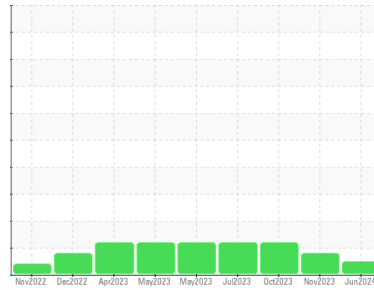




# OIL ANALYSIS REPORT

Sample Rating Trend



**NORMAL**



Area

**OCC AND PULP**

Machine Id

**424.4000 #1 HI-CONSISTENCY PULPER**

Component

**Agitator Gearbox**

Fluid

**SHELL MORLINA S4 B 150 (--- GAL)**

## DIAGNOSIS

### Recommendation

We recommend you service the filters on this component if applicable. Resample at the next service interval to monitor. ( Customer Sample Comment: Gearbox reported to be making noise )

### 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>PE0001500</b>	PE0003001	PE0000618
Sample Date	Client Info		<b>05 Jun 2024</b>	30 Nov 2023	03 Oct 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>NORMAL</b>	ABNORMAL	ABNORMAL

## CONTAMINATION

	method	limit/base	current	history1	history2
Water	WC Method	>0.1	<b>NEG</b>	NEG	NEG

## WEAR METALS

	method	limit/base	current	history1	history2
PQ	ASTM D8184		<b>22</b>	14	14
Iron	ppm	ASTM D5185m >150	<b>9</b>	<1	5
Chromium	ppm	ASTM D5185m >10	<b>&lt;1</b>	0	0
Nickel	ppm	ASTM D5185m >10	<b>&lt;1</b>	0	0
Titanium	ppm	ASTM D5185m	<b>&lt;1</b>	0	0
Silver	ppm	ASTM D5185m	<b>0</b>	0	0
Aluminum	ppm	ASTM D5185m >25	<b>2</b>	0	0
Lead	ppm	ASTM D5185m >100	<b>&lt;1</b>	0	0
Copper	ppm	ASTM D5185m >50	<b>&lt;1</b>	0	<1
Tin	ppm	ASTM D5185m >10	<b>&lt;1</b>	0	0
Vanadium	ppm	ASTM D5185m	<b>0</b>	0	<1
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>0</b>	0	0
Molybdenum	ppm	ASTM D5185m	<b>&lt;1</b>	0	0
Manganese	ppm	ASTM D5185m	<b>0</b>	0	0
Magnesium	ppm	ASTM D5185m	<b>1</b>	<1	0
Calcium	ppm	ASTM D5185m	<b>48</b>	7	6
Phosphorus	ppm	ASTM D5185m	<b>406</b>	422	439
Zinc	ppm	ASTM D5185m	<b>0</b>	0	0
Sulfur	ppm	ASTM D5185m	<b>831</b>	693	735

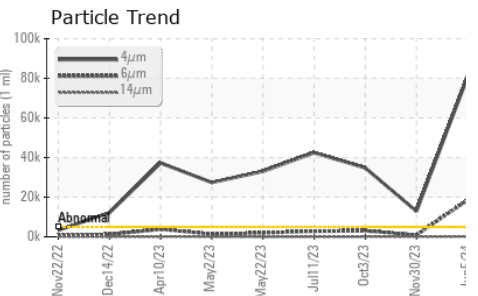
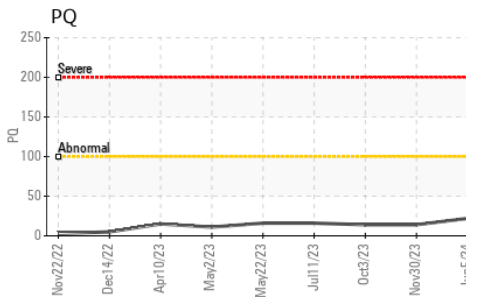
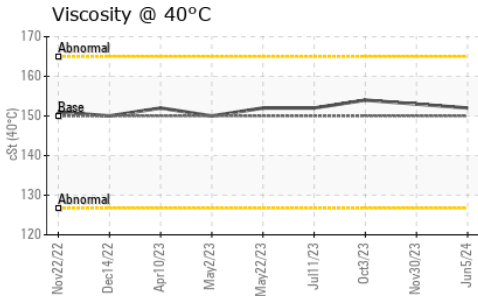
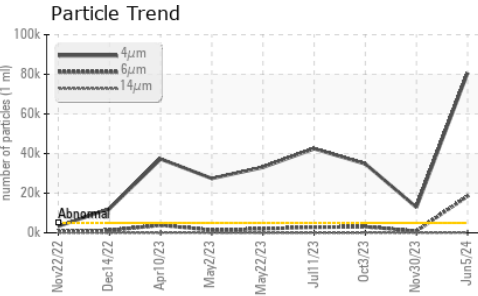
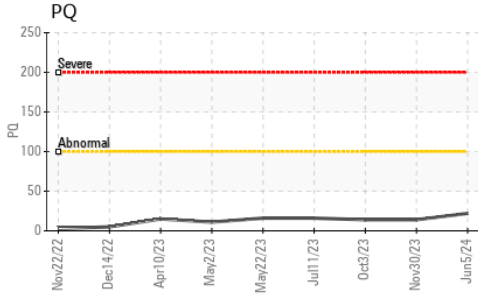
## CONTAMINANTS

	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m >50	<b>11</b>	12	11
Sodium	ppm	ASTM D5185m	<b>1</b>	0	<1
Potassium	ppm	ASTM D5185m >20	<b>&lt;1</b>	0	1

## FLUID CLEANLINESS

	method	limit/base	current	history1	history2
Particles >4µm	ASTM D7647	>5000	<b>80708</b>	▲ 12849	▲ 34799
Particles >6µm	ASTM D7647	>1300	<b>18561</b>	871	▲ 3059
Particles >14µm	ASTM D7647	>320	<b>71</b>	5	59
Particles >21µm	ASTM D7647	>80	<b>8</b>	2	21
Particles >38µm	ASTM D7647	>20	<b>1</b>	0	2
Particles >71µm	ASTM D7647	>4	<b>0</b>	0	1
Oil Cleanliness	ISO 4406 (c)	>19/17/15	<b>24/21/13</b>	▲ 21/17/10	▲ 22/19/13

# OIL ANALYSIS REPORT

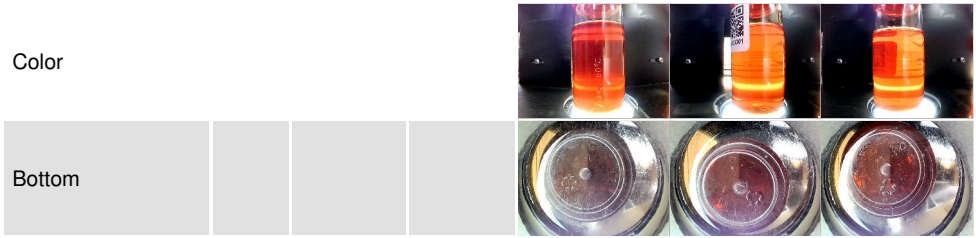


FLUID DEGRADATION		method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g	ASTM D8045		<b>0.26</b>	0.33	0.37

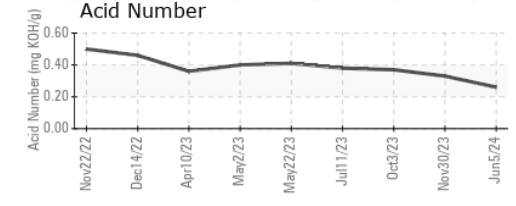
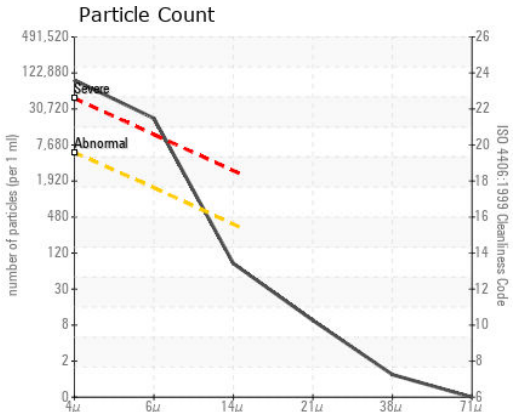
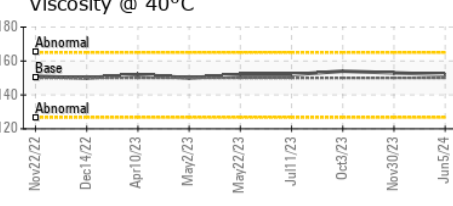
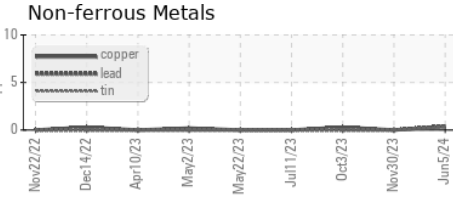
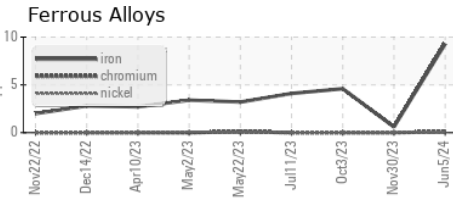
VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Precipitate	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Silt	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Debris	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
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	>0.1	<b>NEG</b>	NEG	NEG
Free Water	scalar	*Visual		<b>NEG</b>	NEG	NEG

FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D445	150	<b>152</b>	153	154

SAMPLE IMAGES		method	limit/base	current	history1	history2
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## GRAPHS



**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : PE0001500      **Received** : 13 Jun 2024  
**Lab Number** : **06209158**      **Tested** : 15 Jun 2024  
**Unique Number** : 11076619      **Diagnosed** : 16 Jun 2024 - Doug Bogart  
**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)