



# OIL ANALYSIS REPORT

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

Machine Id  
**LIEBHERR 40**  
Component  
**Lower Diesel Engine**  
Fluid  
**SAE 5W40 (--- GAL)**

## RECOMMENDATION

Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		<b>WC0685982</b>	WC0685977	WC0685967
Sample Date		Client Info		<b>25 Feb 2024</b>	04 Oct 2023	05 Sep 2023
Machine Age	hrs	Client Info		<b>10806</b>	3981	10250
Oil Age	hrs	Client Info		<b>0</b>	0	0
Filter Age	hrs	Client Info		<b>0</b>	0	0
Oil Changed		Client Info		<b>Changed</b>	N/A	Changed
Filter Changed		Client Info		<b>Changed</b>	Changed	Changed
Sample Status				<b>NORMAL</b>	---	NORMAL

## WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185(m)	>100	<b>5</b>	32	8
Chromium	ppm	ASTM D5185(m)	>5	<b>0</b>	2	<1
Nickel	ppm	ASTM D5185(m)	>5	<b>&lt;1</b>	<1	0
Titanium	ppm	ASTM D5185(m)		<b>0</b>	0	0
Silver	ppm	ASTM D5185(m)	>3	<b>0</b>	0	<1
Aluminum	ppm	ASTM D5185(m)	>15	<b>2</b>	9	1
Lead	ppm	ASTM D5185(m)	>30	<b>0</b>	1	<1
Copper	ppm	ASTM D5185(m)	>125	<b>&lt;1</b>	3	1
Tin	ppm	ASTM D5185(m)	>5	<b>0</b>	<1	0
Vanadium	ppm	ASTM D5185(m)		<b>0</b>	0	0
White Metal	scalar	Visual*	NONE	<b>NONE</b>	NONE	VLITE
Yellow Metal	scalar	Visual*	NONE	<b>NONE</b>	NONE	NONE

## CONTAMINATION

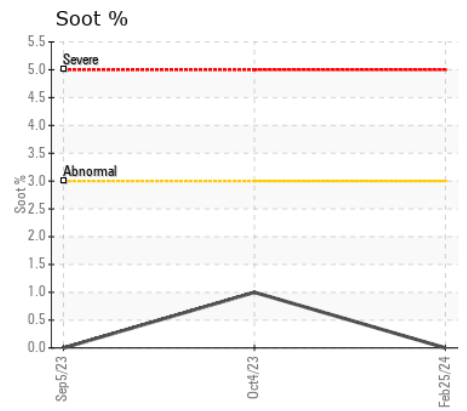
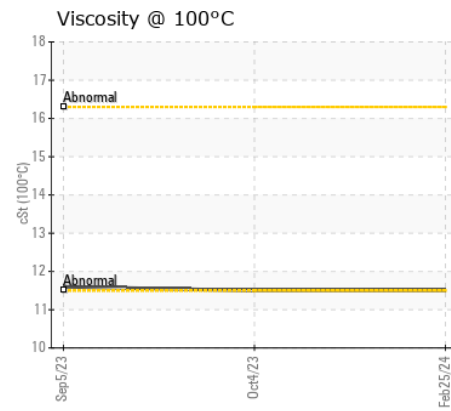
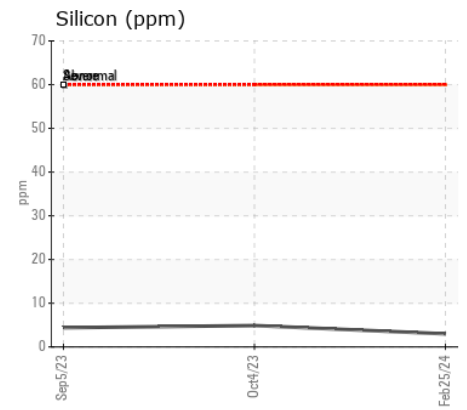
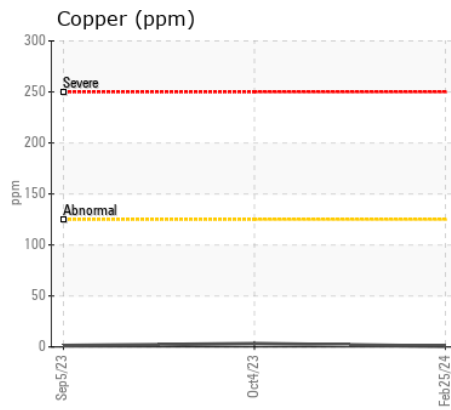
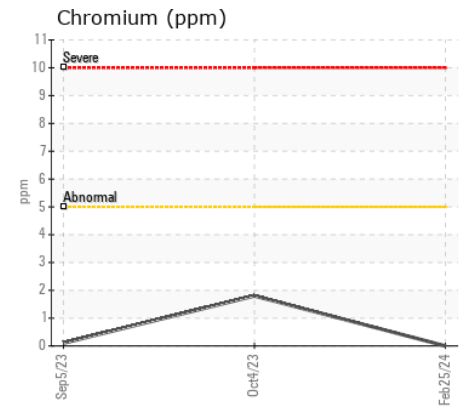
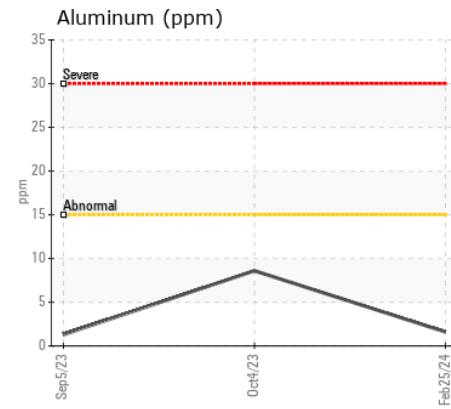
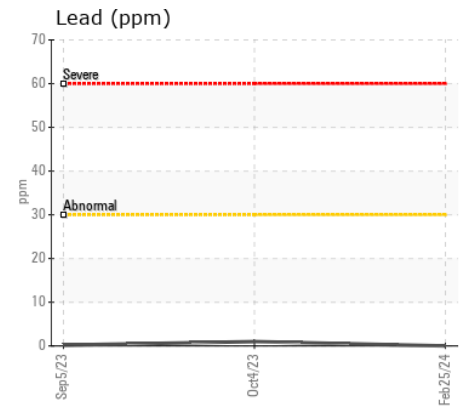
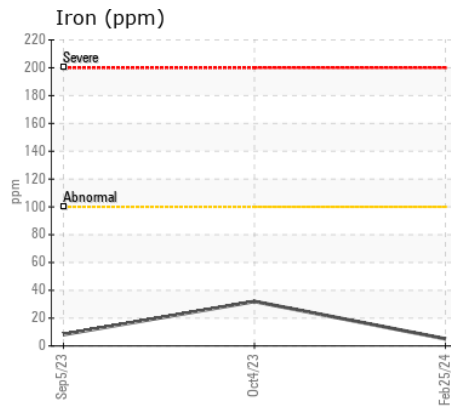
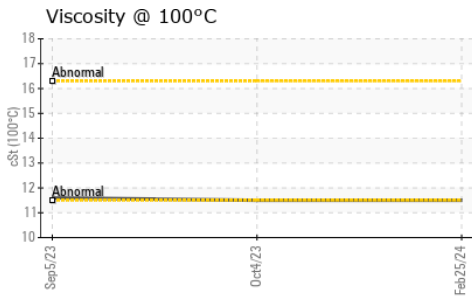
There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185(m)	>60	<b>3</b>	5	4
Potassium	ppm	ASTM D5185(m)	>20	<b>&lt;1</b>	<1	<1
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</b>	1	0
Nitration	Abs/cm	ASTM D7624*	>20	<b>8.4</b>	9.6	9.7
Sulfation	Abs/.1mm	ASTM D7415*	>30	<b>19.6</b>	21.1	20.6
Silt	scalar	Visual*	NONE	<b>NONE</b>	VLITE	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 condition of the oil is acceptable for the time in service.

Sodium	ppm	ASTM D5185(m)		<b>4</b>	5	7
Boron	ppm	ASTM D5185(m)		<b>47</b>	18	32
Barium	ppm	ASTM D5185(m)		<b>0</b>	0	<1
Molybdenum	ppm	ASTM D5185(m)		<b>60</b>	61	61
Manganese	ppm	ASTM D5185(m)		<b>0</b>	0	0
Magnesium	ppm	ASTM D5185(m)		<b>1070</b>	▲ 1064	1105
Calcium	ppm	ASTM D5185(m)		<b>885</b>	▲ 894	869
Phosphorus	ppm	ASTM D5185(m)		<b>1025</b>	1041	1035
Zinc	ppm	ASTM D5185(m)		<b>1175</b>	1193	1234
Sulfur	ppm	ASTM D5185(m)		<b>2979</b>	▲ 3579	2810
Oxidation	Abs/.1mm	ASTM D7414*	>25	<b>17.0</b>	16.9	18.4
Visc @ 100°C	cSt	ASTM D7279(m)		<b>11.5</b>	▲ 11.5	11.6



**Laboratory** : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9  
**Sample No.** : WC0685982 **Received** : 26 Feb 2024  
**Lab Number** : 02617951 **Tested** : 26 Feb 2024  
**Unique Number** : 5735061 **Diagnosed** : 26 Feb 2024 - Wes Davis  
**Test Package** : MOB 1 ( Additional Tests: Visual )

**DeSantis Crane**  
 294 Fifty Rd  
 Stoney Creek, ON  
 CA L8E 5L1  
 Contact: Adam  
 adam@desantiscrane.com

To discuss this sample report, contact Customer Service at 1-800-268-2131.  
 Test denoted (\*) outside scope of accreditation, (m) method modified, (e) tested at external lab.  
 Validity of results and interpretation are based on the sample and information as supplied.

T:  
F: