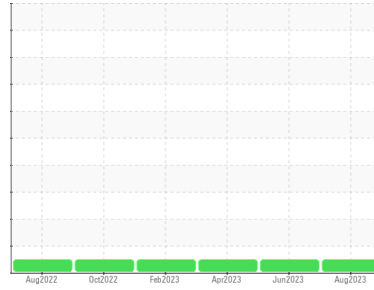




# OIL ANALYSIS REPORT

Sample Rating Trend



**NORMAL**



Machine Id  
**E-170**  
 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			<b>WC0780363</b>	WC0828476	WC0780336
Sample Date	Client Info			<b>17 Aug 2023</b>	23 Jun 2023	12 Apr 2023
Machine Age	hrs	Client Info		<b>1653</b>	1356	1062
Oil Age	hrs	Client Info		<b>297</b>	294	275
Oil Changed	Client Info			<b>Changed</b>	Changed	Changed
Sample Status				<b>NORMAL</b>	NORMAL	NORMAL

CONTAMINATION		method	limit/base	current	history1	history2
Fuel	WC Method	>5		<b>&lt;1.0</b>	<1.0	<1.0
Glycol	WC Method			<b>NEG</b>	NEG	NEG

WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>100	<b>26</b>	26	28
Chromium	ppm	ASTM D5185m	>20	<b>&lt;1</b>	<1	<1
Nickel	ppm	ASTM D5185m	>4	<b>0</b>	1	<1
Titanium	ppm	ASTM D5185m		<b>2</b>	6	21
Silver	ppm	ASTM D5185m	>3	<b>&lt;1</b>	0	0
Aluminum	ppm	ASTM D5185m	>20	<b>3</b>	3	<1
Lead	ppm	ASTM D5185m	>40	<b>&lt;1</b>	<1	<1
Copper	ppm	ASTM D5185m	>330	<b>4</b>	2	2
Tin	ppm	ASTM D5185m	>15	<b>&lt;1</b>	<1	<1
Vanadium	ppm	ASTM D5185m		<b>&lt;1</b>	0	<1
Cadmium	ppm	ASTM D5185m		<b>0</b>	0	0

ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m		<b>40</b>	53	67
Barium	ppm	ASTM D5185m		<b>0</b>	0	2
Molybdenum	ppm	ASTM D5185m		<b>92</b>	89	80
Manganese	ppm	ASTM D5185m		<b>&lt;1</b>	<1	<1
Magnesium	ppm	ASTM D5185m		<b>52</b>	51	131
Calcium	ppm	ASTM D5185m		<b>2201</b>	2256	2103
Phosphorus	ppm	ASTM D5185m		<b>998</b>	1012	971
Zinc	ppm	ASTM D5185m		<b>1228</b>	1206	1187
Sulfur	ppm	ASTM D5185m		<b>4309</b>	3849	3547

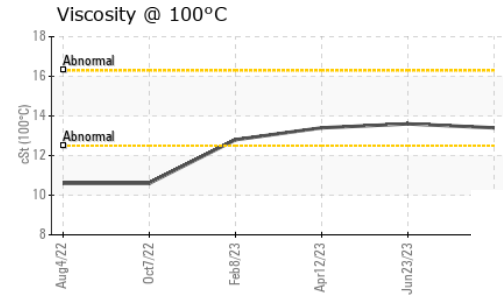
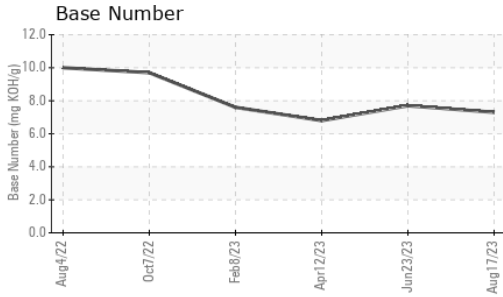
CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>25	<b>4</b>	4	6
Sodium	ppm	ASTM D5185m		<b>2</b>	1	0
Potassium	ppm	ASTM D5185m	>20	<b>&lt;1</b>	1	2

INFRA-RED		method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844	>3	<b>0.4</b>	0.4	0.3
Nitration	Abs/cm	*ASTM D7624	>20	<b>8.7</b>	9.0	8.0
Sulfation	Abs/.1mm	*ASTM D7415	>30	<b>18.3</b>	18.9	17.1

FLUID DEGRADATION		method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414	>25	<b>13.7</b>	14.3	13.8
Base Number (BN)	mg KOH/g	ASTM D2896		<b>7.3</b>	7.7	6.8



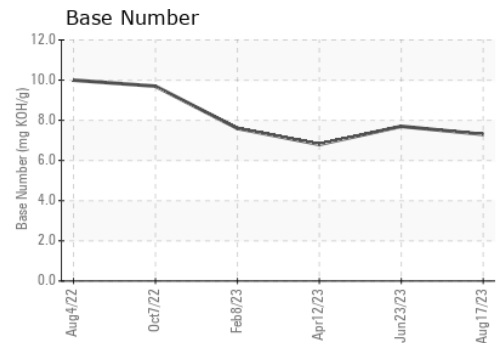
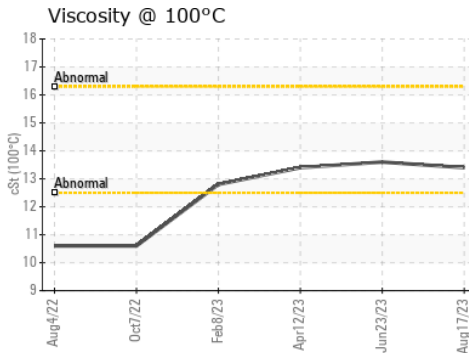
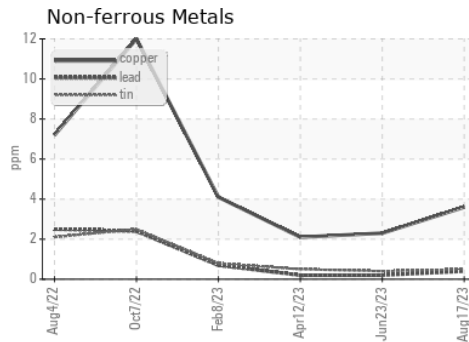
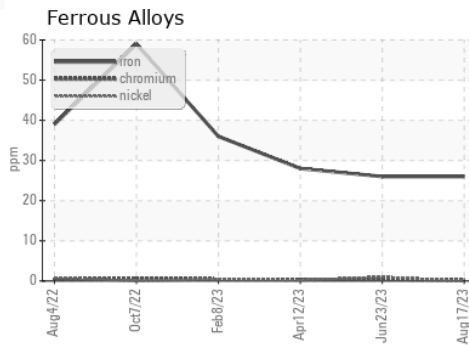
# OIL ANALYSIS REPORT



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	<b>13.4</b>	13.6	13.4

## GRAPHS



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : WC0780363 **Received** : 22 Aug 2023  
**Lab Number** : 05930597 **Diagnosed** : 22 Aug 2023  
**Unique Number** : 10615868 **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:

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)