LIEBHERR
CONSTRUCTION EQUIPMENT

[[BOTTOM & EMPTY TANK]] HAUL TRUCK TA230 139884 - Hydrauli

Sample No: LHMC119914

Oil Type: LIEBHERR HYD

TRACEY ROAD EQUIPMENT
6803 MANLIUS CENTER RD
EAST SYRACUSE, NY
US 13057
Contact: SHAWN RYDER
sryder@traceyroad.com
T: (315)398-0089
F: (315)437-4041

SAMPLE INFORMATION

Sample Number		**LHMC119914**	LHMC119935	LHMC119964	---
Sample Date		**03 May 2023**	02 May 2023	01 May 2023	---
Machine Hours		**176**	176	176	---
Oil Hours		**176**	176	0	---
Oil Changed		**N/A**	N/A	N/A	---
Sample Status		**SEVERE**	ABNORMAL	ABNORMAL	---

OIL CONDITION

Visc @ 40°C	cSt	**62.0**	45.3	47.8	---
Acid Number (AN)	mg KOH/g	**2.53**	1.35	1.34	---

CONTAMINATION

Water	%	**22.9**	---	---	---
Particles >4µm		**---**	25412	39593	---
Particles >6µm		**---**	761	5239	---
Particles >14µm		**---**	7	279	---
ISO 4406:1999 (c)		**---**	22/17/10	22/20/15	---
Silicon	ppm	**82**	3	3	---
Sodium	ppm	**8**	1	1	---
Potassium	ppm	**9**	2	2	---

WEAR METALS

Iron	ppm	**443**	4	4	---
Copper	ppm	**61**	17	17	---
Lead	ppm	**8**	5	4	---
Tin	ppm	**5**	<1	<1	---
Aluminum	ppm	**18**	<1	<1	---
Chromium	ppm	**9**	<1	<1	---
Molybdenum	ppm	**<1**	0	0	---
Nickel	ppm	**1**	<1	<1	---
Titanium	ppm	**<1**	0	0	---
Silver	ppm	**<1**	0	0	---
Manganese	ppm	**15**	<1	<1	---
Vanadium	ppm	**0**	0	0	---

ADDITIVES

Calcium	ppm	**7204**	1027	1031	---
Magnesium	ppm	**35**	3	3	---
Zinc	ppm	**934**	755	752	---
Phosphorus	ppm	**1035**	566	559	---
Barium	ppm	**0**	0	0	---
Boron	ppm	**13**	0	0	---

Diagnosis

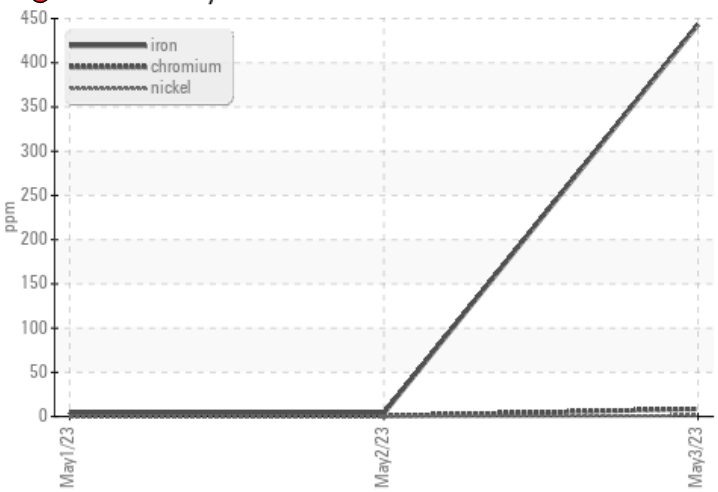
We advise that you check all areas where dirt can enter the system. We recommend that you drain the oil and perform a filter service on this component if not already done. We advise that you inspect for the source(s) of wear. We recommend an early resample to monitor this condition. We were unable to perform a particle count due to a high concentration of particles present in this sample.The iron level is severe. Excessive free water present. There is a high concentration of water present in the oil. Elemental levels of silicon (Si) and aluminum (Al) indicate alumina-silicate (coarse dirt) ingress. There is a moderate amount of visible silt present in the sample. The oil viscosity is higher than normal. The AN level is at the top-end of the recommended limit. The oil is no longer serviceable due to the presence of contaminants.

Depot: TRAEAS
Unique No: 10460210
Signed: Jonathan Hester
Report Date: 11 May 2023

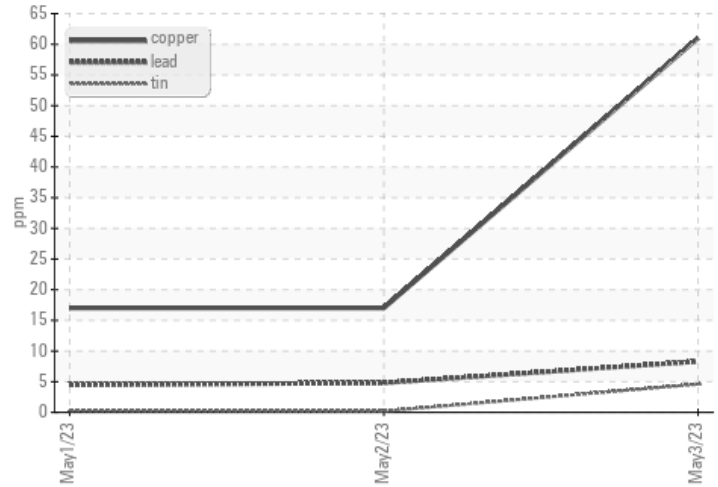
LIEBHERR
CONSTRUCTION EQUIPMENT

GRAPHS

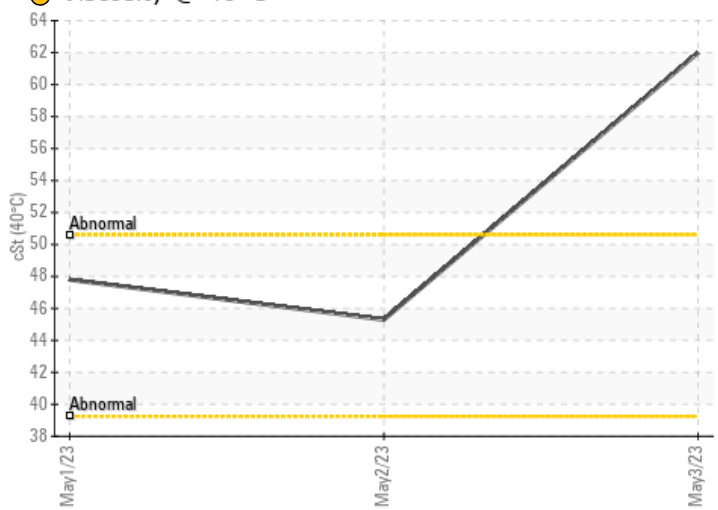
Ferrous Alloys



Non-ferrous Metals



Viscosity @ 40°C



Acid Number