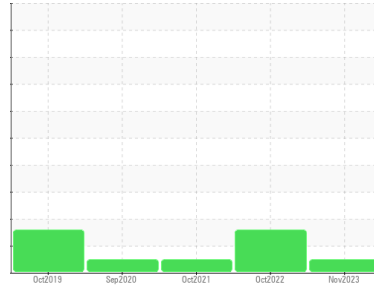




OIL ANALYSIS REPORT

Sample Rating Trend



NORMAL



Machine Id
CATERPILLAR STARBOARD (S/N 9WR01480)

Component
Starboard Transmission
Fluid
SHELL ROTELLA T 40 (--- GAL)

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 fluid.

Fluid Condition

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

SAMPLE INFORMATION

	method	limit/base	current	history1	history2
Sample Number	Client Info		RW0004161	RW0004158	RW0001508
Sample Date	Client Info		15 Nov 2023	29 Oct 2022	08 Oct 2021
Machine Age	hrs	Client Info	2079	2001	1928
Oil Age	hrs	Client Info	0	73	43
Oil Changed	Client Info		Changed	Changed	Changed
Sample Status			NORMAL	ABNORMAL	NORMAL

WEAR METALS

	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m >200	23	20	29
Chromium	ppm	ASTM D5185m >10	0	<1	<1
Nickel	ppm	ASTM D5185m	0	0	0
Titanium	ppm	ASTM D5185m	0	<1	<1
Silver	ppm	ASTM D5185m	0	<1	<1
Aluminum	ppm	ASTM D5185m >50	1	2	2
Lead	ppm	ASTM D5185m >50	21	14	20
Copper	ppm	ASTM D5185m >200	33	15	17
Tin	ppm	ASTM D5185m >10	0	<1	<1
Antimony	ppm	ASTM D5185m	---	---	0
Vanadium	ppm	ASTM D5185m	0	0	0
Cadmium	ppm	ASTM D5185m	0	<1	<1

ADDITIVES

	method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m 0	26	65	13
Barium	ppm	ASTM D5185m	6	2	0
Molybdenum	ppm	ASTM D5185m 0	97	47	101
Manganese	ppm	ASTM D5185m	0	<1	<1
Magnesium	ppm	ASTM D5185m 432	227	467	124
Calcium	ppm	ASTM D5185m 1121	2405	1851	2245
Phosphorus	ppm	ASTM D5185m 996	1134	1002	834
Zinc	ppm	ASTM D5185m 881	1170	1147	849
Sulfur	ppm	ASTM D5185m	3726	3734	2678

CONTAMINANTS

	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m >50	4	4	2
Sodium	ppm	ASTM D5185m	0	0	2
Potassium	ppm	ASTM D5185m >20	2	3	0

FLUID DEGRADATION

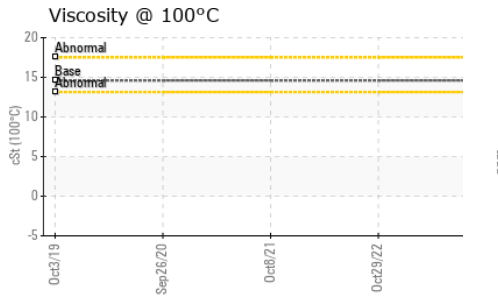
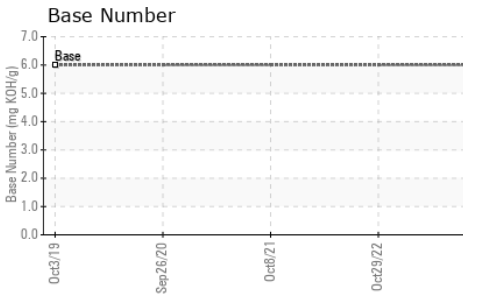
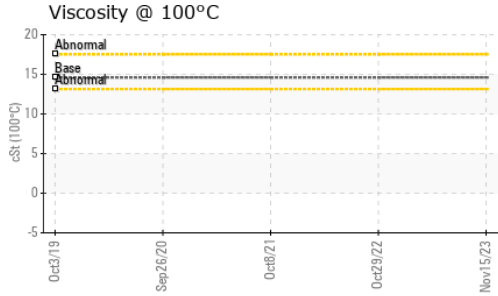
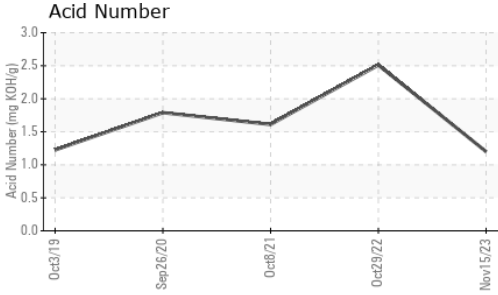
	method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g	ASTM D8045	1.199	▲ 2.51	1.611

VISUAL

	method	limit/base	current	history1	history2
White Metal	scalar	*Visual NONE	NONE	NONE	VLITE
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 >0.1	NEG	NEG	NEG
Free Water	scalar	*Visual	NEG	NEG	NEG



OIL ANALYSIS REPORT

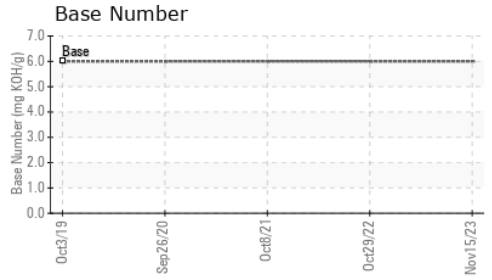
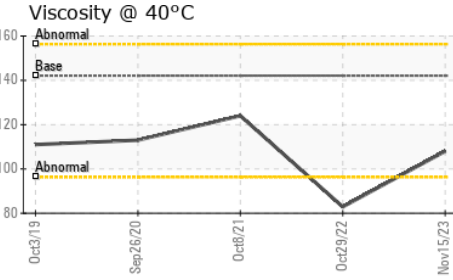
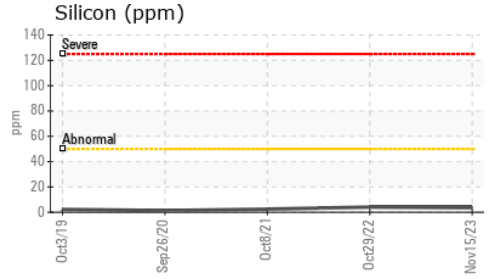
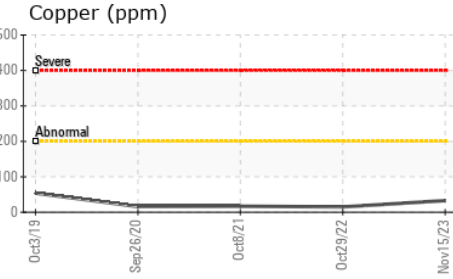
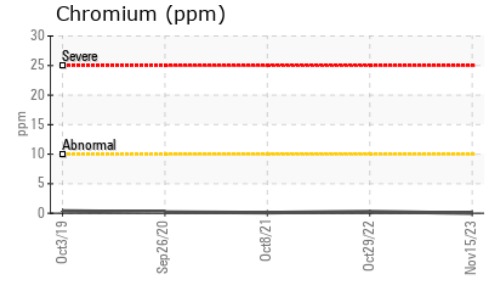
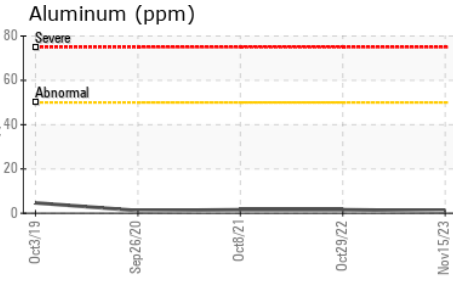
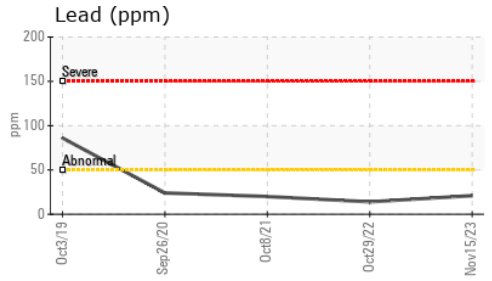
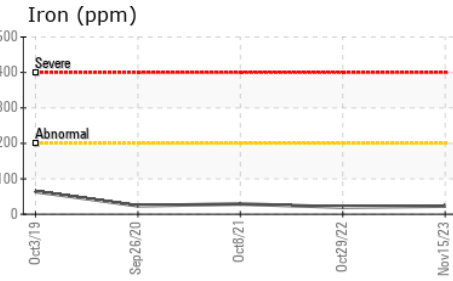


FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D445	142.1	108	▲ 82.9	124

SAMPLE IMAGES		method	limit/base	current	history1	history2
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Color	no image		no image
Bottom	no image		no image

GRAPHS



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : RW0004161 **Received** : 15 Nov 2023
Lab Number : 06009138 **Diagnosed** : 17 Nov 2023
Unique Number : 10742900 **Diagnostician** : Angela Borella
Test Package : MOB 2 (Additional Tests: FT-IR, KV100, TBN)

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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