



LIEBHERR

OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	ABNORMAL
FLUID CONDITION	NORMAL



Area
(335553)
Machine Id
LIEBHERR T60-9s 021026-1709
Component
Hydraulic System
Fluid
PETRO CANADA HYDREX AW 46 (--- GAL)

RECOMMENDATION

We recommend you service the filters on this component. 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		LH0289783	LH	---
Sample Date		Client Info		29 Jun 2023	18 May 2023	---
Machine Age	hrs	Client Info		1000	2330	---
Oil Age	hrs	Client Info		0	0	---
Filter Age	hrs	Client Info		0	0	---
Oil Changed		Client Info		Not Changed	N/A	---
Filter Changed		Client Info		Not Changed	Changed	---
Sample Status				ABNORMAL	NORMAL	---

WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185(m)	>20	6	8	---
Chromium	ppm	ASTM D5185(m)	>10	0	0	---
Nickel	ppm	ASTM D5185(m)	>10	0	<1	---
Titanium	ppm	ASTM D5185(m)		0	0	---
Silver	ppm	ASTM D5185(m)		0	0	---
Aluminum	ppm	ASTM D5185(m)	>10	1	<1	---
Lead	ppm	ASTM D5185(m)	>10	<1	1	---
Copper	ppm	ASTM D5185(m)	>75	2	3	---
Tin	ppm	ASTM D5185(m)	>10	0	0	---
Vanadium	ppm	ASTM D5185(m)		0	0	---
White Metal	scalar	Visual*	NONE	NONE	NONE	---
Yellow Metal	scalar	Visual*	NONE	NONE	NONE	---

CONTAMINATION

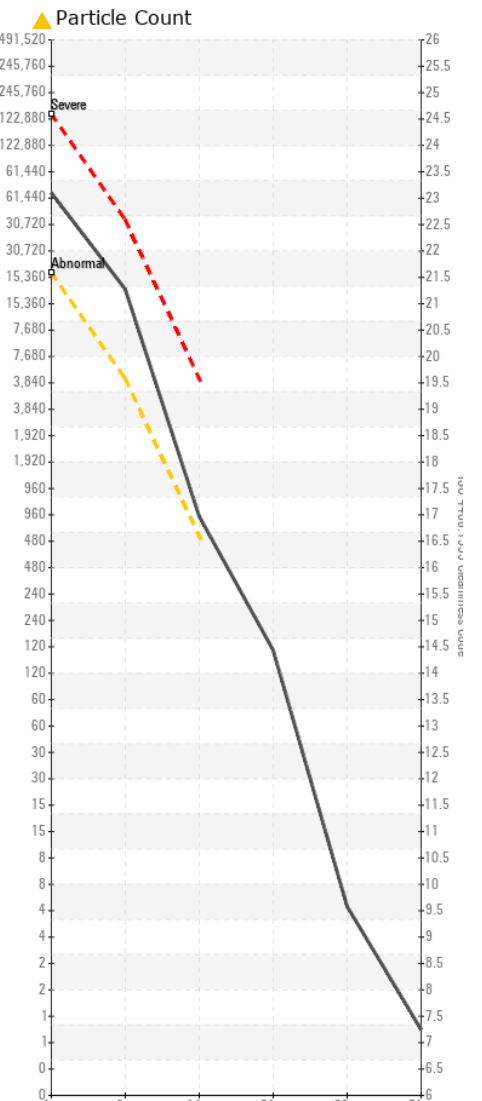
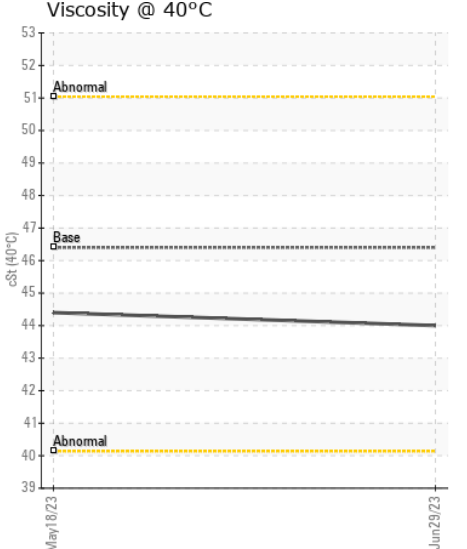
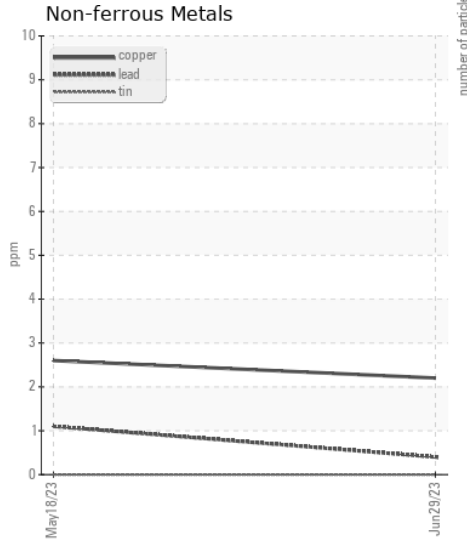
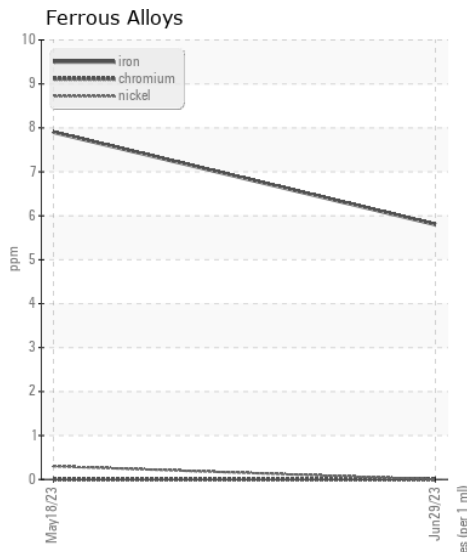
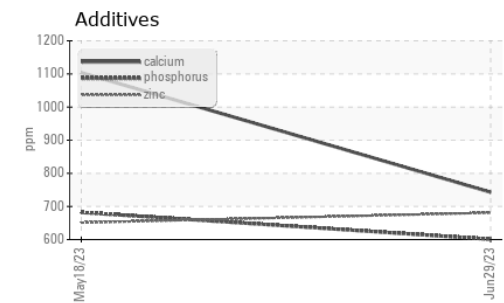
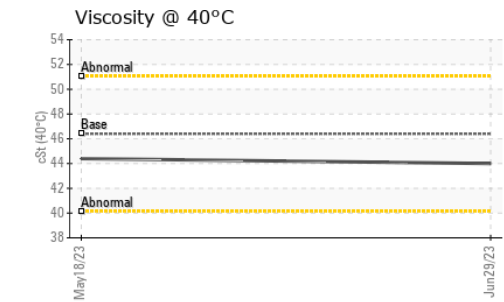
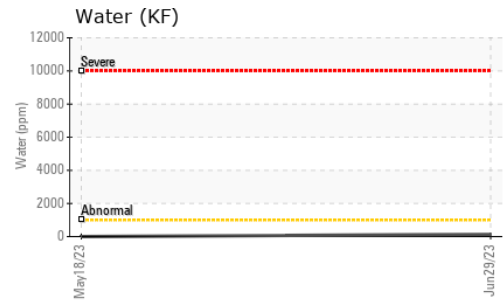
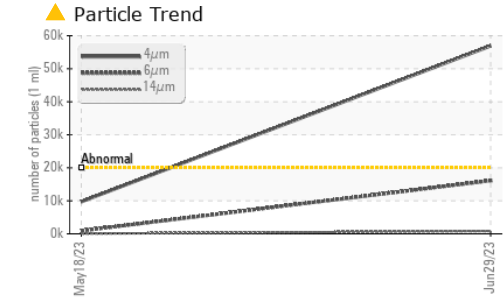
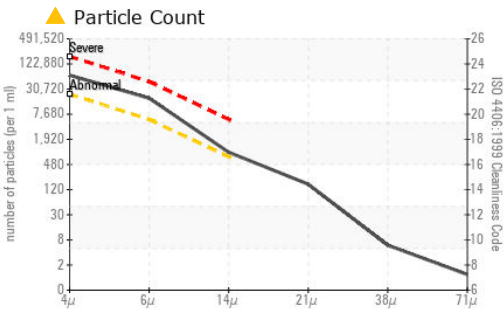
There is a moderate amount of silt (particulates < 14 microns in size) present in the oil. The water content is negligible.

Silicon	ppm	ASTM D5185(m)	>20	<1	2	---
Potassium	ppm	ASTM D5185(m)	>20	<1	1	---
Water	%	ASTM D6304*	>0.1	0.013	---	---
ppm Water	ppm	ASTM D6304*	>1000	139	---	---
Particles >4µm		ASTM D7647	>20000	▲ 56933	9728	---
Particles >6µm		ASTM D7647	>5000	▲ 16107	913	---
Particles >14µm		ASTM D7647	>640	● 825	51	---
Particles >21µm		ASTM D7647	>160	143	14	---
Particles >38µm		ASTM D7647	>40	5	1	---
Particles >71µm		ASTM D7647	>10	1	1	---
Oil Cleanliness		ISO 4406 (c)	>21/19/16	▲ 23/21/17	20/17/13	---
Silt	scalar	Visual*	NONE	NONE	NONE	---
Debris	scalar	Visual*	NONE	NONE	NONE	---
Sand/Dirt	scalar	Visual*	NONE	NONE	NONE	---
Appearance	scalar	Visual*	NORML	NORML	NORML	---
Odor	scalar	Visual*	NORML	NORML	NORML	---
Emulsified Water	scalar	Visual*	>0.1	.2%	NEG	---

FLUID CONDITION

Additive levels indicate the addition of a different brand, or type of oil. The oil is still serviceable provided that the contaminant(s) can be reduced to acceptable levels.

Sodium	ppm	ASTM D5185(m)		2	2	---
Boron	ppm	ASTM D5185(m)	0	1	2	---
Barium	ppm	ASTM D5185(m)	0	0	0	---
Molybdenum	ppm	ASTM D5185(m)	0	0	0	---
Manganese	ppm	ASTM D5185(m)	0	0	<1	---
Magnesium	ppm	ASTM D5185(m)	0	4	4	---
Calcium	ppm	ASTM D5185(m)	50	743	1104	---
Phosphorus	ppm	ASTM D5185(m)	330	601	682	---
Zinc	ppm	ASTM D5185(m)	430	681	651	---
Sulfur	ppm	ASTM D5185(m)	760	2782	3811	---
Visc @ 40°C	cSt	ASTM D7279(m)	46.4	44.0	44.4	---



Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
Sample No. : LH0289783 **Received** : 31 May 2024
Lab Number : 02639182 **Tested** : 04 Jun 2024
Unique Number : 5788344 **Diagnosed** : 04 Jun 2024 - Kevin Marson
Test Package : MOB 1 (Additional Tests: KF, PrtCount)

9168-3094 QC INC.
 379 DU COLLEGE
 St Donat de Montcalm, QC
 CA J0T 2C0
 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.

T:
F: