



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

Area

**ROBERT H BROWN**

Machine Id

**[ROBERT H BROWN] 001 536019-1**

Component

**Port Main Engine**

Fluid

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

**RECOMMENDATION**

Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		<b>MW0065804</b>	MW0065885	MW0060222
Sample Date		Client Info		<b>05 Apr 2024</b>	01 Mar 2024	01 Feb 2024
Machine Age	hrs	Client Info		<b>18674</b>	17816	17138
Oil Age	hrs	Client Info		<b>1016</b>	170	1000
Filter Age	hrs	Client Info		<b>1016</b>	170	1000
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>4</b>	3	4
Chromium	ppm	ASTM D5185m	>8	<b>0</b>	0	0
Nickel	ppm	ASTM D5185m	>2	<b>0</b>	0	0
Titanium	ppm	ASTM D5185m	>3	<b>0</b>	0	0
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>2</b>	1	<1
Copper	ppm	ASTM D5185m	>80	<b>2</b>	<1	1
Tin	ppm	ASTM D5185m	>14	<b>0</b>	0	<1
Vanadium	ppm	ASTM D5185m		<b>&lt;1</b>	0	0
White Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE

**CONTAMINATION**

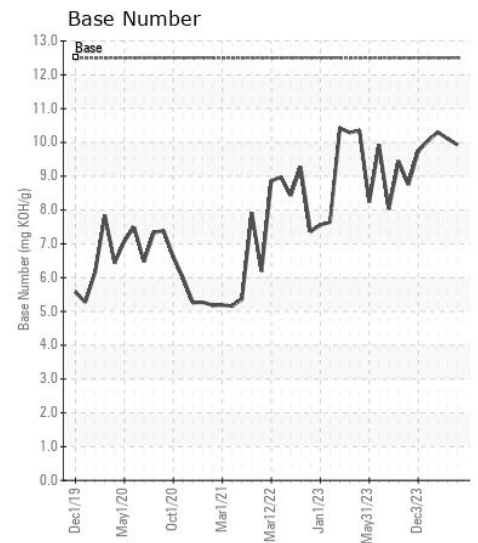
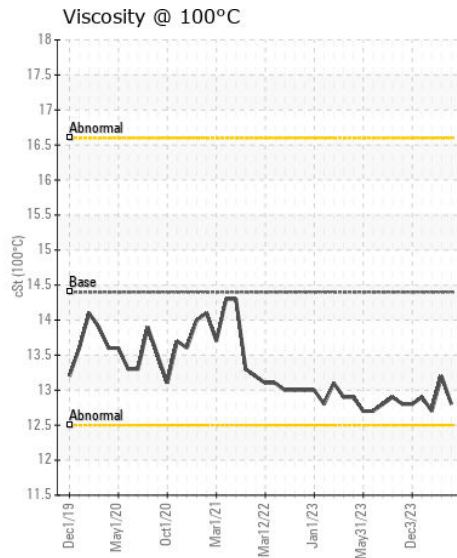
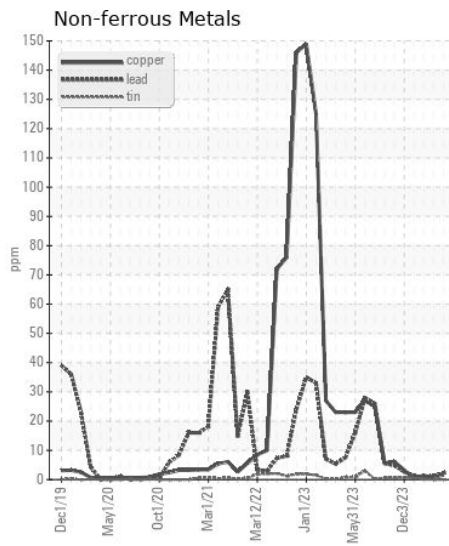
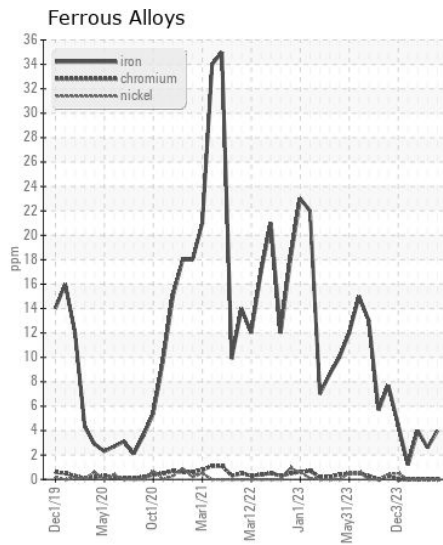
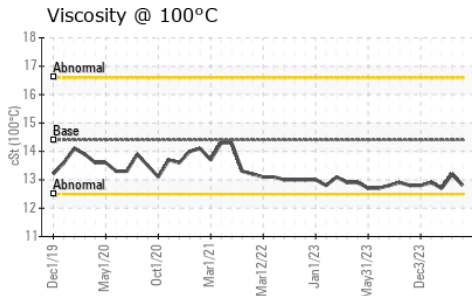
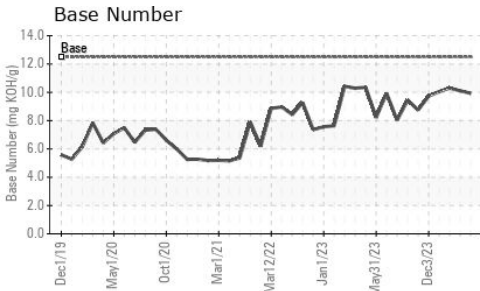
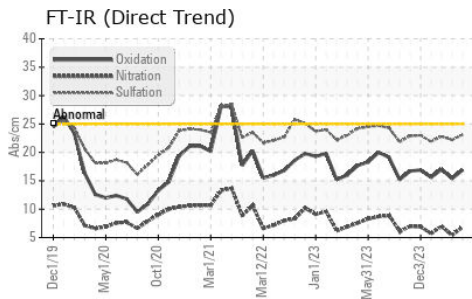
There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185m	>20	<b>5</b>	5	5
Potassium	ppm	ASTM D5185m	>20	<b>0</b>	0	0
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>6.9</b>	5.4	7.0
Sulfation	Abs/.1mm	*ASTM D7415	>30	<b>23.1</b>	22.2	22.8
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	<1
Boron	ppm	ASTM D5185m	151	<b>352</b>	341	339
Barium	ppm	ASTM D5185m	0.4	<b>&lt;1</b>	0	0
Molybdenum	ppm	ASTM D5185m	250	<b>139</b>	124	119
Manganese	ppm	ASTM D5185m		<b>1</b>	<1	<1
Magnesium	ppm	ASTM D5185m	0	<b>733</b>	676	633
Calcium	ppm	ASTM D5185m	2046	<b>1956</b>	1683	1548
Phosphorus	ppm	ASTM D5185m	1043	<b>826</b>	696	677
Zinc	ppm	ASTM D5185m	943	<b>991</b>	834	777
Sulfur	ppm	ASTM D5185m	5012	<b>3476</b>	2608	2791
Oxidation	Abs/.1mm	*ASTM D7414	>25	<b>16.9</b>	15.4	17.0
Base Number (BN)	mg KOH/g	ASTM D2896	12.5	<b>9.93</b>	10.11	10.30
Visc @ 100°C	cSt	ASTM D445	14.4	<b>12.8</b>	13.2	12.7



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513

**Sample No.** : MW0065804

**Lab Number** : 06146718

**Unique Number** : 10976796

**Test Package** : MAR 2

**Received** : 11 Apr 2024

**Tested** : 15 Apr 2024

**Diagnosed** : 15 Apr 2024 - Wes Davis

**INGRAM BARGE**

900 S 3RD ST

PADUCAH, KY

US 42003

Contact: MVJPA

mvjpa@ingrambarga.com

T:

F: (615)695-3697

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)