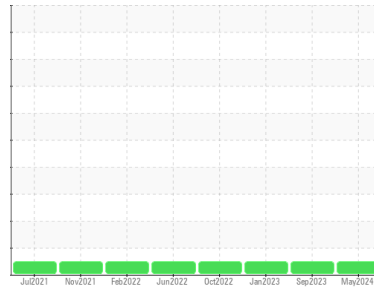




# OIL ANALYSIS REPORT

## Sample Rating Trend



**NORMAL**



Area

[22328]

Machine Id

20-82L

Component

Diesel Engine

Fluid

CONOCO PHILLIPS GUARDOL ECT 15W40 (--- GAL)

### DIAGNOSIS

#### Recommendation

Resample at the next service interval to monitor. ( Customer Sample Comment: Engine was charged a round 2200 hours )

#### 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>WC0940740</b>	WC0818631	WC0754786
Sample Date	Client Info		<b>31 May 2024</b>	13 Sep 2023	23 Jan 2023
Machine Age	hrs	Client Info	<b>3686</b>	674	2116
Oil Age	hrs	Client Info	<b>444</b>	674	326
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
Water	WC Method	>0.2	<b>NEG</b>	NEG	NEG
Glycol	WC Method		<b>NEG</b>	NEG	NEG

### WEAR METALS

	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m >100	<b>23</b>	16	10
Chromium	ppm	ASTM D5185m >20	<b>&lt;1</b>	<1	<1
Nickel	ppm	ASTM D5185m >4	<b>&lt;1</b>	<1	0
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>6</b>	2	3
Lead	ppm	ASTM D5185m >40	<b>0</b>	<1	0
Copper	ppm	ASTM D5185m >330	<b>38</b>	171	2
Tin	ppm	ASTM D5185m >15	<b>&lt;1</b>	<1	0
Vanadium	ppm	ASTM D5185m	<b>&lt;1</b>	0	0
Cadmium	ppm	ASTM D5185m	<b>&lt;1</b>	0	0

### ADDITIVES

	method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m 85	<b>54</b>	24	62
Barium	ppm	ASTM D5185m	<b>0</b>	0	2
Molybdenum	ppm	ASTM D5185m	<b>8</b>	47	17
Manganese	ppm	ASTM D5185m	<b>1</b>	3	<1
Magnesium	ppm	ASTM D5185m 350	<b>813</b>	787	750
Calcium	ppm	ASTM D5185m 1800	<b>1403</b>	1131	1204
Phosphorus	ppm	ASTM D5185m 1000	<b>955</b>	672	973
Zinc	ppm	ASTM D5185m 1100	<b>1222</b>	883	1176
Sulfur	ppm	ASTM D5185m 3500	<b>3723</b>	2319	4001

### CONTAMINANTS

	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m >25	<b>10</b>	20	6
Sodium	ppm	ASTM D5185m	<b>5</b>	6	2
Potassium	ppm	ASTM D5185m >20	<b>4</b>	2	1

### INFRA-RED

	method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844 >3	<b>0.1</b>	0.1	0.1
Nitration	Abs/cm	*ASTM D7624 >20	<b>9.3</b>	10.2	7.5
Sulfation	Abs/.1mm	*ASTM D7415 >30	<b>22.1</b>	21.0	18.6

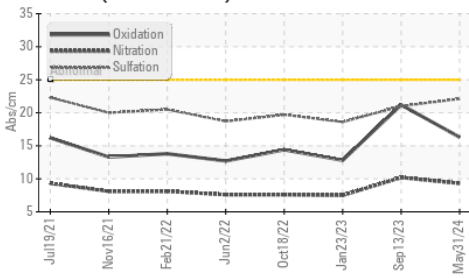
### FLUID DEGRADATION

	method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414 >25	<b>16.3</b>	21.2	12.8
Base Number (BN)	mg KOH/g	ASTM D2896 9.5	<b>5.7</b>	7.2	9.4

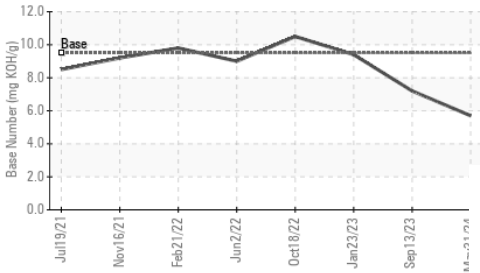


# OIL ANALYSIS REPORT

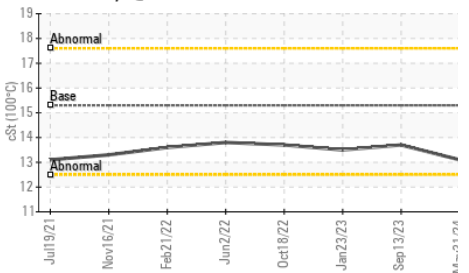
FT-IR (Direct Trend)



Base Number



Viscosity @ 100°C

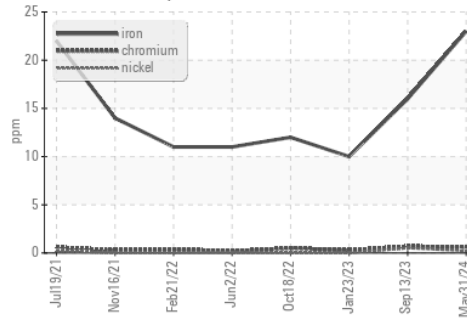


VISUAL	method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE
Appearance	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

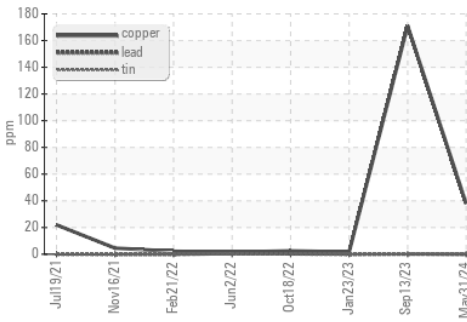
FLUID PROPERTIES	method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	15.3	13.1	13.7

## GRAPHS

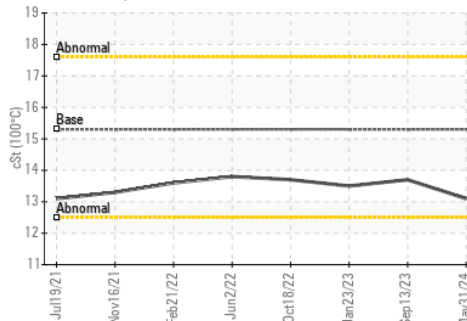
Ferrous Alloys



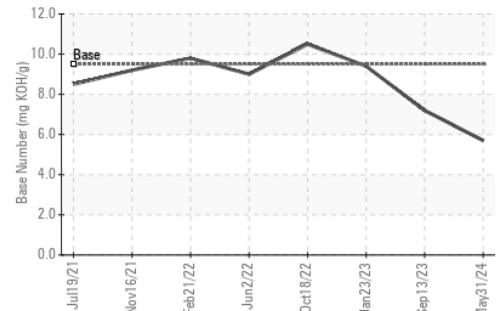
Non-ferrous Metals



Viscosity @ 100°C



Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
 Sample No. : WC0940740 Received : 11 Jun 2024  
 Lab Number : 06207297 Tested : 13 Jun 2024  
 Unique Number : 11074758 Diagnosed : 13 Jun 2024 - Angela Borella  
 Test Package : CONST ( Additional Tests: TBN )

MANHATTAN ROAD AND BRIDGE  
 5601 S 122ND E AVE  
 TULSA, OK  
 US 74146  
 Contact: BEN CALDWELL  
 kevin.marson@wearcheck.com  
 T: (918)728-5749  
 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)