



OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL

Area
AMR-St Louis
 Machine Id
574177 SENNEBOGEN 840M 804.0.1020
 Component
Diesel Engine
 Fluid
SHELL 15W40 (--- GAL)

RECOMMENDATION

Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		DJJ0020658	DJJ0019257	DJJ0012428
Sample Date		Client Info		11 Mar 2024	12 Oct 2023	21 Feb 2023
Machine Age	hrs	Client Info		20641	20128	19063
Oil Age	hrs	Client Info		250	2000	250
Filter Age	hrs	Client Info		250	0	250
Oil Changed		Client Info		Changed	Changed	Changed
Filter Changed		Client Info		Changed	N/A	Changed
Sample Status				NORMAL	NORMAL	NORMAL

WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>100	11	11	13
Chromium	ppm	ASTM D5185m	>20	<1	<1	<1
Nickel	ppm	ASTM D5185m	>4	<1	0	0
Titanium	ppm	ASTM D5185m		0	<1	0
Silver	ppm	ASTM D5185m	>3	0	0	0
Aluminum	ppm	ASTM D5185m	>20	5	1	3
Lead	ppm	ASTM D5185m	>40	<1	0	0
Copper	ppm	ASTM D5185m	>330	<1	<1	<1
Tin	ppm	ASTM D5185m	>15	<1	<1	0
Vanadium	ppm	ASTM D5185m		0	0	0
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE

CONTAMINATION

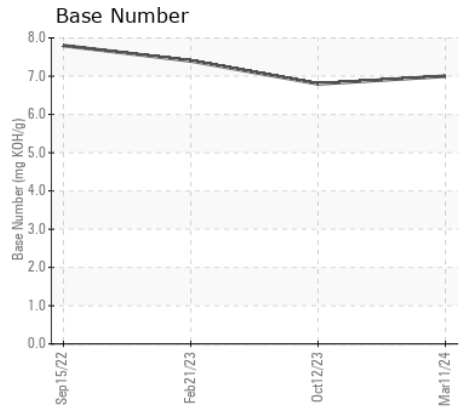
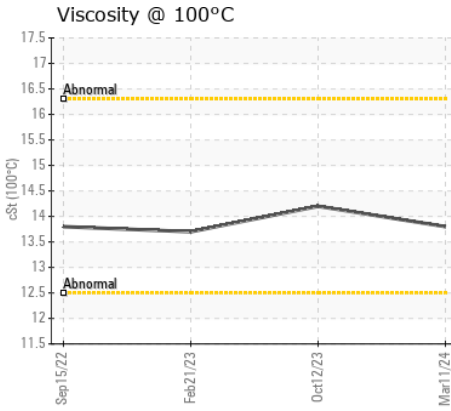
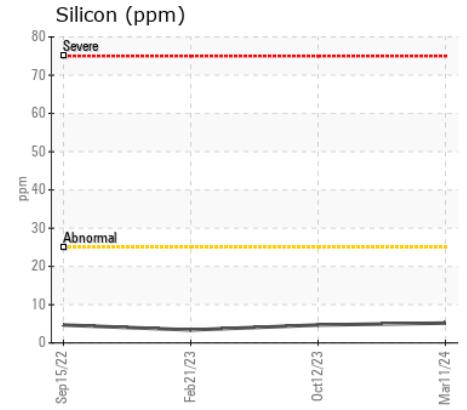
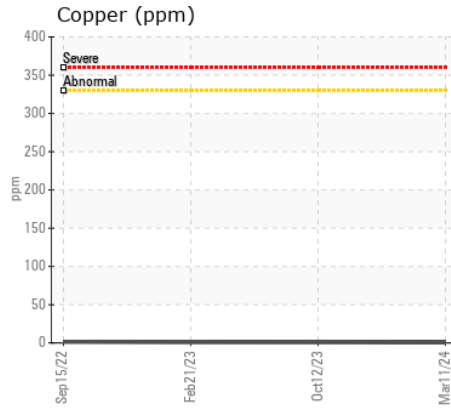
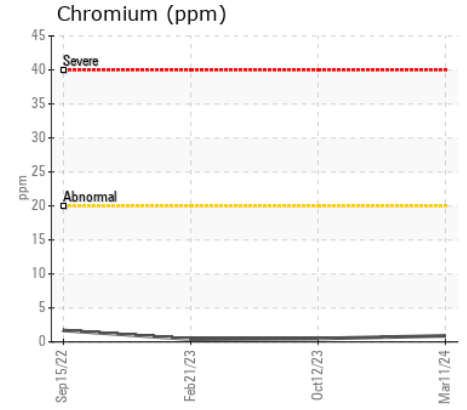
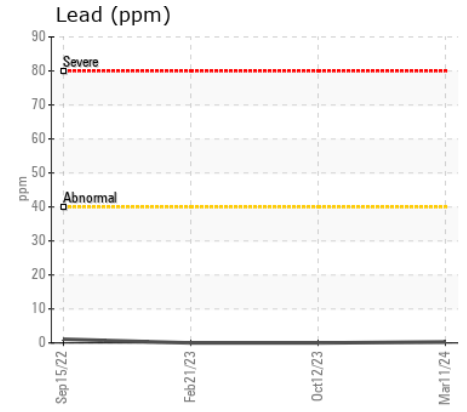
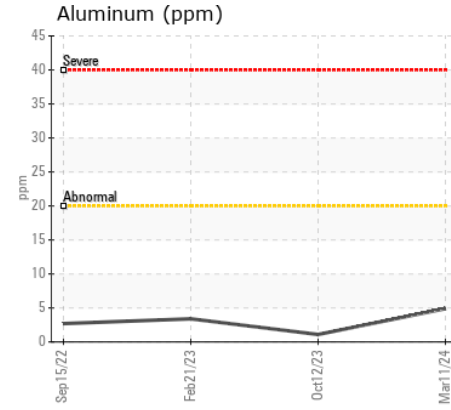
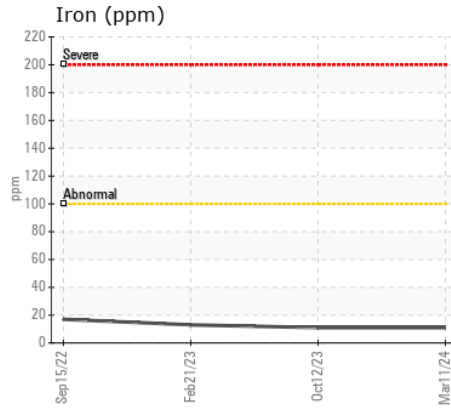
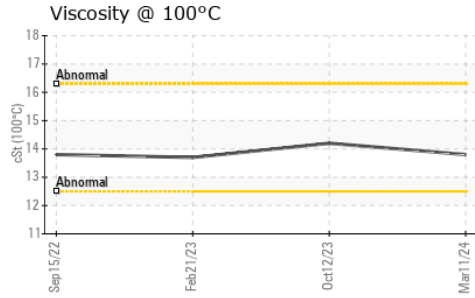
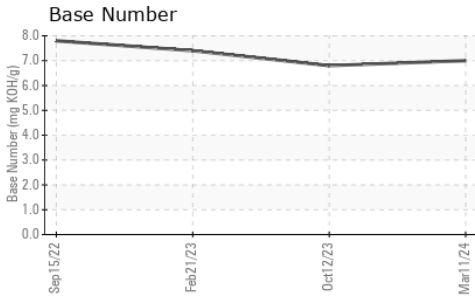
There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185m	>25	5	5	3
Potassium	ppm	ASTM D5185m	>20	1	<1	<1
Fuel		WC Method	>5	<1.0	<1.0	<1.0
Water		WC Method	>0.2	NEG	NEG	NEG
Glycol		WC Method		NEG	NEG	NEG
Soot %	%	*ASTM D7844	>3	0.5	0.6	0.5
Nitration	Abs/cm	*ASTM D7624	>20	8.6	8.2	9.0
Sulfation	Abs/.1mm	*ASTM D7415	>30	20.7	20.8	21.8
Silt	scalar	*Visual	NONE	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE	NONE
Appearance	scalar	*Visual	NORML	NORML	NORML	NORML
Odor	scalar	*Visual	NORML	NORML	NORML	NORML
Emulsified Water	scalar	*Visual	>0.2	NEG	NEG	NEG

FLUID CONDITION

The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

Sodium	ppm	ASTM D5185m	>150	2	4	<1
Boron	ppm	ASTM D5185m		185	222	228
Barium	ppm	ASTM D5185m		0	20	0
Molybdenum	ppm	ASTM D5185m		97	86	88
Manganese	ppm	ASTM D5185m		0	<1	0
Magnesium	ppm	ASTM D5185m		184	214	239
Calcium	ppm	ASTM D5185m		2116	1578	1883
Phosphorus	ppm	ASTM D5185m		1150	956	1048
Zinc	ppm	ASTM D5185m		1346	1119	1299
Sulfur	ppm	ASTM D5185m		4121	4078	3567
Oxidation	Abs/.1mm	*ASTM D7414	>25	15.8	15.5	16.8
Base Number (BN)	mg KOH/g	ASTM D2896		7.0	6.8	7.4
Visc @ 100°C	cSt	ASTM D445		13.8	14.2	13.7



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : DJJ0020658
Lab Number : 06121394
Unique Number : 10930227
Test Package : MOBCE (Additional Tests: TBN)

Received : 18 Mar 2024
Tested : 19 Mar 2024
Diagnosed : 19 Mar 2024 - Wes Davis

ADVANTAGE METALS RECYCLING - ST LOUIS
 5 N MARKET
 ST LOUIS, MO
 US 63102

Contact: JEANETTE VAGO
 jeanette.vago@advantagerecycling.com

To discuss this sample report, contact Customer Service at 1-800-237-1369.

* - Denotes test methods that are outside of the ISO 17025 scope of accreditation.

Statements of conformity to specifications are based on the simple acceptance decision rule (JCGM 106:2012)

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F: