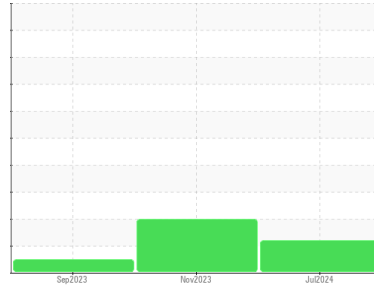




# OIL ANALYSIS REPORT

Sample Rating Trend



ISO



Area

## STEAM AND POWER

Machine Id

### 269.0080 #1 BOILER FEED WATER PUMP BOWSER

Component

Bearing Lube

Fluid

SHELL MORLINA S4 B 68 (--- GAL)

#### DIAGNOSIS

##### Recommendation

No corrective action is recommended at this time. Resample at the next service interval to monitor.

##### Wear

All component wear rates are normal.

##### Contamination

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

##### Fluid Condition

The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.

SAMPLE INFORMATION		method	limit/base	current	history1	history2
Sample Number	Client Info			<b>PE0001502</b>	PE0002940	PE0001416
Sample Date	Client Info			<b>09 Jul 2024</b>	30 Nov 2023	20 Sep 2023
Machine Age	hrs	Client Info		<b>0</b>	0	0
Oil Age	hrs	Client Info		<b>0</b>	0	0
Oil Changed	Client Info			<b>N/A</b>	N/A	N/A
Sample Status				<b>ABNORMAL</b>	ATTENTION	NORMAL

CONTAMINATION	method	limit/base	current	history1	history2
Water	WC Method	>0.2	<b>NEG</b>	NEG	NEG

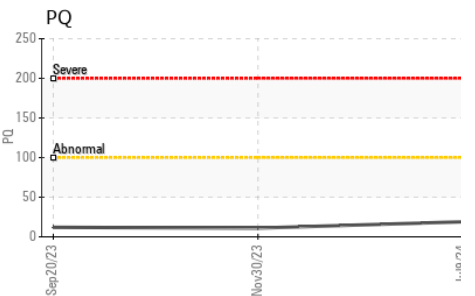
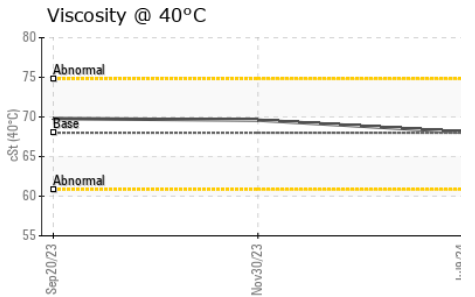
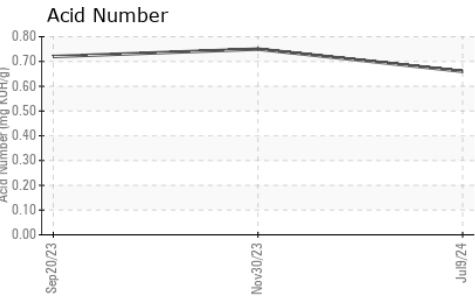
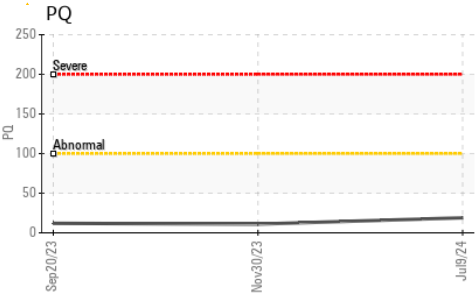
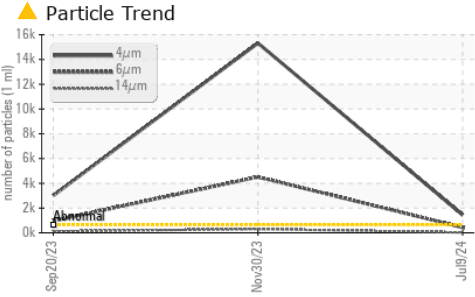
WEAR METALS		method	limit/base	current	history1	history2
PQ		ASTM D8184		<b>19</b>	11	12
Iron	ppm	ASTM D5185m	>120	<b>2</b>	0	1
Chromium	ppm	ASTM D5185m	>5	<b>&lt;1</b>	0	0
Nickel	ppm	ASTM D5185m	>20	<b>0</b>	0	0
Titanium	ppm	ASTM D5185m		<b>&lt;1</b>	0	0
Silver	ppm	ASTM D5185m		<b>&lt;1</b>	0	0
Aluminum	ppm	ASTM D5185m	>4	<b>3</b>	0	2
Lead	ppm	ASTM D5185m	>30	<b>0</b>	0	<1
Copper	ppm	ASTM D5185m	>17	<b>3</b>	0	<1
Tin	ppm	ASTM D5185m	>10	<b>&lt;1</b>	0	0
Vanadium	ppm	ASTM D5185m		<b>&lt;1</b>	0	0
Cadmium	ppm	ASTM D5185m		<b>0</b>	0	0

ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m		<b>0</b>	0	0
Barium	ppm	ASTM D5185m		<b>&lt;1</b>	0	0
Molybdenum	ppm	ASTM D5185m		<b>3</b>	0	0
Manganese	ppm	ASTM D5185m		<b>0</b>	0	0
Magnesium	ppm	ASTM D5185m		<b>30</b>	<1	1
Calcium	ppm	ASTM D5185m		<b>25</b>	<1	19
Phosphorus	ppm	ASTM D5185m		<b>249</b>	305	287
Zinc	ppm	ASTM D5185m		<b>38</b>	0	13
Sulfur	ppm	ASTM D5185m		<b>691</b>	653	788

CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>25	<b>1</b>	2	3
Sodium	ppm	ASTM D5185m		<b>0</b>	0	1
Potassium	ppm	ASTM D5185m	>20	<b>1</b>	0	<1

FLUID CLEANLINESS		method	limit/base	current	history1	history2
Particles >4µm		ASTM D7647	>640	<b>▲ 1442</b>	● 15321	3014
Particles >6µm		ASTM D7647	>160	<b>▲ 430</b>	● 4510	969
Particles >14µm		ASTM D7647	>40	<b>25</b>	● 300	117
Particles >21µm		ASTM D7647	>10	<b>4</b>	● 79	42
Particles >38µm		ASTM D7647	>3	<b>0</b>	5	5
Particles >71µm		ASTM D7647	>3	<b>0</b>	0	0
Oil Cleanliness		ISO 4406 (c)	>16/14/12	<b>▲ 18/16/12</b>	● 21/19/15	19/17/14

# OIL ANALYSIS REPORT

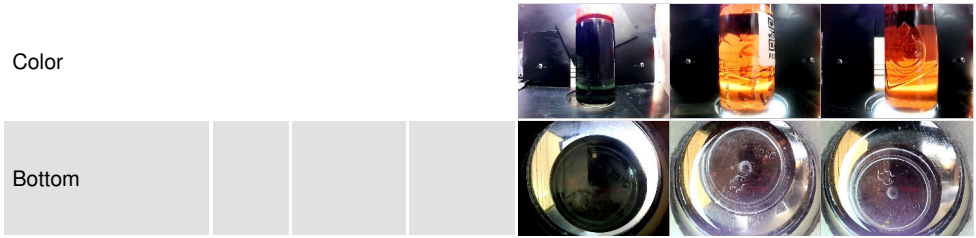


FLUID DEGRADATION	method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g	ASTM D8045	<b>0.66</b>	0.75	0.72

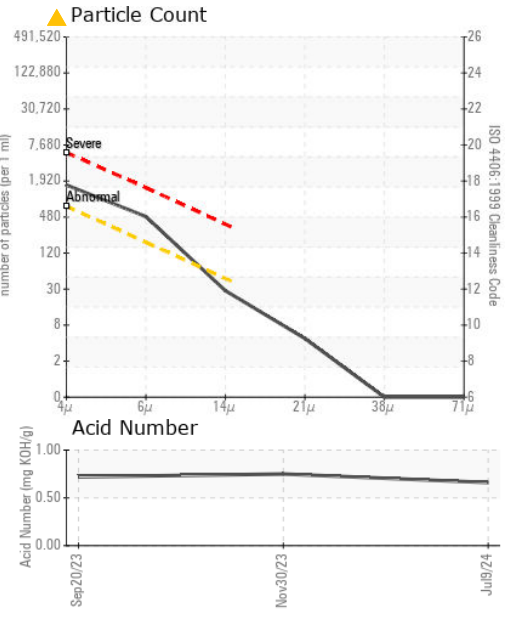
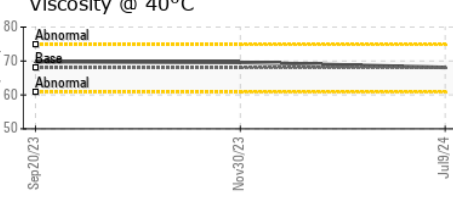
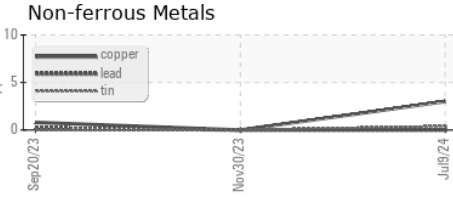
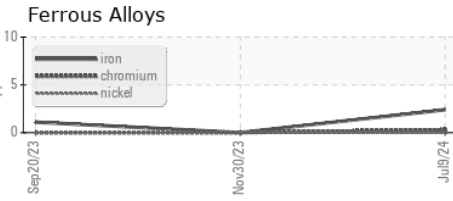
VISUAL	method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE
Appearance	scalar	*Visual	NORML	NORML	NORML
Odor	scalar	*Visual	NORML	NORML	NORML
Emulsified Water	scalar	*Visual	>0.2	NEG	NEG
Free Water	scalar	*Visual		NEG	NEG

FLUID PROPERTIES	method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D445	<b>68.1</b>	69.6	69.8

SAMPLE IMAGES	method	limit/base	current	history1	history2
---------------	--------	------------	---------	----------	----------



## GRAPHS



**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : PE0001502      **Received** : 15 Jul 2024  
**Lab Number** : 06235765      **Tested** : 16 Jul 2024  
**Unique Number** : 11124599      **Diagnosed** : 16 Jul 2024 - Don Baldrige  
**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)