

LIEBHERR

CONSTRUCTION EQUIPMENT



LIEBHERR R944C 032007-793 - Diesel Engine

Sample No: LH0244640

Oil Type: CONOCO PHILLIPS GUARDOL ECT 15W40



SAMPLE INFORMATION

Sample Number	LH0244640	LH0244634	LH0244658	LH0207973
Sample Date	17 Aug 2023	23 Jun 2023	09 May 2023	27 Mar 2023
Machine Hours	20644	20967	19836	19487
Oil Hours	300	300	250	300
Oil Changed	Changed	Changed	Changed	Changed
Sample Status	ABNORMAL	ABNORMAL	NORMAL	NORMAL

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	14.9	14.9	13.9	13.7
Base Number (BN)	mg KOH/g	3.9	6.1	6.9	7.4
Oxidation (PA)	%	51	56	53	51

Diagnosis

The oil change at the time of sampling has been noted. All component wear rates are normal. Light concentration of carbon/soot present in the oil. The BN result indicates that there is suitable alkalinity remaining in the oil. The oil is no longer serviceable due to the presence of contaminants.



CONTAMINATION

Soot %	%	3.4	3	2.6	2
Nitration (PA)	%	78	77	73	67
Sulfation (PA)	%	64	65	63	60
Glycol	%	NEG	NEG	NEG	NEG
Fuel	%	<1.0	<1.0	<1.0	<1.0
Silicon	ppm	5	6	6	6
Sodium	ppm	2	0	2	1
Potassium	ppm	2	2	4	<1



WEAR METALS

Iron	ppm	18	20	18	15
Copper	ppm	<1	<1	<1	0
Lead	ppm	0	0	2	0
Tin	ppm	0	0	<1	0
Aluminum	ppm	<1	2	<1	<1
Chromium	ppm	1	<1	1	0
Molybdenum	ppm	25	29	28	31
Nickel	ppm	0	0	<1	0
Titanium	ppm	9	10	6	7
Silver	ppm	0	0	1	0
Manganese	ppm	<1	<1	1	<1
Vanadium	ppm	0	0	<1	0



ADDITIVES

Calcium	ppm	1433	1470	1434	1489
Magnesium	ppm	524	491	542	589
Zinc	ppm	1160	1147	1178	1239
Phosphorus	ppm	953	980	919	999
Barium	ppm	0	0	0	0
Boron	ppm	23	28	26	30

Depot: NILNIL

Unique No: 10633508

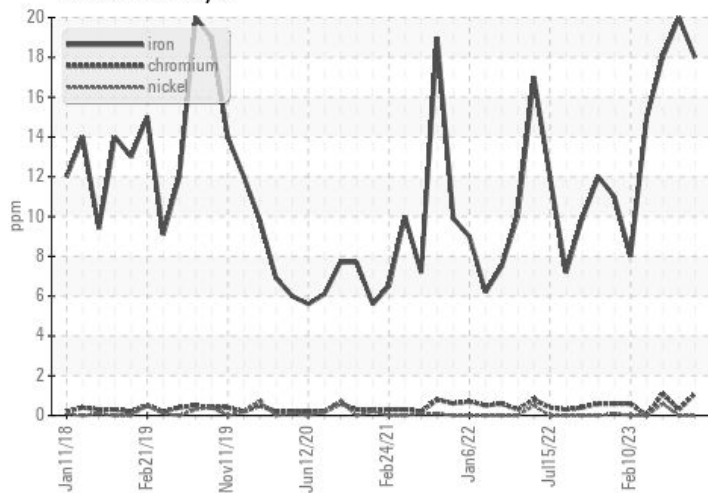
Signed: Wes Davis

Report Date: 06 Sep 2023

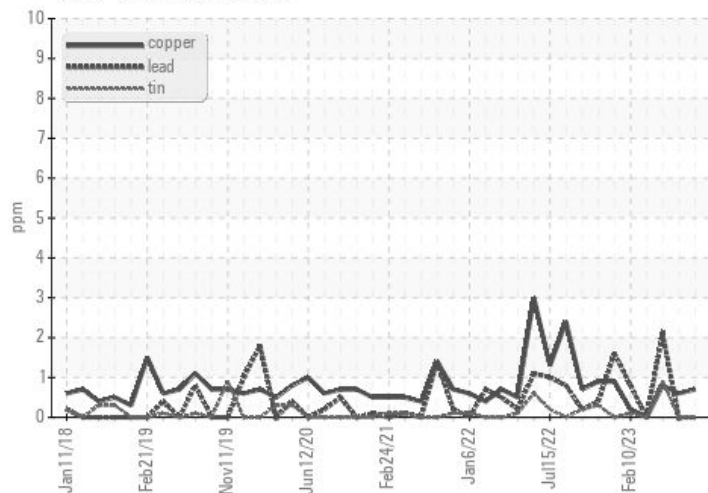


GRAPHS

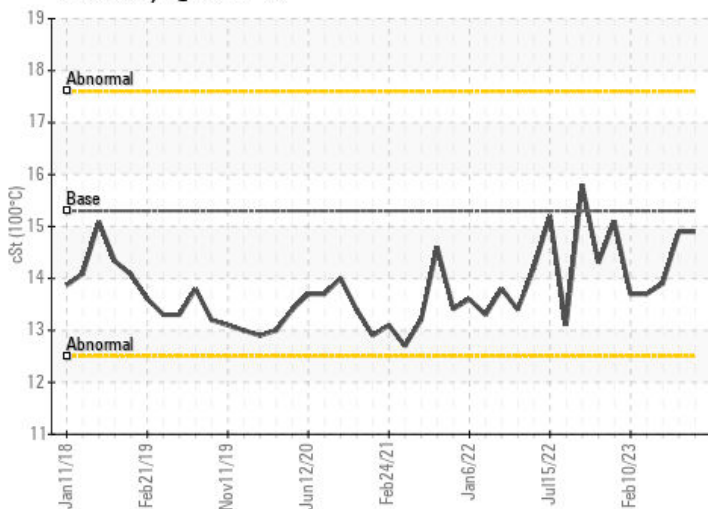
Ferrous Alloys



Non-ferrous Metals



Viscosity @ 100°C



Base Number

