



OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	ABNORMAL
FLUID CONDITION	NORMAL

Area
PAPER MACHINE
 Machine Id
701.0150 Refiner #6

Component
Gearbox
 Fluid
SHELL MORLINA S4 B 220 (--- GAL)

RECOMMENDATION

We recommend you service the filters on this component if applicable. Resample at the next service interval to monitor. (Customer Sample Comment: Top 2" Pipe)

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		PE0002922	PE0000933	---
Sample Date		Client Info		28 Dec 2023	13 Jul 2023	---
Machine Age	hrs	Client Info		0	0	---
Oil Age	hrs	Client Info		0	0	---
Filter Age	hrs	Client Info		0	0	---
Oil Changed		Client Info		N/A	N/A	---
Filter Changed		Client Info		N/A	N/A	---
Sample Status				ABNORMAL	ABNORMAL	---

WEAR

All component wear rates are normal.

PQ		ASTM D8184		15	20	---
Iron	ppm	ASTM D5185m	>200	1	37	---
Chromium	ppm	ASTM D5185m	>15	<1	0	---
Nickel	ppm	ASTM D5185m	>15	0	0	---
Titanium	ppm	ASTM D5185m		<1	0	---
Silver	ppm	ASTM D5185m		0	0	---
Aluminum	ppm	ASTM D5185m	>25	2	0	---
Lead	ppm	ASTM D5185m	>100	0	<1	---
Copper	ppm	ASTM D5185m	>200	<1	2	---
Tin	ppm	ASTM D5185m	>25	<1	0	---
Vanadium	ppm	ASTM D5185m		0	<1	---
White Metal	scalar	*Visual	NONE	NONE	NONE	---
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	---

CONTAMINATION

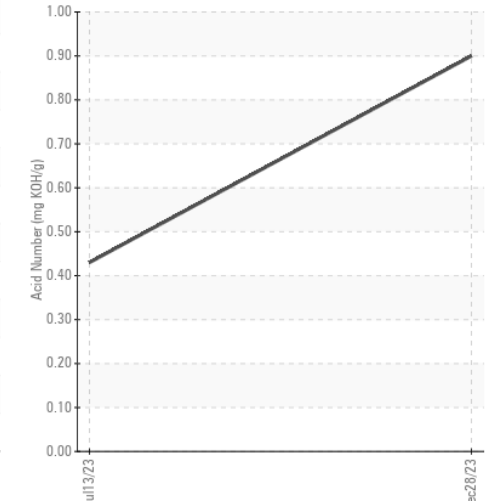
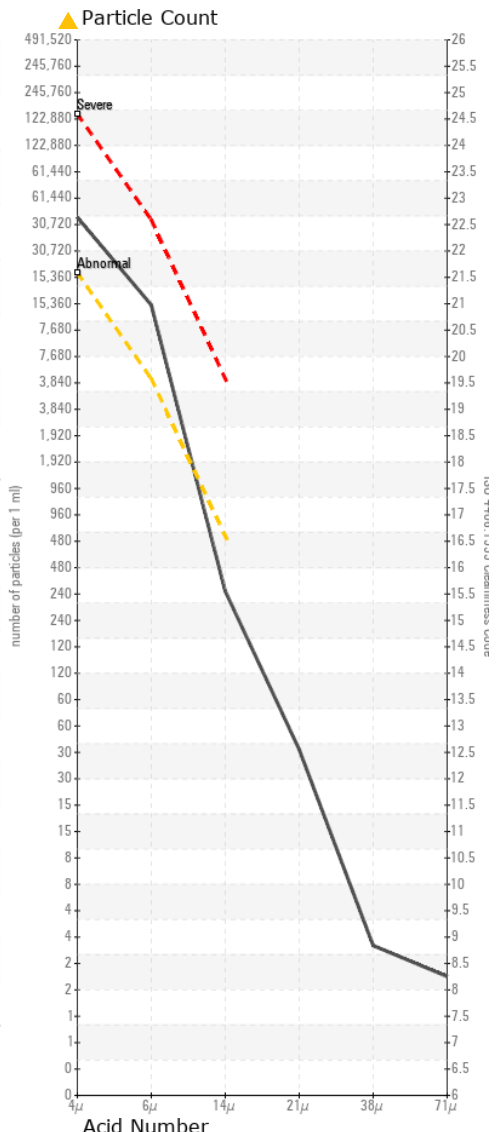
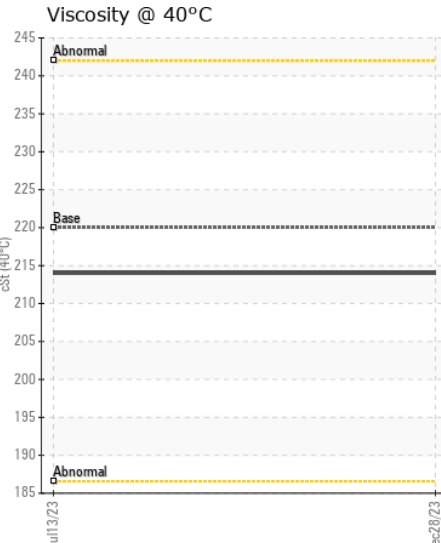
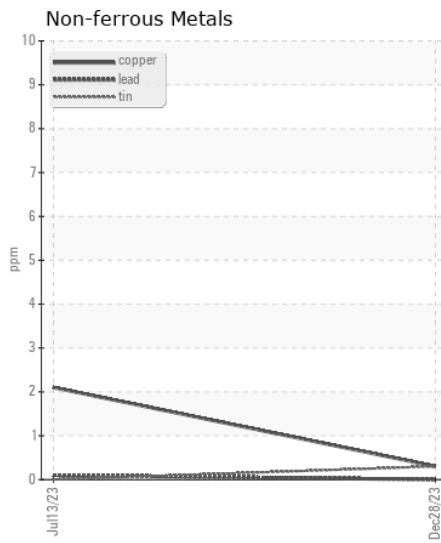
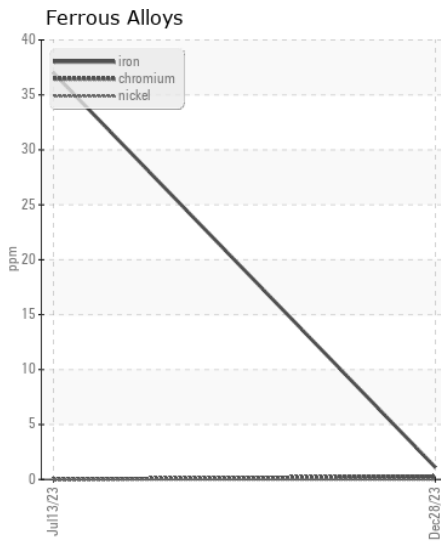
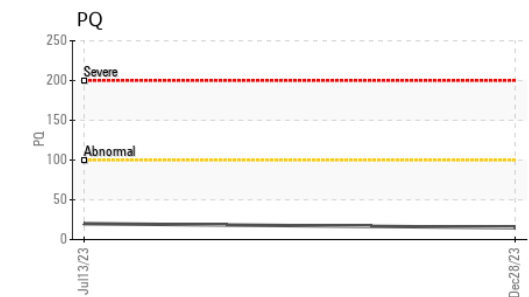
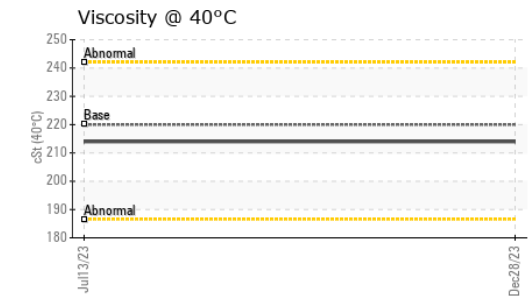
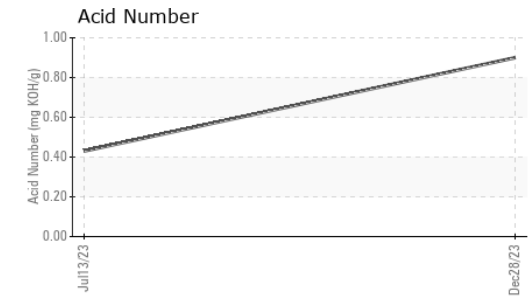
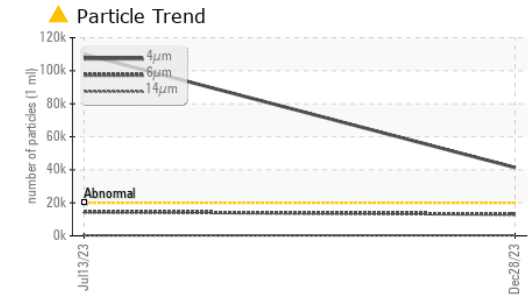
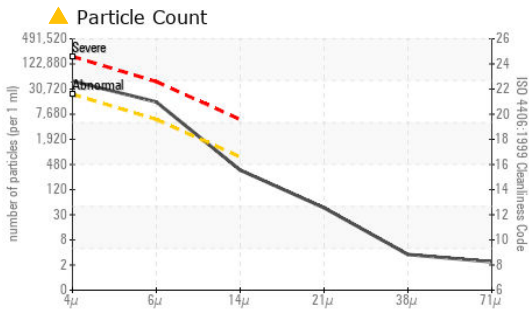
There is a high amount of silt (particulates < 14 microns in size) present in the oil.

Silicon	ppm	ASTM D5185m	>50	<1	3	---
Potassium	ppm	ASTM D5185m	>20	<1	2	---
Water		WC Method	>0.2	NEG	NEG	---
Particles >4µm		ASTM D7647	>20000	▲ 41340	▲ 109985	---
Particles >6µm		ASTM D7647	>5000	▲ 13121	▲ 14545	---
Particles >14µm		ASTM D7647	>640	310	252	---
Particles >21µm		ASTM D7647	>160	39	32	---
Particles >38µm		ASTM D7647	>40	3	1	---
Particles >71µm		ASTM D7647	>10	2	0	---
Oil Cleanliness		ISO 4406 (c)	>21/19/16	▲ 23/21/15	▲ 24/21/15	---
Silt	scalar	*Visual	NONE	NONE	NONE	---
Debris	scalar	*Visual	NONE	LIGHT	NONE	---
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE	---
Appearance	scalar	*Visual	NORML	NORML	NORML	---
Odor	scalar	*Visual	NORML	NORML	NORML	---
Emulsified Water	scalar	*Visual	>0.2	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		0	<1	---
Boron	ppm	ASTM D5185m		6	0	---
Barium	ppm	ASTM D5185m		0	0	---
Molybdenum	ppm	ASTM D5185m		<1	0	---
Manganese	ppm	ASTM D5185m		0	2	---
Magnesium	ppm	ASTM D5185m		0	<1	---
Calcium	ppm	ASTM D5185m		2	4	---
Phosphorus	ppm	ASTM D5185m		319	215	---
Zinc	ppm	ASTM D5185m		0	0	---
Sulfur	ppm	ASTM D5185m		3291	8850	---
Acid Number (AN)	mg KOH/g	ASTM D8045		0.90	0.43	---
Visc @ 40°C	cSt	ASTM D445	220	214	214	---



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : PE0002922 **Received** : 16 Jan 2024
Lab Number : 06061885 **Diagnosed** : 23 Jan 2024
Unique Number : 10833267 **Diagnostician** : Doug Bogart
Test Package : PLANT (Additional Tests: ICP, KV40, PQ, PrtCount, SCREEN)

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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)