



OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL

Machine Id
ENGEL EN650/02
 Component
Hydraulic System
 Fluid
SHELL TELLUS S2 M 46 (--- GAL)

RECOMMENDATION

Resample at the next service interval to monitor. Please note that this is a corrected copy for data entry updates.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		TLC0001372	TLC0001109	TLC0000846
Sample Date		Client Info		01 Feb 2024	04 Dec 2023	27 Aug 2022
Machine Age	hrs	Client Info		0	0	0
Oil Age	hrs	Client Info		0	0	0
Filter Age	hrs	Client Info		0	0	0
Oil Changed		Client Info		N/A	N/A	N/A
Filter Changed		Client Info		N/A	N/A	N/A
Sample Status				NORMAL	NORMAL	NORMAL

WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>20	<1	0	<1
Chromium	ppm	ASTM D5185m	>10	<1	1	<1
Nickel	ppm	ASTM D5185m	>10	0	0	0
Titanium	ppm	ASTM D5185m		<1	0	0
Silver	ppm	ASTM D5185m		<1	0	<1
Aluminum	ppm	ASTM D5185m	>10	0	0	0
Lead	ppm	ASTM D5185m	>10	<1	0	0
Copper	ppm	ASTM D5185m	>75	1	3	2
Tin	ppm	ASTM D5185m	>10	0	0	0
Vanadium	ppm	ASTM D5185m		<1	0	0
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE

CONTAMINATION

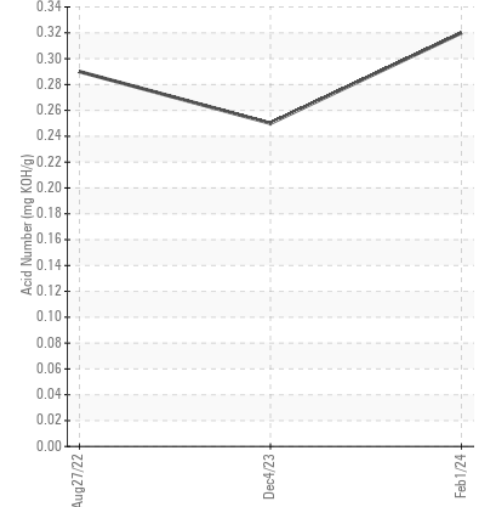
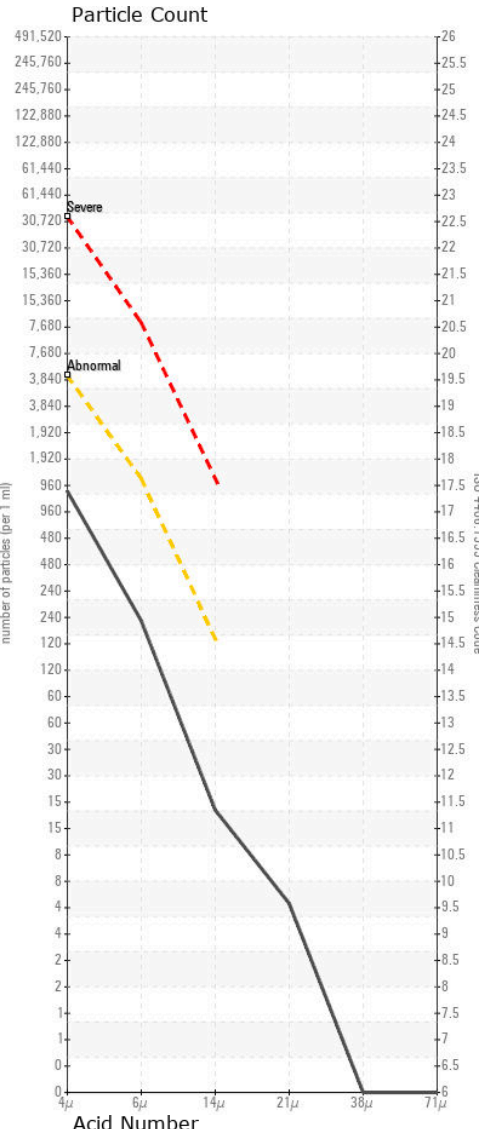
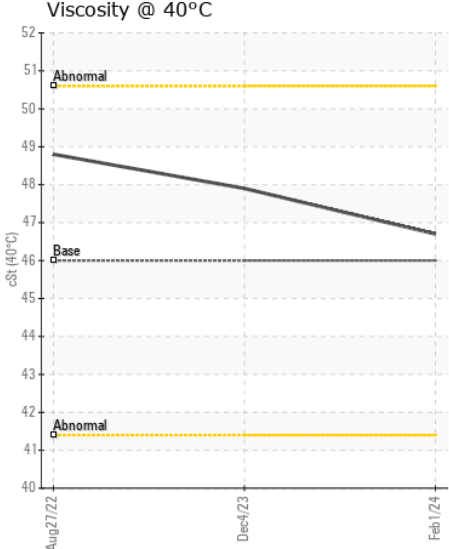
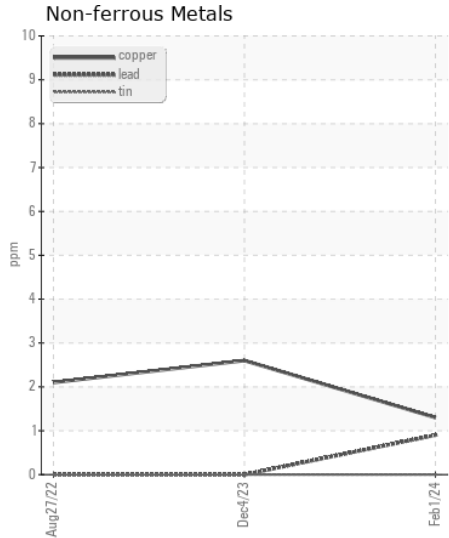
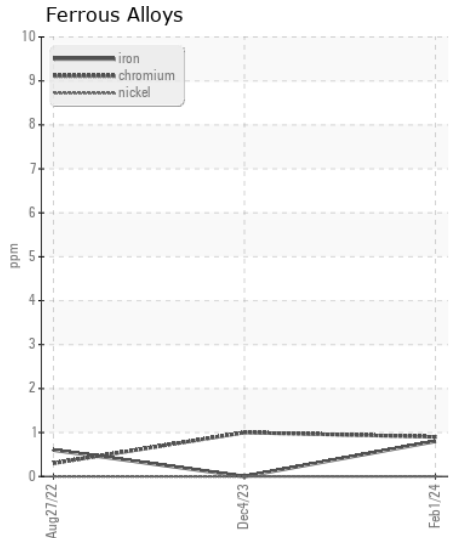
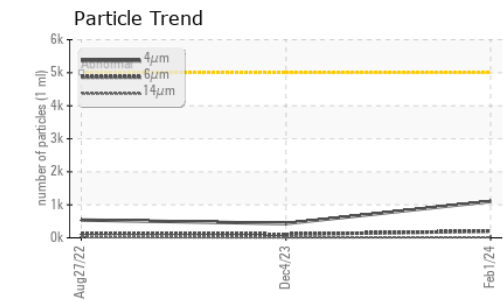
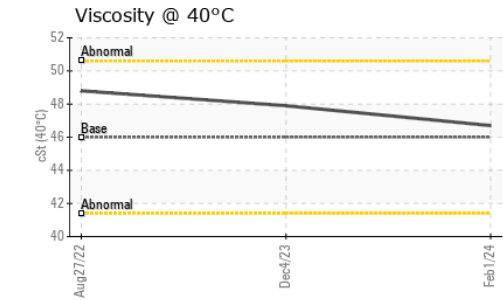
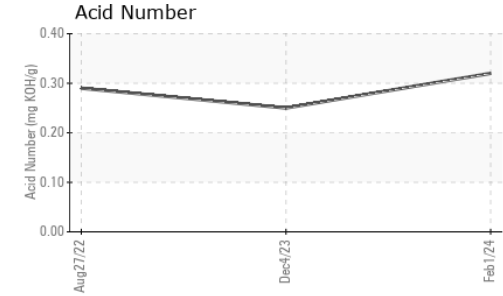
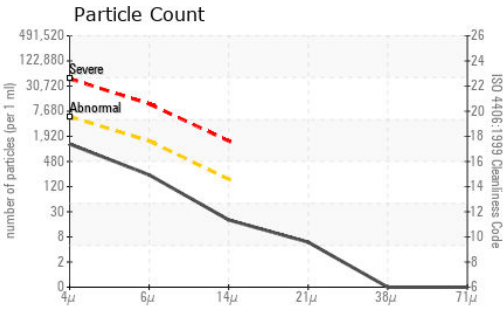
The amount and size of particulates present in the system are acceptable. There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185m	>20	1	<1	12
Potassium	ppm	ASTM D5185m	>20	0	0	0
Water	%	ASTM D6304	>0.1	NEG	NEG	NEG
Particles >4µm		ASTM D7647	>5000	1103	433	540
Particles >6µm		ASTM D7647	>1300	202	104	124
Particles >14µm		ASTM D7647	>160	17	10	18
Particles >21µm		ASTM D7647	>40	5	2	4
Particles >38µm		ASTM D7647	>10	0	0	0
Particles >71µm		ASTM D7647	>3	0	0	0
Oil Cleanliness		ISO 4406 (c)	>19/17/14	17/15/11	16/14/10	16/14/11
Silt	scalar	*Visual	NONE	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE	NONE
Appearance	scalar	*Visual	NORML	NORML	NORML	NORML
Odor	scalar	*Visual	NORML	NORML	NORML	NORML
Emulsified Water	scalar	*Visual	>0.1	NEG	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		<1	1	0
Boron	ppm	ASTM D5185m		0	0	0
Barium	ppm	ASTM D5185m		0	0	0
Molybdenum	ppm	ASTM D5185m		1	0	<1
Manganese	ppm	ASTM D5185m		0	<1	0
Magnesium	ppm	ASTM D5185m		35	11	4
Calcium	ppm	ASTM D5185m		113	47	45
Phosphorus	ppm	ASTM D5185m		299	247	272
Zinc	ppm	ASTM D5185m		370	296	310
Sulfur	ppm	ASTM D5185m		1056	2521	2855
Acid Number (AN)	mg KOH/g	ASTM D8045		0.32	0.25	0.29
Visc @ 40°C	cSt	ASTM D445	46.0	46.7	47.9	48.8



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : TLC0001372 **Received** : 21 May 2024
Lab Number : 06186687 **Tested** : 23 May 2024
Unique Number : 11043439 **Diagnosed** : 30 May 2024 - Doug Bogart
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)