



OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL

Area  
**STEAM AND POWER**  
 Machine Id  
**269.0480 #1 BOILER FEED WATER PUMP TURBINE**

Component  
**Bearing Lube**  
 Fluid  
**SHELL MORLINA S4 B 68 (--- GAL)**

**RECOMMENDATION**

Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		<b>PE0003958</b>	PE0003013	PE0000298
Sample Date		Client Info		<b>14 May 2024</b>	12 Jan 2024	14 Feb 2023
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>	Not Changd	N/A
Filter Changed		Client Info		<b>N/A</b>	N/A	N/A
Sample Status				<b>NORMAL</b>	ABNORMAL	SEVERE

**WEAR**

All component wear rates are normal.

PQ	UOM	Method	Limit/Abn	Current	History1	History2
Iron	ppm	ASTM D5185m	>120	<b>0</b>	0	46
Chromium	ppm	ASTM D5185m	>5	<b>0</b>	<1	2
Nickel	ppm	ASTM D5185m	>20	<b>1</b>	0	1
Titanium	ppm	ASTM D5185m		<b>0</b>	0	0
Silver	ppm	ASTM D5185m		<b>&lt;1</b>	0	0
Aluminum	ppm	ASTM D5185m	>4	<b>&lt;1</b>	3	▲ 78
Lead	ppm	ASTM D5185m	>30	<b>&lt;1</b>	<1	9
Copper	ppm	ASTM D5185m	>17	<b>1</b>	1	▲ 488
Tin	ppm	ASTM D5185m	>10	<b>&lt;1</b>	0	▲ 12
Vanadium	ppm	ASTM D5185m		<b>0</b>	0	0
White Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	▲ MODER

**CONTAMINATION**

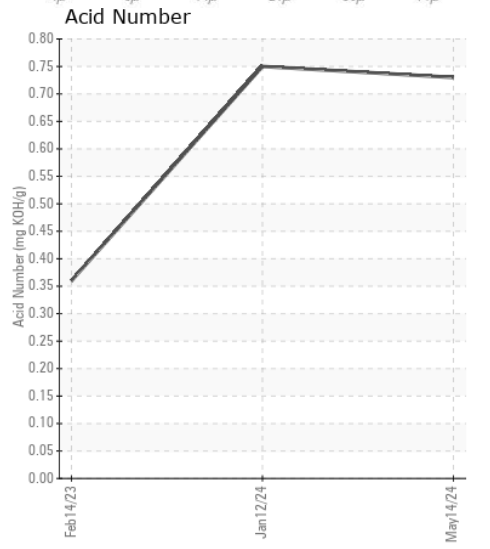
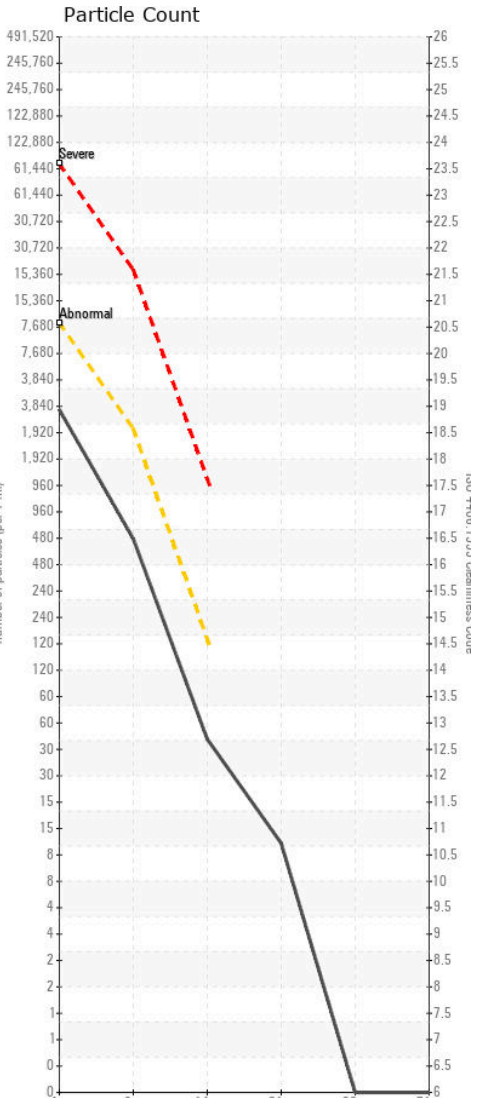
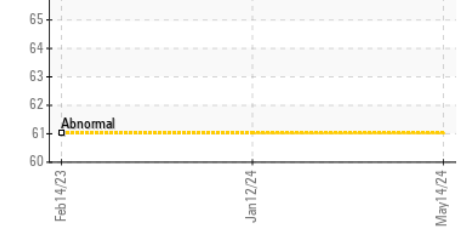
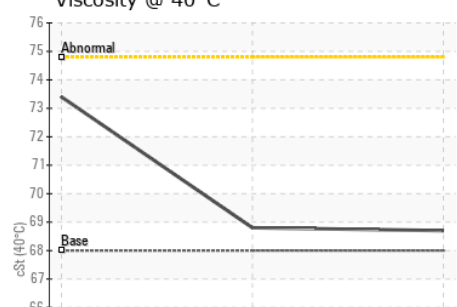
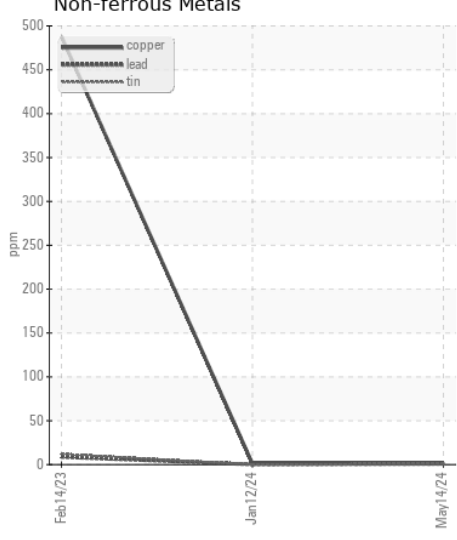
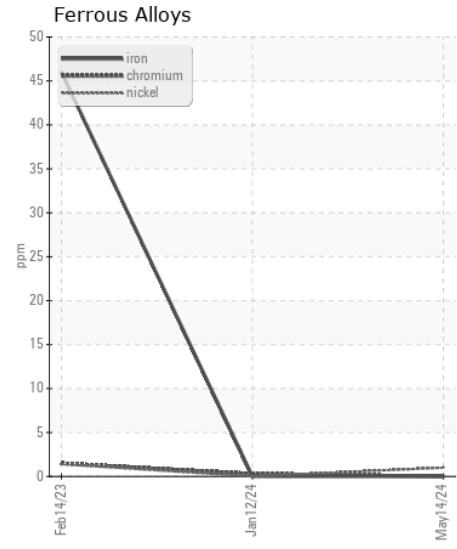
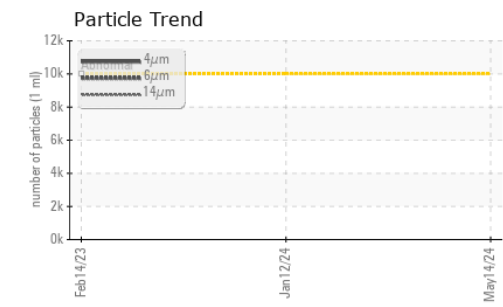
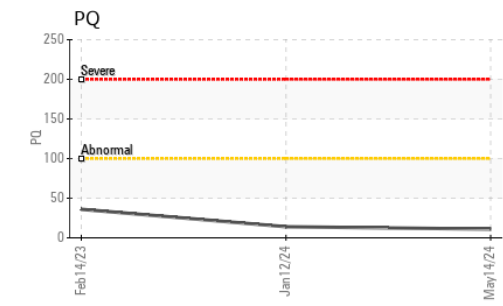
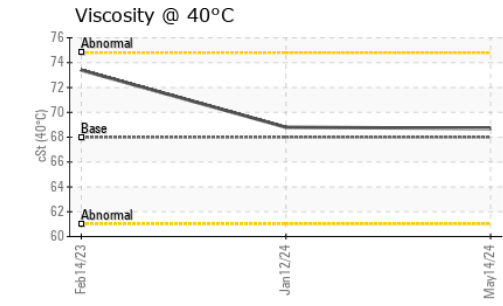
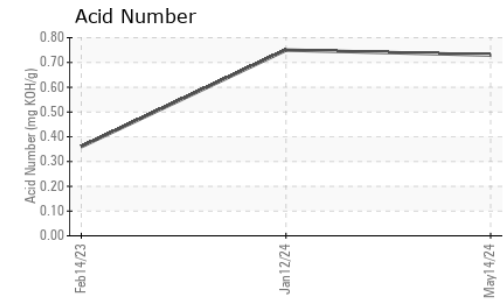
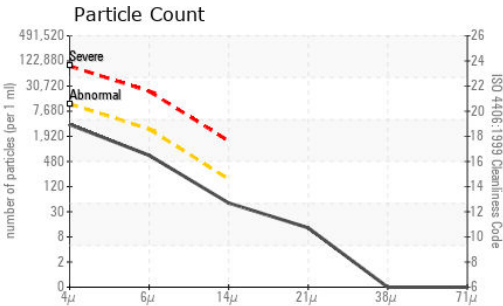
The amount and size of particulates present in the system are acceptable. There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185m	>25	<b>1</b>	1	13
Potassium	ppm	ASTM D5185m	>20	<b>3</b>	<1	0
Water		WC Method	>0.2	<b>NEG</b>	NEG	NEG
Particles >4µm		ASTM D7647	>10000	<b>3206</b>	---	---
Particles >6µm		ASTM D7647	>2500	<b>592</b>	---	---
Particles >14µm		ASTM D7647	>160	<b>43</b>	---	---
Particles >21µm		ASTM D7647	>40	<b>11</b>	---	---
Particles >38µm		ASTM D7647	>10	<b>0</b>	---	---
Particles >71µm		ASTM D7647	>3	<b>0</b>	---	---
Oil Cleanliness		ISO 4406 (c)	>20/18/14	<b>19/16/13</b>	---	---
Silt	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Debris	scalar	*Visual	NONE	<b>NONE</b>	▲ MODER	▲ MODER
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	>0.2	<b>NEG</b>	0.2%	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>1</b>	0	6
Boron	ppm	ASTM D5185m		<b>0</b>	0	0
Barium	ppm	ASTM D5185m		<b>0</b>	0	0
Molybdenum	ppm	ASTM D5185m		<b>0</b>	0	<1
Manganese	ppm	ASTM D5185m		<b>&lt;1</b>	0	<1
Magnesium	ppm	ASTM D5185m		<b>2</b>	<1	<1
Calcium	ppm	ASTM D5185m		<b>52</b>	<1	2
Phosphorus	ppm	ASTM D5185m		<b>251</b>	244	252
Zinc	ppm	ASTM D5185m		<b>23</b>	3	0
Sulfur	ppm	ASTM D5185m		<b>794</b>	626	290
Acid Number (AN)	mg KOH/g	ASTM D8045		<b>0.73</b>	0.75	0.36
Visc @ 40°C	cSt	ASTM D445	68	<b>68.7</b>	68.8	73.4



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : PE0003958  
**Lab Number** : 06192748  
**Unique Number** : 11049500  
**Test Package** : PLANT ( Additional Tests: ICP, KV40, PQ, PrtCount, SCREEN )

**Port Townsend Paper Corporation**  
 100 Mill Rd  
 Port Townsend, WA  
 US 98368  
 Contact: LONNIE LOREE  
 lonnie.loree@ptpc.com  
 T: (907)738-6506  
 F:

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)