



OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	ATTENTION
FLUID CONDITION	NORMAL

Area
STEAM AND POWER
 Machine Id
236.0006 #6 STEAM TURBINE GENERATOR
 Component
Steam Turbine
 Fluid
SHELL TURBO T ISO 68 (--- GAL)

RECOMMENDATION

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

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		PE0003959	PE0003953	PE0003950
Sample Date		Client Info		14 May 2024	24 Jan 2024	12 Jan 2024
Machine Age	hrs	Client Info		0	0	0
Oil Age	hrs	Client Info		0	0	0
Filter Age	hrs	Client Info		0	0	0
Oil Changed		Client Info		N/A	Not Changd	N/A
Filter Changed		Client Info		N/A	N/A	N/A
Sample Status				ATTENTION	ABNORMAL	ABNORMAL

WEAR

All component wear rates are normal.

PQ	UOM	Method	Limit/Abn	Current	History1	History2
PQ		ASTM D8184		13	14	16
Iron	ppm	ASTM D5185m	>15	<1	2	1
Chromium	ppm	ASTM D5185m	>4	0	<1	<1
Nickel	ppm	ASTM D5185m	>2	1	<1	0
Titanium	ppm	ASTM D5185m		0	<1	0
Silver	ppm	ASTM D5185m		0	0	0
Aluminum	ppm	ASTM D5185m	>10	<1	2	3
Lead	ppm	ASTM D5185m		<1	<1	0
Copper	ppm	ASTM D5185m	>5	0	<1	<1
Tin	ppm	ASTM D5185m	>5	<1	<1	0
Vanadium	ppm	ASTM D5185m		0	0	0
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE

CONTAMINATION

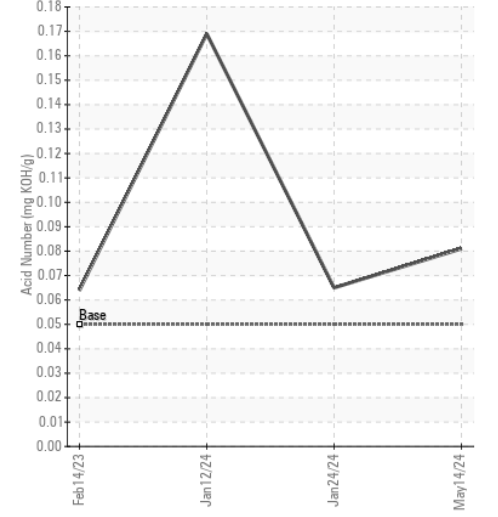
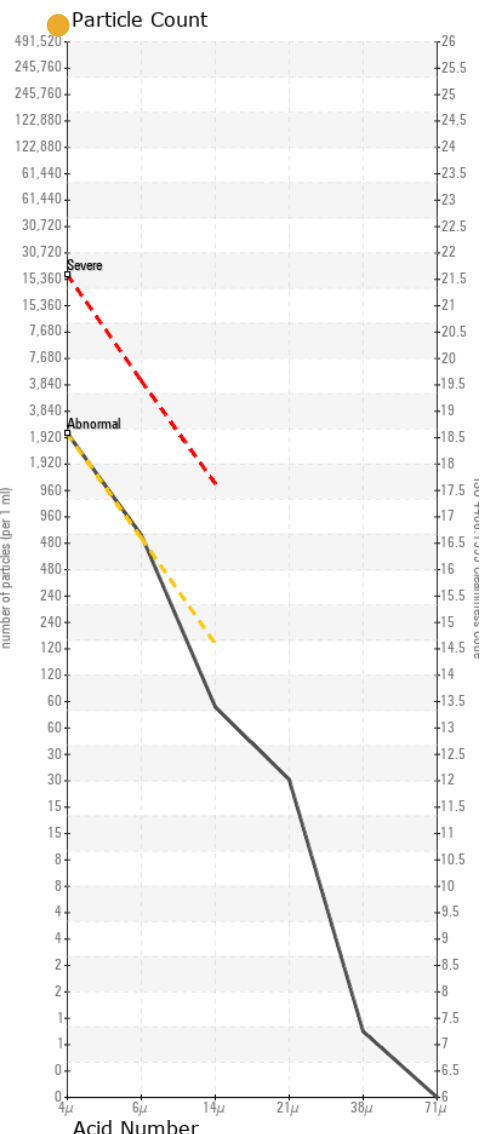
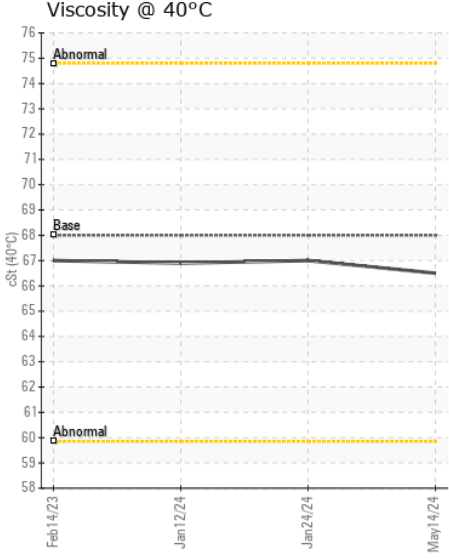
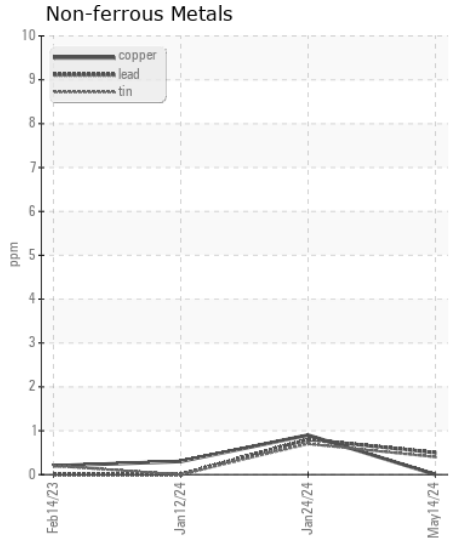
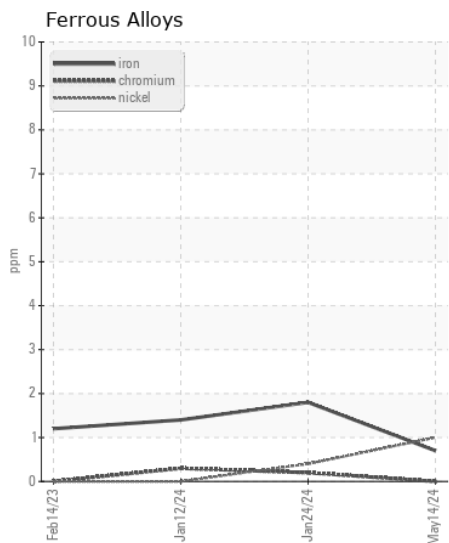
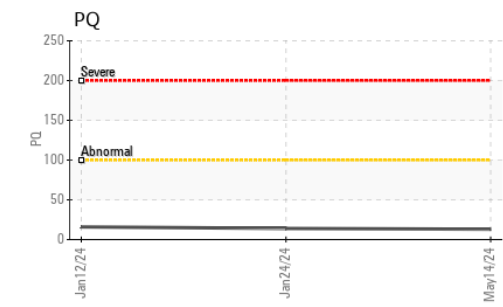
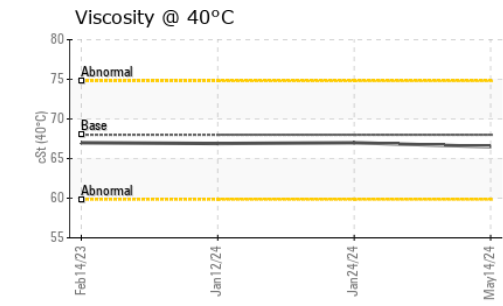
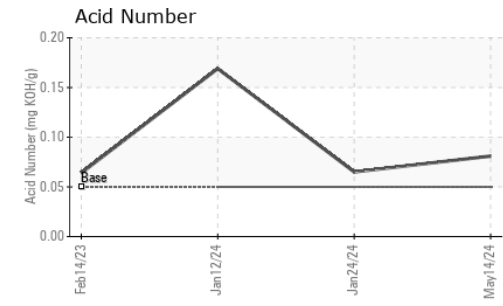
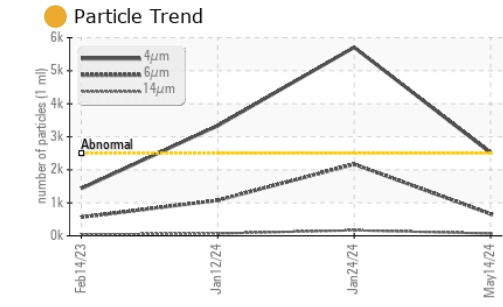
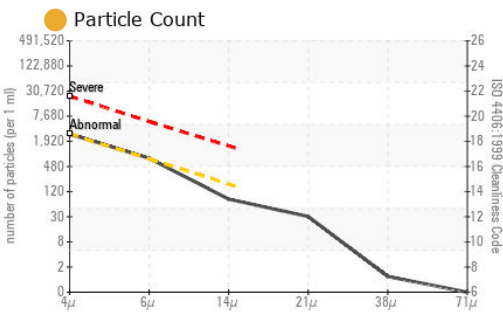
There is a moderate amount of silt (particulates < 14 microns in size) present in the oil.

Silicon	ppm	ASTM D5185m	>15	<1	<1	0
Potassium	ppm	ASTM D5185m	>20	3	<1	<1
Water		WC Method	>0.03	NEG	NEG	NEG
Particles >4µm		ASTM D7647	>2500	2514	5707	3332
Particles >6µm		ASTM D7647	>640	663	2170	1073
Particles >14µm		ASTM D7647	>160	70	166	70
Particles >21µm		ASTM D7647	>40	27	36	17
Particles >38µm		ASTM D7647	>10	1	2	0
Particles >71µm		ASTM D7647	>3	0	0	0
Oil Cleanliness		ISO 4406 (c)	>18/16/14	19/17/13	20/18/15	19/17/13
Silt	scalar	*Visual	NONE	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE	LIGHT
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE	NONE
Appearance	scalar	*Visual	NORML	NORML	NORML	NORML
Odor	scalar	*Visual	NORML	NORML	NORML	NORML
Emulsified Water	scalar	*Visual	>0.03	NEG	NEG	0.2%

FLUID CONDITION

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

Sodium	ppm	ASTM D5185m		2	0	0
Boron	ppm	ASTM D5185m		0	0	0
Barium	ppm	ASTM D5185m		0	13	0
Molybdenum	ppm	ASTM D5185m		0	<1	0
Manganese	ppm	ASTM D5185m		<1	<1	0
Magnesium	ppm	ASTM D5185m		2	0	<1
Calcium	ppm	ASTM D5185m		2	<1	<1
Phosphorus	ppm	ASTM D5185m		18	30	0
Zinc	ppm	ASTM D5185m		8	<1	8
Sulfur	ppm	ASTM D5185m		229	110	104
Acid Number (AN)	mg KOH/g	ASTM D8045	.05	0.081	0.065	0.169
Visc @ 40°C	cSt	ASTM D445	68	66.5	67.0	66.9



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : PE0003959 **Received** : 28 May 2024
Lab Number : 06192749 **Tested** : 30 May 2024
Unique Number : 11049501 **Diagnosed** : 30 May 2024 - Don Baldrige
Test Package : PLANT (Additional Tests: ICP, KV40, PQ, PrtCount, SCREEN)
 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)

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