



# LIEBHERR

## OIL ANALYSIS REPORT

WEAR  
CONTAMINATION  
FLUID CONDITION

**ABNORMAL**

**SEVERE**

**ABNORMAL**



Area  
**(366409)**

Machine Id  
**LIEBHERR R945 053994-1866**

Component  
**Swing Drive**

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

### RECOMMENDATION

We advise that you check for the source of water entry. The oil change at the time of sampling has been noted. We recommend an early resample to monitor this condition.

### WEAR

Chromium and iron ppm levels are abnormal. The low ferrous density (PQ) index indicates the wear metal levels are due to corrosion.

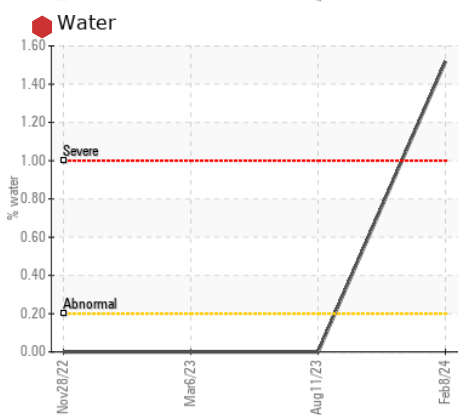
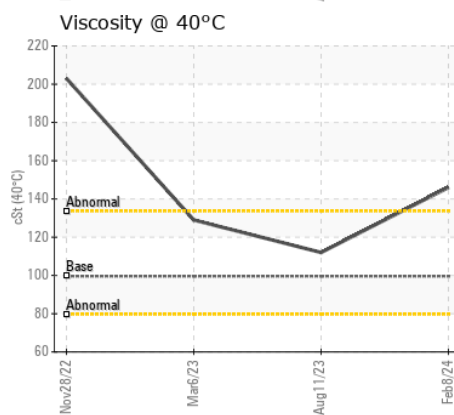
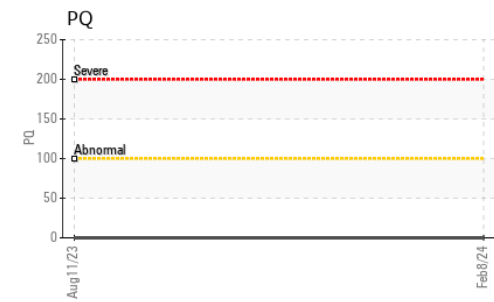
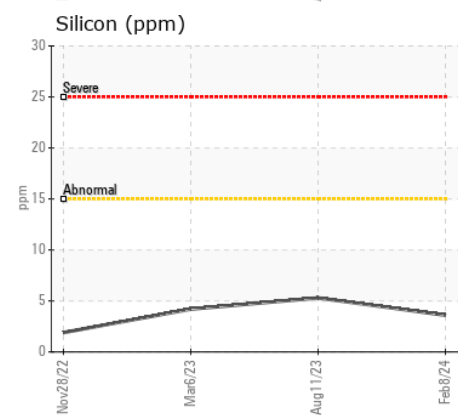
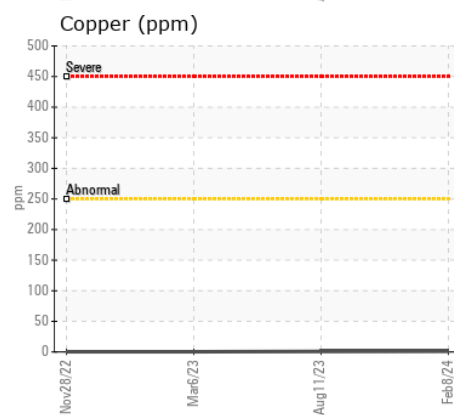
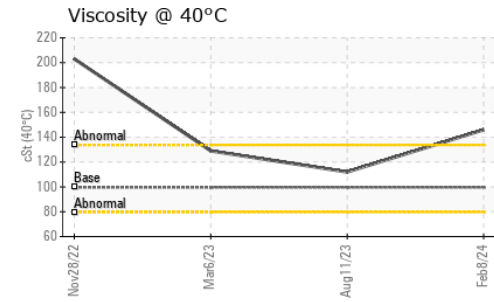
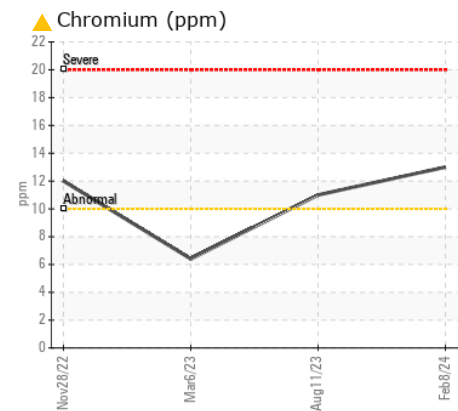
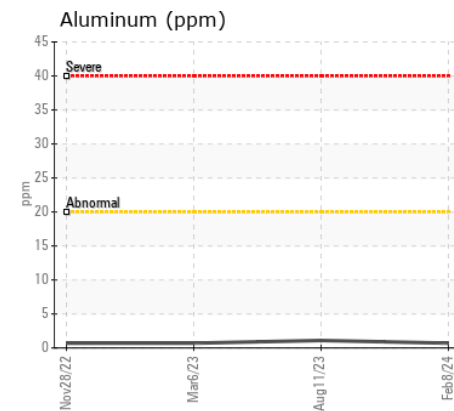
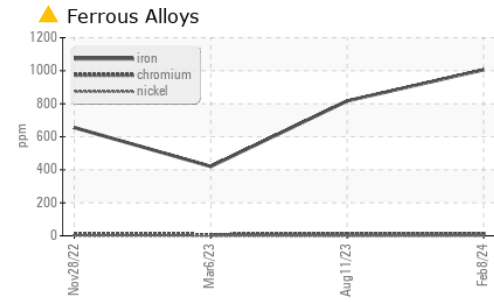
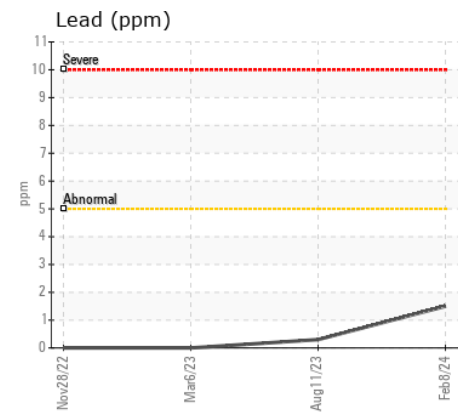
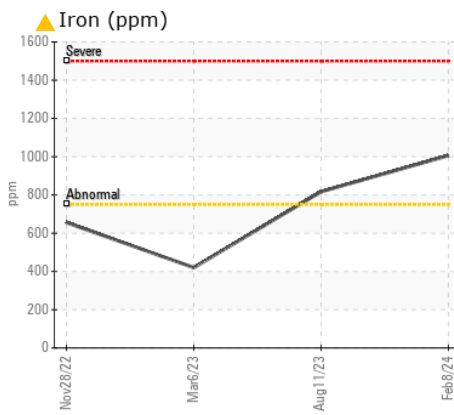
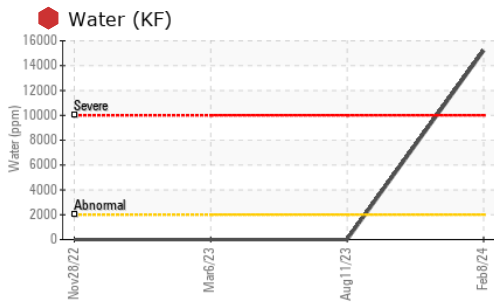
### CONTAMINATION

There is a high concentration of water present in the oil.

### FLUID CONDITION

The white residue present in the sample is oil additive precipitate. 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>LH0285025</b>	LH0237707	LH0237749
Sample Date		Client Info		<b>08 Feb 2024</b>	11 Aug 2023	06 Mar 2023
Machine Age	hrs	Client Info		<b>4053</b>	3069	2125
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>None</b>	None	None
Sample Status				<b>SEVERE</b>	ABNORMAL	NORMAL
PQ		ASTM D8184*		<b>0</b>	0	---
Iron	ppm	ASTM D5185(m)	>750	<b>▲ 1006</b>	▲ 817	420
Chromium	ppm	ASTM D5185(m)	>10	<b>▲ 13</b>	▲ 11	6
Nickel	ppm	ASTM D5185(m)	>5	<b>&lt;1</b>	0	<1
Titanium	ppm	ASTM D5185(m)		<b>0</b>	<1	<1
Silver	ppm	ASTM D5185(m)		<b>0</b>	0	<1
Aluminum	ppm	ASTM D5185(m)	>20	<b>&lt;1</b>	1	<1
Lead	ppm	ASTM D5185(m)	>5	<b>2</b>	<1	0
Copper	ppm	ASTM D5185(m)	>250	<b>1</b>	<1	<1
Tin	ppm	ASTM D5185(m)	>10	<b>0</b>	0	0
Vanadium	ppm	ASTM D5185(m)		<b>0</b>	<1	0
White Metal	scalar	Visual*	NONE	<b>NONE</b>	NONE	NONE
Yellow Metal	scalar	Visual*	NONE	<b>NONE</b>	NONE	NONE
Silicon	ppm	ASTM D5185(m)	>15	<b>4</b>	5	4
Potassium	ppm	ASTM D5185(m)	>20	<b>2</b>	1	1
Water	%	ASTM D6304*	>0.2	<b>◆ 1.519</b>	---	---
ppm Water	ppm	ASTM D6304*	>2000	<b>◆ 15199</b>	---	---
Silt	scalar	Visual*	NONE	<b>NONE</b>	VLITE	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>	▲ WGOIL	NORML
Odor	scalar	Visual*	NORML	<b>NORML</b>	NORML	NORML
Emulsified Water	scalar	Visual*	>0.2	<b>▲ .5%</b>	▲ .5%	NEG
Sodium	ppm	ASTM D5185(m)		<b>2</b>	1	2
Boron	ppm	ASTM D5185(m)	328	<b>126</b>	129	183
Barium	ppm	ASTM D5185(m)	1	<b>0</b>	1	2
Molybdenum	ppm	ASTM D5185(m)		<b>0</b>	<1	<1
Manganese	ppm	ASTM D5185(m)		<b>8</b>	7	5
Magnesium	ppm	ASTM D5185(m)	1	<b>1</b>	2	<1
Calcium	ppm	ASTM D5185(m)	7	<b>11</b>	16	6
Phosphorus	ppm	ASTM D5185(m)	1145	<b>1841</b>	1390	1432
Zinc	ppm	ASTM D5185(m)	3	<b>13</b>	16	11
Sulfur	ppm	ASTM D5185(m)	17909	<b>24921</b>	21857	22226
Visc @ 40°C	cSt	ASTM D7279(m)	99.6	<b>146</b>	112	129



ISO 17025:2017  
Accredited  
Laboratory

**Laboratory** : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9  
**Sample No.** : LH0285025  
**Lab Number** : 02617476  
**Unique Number** : 5734586  
**Test Package** : MOB 1 ( Additional Tests: Bottom, KF, PQ )

**THOMAS CAVANAGH CONSTRUCTION LTD**  
 RR # 2, 9094 CAVANAGH ROAD  
 ASHTON, ON  
 CA K0A 1B0  
 Contact: Keith

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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