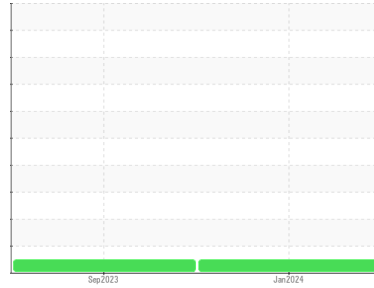




OIL ANALYSIS REPORT

Sample Rating Trend



NORMAL



Machine Id
E-177

Component
Diesel Engine

Fluid
PHILLIPS 66 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			WC0828444	WC0828534	---
Sample Date	Client Info			03 Jan 2024	28 Sep 2023	---
Machine Age	hrs	Client Info		3166	2872	---
Oil Age	hrs	Client Info		265	257	---
Oil Changed		Client Info		Changed	Changed	---
Sample Status				NORMAL	NORMAL	---

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

WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>100	14	14	---
Chromium	ppm	ASTM D5185m	>20	<1	<1	---
Nickel	ppm	ASTM D5185m	>4	0	0	---
Titanium	ppm	ASTM D5185m		0	<1	---
Silver	ppm	ASTM D5185m	>3	0	0	---
Aluminum	ppm	ASTM D5185m	>20	3	<1	---
Lead	ppm	ASTM D5185m	>40	0	<1	---
Copper	ppm	ASTM D5185m	>330	2	1	---
Tin	ppm	ASTM D5185m	>15	0	<1	---
Vanadium	ppm	ASTM D5185m		0	0	---
Cadmium	ppm	ASTM D5185m		0	0	---

ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m		55	37	---
Barium	ppm	ASTM D5185m		0	0	---
Molybdenum	ppm	ASTM D5185m		97	97	---
Manganese	ppm	ASTM D5185m		0	<1	---
Magnesium	ppm	ASTM D5185m		24	44	---
Calcium	ppm	ASTM D5185m		2372	2327	---
Phosphorus	ppm	ASTM D5185m		1029	1033	---
Zinc	ppm	ASTM D5185m		1246	1344	---
Sulfur	ppm	ASTM D5185m		4148	3961	---

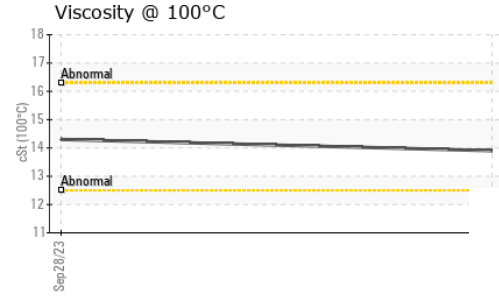
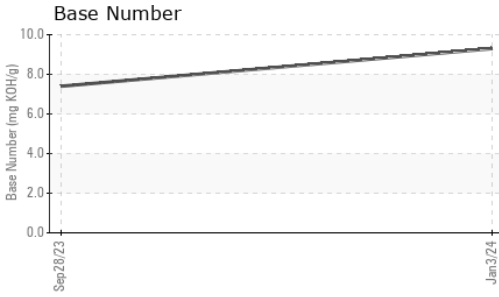
CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>25	5	5	---
Sodium	ppm	ASTM D5185m		1	2	---
Potassium	ppm	ASTM D5185m	>20	3	1	---

INFRA-RED		method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844	>3	0.1	0.6	---
Nitration	Abs/cm	*ASTM D7624	>20	6.9	9.2	---
Sulfation	Abs/.1mm	*ASTM D7415	>30	19.0	19.1	---

FLUID DEGRADATION		method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414	>25	14.8	14.2	---
Base Number (BN)	mg KOH/g	ASTM D2896		9.3	7.4	---



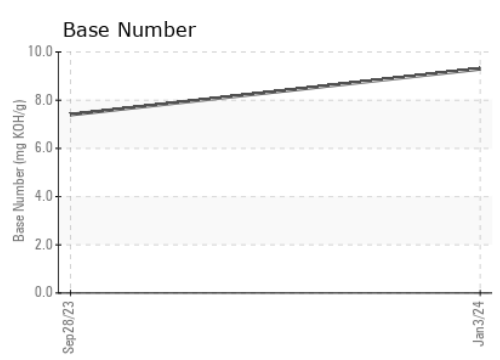
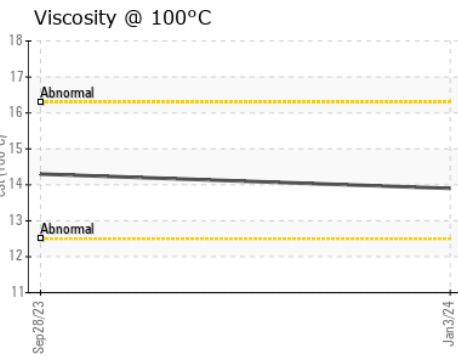
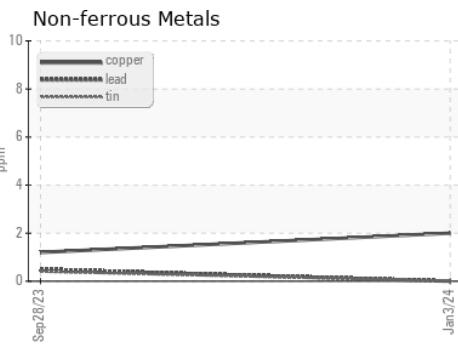
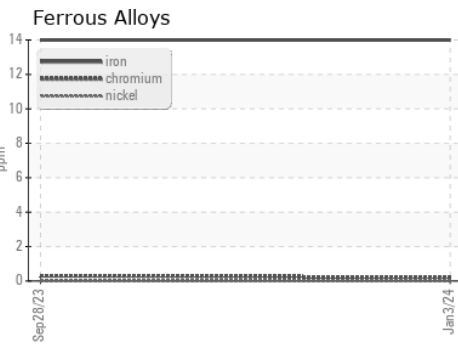
OIL ANALYSIS REPORT



VISUAL	method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	---
Yellow Metal	scalar	*Visual	NONE	NONE	---
Precipitate	scalar	*Visual	NONE	NONE	---
Silt	scalar	*Visual	NONE	NONE	---
Debris	scalar	*Visual	NONE	NONE	---
Sand/Dirt	scalar	*Visual	NONE	NONE	---
Appearance	scalar	*Visual	NORML	NORML	---
Odor	scalar	*Visual	NORML	NORML	---
Emulsified Water	scalar	*Visual	>0.2	NEG	---
Free Water	scalar	*Visual		NEG	---

FLUID PROPERTIES	method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	13.9	14.3	---

GRAPHS



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : WC0828444 **Recieved** : 10 Jan 2024
Lab Number : **06056294** **Diagnosed** : 11 Jan 2024
Unique Number : 10822243 **Diagnostician** : Wes Davis
Test Package : CONST (Additional Tests: TBN)

DUKE LAZZARA
 4201 FAYETTEVILLE RD
 RALEIGH, NC
 US 27603
 Contact: NICK DIXON
 NICK.DIXON@DUKELAZZAM.COM
 T: (919)760-7797
 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)