



# OIL ANALYSIS REPORT

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



Machine Id  
**LIEBHERR A934C-HD-LI C-49 (S/N 045168-1006)**  
Component  
**Diesel Engine**  
Fluid  
**CHEVRON DELO 400 SDE SAE 15W40 (8 GAL)**

## RECOMMENDATION

Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		<b>WC0869360</b>	WC0899811	WC0869371
Sample Date		Client Info		<b>13 Apr 2024</b>	27 Feb 2024	07 Nov 2023
Machine Age	hrs	Client Info		<b>27455</b>	27156	26737
Oil Age	hrs	Client Info		<b>299</b>	1091	325
Filter Age	hrs	Client Info		<b>299</b>	1091	325
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	>66	<b>1</b>	7	7
Chromium	ppm	ASTM D5185m	>4	<b>0</b>	<1	<1
Nickel	ppm	ASTM D5185m	>4	<b>0</b>	0	0
Titanium	ppm	ASTM D5185m		<b>91</b>	98	104
Silver	ppm	ASTM D5185m	>3	<b>0</b>	0	0
Aluminum	ppm	ASTM D5185m	>8	<b>&lt;1</b>	4	3
Lead	ppm	ASTM D5185m	>10	<b>0</b>	<1	0
Copper	ppm	ASTM D5185m	>74	<b>0</b>	<1	<1
Tin	ppm	ASTM D5185m	>4	<b>&lt;1</b>	<1	0
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

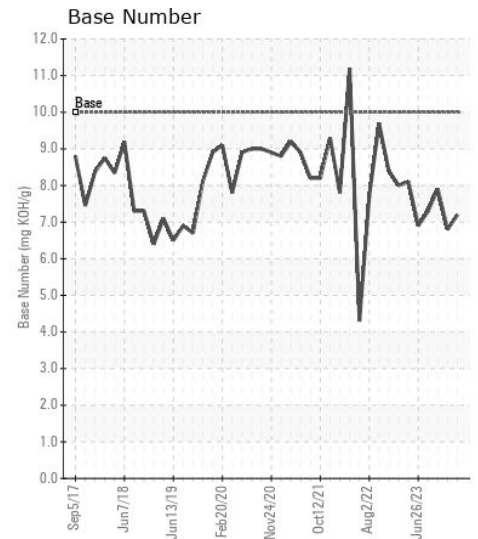
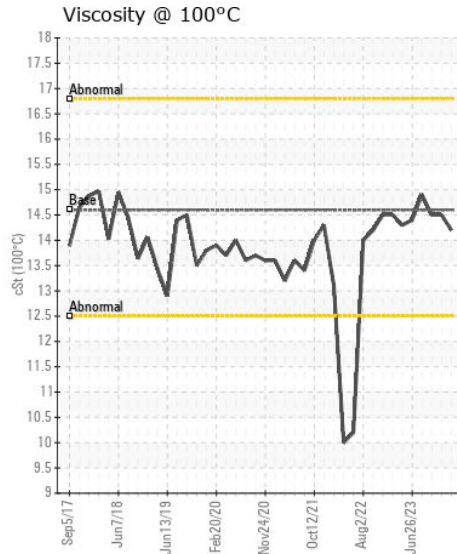
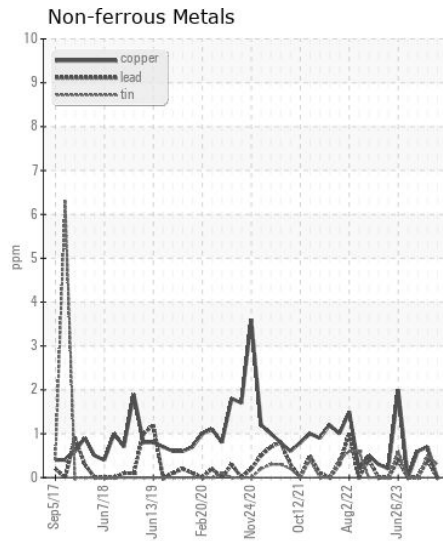
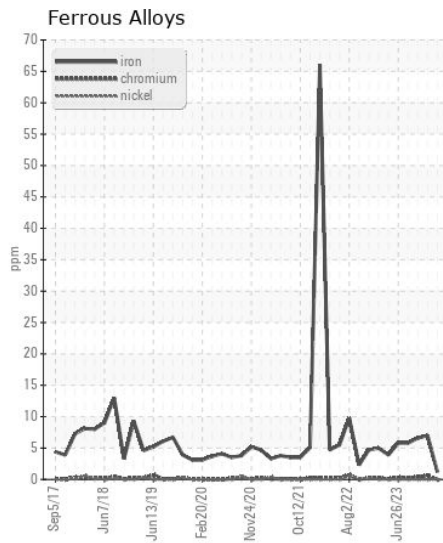
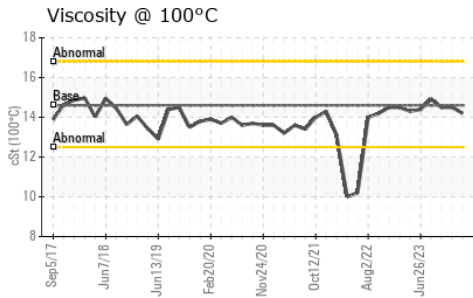
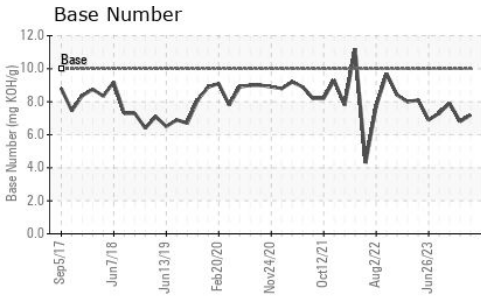
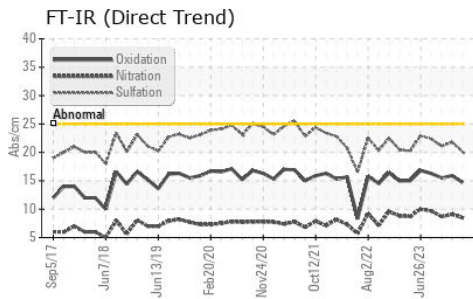
There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185m	>15	<b>7</b>	8	10
Potassium	ppm	ASTM D5185m	>20	<b>5</b>	12	12
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>0.7</b>	0.9	0.9
Nitration	Abs/cm	*ASTM D7624	>20	<b>8.5</b>	9.1	8.7
Sulfation	Abs/.1mm	*ASTM D7415	>30	<b>20.1</b>	21.8	21.1
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>	4	6
Boron	ppm	ASTM D5185m		<b>103</b>	91	104
Barium	ppm	ASTM D5185m		<b>0</b>	0	7
Molybdenum	ppm	ASTM D5185m		<b>0</b>	8	19
Manganese	ppm	ASTM D5185m		<b>0</b>	<1	0
Magnesium	ppm	ASTM D5185m		<b>437</b>	460	695
Calcium	ppm	ASTM D5185m		<b>1941</b>	1926	2245
Phosphorus	ppm	ASTM D5185m	760	<b>1091</b>	1149	1392
Zinc	ppm	ASTM D5185m	800	<b>1272</b>	1360	1657
Sulfur	ppm	ASTM D5185m	3000	<b>4329</b>	4332	5479
Oxidation	Abs/.1mm	*ASTM D7414	>25	<b>14.7</b>	15.9	15.5
Base Number (BN)	mg KOH/g	ASTM D2896	10	<b>7.2</b>	6.8	7.9
Visc @ 100°C	cSt	ASTM D445	14.6	<b>14.2</b>	14.5	14.5



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : WC0869360  
**Lab Number** : 06160096  
**Unique Number** : 10995519  
**Test Package** : CONST ( Additional Tests: TBN )

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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)