



TRAAP

Texas Refinery Advanced Analysis Program

OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL

Machine Id
MELROE BOBCAT 610

Component
Gasoline Engine

Fluid
TRC MOLY XL PRO-SPEC IV 10W30 (4 QTS)

RECOMMENDATION

Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		TR05441599	TR04825634	TR04374737
Sample Date		Client Info		27 Jul 2021	24 Sep 2019	09 Sep 2017
Machine Age	mths	Client Info		0	0	0
Oil Age	mths	Client Info		2	2	100
Filter Age	mths	Client Info		2	2	100
Oil Changed		Client Info		Changed	Changed	Changed
Filter Changed		Client Info		Changed	Changed	Changed
Sample Status				NORMAL	NORMAL	ABNORMAL

WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>150	25	55	39
Chromium	ppm	ASTM D5185m	>20	2	3	3
Nickel	ppm	ASTM D5185m	>5	<1	0	<1
Titanium	ppm	ASTM D5185m		<1	0	<1
Silver	ppm	ASTM D5185m	>2	2	<1	0
Aluminum	ppm	ASTM D5185m	>40	4	7	6
Lead	ppm	ASTM D5185m	>50	3	6	7
Copper	ppm	ASTM D5185m	>155	13	21	27
Tin	ppm	ASTM D5185m	>10	<1	2	0
Vanadium	ppm	ASTM D5185m		<1	0	0
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE

CONTAMINATION

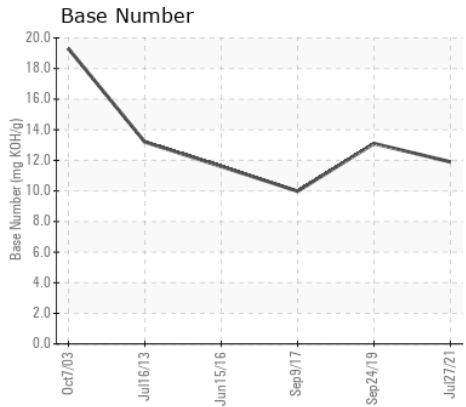
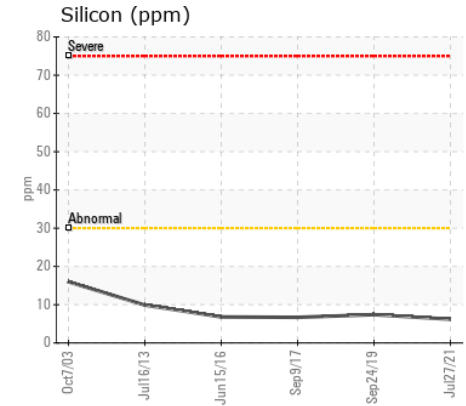
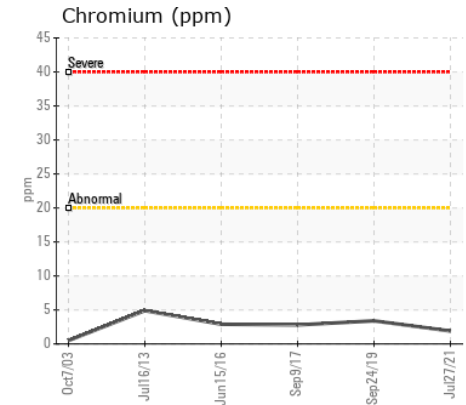
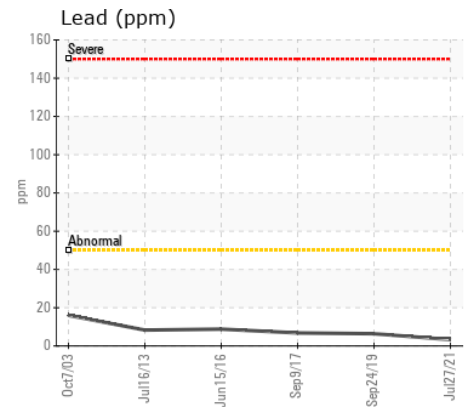
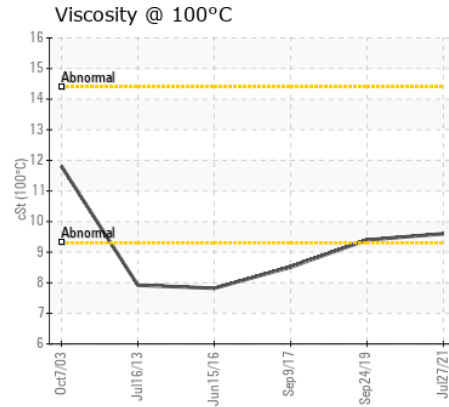
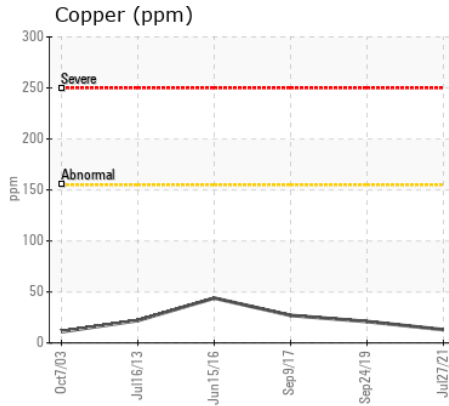
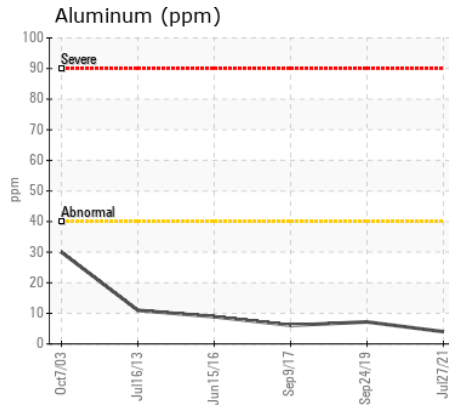
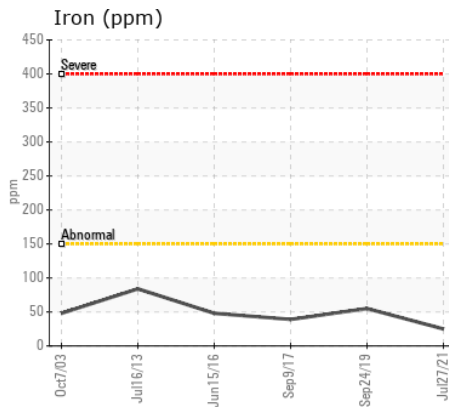
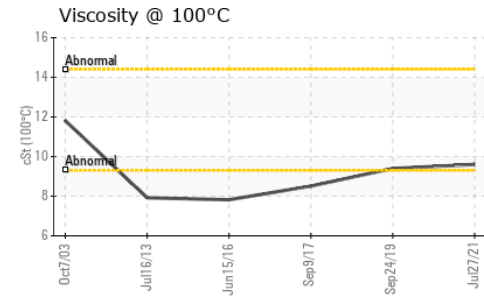
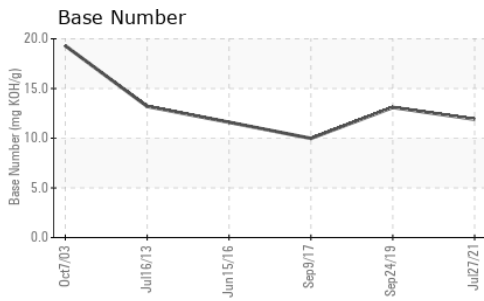
There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185m	>30	6	7	7
Potassium	ppm	ASTM D5185m	>20	53	63	▲ 91
Fuel		WC Method	>4.0	<1.0	<1.0	<1.0
Water		WC Method	>0.2	NEG	NEG	NEG
Glycol		WC Method		NEG	NEG	NEG
Soot %	%	*ASTM D7844		0.1	0.1	0
Nitration	Abs/cm	*ASTM D7624	>20	10	11.2	9.
Sulfation	Abs/.1mm	*ASTM D7415	>30	17.7	18.5	20.
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	>400	1	3	2
Boron	ppm	ASTM D5185m		0	6	2
Barium	ppm	ASTM D5185m		0	0	0
Molybdenum	ppm	ASTM D5185m		168	174	137
Manganese	ppm	ASTM D5185m		1	2	2
Magnesium	ppm	ASTM D5185m		603	706	562
Calcium	ppm	ASTM D5185m		1976	1555	1208
Phosphorus	ppm	ASTM D5185m		1067	995	1039
Zinc	ppm	ASTM D5185m		1320	1138	1176
Sulfur	ppm	ASTM D5185m		4066	1798	3297
Oxidation	Abs/.1mm	*ASTM D7414	>25	14.5	16.3	18.
Base Number (BN)	mg KOH/g	ASTM D2896		11.9	13.1	9.98
Visc @ 100°C	cSt	ASTM D445		9.6	9.4	8.51



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : TR05441599
Lab Number : 05441599
Unique Number : 9805792
Test Package : MOB 2

Received : 11 Jan 2022
Tested : 12 Jan 2022
Diagnosed : 12 Jan 2022 - Don Baldrige

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To discuss this sample report, contact Customer Service at 1-800-827-0711.

* - 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)