

LIEBHERR

CONSTRUCTION EQUIPMENT



LIEBHERR R944C 032007-793 - Diesel Engine

Sample No: LH0273255

Oil Type: CONOCO PHILLIPS GUARDOL ECT 15W40



SAMPLE INFORMATION

Sample Number	LH0273255	LH0244846	LH0244861	LH0244640
Sample Date	12 Jan 2024	20 Nov 2023	03 Oct 2023	17 Aug 2023
Machine Hours	21756	21396	21029	20644
Oil Hours	250	300	300	300
Oil Changed	Changed	Changed	Changed	Changed
Sample Status	NORMAL	NORMAL	ABNORMAL	ABNORMAL

NILES IRON & METAL CO. INC.

P.O. BOX 166

NILES, OH

US 44446

Contact: CRAIG STINSON

cstinson529@gmail.com; canastasio@wearcheckusa.com

T: (330)652-2262

F: (330)652-1240



OIL CONDITION

Visc @ 100°C	cSt	13.1	12.8	14.9	14.9
Base Number (BN)	mg KOH/g	6.4	6.2	5.1	3.9
Oxidation (PA)	%	46	43	45	51



CONTAMINATION

Water	%	NEG	NEG	NEG	NEG
Soot %	%	2.4	2.4	3.4	3.4
Nitration (PA)	%	64	61	72	78
Sulfation (PA)	%	57	55	64	64
Glycol	%	NEG	NEG	NEG	NEG
Fuel	%	<1.0	<1.0	<1.0	<1.0
Silicon	ppm	5	5	4	5
Sodium	ppm	2	<1	0	2
Potassium	ppm	4	2	2	2



WEAR METALS

Iron	ppm	7	8	14	18
Copper	ppm	1	<1	1	<1
Lead	ppm	<1	0	<1	0
Tin	ppm	<1	<1	<1	0
Aluminum	ppm	2	1	2	<1
Chromium	ppm	<1	<1	<1	1
Molybdenum	ppm	31	29	30	25
Nickel	ppm	<1	<1	<1	0
Titanium	ppm	4	2	6	9
Silver	ppm	0	0	0	0
Manganese	ppm	<1	<1	<1	<1
Vanadium	ppm	<1	0	<1	0



ADDITIVES

Calcium	ppm	1147	1308	1325	1433
Magnesium	ppm	536	476	431	524
Zinc	ppm	1061	1108	1028	1160
Phosphorus	ppm	912	918	853	953
Barium	ppm	0	0	10	0
Boron	ppm	18	28	17	23

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.

Depot: NILNIL

Unique No: 10869245

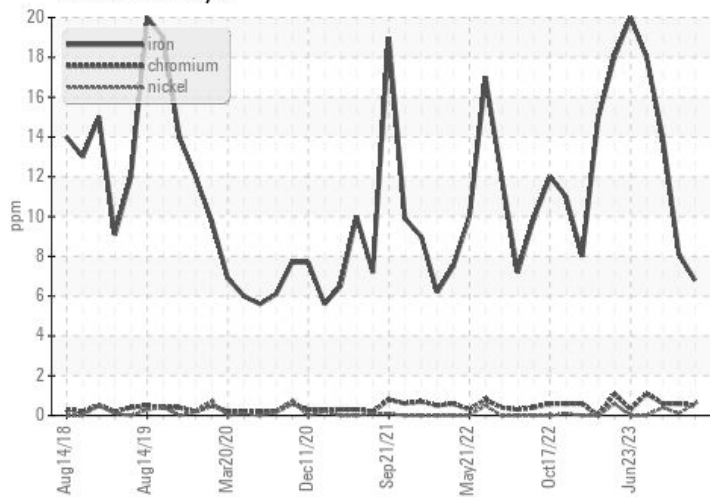
Signed: Angela Borella

Report Date: 08 Feb 2024

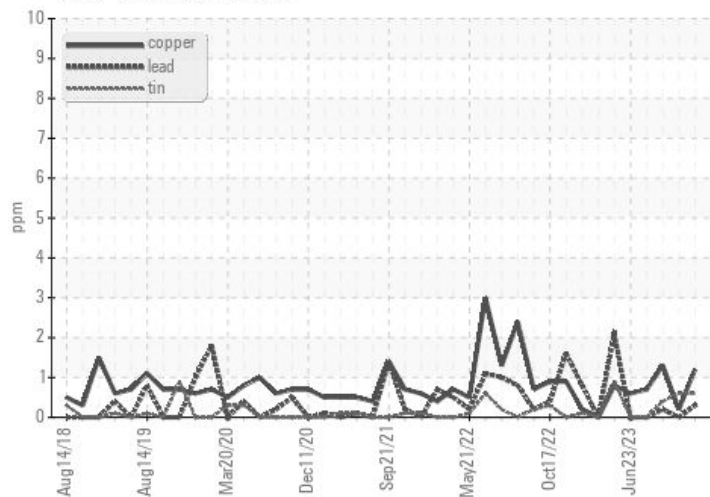


GRAPHS

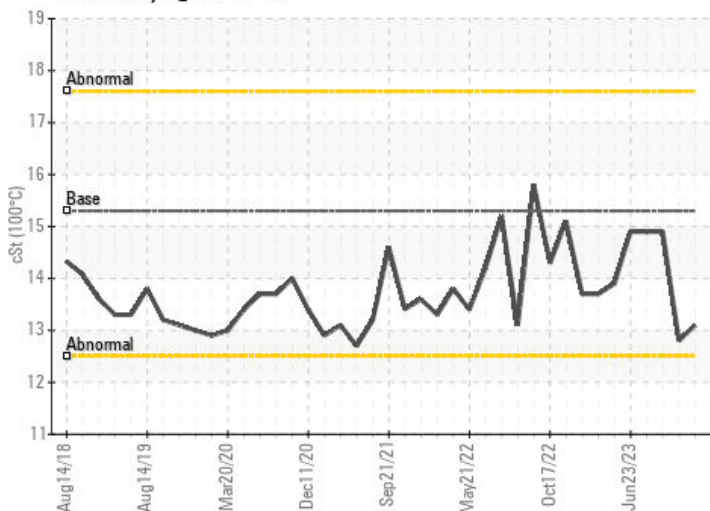
Ferrous Alloys



Non-ferrous Metals



Viscosity @ 100°C



Base Number

