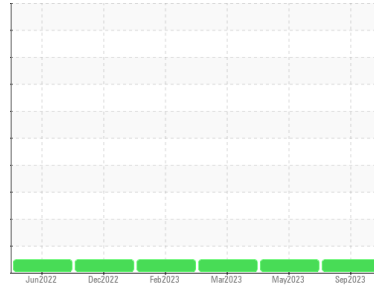


OIL ANALYSIS REPORT

Sample Rating Trend



NORMAL



Machine Id
107 (S/N 1XPBD49X5HD415614)

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	PCA0089624	PCA0097111	PCA0089617	
Sample Date	Client Info	19 Sep 2023	22 May 2023	23 Mar 2023	
Machine Age	mls	Client Info	836026	795273	777203
Oil Age	mls	Client Info	20443	18070	19260
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 >165	9	7	8
Chromium	ppm ASTM D5185m >5	<1	0	<1
Nickel	ppm ASTM D5185m >4	0	0	0
Titanium	ppm ASTM D5185m >2	0	<1	0
Silver	ppm ASTM D5185m >2	0	0	0
Aluminum	ppm ASTM D5185m >20	3	<1	0
Lead	ppm ASTM D5185m >150	6	0	3
Copper	ppm ASTM D5185m >90	0	<1	<1
Tin	ppm ASTM D5185m >5	<1	0	<1
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	39	75	84
Barium	ppm ASTM D5185m	<1	0	0
Molybdenum	ppm ASTM D5185m	16	11	19
Manganese	ppm ASTM D5185m	<1	<1	<1
Magnesium	ppm ASTM D5185m	66	85	132
Calcium	ppm ASTM D5185m	2379	2165	2064
Phosphorus	ppm ASTM D5185m	1055	954	971
Zinc	ppm ASTM D5185m	1320	1199	1220
Sulfur	ppm ASTM D5185m	3562	3896	3278

CONTAMINANTS

method	limit/base	current	history1	history2
Silicon	ppm ASTM D5185m >35	5	4	4
Sodium	ppm ASTM D5185m	2	2	2
Potassium	ppm ASTM D5185m >20	10	7	7

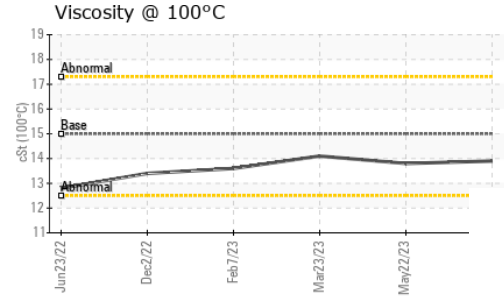
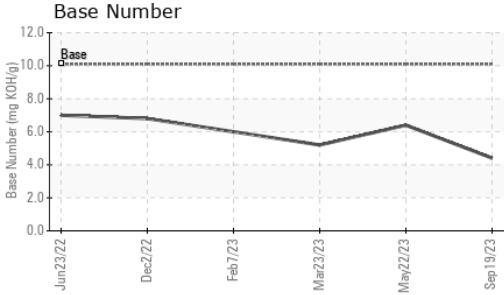
INFRA-RED

method	limit/base	current	history1	history2
Soot %	% *ASTM D7844 >7.5	0.5	0.4	0.4
Nitration	Abs/cm *ASTM D7624 >20	9.8	9.9	9.0
Sulfation	Abs/.1mm *ASTM D7415 >30	24.4	23.2	21.7

FLUID DEGRADATION

method	limit/base	current	history1	history2
Oxidation	Abs/.1mm *ASTM D7414 >25	19.5	18.2	18.5
Base Number (BN)	mg KOH/g ASTM D2896 10.1	4.4	6.4	5.2

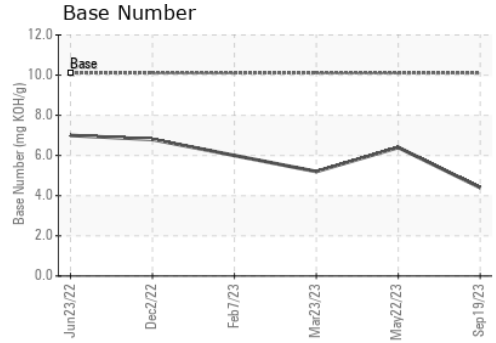
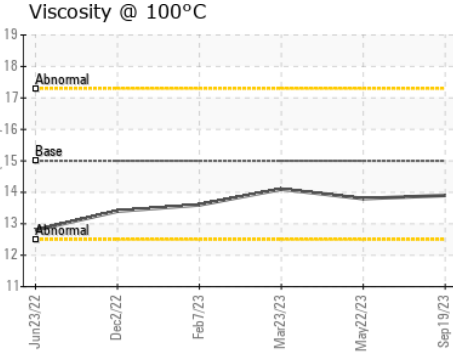
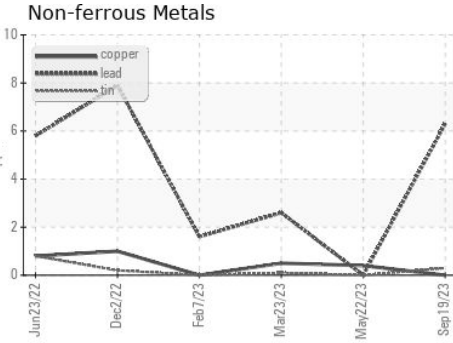
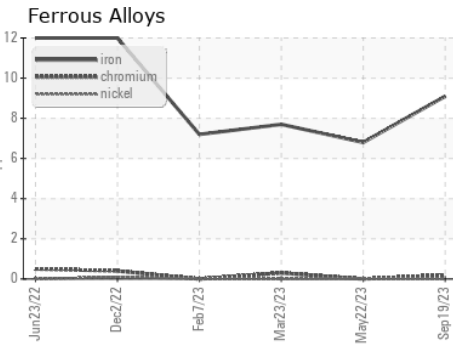
OIL ANALYSIS REPORT



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	13.9	13.8	14.1

GRAPHS



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : PCA0089624 **Received** : 29 Sep 2023
Lab Number : 05965223 **Diagnosed** : 02 Oct 2023
Unique Number : 10671774 **Diagnostician** : Don Baldrige
Test Package : FLEET

VULCRAFT
 1501 W DARLINGTON ST
 FLORENCE, SC
 US 29501
 Contact: DAVID VOUGHT
 david.vought@vulcraft-sc.com
 T: (843)409-3910
 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)