



# LIEBHERR

## OIL ANALYSIS REPORT

WEAR  
CONTAMINATION  
FLUID CONDITION

**SEVERE**

**NORMAL**

**NORMAL**



Area  
**[593756]**  
Machine Id  
**LIEBHERR HS8100 184996**  
Component  
**2 Winch**  
Fluid  
**PETRO CANADA TRAXON 75W90 SYNTHETIC (--- GAL)**

### RECOMMENDATION

We recommend that you drain the oil from the component if this has not already been done. We recommend an early resample to monitor this condition.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		<b>LH0284987</b>	LH0261252	LH0239655
Sample Date		Client Info		<b>26 Jan 2024</b>	04 May 2023	29 Jul 2022
Machine Age	hrs	Client Info		<b>12043</b>	10190	8773
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>N/A</b>	Changed	Changed
Filter Changed		Client Info		<b>N/A</b>	N/A	N/A
Sample Status				<b>SEVERE</b>	SEVERE	NORMAL

### WEAR

Copper and tin ppm levels are severe. Iron ppm levels are abnormal.

PQ		ASTM D8184*		<b>63</b>	8	---
Iron	ppm	ASTM D5185(m)	>150	<b>▲ 625</b>	▲ 1443	6
Chromium	ppm	ASTM D5185(m)	>10	<b>5</b>	▲ 19	0
Nickel	ppm	ASTM D5185(m)	>10	<b>2</b>	▲ 7	0
Titanium	ppm	ASTM D5185(m)		<b>0</b>	<1	0
Silver	ppm	ASTM D5185(m)		<b>0</b>	0	<1
Aluminum	ppm	ASTM D5185(m)	>5	<b>2</b>	2	<1
Lead	ppm	ASTM D5185(m)	>15	<b>6</b>	3	<1
Copper	ppm	ASTM D5185(m)	>80	<b>▲ 217</b>	▲ 96	2
Tin	ppm	ASTM D5185(m)		<b>▲ 18</b>	6	0
Vanadium	ppm	ASTM D5185(m)		<b>0</b>	0	0
White Metal	scalar	Visual*	NONE	<b>LIGHT</b>	NONE	NONE
Yellow Metal	scalar	Visual*	NONE	<b>NONE</b>	NONE	NONE

### CONTAMINATION

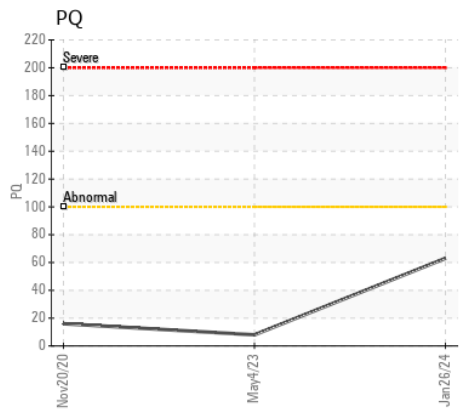
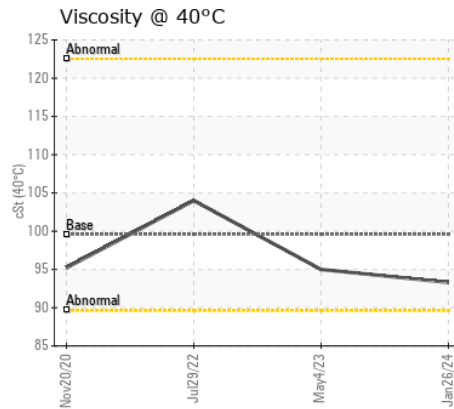
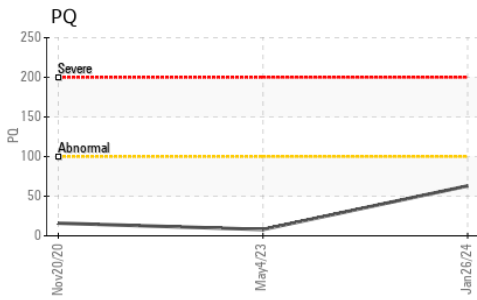
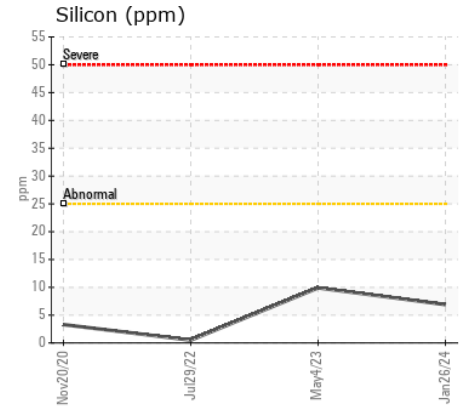
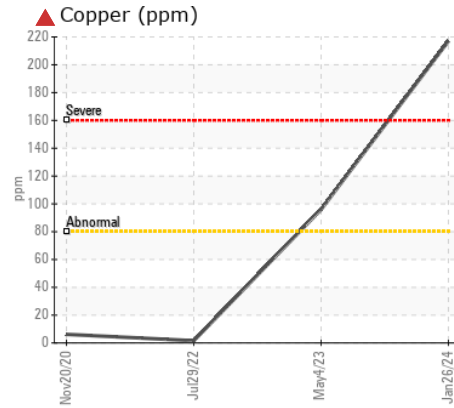
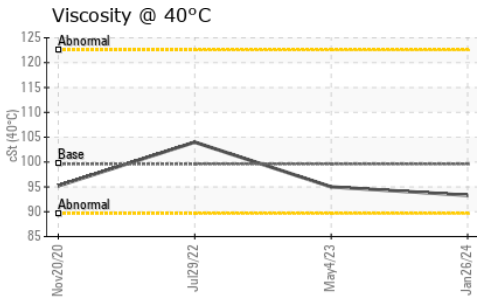
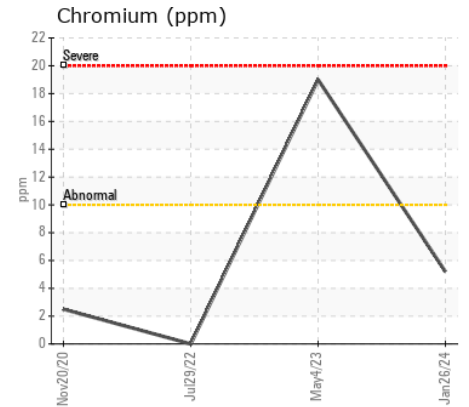
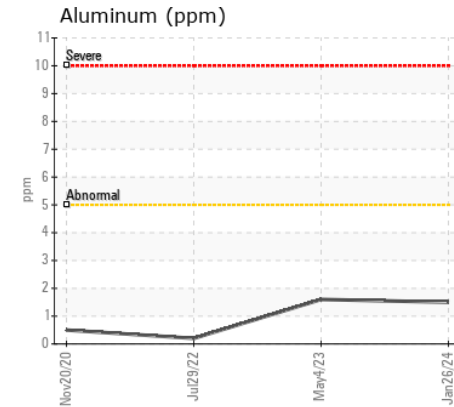
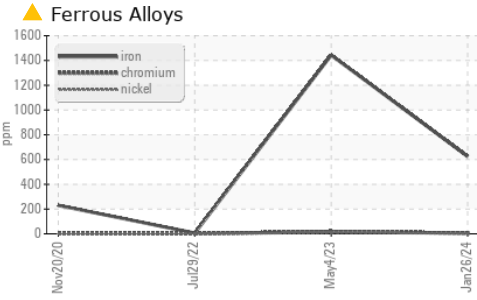
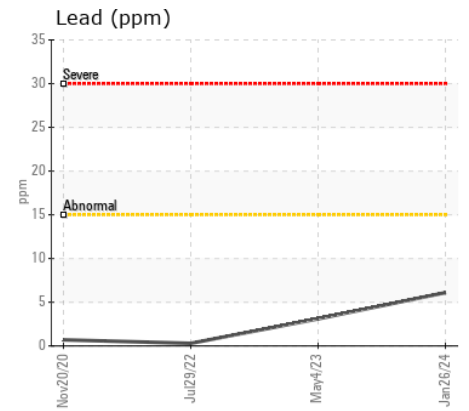
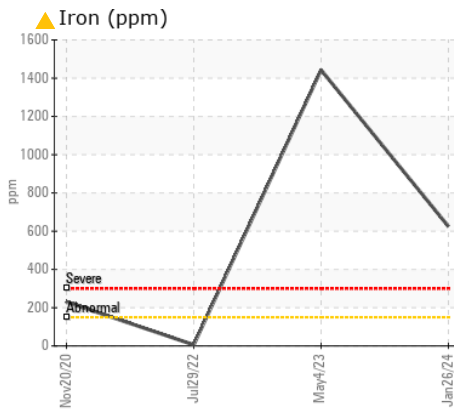
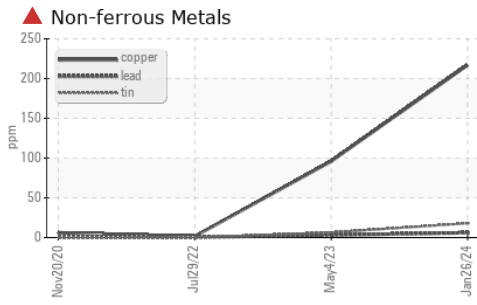
There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185(m)	>25	<b>7</b>	10	<1
Potassium	ppm	ASTM D5185(m)	>20	<b>&lt;1</b>	1	<1
Water		WC Method	>0.2	<b>NEG</b>	NEG	NEG
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>	▲ LAYRD	NORML
Odor	scalar	Visual*	NORML	<b>NORML</b>	NORML	NORML
Emulsified Water	scalar	Visual*	>0.2	<b>NEG</b>	▲ .2%	NEG

### FLUID CONDITION

The oil is no longer serviceable as a result of the abnormal and/or severe wear.

Sodium	ppm	ASTM D5185(m)		<b>&lt;1</b>	1	1
Boron	ppm	ASTM D5185(m)	328	<b>152</b>	194	302
Barium	ppm	ASTM D5185(m)	1	<b>0</b>	0	0
Molybdenum	ppm	ASTM D5185(m)		<b>0</b>	<1	0
Manganese	ppm	ASTM D5185(m)		<b>5</b>	11	0
Magnesium	ppm	ASTM D5185(m)	1	<b>3</b>	2	1
Calcium	ppm	ASTM D5185(m)	7	<b>19</b>	14	8
Phosphorus	ppm	ASTM D5185(m)	1145	<b>1110</b>	1302	1198
Zinc	ppm	ASTM D5185(m)	3	<b>81</b>	211	25
Sulfur	ppm	ASTM D5185(m)	17909	<b>19341</b>	20355	20600
Visc @ 40°C	cSt	ASTM D7279(m)	99.6	<b>93.3</b>	95.0	104



**Laboratory** : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9  
**Sample No.** : LH0284987 **Received** : 05 Mar 2024  
**Lab Number** : 02619994 **Tested** : 05 Mar 2024  
**Unique Number** : 5737104 **Diagnosed** : 06 Mar 2024 - Kevin Marson  
**Test Package** : MOB 1 ( Additional Tests: PQ )

**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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