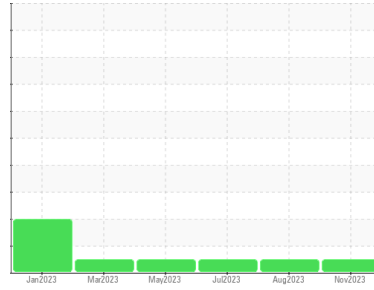


OIL ANALYSIS REPORT

Sample Rating Trend



NORMAL



Machine Id
115 (S/N 3HSPAAPR4PN664798)

Component
Diesel Engine

Fluid
SHELL ROTELLA T4 15W40 (--- 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 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	PCA0105514	PCA0097124	PCA0097119
Sample Date	Client Info	02 Nov 2023	31 Aug 2023	10 Jul 2023
Machine Age	mls Client Info	117105	97653	79135
Oil Age	mls Client Info	19352	20336	18811
Oil Changed	Client Info	Changed	Changed	Changed
Sample Status		NORMAL	NORMAL	NORMAL

CONTAMINATION

method	limit/base	current	history1	history2
Fuel	WC Method >3.0	<1.0	<1.0	<1.0
Glycol	WC Method	NEG	NEG	NEG

WEAR METALS

method	limit/base	current	history1	history2
Iron	ppm ASTM D5185m >90	12	11	12
Chromium	ppm ASTM D5185m >20	2	3	2
Nickel	ppm ASTM D5185m >2	<1	<1	0
Titanium	ppm ASTM D5185m >2	<1	<1	0
Silver	ppm ASTM D5185m >2	0	0	<1
Aluminum	ppm ASTM D5185m >20	9	14	20
Lead	ppm ASTM D5185m >40	<1	<1	0
Copper	ppm ASTM D5185m >330	<1	<1	0
Tin	ppm ASTM D5185m >15	0	<1	0
Vanadium	ppm ASTM D5185m	0	<1	0
Cadmium	ppm ASTM D5185m	0	0	0

ADDITIVES

method	limit/base	current	history1	history2
Boron	ppm ASTM D5185m	105	96	89
Barium	ppm ASTM D5185m	0	0	0
Molybdenum	ppm ASTM D5185m	12	16	11
Manganese	ppm ASTM D5185m	0	<1	<1
Magnesium	ppm ASTM D5185m	46	59	87
Calcium	ppm ASTM D5185m	2009	2310	2229
Phosphorus	ppm ASTM D5185m	909	999	960
Zinc	ppm ASTM D5185m	1101	1271	1230
Sulfur	ppm ASTM D5185m	3400	4284	4151

CONTAMINANTS

method	limit/base	current	history1	history2
Silicon	ppm ASTM D5185m >25	5	6	5
Sodium	ppm ASTM D5185m	<1	3	1
Potassium	ppm ASTM D5185m >20	33	43	50

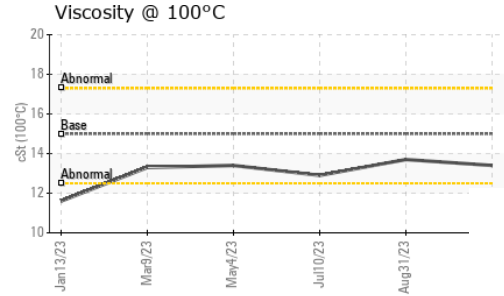
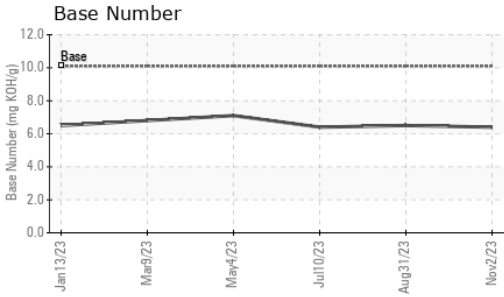
INFRA-RED

method	limit/base	current	history1	history2
Soot %	% *ASTM D7844 >6	0.2	0.2	0.2
Nitration	Abs/cm *ASTM D7624 >20	8.0	7.9	7.9
Sulfation	Abs/.1mm *ASTM D7415 >30	20.6	20.0	20.3

FLUID DEGRADATION

method	limit/base	current	history1	history2
Oxidation	Abs/.1mm *ASTM D7414 >25	16.2	15.7	15.8
Base Number (BN)	mg KOH/g ASTM D2896 10.1	6.4	6.5	6.4

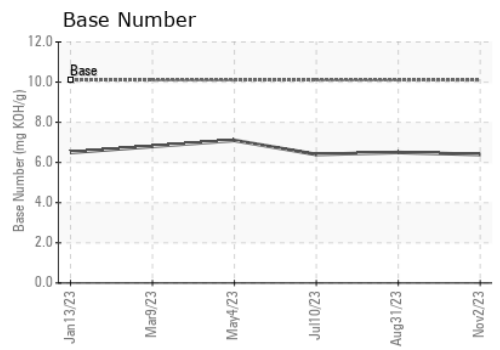
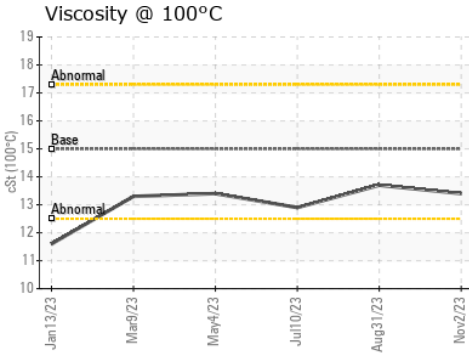
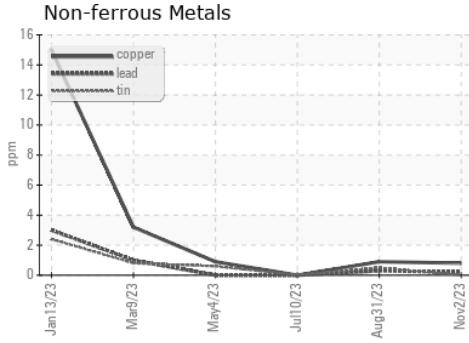
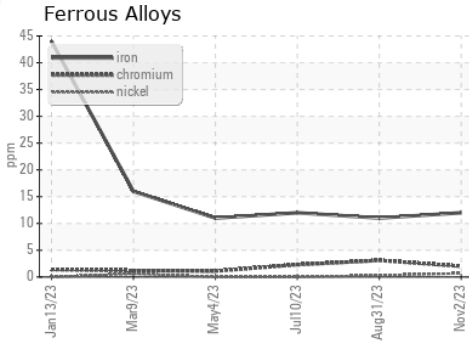
OIL ANALYSIS REPORT



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	>0.2	NEG	NEG
Free Water	scalar	*Visual		NEG	NEG

FLUID PROPERTIES	method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445 15	13.4	13.7	12.9

GRAPHS



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : PCA0105514 **Received** : 17 Nov 2023
Lab Number : **06011357** **Diagnosed** : 20 Nov 2023
Unique Number : 10750501 **Diagnostician** : Wes Davis
Test Package : FLEET

VULCRAFT
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 FLORENCE, SC
 US 29501
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 david.vought@vulcraft-sc.com
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 F:

Certificate L2367
 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)