



LIEBHERR

OIL ANALYSIS REPORT

WEAR
CONTAMINATION
FLUID CONDITION

ABNORMAL

SEVERE

NORMAL



Machine Id
LIEBHERR R920 052179-1705

Component
Left Final Drive

Fluid
PETRO CANADA TRAXON 75W90 SYNTHETIC (--- 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.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		LH0286395	LH0201937	LH0126748
Sample Date		Client Info		16 May 2024	22 Sep 2022	24 Jan 2022
Machine Age	hrs	Client Info		2489	950	447
Oil Age	hrs	Client Info		0	0	0
Filter Age	hrs	Client Info		0	0	0
Oil Changed		Client Info		Changed	Changed	Changed
Filter Changed		Client Info		None	None	N/A
Sample Status				SEVERE	NORMAL	NORMAL

WEAR

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

Test	UOM	Method	Limit/Abn	Current	History1	History2
PQ		ASTM D8184*		123	---	---
Iron	ppm	ASTM D5185(m)	>500	▲ 1033	60	148
Chromium	ppm	ASTM D5185(m)	>10	▲ 13	1	3
Nickel	ppm	ASTM D5185(m)	>10	3	<1	<1
Titanium	ppm	ASTM D5185(m)		6	0	0
Silver	ppm	ASTM D5185(m)		0	0	<1
Aluminum	ppm	ASTM D5185(m)	>25	● 138	<1	1
Lead	ppm	ASTM D5185(m)	>25	0	0	<1
Copper	ppm	ASTM D5185(m)	>50	<1	0	<1
Tin	ppm	ASTM D5185(m)	>10	0	0	0
Vanadium	ppm	ASTM D5185(m)		0	0	0
White Metal	scalar	Visual*	NONE	NONE	NONE	NONE
Yellow Metal	scalar	Visual*	NONE	NONE	NONE	NONE

CONTAMINATION

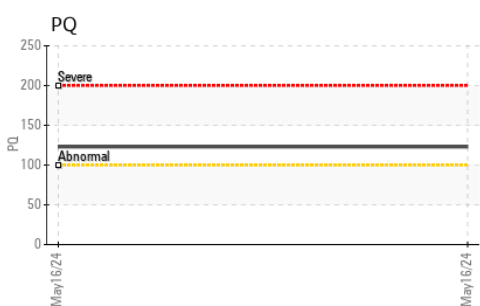
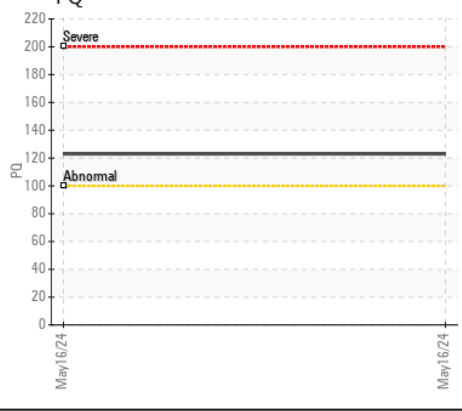
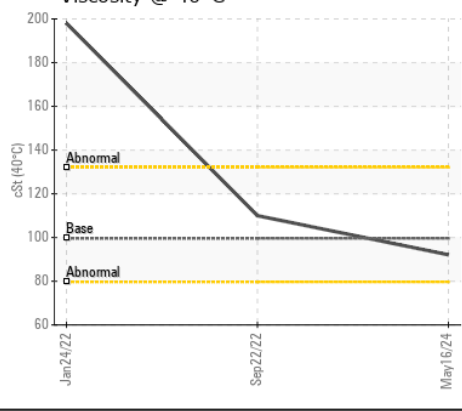
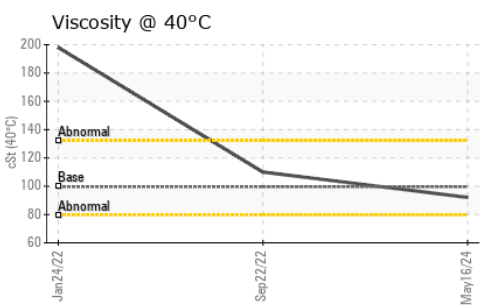
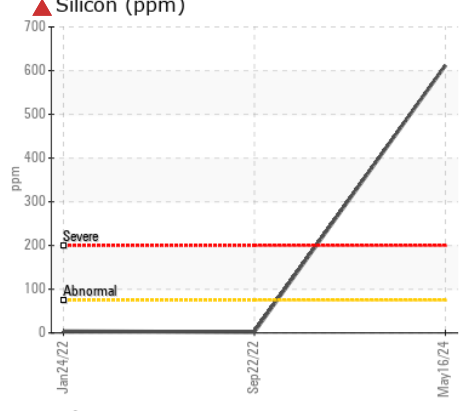
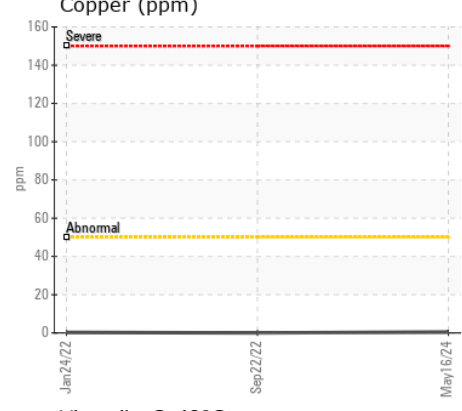
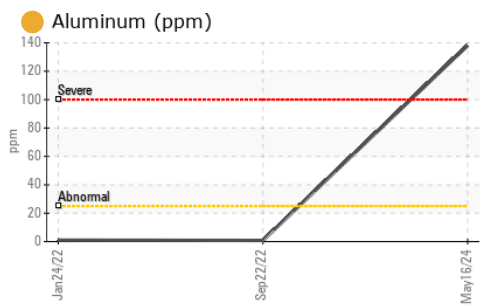
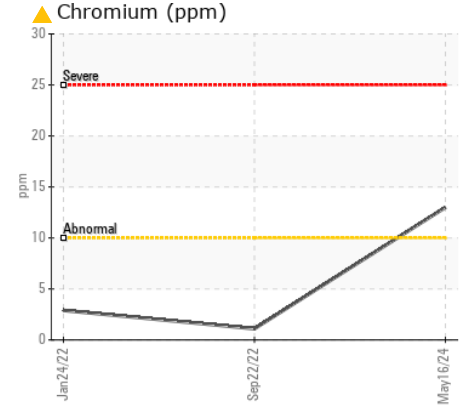
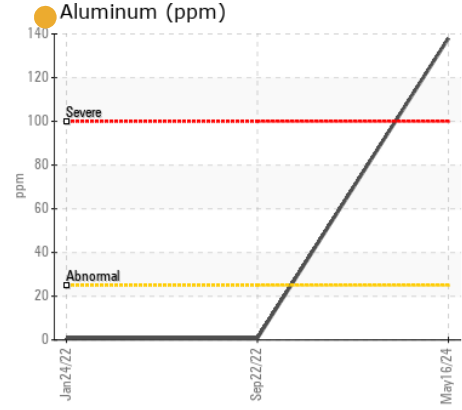
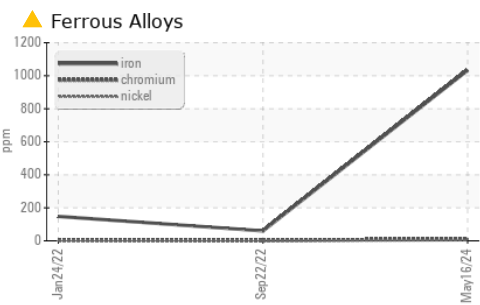
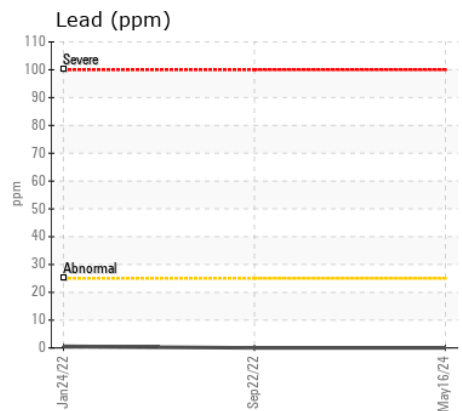
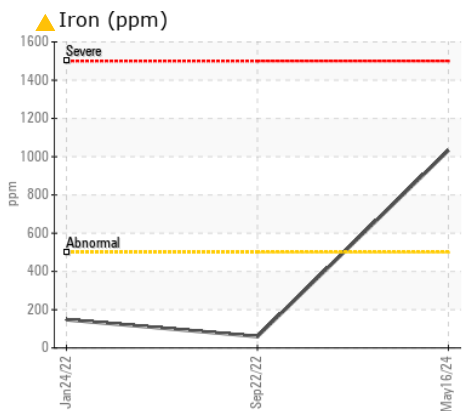
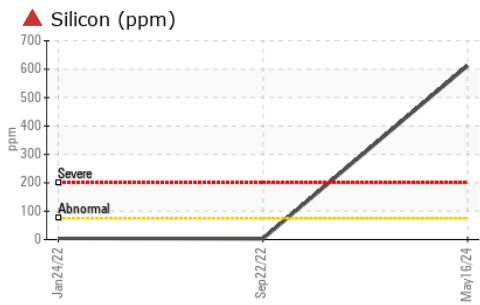
Elemental levels of silicon (Si) and aluminum (Al) indicate alumina-silicate (coarse dirt) ingress. High amount of ingressed dirt has caused abrasive wear to the component.

Silicon	ppm	ASTM D5185(m)	>75	▲ 612	2	4
Potassium	ppm	ASTM D5185(m)	>20	41	2	4
Water		WC Method	>0.2	NEG	NEG	NEG
Silt	scalar	Visual*	NONE	VLITE	NONE	NONE
Debris	scalar	Visual*	NONE	NONE	NONE	VLITE
Sand/Dirt	scalar	Visual*	NONE	NONE	NONE	NONE
Appearance	scalar	Visual*	NORML	NORML	NORML	NORML
Odor	scalar	Visual*	NORML	NORML	NORML	NORML
Emulsified Water	scalar	Visual*	>0.2	NEG	NEG	NEG

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.

Sodium	ppm	ASTM D5185(m)		12	3	7
Boron	ppm	ASTM D5185(m)	328	199	180	9
Barium	ppm	ASTM D5185(m)	1	4	4	13
Molybdenum	ppm	ASTM D5185(m)		0	0	<1
Manganese	ppm	ASTM D5185(m)		10	1	2
Magnesium	ppm	ASTM D5185(m)	1	53	<1	<1
Calcium	ppm	ASTM D5185(m)	7	203	6	22
Phosphorus	ppm	ASTM D5185(m)	1145	1244	1417	1249
Zinc	ppm	ASTM D5185(m)	3	19	18	30
Sulfur	ppm	ASTM D5185(m)	17909	21981	24149	24881
Visc @ 40°C	cSt	ASTM D7279(m)	99.6	92.1	110	198



Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
Sample No. : LH0286395 **Received** : 23 May 2024
Lab Number : 02637263 **Tested** : 23 May 2024
Unique Number : 5786425 **Diagnosed** : 23 May 2024 - Kevin Marson
Test Package : MOB 1 (Additional Tests: PQ)

Phoenix Treatment Systems Ltd.
 2615-26 Ave SW
 Calgary, AB
 CA T3E 8C7
 Contact: Service Manager

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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