



# LIEBHERR

## OIL ANALYSIS REPORT

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



Machine Id  
**123312-1216**  
Component  
**Diesel Engine**  
Fluid  
**DIESEL ENGINE OIL SAE 30 (--- GAL)**

### RECOMMENDATION

Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		<b>LH0289601</b>	LH0270498	LH0251786
Sample Date		Client Info		<b>16 Apr 2024</b>	23 Jul 2023	02 Mar 2023
Machine Age	hrs	Client Info		<b>4318</b>	3278	2683
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>	Changed	Changed
Filter Changed		Client Info		<b>N/A</b>	N/A	N/A
Sample Status				<b>NORMAL</b>	NORMAL	ABNORMAL

### WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185(m)	>66	<b>4</b>	4	30
Chromium	ppm	ASTM D5185(m)	>4	<b>0</b>	<1	<1
Nickel	ppm	ASTM D5185(m)	>4	<b>0</b>	0	<1
Titanium	ppm	ASTM D5185(m)		<b>0</b>	<1	<1
Silver	ppm	ASTM D5185(m)	>3	<b>0</b>	<1	0
Aluminum	ppm	ASTM D5185(m)	>8	<b>&lt;1</b>	1	2
Lead	ppm	ASTM D5185(m)	>10	<b>0</b>	<1	2
Copper	ppm	ASTM D5185(m)	>74	<b>2</b>	4	47
Tin	ppm	ASTM D5185(m)	>4	<b>0</b>	0	<1
Vanadium	ppm	ASTM D5185(m)		<b>0</b>	0	0
White Metal	scalar	Visual*	NONE	<b>NONE</b>	---	VLITE
Yellow Metal	scalar	Visual*	NONE	<b>NONE</b>	---	NONE

### CONTAMINATION

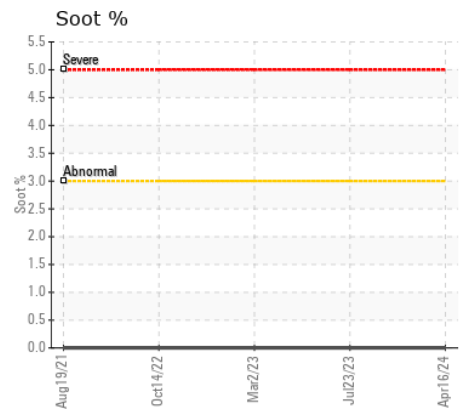
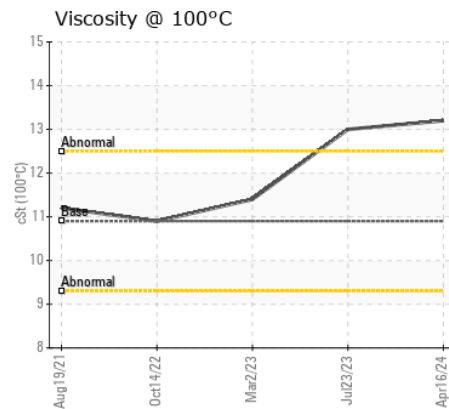
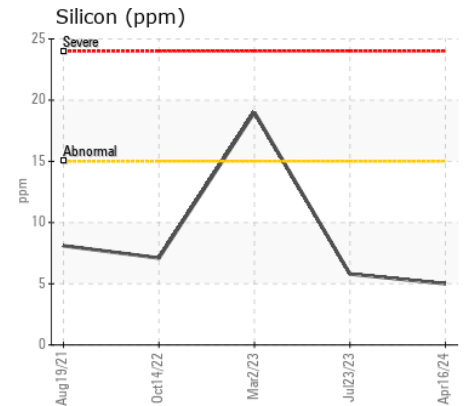
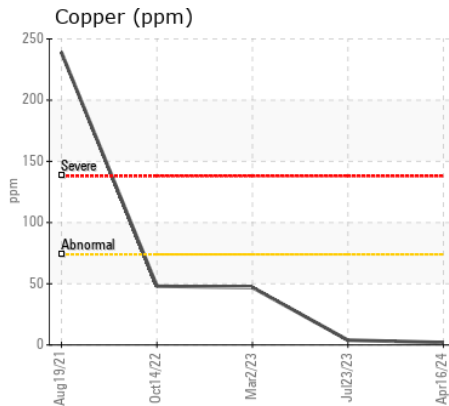
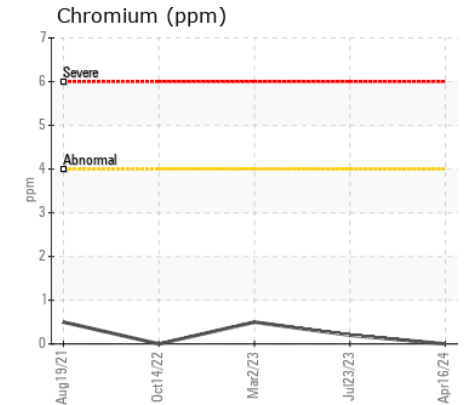
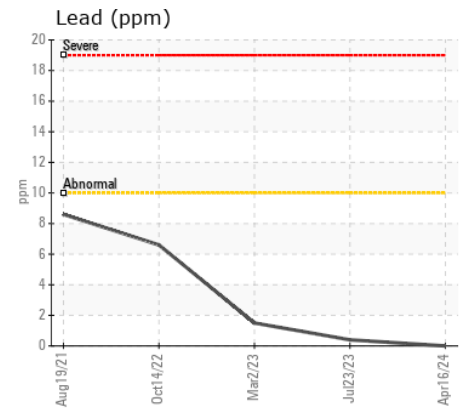
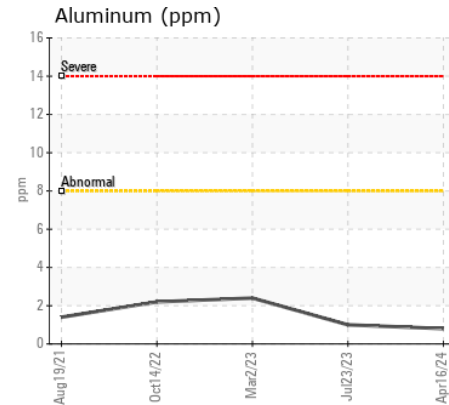
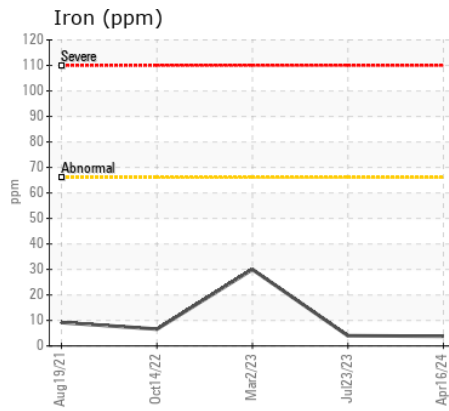
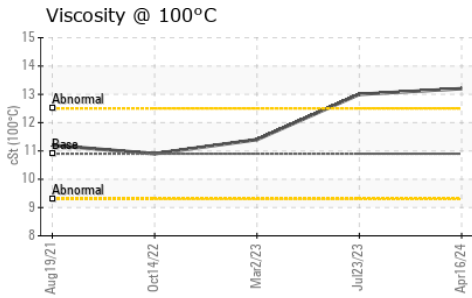
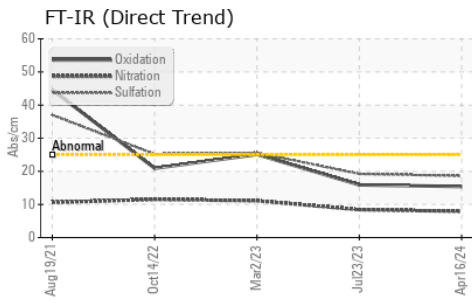
There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185(m)	>15	<b>5</b>	6	▲ 19
Potassium	ppm	ASTM D5185(m)	>20	<b>0</b>	<1	2
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>	0	0
Nitration	Abs/cm	ASTM D7624*	>20	<b>7.9</b>	8.4	11.1
Sulfation	Abs/.1mm	ASTM D7415*	>30	<b>18.6</b>	19.2	25.6
Silt	scalar	Visual*	NONE	<b>VLITE</b>	---	NONE
Debris	scalar	Visual*	NONE	<b>VLITE</b>	---	NONE
Sand/Dirt	scalar	Visual*	NONE	<b>NONE</b>	---	VLITE
Appearance	scalar	Visual*	NORML	<b>NORML</b>	---	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)	>75	<b>1</b>	2	6
Boron	ppm	ASTM D5185(m)	250	<b>2</b>	4	23
Barium	ppm	ASTM D5185(m)	10	<b>&lt;1</b>	<1	<1
Molybdenum	ppm	ASTM D5185(m)	100	<b>57</b>	58	62
Manganese	ppm	ASTM D5185(m)		<b>0</b>	<1	<1
Magnesium	ppm	ASTM D5185(m)	450	<b>969</b>	978	1182
Calcium	ppm	ASTM D5185(m)	3000	<b>1089</b>	1056	1027
Phosphorus	ppm	ASTM D5185(m)	1150	<b>990</b>	1061	1118
Zinc	ppm	ASTM D5185(m)	1350	<b>1185</b>	1191	1292
Sulfur	ppm	ASTM D5185(m)	4250	<b>2586</b>	2598	2584
Oxidation	Abs/.1mm	ASTM D7414*	>25	<b>15.4</b>	15.9	25.1
Visc @ 100°C	cSt	ASTM D7279(m)	10.9	<b>13.2</b>	13.0	11.4



**Laboratory** : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9  
**Sample No.** : LH0289601 **Received** : 17 Apr 2024  
**Lab Number** : 02629504 **Tested** : 17 Apr 2024  
**Unique Number** : 5762636 **Diagnosed** : 17 Apr 2024 - Wes Davis  
**Test Package** : MOB 1 ( Additional Tests: Visual )

**American Iron and Metal**  
 3518 DAVIS DRIVE  
 EAST GWILLIMBURY, ON  
 CA L0G 1E0  
 Contact: Service Manager

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.

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