



# OIL ANALYSIS REPORT

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

Machine Id  
**ENGEL ENGEL 500/02**  
 Component  
**Hydraulic System**  
 Fluid  
**SHELL TELLUS S2 MX 46 (--- GAL)**

## RECOMMENDATION

Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		<b>TLC0001715</b>	TLC0001110	TLC0000847
Sample Date		Client Info		<b>02 May 2024</b>	04 Dec 2023	27 Aug 2022
Machine Age	hrs	Client Info		<b>0</b>	0	0
Oil Age	hrs	Client Info		<b>0</b>	0	0
Filter Age	hrs	Client Info		<b>0</b>	0	0
Oil Changed		Client Info		<b>N/A</b>	N/A	N/A
Filter Changed		Client Info		<b>N/A</b>	N/A	N/A
Sample Status				<b>NORMAL</b>	NORMAL	NORMAL

## WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>20	<b>2</b>	0	<1
Chromium	ppm	ASTM D5185m	>20	<b>1</b>	<1	<1
Nickel	ppm	ASTM D5185m	>20	<b>&lt;1</b>	0	0
Titanium	ppm	ASTM D5185m		<b>&lt;1</b>	0	0
Silver	ppm	ASTM D5185m		<b>&lt;1</b>	0	0
Aluminum	ppm	ASTM D5185m	>20	<b>0</b>	0	<1
Lead	ppm	ASTM D5185m	>20	<b>&lt;1</b>	0	0
Copper	ppm	ASTM D5185m	>20	<b>2</b>	3	2
Tin	ppm	ASTM D5185m	>20	<b>0</b>	0	0
Vanadium	ppm	ASTM D5185m		<b>&lt;1</b>	0	0
White Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE

## CONTAMINATION

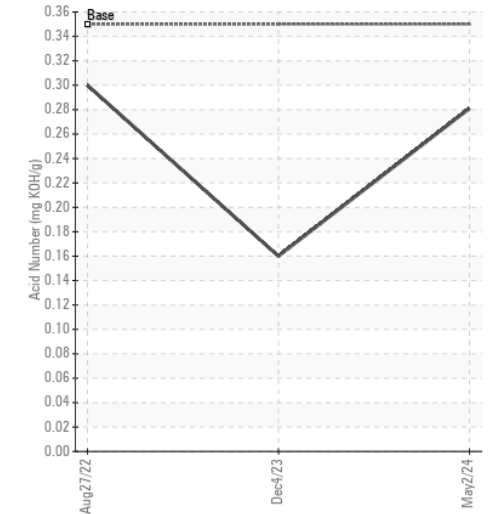
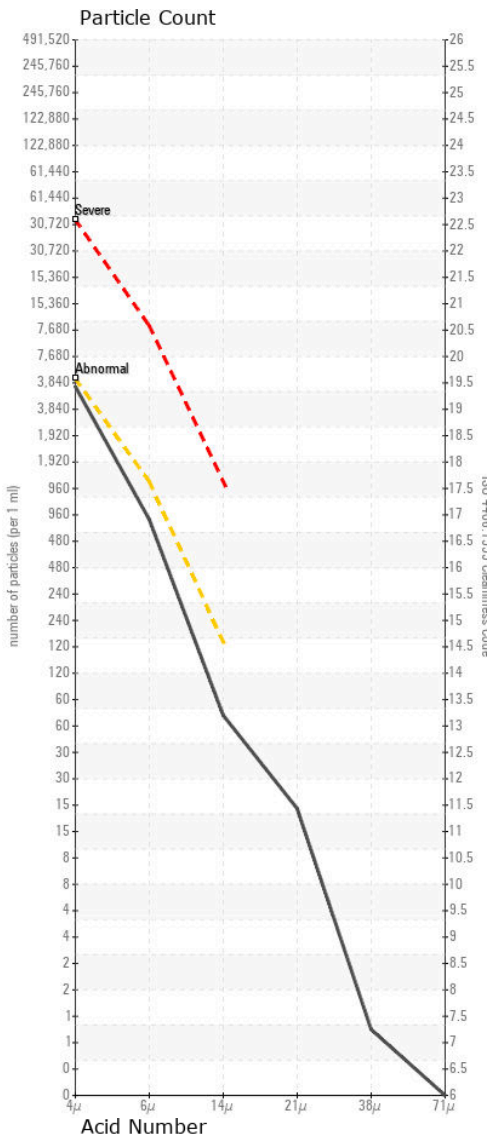
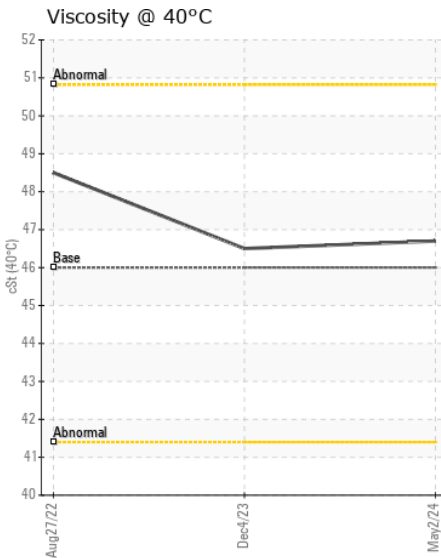
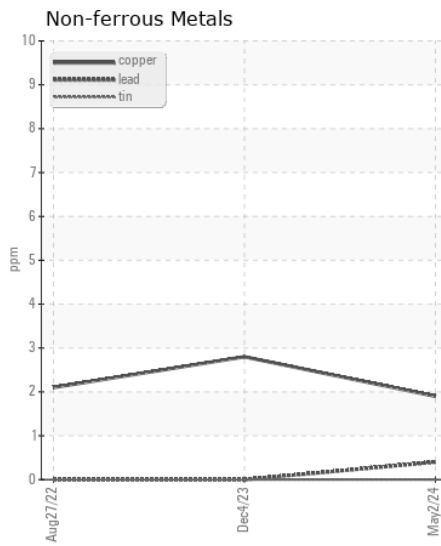
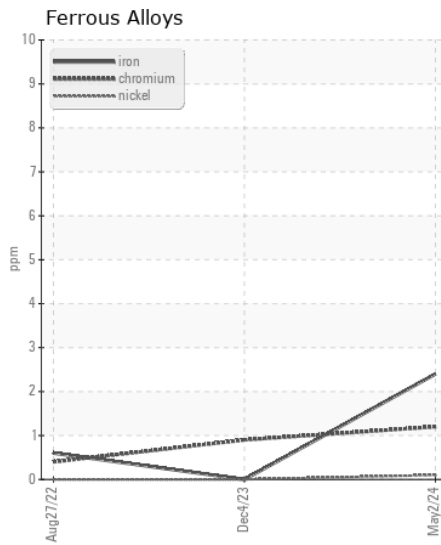
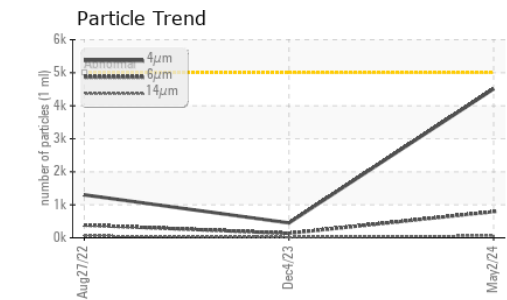
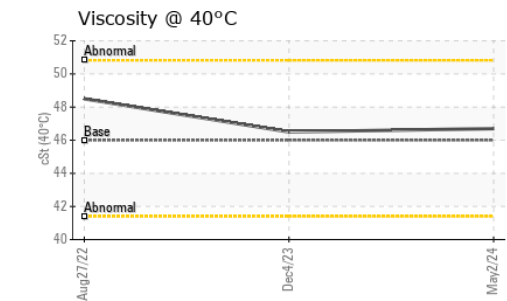
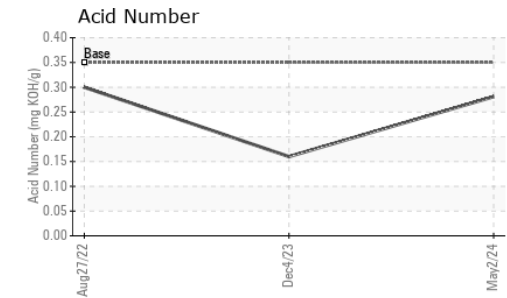
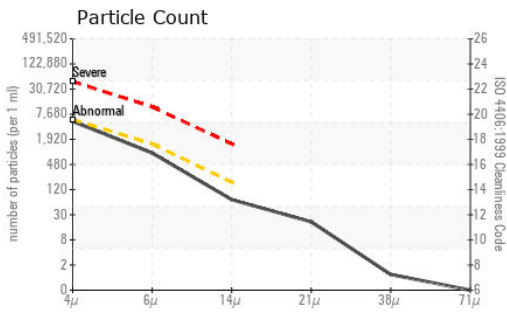
The amount and size of particulates present in the system are acceptable. There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185m	>15	<b>3</b>	2	25
Potassium	ppm	ASTM D5185m	>20	<b>0</b>	0	0
Water	%	ASTM D6304	>0.05	<b>NEG</b>	NEG	NEG
Particles >4µm		ASTM D7647	>5000	<b>4510</b>	451	1301
Particles >6µm		ASTM D7647	>1300	<b>792</b>	136	386
Particles >14µm		ASTM D7647	>160	<b>61</b>	17	59
Particles >21µm		ASTM D7647	>40	<b>18</b>	7	23
Particles >38µm		ASTM D7647	>10	<b>1</b>	1	1
Particles >71µm		ASTM D7647	>3	<b>0</b>	0	0
Oil Cleanliness		ISO 4406 (c)	>19/17/14	<b>19/17/13</b>	16/14/11	18/16/13
Silt	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Debris	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Appearance	scalar	*Visual	NORML	<b>NORML</b>	NORML	NORML
Odor	scalar	*Visual	NORML	<b>NORML</b>	NORML	NORML
Emulsified Water	scalar	*Visual	>0.05	<b>NEG</b>	NEG	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		<b>&lt;1</b>	2	0
Boron	ppm	ASTM D5185m	0	<b>0</b>	0	0
Barium	ppm	ASTM D5185m	0	<b>0</b>	0	0
Molybdenum	ppm	ASTM D5185m	0	<b>0</b>	0	<1
Manganese	ppm	ASTM D5185m	0	<b>&lt;1</b>	<1	0
Magnesium	ppm	ASTM D5185m	70	<b>20</b>	14	4
Calcium	ppm	ASTM D5185m	10	<b>50</b>	50	43
Phosphorus	ppm	ASTM D5185m	300	<b>258</b>	222	262
Zinc	ppm	ASTM D5185m	325	<b>336</b>	285	303
Sulfur	ppm	ASTM D5185m	665	<b>2957</b>	2492	2782
Acid Number (AN)	mg KOH/g	ASTM D8045	0.35	<b>0.281</b>	0.16	0.30
Visc @ 40°C	cSt	ASTM D445	46.0	<b>46.7</b>	46.5	48.5



Certificate L2367

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

Sample No. : TLC0001715

Lab Number : 06186692

Unique Number : 11043444

Test Package : PLANT

Received : 21 May 2024

Tested : 23 May 2024

Diagnosed : 23 May 2024 - Jonathan Hester

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)

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F: