



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

Area  
**RICK HARNACK**  
Machine Id  
[RICK HARNACK] 001 685578-1  
Component  
**Port Main Engine**  
Fluid  
**CHEVRON DELO 400 XLE 15W40 (220 GAL)**

**RECOMMENDATION**

Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		<b>MW0068901</b>	MW06202159	MW06176275
Sample Date		Client Info		<b>01 Jul 2024</b>	01 Jun 2024	01 May 2024
Machine Age	hrs	Client Info		<b>33886</b>	33171	22444
Oil Age	hrs	Client Info		<b>27</b>	727	1519
Filter Age	hrs	Client Info		<b>27</b>	0	0
Oil Changed		Client Info		<b>Changed</b>	N/A	N/A
Filter Changed		Client Info		<b>Changed</b>	N/A	N/A
Sample Status				<b>NORMAL</b>	NORMAL	NORMAL

**WEAR**

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>75	<b>3</b>	4	12
Chromium	ppm	ASTM D5185m	>8	<b>&lt;1</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>4</b>	2	2
Lead	ppm	ASTM D5185m	>18	<b>0</b>	0	1
Copper	ppm	ASTM D5185m	>80	<b>&lt;1</b>	<1	4
Tin	ppm	ASTM D5185m	>14	<b>0</b>	0	0
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.

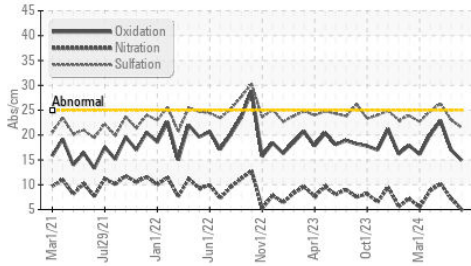
Silicon	ppm	ASTM D5185m	>20	<b>7</b>	5	5
Potassium	ppm	ASTM D5185m	>20	<b>1</b>	<1	<1
Fuel		WC Method	>4.0	<b>&lt;1.0</b>	<1.0	<1.0
Water		WC Method	>0.1	<b>NEG</b>	NEG	NEG
Glycol		WC Method		<b>NEG</b>	NEG	NEG
Soot %	%	*ASTM D7844		<b>0.1</b>	0.3	0.5
Nitration	Abs/cm	*ASTM D7624	>20	<b>5.0</b>	7.2	10.2
Sulfation	Abs/.1mm	*ASTM D7415	>30	<b>21.5</b>	23.1	26.3
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**

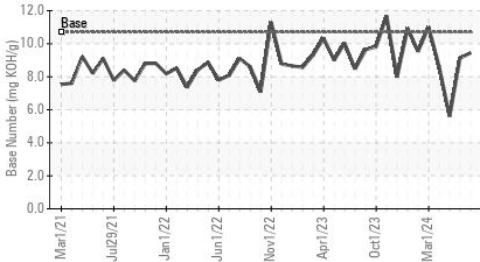
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

Sodium	ppm	ASTM D5185m	>75	<b>3</b>	0	2
Boron	ppm	ASTM D5185m		<b>527</b>	383	354
Barium	ppm	ASTM D5185m		<b>0</b>	0	<1
Molybdenum	ppm	ASTM D5185m		<b>123</b>	116	137
Manganese	ppm	ASTM D5185m		<b>0</b>	<1	2
Magnesium	ppm	ASTM D5185m		<b>616</b>	624	701
Calcium	ppm	ASTM D5185m		<b>1694</b>	1649	1786
Phosphorus	ppm	ASTM D5185m	760	<b>1018</b>	894	737
Zinc	ppm	ASTM D5185m	830	<b>1253</b>	1090	896
Sulfur	ppm	ASTM D5185m	2770	<b>3337</b>	3530	2989
Oxidation	Abs/.1mm	*ASTM D7414	>25	<b>14.9</b>	17.0	22.9
Base Number (BN)	mg KOH/g	ASTM D2896	10.7	<b>9.45</b>	9.13	5.60
Visc @ 100°C	cSt	ASTM D445	14.9	<b>14.3</b>	13.8	14.1

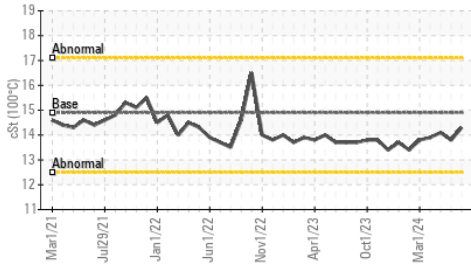
FT-IR (Direct Trend)



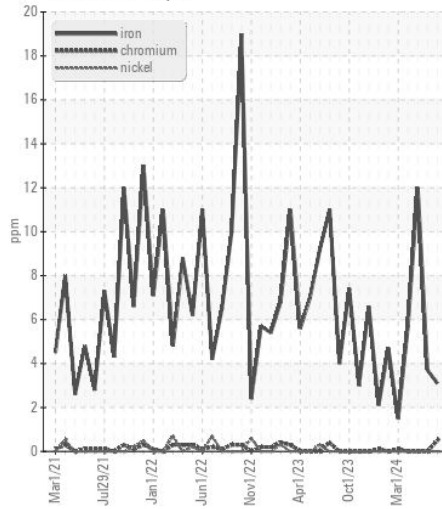
Base Number



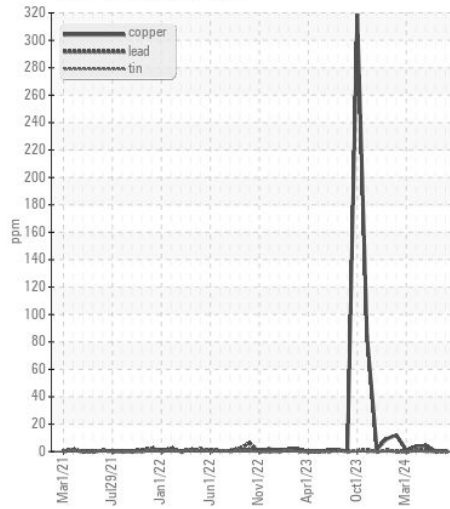
Viscosity @ 100°C



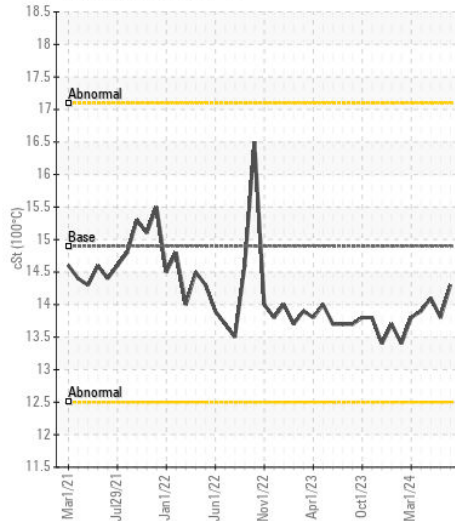
Ferrous Alloys



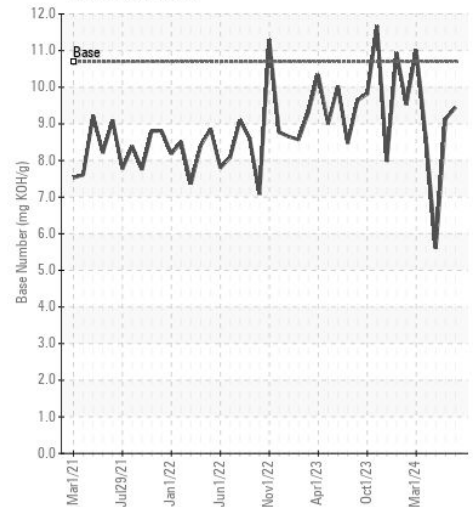
Non-ferrous Metals



Viscosity @ 100°C



Base Number



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : MW0068901 **Received** : 15 Jul 2024  
**Lab Number** : **06237081** **Tested** : 17 Jul 2024  
**Unique Number** : 11125915 **Diagnosed** : 17 Jul 2024 - Don Baldridge  
**Test Package** : MAR 2

**INGRAM BARGE**  
 900 S 3RD ST  
 PADUCAH, KY  
 US 42003

Contact: ANTHONY VAN CURA  
 anthony.vancura@ingrambarga.com  
 T: (270)415-4467  
 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)