MAR II

WEAR CHECK Inland Marine Oil Analysis Program

OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL

Area
SUE KOSSOW
Machine Id
[SUE KOSSOW] 003 641018-3
Component
Starboard Main Engine
Fluid
CHEVRON DELO 400 MULTIGRADE 15W40 (44 GAL)

RECOMMENDATION

Resample at the next service interval to monitor.

WEAR

All component wear rates are normal.

CONTAMINATION

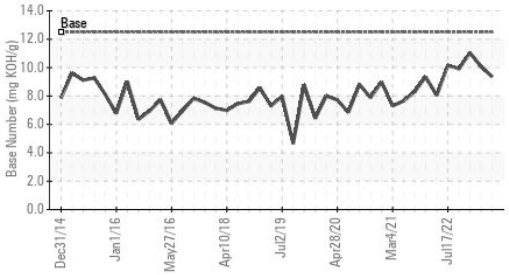
There is no indication of any contamination in the oil.

FLUID CONDITION

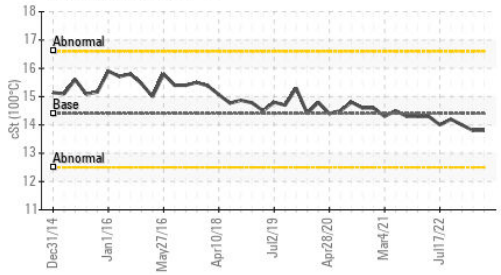
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		MW0058400	MW0042967	MW0052428
Sample Date		Client Info		06 Jan 2024	01 Dec 2023	10 Aug 2023
Machine Age	hrs	Client Info		30690	30578	30300
Oil Age	hrs	Client Info		355	343	65
Filter Age	hrs	Client Info		355	343	65
Oil Changed		Client Info		Not Changd	Not Changd	N/A
Filter Changed		Client Info		Not Changd	Not Changd	N/A
Sample Status				NORMAL	NORMAL	NORMAL
Iron	ppm	ASTM D5185m	>75	5	5	3
Chromium	ppm	ASTM D5185m	>8	0	0	0
Nickel	ppm	ASTM D5185m	>2	0	0	0
Titanium	ppm	ASTM D5185m	>3	0	0	<1
Silver	ppm	ASTM D5185m	>2	0	0	0
Aluminum	ppm	ASTM D5185m	>15	3	3	0
Lead	ppm	ASTM D5185m	>18	<1	0	<1
Copper	ppm	ASTM D5185m	>80	0	1	<1
Tin	ppm	ASTM D5185m	>14	<1	0	<1
Vanadium	ppm	ASTM D5185m		0	0	0
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Silicon	ppm	ASTM D5185m	>20	6	6	5
Potassium	ppm	ASTM D5185m	>20	2	<1	4
Fuel		WC Method	>4.0	<1.0	<1.0	<1.0
Water		WC Method	>0.1	NEG	NEG	NEG
Glycol		WC Method		NEG	NEG	NEG
Soot %	%	*ASTM D7844		0.2	0.2	0.1
Nitration	Abs/cm	*ASTM D7624	>20	6.6	6.3	4.8
Sulfation	Abs/.1mm	*ASTM D7415	>30	22.6	22.4	21.3
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	>0.1	NEG	NEG	NEG
Sodium	ppm	ASTM D5185m	>75	9	11	3
Boron	ppm	ASTM D5185m	151	330	361	419
Barium	ppm	ASTM D5185m	0.4	0	0	0
Molybdenum	ppm	ASTM D5185m	250	117	114	119
Manganese	ppm	ASTM D5185m		<1	<1	<1
Magnesium	ppm	ASTM D5185m	0	638	625	686
Calcium	ppm	ASTM D5185m	2046	1454	1488	1717
Phosphorus	ppm	ASTM D5185m	1043	712	665	690
Zinc	ppm	ASTM D5185m	943	799	789	858
Sulfur	ppm	ASTM D5185m	5012	2417	2424	3100
Oxidation	Abs/.1mm	*ASTM D7414	>25	16.2	16.0	14.4
Base Number (BN)	mg KOH/g	ASTM D2896	12.5	9.36	10.08	11.04
Visc @ 100°C	cSt	ASTM D445	14.4	13.8	13.8	14.0

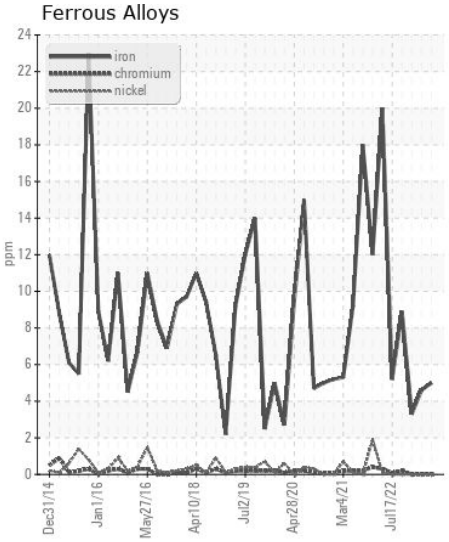
Base Number



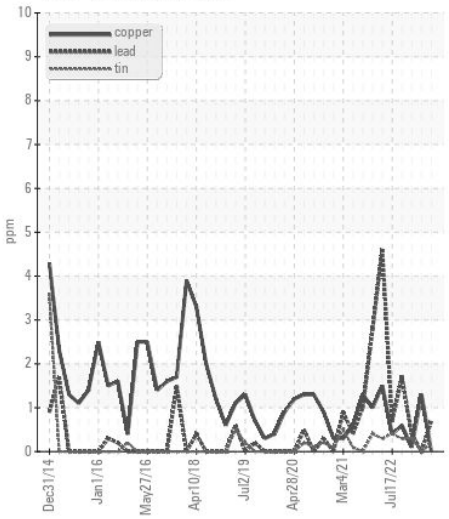
Viscosity @ 100°C



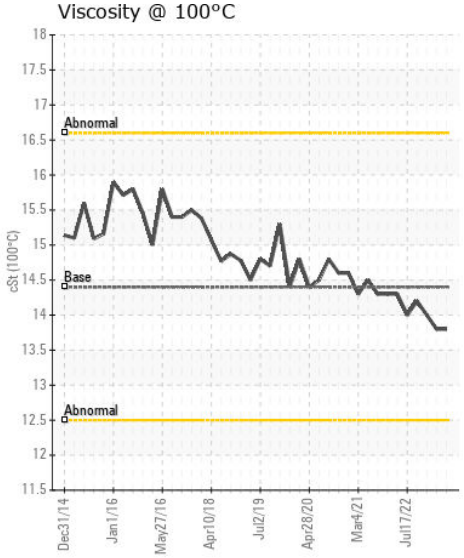
Ferrous Alloys



Non-ferrous Metals



Viscosity @ 100°C



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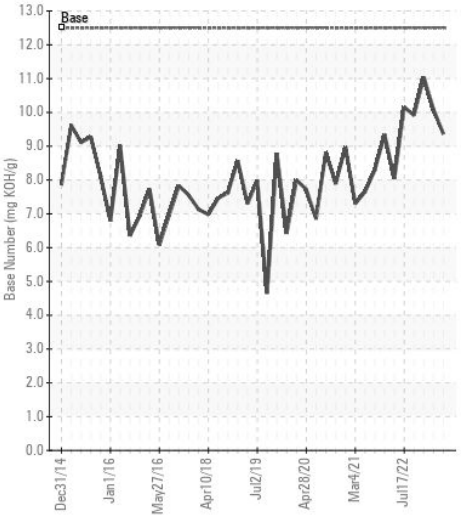

Certificate L2367

Laboratory	: WearCheck USA - 501 Madison Ave., Cary, NC 27513		
Sample No.	: MW0058400	**Recieved**	: 12 Jan 2024
Lab Number	: 06060423	**Diagnosed**	: 16 Jan 2024
Unique Number	: 10831805	**Diagnostician**	: Wes Davis
Test Package	: MAR 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)

INGRAM BARGE
900 S 3RD ST
PADUCAH, KY
US 42003
Contact: CHARLES COPELAND
charles.copeland@ingrambarge.com
T: (270)415-4467
F: (615)695-3697