

OIL ANALYSIS REPORT

Area **THUNDER SPIRIT [200009532]** 43WEA84009 (S/N 45423)

Hydraulic System

SHELL TELLUS S4 VX 32 (--- QTS)

Recommendation

Resample at the next service interval to monitor.

Wear

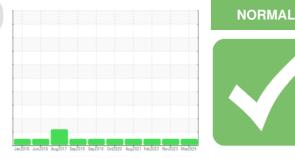
All component wear rates are normal.

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.



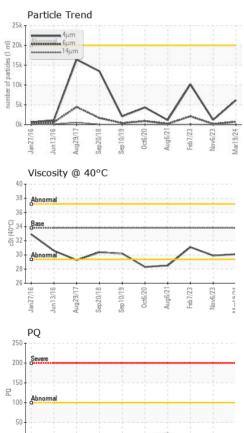
Sample Rating Trend

SAMPLE INFORM	IATION	method	limit/base	current	history1	history2
Sample Number		Client Info		NX015556	NX014799	NX011637
Sample Date		Client Info		19 Mar 2024	06 Nov 2023	07 Feb 2023
Machine Age	hrs	Client Info		60565	57846	52704
Oil Age	hrs	Client Info		0	0	0
Oil Changed		Client Info		N/A	N/A	N/A
Sample Status				NORMAL	NORMAL	NORMAL
WEAR METALS		method	limit/base	current	history1	history2
PQ		ASTM D8184		17	12	16
Iron	ppm	ASTM D5185m	>20	2	0	1
Chromium	ppm	ASTM D5185m	>20	<1	0	0
Nickel	ppm	ASTM D5185m	>20	<1	<1	0
Titanium	ppm	ASTM D5185m		<1	0	0
Silver	ppm	ASTM D5185m		0	0	0
Aluminum	ppm	ASTM D5185m	>20	2	<1	0
Lead	ppm	ASTM D5185m	>20	3	2	2
Copper	ppm	ASTM D5185m	>20	1	0	0
Tin	ppm	ASTM D5185m	>20	2	2	<1
Antimony	ppm	ASTM D5185m				
Vanadium	ppm	ASTM D5185m		<1	0	0
Cadmium	ppm	ASTM D5185m		<1	0	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		1	0	0
Manganese	ppm	ASTM D5185m		<1	0	0
Magnesium	ppm	ASTM D5185m		<1	2	0
Calcium	ppm	ASTM D5185m		4	2	0
Phosphorus	ppm	ASTM D5185m		613	564	530
Zinc	ppm	ASTM D5185m		74	71	84
Sulfur	ppm	ASTM D5185m		524	577	542
CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>15	2	2	<1
Sodium	ppm	ASTM D5185m		<1	0	0
Potassium	ppm	ASTM D5185m	>20	2	1	0
Water	%	ASTM D6304	>0.05	0.005	0.006	0.005
ppm Water	ppm	ASTM D6304	>500	51	61	50.6
FLUID CLEANLIN	ESS	method	limit/base	current	history1	history2
Particles >4µm		ASTM D7647	>20000	6171	1207	10184
Particles >6µm		ASTM D7647	>2500	749	166	2107
Particles >14µm		ASTM D7647	>320	30	7	78
Particles >21µm		ASTM D7647	>80	6	2	10
Particles >38µm		ASTM D7647	>20	0	0	0
Particles >71µm		ASTM D7647	>4	0	0	0
Oil Cleanliness		ISO 4406 (c)	>21/18/15	20/17/12	17/15/10	21/18/13



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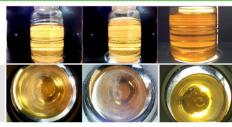
6000-	Wa	ter (KF)									FLUID
5000	Seve	re									A	Acid Num
(m 4000 - md) 3000 -												VISUAI
Ader (ppm) 3000 - 2000												Vhite Me
1000	Abn	ormal										ellow M
0.			_		_	-		_				Precipitat
	Jan27/16	Jun13/16	Aug29/17	Sep20/18	Sep10/19	0ct6/20	Aug6/21	Feb7/23	Nov6/23	Mar19/24	5	Silt
	Jan2	Junl	Aug2	Sep2	Sep1	00	Aug	Feh	Nov	Marl	0	Debris
											5	Sand/Dirt
250-	PQ										A	Appearar
	Seve											Ddor
200	Geve			-	-				-			Emulsifie
150												Free Wat
문 100-	Abn	ormal										
100	ļ	1										FLUID
50.												/iaa @ 4/
0.	-	-		_		-		-	-	_	``	/isc @ 4
	Jan27/16	Jun13/16	6/17	Sep20/18	Sep10/19	0ct6/20	Aug6/21	Feb7/23	Nov6/23	Mar19/24		SAMPL
	Jan2	Jun1	Aug29/17 -	Sep2	Sep1	Oct	Aug	Feb	Nov	Mar1		



FLUID DEGRADA	TION	method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g	ASTM D8045		0.08	0.10	0.15
VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE	NONE
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	>0.05	NEG	NEG	NEG
Free Water	scalar	*Visual		NEG	NEG	NEG
FLUID PROPERT	IES	method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D445	33.8	30.1	29.9	31.1
SAMPLE IMAGES	;	method	limit/base	current	history1	history2

Color

Bottom



GRAPHS Ferrous Alloys Particle Count 10 491,520 122,88 30,72 7.680 Jan27/16 lar19/74 en10/19 1/6Cniii per 1 1,920 480 Non-ferrous Metals 120 30 Jun13/16 Aug29/17 Sep 10/19 ar19/74 Jan27/1 an 20/ Viscosity @ 40°C Acid Number (B/H0.30 40-Abnorma () 35 Ê 0.20 ਸ਼ੂ 0.10 충 30 Acid N 0000 25 eb7/23. Mar19/24 v6/23 un13/16 Sep 10/19 lct6/20 1g/6/21 lct6/20 ug6/21 10/19 Jan 27/16 un13/16 71/6Cm n20/15 an 27/16

:01 Apr 2024

: 03 Apr 2024

: 04 Apr 2024 - Don Baldridge



ug29/1

Laboratory Sample No. Lab Number : 06135633 Unique Number : 10955098

eh7/23

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

To discuss this sample report, contact Customer Service at 1-800-237-1369.

: NX015556

* - Denotes test methods that are outside of the ISO 17025 scope of accreditation.

T: (312)386-4124 Statements of conformity to specifications are based on the simple acceptance decision rule (JCGM 106:2012) F: (312)386-7102

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

Received

Diagnosed

Tested

Report Id: NORDEX [WUSCAR] 06135633 (Generated: 04/04/2024 21:34:21) Rev: 1

Certificate 12367

Contact/Location: DEVIN LINEHAN - NORDEX

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ISO 4406:1999 Cle -20

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Mar19/24

eb7/23

NORDEX USA - Chicago

Contact: DEVIN LINEHAN

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ov6/73

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