



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

Machine Id  
**MISS ELLIE**  
Component  
**Port Main Engine**  
Fluid  
**CHEVRON DELO 400 MULTIGRADE 15W40 (--- GAL)**

**RECOMMENDATION**

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

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		<b>MW0044341</b>	MW0044337	MW0027484
Sample Date		Client Info		<b>27 Mar 2024</b>	02 Mar 2024	01 Feb 2024
Machine Age	hrs	Client Info		<b>39816</b>	39368	38897
Oil Age	hrs	Client Info		<b>912</b>	464	480
Filter Age	hrs	Client Info		<b>230</b>	464	480
Oil Changed		Client Info		<b>Not Changd</b>	Changed	Changed
Filter Changed		Client Info		<b>Not Changd</b>	Changed	Changed
Sample Status				<b>NORMAL</b>	NORMAL	NORMAL

**WEAR**

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>75	<b>4</b>	1	4
Chromium	ppm	ASTM D5185m	>8	<b>&lt;1</b>	<1	0
Nickel	ppm	ASTM D5185m	>2	<b>&lt;1</b>	0	0
Titanium	ppm	ASTM D5185m	>3	<b>11</b>	10	6
Silver	ppm	ASTM D5185m	>2	<b>0</b>	0	0
Aluminum	ppm	ASTM D5185m	>15	<b>2</b>	3	2
Lead	ppm	ASTM D5185m	>18	<b>&lt;1</b>	<1	<1
Copper	ppm	ASTM D5185m	>80	<b>6</b>	<1	5
Tin	ppm	ASTM D5185m	>14	<b>&lt;1</b>	<1	<1
Vanadium	ppm	ASTM D5185m		<b>&lt;1</b>	<1	0
White Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	LIGHT
Yellow Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE

**CONTAMINATION**

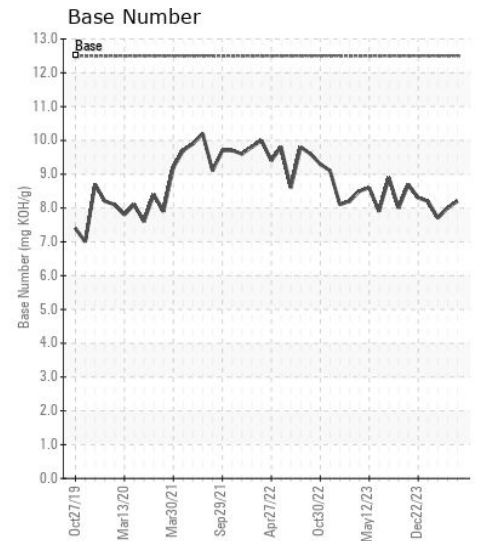
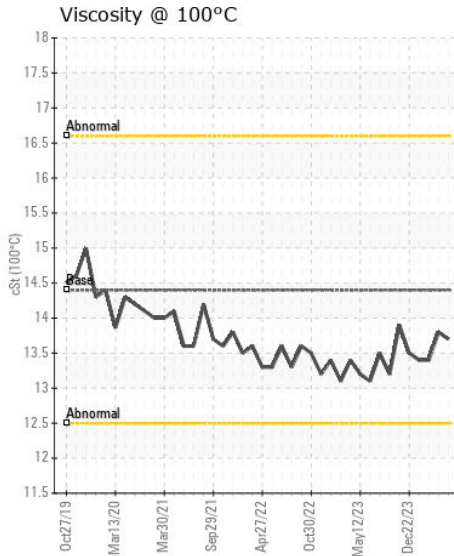
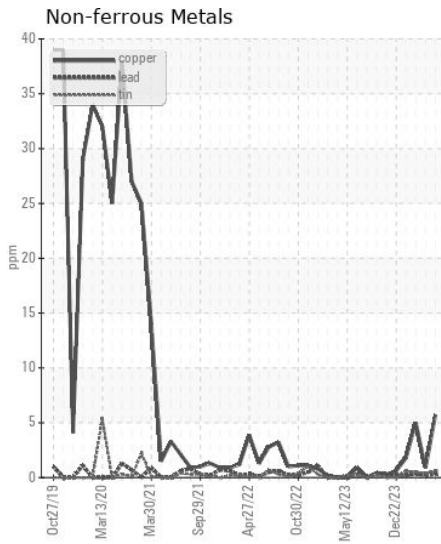
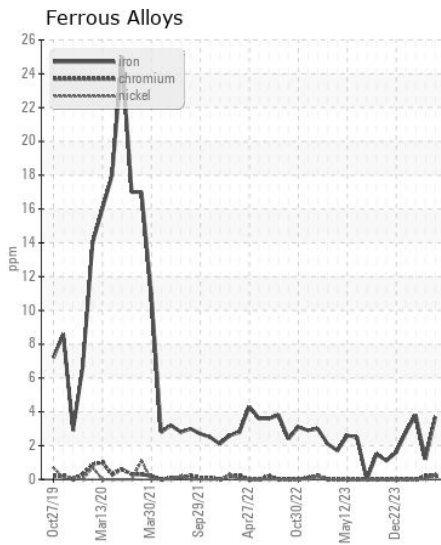
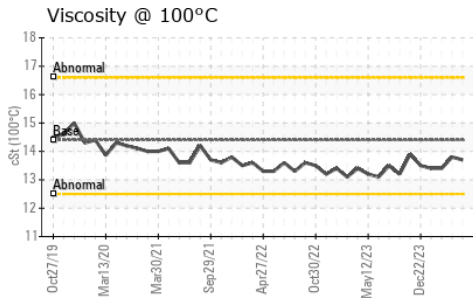
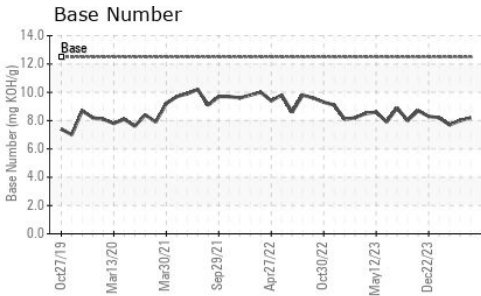
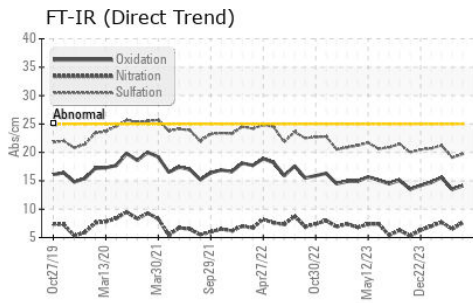
Elevated aluminum (Al) and/or lead (Pb) and potassium (K) levels in your metals analysis are likely a result of solder flux release into the lubricant and is common on new equipment/components. There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185m	>20	<b>4</b>	4	4
Potassium	ppm	ASTM D5185m	>20	<b>4</b>	3	2
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	0.2
Nitration	Abs/cm	*ASTM D7624	>20	<b>7.6</b>	6.5	7.7
Sulfation	Abs/.1mm	*ASTM D7415	>30	<b>19.7</b>	19.1	21.2
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>0</b>	2	<1
Boron	ppm	ASTM D5185m	151	<b>199</b>	197	196
Barium	ppm	ASTM D5185m	0.4	<b>0</b>	<1	0
Molybdenum	ppm	ASTM D5185m	250	<b>66</b>	63	82
Manganese	ppm	ASTM D5185m		<b>&lt;1</b>	<1	<1
Magnesium	ppm	ASTM D5185m	0	<b>659</b>	656	693
Calcium	ppm	ASTM D5185m	2046	<b>1476</b>	1477	1500
Phosphorus	ppm	ASTM D5185m	1043	<b>703</b>	719	751
Zinc	ppm	ASTM D5185m	943	<b>830</b>	821	879
Sulfur	ppm	ASTM D5185m	5012	<b>3201</b>	3001	2862
Oxidation	Abs/.1mm	*ASTM D7414	>25	<b>14.1</b>	13.5	15.6
Base Number (BN)	mg KOH/g	ASTM D2896	12.5	<b>8.2</b>	8.0	7.7
Visc @ 100°C	cSt	ASTM D445	14.4	<b>13.7</b>	13.8	13.4



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : MW0044341  
**Lab Number** : 06178229  
**Unique Number** : 11029555  
**Test Package** : MAR 2

**Received** : 13 May 2024  
**Tested** : 14 May 2024  
**Diagnosed** : 14 May 2024 - Wes Davis

**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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