

LIEBHERR

CONSTRUCTION EQUIPMENT



LIEBHERR R936LC 047283-1490 - Diesel Engine

Sample No: LH0268286

Oil Type: LIEBHERR MOTOROIL 10W-40



SAMPLE INFORMATION

Sample Number	LH0268286	LH0229637	LH0207407	LH0207408
Sample Date	13 Oct 2023	09 Dec 2022	06 Sep 2022	01 Sep 2022
Machine Hours	3494	1807	1277	1216
Oil Hours	0	1807	0	0
Oil Changed	Not Changd	Changed	N/A	Not Changd
Sample Status	NORMAL	NORMAL	ABNORMAL	SEVERE

M&F CONCRETE PRODUCTS CO
 4002 CATLETT RD
 CATLETT, VA
 US 20119
 Contact: Service Manager



OIL CONDITION

Visc @ 100°C	cSt	11.4	11.4	11.1	24.8
Base Number (BN)	mg KOH/g	10.0	14.1	12.9	0.0
Oxidation (PA)	%	65	59	63	77

T:
F:



CONTAMINATION

Water	%	NEG	NEG	NEG	NEG
Soot %	%	0.1	0.1	0.1	5.9
Nitration (PA)	%	119	101	64	183
Sulfation (PA)	%	55	49	59	87
Glycol	%	NEG	NEG	NEG	NEG
Fuel	%	<1.0	<1.0	<1.0	<1.0
Silicon	ppm	21	10	9	17
Sodium	ppm	0	3	0	<1
Potassium	ppm	3	2	0	0

Diagnosis

Resample at the next service interval to monitor. All component wear rates are normal. There is no indication of any contamination in the oil. The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.



WEAR METALS

Iron	ppm	17	17	24	63
Copper	ppm	21	10	7	3
Lead	ppm	2	2	<1	2
Tin	ppm	0	2	1	2
Aluminum	ppm	1	3	26	5
Chromium	ppm	<1	1	2	3
Molybdenum	ppm	11	6	14	4
Nickel	ppm	0	0	1	<1
Titanium	ppm	<1	<1	1	<1
Silver	ppm	0	0	0	0
Manganese	ppm	0	<1	<1	1
Vanadium	ppm	0	<1	0	0



ADDITIVES

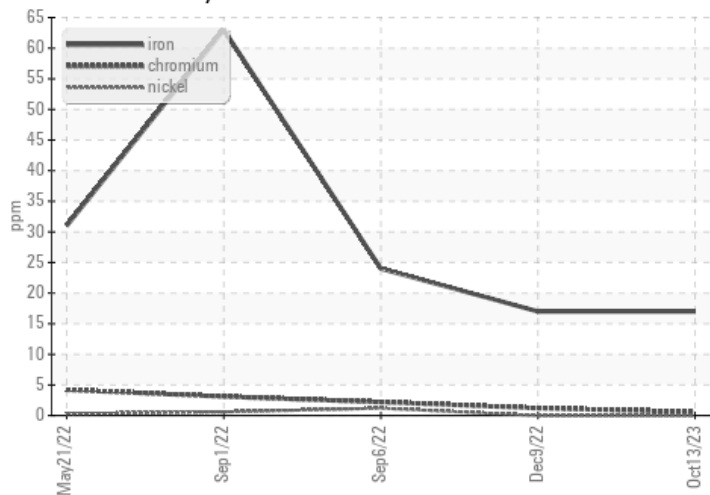
Calcium	ppm	3521	4055	2430	4504
Magnesium	ppm	206	121	250	49
Zinc	ppm	1147	1167	1010	1248
Phosphorus	ppm	983	958	818	993
Barium	ppm	7	33	0	0
Boron	ppm	161	256	132	198

Depot: MECCAT
Unique No: 10778276
Signed: Jonathan Hester
Report Date: 11 Dec 2023

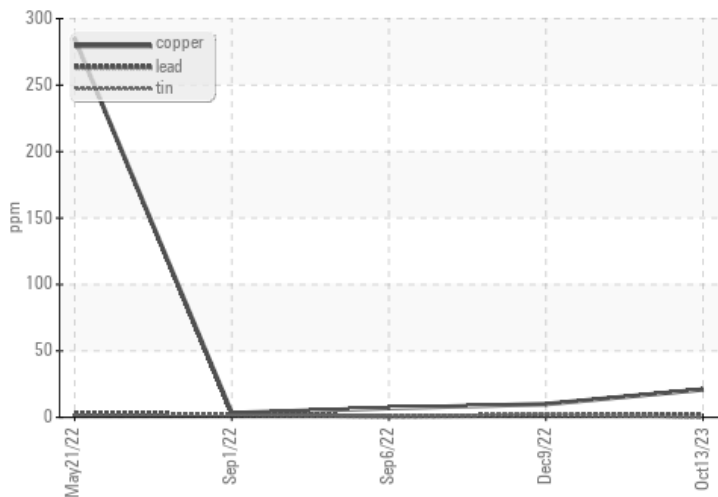


GRAPHS

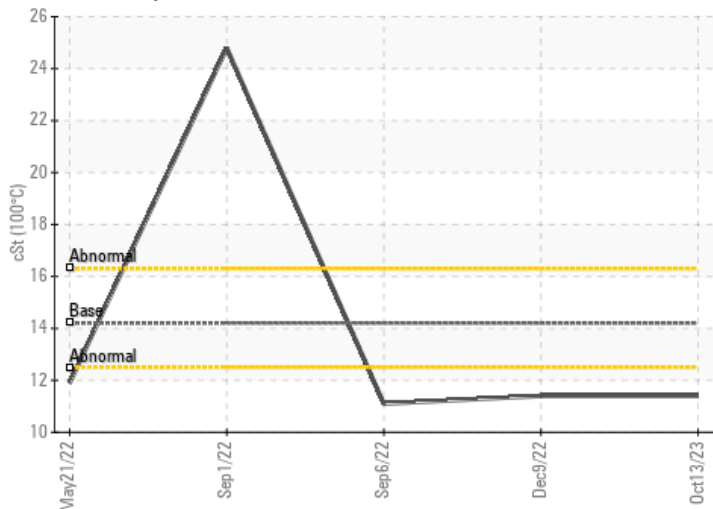
Ferrous Alloys



Non-ferrous Metals



Viscosity @ 100°C



Base Number

