

LIEBHERR

CONSTRUCTION EQUIPMENT



LIEBHERR A934 030061-1007 - Diesel Engine

Sample No: LH0273213

Oil Type: CONOCO PHILLIPS GUARDOL ECT 15W40



Sample Information

Sample Number	LH0273213	LH0273252	LH0244853	LH0244856
Sample Date	09 May 2024	06 Mar 2024	08 Jan 2024	27 Nov 2023
Machine Hours	33437	33017	32124	32547
Oil Hours	300	250	250	300
Oil Changed	Changed	Changed	Changed	Changed
Sample Status	NORMAL	NORMAL	NORMAL	NORMAL

NILES IRON & METAL CO. INC.

P.O. BOX 166

NILES, OH

US 44446

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Oil Condition

Visc @ 100°C	cSt	13.2	13.0	13.1	12.8
Base Number (BN)	mg KOH/g	7.2	7.9	8.5	8.4
Oxidation (PA)	%	52	51	47	47

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 %	%	1.9	1.5	0.4	1
Nitration (PA)	%	74	64	45	54
Sulfation (PA)	%	60	55	49	52
Glycol	%	NEG	NEG	NEG	NEG
Fuel	%	<1.0	<1.0	<1.0	<1.0
Silicon	ppm	7	6	6	6
Sodium	ppm	2	<1	1	<1
Potassium	ppm	3	0	4	2



Wear Metals

Iron	ppm	17	11	<1	5
Copper	ppm	<1	1	<1	0
Lead	ppm	<1	0	<1	<1
Tin	ppm	<1	0	<1	<1
Aluminum	ppm	1	<1	2	1
Chromium	ppm	0	<1	<1	0
Molybdenum	ppm	29	33	36	33
Nickel	ppm	0	0	<1	<1
Titanium	ppm	8	9	6	8
Silver	ppm	0	0	0	0
Manganese	ppm	<1	<1	<1	<1
Vanadium	ppm	<1	0	<1	<1



Additives

Calcium	ppm	1488	1383	1330	1571
Magnesium	ppm	677	592	639	536
Zinc	ppm	1242	1139	1191	1277
Phosphorus	ppm	1061	969	1018	1070
Barium	ppm	0	0	0	0
Boron	ppm	42	34	43	45

Depot: NILNIL

Unique No: 11050136

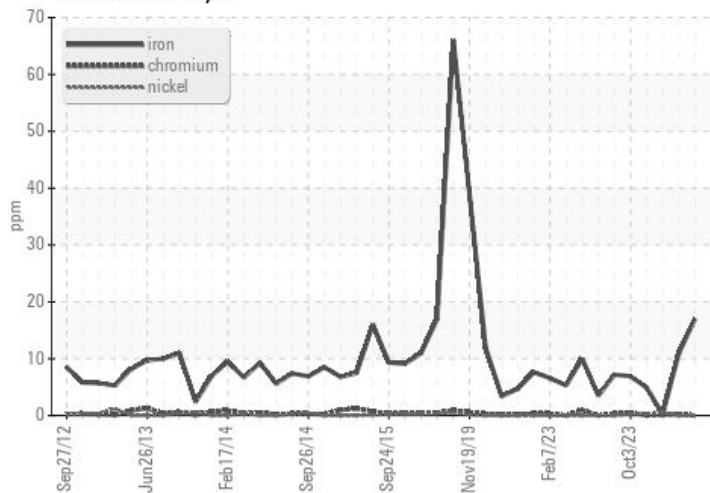
Signed: Wes Davis

Report Date: 30 May 2024

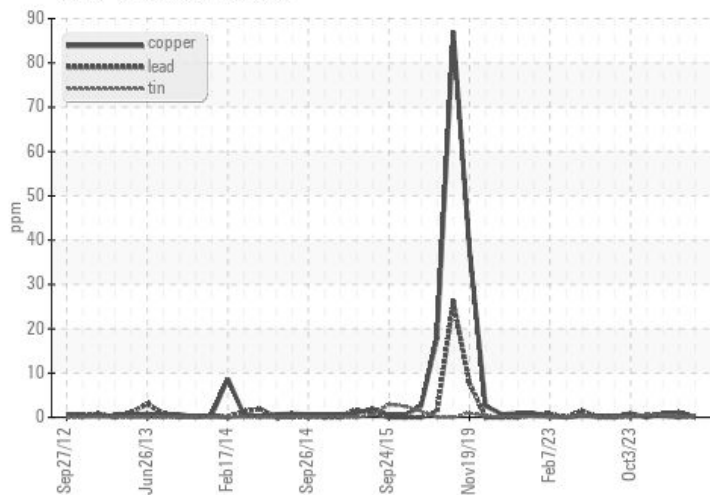


Graphs

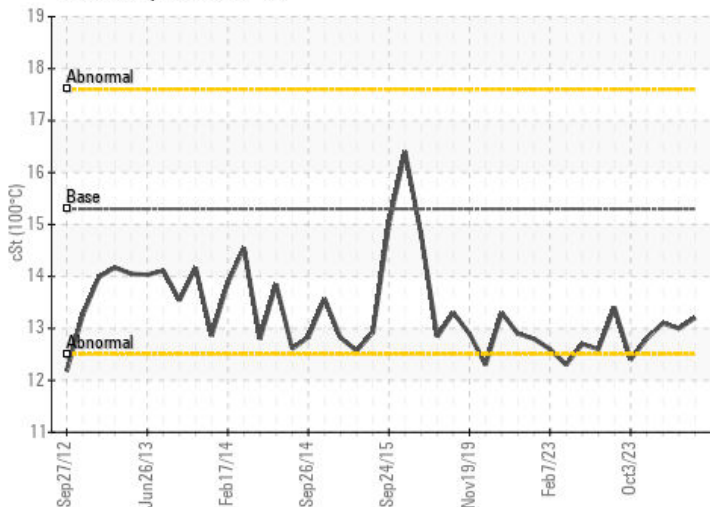
Ferrous Alloys



Non-ferrous Metals



Viscosity @ 100°C



Base Number

