



# OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL

Machine Id  
**C-33**  
 Component  
**Diesel Engine**  
 Fluid  
**CONOCO PHILLIPS GUARDOL ECT 15W40 (--- QTS)**

## 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>WC0948358</b>	WC0869355	WC0899793
Sample Date		Client Info		<b>29 Jun 2024</b>	14 May 2024	22 Mar 2024
Machine Age	hrs	Client Info		<b>10956</b>	10647	10314
Oil Age	hrs	Client Info		<b>309</b>	397	2017
Filter Age	hrs	Client Info		<b>309</b>	397	2017
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>13</b>	12	11
Chromium	ppm	ASTM D5185m	>20	<b>0</b>	<1	<1
Nickel	ppm	ASTM D5185m	>4	<b>0</b>	0	<1
Titanium	ppm	ASTM D5185m		<b>90</b>	98	100
Silver	ppm	ASTM D5185m	>3	<b>0</b>	<1	0
Aluminum	ppm	ASTM D5185m	>20	<b>1</b>	3	3
Lead	ppm	ASTM D5185m	>40	<b>0</b>	1	<1
Copper	ppm	ASTM D5185m	>330	<b>0</b>	<1	1
Tin	ppm	ASTM D5185m	>15	<b>0</b>	<1	2
Vanadium	ppm	ASTM D5185m		<b>&lt;1</b>	1	<1
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.

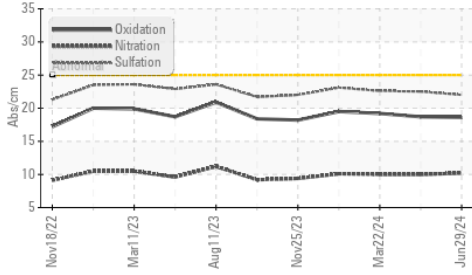
Silicon	ppm	ASTM D5185m	>25	<b>4</b>	5	4
Potassium	ppm	ASTM D5185m	>20	<b>&lt;1</b>	3	3
Fuel		WC Method	>5	<b>&lt;1.0</b>	<1.0	<1.0
Water		WC Method	>0.2	<b>NEG</b>	NEG	NEG
Glycol		WC Method		<b>NEG</b>	NEG	NEG
Soot %	%	*ASTM D7844	>3	<b>0.2</b>	0.2	0.2
Nitration	Abs/cm	*ASTM D7624	>20	<b>10.2</b>	10.0	10.0
Sulfation	Abs/.1mm	*ASTM D7415	>30	<b>22.0</b>	22.5	22.6
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

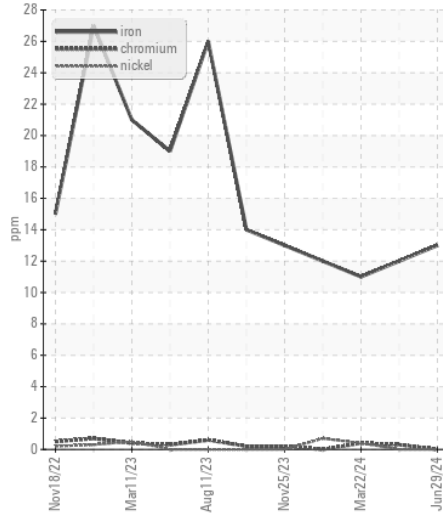
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

Sodium	ppm	ASTM D5185m		<b>2</b>	3	3
Boron	ppm	ASTM D5185m	85	<b>102</b>	124	143
Barium	ppm	ASTM D5185m		<b>0</b>	0	0
Molybdenum	ppm	ASTM D5185m		<b>&lt;1</b>	3	4
Manganese	ppm	ASTM D5185m		<b>0</b>	<1	<1
Magnesium	ppm	ASTM D5185m	350	<b>482</b>	448	486
Calcium	ppm	ASTM D5185m	1800	<b>2040</b>	2163	2247
Phosphorus	ppm	ASTM D5185m	1000	<b>1157</b>	1078	1019
Zinc	ppm	ASTM D5185m	1100	<b>1443</b>	1290	1372
Sulfur	ppm	ASTM D5185m	3500	<b>4870</b>	4367	4542
Oxidation	Abs/.1mm	*ASTM D7414	>25	<b>18.6</b>	18.7	19.2
Base Number (BN)	mg KOH/g	ASTM D2896	9.5	<b>7.9</b>	8.4	8.7
Visc @ 100°C	cSt	ASTM D445	15.3	<b>13.9</b>	14.5	15.1

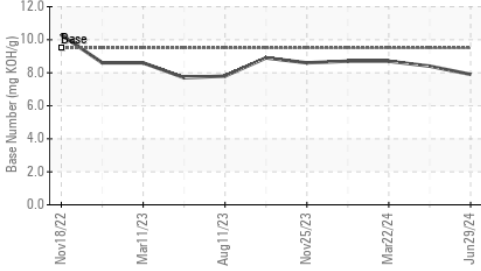
**FT-IR (Direct Trend)**



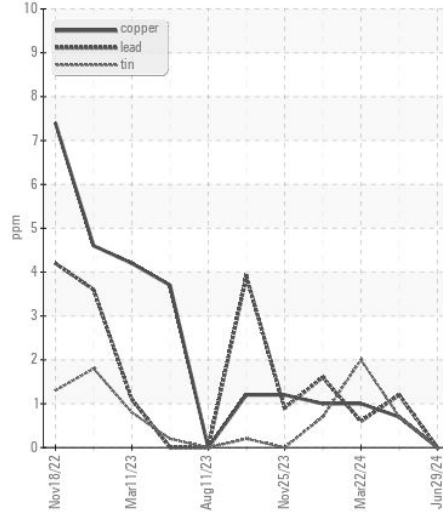
**Ferrous Alloys**



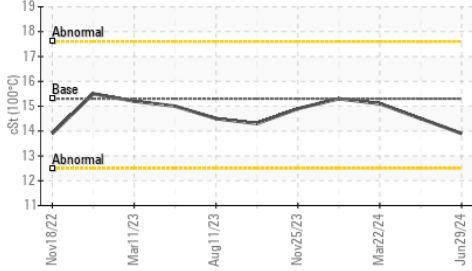
**Base Number**



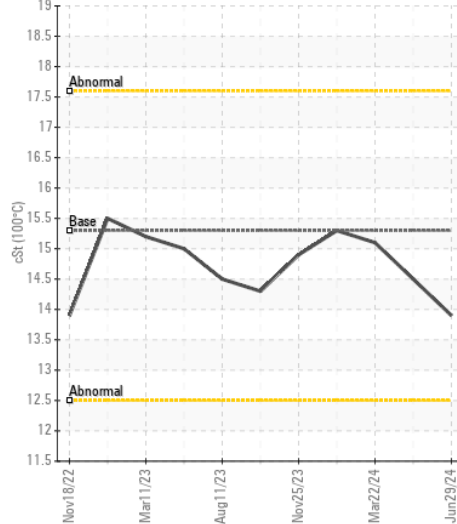
**Non-ferrous Metals**



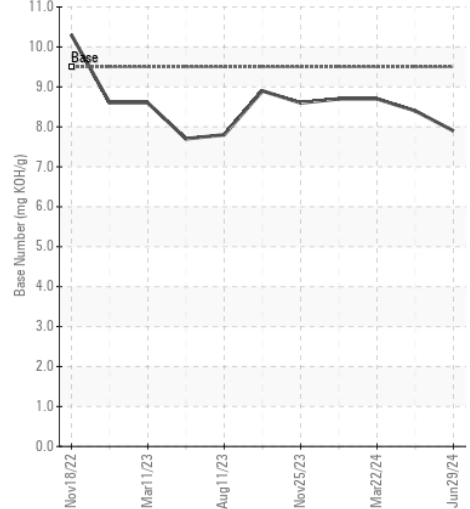
**Viscosity @ 100°C**



**Viscosity @ 100°C**



**Base Number**



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : WC0948358 **Received** : 11 Jul 2024  
**Lab Number** : 06232940 **Tested** : 11 Jul 2024  
**Unique Number** : 11116433 **Diagnosed** : 11 Jul 2024 - Wes Davis  
**Test Package** : CONST ( Additional Tests: TBN )

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 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)