



# OIL ANALYSIS REPORT

WEAR	<b>NORMAL</b>
CONTAMINATION	<b>NORMAL</b>
FLUID CONDITION	<b>NORMAL</b>

Machine Id  
**CRANE CARRIER 172309**  
Component  
**Diesel Engine**  
Fluid  
**DIESEL ENGINE OIL SAE 15W40 (27 QTS)**

## RECOMMENDATION

Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		<b>WC0917982</b>	WC0887350	WC0861056
Sample Date		Client Info		<b>18 Mar 2024</b>	20 Dec 2023	20 Sep 2023
Machine Age	mls	Client Info		<b>93963</b>	90152	86038
Oil Age	mls	Client Info		<b>0</b>	0	3733
Filter Age	mls	Client Info		<b>0</b>	0	3733
Oil Changed		Client Info		<b>N/A</b>	N/A	Changed
Filter Changed		Client Info		<b>N/A</b>	N/A	Changed
Sample Status				<b>NORMAL</b>	NORMAL	NORMAL

## WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>75	<b>37</b>	44	22
Chromium	ppm	ASTM D5185m	>5	<b>2</b>	2	1
Nickel	ppm	ASTM D5185m	>4	<b>0</b>	0	0
Titanium	ppm	ASTM D5185m	>2	<b>&lt;1</b>	0	<1
Silver	ppm	ASTM D5185m	>2	<b>0</b>	0	0
Aluminum	ppm	ASTM D5185m	>15	<b>3</b>	2	0
Lead	ppm	ASTM D5185m	>25	<b>&lt;1</b>	0	<1
Copper	ppm	ASTM D5185m	>100	<b>1</b>	<1	<1
Tin	ppm	ASTM D5185m	>4	<b>0</b>	0	<1
Vanadium	ppm	ASTM D5185m		<b>&lt;1</b>	0	<1
White Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE

## CONTAMINATION

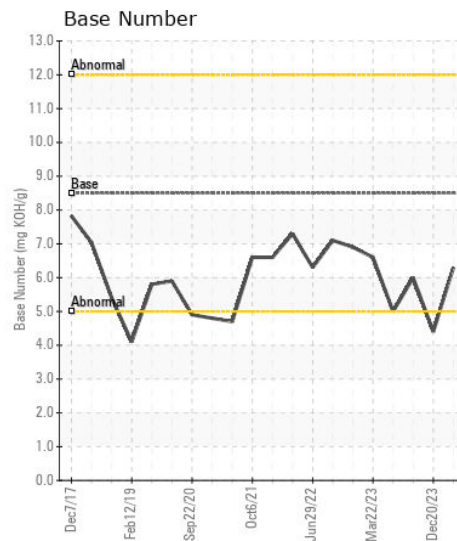
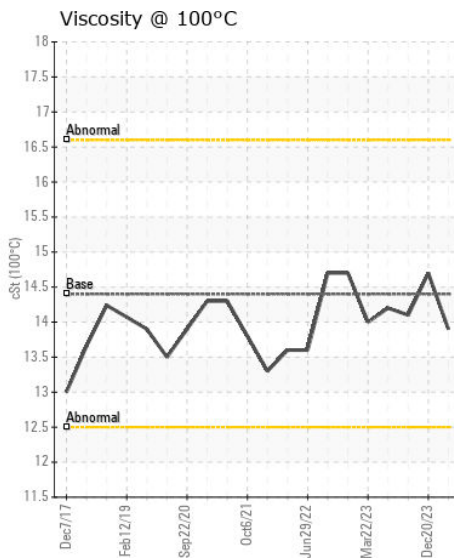
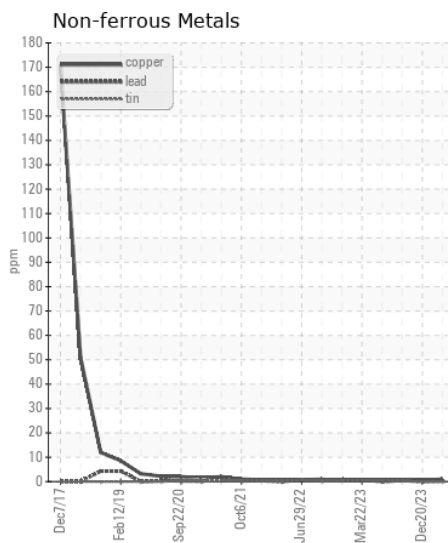
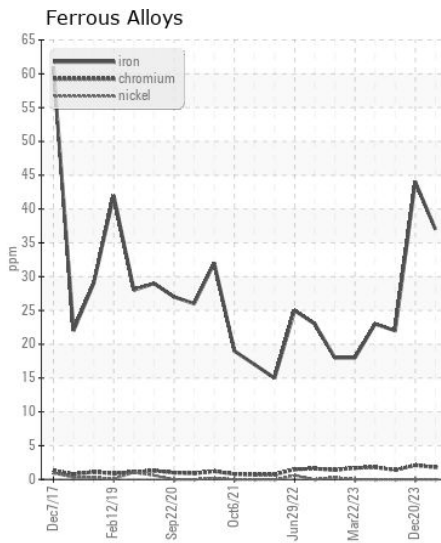
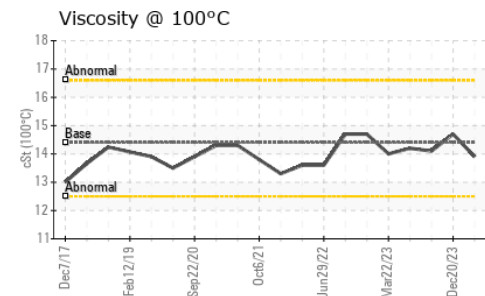
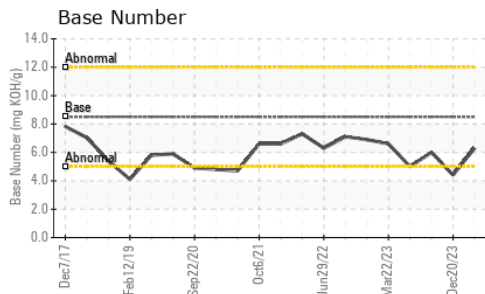
There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185m	>25	<b>5</b>	8	5
Potassium	ppm	ASTM D5185m	>20	<b>&lt;1</b>	0	<1
Fuel		WC Method	>3.0	<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	>6	<b>0.8</b>	1.2	0.9
Nitration	Abs/cm	*ASTM D7624	>20	<b>13.8</b>	16.2	13.4
Sulfation	Abs/.1mm	*ASTM D7415	>30	<b>25.5</b>	29.7	24.5
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	>158	<b>4</b>	7	6
Boron	ppm	ASTM D5185m	250	<b>14</b>	24	24
Barium	ppm	ASTM D5185m	10	<b>0</b>	0	0
Molybdenum	ppm	ASTM D5185m	100	<b>62</b>	48	54
Manganese	ppm	ASTM D5185m		<b>&lt;1</b>	<1	<1
Magnesium	ppm	ASTM D5185m	450	<b>971</b>	811	826
Calcium	ppm	ASTM D5185m	3000	<b>1283</b>	1312	1326
Phosphorus	ppm	ASTM D5185m	1150	<b>1001</b>	706	730
Zinc	ppm	ASTM D5185m	1350	<b>1184</b>	926	930
Sulfur	ppm	ASTM D5185m	4250	<b>3404</b>	2224	2760
Oxidation	Abs/.1mm	*ASTM D7414	>25	<b>25.5</b>	33.3	25.2
Base Number (BN)	mg KOH/g	ASTM D2896	8.5	<b>6.3</b>	4.4	6.0
Visc @ 100°C	cSt	ASTM D445	14.4	<b>13.9</b>	14.7	14.1



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : WC0917982  
**Lab Number** : 06122956  
**Unique Number** : 10937107  
**Test Package** : FLEET  
**Received** : 19 Mar 2024  
**Tested** : 20 Mar 2024  
**Diagnosed** : 21 Mar 2024 - Don Baldrige

**CITY OF GREENSBORO**  
 401 PATTON AVE - BUILDING H  
 GREENSBORO, NC  
 US 27406  
 Contact: JERRY GUNTER  
 jerry.gunter@greensboro-nc.gov

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)

T: x:

F: x: