

LIEBHERR

CONSTRUCTION EQUIPMENT



LIEBHERR A934C 030061-1007 - Diesel Engine

Sample No: LH0244637

Oil Type: CONOCO PHILLIPS GUARDOL ECT 15W40



SAMPLE INFORMATION

Sample Number	LH0244637	LH0244662	LH0244654	LH0207972
Sample Date	14 Aug 2023	16 Jun 2023	11 May 2023	21 Mar 2023
Machine Hours	29000	14552	31212	31341
Oil Hours	300	300	250	300
Oil Changed	Changed	Changed	Changed	Changed
Sample Status	NORMAL	NORMAL	NORMAL	ATTENTION

NILES IRON & METAL CO. INC.

P.O. BOX 166

NILES, OH

US 44446

Contact: CRAIG STINSON

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OIL CONDITION

Visc @ 100°C	cSt	13.4	12.6	12.7	12.3
Base Number (BN)	mg KOH/g	7.5	6.7	7.1	7.5
Oxidation (PA)	%	46	49	45	43

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

Soot %	%	1.1	0.2	1.2	0.7
Nitration (PA)	%	60	44	63	53
Sulfation (PA)	%	53	47	54	49
Glycol	%	NEG	NEG	NEG	NEG
Fuel	%	<1.0	<1.0	<1.0	0.4
Silicon	ppm	7	9	6	5
Sodium	ppm	1	0	2	<1
Potassium	ppm	2	3	3	<1



WEAR METALS

Iron	ppm	7	4	10	5
Copper	ppm	<1	<1	<1	0
Lead	ppm	0	0	2	0
Tin	ppm	0	0	<1	0
Aluminum	ppm	<1	2	2	<1
Chromium	ppm	<1	0	1	0
Molybdenum	ppm	11	31	13	25
Nickel	ppm	0	0	0	0
Titanium	ppm	7	22	10	2
Silver	ppm	0	0	<1	0
Manganese	ppm	<1	<1	<1	<1
Vanadium	ppm	0	0	0	0



ADDITIVES

Calcium	ppm	1512	1998	1584	1452
Magnesium	ppm	652	557	588	484
Zinc	ppm	1238	1499	1256	1122
Phosphorus	ppm	1044	1290	1036	913
Barium	ppm	0	0	0	0
Boron	ppm	67	89	61	36

Depot: NILNIL

Unique No: 10633512

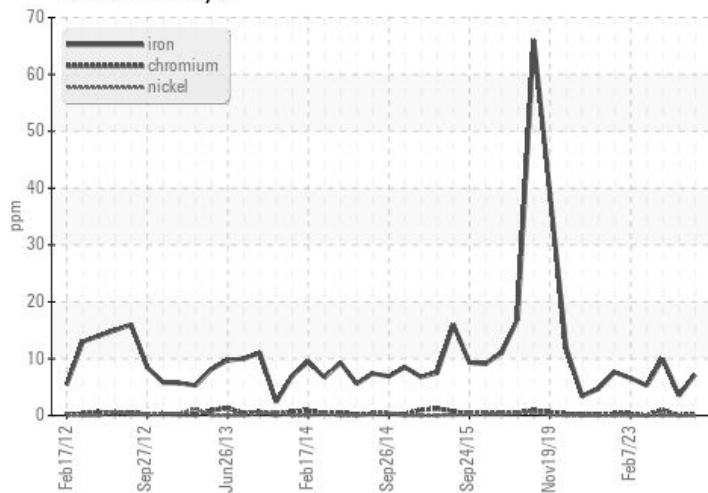
Signed: Wes Davis

Report Date: 06 Sep 2023

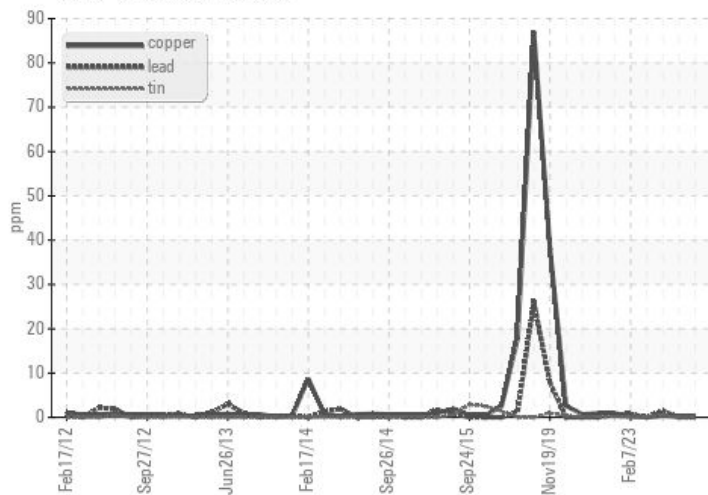


GRAPHS

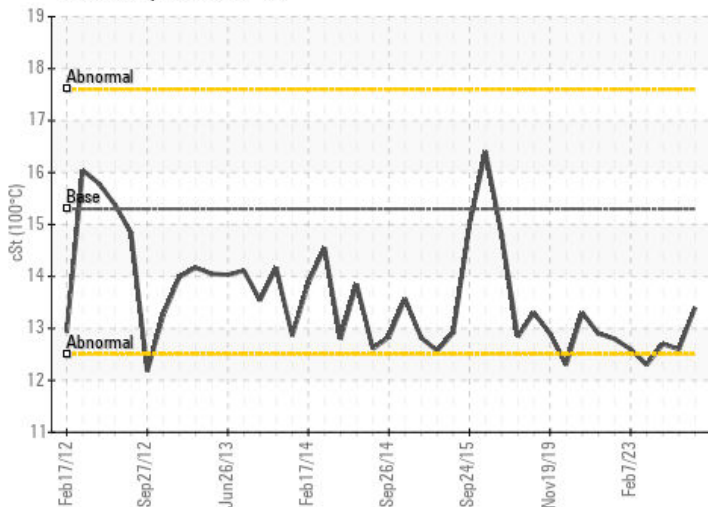
Ferrous Alloys



Non-ferrous Metals



Viscosity @ 100°C



Base Number

