



LIEBHERR

OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL



Machine Id
LIEBHERR A924 019013-957
Component
Diesel Engine
Fluid
ESSO XD-3 EXTRA 15W40 (20 LTR)

RECOMMENDATION

Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		LH	LH0225320	LH
Sample Date		Client Info		08 Apr 2024	13 May 2022	05 Mar 2006
Machine Age	hrs	Client Info		0	0	10590
Oil Age	hrs	Client Info		0	0	0
Filter Age	hrs	Client Info		0	0	0
Oil Changed		Client Info		Changed	Changed	N/A
Filter Changed		Client Info		Changed	Changed	N/A
Sample Status				NORMAL	NORMAL	NORMAL

WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185(m)	>100	44	44	7
Chromium	ppm	ASTM D5185(m)	>5	1	2	<1
Nickel	ppm	ASTM D5185(m)	>5	<1	<1	0
Titanium	ppm	ASTM D5185(m)		<1	0	<1
Silver	ppm	ASTM D5185(m)	>3	0	0	0
Aluminum	ppm	ASTM D5185(m)	>15	2	2	1
Lead	ppm	ASTM D5185(m)	>30	11	9	0
Copper	ppm	ASTM D5185(m)	>125	3	3	<1
Tin	ppm	ASTM D5185(m)	>5	0	<1	0
Vanadium	ppm	ASTM D5185(m)		0	0	0
White Metal	scalar	Visual*	NONE	NONE	---	NONE
Yellow Metal	scalar	Visual*	NONE	NONE	---	NONE

CONTAMINATION

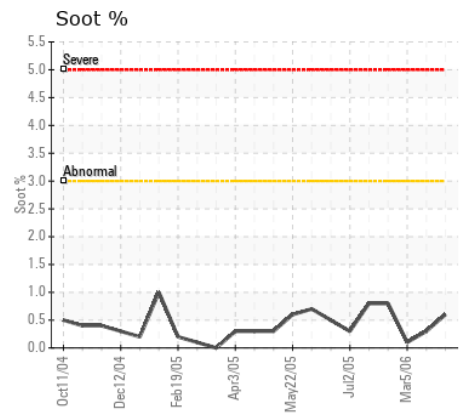
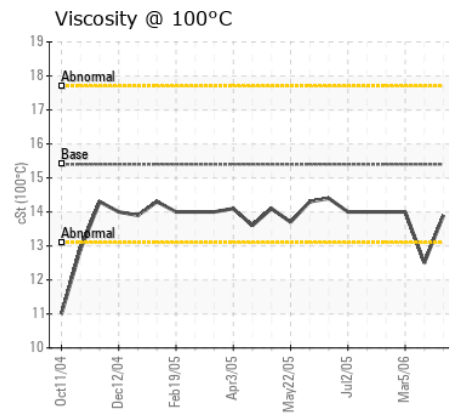
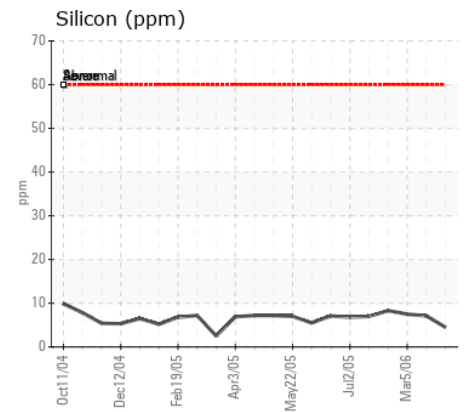
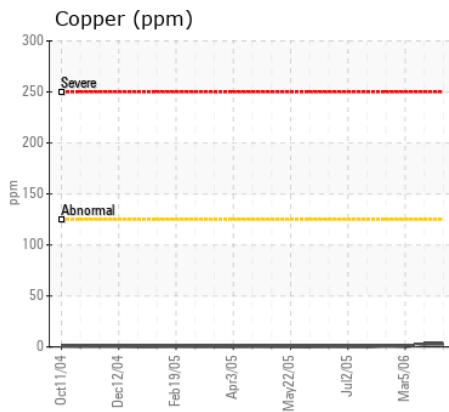
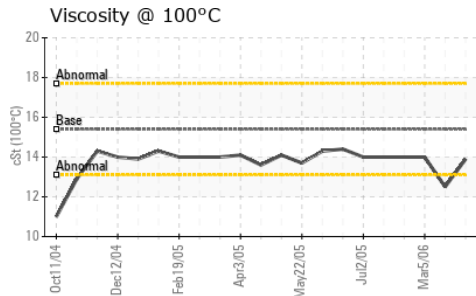
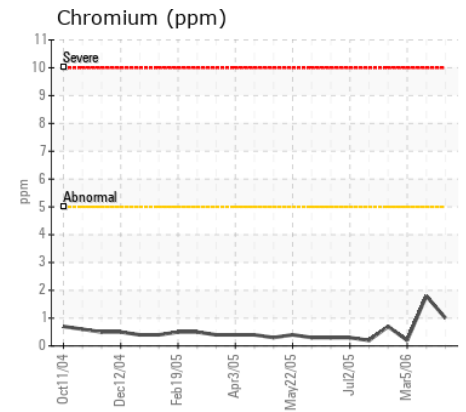
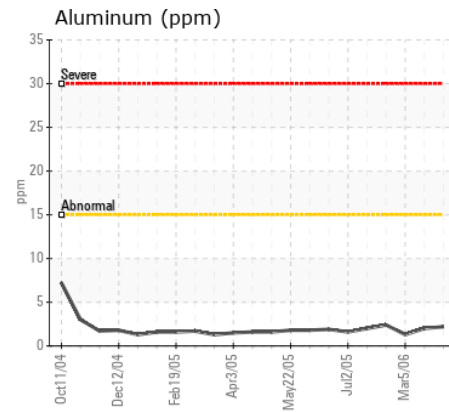
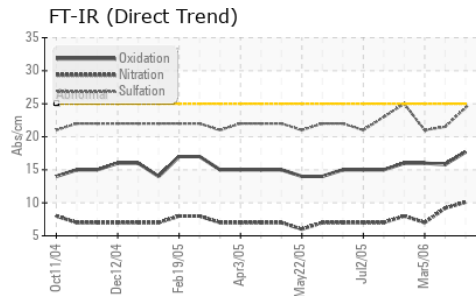
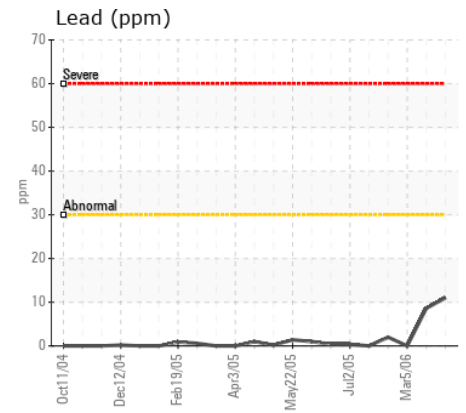
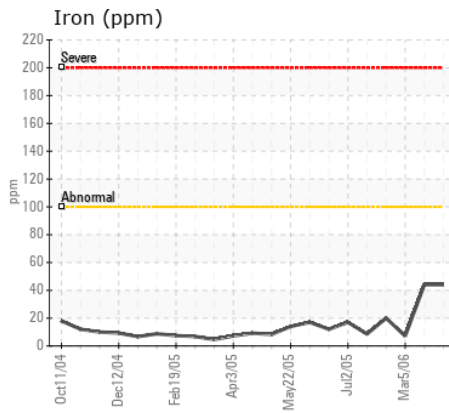
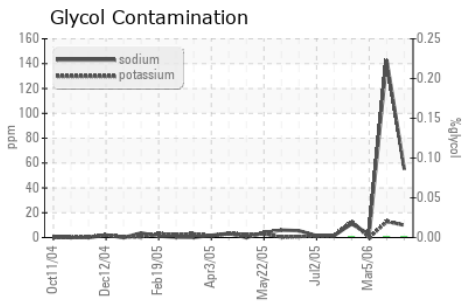
There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185(m)	>60	4	7	8
Potassium	ppm	ASTM D5185(m)	>20	10	13	0
Fuel		WC Method	>5	<1.0	0.8	<1.0
Water		WC Method	>0.2	NEG	NEG	NEG
Glycol	%	ASTM D7922*		0.0	0.0	NEG
Soot %	%	ASTM D7844*	>3	0.6	0.3	0.1
Nitration	Abs/cm	ASTM D7624*	>20	10.1	9.2	7
Sulfation	Abs/.1mm	ASTM D7415*	>30	24.4	21.5	21
Silt	scalar	Visual*	NONE	NONE	---	NONE
Debris	scalar	Visual*	NONE	NONE	---	NONE
Sand/Dirt	scalar	Visual*	NONE	NONE	---	NONE
Appearance	scalar	Visual*	NORML	NORML	---	NORML
Odor	scalar	Visual*	NORML	NORML	NORML	NORML
Emulsified Water	scalar	Visual*	>0.2	NEG	NEG	NEG

FLUID CONDITION

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

Sodium	ppm	ASTM D5185(m)	>192	55	143	3
Boron	ppm	ASTM D5185(m)		10	5	<1
Barium	ppm	ASTM D5185(m)		0	0	0
Molybdenum	ppm	ASTM D5185(m)		7	65	<1
Manganese	ppm	ASTM D5185(m)		<1	<1	<1
Magnesium	ppm	ASTM D5185(m)		115	1016	10
Calcium	ppm	ASTM D5185(m)	3780	2334	1131	3687
Phosphorus	ppm	ASTM D5185(m)	1370	962	1090	1282
Zinc	ppm	ASTM D5185(m)	1500	1182	1286	1380
Sulfur	ppm	ASTM D5185(m)	3800	2841	2569	4895
Oxidation	Abs/.1mm	ASTM D7414*	>25	17.7	15.8	16
Visc @ 100°C	cSt	ASTM D7279(m)	15.4	13.9	12.5	14.0



Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
Sample No. : LH
Lab Number : 02630507
Unique Number : 5763639
Test Package : MOB 1 (Additional Tests: Glycol, Visual)
Received : 22 Apr 2024
Tested : 23 Apr 2024
Diagnosed : 23 Apr 2024 - Kevin Marson

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To discuss this sample report, contact Customer Service at 1-800-268-2131.
 Test denoted (*) outside scope of accreditation, (m) method modified, (e) tested at external lab.
 Validity of results and interpretation are based on the sample and information as supplied.