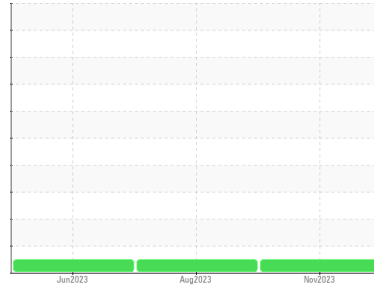




# OIL ANALYSIS REPORT

## Sample Rating Trend



**NORMAL**



Machine Id  
**D-236**  
 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>WC0828483</b>	WC0780362	WC0780369
Sample Date	Client Info			<b>02 Nov 2023</b>	16 Aug 2023	01 Jun 2023
Machine Age	hrs	Client Info		<b>2002</b>	1730	1441
Oil Age	hrs	Client Info		<b>273</b>	289	355
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>11</b>	10	23
Chromium	ppm	ASTM D5185m	>20	<b>&lt;1</b>	<1	0
Nickel	ppm	ASTM D5185m	>4	<b>0</b>	0	0
Titanium	ppm	ASTM D5185m		<b>&lt;1</b>	1	0
Silver	ppm	ASTM D5185m	>3	<b>0</b>	0	0
Aluminum	ppm	ASTM D5185m	>20	<b>4</b>	3	4
Lead	ppm	ASTM D5185m	>40	<b>&lt;1</b>	1	8
Copper	ppm	ASTM D5185m	>330	<b>2</b>	2	5
Tin	ppm	ASTM D5185m	>15	<b>&lt;1</b>	<1	<1
Vanadium	ppm	ASTM D5185m		<b>&lt;1</b>	<1	0
Cadmium	ppm	ASTM D5185m		<b>0</b>	0	0

ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m		<b>51</b>	57	186
Barium	ppm	ASTM D5185m		<b>0</b>	0	0
Molybdenum	ppm	ASTM D5185m		<b>98</b>	108	244
Manganese	ppm	ASTM D5185m		<b>&lt;1</b>	<1	<1
Magnesium	ppm	ASTM D5185m		<b>39</b>	104	808
Calcium	ppm	ASTM D5185m		<b>2237</b>	2192	1551
Phosphorus	ppm	ASTM D5185m		<b>1025</b>	1028	847
Zinc	ppm	ASTM D5185m		<b>1315</b>	1245	1049
Sulfur	ppm	ASTM D5185m		<b>3879</b>	4391	3593

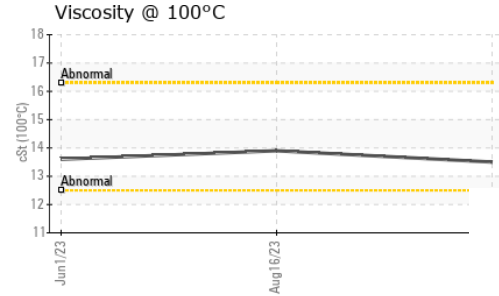
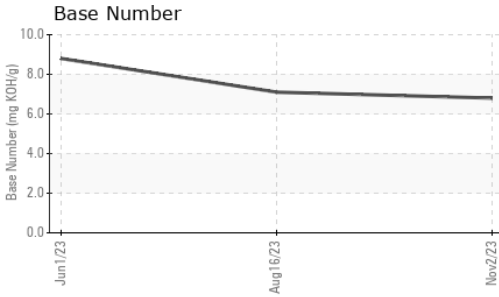
CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>25	<b>6</b>	4	6
Sodium	ppm	ASTM D5185m		<b>2</b>	2	3
Potassium	ppm	ASTM D5185m	>20	<b>0</b>	<1	2

INFRA-RED		method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844	>3	<b>0.4</b>	0.4	0.5
Nitration	Abs/cm	*ASTM D7624	>20	<b>10.1</b>	9.9	9.8
Sulfation	Abs/.1mm	*ASTM D7415	>30	<b>18.9</b>	19.2	23.2

FLUID DEGRADATION		method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414	>25	<b>14.9</b>	14.9	18.6
Base Number (BN)	mg KOH/g	ASTM D2896		<b>6.8</b>	7.1	8.8



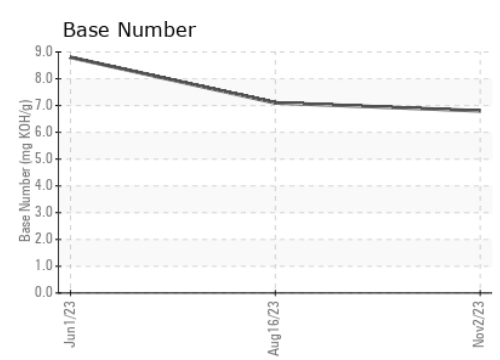
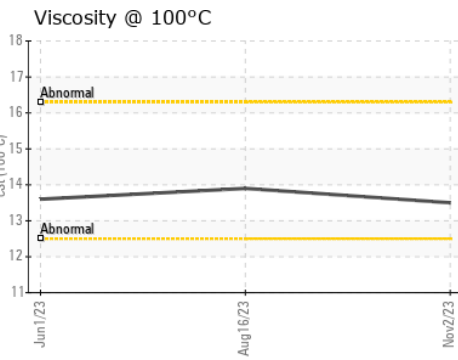
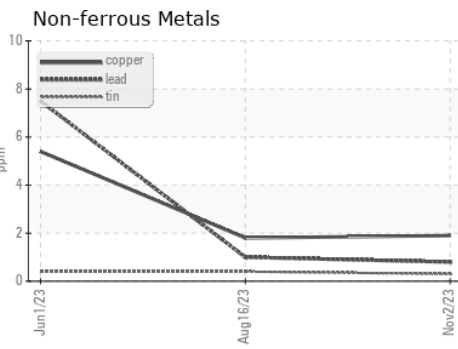
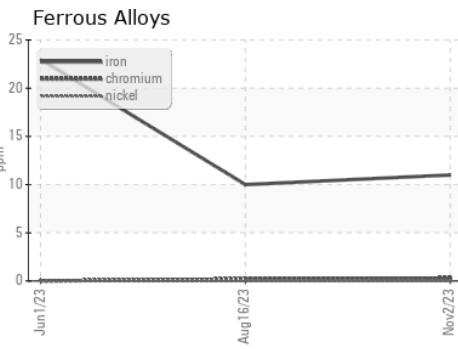
# OIL ANALYSIS REPORT



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>13.5</b>	13.9	13.6

### GRAPHS



**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : WC0828483      **Received** : 03 Nov 2023  
**Lab Number** : **05997705**      **Diagnosed** : 06 Nov 2023  
**Unique Number** : 10726065      **Diagnostician** : Wes Davis  
**Test Package** : CONST ( Additional Tests: TBN )

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