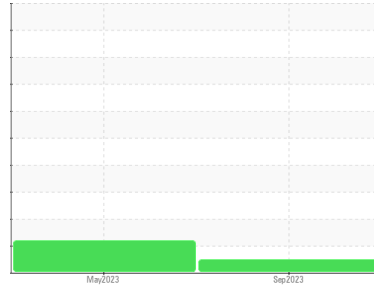




# OIL ANALYSIS REPORT

Sample Rating Trend

**NORMAL**



Area  
**STEAM AND POWER**  
 Machine Id  
**270.1570 PB10 MOVING HOLE HYDRAULIC UNIT**  
 Component  
**Hydraulic System**  
 Fluid  
**SHELL AW HYDRAULIC S2 46 (--- GAL)**

## DIAGNOSIS

### Recommendation

Resample at the next service interval to monitor.

### Wear

All component wear rates are normal.

### Contamination

The amount and size of particulates present in the system are acceptable. There is no indication of any contamination 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>PE0001419</b>	PE0000995	---
Sample Date	Client Info	<b>20 Sep 2023</b>	02 May 2023	---
Machine Age	hrs	Client Info	<b>0</b>	0
Oil Age	hrs	Client Info	<b>0</b>	0
Oil Changed	Client Info	<b>N/A</b>	N/A	---
Sample Status		<b>NORMAL</b>	ABNORMAL	---

## CONTAMINATION

method	limit/base	current	history1	history2
Water	WC Method	>0.05	<b>NEG</b>	NEG

## WEAR METALS

method	limit/base	current	history1	history2
PQ	ASTM D8184	<b>12</b>	14	---
Iron	ppm	ASTM D5185m	>20	<b>2</b>
Chromium	ppm	ASTM D5185m	>20	<b>0</b>
Nickel	ppm	ASTM D5185m	>20	<b>0</b>
Titanium	ppm	ASTM D5185m		<b>0</b>
Silver	ppm	ASTM D5185m		<b>0</b>
Aluminum	ppm	ASTM D5185m	>20	<b>2</b>
Lead	ppm	ASTM D5185m	>20	<b>&lt;1</b>
Copper	ppm	ASTM D5185m	>20	<b>&lt;1</b>
Tin	ppm	ASTM D5185m	>20	<b>0</b>
Vanadium	ppm	ASTM D5185m		<b>0</b>
Cadmium	ppm	ASTM D5185m		<b>0</b>

## ADDITIVES

method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m		<b>0</b>
Barium	ppm	ASTM D5185m		<b>0</b>
Molybdenum	ppm	ASTM D5185m		<b>&lt;1</b>
Manganese	ppm	ASTM D5185m		<b>0</b>
Magnesium	ppm	ASTM D5185m		<b>10</b>
Calcium	ppm	ASTM D5185m		<b>42</b>
Phosphorus	ppm	ASTM D5185m		<b>247</b>
Zinc	ppm	ASTM D5185m		<b>288</b>
Sulfur	ppm	ASTM D5185m		<b>1054</b>

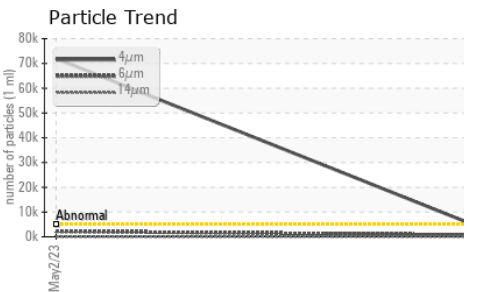
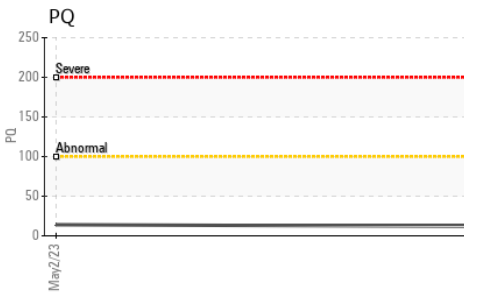
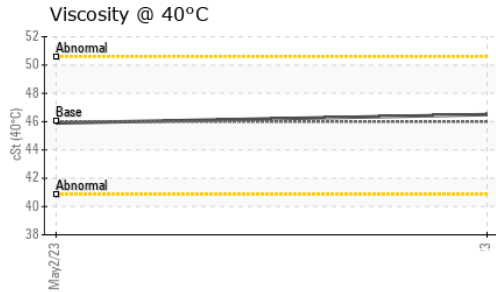
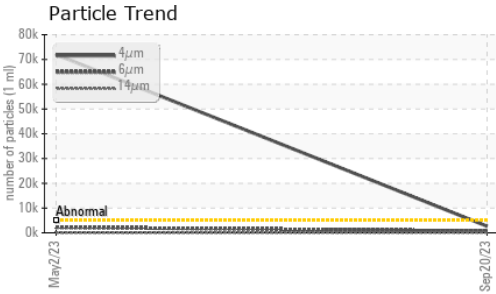
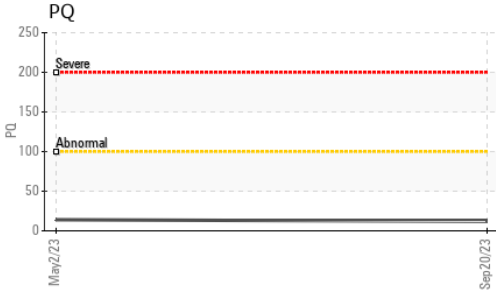
## CONTAMINANTS

method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>15	<b>&lt;1</b>
Sodium	ppm	ASTM D5185m		<b>0</b>
Potassium	ppm	ASTM D5185m	>20	<b>&lt;1</b>

## FLUID CLEANLINESS

method	limit/base	current	history1	history2
Particles >4µm	ASTM D7647	>5000	<b>2655</b>	▲ 72010
Particles >6µm	ASTM D7647	>1300	<b>688</b>	▲ 2210
Particles >14µm	ASTM D7647	>160	<b>68</b>	5
Particles >21µm	ASTM D7647	>40	<b>19</b>	2
Particles >38µm	ASTM D7647	>10	<b>1</b>	0
Particles >71µm	ASTM D7647	>3	<b>0</b>	0
Oil Cleanliness	ISO 4406 (c)	>19/17/14	<b>19/17/13</b>	▲ 23/18/10

# OIL ANALYSIS REPORT

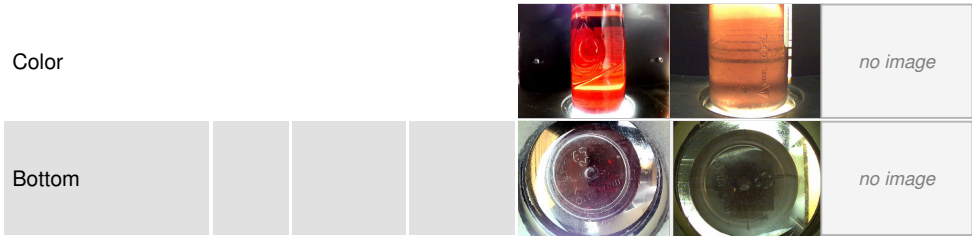


FLUID DEGRADATION		method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g	ASTM D8045		<b>0.22</b>	0.31	---

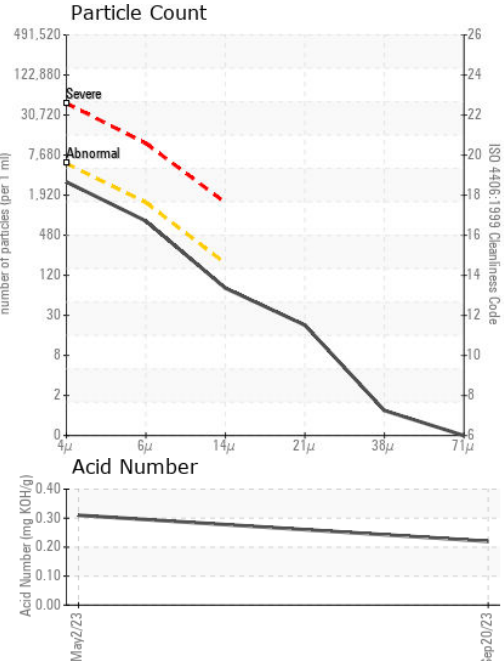
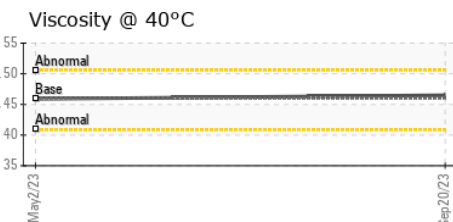
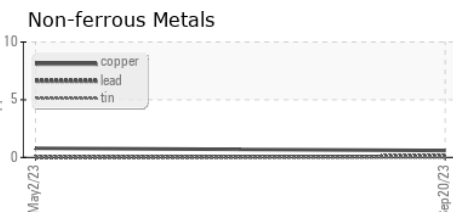
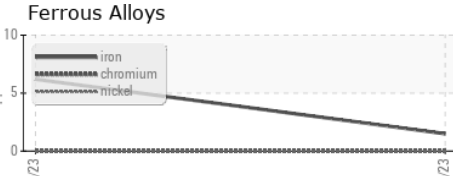
VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	---
Yellow Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	---
Precipitate	scalar	*Visual	NONE	<b>NONE</b>	NONE	---
Silt	scalar	*Visual	NONE	<b>NONE</b>	NONE	---
Debris	scalar	*Visual	NONE	<b>NONE</b>	NONE	---
Sand/Dirt	scalar	*Visual	NONE	<b>NONE</b>	NONE	---
Appearance	scalar	*Visual	NORML	<b>NORML</b>	NORML	---
Odor	scalar	*Visual	NORML	<b>NORML</b>	NORML	---
Emulsified Water	scalar	*Visual	>0.05	<b>NEG</b>	NEG	---
Free Water	scalar	*Visual		<b>NEG</b>	NEG	---

FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D445	46	<b>46.5</b>	45.9	---

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



**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : PE0001419 **Received** : 04 Oct 2023  
**Lab Number** : **05968807** **Diagnosed** : 06 Oct 2023  
**Unique Number** : 10675358 **Diagnostician** : 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:

Certificate L2367  
 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)