CONSTRUCTION EQUIPMENT
LIEBHERR L524 020079-659 - DIESEL ENGINE

Sample No: VCP06152513
Oil Type: VALVOLINE ALLFLEET 15W40
Job No:

SIMS METAL MANAGEMENT
2500 S. PAULINA
CHICAGO, IL
US 60608
Contact: RYAN WISE
ryan.wise@simsmm.com
T:
F:

SAMPLE INFORMATION

Sample Number		**VCP06152513**	VCP306499	LHMC131184	LHMC109987
Sample Date		**02 Apr 2024**	17 Feb 2021	18 Mar 2019	08 Sep 2016
Machine Hours		**0**	0	11557	9417
Oil Hours		**0**	0	500	0
Oil Changed		**N/A**	Changed	Changed	Changed
Sample Status		**SEVERE**	NORMAL	NORMAL	NORMAL

OIL CONDITION

Visc @ 100°C	cSt	**118**	15.1	14.39	14.00
Base Number (BN)	mg KOH/g	**43.0**	---	---	---
Oxidation (PA)	%	**99**	78	57	36

CONTAMINATION

Water	%	**NEG**	NEG	NEG	NEG
Soot %	%	**1.8**	1.4	0.9	0.1
Nitration (PA)	%	**238**	95	109	33
Sulfation (PA)	%	**2**	66	53	30
Glycol	%	**0.12**	NEG	NEG	NEG
Fuel	%	**<1.0**	<1.0	<1.0	<1.0
Silicon	ppm	**41**	4	5	2
Sodium	ppm	**3125**	<1	4	4
Potassium	ppm	**144**	2	0	<1

WEAR METALS

Iron	ppm	**162**	55	36	9
Copper	ppm	**95**	2	<1	<1
Lead	ppm	**105**	8	1	<1
Tin	ppm	**9**	<1	1	<1
Aluminum	ppm	**10**	<1	3	1
Chromium	ppm	**5**	1	1	<1
Molybdenum	ppm	**345**	33	<1	5
Nickel	ppm	**5**	1	<1	<1
Titanium	ppm	**<1**	0	<1	0
Silver	ppm	**<1**	0	0	0
Manganese	ppm	**4**	<1	<1	<1
Vanadium	ppm	**<1**	0	0	0

ADDITIVES

Calcium	ppm	**948**	1811	3922	1234
Magnesium	ppm	**542**	664	260	778
Zinc	ppm	**882**	1346	1289	1165
Phosphorus	ppm	**762**	1214	1084	1053
Barium	ppm	**2**	0	0	0
Boron	ppm	**282**	44	184	24

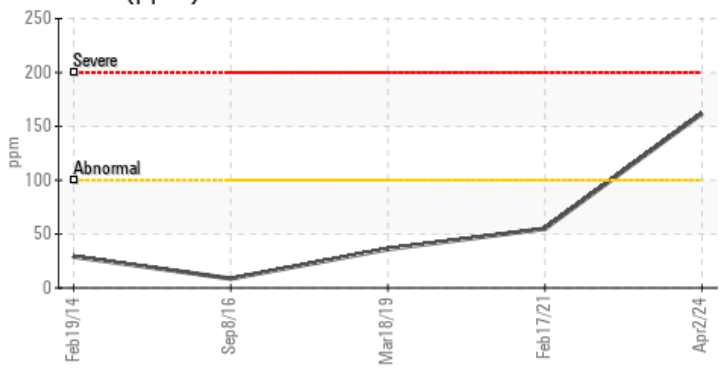
Diagnosis

We advise that you check for the source of the coolant leak. Check for low coolant level. We recommend that you drain the oil and perform a filter service on this component if not already done. We advise that you inspect for the source(s) of wear. We recommend an early resample to monitor this condition.Cylinder, crank, or cam shaft wear is indicated. Bearing and/or bushing wear is indicated. Sodium and/or potassium levels are high. There is a high concentration of glycol present in the oil. The oil viscosity is higher than normal. 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.

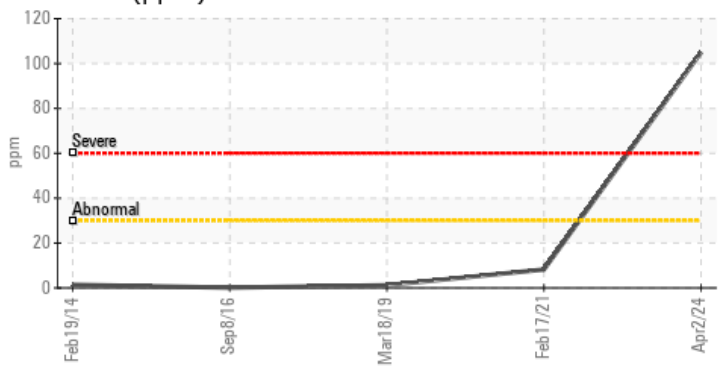
Depot: SIMCHIIL
Unique No: 10982591
Signed: Jonathan Hester
Report Date: 23 Apr 2024

GRAPHS

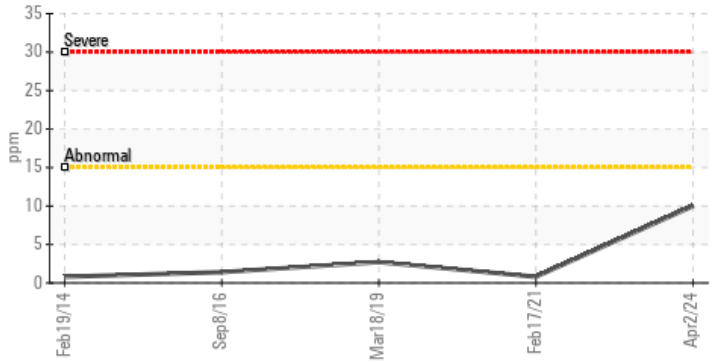
Iron (ppm)



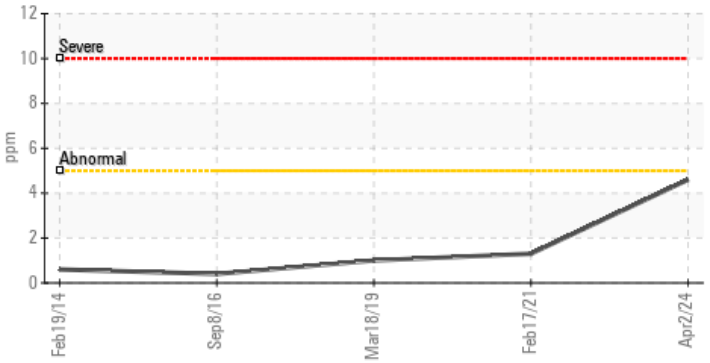
Lead (ppm)



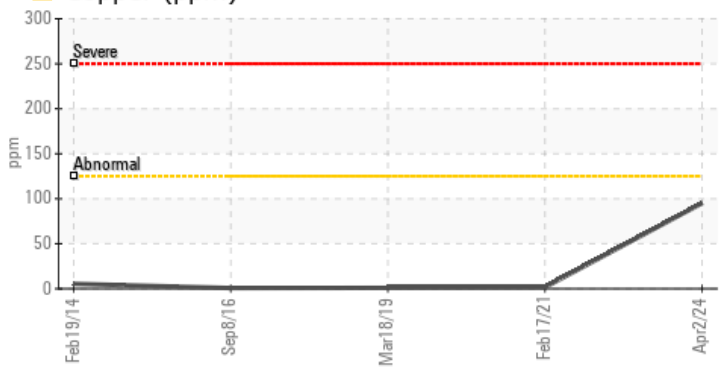
Aluminum (ppm)



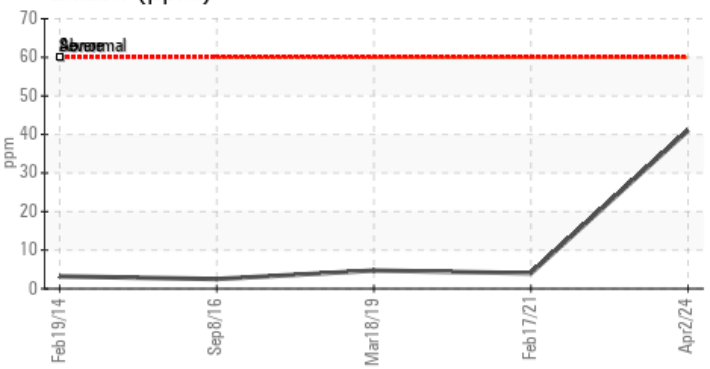
Chromium (ppm)



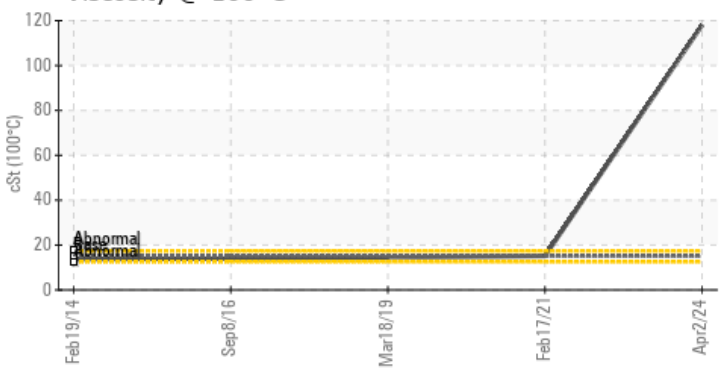
Copper (ppm)



Silicon (ppm)



Viscosity @ 100°C



Base Number