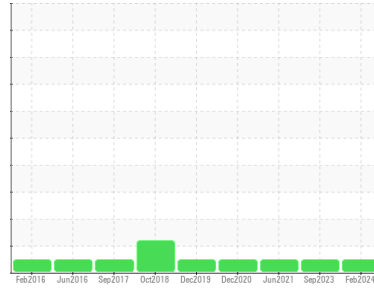




# OIL ANALYSIS REPORT

Sample Rating Trend



**NORMAL**



Area  
**THUNDER SPIRIT [200005313]**  
 Machine Id  
**37WEA84033 (S/N 51295)**  
 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 component. The amount and size of particulates present in the system is 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>NX015553</b>	NX013647	NX004852
Sample Date	Client Info		<b>28 Feb 2024</b>	29 Sep 2023	15 Jun 2021
Machine Age	hrs	Client Info	<b>70674</b>	0	39631
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	NORMAL

## WEAR METALS

	method	limit/base	current	history1	history2
PQ	ASTM D8184		<b>12</b>	9	17
Iron	ppm	ASTM D5185m >20	<b>0</b>	2	4
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>0</b>	1	0
Lead	ppm	ASTM D5185m >20	<b>1</b>	1	3
Copper	ppm	ASTM D5185m >20	<b>0</b>	<1	0
Tin	ppm	ASTM D5185m >20	<b>&lt;1</b>	1	2
Antimony	ppm	ASTM D5185m	<b>---</b>	---	0
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	1
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	<1
Calcium	ppm	ASTM D5185m	<b>0</b>	0	0
Phosphorus	ppm	ASTM D5185m	<b>554</b>	557	547
Zinc	ppm	ASTM D5185m	<b>57</b>	51	78
Sulfur	ppm	ASTM D5185m	<b>716</b>	710	860

## CONTAMINANTS

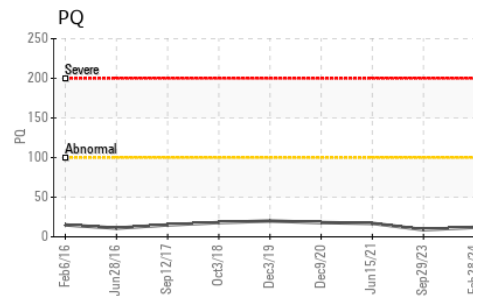
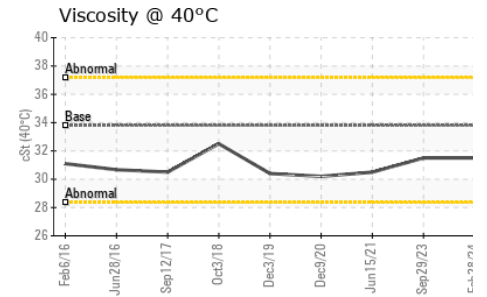
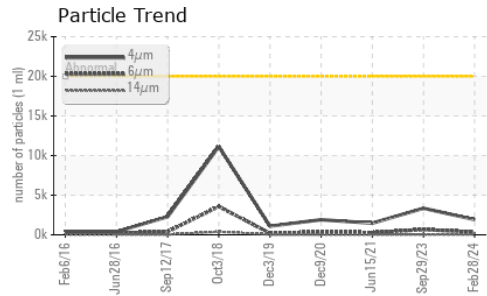
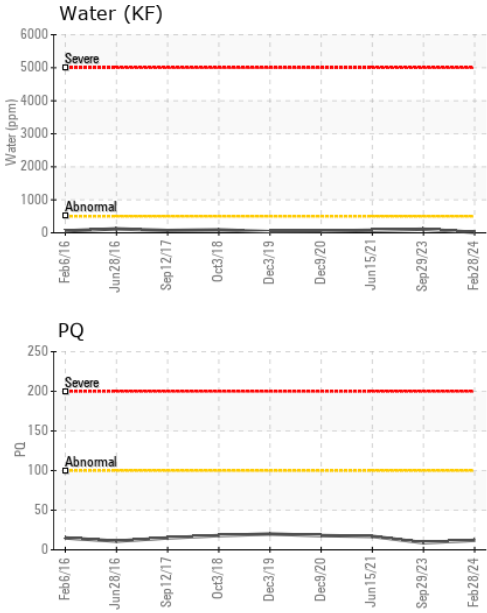
	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m >15	<b>2</b>	2	2
Sodium	ppm	ASTM D5185m	<b>0</b>	0	<1
Potassium	ppm	ASTM D5185m >20	<b>0</b>	2	0
Water	%	ASTM D6304 >0.05	<b>0.001</b>	0.011	0.007
ppm Water	ppm	ASTM D6304 >500	<b>15</b>	110.1	77.7

## FLUID CLEANLINESS

	method	limit/base	current	history1	history2
Particles >4µm	ASTM D7647	>20000	<b>1920</b>	3352	1471
Particles >6µm	ASTM D7647	>2500	<b>359</b>	661	278
Particles >14µm	ASTM D7647	>320	<b>35</b>	34	22
Particles >21µm	ASTM D7647	>80	<b>11</b>	7	5
Particles >38µm	ASTM D7647	>20	<b>1</b>	0	0
Particles >71µm	ASTM D7647	>4	<b>0</b>	0	0
Oil Cleanliness	ISO 4406 (c)	>21/18/15	<b>18/16/12</b>	19/17/12	18/15/12



# OIL ANALYSIS REPORT

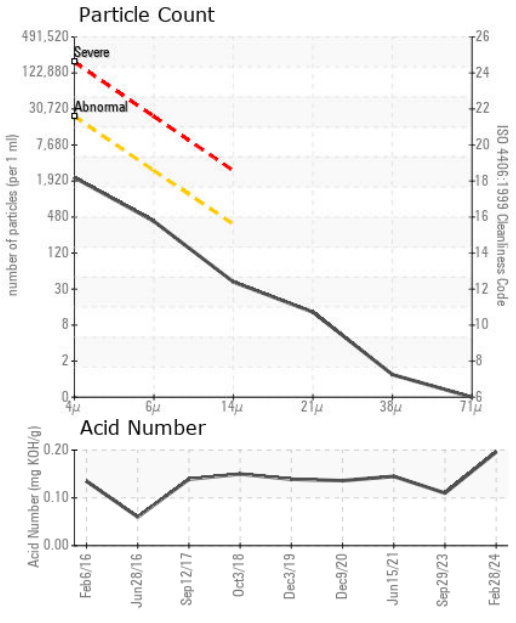
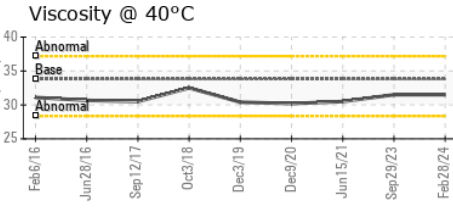
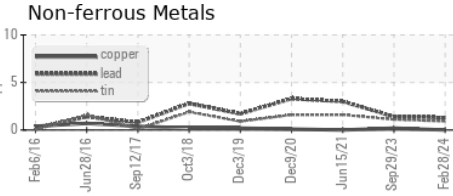
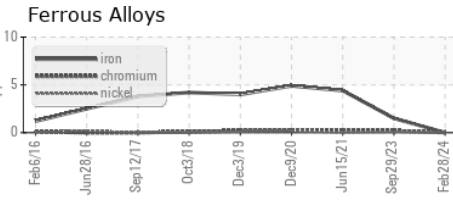


FLUID DEGRADATION		method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g	ASTM D8045		<b>0.196</b>	0.11	0.145
VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Precipitate	scalar	*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>31.5</b>	31.5	30.5

SAMPLE IMAGES		method	limit/base	current	history1	history2
Color						
Bottom						

## GRAPHS



**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : NX015553  
**Lab Number** : **06123111**  
**Unique Number** : 10937262  
**Test Package** : IND 2 ( Additional Tests: KF, PQ )

**NORDEX USA - Chicago**  
 300 SOUTH WACKER DRIVE, SUITE 1500  
 CHICAGO, IL  
 US 60606  
 Contact: DEREK BRACKEL  
 DBRACKEL@nordex-online.com  
 T: (701)209-0326  
 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)