



WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL

Machine Id
MORBARK 1300B 1503
 Component
Diesel Engine
 Fluid
DIESEL ENGINE OIL SAE 40 (--- GAL)

RECOMMENDATION

Resample at the next service interval to monitor. Please specify the brand, type, and viscosity of the oil on your next sample.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		JR0204707	JR0157904	JR0157905
Sample Date		Client Info		23 Apr 2024	16 Feb 2023	15 Feb 2023
Machine Age	hrs	Client Info		4192	4613	4613
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	29	28	16
Chromium	ppm	ASTM D5185m	>20	<1	1	<1
Nickel	ppm	ASTM D5185m	>4	0	<1	<1
Titanium	ppm	ASTM D5185m		6	65	72
Silver	ppm	ASTM D5185m	>3	0	0	0
Aluminum	ppm	ASTM D5185m	>20	4	2	2
Lead	ppm	ASTM D5185m	>40	0	1	1
Copper	ppm	ASTM D5185m	>330	2	1	1
Tin	ppm	ASTM D5185m	>15	<1	<1	<1
Vanadium	ppm	ASTM D5185m		0	<1	<1
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE

CONTAMINATION

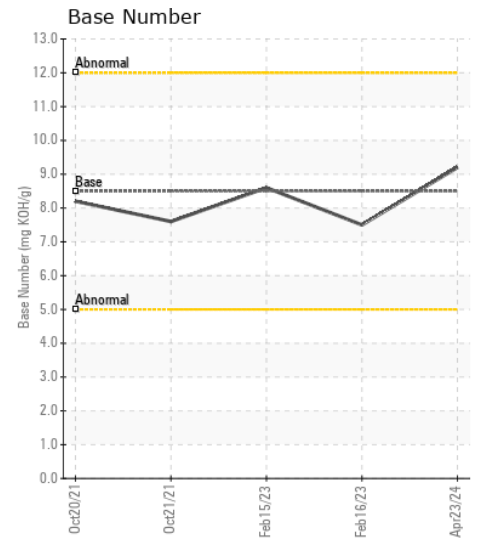
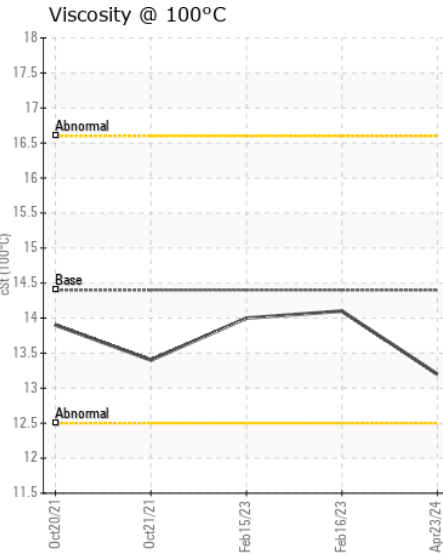
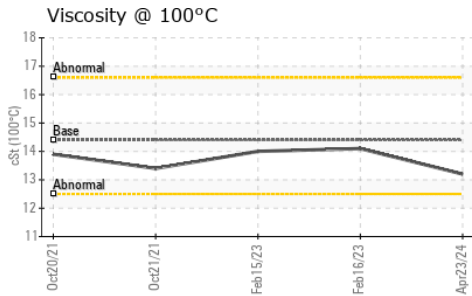
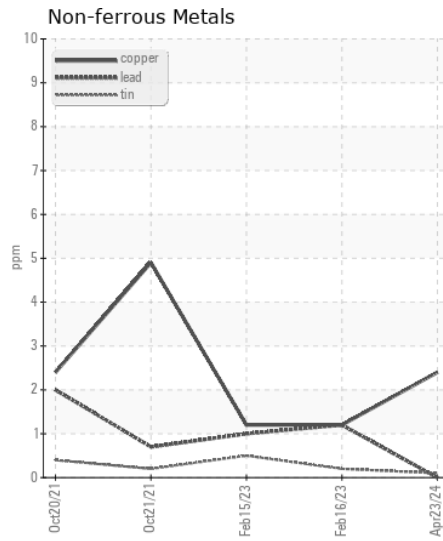
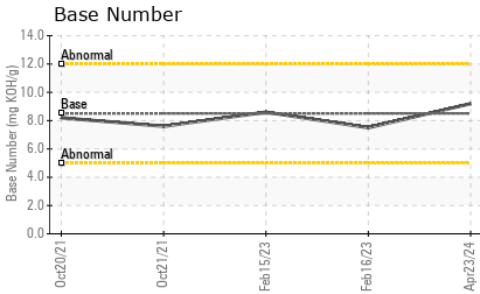
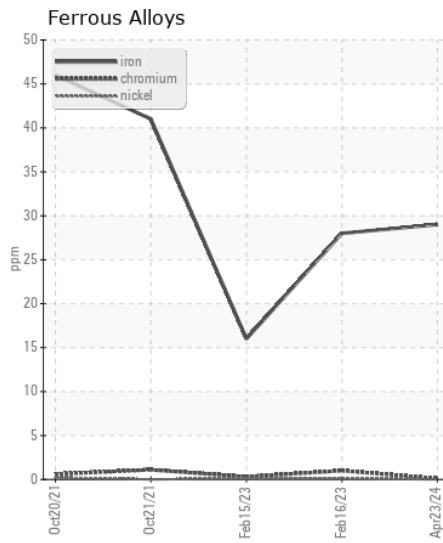
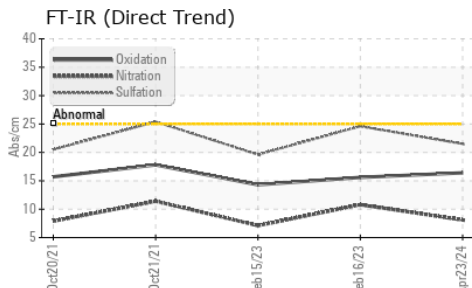
There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185m	>25	8	7	5
Potassium	ppm	ASTM D5185m	>20	0	3	2
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	0.4	2.8	0.3
Nitration	Abs/cm	*ASTM D7624	>20	8.1	10.8	7.1
Sulfation	Abs/.1mm	*ASTM D7415	>30	21.5	24.6	19.6
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	>216	<1	3	2
Boron	ppm	ASTM D5185m	250	275	131	176
Barium	ppm	ASTM D5185m	10	0	0	0
Molybdenum	ppm	ASTM D5185m	100	245	72	44
Manganese	ppm	ASTM D5185m		<1	<1	<1
Magnesium	ppm	ASTM D5185m	450	833	509	469
Calcium	ppm	ASTM D5185m	3000	1534	1692	1685
Phosphorus	ppm	ASTM D5185m	1150	907	951	948
Zinc	ppm	ASTM D5185m	1350	1093	1189	1172
Sulfur	ppm	ASTM D5185m	4250	3289	4315	4400
Oxidation	Abs/.1mm	*ASTM D7414	>25	16.4	15.6	14.3
Base Number (BN)	mg KOH/g	ASTM D2896	8.5	9.2	7.5	8.6
Visc @ 100°C	cSt	ASTM D445	14.4	13.2	14.1	14.0



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : JR0204707 **Received** : 24 Apr 2024
Lab Number : 06158893 **Tested** : 25 Apr 2024
Unique Number : 10994316 **Diagnosed** : 25 Apr 2024 - Wes Davis
Test Package : CONST (Additional Tests: 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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