



# LIEBHERR

## OIL ANALYSIS REPORT

WEAR  
CONTAMINATION  
FLUID CONDITION

SEVERE

SEVERE

NORMAL



Machine Id  
**LIEBHERR LH60 142206**

Component  
**Left Final Drive**

Fluid  
**PETRO CANADA TRAXON SYNTHETIC 75W90 (--- GAL)**

### RECOMMENDATION

We advise that you check all areas where dirt can enter the system. The oil change at the time of sampling has been noted. Confirm the source of the lubricant being utilized for top-up/fill. We recommend an early resample to monitor this condition.

### WEAR

Iron ppm levels are severe. PQ levels are abnormal. Nickel and lead and chromium ppm levels are abnormal. Aluminum ppm levels are noted. Titanium ppm levels are marginal. Gear wear is indicated. Bearing and/or bushing wear is indicated. The high ferrous density (PQ) index indicates that abnormal wear is occurring.

### CONTAMINATION

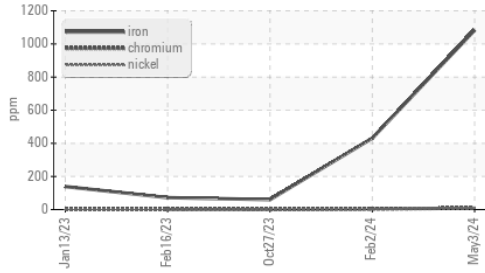
There is a trace of moisture present in the oil. Elemental levels of silicon (Si) and aluminum (Al) indicate alumina-silicate (coarse dirt) ingress. High amount of ingressed dirt has caused abrasive wear to the component.

### FLUID CONDITION

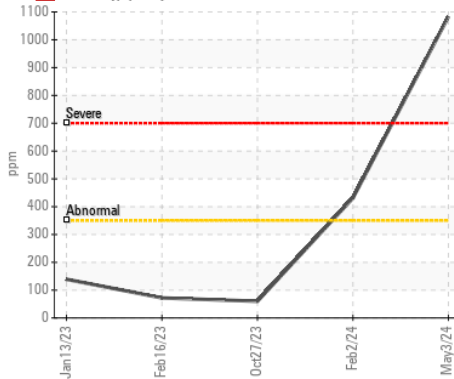
Additive levels indicate the addition of a different brand, or type of oil. The oil is no longer serviceable as a result of the abnormal and/or severe wear.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		<b>LH0286865</b>	LH0277433	LH0237724
Sample Date		Client Info		<b>03 May 2024</b>	02 Feb 2024	27 Oct 2023
Machine Age	hrs	Client Info		<b>2984</b>	2490	1995
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>	Not Changed	Changed
Filter Changed		Client Info		<b>N/A</b>	N/A	Not Changed
Sample Status				<b>SEVERE</b>	SEVERE	NORMAL
PQ		ASTM D8184*		<b>▲ 488</b>	190	---
Iron	ppm	ASTM D5185(m)	>350	<b>▲ 1083</b>	▲ 431	60
Chromium	ppm	ASTM D5185(m)	>5	<b>▲ 9</b>	4	<1
Nickel	ppm	ASTM D5185(m)	>5	<b>▲ 5</b>	3	<1
Titanium	ppm	ASTM D5185(m)		<b>▲ 15</b>	6	0
Silver	ppm	ASTM D5185(m)		<b>0</b>	0	<1
Aluminum	ppm	ASTM D5185(m)	>10	<b>● 213</b>	● 91	8
Lead	ppm	ASTM D5185(m)	>10	<b>▲ 10</b>	5	1
Copper	ppm	ASTM D5185(m)	>125	<b>61</b>	22	12
Tin	ppm	ASTM D5185(m)	>10	<b>5</b>	2	<1
Vanadium	ppm	ASTM D5185(m)		<b>&lt;1</b>	0	0
White Metal	scalar	Visual*	NONE	<b>VLITE</b>	VLITE	NONE
Yellow Metal	scalar	Visual*	NONE	<b>NONE</b>	NONE	NONE
Silicon	ppm	ASTM D5185(m)	>45	<b>▲ 656</b>	▲ 276	25
Potassium	ppm	ASTM D5185(m)	>20	<b>83</b>	39	2
Water	%	ASTM D6304*	>0.2	<b>▲ 0.184</b>	---	---
ppm Water	ppm	ASTM D6304*	>2000	<b>▲ 1841</b>	---	---
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>▲ .2%</b>	NEG	NEG
Sodium	ppm	ASTM D5185(m)		<b>28</b>	13	3
Boron	ppm	ASTM D5185(m)	328	<b>28</b>	26	48
Barium	ppm	ASTM D5185(m)	1	<b>5</b>	2	2
Molybdenum	ppm	ASTM D5185(m)		<b>0</b>	0	0
Manganese	ppm	ASTM D5185(m)		<b>11</b>	5	<1
Magnesium	ppm	ASTM D5185(m)	1	<b>123</b>	● 53	4
Calcium	ppm	ASTM D5185(m)	7	<b>1027</b>	● 430	43
Phosphorus	ppm	ASTM D5185(m)	1145	<b>873</b>	● 858	2056
Zinc	ppm	ASTM D5185(m)	3	<b>41</b>	19	13
Sulfur	ppm	ASTM D5185(m)	17909	<b>20869</b>	20163	24384
Visc @ 40°C	cSt	ASTM D7279(m)	99.6	<b>104</b>	96.7	153

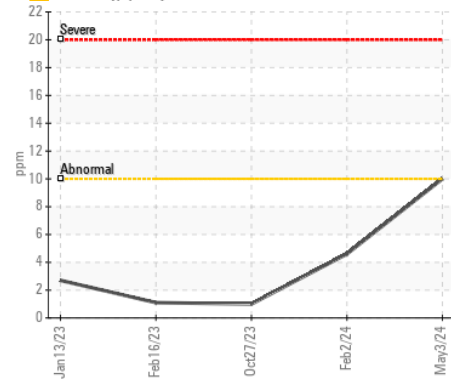
▲ Ferrous Alloys



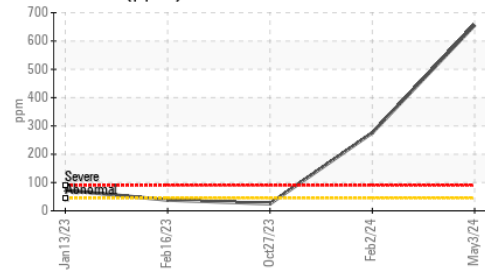
▲ Iron (ppm)



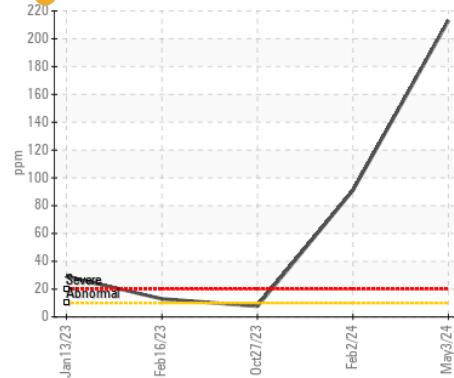
▲ Lead (ppm)



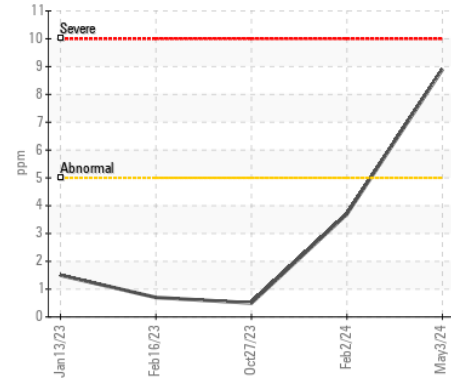
▲ Silicon (ppm)



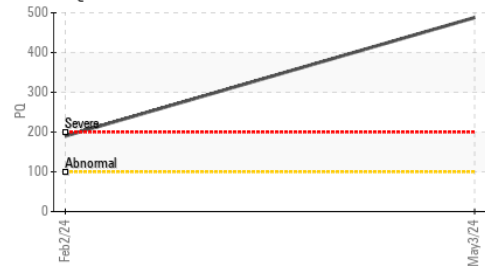
● Aluminum (ppm)



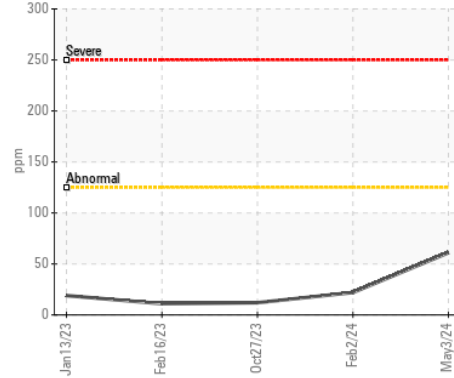
▲ Chromium (ppm)



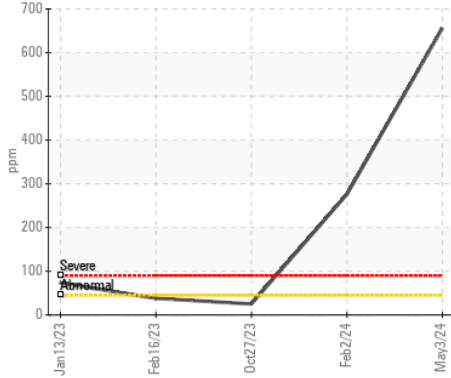
▲ PQ



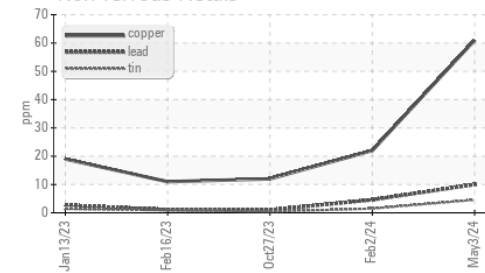
● Copper (ppm)



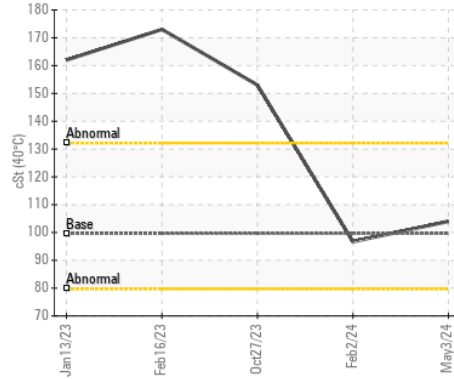
▲ Silicon (ppm)



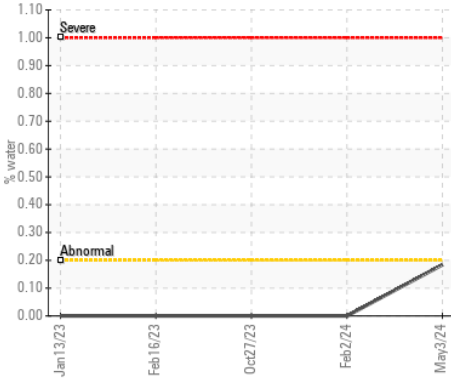
▲ Non-ferrous Metals



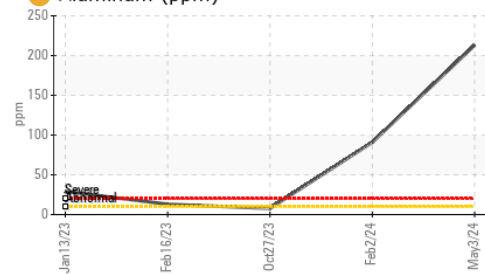
● Viscosity @ 40°C



▲ Water



● Aluminum (ppm)



**Laboratory** : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9  
**Sample No.** : LH0286865 **Received** : 06 May 2024  
**Lab Number** : 02633600 **Tested** : 07 May 2024  
**Unique Number** : 5774753 **Diagnosed** : 07 May 2024 - Kevin Marson  
**Test Package** : MOB 1 ( Additional Tests: KF, PQ )

**GERDAU AMERISTEEL**  
 1 GERDAU COURT  
 WHITBY, ON  
 CA L1N 5T1  
 Contact: Tyson Young  
 tyoung@gerdauameristeel.com  
 T: (905)668-8811  
 F: (905)668-6469

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.