



OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	ATTENTION
FLUID CONDITION	NORMAL

Area
THUNDER SPIRIT [200005313]
Machine Id
07WEA84038 (S/N 51297)
Component
Hydraulic System
Fluid
SHELL TELLUS S4 VX 32 (--- QTS)

RECOMMENDATION

No corrective action is recommended at this time. Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		NX013637	NX014823	NX004463
Sample Date		Client Info		29 Feb 2024	13 Nov 2023	11 Aug 2021
Machine Age	hrs	Client Info		45705	51862	0
Oil Age	hrs	Client Info		0	0	0
Filter Age	hrs	Client Info		0	0	0
Oil Changed		Client Info		N/A	N/A	N/A
Filter Changed		Client Info		N/A	N/A	N/A
Sample Status				ATTENTION	NORMAL	NORMAL

WEAR

All component wear rates are normal.

PQ	UOM	Method	Limit/Abn	Current	History1	History2
PQ		ASTM D8184		13	16	20
Iron	ppm	ASTM D5185m	>20	1	3	3
Chromium	ppm	ASTM D5185m	>20	0	0	0
Nickel	ppm	ASTM D5185m	>20	0	<1	0
Titanium	ppm	ASTM D5185m		0	0	0
Silver	ppm	ASTM D5185m		0	0	<1
Aluminum	ppm	ASTM D5185m	>20	<1	<1	<1
Lead	ppm	ASTM D5185m	>20	3	3	2
Copper	ppm	ASTM D5185m	>20	0	0	<1
Tin	ppm	ASTM D5185m	>20	2	2	1
Vanadium	ppm	ASTM D5185m		0	0	0
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE

CONTAMINATION

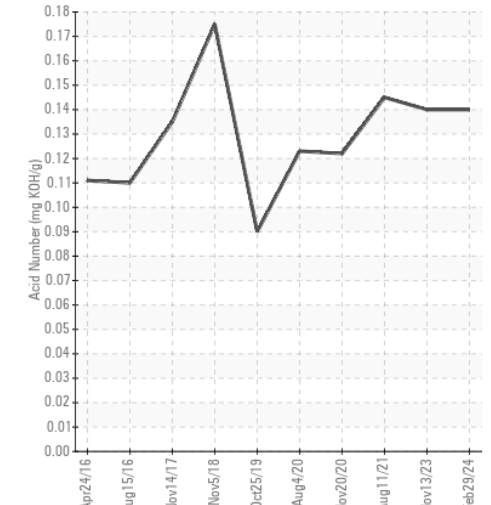
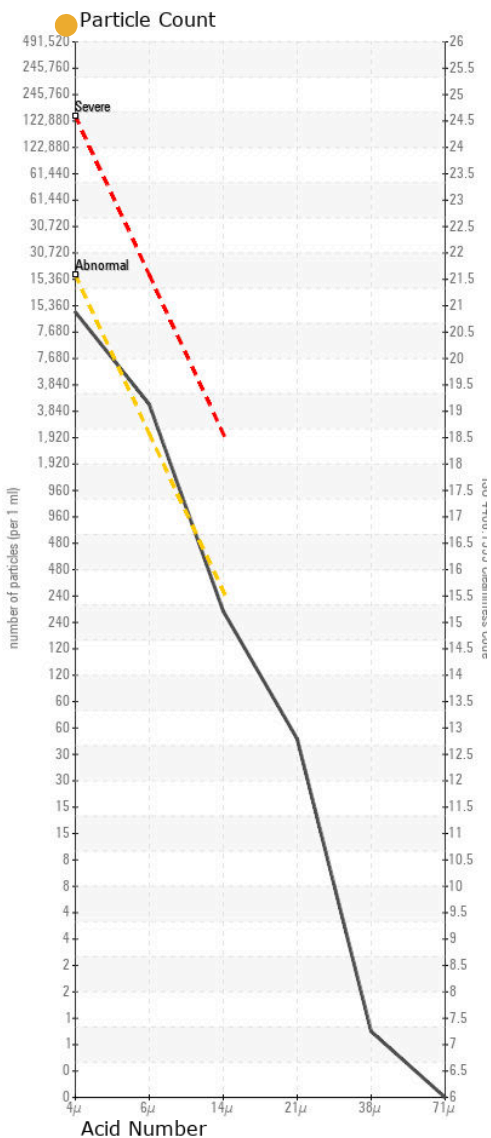
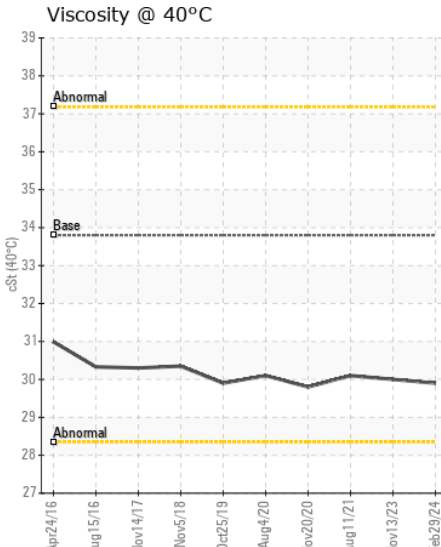
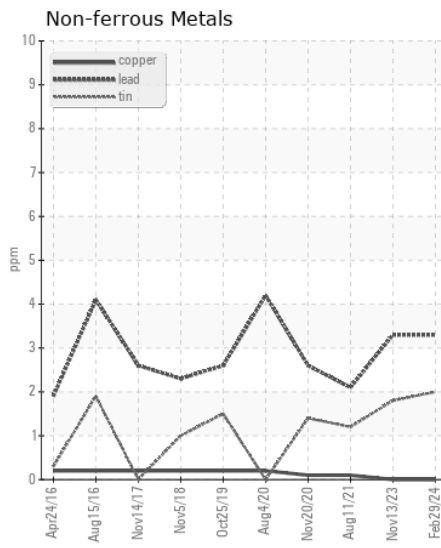
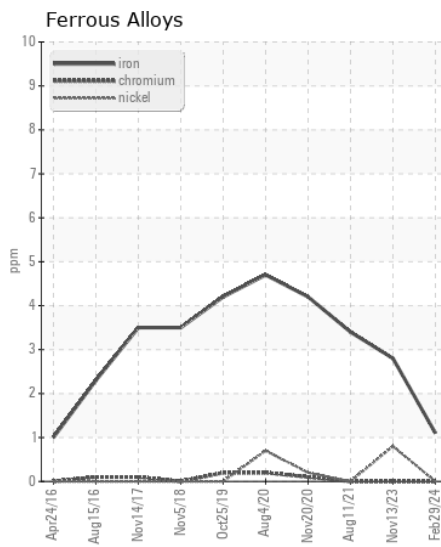
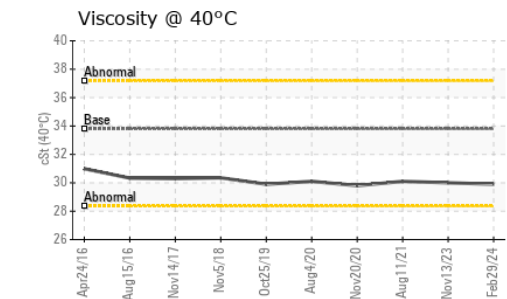
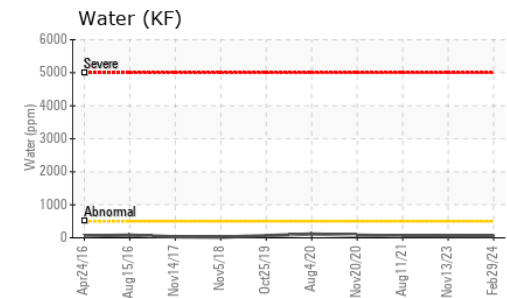
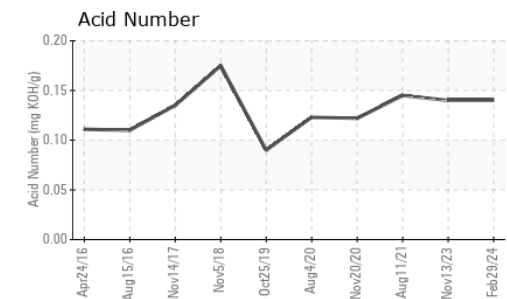
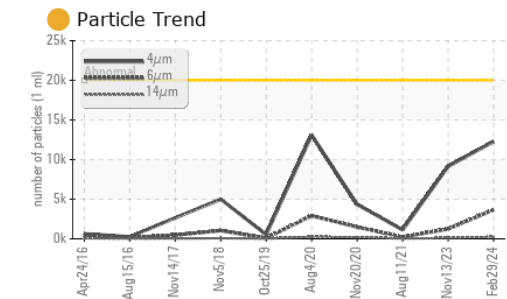
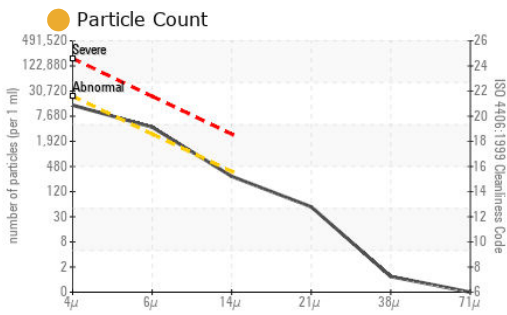
There is a moderate amount of silt (particulates < 14 microns in size) present in the oil.

Silicon	ppm	ASTM D5185m	>15	6	6	5
Potassium	ppm	ASTM D5185m	>20	0	1	0
Water	%	ASTM D6304	>0.05	0.004	0.005	0.006
ppm Water	ppm	ASTM D6304	>500	49	56	61.2
Particles >4µm		ASTM D7647	>20000	12271	9140	1115
Particles >6µm		ASTM D7647	>2500	3668	1246	229
Particles >14µm		ASTM D7647	>320	245	96	18
Particles >21µm		ASTM D7647	>80	46	24	5
Particles >38µm		ASTM D7647	>20	1	1	0
Particles >71µm		ASTM D7647	>4	0	0	0
Oil Cleanliness		ISO 4406 (c)	>21/18/15	21/19/15	20/17/14	17/15/11
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

FLUID CONDITION

The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.

Sodium	ppm	ASTM D5185m		0	<1	<1
Boron	ppm	ASTM D5185m		0	0	<1
Barium	ppm	ASTM D5185m		0	0	0
Molybdenum	ppm	ASTM D5185m		0	3	0
Manganese	ppm	ASTM D5185m		0	0	0
Magnesium	ppm	ASTM D5185m		0	1	0
Calcium	ppm	ASTM D5185m		0	8	<1
Phosphorus	ppm	ASTM D5185m		545	558	547
Zinc	ppm	ASTM D5185m		65	66	63
Sulfur	ppm	ASTM D5185m		932	900	755
Acid Number (AN)	mg KOH/g	ASTM D8045		0.14	0.14	0.145
Visc @ 40°C	cSt	ASTM D445	33.8	29.9	30.0	30.1



Certificate L2367

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

Sample No. : NX013637

Lab Number : 06123107

Unique Number : 10937258

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

Received : 19 Mar 2024

Tested : 20 Mar 2024

Diagnosed : 21 Mar 2024 - Angela Borella

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)

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