



OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	ABNORMAL
FLUID CONDITION	NORMAL

Area  
**STEAM AND POWER**  
 Machine Id  
**420.0080 RECOVERY #1 BLACK LIQUOR FUEL PUMP**  
 Component  
**Fluid Drive**  
 Fluid  
**SHELL AW HYDRAULIC S2 46 (12 GAL)**

**RECOMMENDATION**

We recommend you service the filters on this component. Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		PE0000290	---	---
Sample Date		Client Info		25 Apr 2023	---	---
Machine Age	hrs	Client Info		0	---	---
Oil Age	hrs	Client Info		0	---	---
Filter Age	hrs	Client Info		0	---	---
Oil Changed		Client Info		N/A	---	---
Filter Changed		Client Info		N/A	---	---
Sample Status				ABNORMAL	---	---

**WEAR**

All component wear rates are normal.

PQ		ASTM D8184		12	---	---
Iron	ppm	ASTM D5185m	>100	0	---	---
Chromium	ppm	ASTM D5185m	>10	0	---	---
Nickel	ppm	ASTM D5185m	>10	0	---	---
Titanium	ppm	ASTM D5185m		0	---	---
Silver	ppm	ASTM D5185m		0	---	---
Aluminum	ppm	ASTM D5185m	>25	0	---	---
Lead	ppm	ASTM D5185m	>50	0	---	---
Copper	ppm	ASTM D5185m	>75	<1	---	---
Tin	ppm	ASTM D5185m	>10	0	---	---
Vanadium	ppm	ASTM D5185m		0	---	---
White Metal	scalar	*Visual	NONE	NONE	---	---
Yellow Metal	scalar	*Visual	NONE	NONE	---	---

**CONTAMINATION**

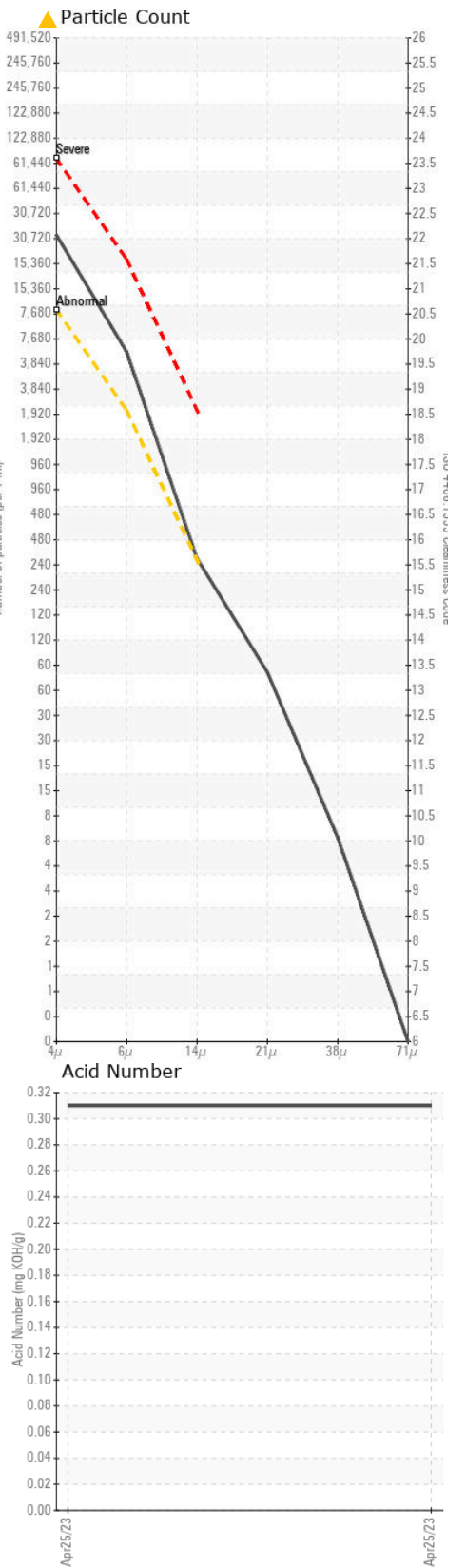
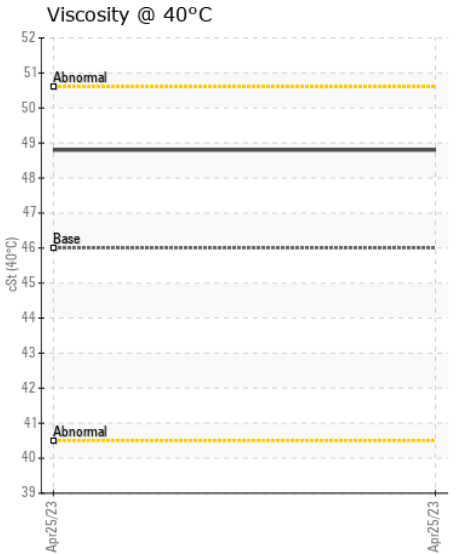
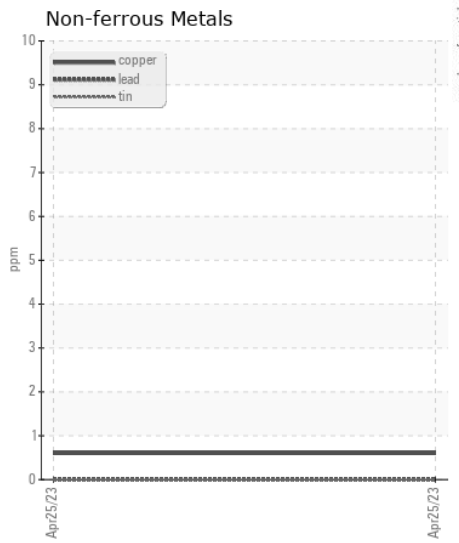
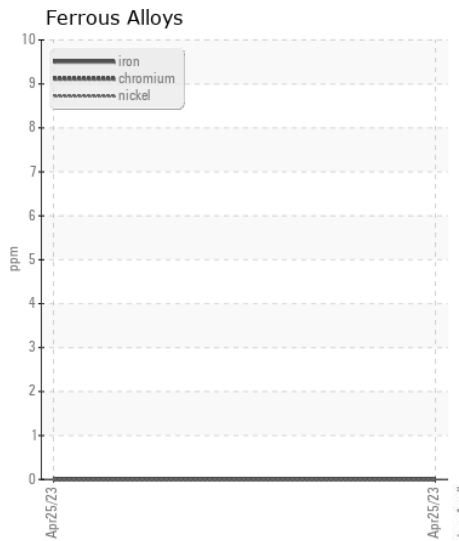
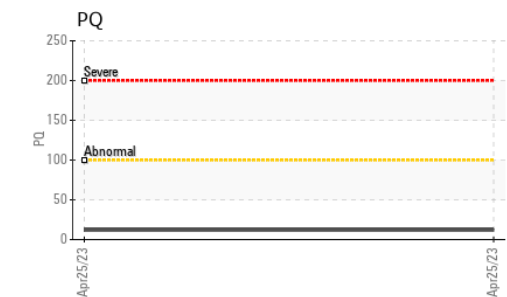
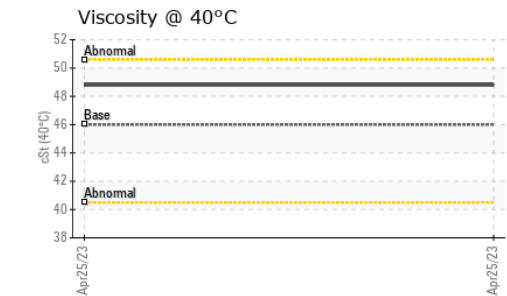
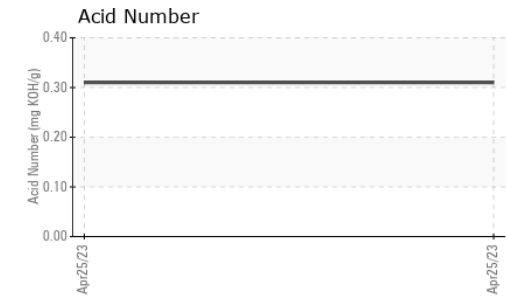
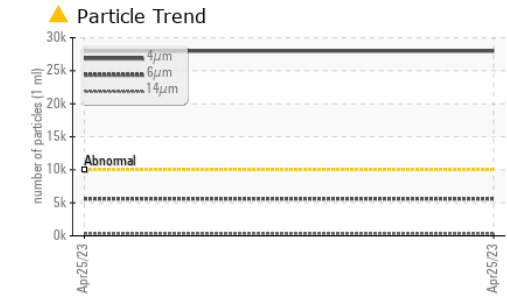
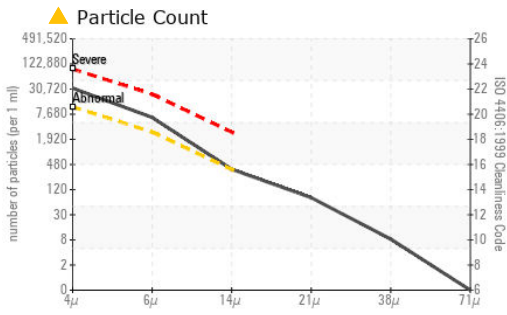
There is a high amount of particulates present in the fluid. Moderate concentration of visible dirt/debris present in the fluid.

Silicon	ppm	ASTM D5185m	>50	2	---	---
Potassium	ppm	ASTM D5185m	>20	0	---	---
Water		WC Method	>0.1	NEG	---	---
Particles >4µm		ASTM D7647	>10000	▲ 27978	---	---
Particles >6µm		ASTM D7647	>2500	▲ 5604	---	---
Particles >14µm		ASTM D7647	>320	▲ 325	---	---
Particles >21µm		ASTM D7647	>80	68	---	---
Particles >38µm		ASTM D7647	>20	7	---	---
Particles >71µm		ASTM D7647	>4	0	---	---
Oil Cleanliness		ISO 4406 (c)	>20/18/15	▲ 22/20/16	---	---
Silt	scalar	*Visual	NONE	NONE	---	---
Debris	scalar	*Visual	NONE	▲ MODER	---	---
Sand/Dirt	scalar	*Visual	NONE	NONE	---	---
Appearance	scalar	*Visual	NORML	NORML	---	---
Odor	scalar	*Visual	NORML	NORML	---	---
Emulsified Water	scalar	*Visual	>0.1	NEG	---	---

**FLUID CONDITION**

The AN level is acceptable for this fluid. The condition of the fluid is acceptable for the time in service.

Sodium	ppm	ASTM D5185m		2	---	---
Boron	ppm	ASTM D5185m		0	---	---
Barium	ppm	ASTM D5185m		0	---	---
Molybdenum	ppm	ASTM D5185m		0	---	---
Manganese	ppm	ASTM D5185m		<1	---	---
Magnesium	ppm	ASTM D5185m		13	---	---
Calcium	ppm	ASTM D5185m		60	---	---
Phosphorus	ppm	ASTM D5185m		240	---	---
Zinc	ppm	ASTM D5185m		234	---	---
Sulfur	ppm	ASTM D5185m		409	---	---
Acid Number (AN)	mg KOH/g	ASTM D8045		0.31	---	---
Visc @ 40°C	cSt	ASTM D445	46	48.8	---	---



**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : PE0000290 **Received** : 04 May 2023  
**Lab Number** : 05837648 **Tested** : 05 May 2023  
**Unique Number** : 10456451 **Diagnosed** : 08 May 2023 - Don Baldrige  
**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)