



# OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL

Machine Id  
**E-169**  
 Component  
**Diesel Engine**  
 Fluid  
**PHILLIPS 66 15W40 (--- GAL)**

## RECOMMENDATION

Resample at the next service interval to monitor. Please specify the component make and model with your next sample.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		<b>WC0878674</b>	WC0828517	WC0828463
Sample Date		Client Info		<b>17 Dec 2023</b>	24 Oct 2023	07 Sep 2023
Machine Age	hrs	Client Info		<b>2795</b>	2517	2226
Oil Age	hrs	Client Info		<b>265</b>	291	326
Filter Age	hrs	Client Info		<b>265</b>	291	326
Oil Changed		Client Info		<b>Changed</b>	Changed	Changed
Filter Changed		Client Info		<b>Changed</b>	Changed	Changed
Sample Status				<b>NORMAL</b>	NORMAL	NORMAL

## WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>100	<b>11</b>	17	18
Chromium	ppm	ASTM D5185m	>20	<b>&lt;1</b>	<1	<1
Nickel	ppm	ASTM D5185m	>4	<b>2</b>	2	2
Titanium	ppm	ASTM D5185m		<b>&lt;1</b>	<1	1
Silver	ppm	ASTM D5185m	>3	<b>0</b>	0	0
Aluminum	ppm	ASTM D5185m	>20	<b>3</b>	3	3
Lead	ppm	ASTM D5185m	>40	<b>0</b>	<1	<1
Copper	ppm	ASTM D5185m	>330	<b>2</b>	2	3
Tin	ppm	ASTM D5185m	>15	<b>0</b>	<1	<1
Vanadium	ppm	ASTM D5185m		<b>0</b>	0	0
White Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE

## CONTAMINATION

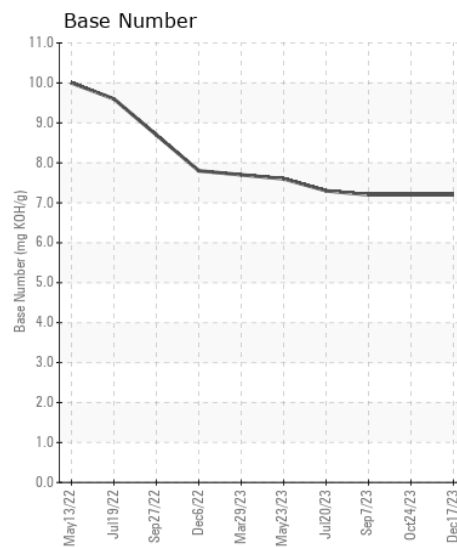
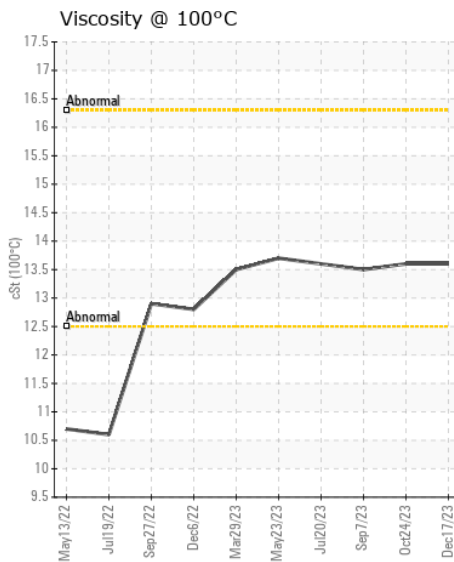
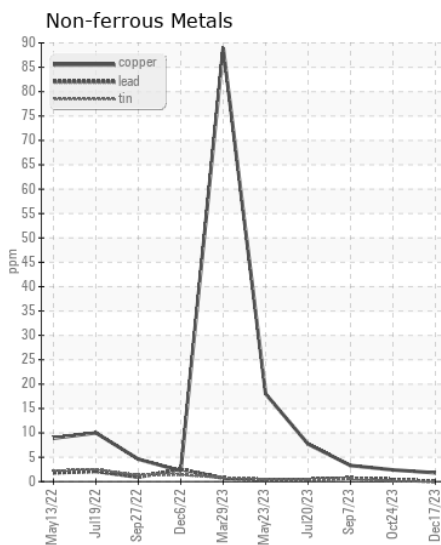
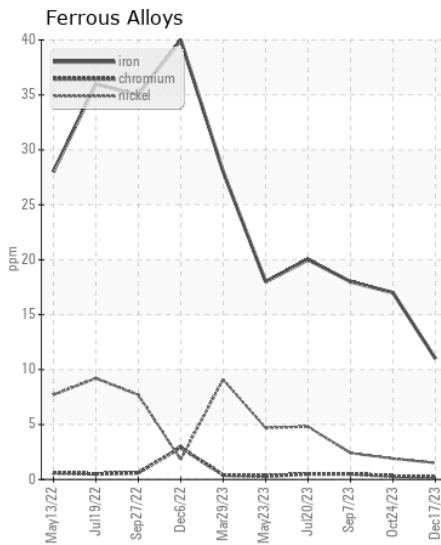
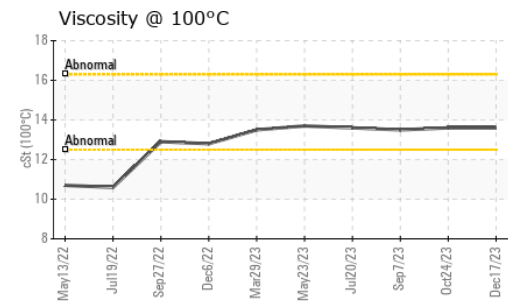
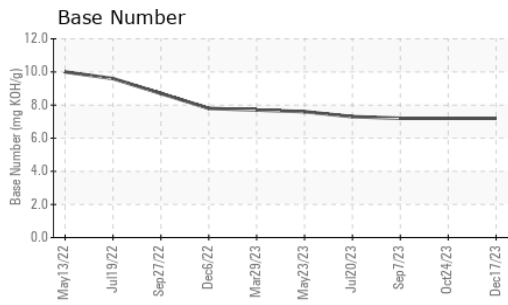
There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185m	>25	<b>4</b>	5	4
Potassium	ppm	ASTM D5185m	>20	<b>0</b>	2	2
Fuel		WC Method	>5	<b>&lt;1.0</b>	<1.0	<1.0
Water		WC Method	>0.2	<b>NEG</b>	NEG	NEG
Glycol		WC Method		<b>NEG</b>	NEG	NEG
Soot %	%	*ASTM D7844	>3	<b>0.3</b>	0.3	0.4
Nitration	Abs/cm	*ASTM D7624	>20	<b>8.4</b>	8.4	8.3
Sulfation	Abs/.1mm	*ASTM D7415	>30	<b>18.0</b>	18.3	18.0
Silt	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Debris	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Appearance	scalar	*Visual	NORML	<b>NORML</b>	NORML	NORML
Odor	scalar	*Visual	NORML	<b>NORML</b>	NORML	NORML
Emulsified Water	scalar	*Visual	>0.2	<b>NEG</b>	NEG	NEG

## 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.

Sodium	ppm	ASTM D5185m		<b>3</b>	0	2
Boron	ppm	ASTM D5185m		<b>50</b>	38	38
Barium	ppm	ASTM D5185m		<b>&lt;1</b>	3	0
Molybdenum	ppm	ASTM D5185m		<b>94</b>	99	97
Manganese	ppm	ASTM D5185m		<b>&lt;1</b>	0	1
Magnesium	ppm	ASTM D5185m		<b>21</b>	29	34
Calcium	ppm	ASTM D5185m		<b>2290</b>	2306	2525
Phosphorus	ppm	ASTM D5185m		<b>1041</b>	1106	1092
Zinc	ppm	ASTM D5185m		<b>1232</b>	1238	1411
Sulfur	ppm	ASTM D5185m		<b>3561</b>	3894	4969
Oxidation	Abs/.1mm	*ASTM D7414	>25	<b>13.6</b>	13.8	13.4
Base Number (BN)	mg KOH/g	ASTM D2896		<b>7.2</b>	7.2	7.2
Visc @ 100°C	cSt	ASTM D445		<b>13.6</b>	13.6	13.5



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : WC0878674 **Received** : 26 Dec 2023  
**Lab Number** : 06044332 **Diagnosed** : 27 Dec 2023  
**Unique Number** : 10804940 **Diagnostician** : Wes Davis  
**Test Package** : CONST ( Additional Tests: TBN )

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)

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