MOB II WEAR CHECK

OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	SEVERE
FLUID CONDITION	SEVERE

Machine Id
CATERPILLAR 980C 117 (S/N 63X4945)
Component
Diesel Engine
Fluid
DIESEL ENGINE OIL SAE 15W40 (10 GAL)

RECOMMENDATION

We advise that you check the fuel injection system. The oil change at the time of sampling has been noted. We recommend an early resample to monitor this condition.

WEAR

All component wear rates are normal.

CONTAMINATION

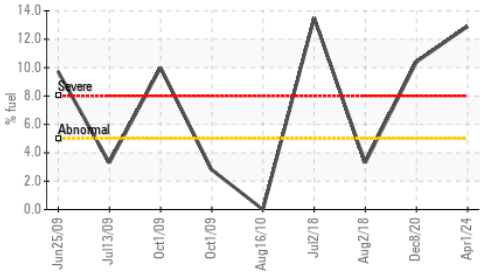
There is a high amount of fuel present in the oil. Tests confirm the presence of fuel in the oil.

FLUID CONDITION

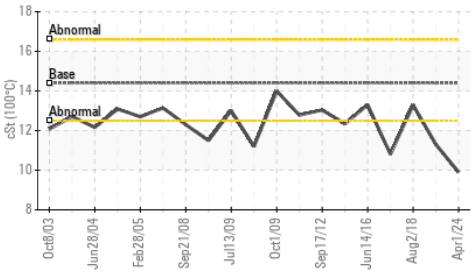
The BN result indicates that there is suitable alkalinity remaining in the oil. Fuel is present in the oil and is lowering the viscosity. The oil is no longer serviceable due to the presence of contaminants.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		RW0004988	RW0001948	RWM2311011
Sample Date		Client Info		01 Apr 2024	08 Dec 2020	02 Aug 2018
Machine Age	hrs	Client Info		8568	7880	7472
Oil Age	hrs	Client Info		436	265	21
Filter Age	hrs	Client Info		436	265	21
Oil Changed		Client Info		Changed	Changed	Changed
Filter Changed		Client Info		Changed	Changed	Changed
Sample Status				SEVERE	SEVERE	MARGINAL
Iron	ppm	ASTM D5185m	>86	46	20	6
Chromium	ppm	ASTM D5185m	>3	<1	<1	<1
Nickel	ppm	ASTM D5185m	>3	2	<1	0
Titanium	ppm	ASTM D5185m	>2	0	<1	0
Silver	ppm	ASTM D5185m	>2	0	<1	0
Aluminum	ppm	ASTM D5185m	>15	1	6	1
Lead	ppm	ASTM D5185m	>16	7	3	2
Copper	ppm	ASTM D5185m	>250	4	6	41
Tin	ppm	ASTM D5185m	>2	<1	<1	0
Vanadium	ppm	ASTM D5185m		0	0	0
White Metal	scalar	*Visual	NONE	LIGHT	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Silicon	ppm	ASTM D5185m	>35	7	4	7
Potassium	ppm	ASTM D5185m	>20	1	<1	0
Fuel	%	ASTM D3524	>5	▲ 12.9	▲ 10.4	▲ 3.3
Water		WC Method	>0.2	NEG	NEG	NEG
Glycol		WC Method		NEG	NEG	NEG
Soot %	%	*ASTM D7844	>3	0.6	0.4	0.1
Nitration	Abs/cm	*ASTM D7624	>20	11.8	9.6	5.7
Sulfation	Abs/.1mm	*ASTM D7415	>30	20.5	20	17.7
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	>158	2	3	7
Boron	ppm	ASTM D5185m	250	20	8	14
Barium	ppm	ASTM D5185m	10	0	0	0
Molybdenum	ppm	ASTM D5185m	100	61	64	60
Manganese	ppm	ASTM D5185m		<1	<1	<1
Magnesium	ppm	ASTM D5185m	450	669	781	854
Calcium	ppm	ASTM D5185m	3000	1369	1029	1066
Phosphorus	ppm	ASTM D5185m	1150	1006	932	981
Zinc	ppm	ASTM D5185m	1350	1196	1040	1066
Sulfur	ppm	ASTM D5185m	4250	3695	2345	2626
Oxidation	Abs/.1mm	*ASTM D7414	>25	18.7	16.6	13.3
Base Number (BN)	mg KOH/g	ASTM D2896	8.5	6.78	9.00	9.35
Visc @ 100°C	cSt	ASTM D445	14.4	▲ 9.9	▲ 11.3	13.29

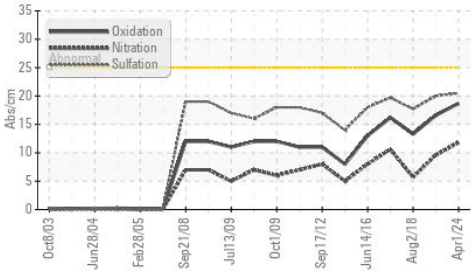
Fuel Dilution



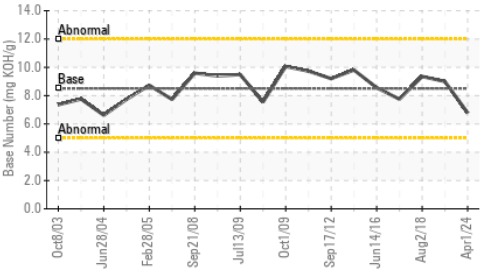
Viscosity @ 100°C



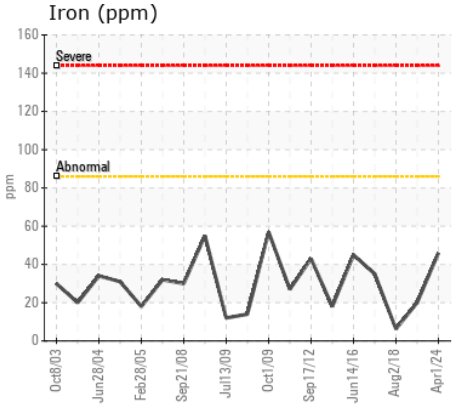
FT-IR (Direct Trend)



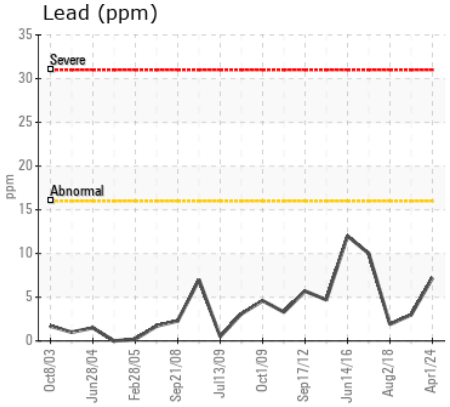
Base Number



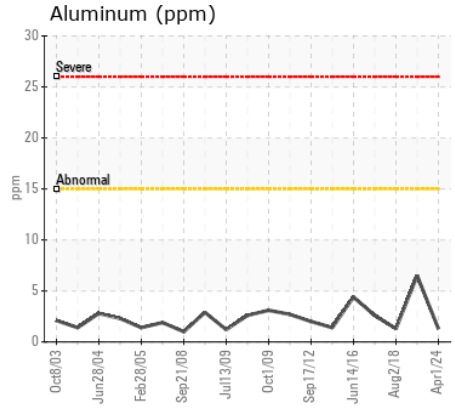
Iron (ppm)



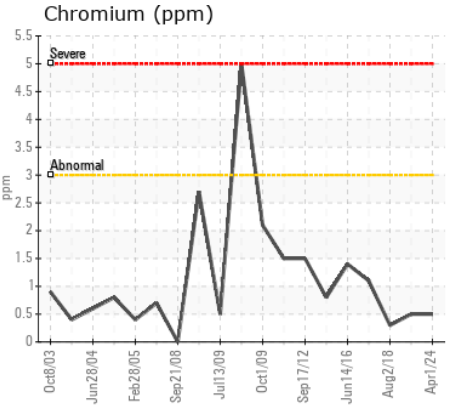
Lead (ppm)



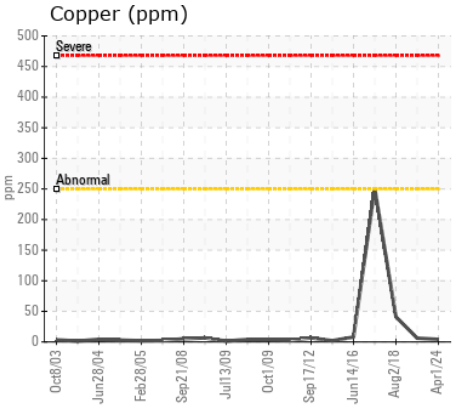
Aluminum (ppm)



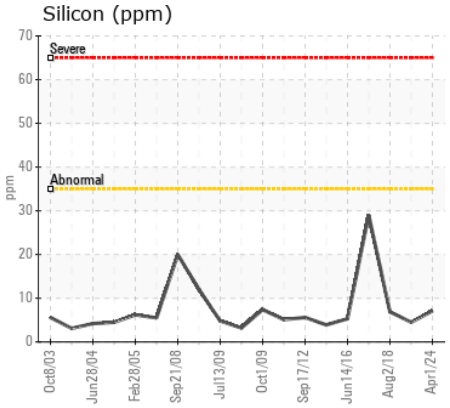
Chromium (ppm)



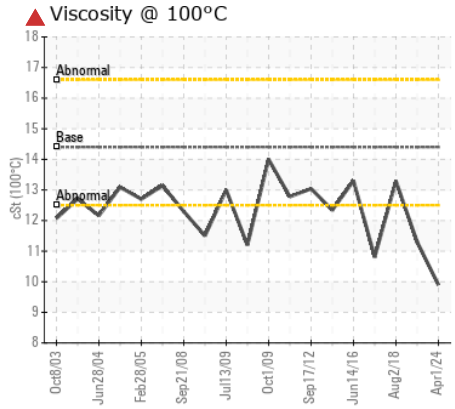
Copper (ppm)



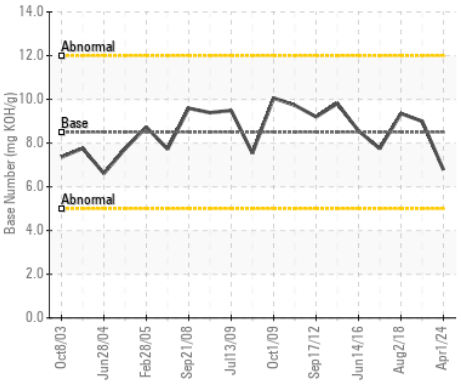
Silicon (ppm)



Viscosity @ 100°C



Base Number



Certificate L2367

Laboratory	: WearCheck USA - 501 Madison Ave., Cary, NC 27513		
Sample No.	: RW0004988	**Received**	: 25 Apr 2024
Lab Number	: 06161023	**Tested**	: 29 Apr 2024
Unique Number	: 10996446	**Diagnosed**	: 29 Apr 2024 - Wes Davis
Test Package	: MOB 2 (Additional Tests: PercentFuel)		

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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