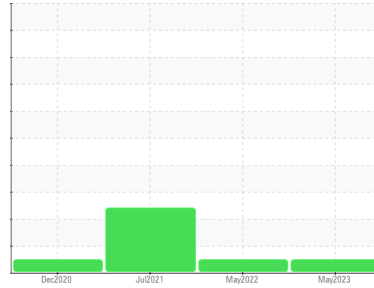




OIL ANALYSIS REPORT

Sample Rating Trend



NORMAL



Machine Id
DD4
 Component
Diesel Engine
 Fluid
SHELL ROTELLA T 15W40 (--- GAL)

DIAGNOSIS

Recommendation

Resample at the next service interval to monitor. Please specify the component make and model with your next sample.

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			WC0751185	WC0623136	WC0560963
Sample Date	Client Info			03 May 2023	10 May 2022	07 Jul 2021
Machine Age	mls	Client Info		82871	325	81015
Oil Age	mls	Client Info		1530	325	1800
Oil Changed	Client Info			Changed	Changed	Not Changed
Sample Status				NORMAL	NORMAL	ABNORMAL

CONTAMINATION		method	limit/base	current	history1	history2
Fuel	WC Method	>5		<1.0	<1.0	<1.0
Water	WC Method	>0.2		NEG	NEG	NEG
Glycol	WC Method			NEG	NEG	NEG

WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>100	11	24	9
Chromium	ppm	ASTM D5185m	>20	<1	3	<1
Nickel	ppm	ASTM D5185m	>4	<1	0	0
Titanium	ppm	ASTM D5185m		2	17	0
Silver	ppm	ASTM D5185m	>3	0	<1	<1
Aluminum	ppm	ASTM D5185m	>20	0	2	1
Lead	ppm	ASTM D5185m	>40	<1	2	18
Copper	ppm	ASTM D5185m	>330	1	2	4
Tin	ppm	ASTM D5185m	>15	<1	<1	<1
Antimony	ppm	ASTM D5185m		---	---	0
Vanadium	ppm	ASTM D5185m		0	<1	0
Cadmium	ppm	ASTM D5185m		0	<1	<1

ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m	316	192	223	90
Barium	ppm	ASTM D5185m	0.0	0	3	0
Molybdenum	ppm	ASTM D5185m	1.2	<1	2	24
Manganese	ppm	ASTM D5185m		<1	<1	<1
Magnesium	ppm	ASTM D5185m	24	11	16	41
Calcium	ppm	ASTM D5185m	2292	2251	2135	2129
Phosphorus	ppm	ASTM D5185m	1064	965	992	955
Zinc	ppm	ASTM D5185m	1160	1161	1213	1153
Sulfur	ppm	ASTM D5185m	4996	3755	3617	3158

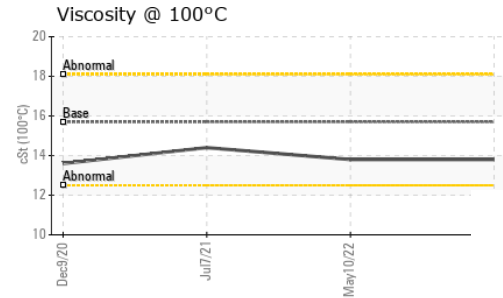
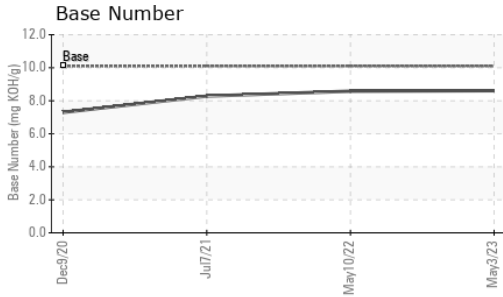
CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>25	11	15	3
Sodium	ppm	ASTM D5185m		3	16	▲ 234
Potassium	ppm	ASTM D5185m	>20	11	19	▲ 258

INFRA-RED		method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844	>3	0.1	0.1	0.1
Nitration	Abs/cm	*ASTM D7624	>20	5.7	6.3	8.2
Sulfation	Abs/.1mm	*ASTM D7415	>30	18.0	20.5	20.8

FLUID DEGRADATION		method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414	>25	15.4	16.6	17.4
Base Number (BN)	mg KOH/g	ASTM D2896	10.1	8.61	8.58	8.28



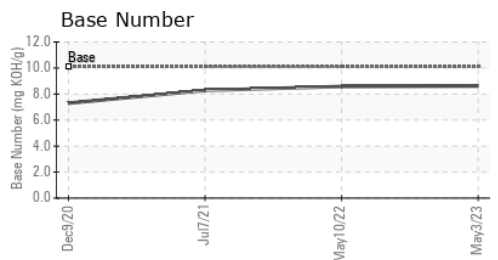
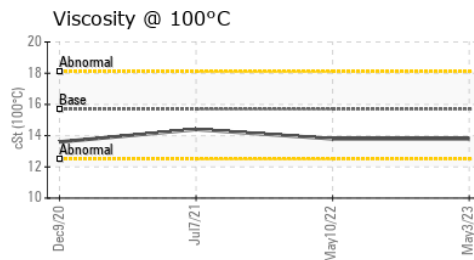
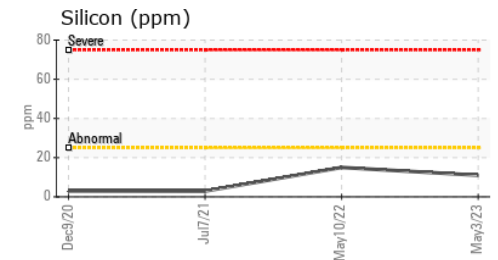
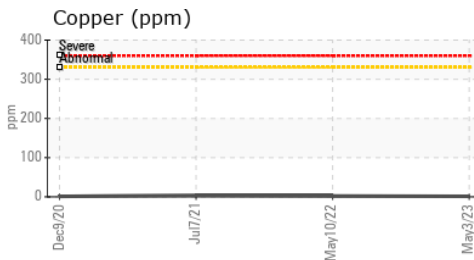
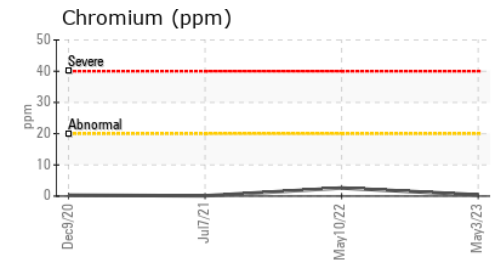
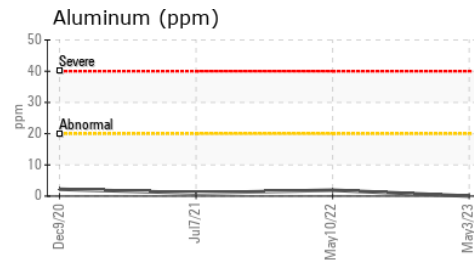
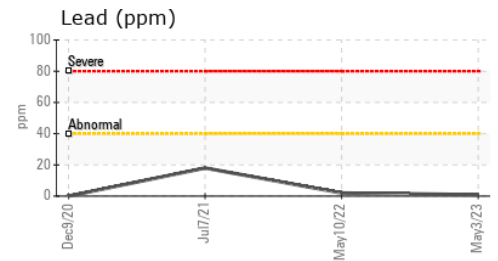
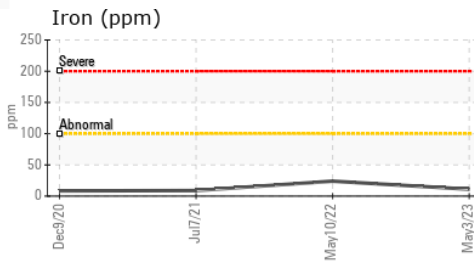
OIL ANALYSIS REPORT



PARAMETER	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	>0.2	NEG	NEG
Free Water	scalar	*Visual		NEG	NEG

FLUID PROPERTIES	method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	15.7	13.8	14.4

GRAPHS



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : WC0751185 **Received** : 08 May 2023
Lab Number : 05841616 **Diagnosed** : 09 May 2023
Unique Number : 10460419 **Diagnostician** : Wes Davis
Test Package : MOB 2

CFCC - CAPE FEAR COMMUNITY COLLEGE
 411 N FRONT ST
 WILMINGTON, NC
 US 28401
 Contact: LES CRAWFORD
 lescrawford@cfcc.edu
 T: (910)663-3058
 F:

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)