



# OIL ANALYSIS REPORT

Sample Rating Trend



**NORMAL**



Machine Id  
**TIRIARNAQ (S/N 12RA015134)**  
 Component  
**Port Main Engine**  
 Fluid  
**CHEVRON DELO 100 SAE 40 (40 LTR)**

## DIAGNOSIS

### Recommendation

Resample at the next service interval to monitor. Please specify the component make and model with your next sample.

### Wear

All component wear rates are normal.

### Contamination

Elevated aluminum (Al) and/or lead (Pb) and potassium (K) levels in your metals analysis are likely a result of solder flux release into the lubricant and is common on new equipment/components. There is no indication of any contamination in the oil.

### Fluid Condition

The condition of the oil is acceptable for the time in service.

## SAMPLE INFORMATION

	method	limit/base	current	history1	history2
Sample Number	Client Info		<b>WC0932473</b>	---	---
Sample Date	Client Info		<b>24 Jun 2024</b>	---	---
Machine Age	hrs	Client Info	<b>7060</b>	---	---
Oil Age	hrs	Client Info	<b>221</b>	---	---
Oil Changed	Client Info		<b>Not Chngd</b>	---	---
Sample Status			<b>NORMAL</b>	---	---

## CONTAMINATION

	method	limit/base	current	history1	history2
Fuel	WC Method	>4.0	<b>&lt;1.0</b>	---	---
Water	WC Method	>0.1	<b>NEG</b>	---	---
Glycol	WC Method		<b>NEG</b>	---	---

## WEAR METALS

	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185(m) >75	<b>16</b>	---	---
Chromium	ppm	ASTM D5185(m) >8	<b>&lt;1</b>	---	---
Nickel	ppm	ASTM D5185(m) >2	<b>&lt;1</b>	---	---
Titanium	ppm	ASTM D5185(m) >3	<b>0</b>	---	---
Silver	ppm	ASTM D5185(m) >2	<b>0</b>	---	---
Aluminum	ppm	ASTM D5185(m) >15	<b>2</b>	---	---
Lead	ppm	ASTM D5185(m) >18	<b>2</b>	---	---
Copper	ppm	ASTM D5185(m) >80	<b>4</b>	---	---
Tin	ppm	ASTM D5185(m) >14	<b>2</b>	---	---
Antimony	ppm	ASTM D5185(m)	<b>0</b>	---	---
Vanadium	ppm	ASTM D5185(m)	<b>0</b>	---	---
Beryllium	ppm	ASTM D5185(m)	<b>0</b>	---	---
Cadmium	ppm	ASTM D5185(m)	<b>0</b>	---	---

## ADDITIVES

	method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185(m)	<b>125</b>	---	---
Barium	ppm	ASTM D5185(m)	<b>0</b>	---	---
Molybdenum	ppm	ASTM D5185(m)	<b>112</b>	---	---
Manganese	ppm	ASTM D5185(m)	<b>&lt;1</b>	---	---
Magnesium	ppm	ASTM D5185(m)	<b>1061</b>	---	---
Calcium	ppm	ASTM D5185(m)	<b>401</b>	---	---
Phosphorus	ppm	ASTM D5185(m) 980	<b>789</b>	---	---
Zinc	ppm	ASTM D5185(m) 1080	<b>972</b>	---	---
Sulfur	ppm	ASTM D5185(m)	<b>2402</b>	---	---
Lithium	ppm	ASTM D5185(m)	<b>&lt;1</b>	---	---

## CONTAMINANTS

	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185(m) >20	<b>5</b>	---	---
Sodium	ppm	ASTM D5185(m) >75	<b>2</b>	---	---
Potassium	ppm	ASTM D5185(m) >20	<b>4</b>	---	---

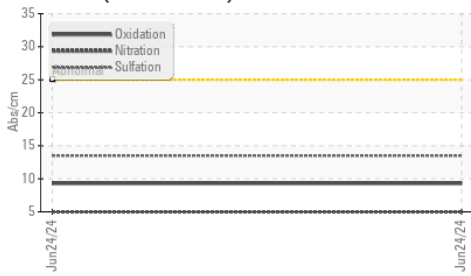
## INFRA-RED

	method	limit/base	current	history1	history2
Soot %	%	ASTM D7844*	<b>0</b>	---	---
Nitration	Abs/cm	ASTM D7624* >20	<b>5.0</b>	---	---
Sulfation	Abs./1mm	ASTM D7415* >30	<b>13.5</b>	---	---



# OIL ANALYSIS REPORT

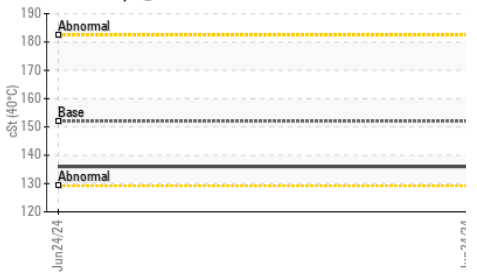
FT-IR (Direct Trend)



Viscosity @ 40°C



Viscosity @ 40°C



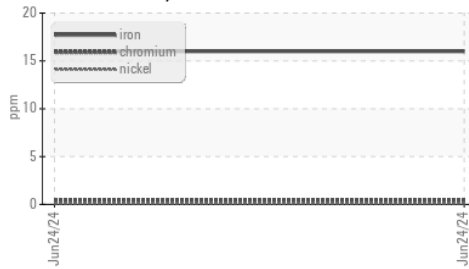
FLUID DEGRADATION	method	limit/base	current	history1	history2	
Oxidation	Abs./1mm	ASTM D7414*	>25	9.3	---	---

VISUAL	method	limit/base	current	history1	history2	
White Metal	scalar	Visual*	NONE	VLITE	---	---
Yellow Metal	scalar	Visual*	NONE	NONE	---	---
Precipitate	scalar	Visual*	NONE	NONE	---	---
Silt	scalar	Visual*	NONE	NONE	---	---
Debris	scalar	Visual*	NONE	NONE	---	---
Sand/Dirt	scalar	Visual*	NONE	NONE	---	---
Appearance	scalar	Visual*	NORML	NORML	---	---
Odor	scalar	Visual*	NORML	NORML	---	---
Emulsified Water	scalar	Visual*	>0.1	NEG	---	---
Free Water	scalar	Visual*		NEG	---	---

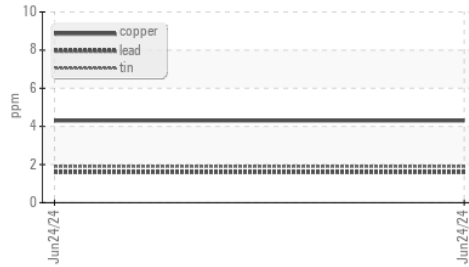
FLUID PROPERTIES	method	limit/base	current	history1	history2	
Visc @ 40°C	cSt	ASTM D7279(m)	152	136	---	---
Visc @ 100°C	cSt	ASTM D7279(m)	15.0	14.6	---	---
Viscosity Index (VI)	Scale	ASTM D2270*	99	106	---	---

## GRAPHS

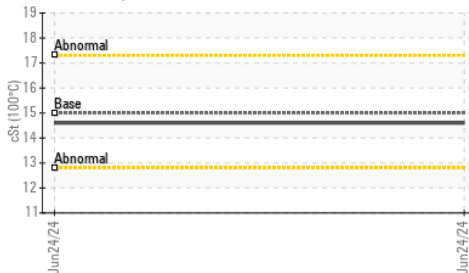
### Ferrous Alloys



### Non-ferrous Metals



### Viscosity @ 100°C



**Laboratory** : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9  
**Sample No.** : WC0932473 **Received** : 02 Jul 2024  
**Lab Number** : 02645095 **Tested** : 03 Jul 2024  
**Unique Number** : 5802634 **Diagnosed** : 03 Jul 2024 - Kevin Marson  
**Test Package** : MAR 1 ( Additional Tests: KV40, VI )

**PB MARINE CONSULTANT**  
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 ESQUIMALT, BC  
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To discuss this sample report, contact Customer Service at 1-800-268-2131.  
 Test denoted (\*) outside scope of accreditation, (m) method modified, (e) tested at external lab.  
 Validity of results and interpretation are based on the sample and information as supplied.