



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

Area

**A J MORRIS**

Machine Id

**[A J MORRIS] 001 550220-1**

Component

**Port Main Engine**

Fluid

**CHEVRON DELO 400 LE 15W40 (--- GAL)**

**RECOMMENDATION**

Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		<b>MW0062842</b>	MW0066131	MW0062840
Sample Date		Client Info		<b>03 Jul 2024</b>	01 May 2024	11 Apr 2024
Machine Age	hrs	Client Info		<b>45363</b>	41421	40965
Oil Age	hrs	Client Info		<b>1394</b>	252	850
Filter Age	hrs	Client Info		<b>360</b>	252	850
Oil Changed		Client Info		<b>N/A</b>	Not Changd	Changed
Filter Changed		Client Info		<b>N/A</b>	Not Changed	Changed
Sample Status				<b>NORMAL</b>	NORMAL	NORMAL

**WEAR**

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>75	<b>4</b>	5	6
Chromium	ppm	ASTM D5185m	>8	<b>&lt;1</b>	0	<1
Nickel	ppm	ASTM D5185m	>2	<b>0</b>	0	<1
Titanium	ppm	ASTM D5185m	>3	<b>0</b>	0	<1
Silver	ppm	ASTM D5185m	>2	<b>0</b>	0	0
Aluminum	ppm	ASTM D5185m	>15	<b>3</b>	2	3
Lead	ppm	ASTM D5185m	>18	<b>6</b>	5	3
Copper	ppm	ASTM D5185m	>80	<b>69</b>	35	10
Tin	ppm	ASTM D5185m	>14	<b>0</b>	0	<1
Vanadium	ppm	ASTM D5185m		<b>0</b>	0	<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.

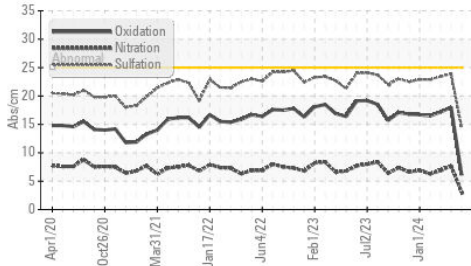
Silicon	ppm	ASTM D5185m	>20	<b>4</b>	6	7
Potassium	ppm	ASTM D5185m	>20	<b>2</b>	1	2
Fuel		WC Method	>4.0	<b>&lt;1.0</b>	<1.0	<1.0
Water		WC Method	>0.1	<b>NEG</b>	NEG	NEG
Glycol		WC Method		<b>NEG</b>	NEG	NEG
Soot %	%	*ASTM D7844		<b>0</b>	0.1	0.1
Nitration	Abs/cm	*ASTM D7624	>20	<b>3.1</b>	7.7	6.9
Sulfation	Abs/.1mm	*ASTM D7415	>30	<b>14.5</b>	23.9	23.4
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**

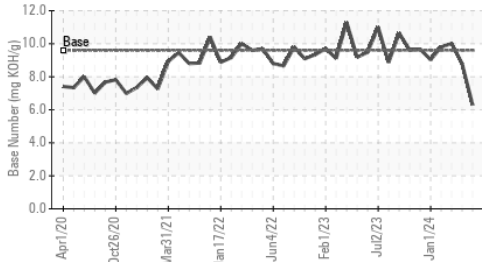
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

Sodium	ppm	ASTM D5185m	>75	<b>0</b>	1	0
Boron	ppm	ASTM D5185m		<b>343</b>	364	405
Barium	ppm	ASTM D5185m		<b>0</b>	<1	2
Molybdenum	ppm	ASTM D5185m		<b>32</b>	129	128
Manganese	ppm	ASTM D5185m		<b>0</b>	1	1
Magnesium	ppm	ASTM D5185m		<b>11</b>	688	625
Calcium	ppm	ASTM D5185m		<b>2486</b>	1726	1553
Phosphorus	ppm	ASTM D5185m	1200	<b>662</b>	719	687
Zinc	ppm	ASTM D5185m	1300	<b>785</b>	891	797
Sulfur	ppm	ASTM D5185m	3200	<b>2613</b>	3024	2742
Oxidation	Abs/.1mm	*ASTM D7414	>25	<b>6.1</b>	18.0	17.2
Base Number (BN)	mg KOH/g	ASTM D2896	9.6	<b>6.29</b>	8.79	10.01
Visc @ 100°C	cSt	ASTM D445	15.7	<b>14.3</b>	13.1	13.1

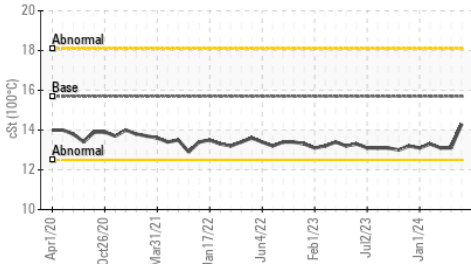
**FT-IR (Direct Trend)**



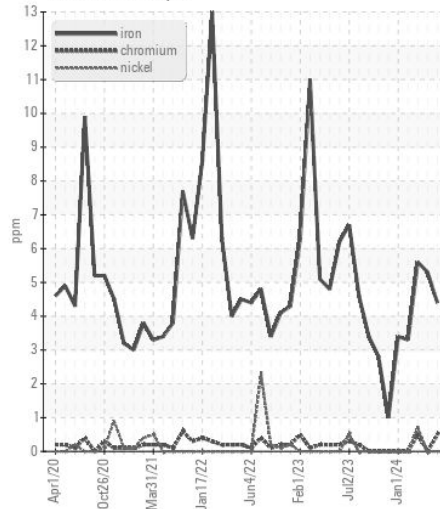
**Base Number**



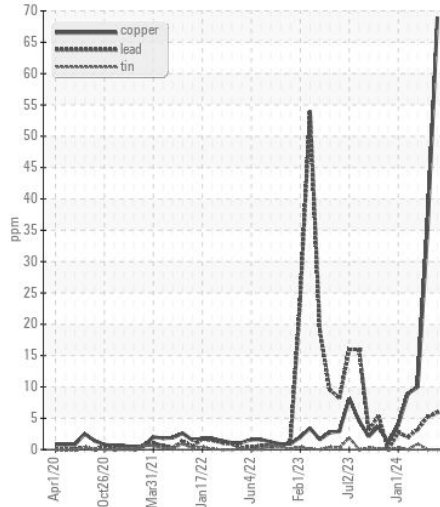
**Viscosity @ 100°C**



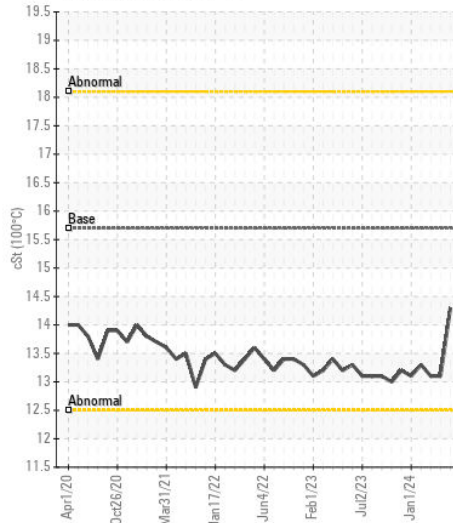
**Ferrous Alloys**



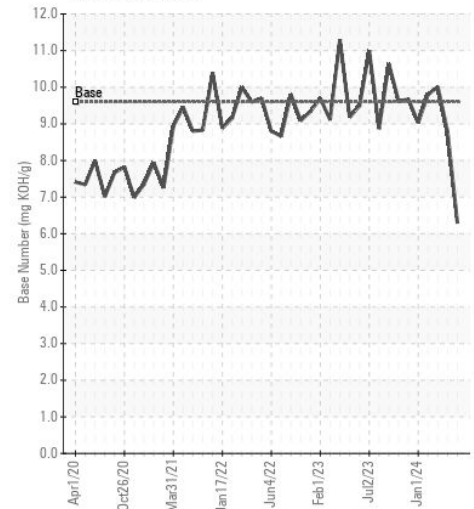
**Non-ferrous Metals**



**Viscosity @ 100°C**



**Base Number**



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : MW0062842 **Received** : 15 Jul 2024  
**Lab Number** : 06237054 **Tested** : 17 Jul 2024  
**Unique Number** : 11125888 **Diagnosed** : 17 Jul 2024 - Sean Felton  
**Test Package** : MAR 2

**INGRAM BARGE**  
 900 S 3RD ST  
 PADUCAH, KY  
 US 42003  
 Contact: MVJPA  
 mvjpa@ingrambarga.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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