



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

Machine Id  
**PAUL F BROTZGE**  
Component  
**Port Main Engine**  
Fluid  
**CHEVRON DELO 710 LS (350 GAL)**

**RECOMMENDATION**

Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		<b>MW0066428</b>	MW0055965	MW0055949
Sample Date		Client Info		<b>01 Feb 2024</b>	04 Jan 2024	01 Dec 2023
Machine Age	hrs	Client Info		<b>10588</b>	9919	9103
Oil Age	hrs	Client Info		<b>10588</b>	1246	9103
Filter Age	hrs	Client Info		<b>5</b>	1246	453
Oil Changed		Client Info		<b>Not Changd</b>	Not Changd	Not Changd
Filter Changed		Client Info		<b>Changed</b>	Not Changd	Changed
Sample Status				<b>NORMAL</b>	NORMAL	NORMAL

**WEAR**

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>75	<b>11</b>	10	12
Chromium	ppm	ASTM D5185m	>8	<b>1</b>	<1	<1
Nickel	ppm	ASTM D5185m	>2	<b>0</b>	<1	0
Titanium	ppm	ASTM D5185m	>3	<b>&lt;1</b>	0	0
Silver	ppm	ASTM D5185m	>2	<b>0</b>	0	0
Aluminum	ppm	ASTM D5185m	>15	<b>1</b>	2	<1
Lead	ppm	ASTM D5185m	>18	<b>2</b>	2	2
Copper	ppm	ASTM D5185m	>80	<b>10</b>	8	9
Tin	ppm	ASTM D5185m	>14	<b>3</b>	3	2
Vanadium	ppm	ASTM D5185m		<b>0</b>	<1	0
White Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE

**CONTAMINATION**

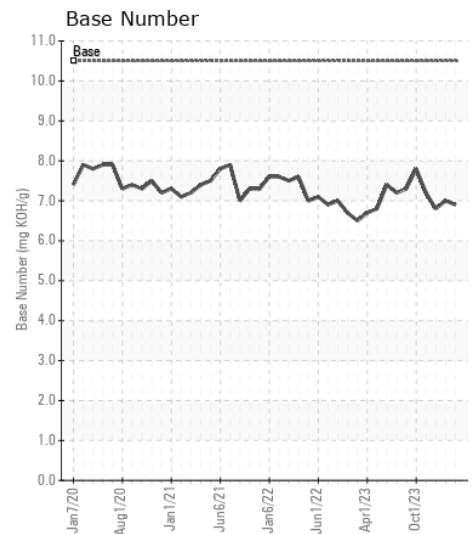
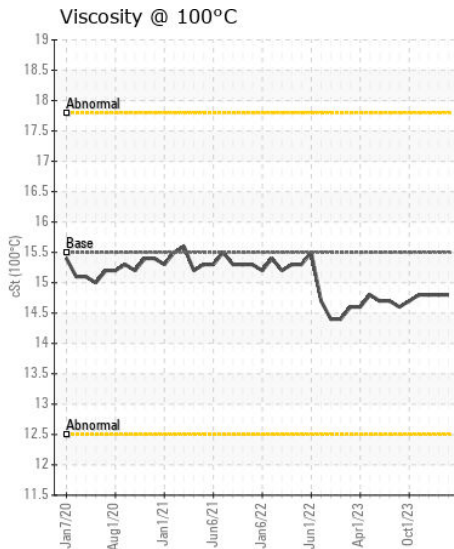
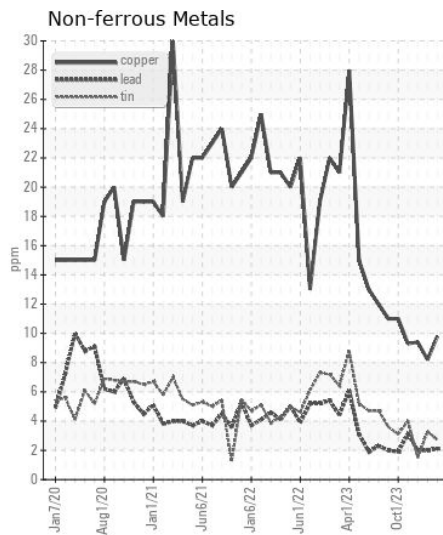
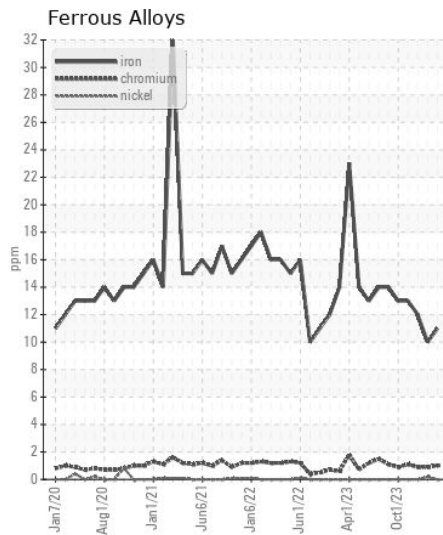
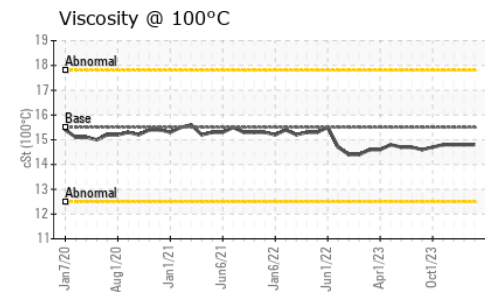
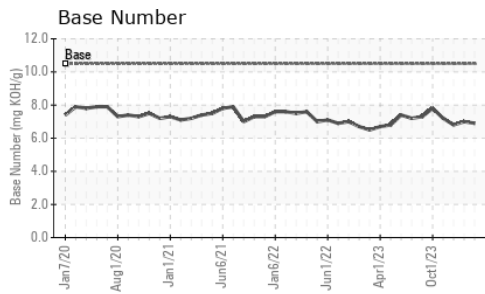
There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185m	>20	<b>3</b>	2	2
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	>3	<b>0.7</b>	0.8	0.7
Nitration	Abs/cm	*ASTM D7624	>20	<b>8.0</b>	7.7	7.9
Sulfation	Abs/.1mm	*ASTM D7415	>30	<b>16.4</b>	16.0	16.3
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>	0	<1
Boron	ppm	ASTM D5185m		<b>45</b>	38	42
Barium	ppm	ASTM D5185m		<b>0</b>	0	0
Molybdenum	ppm	ASTM D5185m		<b>48</b>	45	45
Manganese	ppm	ASTM D5185m		<b>&lt;1</b>	<1	0
Magnesium	ppm	ASTM D5185m		<b>21</b>	18	31
Calcium	ppm	ASTM D5185m		<b>3350</b>	3460	3428
Phosphorus	ppm	ASTM D5185m		<b>8</b>	8	20
Zinc	ppm	ASTM D5185m		<b>8</b>	0	25
Sulfur	ppm	ASTM D5185m		<b>2073</b>	2206	2434
Oxidation	Abs/.1mm	*ASTM D7414	>25	<b>8.5</b>	8.0	8.4
Base Number (BN)	mg KOH/g	ASTM D2896	10.5	<b>6.9</b>	7.0	6.8
Visc @ 100°C	cSt	ASTM D445	15.5	<b>14.8</b>	14.8	14.8



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : MW0066428  
**Lab Number** : 06099806  
**Unique Number** : 10898036  
**Test Package** : MAR 2

**Received** : 26 Feb 2024  
**Tested** : 27 Feb 2024  
**Diagnosed** : 27 Feb 2024 - Wes Davis

**AMERICAN COMMERCIAL LINES**  
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 US 47130  
 Contact: RONALD SCHNEIDER  
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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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