



# LIEBHERR

## OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	ATTENTION



Machine Id  
**LIEBHERR HS8100 184947**  
Component  
**Diesel Engine**  
Fluid  
**PETRO CANADA SUPREME 5W30 (99 GAL)**

### RECOMMENDATION

Check for low coolant level. The oil change at the time of sampling has been noted. We recommend an early resample to monitor this condition.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		<b>LH0296504</b>	LH0278870	LH0239507
Sample Date		Client Info		<b>01 Jul 2024</b>	26 Jan 2024	05 May 2023
Machine Age	hrs	Client Info		<b>0</b>	15056	13236
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>ATTENTION</b>	ATTENTION	ATTENTION

### WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185(m)	>100	<b>9</b>	10	17
Chromium	ppm	ASTM D5185(m)	>5	<b>&lt;1</b>	<1	1
Nickel	ppm	ASTM D5185(m)	>5	<b>&lt;1</b>	0	<1
Titanium	ppm	ASTM D5185(m)		<b>&lt;1</b>	0	<1
Silver	ppm	ASTM D5185(m)	>3	<b>&lt;1</b>	<1	0
Aluminum	ppm	ASTM D5185(m)	>15	<b>1</b>	1	2
Lead	ppm	ASTM D5185(m)	>30	<b>&lt;1</b>	<1	<1
Copper	ppm	ASTM D5185(m)	>125	<b>2</b>	1	2
Tin	ppm	ASTM D5185(m)	>5	<b>0</b>	0	<1
Vanadium	ppm	ASTM D5185(m)		<b>0</b>	0	0

### CONTAMINATION

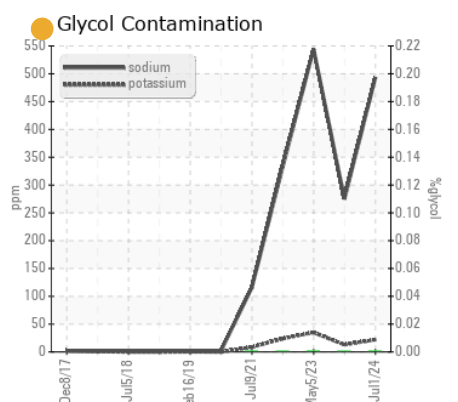
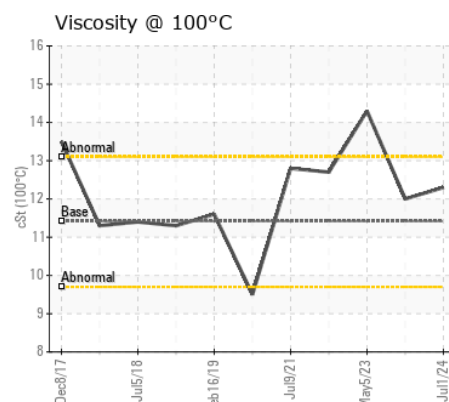
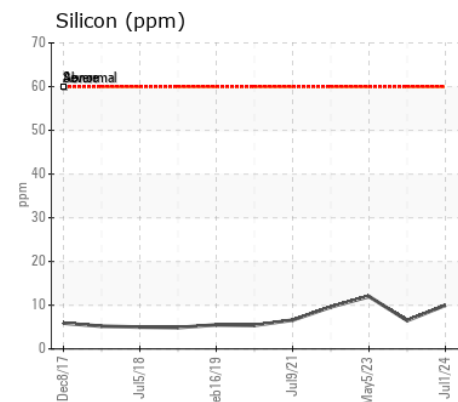
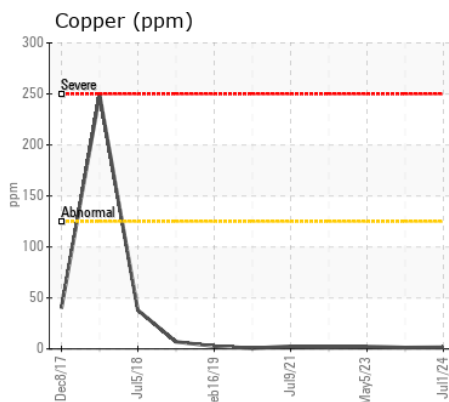
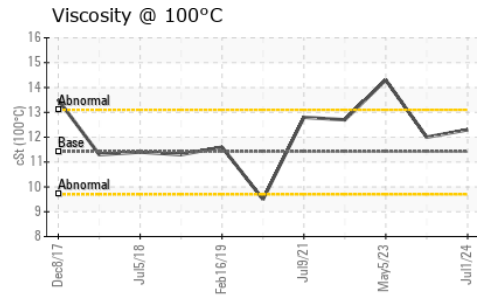
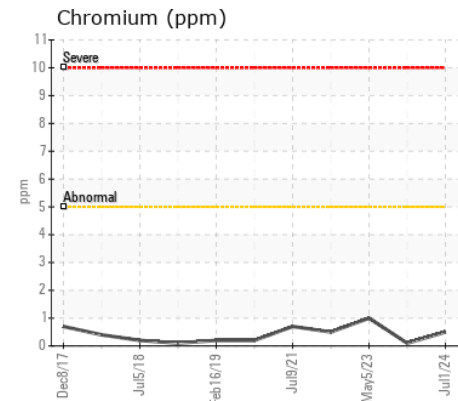
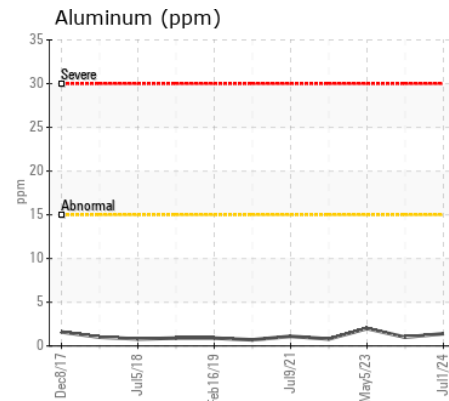
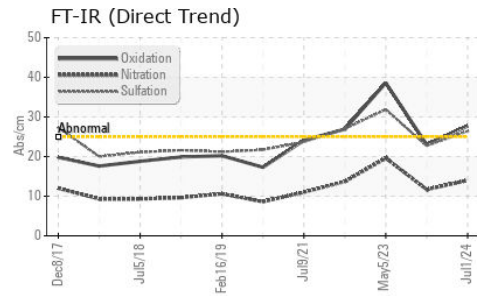
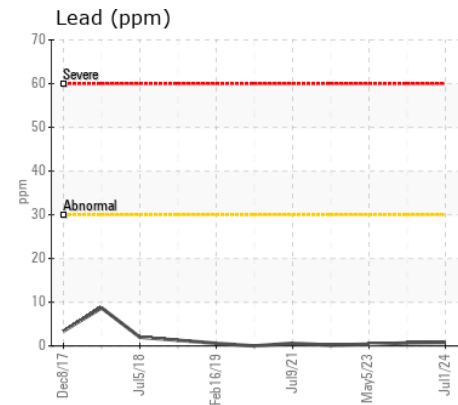
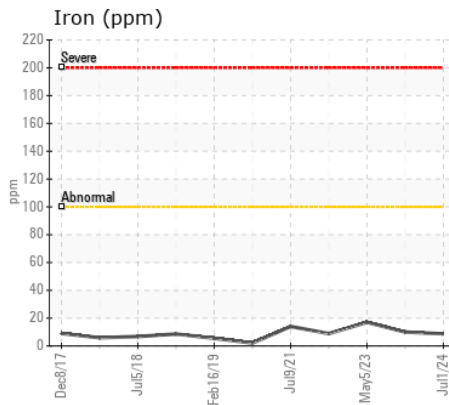
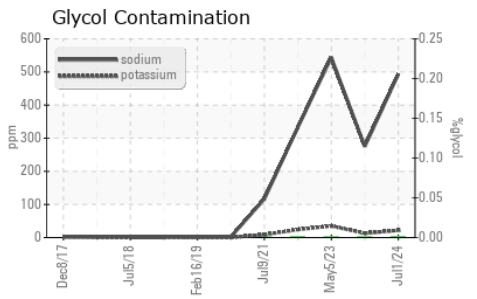
Water treatment chemicals present, indicating slow coolant leak. Test for glycol is negative. There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185(m)	>60	<b>10</b>	6	12
Potassium	ppm	ASTM D5185(m)	>20	<b>22</b>	13	35
Fuel		WC Method	>5	<b>&lt;1.0</b>	<1.0	<1.0
Water		WC Method	>0.2	<b>NEG</b>	NEG	NEG
Glycol	%	ASTM D7922*		<b>0.0</b>	0.0	0.0
Soot %	%	ASTM D7844*	>3	<b>0</b>	0	0
Nitration	Abs/cm	ASTM D7624*	>20	<b>14.0</b>	11.7	19.6
Sulfation	Abs/.1mm	ASTM D7415*	>30	<b>26.4</b>	22.7	31.9
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 (see recommendation).

Sodium	ppm	ASTM D5185(m)		<b>493</b>	275	544
Boron	ppm	ASTM D5185(m)	186	<b>12</b>	17	21
Barium	ppm	ASTM D5185(m)	<1	<b>&lt;1</b>	0	0
Molybdenum	ppm	ASTM D5185(m)	79	<b>89</b>	70	70
Manganese	ppm	ASTM D5185(m)	0	<b>&lt;1</b>	0	<1
Magnesium	ppm	ASTM D5185(m)	578	<b>1087</b>	1086	1154
Calcium	ppm	ASTM D5185(m)	1002	<b>824</b>	817	916
Phosphorus	ppm	ASTM D5185(m)	745	<b>928</b>	957	1095
Zinc	ppm	ASTM D5185(m)	837	<b>1208</b>	1169	1262
Sulfur	ppm	ASTM D5185(m)	2502	<b>2643</b>	3190	2688
Oxidation	Abs/.1mm	ASTM D7414*	>25	<b>27.7</b>	23.0	38.6
Visc @ 100°C	cSt	ASTM D7279(m)	11.42	<b>12.3</b>	12.0	14.3



**Laboratory** : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9  
**Sample No.** : LH0296504  
**Lab Number** : 02644781  
**Unique Number** : 5802320  
**Test Package** : MOB 1 ( Additional Tests: Glycol )  
**Received** : 02 Jul 2024  
**Tested** : 02 Jul 2024  
**Diagnosed** : 02 Jul 2024 - Kevin Marson

**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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