OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	SEVERE
FLUID CONDITION	ABNORMAL

Machine Id
MANITOWOC MLC 300 015-0067
Component
Diesel Engine
Fluid
SCHAEFFER SUPREME 7000 (12 GAL)

RECOMMENDATION

We advise that you check the fuel injection system. We recommend that you drain the oil from the component if this has not already been done. We recommend an early resample to monitor this condition.

WEAR

All component wear rates are normal.

CONTAMINATION

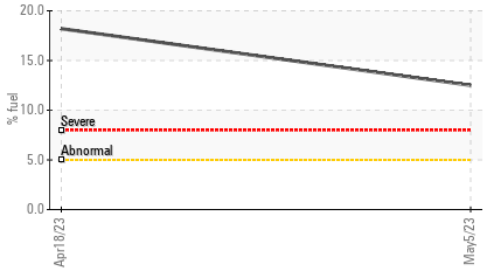
There is a high amount of fuel present in the oil. Tests confirm the presence of fuel in the oil.

FLUID CONDITION

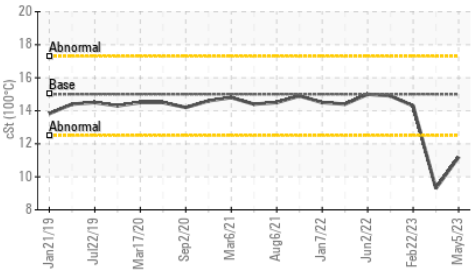
The BN result indicates that there is suitable alkalinity remaining in the oil. Fuel is present in the oil and is lowering the viscosity. The oil is no longer serviceable due to the presence of contaminants.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		**WC0815147**	WC0750687	WC0750632
Sample Date		Client Info		**05 May 2023**	18 Apr 2023	22 Feb 2023
Machine Age	hrs	Client Info		**7883**	7794	7606
Oil Age	hrs	Client Info		**42**	0	0
Filter Age	hrs	Client Info		**0**	0	0
Oil Changed		Client Info		**Not Changd**	Changed	Changed
Filter Changed		Client Info		**Not Changd**	Changed	Changed
Sample Status				**SEVERE**	SEVERE	NORMAL
Iron	ppm	ASTM D5185m	>90	**<1**	<1	3
Chromium	ppm	ASTM D5185m	>20	**<1**	<1	0
Nickel	ppm	ASTM D5185m	>2	**1**	0	<1
Titanium	ppm	ASTM D5185m	>2	**0**	0	0
Silver	ppm	ASTM D5185m	>2	**<1**	0	0
Aluminum	ppm	ASTM D5185m	>20	**0**	2	2
Lead	ppm	ASTM D5185m	>40	**1**	0	0
Copper	ppm	ASTM D5185m	>330	**0**	0	<1
Tin	ppm	ASTM D5185m	>15	**<1**	0	0
Vanadium	ppm	ASTM D5185m		**<1**	0	<1
White Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Silicon	ppm	ASTM D5185m	>25	**5**	3	<1
Potassium	ppm	ASTM D5185m	>20	**2**	<1	2
Fuel	%	ASTM D3524	>5	▲ **12.5**	▲ 18.2	<1.0
Water		WC Method	>0.2	**NEG**	NEG	NEG
Glycol		WC Method		**NEG**	NEG	NEG
Soot %	%	*ASTM D7844	>6	**0**	0	0.1
Nitration	Abs/cm	*ASTM D7624	>20	**6.9**	6.9	9.1
Sulfation	Abs/.1mm	*ASTM D7415	>30	**15.8**	17.5	18.8
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
Sodium	ppm	ASTM D5185m		**<1**	2	0
Boron	ppm	ASTM D5185m		**78**	81	72
Barium	ppm	ASTM D5185m		**0**	0	2
Molybdenum	ppm	ASTM D5185m	50	**57**	60	76
Manganese	ppm	ASTM D5185m		**<1**	<1	<1
Magnesium	ppm	ASTM D5185m	1000	**18**	20	17
Calcium	ppm	ASTM D5185m	1400	**1880**	1744	2302
Phosphorus	ppm	ASTM D5185m	985	**916**	839	1020
Zinc	ppm	ASTM D5185m	1060	**1105**	977	1185
Sulfur	ppm	ASTM D5185m	4000	**5371**	4951	4263
Oxidation	Abs/.1mm	*ASTM D7414	>25	**13.0**	14.8	14.8
Base Number (BN)	mg KOH/g	ASTM D2896	10	**5.9**	6.1	6.6
Visc @ 100°C	cSt	ASTM D445	15	▲ **11.2**	▲ 9.3	14.3

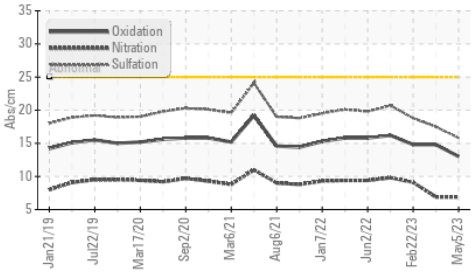
Fuel Dilution



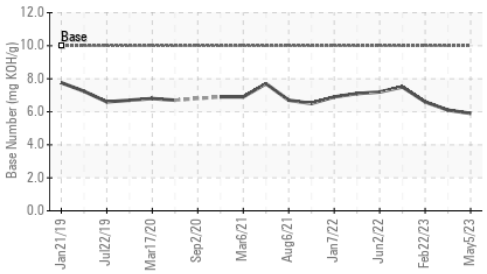
Viscosity @ 100°C



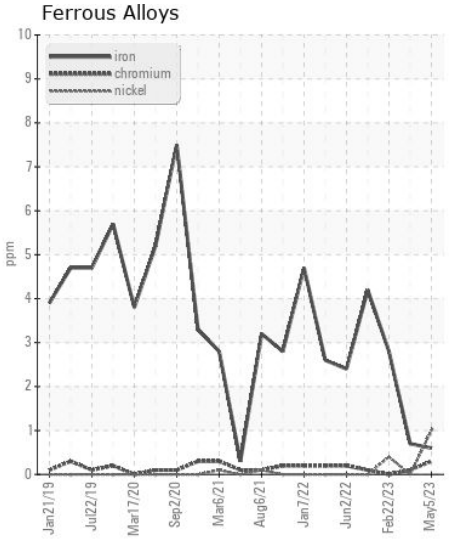
FT-IR (Direct Trend)



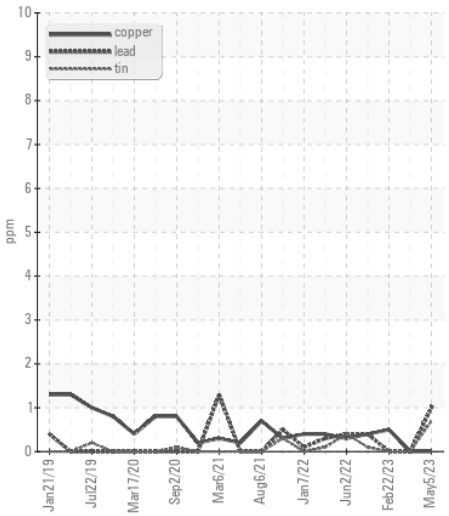
Base Number



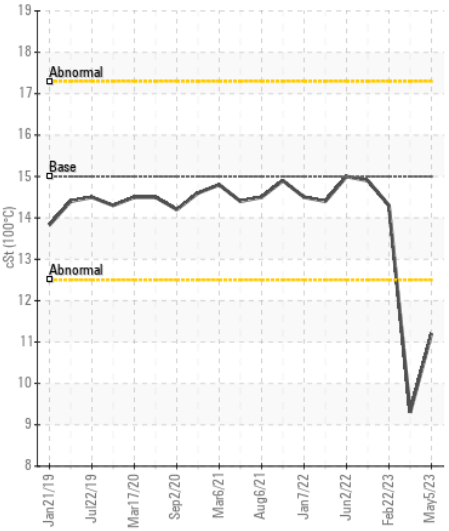
Ferrous Alloys



Non-ferrous Metals



Viscosity @ 100°C



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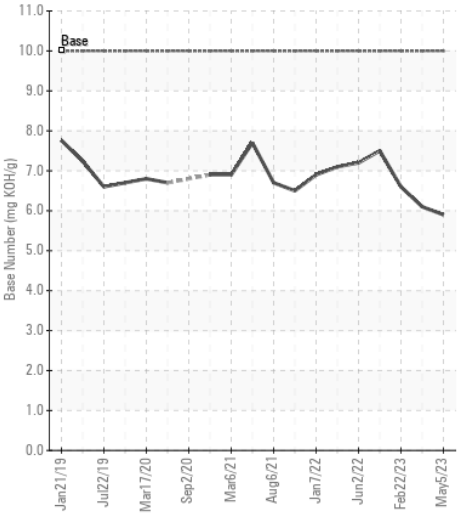

Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : WC0815147 **Received** : 09 May 2023
Lab Number : 05842578 **Tested** : 11 May 2023
Unique Number : 10466685 **Diagnosed** : 11 May 2023 - Wes Davis
Test Package : CONST (Additional Tests: PercentFuel, TBN)

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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