

LIEBHERR

CONSTRUCTION EQUIPMENT



053548-1006 - Diesel Engine

Sample No: LH0277056

Oil Type: PETRO CANADA 10W30



SAMPLE INFORMATION

Sample Number	LH0277056	LH0250237	LH0180118	LH0234482
Sample Date	04 Oct 2023	31 Jan 2023	05 Jan 2022	01 Jan 2022
Machine Hours	10216	9632	8682	9457
Oil Hours	0	0	0	0
Oil Changed	Changed	Changed	Changed	Changed
Sample Status	NORMAL	NORMAL	NORMAL	NORMAL

American Iron and Metal
 PIER 10, 1 PROTECTION ST
 SAINT JOHN, NB
 CA E2M 5S8
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OIL CONDITION

Visc @ 100°C	cSt	12.3	11.7	12.2	12.3
Oxidation (PA)	%	61	52	58	57



CONTAMINATION

Soot %	%	2.6	0.7	2.1	2
Nitration (PA)	%	79	49	68	67
Sulfation (PA)	%	66	56	63	63
Glycol	%	NEG	NEG	NEG	NEG
Fuel	%	<1.0	<1.0	<1.0	<1.0
Silicon	ppm	6	7	7	6
Sodium	ppm	2	1	2	2
Potassium	ppm	0	0	<1	<1

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 condition of the oil is acceptable for the time in service.



WEAR METALS

Iron	ppm	22	8	32	21
Copper	ppm	4	2	3	2
Lead	ppm	<1	<1	<1	<1
Tin	ppm	0	<1	<1	0
Aluminum	ppm	2	1	2	1
Chromium	ppm	<1	0	<1	<1
Molybdenum	ppm	71	59	63	63
Nickel	ppm	0	0	<1	0
Titanium	ppm	0	0	0	<1
Silver	ppm	0	0	0	0
Manganese	ppm	0	<1	<1	<1
Vanadium	ppm	0	0	0	0



ADDITIVES

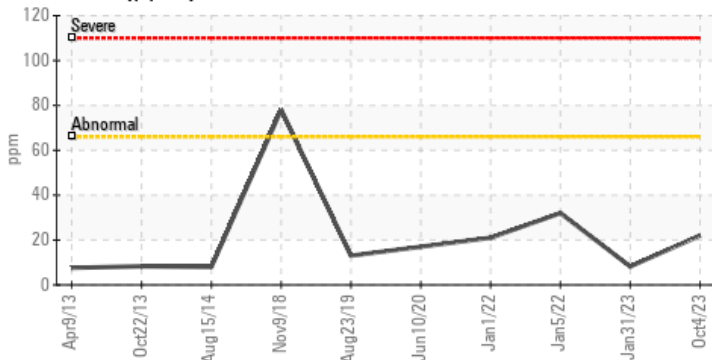
Calcium	ppm	1183	1092	1126	1153
Magnesium	ppm	1151	979	1069	1044
Zinc	ppm	1368	1192	1257	1260
Phosphorus	ppm	1121	1089	1090	1124
Barium	ppm	<1	0	0	0
Boron	ppm	4	<1	2	<1

Depot: AME10STJ
Unique No: 5670648
Signed: Wes Davis
Report Date: 02 Nov 2023

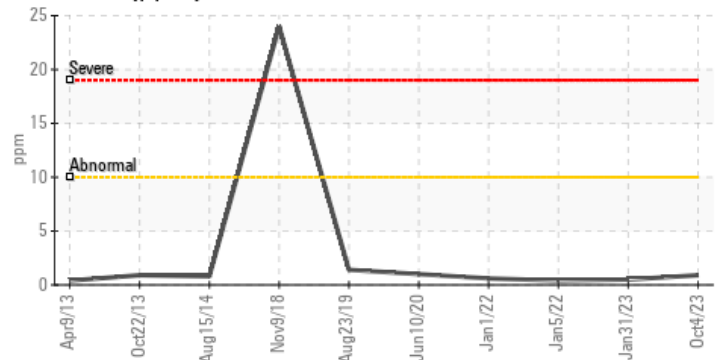


GRAPHS

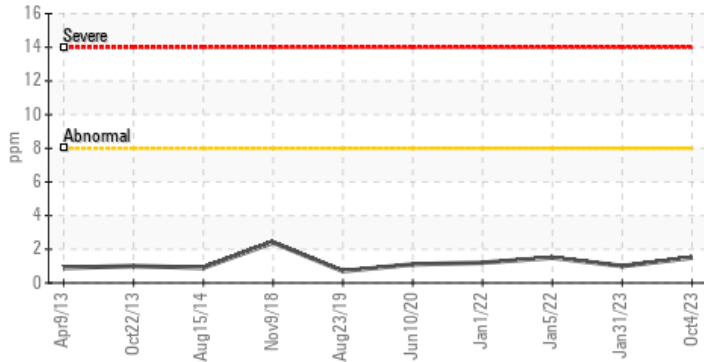
Iron (ppm)



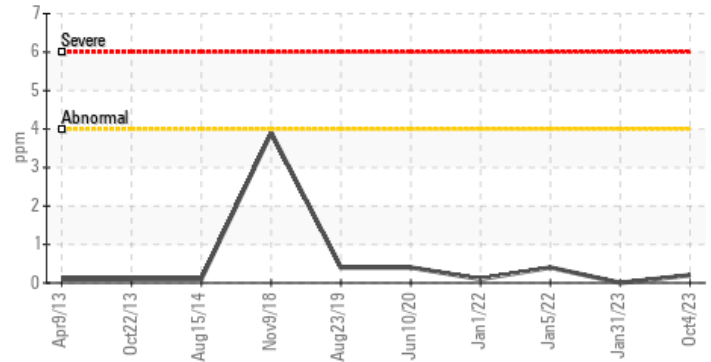
Lead (ppm)



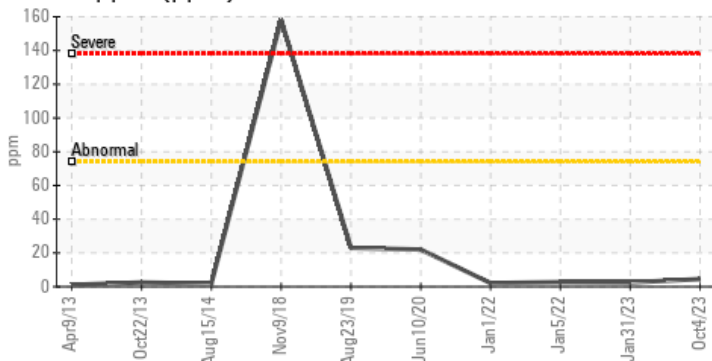
Aluminum (ppm)



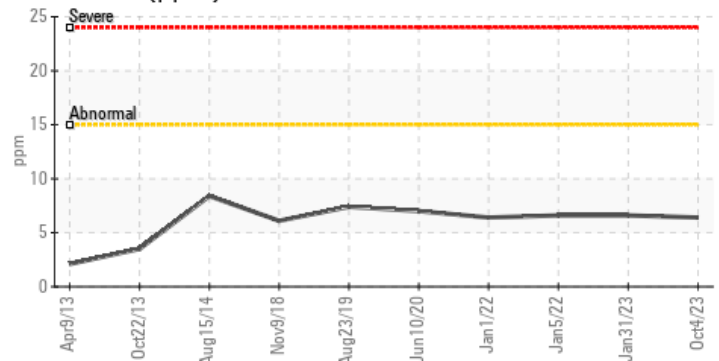
Chromium (ppm)



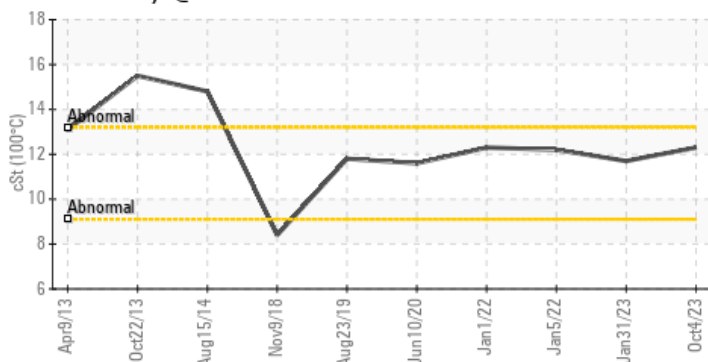
Copper (ppm)



Silicon (ppm)



Viscosity @ 100°C



Soot %

