM D7647	>160	<b>28</b>	---	---
Particles >21µm		ASTM D7647	>40	<b>9</b>	---	---
Particles >38µm		ASTM D7647	>10	<b>1</b>	---	---
Particles >71µm		ASTM D7647	>3	<b>0</b>	---	---
Oil Cleanliness		ISO 4406 (c)	>19/17/14	<b>18/15/12</b>	---	---
Silt	scalar	*Visual	NONE	<b>NONE</b>	---	---
Debris	scalar	*Visual	NONE	<b>NONE</b>	---	---
Sand/Dirt	scalar	*Visual	NONE	<b>NONE</b>	---	---
Appearance	scalar	*Visual	NORML	<b>NORML</b>	---	---
Odor	scalar	*Visual	NORML	<b>NORML</b>	---	---
Emulsified Water	scalar	*Visual	>0.05	<b>NEG</b>	---	---

## FLUID CONDITION

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

Sodium	ppm	ASTM D5185m		<b>&lt;1</b>	---	---
Boron	ppm	ASTM D5185m	0	<b>0</b>	---	---
Barium	ppm	ASTM D5185m	0	<b>0</b>	---	---
Molybdenum	ppm	ASTM D5185m	0	<b>1</b>	---	---
Manganese	ppm	ASTM D5185m	0	<b>&lt;1</b>	---	---
Magnesium	ppm	ASTM D5185m	70	<b>17</b>	---	---
Calcium	ppm	ASTM D5185m	10	<b>135</b>	---	---
Phosphorus	ppm	ASTM D5185m	300	<b>327</b>	---	---
Zinc	ppm	ASTM D5185m	325	<b>437</b>	---	---
Sulfur	ppm	ASTM D5185m	665	<b>3035</b>	---	---
Acid Number (AN)	mg KOH/g	ASTM D8045	0.35	<b>0.33</b>	---	---
Visc @ 40°C	cSt	ASTM D445	46.0	<b>46.8</b>	---	---



**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : TLC0001716 **Received** : 21 May 2024  
**Lab Number** : 06186681 **Tested** : 23 May 2024  
**Unique Number** : 11043433 **Diagnosed** : 23 May 2024 - Jonathan Hester  
**Test Package** : PLANT

**WIRTHWEIN**  
 800 WOODSIDE AVE  
 FOUNTAIN INN, SC  
 US 29644  
 Contact: Service Manager

To discuss this sample report, contact Customer Service at 1-800-237-1369.  
 \* - 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)