

LIEBHERR

CONSTRUCTION EQUIPMENT



LIEBHERR A934C 030061-1007 - Diesel Engine

Sample No: LH0244853

Oil Type: CONOCO PHILLIPS GUARDOL ECT 15W40



SAMPLE INFORMATION

Sample Number	LH0244853	LH0244856	LH0244862	LH0244637
Sample Date	08 Jan 2024	27 Nov 2023	03 Oct 2023	14 Aug 2023
Machine Hours	32124	32547	32729	29000
Oil Hours	250	300	300	300
Oil Changed	Changed	Changed	Changed	Changed
Sample Status	NORMAL	NORMAL	NORMAL	NORMAL

NILES IRON & METAL CO. INC.

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US 44446

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OIL CONDITION

Visc @ 100°C	cSt	13.1	12.8	12.4	13.4
Base Number (BN)	mg KOH/g	8.5	8.4	7.5	7.5
Oxidation (PA)	%	47	47	43	46

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.



CONTAMINATION

Water	%	NEG	NEG	NEG	NEG
Soot %	%	0.4	1	0.9	1.1
Nitration (PA)	%	45	54	51	60
Sulfation (PA)	%	49	52	49	53
Glycol	%	NEG	NEG	NEG	NEG
Fuel	%	<1.0	<1.0	0.4	<1.0
Silicon	ppm	6	6	6	7
Sodium	ppm	1	<1	2	1
Potassium	ppm	4	2	2	2



WEAR METALS

Iron	ppm	<1	5	7	7
Copper	ppm	<1	0	<1	<1
Lead	ppm	<1	<1	<1	0
Tin	ppm	<1	<1	<1	0
Aluminum	ppm	2	1	<1	<1
Chromium	ppm	<1	0	<1	<1
Molybdenum	ppm	36	33	31	11
Nickel	ppm	<1	<1	<1	0
Titanium	ppm	6	8	4	7
Silver	ppm	0	0	0	0
Manganese	ppm	<1	<1	<1	<1
Vanadium	ppm	<1	<1	<1	0



ADDITIVES

Calcium	ppm	1330	1571	1466	1512
Magnesium	ppm	639	536	463	652
Zinc	ppm	1191	1277	1053	1238
Phosphorus	ppm	1018	1070	902	1044
Barium	ppm	0	0	3	0
Boron	ppm	43	45	35	67

Depot: NILNIL

Unique No: 10869249

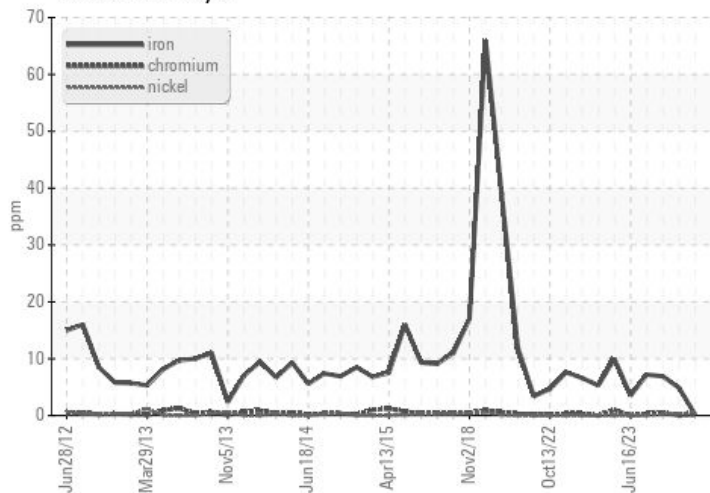
Signed: Wes Davis

Report Date: 07 Feb 2024

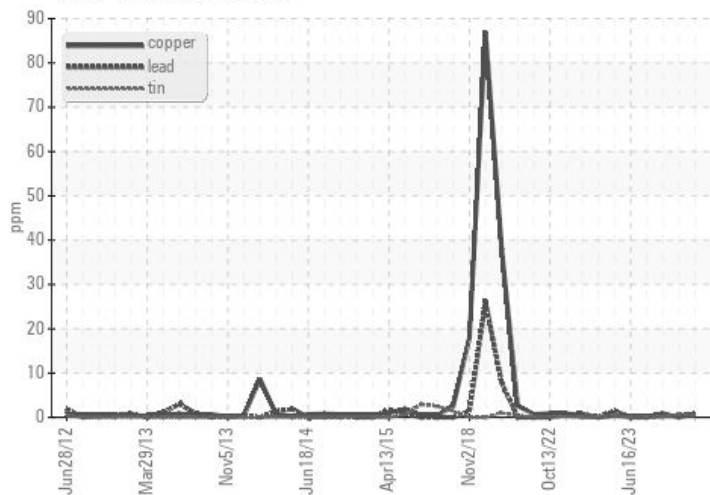


GRAPHS

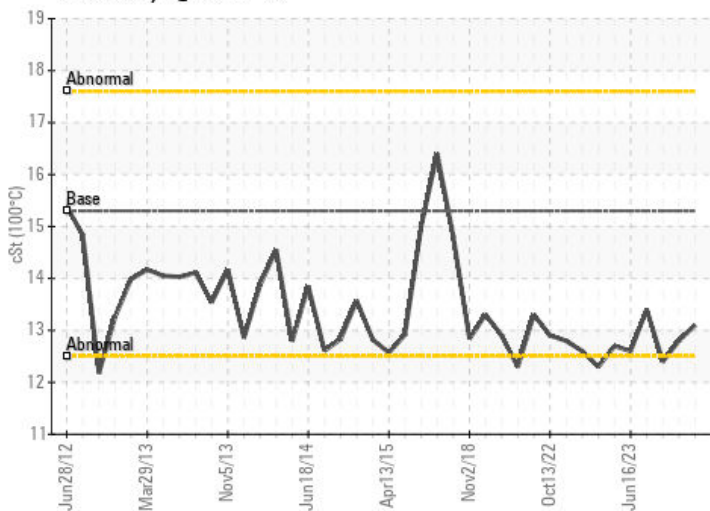
Ferrous Alloys



Non-ferrous Metals



Viscosity @ 100°C



Base Number

