MAR II

WEAR CHECK
Inland Marine Oil Analysis Program

OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL

Machine Id
SIGNET MISCHIEF
Component
Starboard Main Engine
Fluid
CHEVRON DELO 400 LE 15W40 (70 GAL)

RECOMMENDATION

Resample at the next service interval to monitor. Please specify the component make and model with your next sample.

WEAR

All component wear rates are normal.

CONTAMINATION

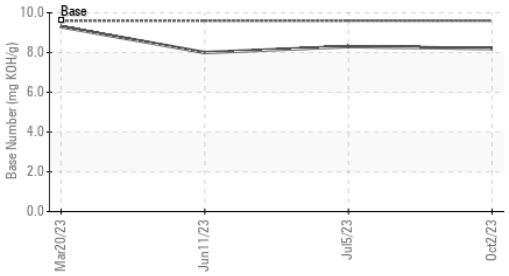
There is no indication of any contamination in the oil.

FLUID CONDITION

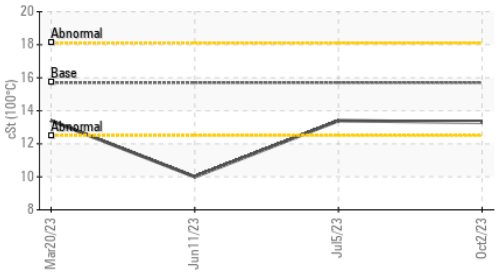
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		MW0059784	MW0045603	MW0051839
Sample Date		Client Info		02 Oct 2023	05 Jul 2023	11 Jun 2023
Machine Age	hrs	Client Info		18164	17889	17817
Oil Age	hrs	Client Info		933	659	587
Filter Age	hrs	Client Info		433	159	587
Oil Changed		Client Info		Not Changd	Not Changd	Not Changd
Filter Changed		Client Info		Not Changd	Not Changd	Changed
Sample Status				NORMAL	NORMAL	ATTENTION
Iron	ppm	ASTM D5185m	>75	1	2	15
Chromium	ppm	ASTM D5185m	>8	<1	0	<1
Nickel	ppm	ASTM D5185m	>2	0	0	<1
Titanium	ppm	ASTM D5185m	>3	8	10	<1
Silver	ppm	ASTM D5185m	>2	0	0	0
Aluminum	ppm	ASTM D5185m	>15	<1	2	<1
Lead	ppm	ASTM D5185m	>18	0	0	3
Copper	ppm	ASTM D5185m	>80	2	2	4
Tin	ppm	ASTM D5185m	>14	0	0	1
Vanadium	ppm	ASTM D5185m		<1	<1	<1
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Silicon	ppm	ASTM D5185m	>20	4	3	6
Potassium	ppm	ASTM D5185m	>20	<1	2	4
Fuel		WC Method	>4.0	<1.0	<1.0	1.2
Water		WC Method	>0.1	NEG	NEG	NEG
Glycol		WC Method		NEG	NEG	NEG
Soot %	%	*ASTM D7844		0.1	0.1	0.1
Nitration	Abs/cm	*ASTM D7624	>20	7.8	8.0	7.7
Sulfation	Abs/.1mm	*ASTM D7415	>30	20.2	19.4	19.9
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	1	<1	2
Boron	ppm	ASTM D5185m		177	165	42
Barium	ppm	ASTM D5185m		0	0	0
Molybdenum	ppm	ASTM D5185m		69	60	50
Manganese	ppm	ASTM D5185m		<1	<1	<1
Magnesium	ppm	ASTM D5185m		688	690	312
Calcium	ppm	ASTM D5185m		1558	1650	1850
Phosphorus	ppm	ASTM D5185m	1200	747	757	797
Zinc	ppm	ASTM D5185m	1300	884	907	1040
Sulfur	ppm	ASTM D5185m	3200	2939	3707	3797
Oxidation	Abs/.1mm	*ASTM D7414	>25	14.9	14.5	15.7
Base Number (BN)	mg KOH/g	ASTM D2896	9.6	8.2	8.3	8.0
Visc @ 100°C	cSt	ASTM D445	15.7	13.3	13.4	▲ 10.0

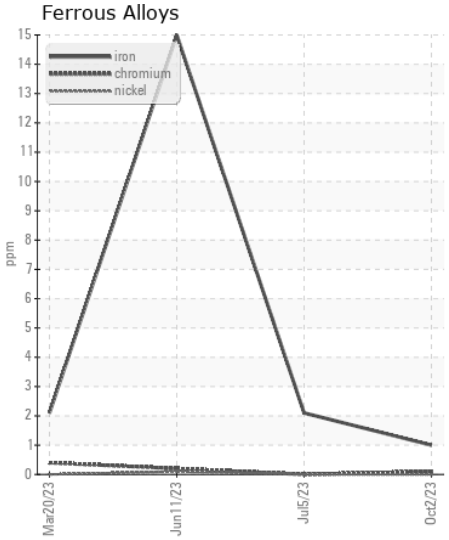
Base Number



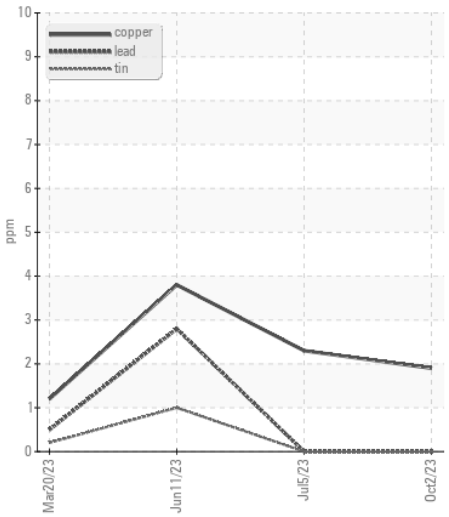
Viscosity @ 100°C



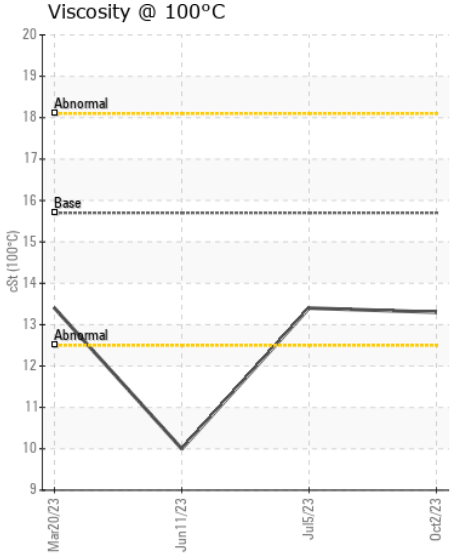
Ferrous Alloys



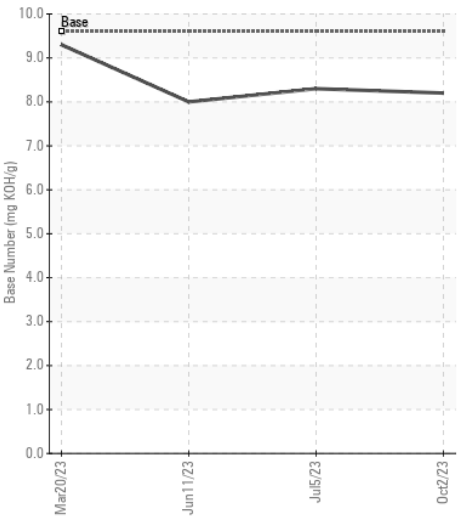
Non-ferrous Metals



Viscosity @ 100°C



Base Number



Certificate L2367

Laboratory	: WearCheck USA - 501 Madison Ave., Cary, NC 27513		
Sample No.	: MW0059784	**Recieved**	: 05 Oct 2023
Lab Number	: 05970116	**Diagnosed**	: 05 Oct 2023
Unique Number	: 10682066	**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)

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