



# LIEBHERR

## OIL ANALYSIS REPORT

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



Machine Id  
**LIEBHERR HS895 188244**  
Component  
**Diesel Engine**  
Fluid  
**PETRO CANADA 10W40 (44 LTR)**

### RECOMMENDATION

Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		<b>LH0289546</b>	LH0278947	LH0281367
Sample Date		Client Info		<b>10 May 2024</b>	06 Jan 2024	21 Dec 2023
Machine Age	hrs	Client Info		<b>21278</b>	20588	20240
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	N/A
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)	>100	<b>16</b>	15	38
Chromium	ppm	ASTM D5185(m)	>5	<b>&lt;1</b>	<1	1
Nickel	ppm	ASTM D5185(m)	>5	<b>&lt;1</b>	<1	<1
Titanium	ppm	ASTM D5185(m)		<b>0</b>	0	0
Silver	ppm	ASTM D5185(m)	>3	<b>0</b>	0	0
Aluminum	ppm	ASTM D5185(m)	>15	<b>3</b>	4	3
Lead	ppm	ASTM D5185(m)	>30	<b>3</b>	2	4
Copper	ppm	ASTM D5185(m)	>125	<b>4</b>	4	125
Tin	ppm	ASTM D5185(m)	>5	<b>&lt;1</b>	<1	<1
Vanadium	ppm	ASTM D5185(m)		<b>0</b>	0	0
White Metal	scalar	Visual*	NONE	<b>NONE</b>	---	---
Yellow Metal	scalar	Visual*	NONE	<b>NONE</b>	---	---

### CONTAMINATION

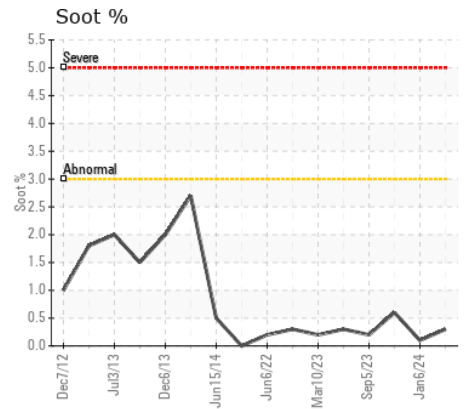
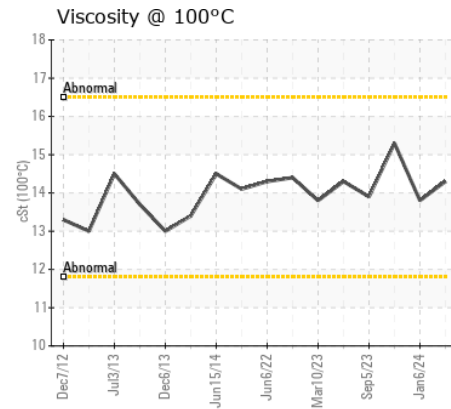
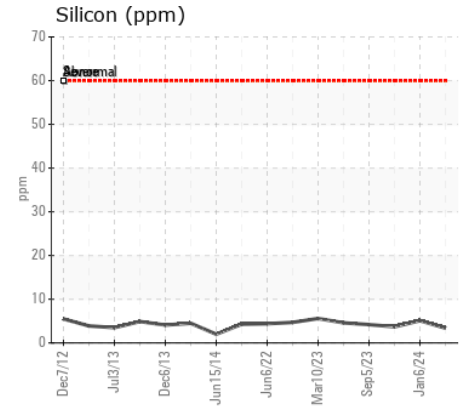
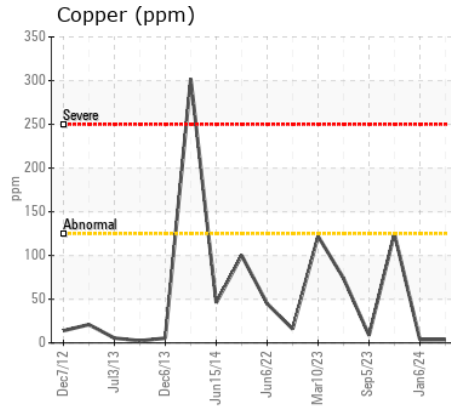
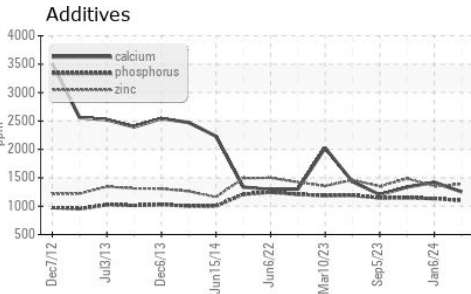
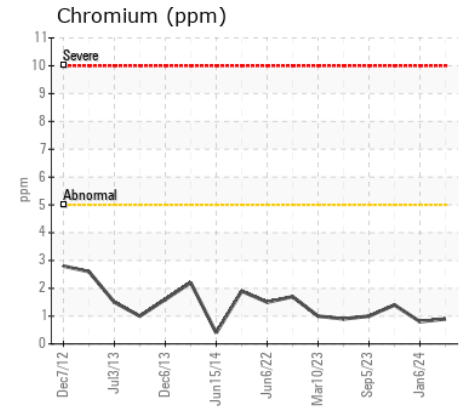
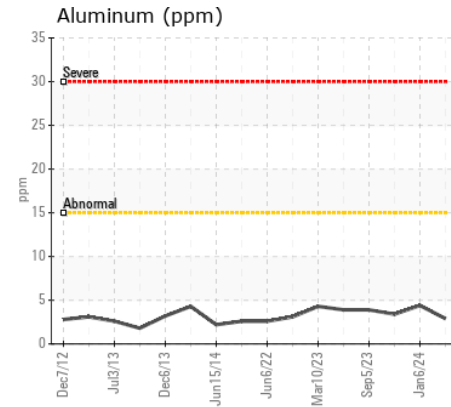
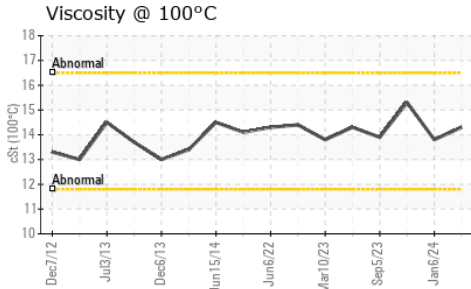
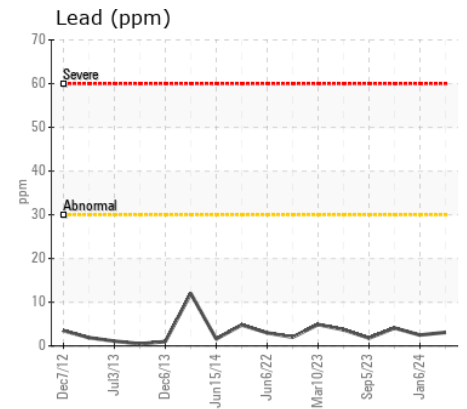
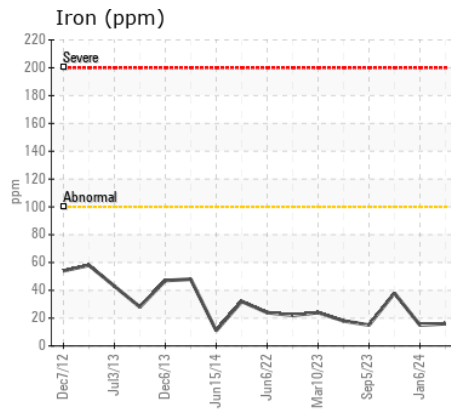
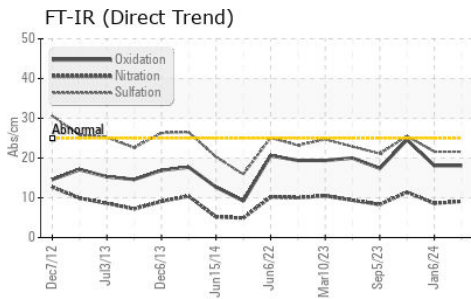
There is no indication of any contamination in the oil.

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>0.3</b>	0.1	0.6
Nitration	Abs/cm	ASTM D7624*	>20	<b>9.1</b>	8.6	11.4
Sulfation	Abs/.1mm	ASTM D7415*	>30	<b>21.6</b>	21.6	25.5
Silt	scalar	Visual*	NONE	<b>NONE</b>	---	---
Debris	scalar	Visual*	NONE	<b>NONE</b>	---	---
Sand/Dirt	scalar	Visual*	NONE	<b>NONE</b>	---	---
Appearance	scalar	Visual*	NORML	<b>NORML</b>	---	---
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)	>20	<b>2</b>	2	2
Boron	ppm	ASTM D5185(m)		<b>4</b>	47	4
Barium	ppm	ASTM D5185(m)		<b>&lt;1</b>	0	0
Molybdenum	ppm	ASTM D5185(m)		<b>66</b>	66	74
Manganese	ppm	ASTM D5185(m)		<b>&lt;1</b>	0	0
Magnesium	ppm	ASTM D5185(m)		<b>1089</b>	955	1211
Calcium	ppm	ASTM D5185(m)		<b>1252</b>	1421	1336
Phosphorus	ppm	ASTM D5185(m)		<b>1099</b>	1133	1149
Zinc	ppm	ASTM D5185(m)		<b>1389</b>	1354	1484
Sulfur	ppm	ASTM D5185(m)		<b>2694</b>	2982	2607
Oxidation	Abs/.1mm	ASTM D7414*	>25	<b>18.1</b>	18.1	24.6
Visc @ 100°C	cSt	ASTM D7279(m)		<b>14.3</b>	13.8	▲ 15.3



**Laboratory** : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9  
**Sample No.** : LH0289546 **Received** : 26 Jun 2024  
**Lab Number** : 02644109 **Tested** : 26 Jun 2024  
**Unique Number** : 5801648 **Diagnosed** : 26 Jun 2024 - Wes Davis  
**Test Package** : MOB 1 ( Additional Tests: Visual )

**HIGGS & HIGGS**  
 RR # 4  
 ST THOMAS, ON  
 CA N5P 3S8  
 Contact: Bernie Higgs

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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