

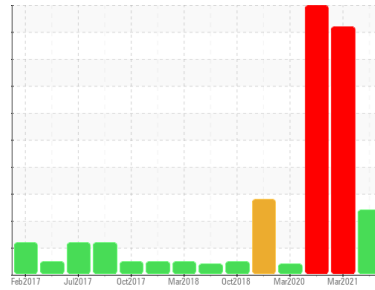


OIL ANALYSIS REPORT



Machine Id
SANDVIK LH202 SCP-178 (S/N L602D002)
 Component
Diesel Engine
 Fluid
SHELL 15W40 (8 LTR)

Sample Rating Trend



DIAGNOSIS

Recommendation

We advise that you check the air filter, air induction system, and any areas where dirt may enter the component. Oil and filter change at the time of sampling has been noted. We recommend an early resample to monitor this condition.

Wear

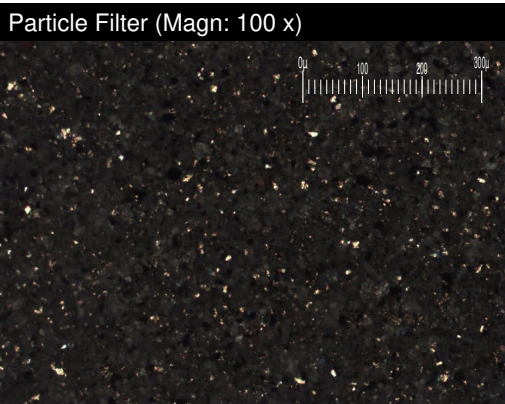
Copper ppm levels are noted. In the absence of other significant wear metals, suspect copper due to sources other than wear (i.e. cooling core). All other component wear rates are normal.

Contamination

There is a moderate concentration of dirt present in the oil.

Fluid Condition

The oil is no longer serviceable due to the presence of contaminants.



SAMPLE INFORMATION

	method	limit/base	current	history1	history2
Sample Number	Client Info		WC112776	WC112745	WC104910
Sample Date	Client Info		18 Jun 2021	27 Mar 2021	29 Dec 2020
Machine Age	hrs	Client Info	2276	1822	1484
Oil Age	hrs	Client Info	250	250	250
Oil Changed	Client Info		Changed	Changed	Changed
Sample Status			ABNORMAL	SEVERE	SEVERE

CONTAMINATION

	method	limit/base	current	history1	history2
Fuel	WC Method	>5	<1.0	<1.0	<1.0
Glycol	WC Method		NEG	NEG	NEG

WEAR METALS

	method	limit/base	current	history1	history2	
Iron	ppm	ASTM D5185(m)	>150	87	▲ 171	▲ 177
Chromium	ppm	ASTM D5185(m)	>20	3	6	6
Nickel	ppm	ASTM D5185(m)	>2	2	▲ 4	▲ 4
Titanium	ppm	ASTM D5185(m)	>2	<1	2	2
Silver	ppm	ASTM D5185(m)	>2	<1	<1	<1
Aluminum	ppm	ASTM D5185(m)	>20	23	▲ 46	▲ 46
Lead	ppm	ASTM D5185(m)	>40	7	9	10
Copper	ppm	ASTM D5185(m)	>30	▲ 94	▲ 81	▲ 89
Tin	ppm	ASTM D5185(m)	>15	1	3	4
Antimony	ppm	ASTM D5185(m)		0	0	0
Vanadium	ppm	ASTM D5185(m)		<1	<1	<1
Beryllium	ppm	ASTM D5185(m)		0	0	0
Cadmium	ppm	ASTM D5185(m)		0	0	0

ADDITIVES

	method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185(m)	2	7	6
Barium	ppm	ASTM D5185(m)	<1	2	2
Molybdenum	ppm	ASTM D5185(m)	74	77	74
Manganese	ppm	ASTM D5185(m)	1	2	2
Magnesium	ppm	ASTM D5185(m)	1140	951	927
Calcium	ppm	ASTM D5185(m)	1278	1364	1403
Phosphorus	ppm	ASTM D5185(m)	961	954	945
Zinc	ppm	ASTM D5185(m)	1435	1452	1466
Sulfur	ppm	ASTM D5185(m)	2243	2227	2370
Lithium	ppm	ASTM D5185(m)	<1	<1	<1

CONTAMINANTS

	method	limit/base	current	history1	history2	
Silicon	ppm	ASTM D5185(m)	>25	▲ 33	■ 83	■ 88
Sodium	ppm	ASTM D5185(m)	>150	8	▲ 23	▲ 27
Potassium	ppm	ASTM D5185(m)	>20	4	16	▲ 19

INFRA-RED

	method	limit/base	current	history1	history2	
Soot %	%	ASTM D7844*	>3	0.4	0.6	0.4
Nitration	Abs/cm	ASTM D7624*	>20	8.9	10.3	9.8
Sulfation	Abs/.1mm	ASTM D7415*	>30	19.0	23.4	22.0

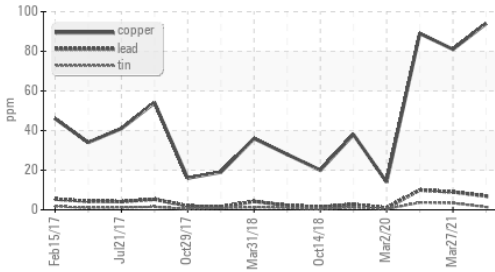
FLUID DEGRADATION

	method	limit/base	current	history1	history2	
Oxidation	Abs/.1mm	ASTM D7414*	>25	16.0	18.3	18.5

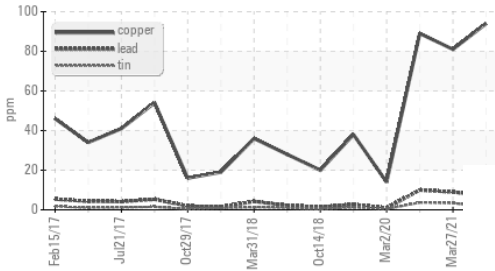


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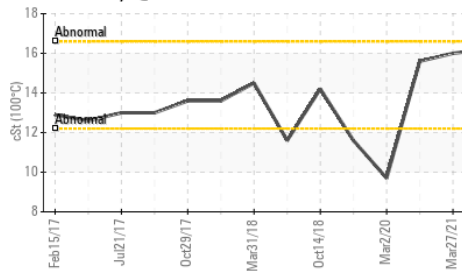
▲ Non-ferrous Metals



▲ Non-ferrous Metals



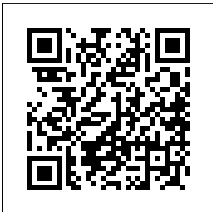
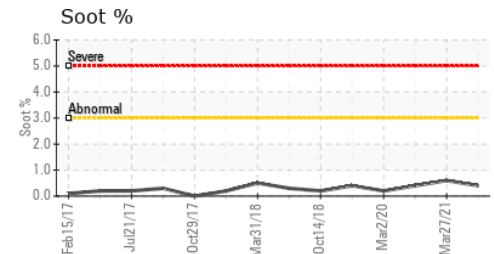
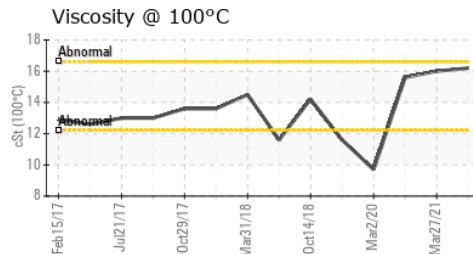
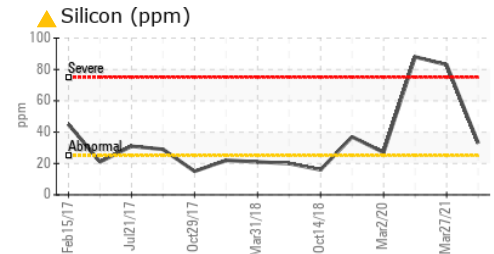
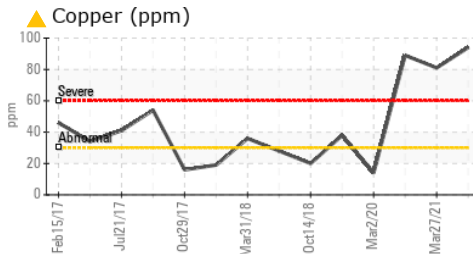
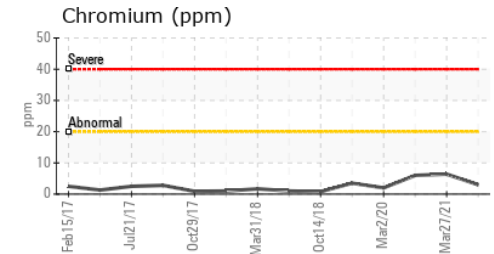
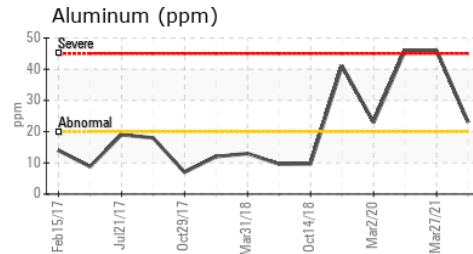
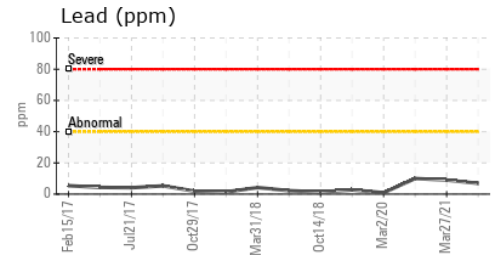
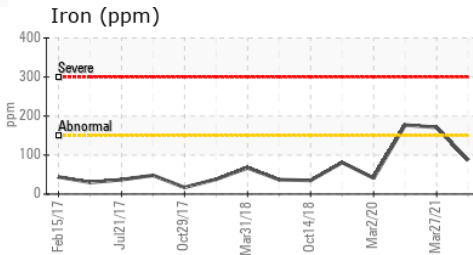
Viscosity @ 100°C



VISUAL	method	limit/base	current	history1	history2
White Metal	scalar	Visual*	NONE	NONE	NONE
Yellow Metal	scalar	Visual*	NONE	NONE	NONE
Precipitate	scalar	Visual*	NONE	NONE	NONE
Silt	scalar	Visual*	NONE	LTMOD	NONE
Debris	scalar	Visual*	NONE	NONE	NONE
Sand/Dirt	scalar	Visual*	NONE	NONE	▲ LTMOD
Appearance	scalar	Visual*	NORML	NORML	NORML
Odor	scalar	Visual*	NORML	NORML	NORML
Emulsified Water	scalar	Visual*	>0.2	NEG	NEG
Free Water	scalar	Visual*		NEG	NEG

FLUID PROPERTIES	method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D7279(m)	16.2	16.0	15.6

GRAPHS



Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
Sample No. : WC1234567 **Received** : 05 Jul 2021
Lab Number : 01234567 **Diagnosed** : 06 Jul 2021
Unique Number : 12345678 **Diagnostician** : Kevin Marson
Test Package : MOB 1 (Additional Tests: BottomAnalysis, FILTERPATCH, Visual)

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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.