



OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL

Machine Id
WESTERN STAR 52
Component
Front Diesel Engine
Fluid
KING OIL MAGNUM MOLY BIG PLUS NT (42 QTS)

RECOMMENDATION

Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		WC0711820	WC0711838	WC0608114
Sample Date		Client Info		29 May 2023	11 Nov 2022	04 Oct 2022
Machine Age	hrs	Client Info		1886	1210	965
Oil Age	hrs	Client Info		921	245	813
Filter Age	hrs	Client Info		921	245	813
Oil Changed		Client Info		Changed	Not Changd	Changed
Filter Changed		Client Info		Changed	Changed	N/A
Sample Status				NORMAL	NORMAL	ABNORMAL

WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>100	56	19	65
Chromium	ppm	ASTM D5185m	>6	2	1	2
Nickel	ppm	ASTM D5185m	>4	<1	<1	0
Titanium	ppm	ASTM D5185m	>2	0	<1	0
Silver	ppm	ASTM D5185m	>2	0	<1	0
Aluminum	ppm	ASTM D5185m	>30	5	0	6
Lead	ppm	ASTM D5185m	>10	4	4	2
Copper	ppm	ASTM D5185m	>150	2	2	10
Tin	ppm	ASTM D5185m	>4	2	2	0
Vanadium	ppm	ASTM D5185m		0	<1	0
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE

CONTAMINATION

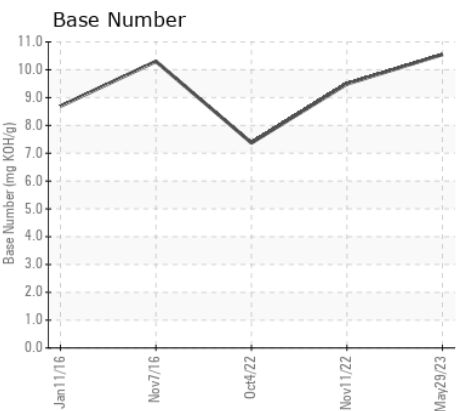
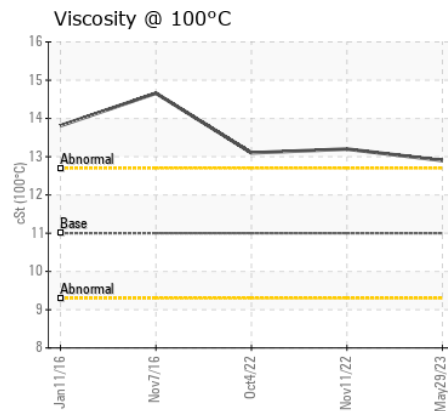
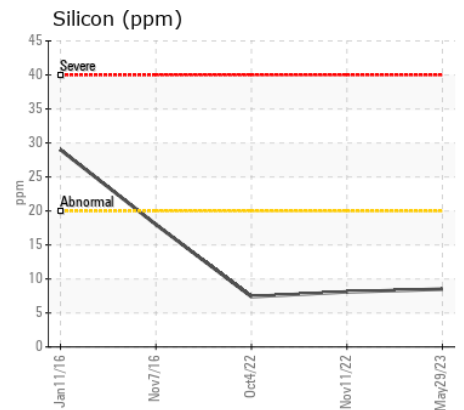
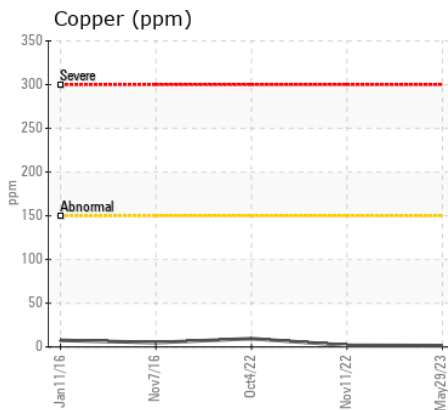
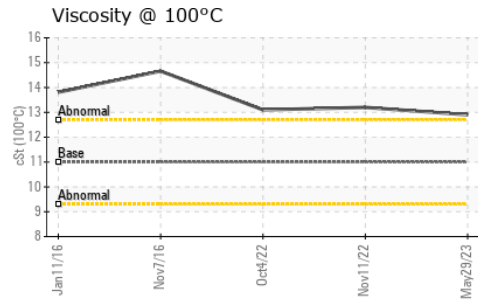
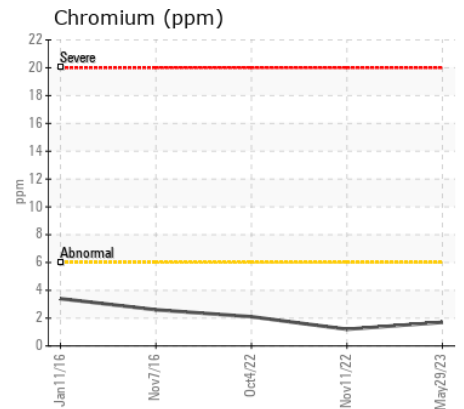
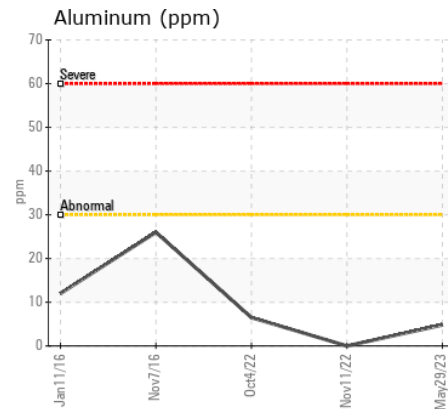
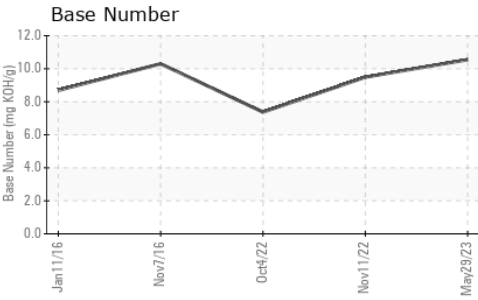
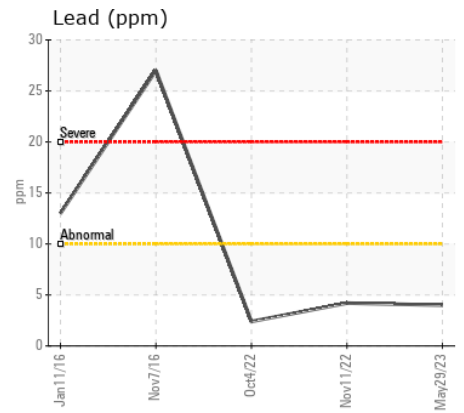
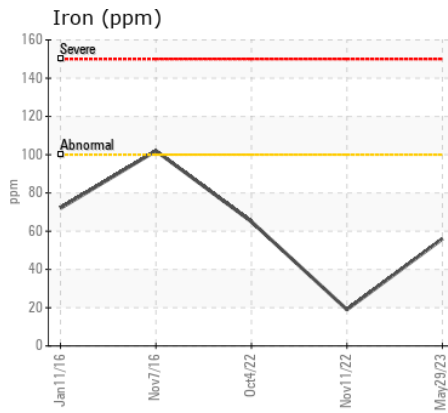
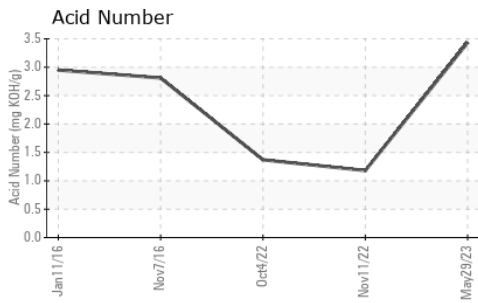
There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185m	>20	8	8	7
Potassium	ppm	ASTM D5185m	>20	6	12	▲ 36
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	0.2	0.5
Nitration	Abs/cm	*ASTM D7624	>20	11.1	8.7	12.0
Sulfation	Abs/.1mm	*ASTM D7415	>30	46.0	44.7	49.0
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 AN level is acceptable for this fluid. The condition of the oil is suitable for further service.

Sodium	ppm	ASTM D5185m		40	72	▲ 319
Boron	ppm	ASTM D5185m		207	344	172
Barium	ppm	ASTM D5185m		0	0	0
Molybdenum	ppm	ASTM D5185m		133	138	199
Manganese	ppm	ASTM D5185m		1	<1	1
Magnesium	ppm	ASTM D5185m		610	565	579
Calcium	ppm	ASTM D5185m		1722	1664	1726
Phosphorus	ppm	ASTM D5185m		928	928	920
Zinc	ppm	ASTM D5185m		1174	1127	1118
Sulfur	ppm	ASTM D5185m		3735	3659	3657
Oxidation	Abs/.1mm	*ASTM D7414	>25	51.7	49.3	54.1
Acid Number (AN)	mg KOH/g	ASTM D8045		3.432	1.18	1.37
Base Number (BN)	mg KOH/g	ASTM D2896		10.55	9.49	7.37
Visc @ 100°C	cSt	ASTM D445	11.0	12.9	13.2	13.1



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : WC0711820 **Received** : 05 Jun 2023
Lab Number : 05865250 **Tested** : 19 Jun 2023
Unique Number : 10499715 **Diagnosed** : 19 Jun 2023 - Jonathan Hester
Test Package : MOB 2

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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