



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

Machine Id  
**RIVER QUEST**  
Component  
**Port Main Engine**  
Fluid  
**PETRO CANADA DURON MARINE SAE 40 (16 GAL)**

**RECOMMENDATION**

Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		<b>MW0066816</b>	MW0036040	MW0036056
Sample Date		Client Info		<b>01 Feb 2024</b>	27 Nov 2023	04 Oct 2023
Machine Age	hrs	Client Info		<b>22291</b>	21323	20691
Oil Age	hrs	Client Info		<b>968</b>	632	725
Filter Age	hrs	Client Info		<b>968</b>	632	725
Oil Changed		Client Info		<b>Changed</b>	Changed	Changed
Filter Changed		Client Info		<b>Changed</b>	Changed	Changed
Sample Status				<b>NORMAL</b>	NORMAL	NORMAL

**WEAR**

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>120	<b>8</b>	3	4
Chromium	ppm	ASTM D5185m	>10	<b>&lt;1</b>	<1	<1
Nickel	ppm	ASTM D5185m	>5	<b>&lt;1</b>	0	0
Titanium	ppm	ASTM D5185m		<b>&lt;1</b>	0	0
Silver	ppm	ASTM D5185m	>5	<b>0</b>	0	0
Aluminum	ppm	ASTM D5185m	>20	<b>2</b>	<1	0
Lead	ppm	ASTM D5185m	>40	<b>7</b>	1	4
Copper	ppm	ASTM D5185m	>300	<b>2</b>	2	1
Tin	ppm	ASTM D5185m	>10	<b>&lt;1</b>	0	<1
Vanadium	ppm	ASTM D5185m		<b>0</b>	0	0
White Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE

**CONTAMINATION**

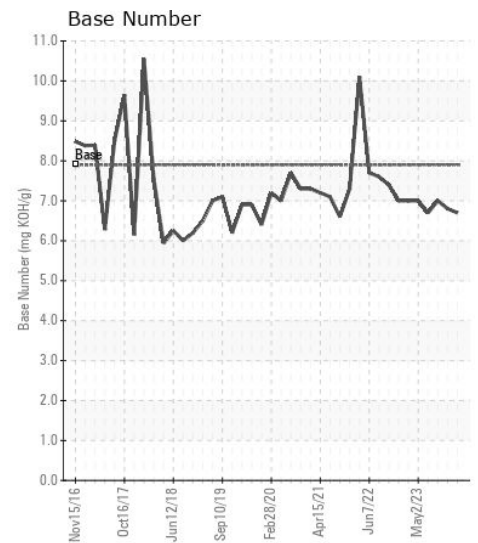
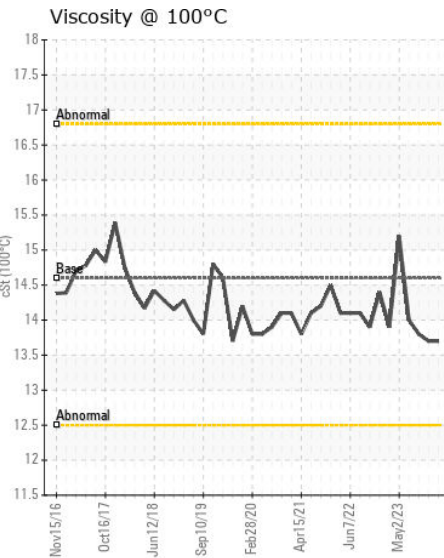
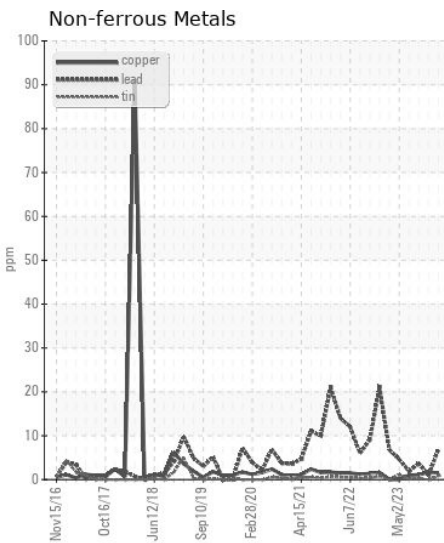
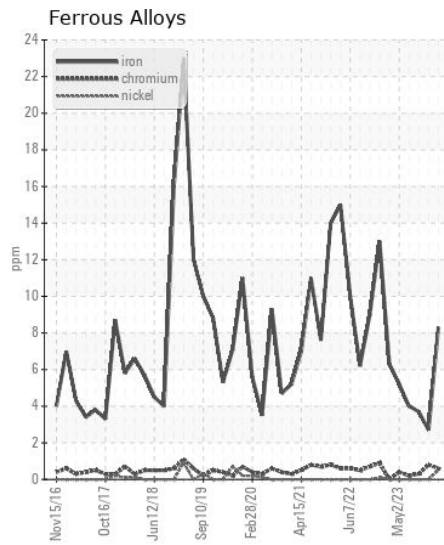
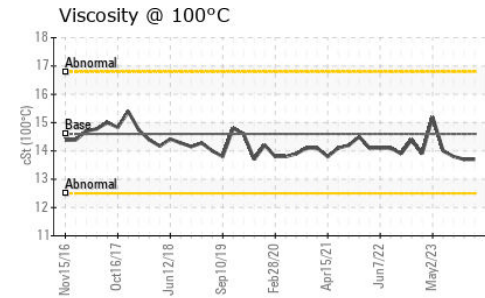
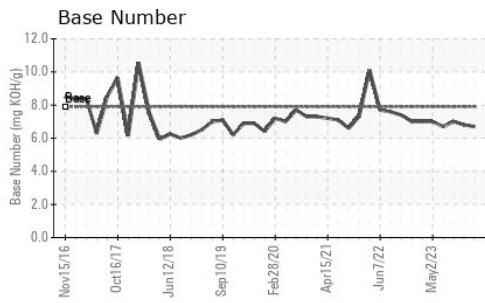
There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185m	>25	<b>2</b>	2	2
Potassium	ppm	ASTM D5185m	>20	<b>&lt;1</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>0.5</b>	0.3	0.4
Nitration	Abs/cm	*ASTM D7624	>20	<b>5.5</b>	4.7	5.7
Sulfation	Abs/.1mm	*ASTM D7415	>30	<b>15.3</b>	13.8	14.6
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		<b>0</b>	3	4
Boron	ppm	ASTM D5185m	1.0	<b>2</b>	0	2
Barium	ppm	ASTM D5185m	1.0	<b>13</b>	0	0
Molybdenum	ppm	ASTM D5185m	1.0	<b>3</b>	0	2
Manganese	ppm	ASTM D5185m	1	<b>&lt;1</b>	<1	0
Magnesium	ppm	ASTM D5185m	15	<b>882</b>	939	893
Calcium	ppm	ASTM D5185m	2540	<b>1089</b>	1060	1061
Phosphorus	ppm	ASTM D5185m	1000	<b>1112</b>	1177	1172
Zinc	ppm	ASTM D5185m	1110	<b>1262</b>	1369	1227
Sulfur	ppm	ASTM D5185m	3700	<b>3501</b>	3275	2925
Oxidation	Abs/.1mm	*ASTM D7414	>25	<b>8.8</b>	7.9	8.6
Base Number (BN)	mg KOH/g	ASTM D2896	7.9	<b>6.7</b>	6.8	7.0
Visc @ 100°C	cSt	ASTM D445	14.6	<b>13.7</b>	13.7	13.8



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : MW0066816  
**Lab Number** : 06085739  
**Unique Number** : 10873184  
**Test Package** : MAR 2

**Received** : 12 Feb 2024  
**Tested** : 12 Feb 2024  
**Diagnosed** : 12 Feb 2024 - Wes Davis

**AMERICAN RIVER TRANSPORTATION**  
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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)