LIEBHERR
CONSTRUCTION EQUIPMENT

LIEBHERR R922 54275 - Hydraulic System

Sample No: LH0286419

Oil Type: PETRO CANADA HYDREX XV ALL SEASON HYDRAULIC OIL

Liebherr Canada
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Richmond, BC
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Sample Information

Sample Number		**LH0286419**	LH0281046	LH0260501	---
Sample Date		**06 Jun 2024**	18 Mar 2024	31 Jul 2023	---
Machine Hours		**3000**	5489	1546	---
Oil Hours		**0**	0	0	---
Oil Changed		**Not Changd**	Not Changd	Not Changd	---
Sample Status		**SEVERE**	SEVERE	SEVERE	---

Oil Condition

Visc @ 40°C	cSt	**41.8**	42.0	42.5	---

Contamination

Water	%	**NEG**	NEG	NEG	---
Particles >4µm		**2436**	1536	5722	---
Particles >6µm		**464**	467	643	---
Particles >14µm		**28**	31	33	---
ISO 4406:1999 (c)		**18/16/12**	18/16/12	20/17/12	---
Silicon	ppm	**5**	6	6	---
Sodium	ppm	**3**	4	3	---
Potassium	ppm	**<1**	<1	<1	---

Wear Metals

Iron	ppm	**16**	15	13	---
Copper	ppm	**50**	61	50	---
Lead	ppm	**6**	6	6	---
Tin	ppm	**1**	0	2	---
Aluminum	ppm	**<1**	0	<1	---
Chromium	ppm	**<1**	<1	<1	---
Molybdenum	ppm	**0**	0	<1	---
Nickel	ppm	**<1**	0	0	---
Titanium	ppm	**0**	0	0	---
Silver	ppm	**0**	0	0	---
Manganese	ppm	**<1**	0	<1	---
Vanadium	ppm	**0**	0	0	---

Additives

Calcium	ppm	**928**	1086	1126	---
Magnesium	ppm	**2**	3	4	---
Zinc	ppm	**682**	708	727	---
Phosphorus	ppm	**574**	603	650	---
Barium	ppm	**<1**	0	0	---
Boron	ppm	**<1**	0	1	---

Diagnosis

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.Copper ppm levels are severe. Lead ppm levels are abnormal. Bearing and/or bushing wear is indicated. The system cleanliness is acceptable for your target ISO 4406 cleanliness code. The system and fluid cleanliness is acceptable. The oil is no longer serviceable as a result of the abnormal and/or severe wear.

Depot: LIERIC
Unique No: 5814264
Signed: Kevin Marson
Report Date: 19 Jul 2024

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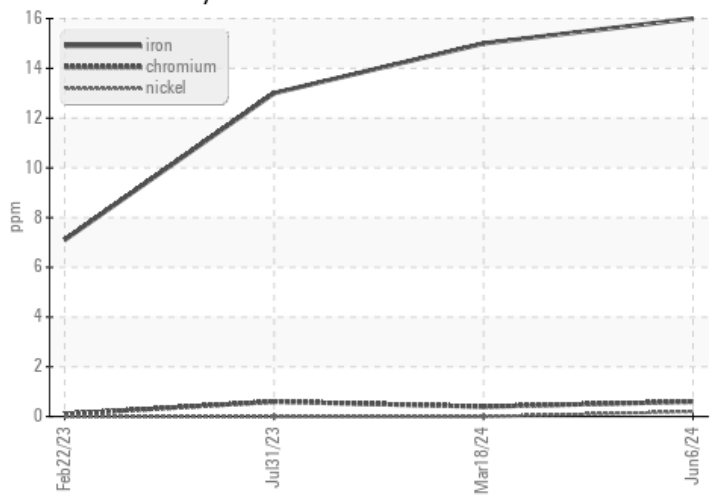
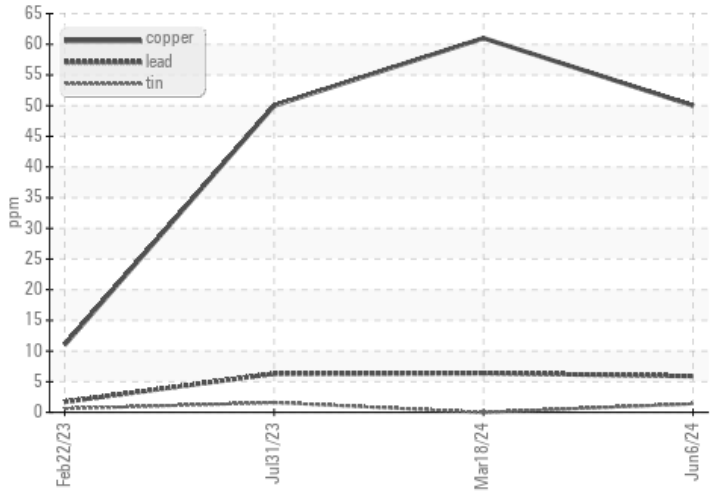
Graphs

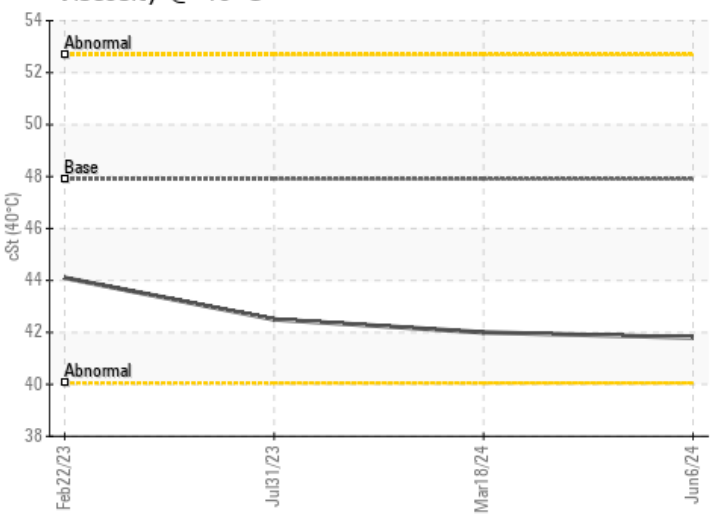
Ferrous Alloys



Non-ferrous Metals



Viscosity @ 40°C



Particle Count