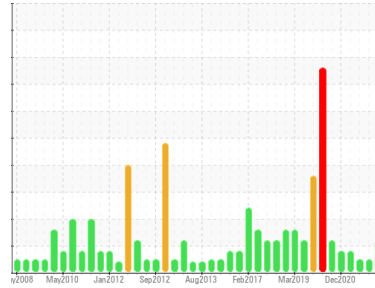


# PROBLEM SUMMARY

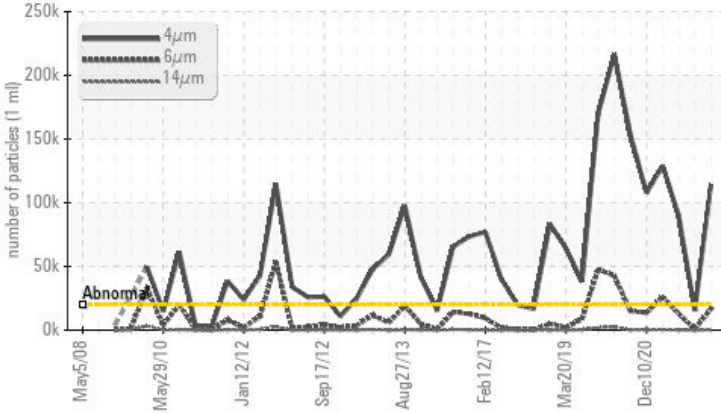
Area  
**1460**  
Machine Id  
**1460-5666-4003 - CU THICKENER MECH PLANETARY**  
Component  
**Planetary**  
Fluid  
**PETRO CANADA ENDURATEX XL 68/220 (20 LTR)**

Sample Rating Trend

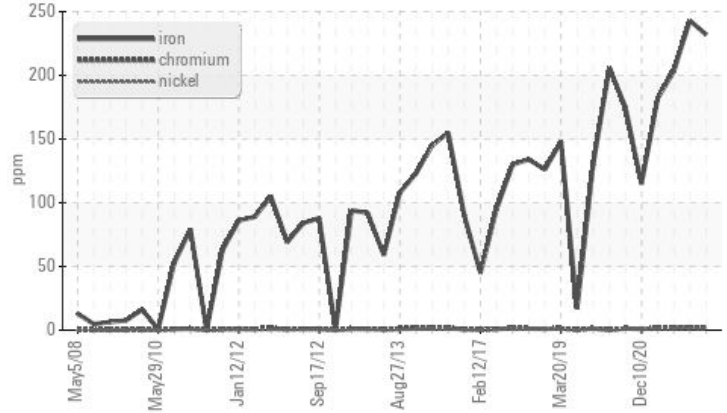


## COMPONENT CONDITION SUMMARY

▲ Particle Trend



Ferrous Alloys



## RECOMMENDATION

We recommend you service the filters on this component. We recommend an early resample to monitor this condition.

## PROBLEMATIC TEST RESULTS

Sample Status			ABNORMAL	NORMAL	NORMAL
Particles >4µm	ASTM D7647	>20000	▲ <b>114217</b>	15379	90014
Particles >6µm	ASTM D7647	>5000	▲ <b>16767</b>	981	12732
Oil Cleanliness	ISO 4406 (c)	>21/19/16	▲ <b>24/21/16</b>	21/17/12	24/21/15

Customer Id: INCVOS  
Sample No.: PC0070100  
Lab Number: 02595469  
Test Package: IND 2



To manage this report scan the QR code

To discuss the diagnosis or test data:  
Bill Quesnel CLS,OMA II,MLA-III,LLA-I +1  
(289)291-4641 x4641  
[Bill.Quesnel@wearcheck.com](mailto:Bill.Quesnel@wearcheck.com)

To change component or sample information:  
Gloria Gonzalez +1 (289)291-4643 x4643  
[gloria.gonzalez@wearcheck.com](mailto:gloria.gonzalez@wearcheck.com)

## RECOMMENDED ACTIONS

Action	Status	Date	Done By	Description
Change Filter	---	---	?	We recommend you service the filters on this component.
Resample	---	---	?	We recommend an early resample to monitor this condition.

## HISTORICAL DIAGNOSIS

### 20 Oct 2021 Diag: Kevin Marson

NORMAL



Resample at the next service interval to monitor. All component wear rates are normal. The system cleanliness is acceptable for your target ISO 4406 cleanliness code. The system and fluid cleanliness is acceptable. The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.

[view report](#)



### 24 Jun 2021 Diag: Kevin Marson

NORMAL



Resample at the next service interval to monitor. All component wear rates are normal. The system cleanliness is acceptable for your target ISO 4406 cleanliness code. The system and fluid cleanliness is acceptable. The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.

[view report](#)



### 17 Mar 2021 Diag: Kevin Marson

ISO

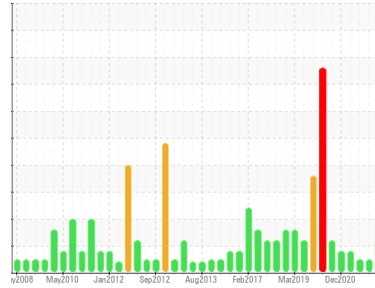


We recommend you service the filters on this component. We recommend an early resample to monitor this condition. An increase in the iron level is noted. All other component wear rates are normal. Particles >4µm are abnormally high. Particles >6µm are abnormally high. The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.

[view report](#)



Area  
**1460**  
Machine Id  
**1460-5666-4003 - CU THICKENER MECH PLANETARY**  
Component  
**Planetary**  
Fluid  
**PETRO CANADA ENDURATEX XL 68/220 (20 LTR)**



**DIAGNOSIS**

**Recommendation**

We recommend you service the filters on this component. We recommend an early resample to monitor this condition.

**Wear**

All component wear rates are normal.

**Contamination**

There is a moderate amount of silt (particulates < 14 microns in size) present in the oil.

**Fluid Condition**

The AN level is acceptable for this fluid. The oil is still serviceable provided that the contaminant(s) can be reduced to acceptable levels.

SAMPLE INFORMATION	method	limit/base	current	history1	history2
Sample Number	Client Info		<b>PC0070100</b>	PC0030031	PC0030072
Sample Date	Client Info		<b>09 Oct 2023</b>	20 Oct 2021	24 Jun 2021
Machine Age	mths	Client Info	<b>0</b>	0	0
Oil Age	mths	Client Info	<b>0</b>	0	0
Oil Changed	Client Info		<b>N/A</b>	N/A	N/A
Sample Status			<b>ABNORMAL</b>	NORMAL	NORMAL

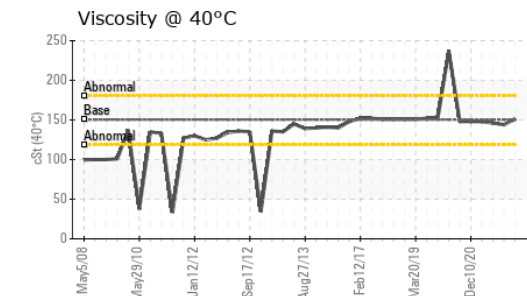
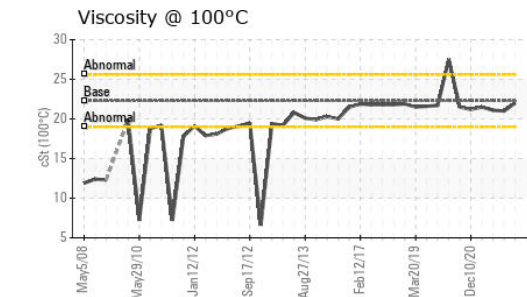
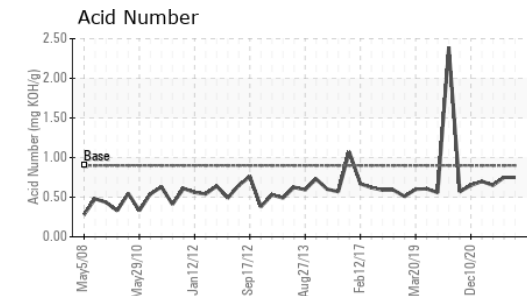
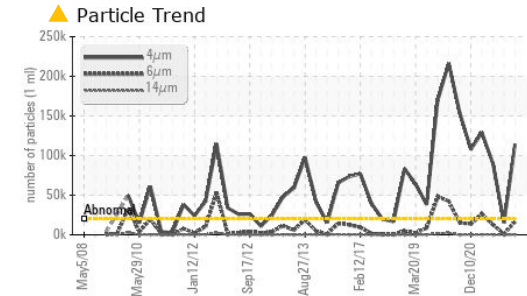
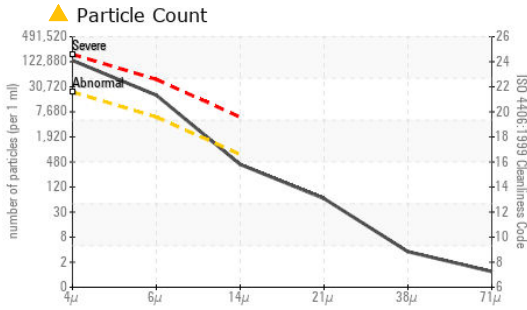
WEAR METALS	method	limit/base	current	history1	history2
PQ	ASTM D8184*		<b>0</b>	0	0
Iron	ppm	ASTM D5185(m) >150	<b>232</b>	243	203
Chromium	ppm	ASTM D5185(m) >10	<b>2</b>	2	2
Nickel	ppm	ASTM D5185(m) >10	<b>1</b>	1	1
Titanium	ppm	ASTM D5185(m)	<b>0</b>	0	0
Silver	ppm	ASTM D5185(m)	<b>&lt;1</b>	<1	<1
Aluminum	ppm	ASTM D5185(m) >25	<b>&lt;1</b>	<1	<1
Lead	ppm	ASTM D5185(m) >100	<b>&lt;1</b>	<1	<1
Copper	ppm	ASTM D5185(m) >50	<b>6</b>	2	2
Tin	ppm	ASTM D5185(m) >10	<b>0</b>	0	0
Antimony	ppm	ASTM D5185(m) >5	<b>0</b>	<1	0
Vanadium	ppm	ASTM D5185(m)	<b>0</b>	0	0
Beryllium	ppm	ASTM D5185(m)	<b>0</b>	0	0
Cadmium	ppm	ASTM D5185(m)	<b>0</b>	0	0

ADDITIVES	method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185(m)	<b>12</b>	9	9
Barium	ppm	ASTM D5185(m)	<b>&lt;1</b>	<1	<1
Molybdenum	ppm	ASTM D5185(m)	<b>0</b>	1	1
Manganese	ppm	ASTM D5185(m)	<b>&lt;1</b>	1	1
Magnesium	ppm	ASTM D5185(m)	<b>0</b>	<1	<1
Calcium	ppm	ASTM D5185(m)	<b>13</b>	12	15
Phosphorus	ppm	ASTM D5185(m) 240	<b>299</b>	351	322
Zinc	ppm	ASTM D5185(m)	<b>8</b>	67	62
Sulfur	ppm	ASTM D5185(m) 4060	<b>5434</b>	5436	5310
Lithium	ppm	ASTM D5185(m)	<b>&lt;1</b>	<1	<1

CONTAMINANTS	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185(m) >50	<b>2</b>	1	2
Sodium	ppm	ASTM D5185(m)	<b>&lt;1</b>	0	<1
Potassium	ppm	ASTM D5185(m) >20	<b>0</b>	<1	<1

FLUID CLEANLINESS	method	limit/base	current	history1	history2
Particles >4µm	ASTM D7647	>20000	<b>▲ 114217</b>	15379	90014
Particles >6µm	ASTM D7647	>5000	<b>▲ 16767</b>	981	12732
Particles >14µm	ASTM D7647	>640	<b>369</b>	24	263
Particles >21µm	ASTM D7647	>160	<b>56</b>	6	41
Particles >38µm	ASTM D7647	>40	<b>3</b>	0	1
Particles >71µm	ASTM D7647	>10	<b>1</b>	0	0
Oil Cleanliness	ISO 4406 (c)	>21/19/16	<b>▲ 24/21/16</b>	21/17/12	24/21/15

# OIL ANALYSIS REPORT

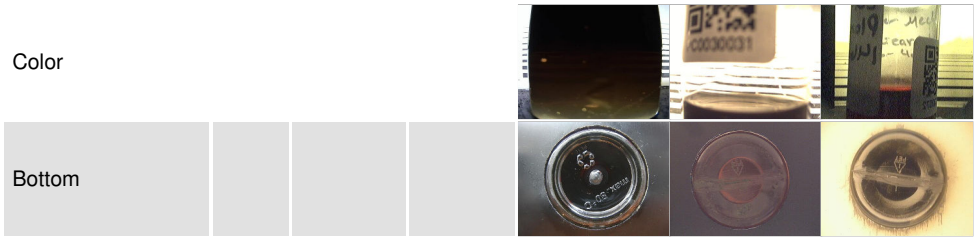


FLUID DEGRADATION		method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g	ASTM D974*	0.9	<b>0.75</b>	0.75	0.65

VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	Visual*	NONE	<b>NONE</b>	NONE	NONE
Yellow Metal	scalar	Visual*	NONE	<b>NONE</b>	NONE	NONE
Precipitate	scalar	Visual*	NONE	<b>NONE</b>	NONE	NONE
Silt	scalar	Visual*	NONE	<b>NONE</b>	NONE	NONE
Debris	scalar	Visual*	NONE	<b>NONE</b>	NONE	VLITE
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
Free Water	scalar	Visual*		<b>NEG</b>	NEG	NEG

FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D7279(m)	150.4	<b>151</b>	144	146
Visc @ 100°C	cSt	ASTM D7279(m)	22.28	<b>22.0</b>	21.0	21.1
Viscosity Index (VI)	Scale	ASTM D2270*	176	<b>172</b>	170	169

## SAMPLE IMAGES



Color

Bottom



ISO 17025:2017  
Accredited  
Laboratory

**Laboratory** : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9  
**Sample No.** : PC0070100 **Received** : 09 Nov 2023  
**Lab Number** : **02595469** **Diagnosed** : 11 Nov 2023  
**Unique Number** : 5672548 **Diagnostician** : Bill Quesnel  
**Test Package** : IND 2 ( Additional Tests: KV100, PQ, PrtCount, TAN Man, VI )

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.

**Vale - Voisey's Bay**  
 Voisey's Bay Mine Site, P.O. Box 7001, Str. C Happy Valley  
 Goose Bay, NL  
 CA A0P 1C0  
 Contact: Robert Feltham  
 robert.feltham@vale.com

T:  
F: x: