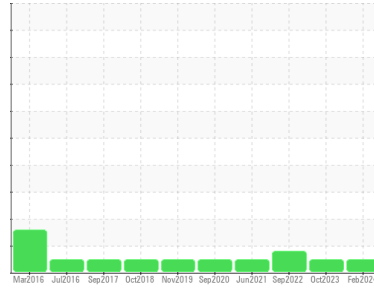




# OIL ANALYSIS REPORT

Sample Rating Trend



**NORMAL**



Area  
**THUNDER SPIRIT [200005313]**  
 Machine Id  
**32WEA84019 (S/N 51278)**  
 Component  
**Hydraulic System**  
 Fluid  
**SHELL TELLUS S4 VX 32 (--- QTS)**

## DIAGNOSIS

### Recommendation

Resample at the next service interval to monitor.

### Wear

All component wear rates are normal.

### Contamination

There is no indication of any contamination in the oil. The amount and size of particulates present in the system are acceptable.

### 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>NX014484</b>	NX014757	NX010520
Sample Date	Client Info		<b>26 Feb 2024</b>	13 Oct 2023	26 Sep 2022
Machine Age	hrs	Client Info	<b>58818</b>	0	49069
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>	NORMAL	ATTENTION

## WEAR METALS

	method	limit/base	current	history1	history2
PQ	ASTM D8184		<b>14</b>	14	11
Iron	ppm	ASTM D5185m >20	<b>5</b>	8	8
Chromium	ppm	ASTM D5185m >20	<b>0</b>	<1	<1
Nickel	ppm	ASTM D5185m >20	<b>0</b>	<1	0
Titanium	ppm	ASTM D5185m	<b>0</b>	<1	0
Silver	ppm	ASTM D5185m	<b>0</b>	0	0
Aluminum	ppm	ASTM D5185m >20	<b>&lt;1</b>	1	<1
Lead	ppm	ASTM D5185m >20	<b>5</b>	4	4
Copper	ppm	ASTM D5185m >20	<b>0</b>	<1	<1
Tin	ppm	ASTM D5185m >20	<b>2</b>	2	2
Antimony	ppm	ASTM D5185m	<b>---</b>	---	---
Vanadium	ppm	ASTM D5185m	<b>0</b>	0	0
Cadmium	ppm	ASTM D5185m	<b>0</b>	<1	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>0</b>	<1	0
Manganese	ppm	ASTM D5185m	<b>0</b>	0	<1
Magnesium	ppm	ASTM D5185m	<b>0</b>	0	0
Calcium	ppm	ASTM D5185m	<b>0</b>	0	<1
Phosphorus	ppm	ASTM D5185m	<b>529</b>	545	579
Zinc	ppm	ASTM D5185m	<b>54</b>	56	69
Sulfur	ppm	ASTM D5185m	<b>944</b>	885	1126

## CONTAMINANTS

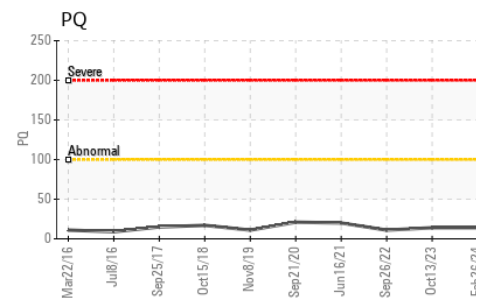
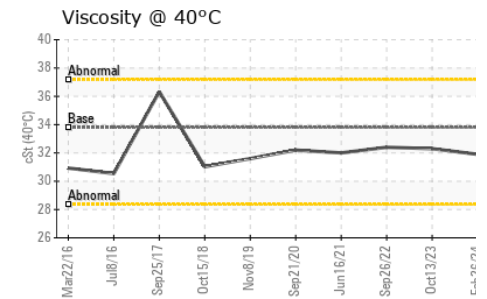
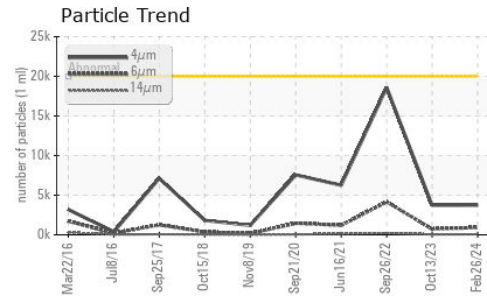
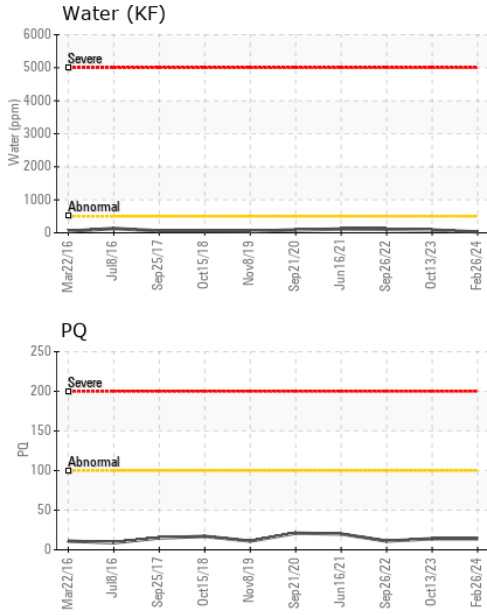
	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m >15	<b>3</b>	4	3
Sodium	ppm	ASTM D5185m	<b>0</b>	0	0
Potassium	ppm	ASTM D5185m >20	<b>0</b>	2	0
Water	%	ASTM D6304 >0.05	<b>0.003</b>	0.008	0.010
ppm Water	ppm	ASTM D6304 >500	<b>28</b>	85.3	106.0

## FLUID CLEANLINESS

	method	limit/base	current	history1	history2
Particles >4µm	ASTM D7647	>20000	<b>3736</b>	3724	18598
Particles >6µm	ASTM D7647	>2500	<b>929</b>	725	4163
Particles >14µm	ASTM D7647	>320	<b>66</b>	47	213
Particles >21µm	ASTM D7647	>80	<b>16</b>	11	30
Particles >38µm	ASTM D7647	>20	<b>1</b>	1	2
Particles >71µm	ASTM D7647	>4	<b>0</b>	1	0
Oil Cleanliness	ISO 4406 (c)	>21/18/15	<b>19/17/13</b>	19/17/13	21/19/15



# OIL ANALYSIS REPORT



FLUID DEGRADATION		method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g	ASTM D8045		<b>0.15</b>	0.13	0.14

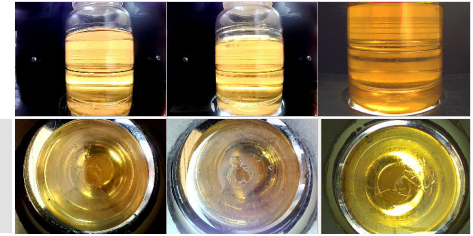
VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Precipitate	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Silt	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Debris	scalar	*Visual	NONE	<b>NONE</b>	LIGHT	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	>0.05	<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	33.8	<b>31.9</b>	32.3	32.4

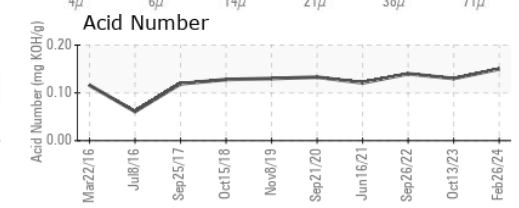
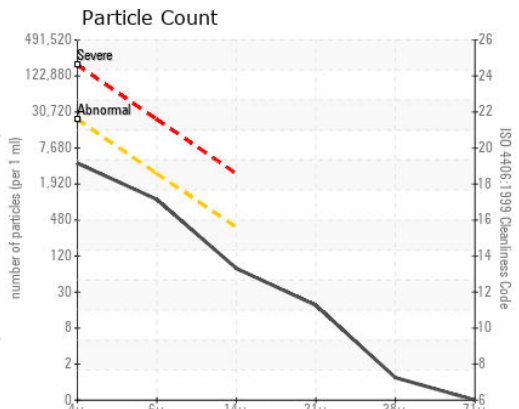
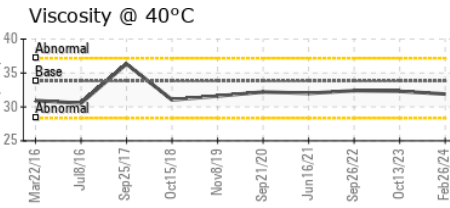
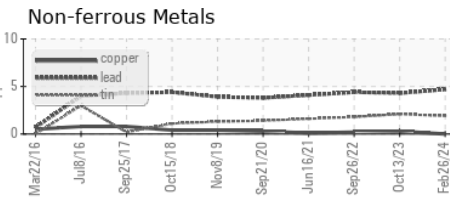
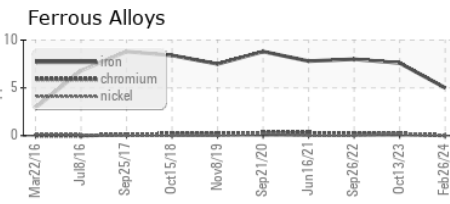
SAMPLE IMAGES		method	limit/base	current	history1	history2
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Color

Bottom



## GRAPHS



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513

Sample No. : NX014484

Lab Number : **06123105**

Unique Number : 10937256

Test Package : IND 2 ( Additional Tests: KF, PQ )

Received : 19 Mar 2024

Tested : 20 Mar 2024

Diagnosed : 21 Mar 2024 - Angela Borella

**NORDEX USA - Chicago**

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CHICAGO, IL

US 60606

Contact: DEVIN LINEHAN

DLinehan@nordex-online.com

T: (312)386-4124

F: (312)386-7102

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)