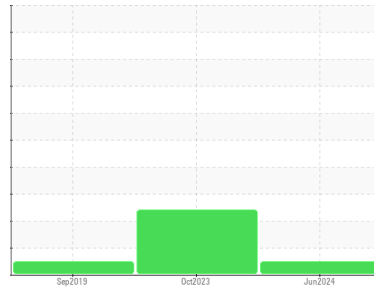




OIL ANALYSIS REPORT

Sample Rating Trend



NORMAL



Machine Id
CUMMINS 5.9
 Component
Starboard Main Engine
 Fluid
SHELL ROTELLA T 15W40 (12 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 oil.

Fluid Condition

The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

SAMPLE INFORMATION		method	limit/base	current	history1	history2
Sample Number	Client Info			WC0830775	WC0830778	WC0394162
Sample Date	Client Info			13 Jun 2024	05 Oct 2023	30 Sep 2019
Machine Age	hrs	Client Info		300	2800	2390
Oil Age	hrs	Client Info		300	350	150
Oil Changed	Client Info			Changed	Changed	N/A
Sample Status				NORMAL	ABNORMAL	NORMAL

CONTAMINATION		method	limit/base	current	history1	history2
Fuel	WC Method	>4.0		<1.0	<1.0	<1.0
Water	WC Method	>0.1		NEG	NEG	NEG
Glycol	WC Method			NEG	NEG	NEG

WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>75	20	21	29
Chromium	ppm	ASTM D5185m	>8	9	6	7
Nickel	ppm	ASTM D5185m	>2	<1	<1	<1
Titanium	ppm	ASTM D5185m	>3	<1	<1	2
Silver	ppm	ASTM D5185m	>2	0	0	0
Aluminum	ppm	ASTM D5185m	>15	2	5	2
Lead	ppm	ASTM D5185m	>18	<1	1	2
Copper	ppm	ASTM D5185m	>80	1	2	2
Tin	ppm	ASTM D5185m	>14	<1	<1	0
Antimony	ppm	ASTM D5185m		---	---	4
Vanadium	ppm	ASTM D5185m		<1	0	0
Cadmium	ppm	ASTM D5185m		<1	<1	0

ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m	316	60	212	130
Barium	ppm	ASTM D5185m	0.0	<1	0	0
Molybdenum	ppm	ASTM D5185m	1.2	33	<1	4
Manganese	ppm	ASTM D5185m		<1	<1	<1
Magnesium	ppm	ASTM D5185m	24	376	16	78
Calcium	ppm	ASTM D5185m	2292	1697	2243	2218
Phosphorus	ppm	ASTM D5185m	1064	1086	1055	924
Zinc	ppm	ASTM D5185m	1160	1211	1302	1129
Sulfur	ppm	ASTM D5185m	4996	3025	4663	3084

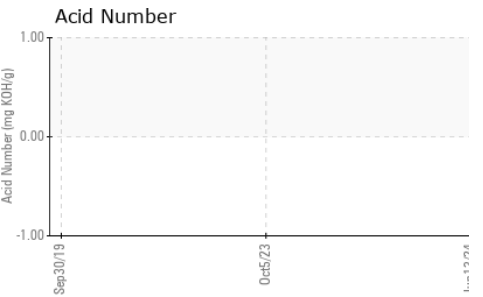
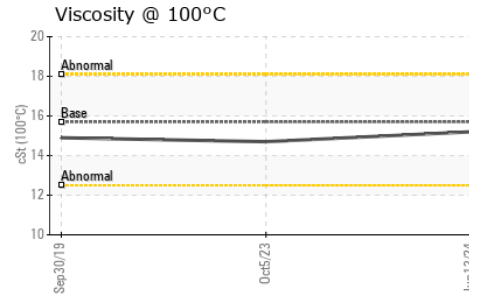
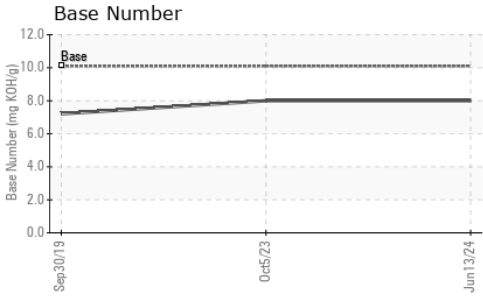
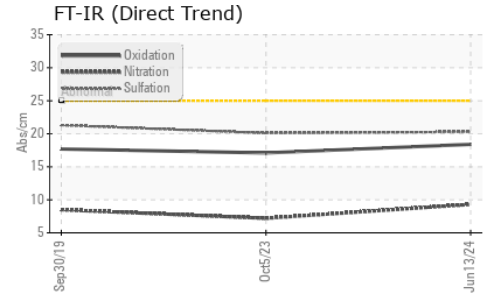
CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>20	11	▲ 34	6
Sodium	ppm	ASTM D5185m	>75	5	8	16
Potassium	ppm	ASTM D5185m	>20	5	10	7

INFRA-RED		method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844		0.2	0.1	0.2
Nitration	Abs/cm	*ASTM D7624	>20	9.3	7.2	8.5
Sulfation	Abs/.1mm	*ASTM D7415	>30	20.3	20.1	21.3

FLUID DEGRADATION		method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414	>25	18.4	17.1	17.7
Base Number (BN)	mg KOH/g	ASTM D2896	10.1	8.0	8.0	7.21



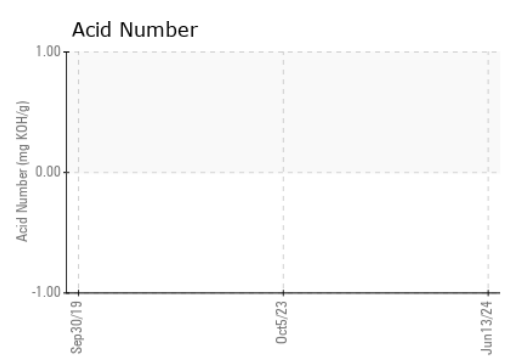
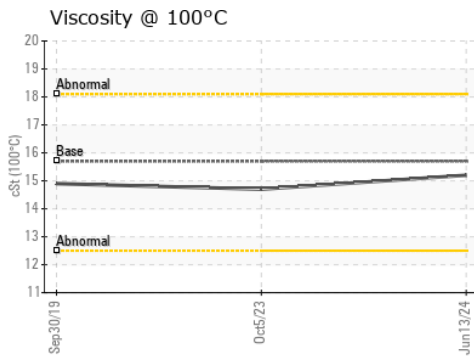
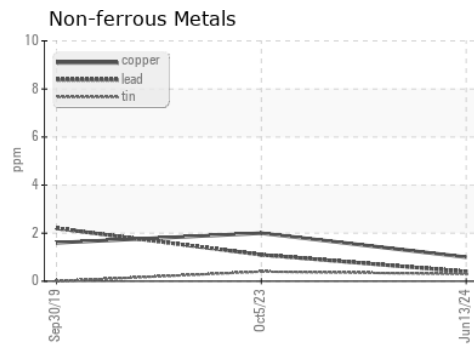
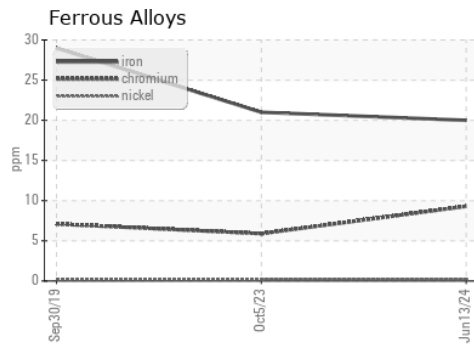
OIL ANALYSIS REPORT



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	>0.1	NEG	NEG
Free Water	scalar	*Visual		NEG	NEG

FLUID PROPERTIES	method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	15.7	15.2	14.7

GRAPHS



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : WC0830775 **Received** : 17 Jun 2024
Lab Number : 06212917 **Tested** : 19 Jun 2024
Unique Number : 11085781 **Diagnosed** : 19 Jun 2024 - Angela Borella
Test Package : MAR 2 (Additional Tests: TAN Man)

PRESTON J SALTALAMACCHIA
 155 ROBERT ST
 SLIDELL, LA
 US 70458
 Contact: PRESTON SALTALAMACCHIA
 prestonandhisboat@gmail.com

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. T: (504)599-9384
 Statements of conformity to specifications are based on the simple acceptance decision rule (JCGM 106:2012) F: