



OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL

Machine Id
KENWORTH 342 (S/N 1ZKWP4TX7NR121962)
 Component
Diesel Engine
 Fluid
DIESEL ENGINE OIL SAE 40 (--- GAL)

RECOMMENDATION

Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		WC0893893	WC0893948	WC0867939
Sample Date		Client Info		02 Jul 2024	05 Mar 2024	20 Nov 2023
Machine Age	hrs	Client Info		0	0	0
Oil Age	hrs	Client Info		0	0	0
Filter Age	hrs	Client Info		0	0	0
Oil Changed		Client Info		N/A	N/A	N/A
Filter Changed		Client Info		N/A	N/A	N/A
Sample Status				NORMAL	NORMAL	NORMAL

WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>100	56	35	30
Chromium	ppm	ASTM D5185m	>20	3	2	2
Nickel	ppm	ASTM D5185m	>4	1	<1	0
Titanium	ppm	ASTM D5185m		1	0	<1
Silver	ppm	ASTM D5185m	>3	1	0	0
Aluminum	ppm	ASTM D5185m	>20	14	12	14
Lead	ppm	ASTM D5185m	>40	28	5	4
Copper	ppm	ASTM D5185m	>330	3	1	1
Tin	ppm	ASTM D5185m	>15	2	0	<1
Vanadium	ppm	ASTM D5185m		<1	<1	0
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE

CONTAMINATION

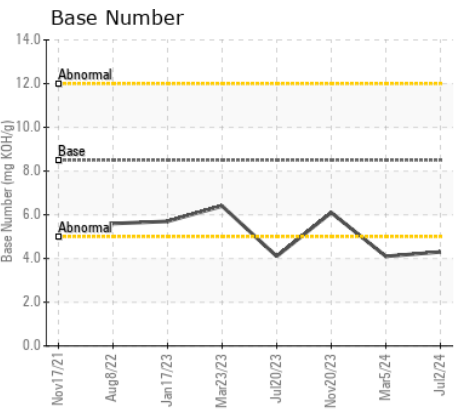
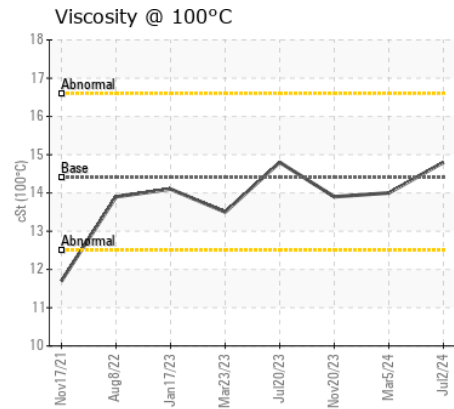
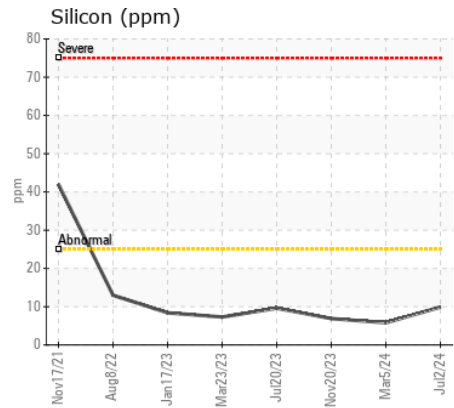
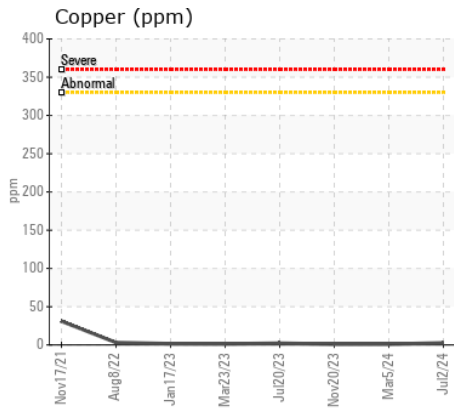
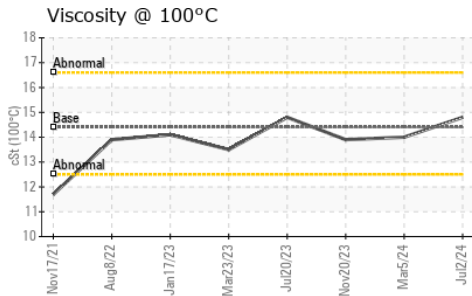
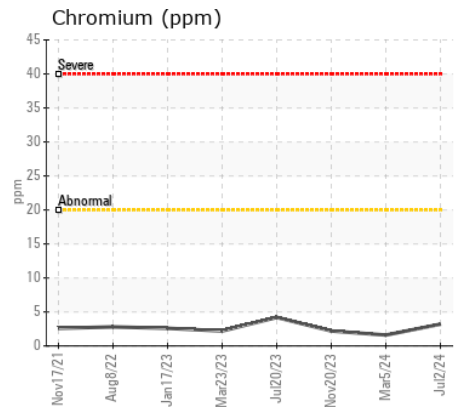
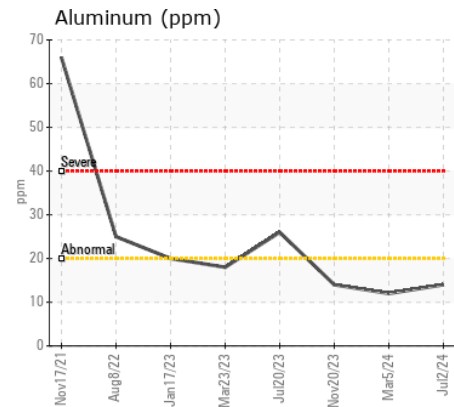
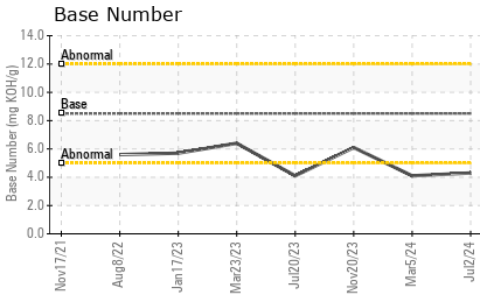
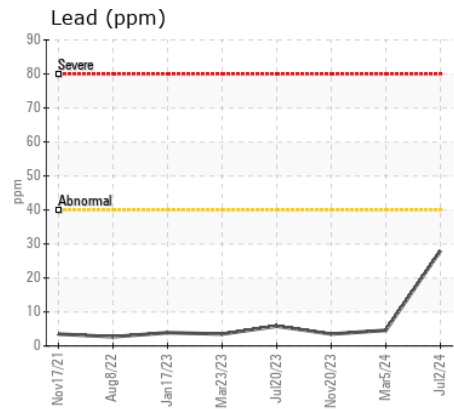
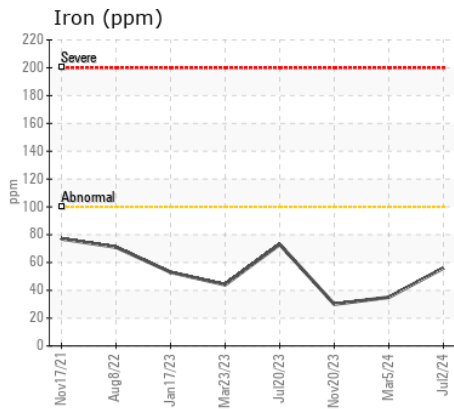
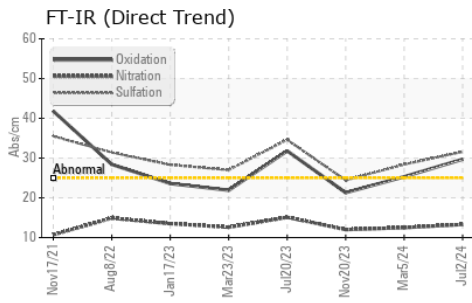
There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185m	>25	10	6	7
Potassium	ppm	ASTM D5185m	>20	9	3	5
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	1.3	0.9	0.9
Nitration	Abs/cm	*ASTM D7624	>20	13.3	12.5	12.0
Sulfation	Abs/.1mm	*ASTM D7415	>30	31.6	28.4	24.4
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 acceptable for the time in service.

Sodium	ppm	ASTM D5185m	>216	3	3	2
Boron	ppm	ASTM D5185m	250	21	8	4
Barium	ppm	ASTM D5185m	10	0	0	0
Molybdenum	ppm	ASTM D5185m	100	57	75	60
Manganese	ppm	ASTM D5185m		1	<1	<1
Magnesium	ppm	ASTM D5185m	450	794	733	962
Calcium	ppm	ASTM D5185m	3000	1574	1474	1180
Phosphorus	ppm	ASTM D5185m	1150	1118	946	985
Zinc	ppm	ASTM D5185m	1350	1435	1224	1288
Sulfur	ppm	ASTM D5185m	4250	3023	2780	2835
Oxidation	Abs/.1mm	*ASTM D7414	>25	29.7	25.3	21.3
Base Number (BN)	mg KOH/g	ASTM D2896	8.5	4.3	4.1	6.1
Visc @ 100°C	cSt	ASTM D445	14.4	14.8	14.0	13.9



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : WC0893893
Lab Number : 06229761
Unique Number : 11113254
Test Package : MOB 1 (Additional Tests: TBN)

Received : 08 Jul 2024
Tested : 09 Jul 2024
Diagnosed : 09 Jul 2024 - Sean Felton

MANGUMS INC
P.O. BOX 7177
WILSON, NC
US 27895

Contact: ALAN BAGLEY
alanb@mangumsinc.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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