

LIEBHERR

CONSTRUCTION EQUIPMENT



[[HAWAIIAN CEMENT]] LIEBHERR R9150B 45.1992301(S/N 38178) - Hydraulic System

Sample No: LH0267638

Oil Type: CHEVRON DELO 400 MULTIGRADE 15W40



SAMPLE INFORMATION

Sample Number	LH0267638	---	---	---
Sample Date	04 Dec 2023	---	---	---
Machine Hours	424	---	---	---
Oil Hours	424	---	---	---
Oil Changed	Not Chngd	---	---	---
Sample Status	NORMAL	---	---	---

LIEBHERR MINING EQUIPMENT CO
 5800 S DOUGLAS HWY
 GILLETTE, WY
 US 82718
 Contact: SCOTT BRADLEY
 scott.bradley@liebherr.com
 T:
 F:



OIL CONDITION

Visc @ 40°C	cSt	82.4	---	---	---
Acid Number (AN)	mg KOH/g	1.57	---	---	---



CONTAMINATION

Water	%	NEG	---	---	---
Particles >4µm		762	---	---	---
Particles >6µm		91	---	---	---
Particles >14µm		8	---	---	---
ISO 4406:1999 (c)		17/14/10	---	---	---
Silicon	ppm	5	---	---	---
Sodium	ppm	<1	---	---	---
Potassium	ppm	1	---	---	---

Diagnosis

Resample at the next service interval to monitor. All component wear rates are normal. The system cleanliness is acceptable for your target ISO 4406 cleanliness code. The system and fluid cleanliness is acceptable. The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.



WEAR METALS

Iron	ppm	<1	---	---	---
Copper	ppm	0	---	---	---
Lead	ppm	0	---	---	---
Tin	ppm	0	---	---	---
Aluminum	ppm	0	---	---	---
Chromium	ppm	0	---	---	---
Molybdenum	ppm	7	---	---	---
Nickel	ppm	0	---	---	---
Titanium	ppm	0	---	---	---
Silver	ppm	0	---	---	---
Manganese	ppm	<1	---	---	---
Vanadium	ppm	0	---	---	---



ADDITIVES

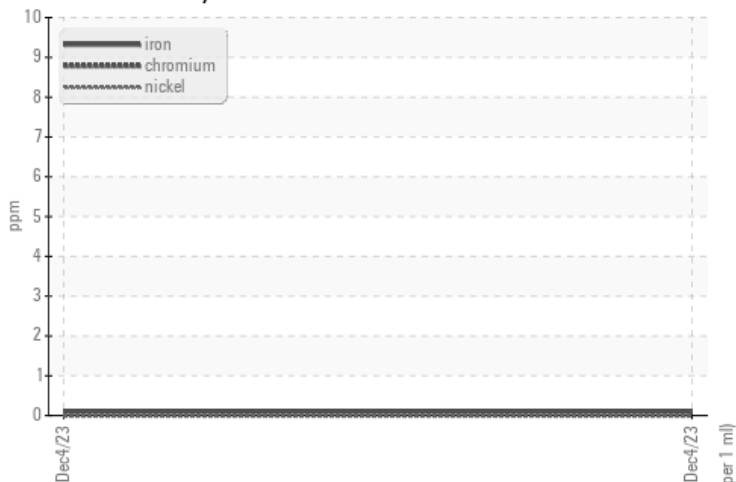
Calcium	ppm	1542	---	---	---
Magnesium	ppm	636	---	---	---
Zinc	ppm	836	---	---	---
Phosphorus	ppm	740	---	---	---
Barium	ppm	0	---	---	---
Boron	ppm	140	---	---	---

Depot: LIEGIL
 Unique No: 10781168
 Signed: Wes Davis
 Report Date: 13 Dec 2023

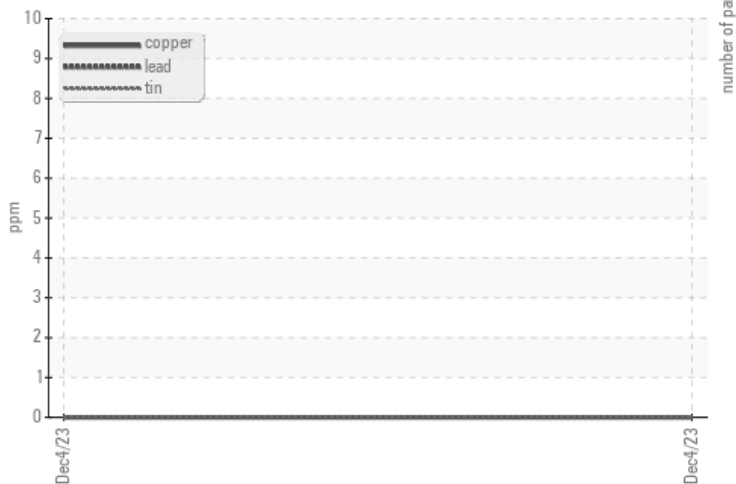


GRAPHS

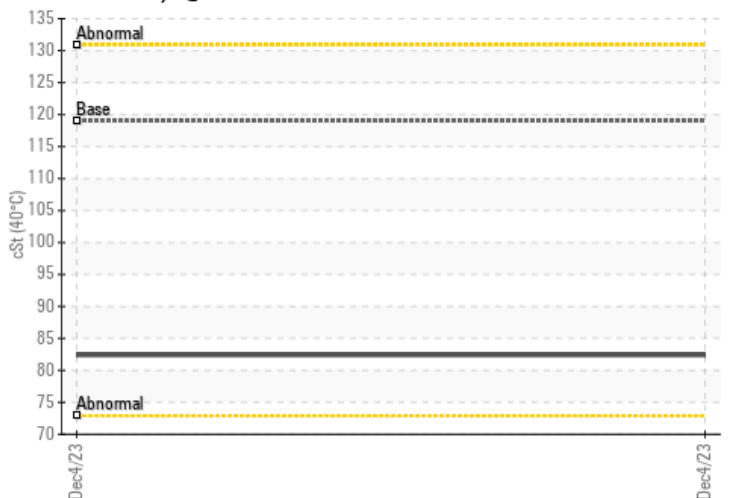
Ferrous Alloys



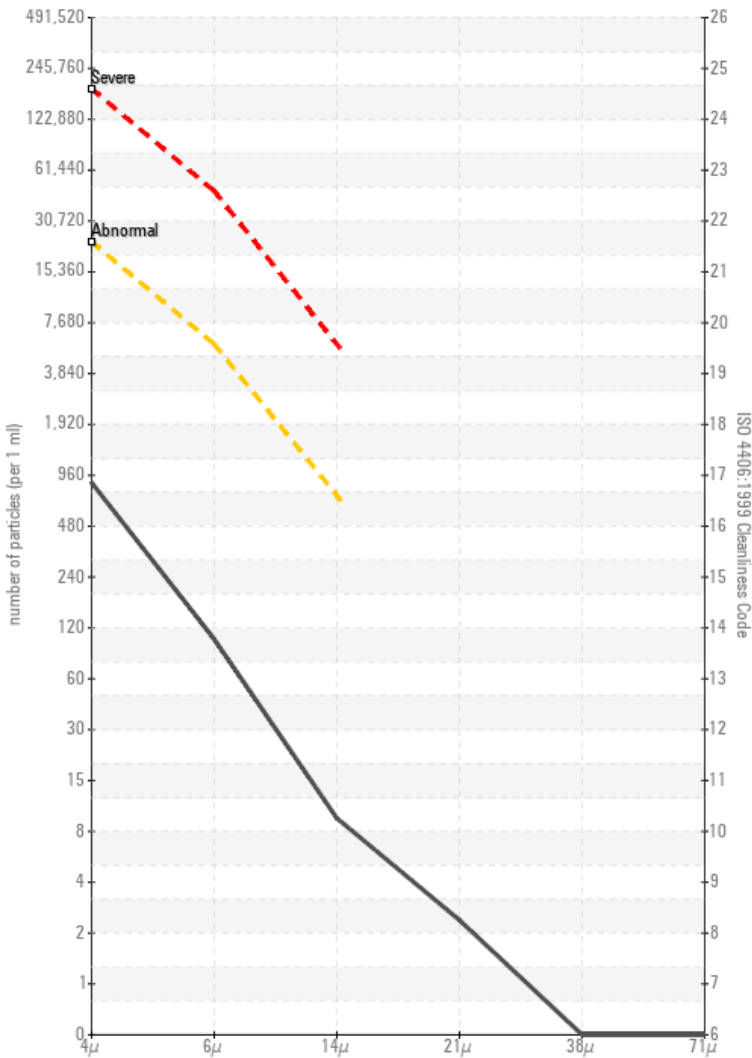
Non-ferrous Metals



Viscosity @ 40°C



Particle Count



Acid Number

