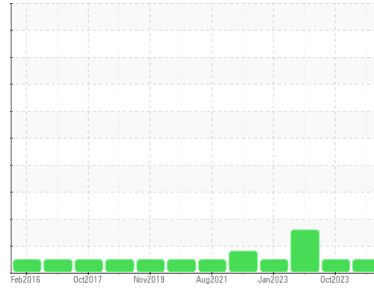




OIL ANALYSIS REPORT

Sample Rating Trend



NORMAL



Area
THUNDER SPIRIT [200005313]
 Machine Id
26WEA84036 (S/N 51292)
 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	NX014765	NX014784	NX011628	
Sample Date	Client Info	12 Feb 2024	08 Oct 2023	26 Apr 2023	
Machine Age	hrs	Client Info	59995	0	54411
Oil Age	hrs	Client Info	0	0	0
Oil Changed	Client Info	N/A	N/A	N/A	
Sample Status		NORMAL	NORMAL	MARGINAL	

WEAR METALS

method	limit/base	current	history1	history2	
PQ	ASTM D8184	15	14	13	
Iron	ppm	ASTM D5185m >20	0	2	3
Chromium	ppm	ASTM D5185m >20	0	<1	0
Nickel	ppm	ASTM D5185m >20	0	<1	0
Titanium	ppm	ASTM D5185m	0	<1	0
Silver	ppm	ASTM D5185m	0	0	0
Aluminum	ppm	ASTM D5185m >20	<1	1	0
Lead	ppm	ASTM D5185m >20	3	3	2
Copper	ppm	ASTM D5185m >20	0	<1	0
Tin	ppm	ASTM D5185m >20	2	2	2
Vanadium	ppm	ASTM D5185m	0	0	0
Cadmium	ppm	ASTM D5185m	0	<1	0

ADDITIVES

method	limit/base	current	history1	history2	
Boron	ppm	ASTM D5185m	0	0	0
Barium	ppm	ASTM D5185m	0	0	0
Molybdenum	ppm	ASTM D5185m	0	0	0
Manganese	ppm	ASTM D5185m	0	0	0
Magnesium	ppm	ASTM D5185m	0	0	0
Calcium	ppm	ASTM D5185m	0	0	0
Phosphorus	ppm	ASTM D5185m	480	537	571
Zinc	ppm	ASTM D5185m	61	67	79
Sulfur	ppm	ASTM D5185m	699	786	947

CONTAMINANTS

method	limit/base	current	history1	history2	
Silicon	ppm	ASTM D5185m >15	2	3	2
Sodium	ppm	ASTM D5185m	0	0	<1
Potassium	ppm	ASTM D5185m >20	0	2	0
Water	%	ASTM D6304 >0.05	0.003	0.012	▲ 0.115
ppm Water	ppm	ASTM D6304 >500	39	122.8	▲ 1150

FLUID CLEANLINESS

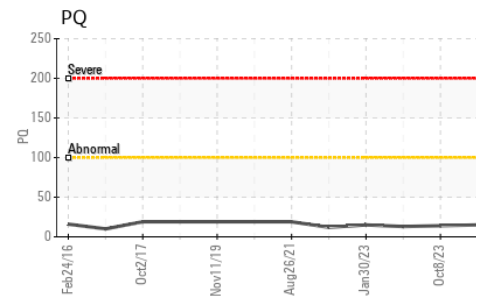
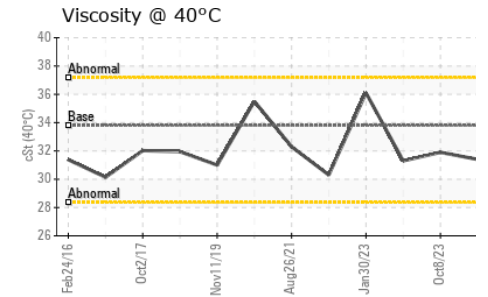
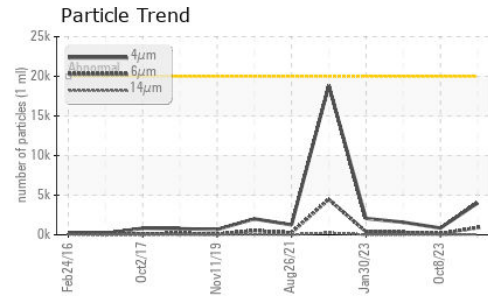
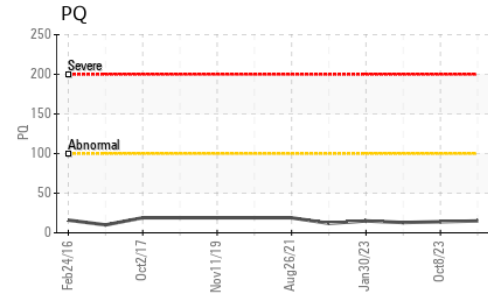
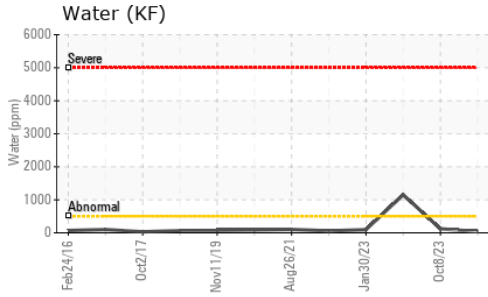
method	limit/base	current	history1	history2
Particles >4µm	ASTM D7647 >20000	4017	853	1584
Particles >6µm	ASTM D7647 >2500	894	153	313
Particles >14µm	ASTM D7647 >320	61	15	17
Particles >21µm	ASTM D7647 >80	17	4	5
Particles >38µm	ASTM D7647 >20	1	0	0
Particles >71µm	ASTM D7647 >4	1	0	0
Oil Cleanliness	ISO 4406 (c) >21/18/15	19/17/13	17/14/11	18/15/11

FLUID DEGRADATION

method	limit/base	current	history1	history2	
Acid Number (AN)	mg KOH/g	ASTM D8045	0.207	0.12	0.15



OIL ANALYSIS REPORT



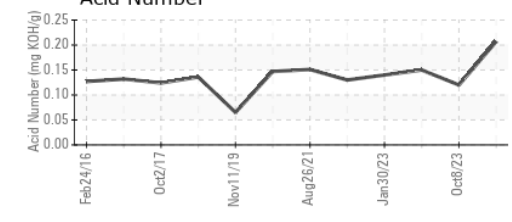
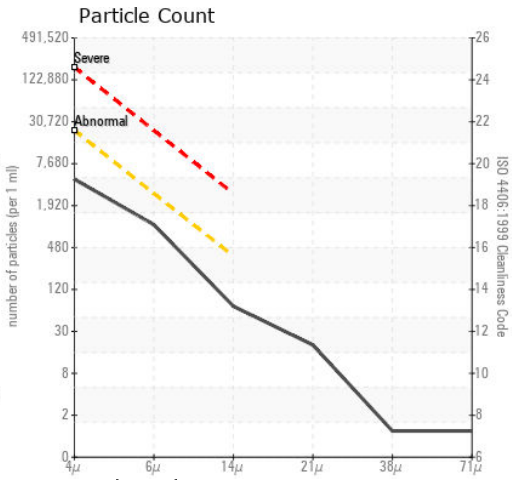
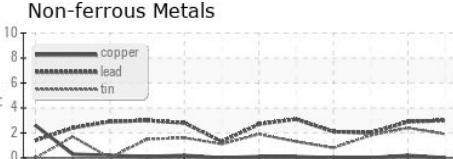
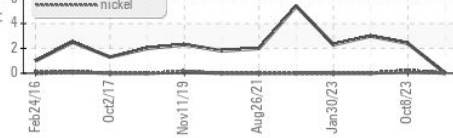
VISUAL	method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE
Appearance	scalar	*Visual	NORML	NORML	NORML
Odor	scalar	*Visual	NORML	NORML	NORML
Emulsified Water	scalar	*Visual	>0.05	NEG	0.2%
Free Water	scalar	*Visual		NEG	NEG

FLUID PROPERTIES	method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D445	33.8	31.4	31.9

SAMPLE IMAGES	method	limit/base	current	history1	history2
---------------	--------	------------	---------	----------	----------



GRAPHS



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : NX014765
Lab Number : 06123113
Unique Number : 10937264
Test Package : IND 2 (Additional Tests: KF, PQ)

NORDEX USA - Chicago
 300 SOUTH WACKER DRIVE, SUITE 1500
 CHICAGO, IL
 US 60606

Received : 19 Mar 2024
Tested : 20 Mar 2024
Diagnosed : 21 Mar 2024 - Angela Borella
 Contact: DEVIN LINEHAN
 DLinehan@nordex-online.com
 T: (312)386-4124
 F: (312)386-7102