



WEAR	<b>NORMAL</b>
CONTAMINATION	<b>NORMAL</b>
FLUID CONDITION	<b>NORMAL</b>

Machine Id  
**MILES MADISON**  
Component  
**Port Main Engine**  
Fluid  
**CHEVRON DELO 400 LE 15W40 (150 GAL)**

**RECOMMENDATION**

Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		<b>MW0057785</b>	MW0057750	MW0057782
Sample Date		Client Info		<b>13 Jun 2024</b>	22 May 2024	05 Apr 2024
Machine Age	hrs	Client Info		<b>2083</b>	1637	924
Oil Age	hrs	Client Info		<b>934</b>	464	924
Filter Age	hrs	Client Info		<b>210</b>	464	298
Oil Changed		Client Info		<b>Not Changd</b>	Not Changd	Not Changd
Filter Changed		Client Info		<b>Not Changd</b>	Not Changd	Not Changd
Sample Status				<b>NORMAL</b>	NORMAL	NORMAL

**WEAR**

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>75	<b>5</b>	4	13
Chromium	ppm	ASTM D5185m	>8	<b>&lt;1</b>	0	1
Nickel	ppm	ASTM D5185m	>2	<b>&lt;1</b>	0	2
Titanium	ppm	ASTM D5185m	>3	<b>16</b>	15	23
Silver	ppm	ASTM D5185m	>2	<b>&lt;1</b>	0	<1
Aluminum	ppm	ASTM D5185m	>15	<b>2</b>	1	3
Lead	ppm	ASTM D5185m	>18	<b>&lt;1</b>	<1	2
Copper	ppm	ASTM D5185m	>80	<b>2</b>	2	5
Tin	ppm	ASTM D5185m	>14	<b>&lt;1</b>	<1	2
Vanadium	ppm	ASTM D5185m		<b>&lt;1</b>	<1	<1
White Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE

**CONTAMINATION**

There is no indication of any contamination in the oil.

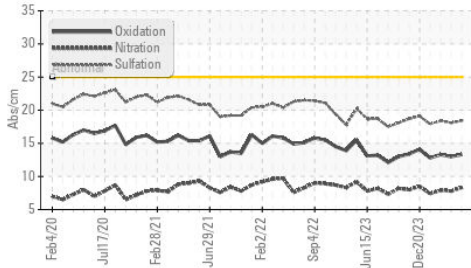
Silicon	ppm	ASTM D5185m	>20	<b>7</b>	6	20
Potassium	ppm	ASTM D5185m	>20	<b>4</b>	3	5
Fuel		WC Method	>4.0	<b>&lt;1.0</b>	<1.0	<1.0
Water		WC Method	>0.1	<b>NEG</b>	NEG	NEG
Glycol		WC Method		<b>NEG</b>	NEG	NEG
Soot %	%	*ASTM D7844		<b>0.1</b>	0.1	0.1
Nitration	Abs/cm	*ASTM D7624	>20	<b>8.3</b>	7.8	7.9
Sulfation	Abs/.1mm	*ASTM D7415	>30	<b>18.4</b>	18.1	18.4
Silt	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Debris	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Appearance	scalar	*Visual	NORML	<b>NORML</b>	NORML	NORML
Odor	scalar	*Visual	NORML	<b>NORML</b>	NORML	NORML
Emulsified Water	scalar	*Visual	>0.1	<b>NEG</b>	NEG	NEG

**FLUID CONDITION**

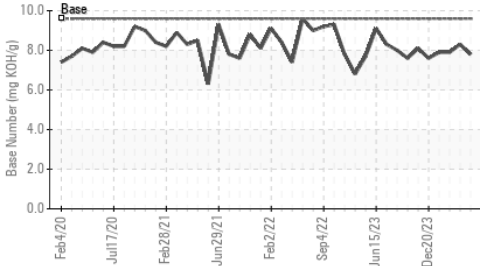
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

Sodium	ppm	ASTM D5185m	>75	<b>2</b>	2	5
Boron	ppm	ASTM D5185m		<b>99</b>	89	154
Barium	ppm	ASTM D5185m		<b>0</b>	0	<1
Molybdenum	ppm	ASTM D5185m		<b>34</b>	29	44
Manganese	ppm	ASTM D5185m		<b>&lt;1</b>	<1	2
Magnesium	ppm	ASTM D5185m		<b>734</b>	657	1007
Calcium	ppm	ASTM D5185m		<b>1540</b>	1544	2186
Phosphorus	ppm	ASTM D5185m	1200	<b>790</b>	668	1112
Zinc	ppm	ASTM D5185m	1300	<b>857</b>	751	1181
Sulfur	ppm	ASTM D5185m	3200	<b>3022</b>	3264	5278
Oxidation	Abs/.1mm	*ASTM D7414	>25	<b>13.3</b>	13.0	13.3
Base Number (BN)	mg KOH/g	ASTM D2896	9.6	<b>7.8</b>	8.3	7.9
Visc @ 100°C	cSt	ASTM D445	15.7	<b>13.8</b>	13.8	13.8

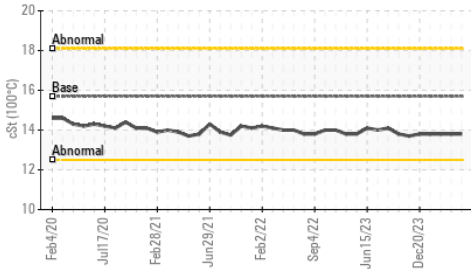
**FT-IR (Direct Trend)**



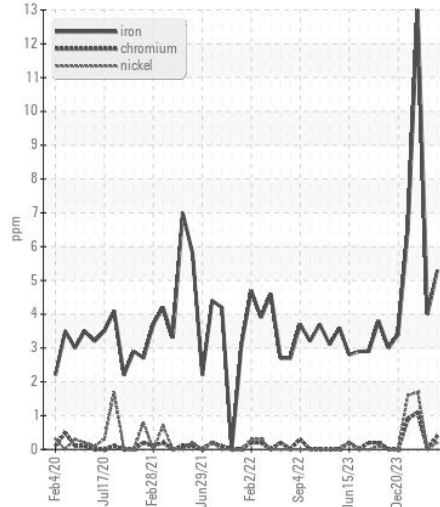
**Base Number**



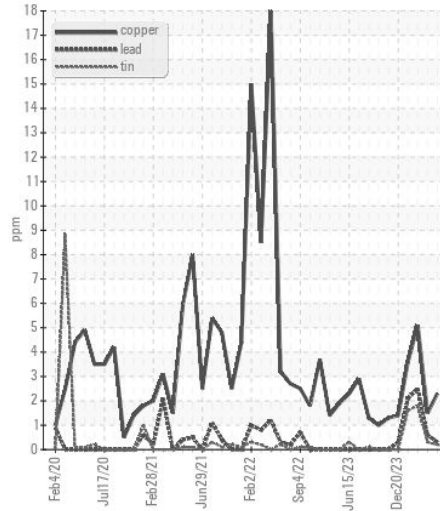
**Viscosity @ 100°C**



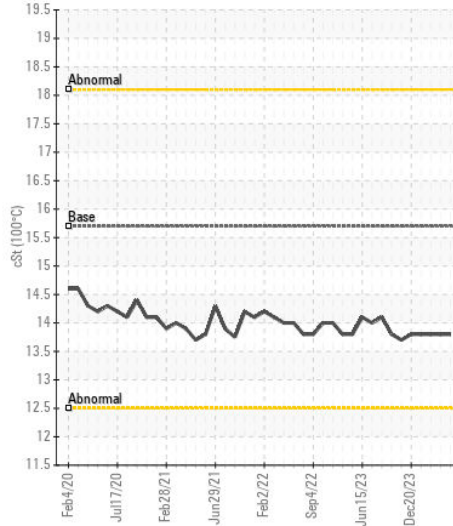
**Ferrous Alloys**



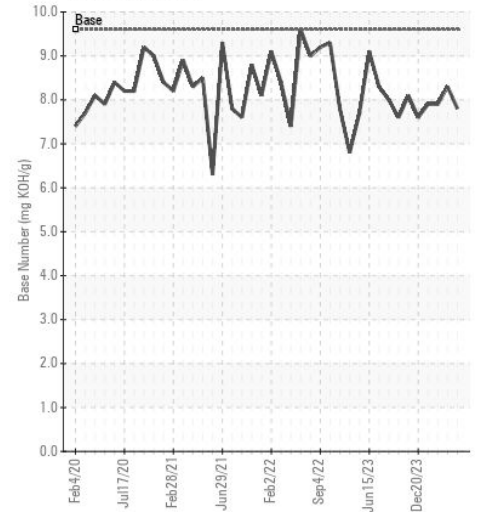
**Non-ferrous Metals**



**Viscosity @ 100°C**



**Base Number**



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : MW0057785  
**Lab Number** : 06224216  
**Unique Number** : 11102413  
**Test Package** : MAR 2

**Received** : 28 Jun 2024  
**Tested** : 01 Jul 2024  
**Diagnosed** : 01 Jul 2024 - Angela Borella

**MAGNOLIA MARINE TRANSPORT**  
 697 HAINING ROAD  
 VICKSBURG, MS  
 US 39183  
 Contact: MMT MAINTENANCE PLANNERS  
 mmtmaintenanceplanners@ergon.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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