LIEBHERR
CONSTRUCTION EQUIPMENT

LIEBHERR A934 038332-1006 - Rear Differential

Sample No: VCE104423

Oil Type: GEAR OIL SAE 80W90

AMERICAN STATE EQUIPMENT CO.
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WAUSAU, WI
US 54401
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SAMPLE INFORMATION

Sample Number		**VCE104423**	DJJ005708	DJJ009266	LHMC040640
Sample Date		**01 May 2019**	23 Jan 2013	28 Mar 2012	28 Jul 2011
Machine Hours		**13156**	7377	6219	5209
Oil Hours		**0**	1000	2000	1000
Oil Changed		**Changed**	Changed	Changed	Not Changd
Sample Status		**NORMAL**	ABNORMAL	NORMAL	NORMAL

OIL CONDITION

Visc @ 40°C	cSt	**124**	131.5	131.5	129.6

CONTAMINATION

Silicon	ppm	**<1**	12	3	9
Sodium	ppm	**<1**	<1	4	4
Potassium	ppm	**30**	2	0	1

WEAR METALS

Iron	ppm	**26**	35	73	50
Copper	ppm	**10**	9	20	12
Lead	ppm	**2**	<1	0	<1
Tin	ppm	**0**	0	0	0
Aluminum	ppm	**<1**	2	1	2
Chromium	ppm	**<1**	<1	<1	<1
Molybdenum	ppm	**0**	<1	<1	<1
Nickel	ppm	**<1**	<1	0	<1
Titanium	ppm	**0**	<1	0	<1
Silver	ppm	**0**	0	0	<1
Manganese	ppm	**<1**	1	2	1
Vanadium	ppm	**0**	0	0	0

ADDITIVES

Calcium	ppm	**7**	22	9	17
Magnesium	ppm	**1**	1	0	2
Zinc	ppm	**9**	21	28	26
Phosphorus	ppm	**671**	792	982	1047
Barium	ppm	**0**	0	0	<1
Boron	ppm	**19**	127	172	193

Diagnosis

Resample at the next service interval to monitor. The fluid was not specified, however, a fluid match indicates that this fluid is (GENERIC) GEAR OIL SAE 80W90. Please confirm.
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.

Depot: LEC0008
Unique No: 8618298
Signed: Wes Davis
Report Date: 05 Jun 2019

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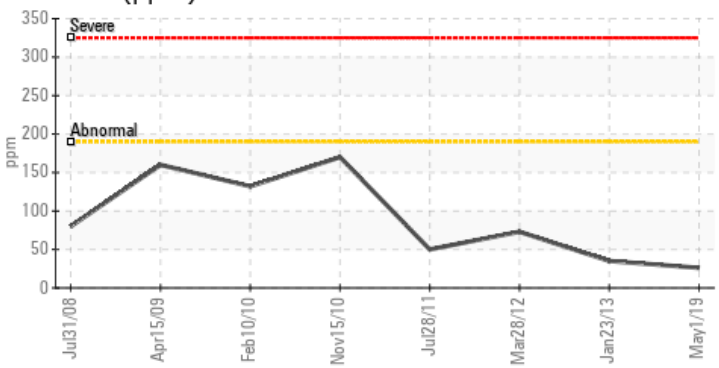
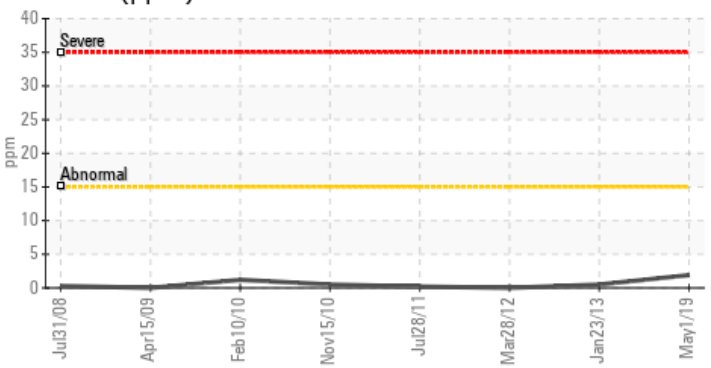
GRAPHS

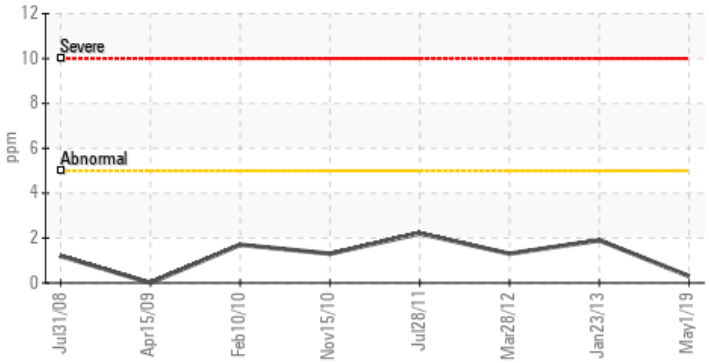
Iron (ppm)



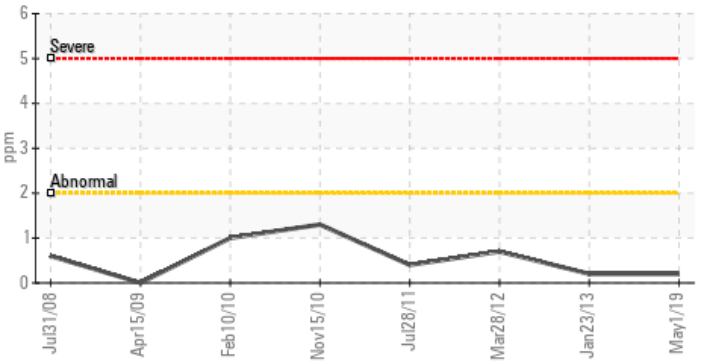
Lead (ppm)



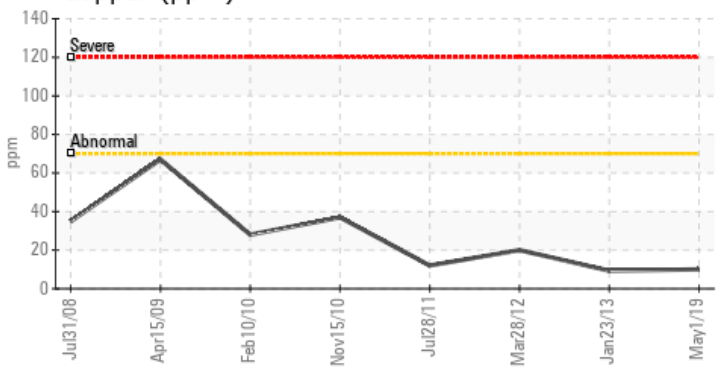
Aluminum (ppm)



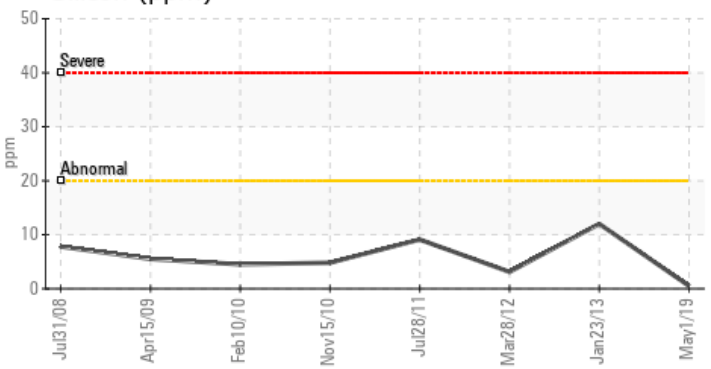
Chromium (ppm)



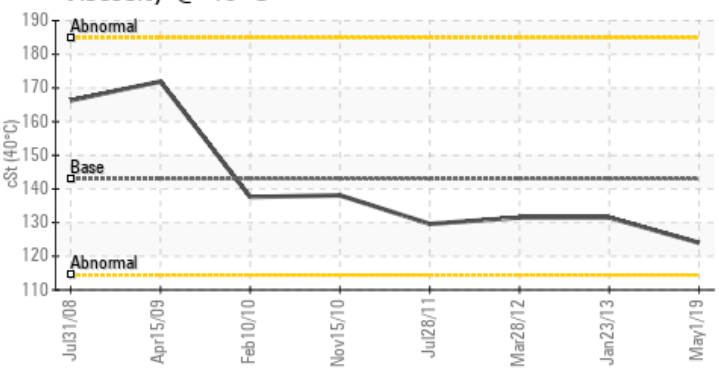
Copper (ppm)



Silicon (ppm)



Viscosity @ 40°C



Additives