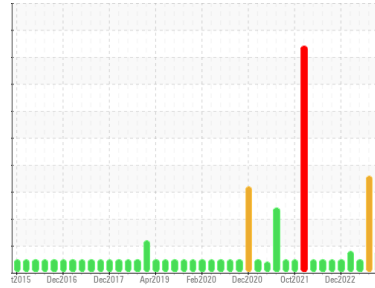




OIL ANALYSIS REPORT

Sample Rating Trend



ISO



Area

Temboard/Service/Stock Preparation

Machine Id
N/A N/A [804-236-010] TB Softwood Refiner #1

Component

Hydraulic System

Fluid

SHELL TELLUS 68 (37 LTR)

DIAGNOSIS

Recommendation

We recommend you service the filters on this component. We recommend an early resample to monitor this condition.

Wear

All component wear rates are normal.

Contamination

There is a moderate amount of silt (particulates < 14 microns in size) present in the oil. The system cleanliness is above the acceptable limit for the target ISO 4406 cleanliness code.

Fluid Condition

The AN level is acceptable for this fluid. The oil is still serviceable provided that the contaminant(s) can be reduced to acceptable levels.

SAMPLE INFORMATION

	method	limit/base	current	history1	history2
Sample Number	Client Info		WC0861530	WC0841330	WC0822101
Sample Date	Client Info		18 Oct 2023	18 Aug 2023	18 Jun 2023
Machine Age	hrs	Client Info	0	0	0
Oil Age	hrs	Client Info	0	0	0
Oil Changed	Client Info		N/A	N/A	N/A
Sample Status			ABNORMAL	SEVERE	NORMAL

WEAR METALS

	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185(m) >20	<1	3	2
Chromium	ppm	ASTM D5185(m) >20	0	0	0
Nickel	ppm	ASTM D5185(m) >20	0	0	<1
Titanium	ppm	ASTM D5185(m)	0	0	0
Silver	ppm	ASTM D5185(m)	0	<1	0
Aluminum	ppm	ASTM D5185(m) >20	<1	0	0
Lead	ppm	ASTM D5185(m) >20	<1	0	0
Copper	ppm	ASTM D5185(m) >20	0	<1	<1
Tin	ppm	ASTM D5185(m) >20	0	0	0
Antimony	ppm	ASTM D5185(m)	0	0	0
Vanadium	ppm	ASTM D5185(m)	0	0	0
Beryllium	ppm	ASTM D5185(m)	0	0	0
Cadmium	ppm	ASTM D5185(m)	0	0	0

ADDITIVES

	method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185(m)	0	<1	0
Barium	ppm	ASTM D5185(m)	0	<1	0
Molybdenum	ppm	ASTM D5185(m)	0	0	0
Manganese	ppm	ASTM D5185(m)	0	0	0
Magnesium	ppm	ASTM D5185(m) 11	<1	<1	<1
Calcium	ppm	ASTM D5185(m) 39	53	51	51
Phosphorus	ppm	ASTM D5185(m) 260	342	346	367
Zinc	ppm	ASTM D5185(m) 279	427	450	434
Sulfur	ppm	ASTM D5185(m) 2109	2128	3077	3651
Lithium	ppm	ASTM D5185(m)	<1	<1	<1

CONTAMINANTS

	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185(m) >15	3	3	4
Sodium	ppm	ASTM D5185(m)	0	0	0
Potassium	ppm	ASTM D5185(m) >20	4	0	<1
Water	%	ASTM D6304* >0.05	0.003	0.001	0.00
ppm Water	ppm	ASTM D6304* >500	28	14.1	0.00

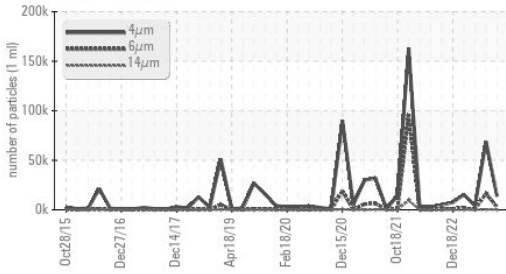
FLUID CLEANLINESS

	method	limit/base	current	history1	history2
Particles >4µm	ASTM D7647		13731	68781	4094
Particles >6µm	ASTM D7647	>1300	2797	16274	383
Particles >14µm	ASTM D7647	>160	125	467	14
Particles >21µm	ASTM D7647	>40	22	74	6
Particles >38µm	ASTM D7647	>10	1	4	1
Particles >71µm	ASTM D7647	>3	0	0	0
Oil Cleanliness	ISO 4406 (c)	>--/17/14	21/19/14	23/21/16	19/16/11

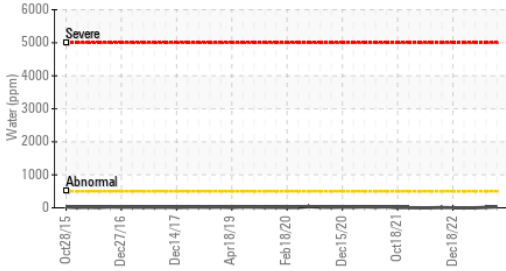


OIL ANALYSIS REPORT

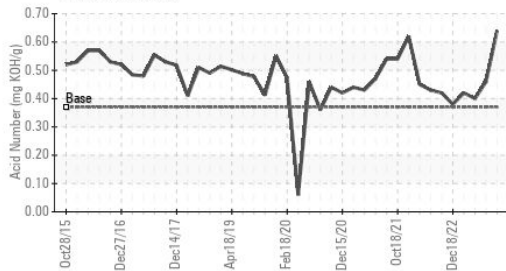
Particle Trend



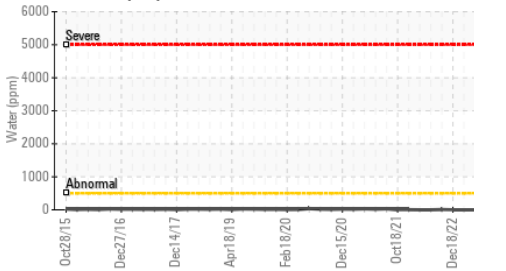
Water (KF)



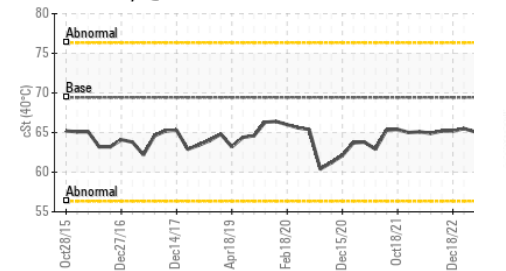
Acid Number



Water (KF)



Viscosity @ 40°C



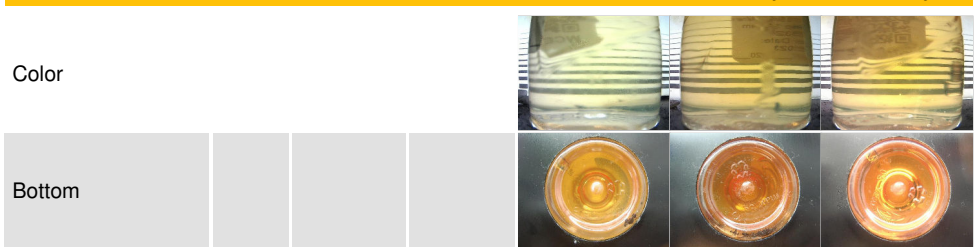
FLUID DEGRADATION

method	limit/base	current	history1	history2	
Acid Number (AN) mg KOH/g	ASTM D974*	0.37	0.64	0.46	0.40
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*	>0.05	NEG	NEG
Free Water	scalar	Visual*		NEG	NEG

FLUID PROPERTIES

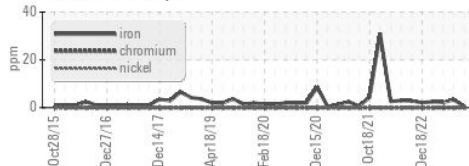
method	limit/base	current	history1	history2		
Visc @ 40°C	cSt	ASTM D7279(m)	69.43	71.3	65.9	65.1

SAMPLE IMAGES

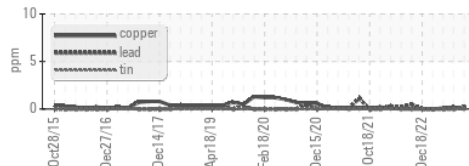


GRAPHS

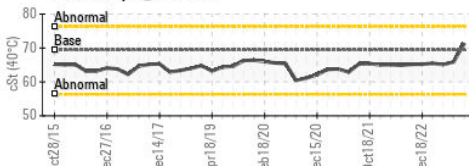
Ferrous Alloys



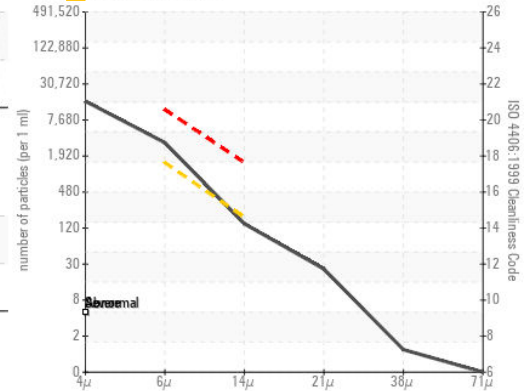
Non-ferrous Metals



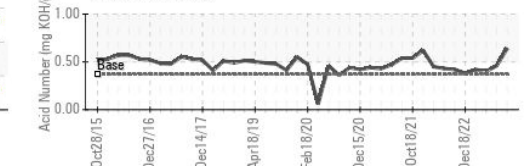
Viscosity @ 40°C



Particle Count



Acid Number



ISO 17025:2017
Accredited
Laboratory

Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
Sample No. : WC0861530 **Received** : 11 Jan 2024
Lab Number : 02608200 **Diagnosed** : 15 Jan 2024
Unique Number : 5709286 **Diagnostician** : Wes Davis
Test Package : IND 2 (Additional Tests: KF, TAN Man)

To discuss this sample report, contact Customer Service at 1-800-268-2131.
 Test denoted (*) outside scope of accreditation, (m) method modified, (e) tested at external lab.
 Validity of results and interpretation are based on the sample and information as supplied.

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