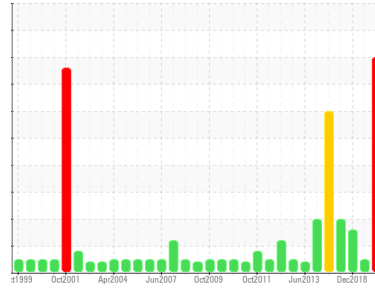




# PROBLEM SUMMARY

Sample Rating Trend



WEAR



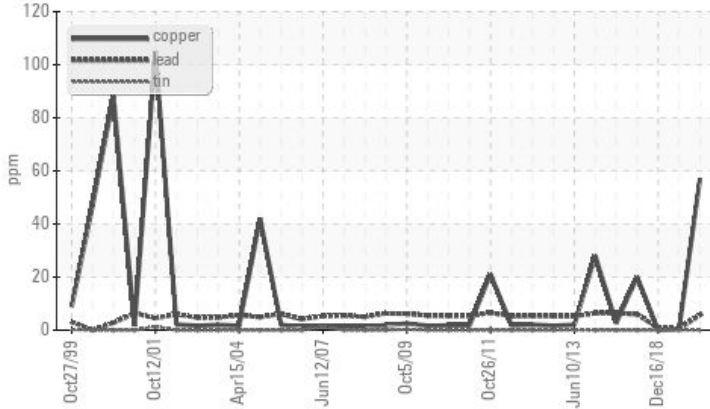
Machine Id  
**CAT - UNIT 1 GENERATOR BEARING (S/N 341917)**

Component  
**Bearing**

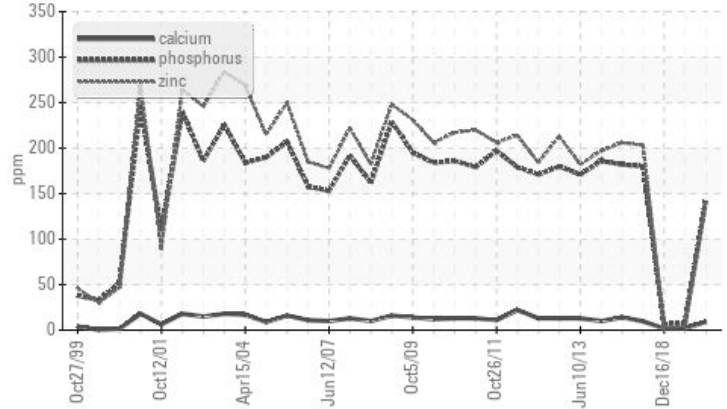
Fluid  
**PETRO CANADA TURBOFLO R&O 46 (1400 LTR)**

## COMPONENT CONDITION SUMMARY

### Non-ferrous Metals



### Additives



## RECOMMENDATION

Confirm the source of the lubricant being utilized for top-up/fill. Resample at the next service interval to monitor. Re-sampling is suggested to confirm test results prior to significant maintenance activities being performed. Please indicate that this is a resample on your Sample Information Form (SIF). Please contact your representative for information regarding the proper sampling kits for your service. NOTE: We recommend using IND 3 test kits, this testkit includes Analytical Ferrography which provides a detailed morphological analysis of wear particles present in the fluid.

## PROBLEMATIC TEST RESULTS

Sample Status				SEVERE	NORMAL	ABNORMAL
Lead	ppm	ASTM D5185(m)	>20	▲ 6	<1	<1
Copper	ppm	ASTM D5185(m)	>20	● 57	<1	0
Phosphorus	ppm	ASTM D5185(m)	3	▲ 143	7	7
Zinc	ppm	ASTM D5185(m)	0	▲ 142	4	3
Sulfur	ppm	ASTM D5185(m)		▲ 1540	63	66

Customer Id: NEWMIL  
Sample No.: WC0762256  
Lab Number: 02578109  
Test Package: IND 2



To manage this report scan the QR code

To discuss the diagnosis or test data:  
Kevin Marson +1 (289)291-4644 x4644  
[Kevin.Marson@wearcheck.com](mailto:Kevin.Marson@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
Resample	---	---	?	Re-sampling is suggested to confirm test results prior to significant maintenance activities being performed. Please indicate that this is a resample on your Sample Information Form (SIF).
Contact Required	---	---	?	Please contact your representative for information regarding the proper sampling kits for your service.
Alert	---	---	?	NOTE: We recommend using IND 3 test kits,
Check Fluid Source	---	---	?	Confirm the source of the lubricant being utilized for top-up/fill.

## HISTORICAL DIAGNOSIS

### 02 Nov 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](#)



### 16 Dec 2018 Diag: Kevin Marson

#### ISO



We advise that you perform a filter service, and use off-line filtration to improve the cleanliness of the system fluid. We recommend an early resample to monitor this condition. All component wear rates are normal. Particles >14µm are abnormally high. Particles >21µm are abnormally high. Particles >6µm are abnormally high. Particles >4µm are notably high. The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.

[view report](#)



### 09 Aug 2016 Diag: Kevin Marson

#### WEAR



Confirm the source of the lubricant being utilized for top-up/fill. We recommend an early resample to monitor this condition. The fluid was specified as PETRO CANADA TURBOFLO R&O 46, however, a fluid match indicates that this fluid is ISO 46 AW Hydraulic Oil. Please confirm the oil type and grade on your next sample. Copper ppm levels are abnormal. Bearing wear is indicated. The system cleanliness is acceptable for your target ISO 4406 cleanliness code. The system and fluid cleanliness is acceptable. Additive levels indicate the addition of a different brand, or type of oil. The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.

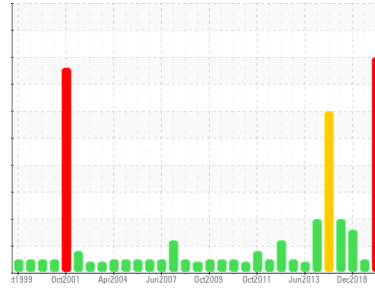
[view report](#)





# OIL ANALYSIS REPORT

Sample Rating Trend



WEAR



Machine Id  
**CAT - UNIT 1 GENERATOR BEARING (S/N 341917)**

Component  
**Bearing**

Fluid  
**PETRO CANADA TURBOFLO R&O 46 (1400 LTR)**

## DIAGNOSIS

### Recommendation

Confirm the source of the lubricant being utilized for top-up/fill. Resample at the next service interval to monitor. Re-sampling is suggested to confirm test results prior to significant maintenance activities being performed. Please indicate that this is a resample on your Sample Information Form (SIF). Please contact your representative for information regarding the proper sampling kits for your service. NOTE: We recommend using IND 3 test kits, this testkit includes Analytical Ferrography which provides a detailed morphological analysis of wear particles present in the fluid.

### Wear

Copper ppm levels are severe. Lead ppm levels are noted. Bearing wear is indicated.

### Contamination

The system cleanliness is acceptable for your target ISO 4406 cleanliness code. The system and fluid cleanliness is acceptable.

### Fluid Condition

Additive levels indicate the addition of a different brand, or type of oil. The AN level is acceptable for this fluid.

## SAMPLE INFORMATION

	method	limit/base	current	history1	history2
Sample Number	Client Info		<b>WC0762256</b>	WC969424	WC923888
Sample Date	Client Info		<b>11 Jul 2023</b>	02 Nov 2021	16 Dec 2018
Machine Age	hrs	Client Info	<b>107946</b>	0	0
Oil Age	hrs	Client Info	<b>107946</b>	0	0
Oil Changed	Client Info		<b>N/A</b>	N/A	N/A
Sample Status			<b>SEVERE</b>	NORMAL	ABNORMAL

## WEAR METALS

	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185(m)	>20	<1	<1
Chromium	ppm	ASTM D5185(m)	>20	0	0
Nickel	ppm	ASTM D5185(m)	>20	0	<1
Titanium	ppm	ASTM D5185(m)		0	0
Silver	ppm	ASTM D5185(m)		0	0
Aluminum	ppm	ASTM D5185(m)	>20	<1	<1
Lead	ppm	ASTM D5185(m)	>20	6	<1
Copper	ppm	ASTM D5185(m)	>20	57	<1
Tin	ppm	ASTM D5185(m)	>20	0	<1
Antimony	ppm	ASTM D5185(m)		<1	0
Vanadium	ppm	ASTM D5185(m)		0	0
Beryllium	ppm	ASTM D5185(m)		0	0
Cadmium	ppm	ASTM D5185(m)		<1	0

## ADDITIVES

	method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185(m)		<1	<1
Barium	ppm	ASTM D5185(m)		0	0
Molybdenum	ppm	ASTM D5185(m)		0	0
Manganese	ppm	ASTM D5185(m)		0	<1
Magnesium	ppm	ASTM D5185(m)		<1	0
Calcium	ppm	ASTM D5185(m)	0	9	2
Phosphorus	ppm	ASTM D5185(m)	3	143	7
Zinc	ppm	ASTM D5185(m)	0	142	4
Sulfur	ppm	ASTM D5185(m)		1540	63
Lithium	ppm	ASTM D5185(m)		<1	<1

## CONTAMINANTS

	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185(m)	>15	2	0
Sodium	ppm	ASTM D5185(m)		<1	0
Potassium	ppm	ASTM D5185(m)	>20	<1	<1

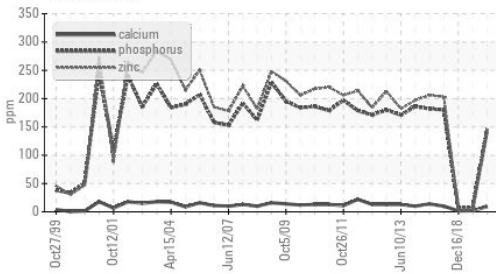
## FLUID CLEANLINESS

	method	limit/base	current	history1	history2
Particles >4µm	ASTM D7647	>10000	5152	7855	16544
Particles >6µm	ASTM D7647	>2500	1415	1748	5225
Particles >14µm	ASTM D7647	>160	148	138	455
Particles >21µm	ASTM D7647	>40	51	34	98
Particles >38µm	ASTM D7647	>10	4	2	0
Particles >71µm	ASTM D7647	>3	0	0	0
Oil Cleanliness	ISO 4406 (c)	>20/18/14	20/18/14	20/18/14	21/20/16

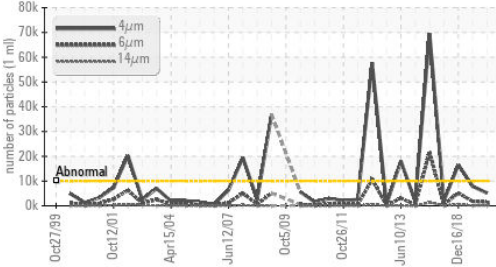
## FLUID DEGRADATION

	method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g	ASTM D974*	0.12	0.13	0.11

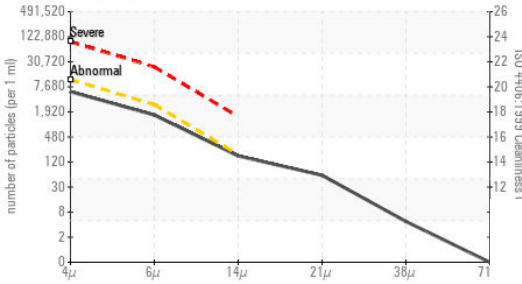
## Additives



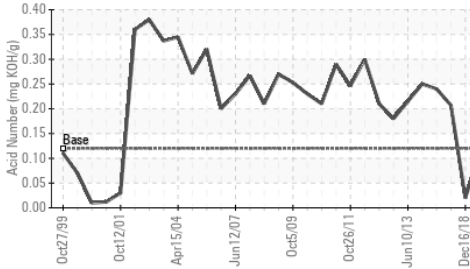
## Particle Trend



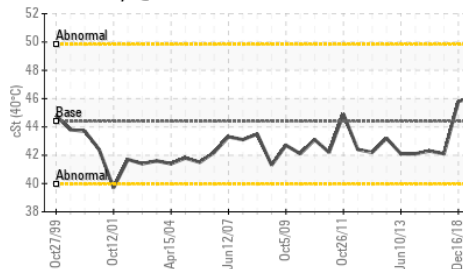
## Particle Count



## Acid Number



## Viscosity @ 40°C

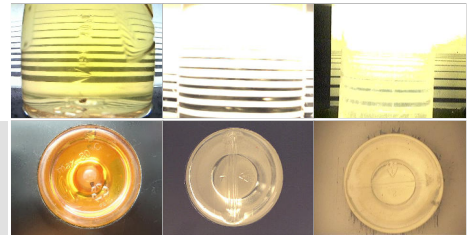


VISUAL	method	limit/base	current	history1	history2
White Metal	scalar	Visual*	NONE	NONE	NONE
Yellow Metal	scalar	Visual*	NONE	NONE	NONE
Precipitate	scalar	Visual*	NONE	NONE	NONE
Silt	scalar	Visual*	NONE	NONE	NONE
Debris	scalar	Visual*	NONE	VLITE	VLITE
Sand/Dirt	scalar	Visual*	NONE	NONE	NONE
Appearance	scalar	Visual*	NORML	NORML	NORML
Odor	scalar	Visual*	NORML	NORML	NORML
Emulsified Water	scalar	Visual*	>2	NEG	NEG
Free Water	scalar	Visual*		NEG	NEG

FLUID PROPERTIES	method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D7279(m)	44.4	42.9	46.1

SAMPLE IMAGES	method	limit/base	current	history1	history2
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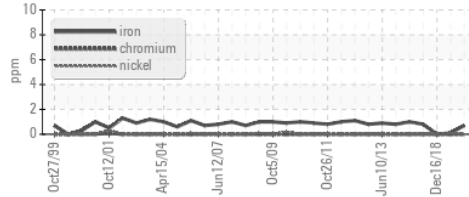
## Color



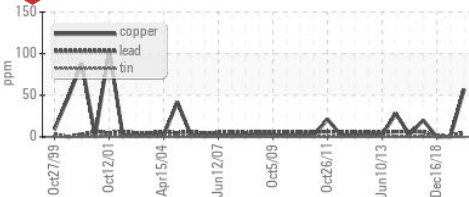
## Bottom

## GRAPHS

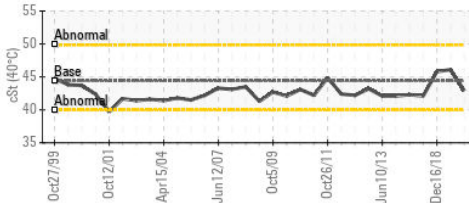
### Ferrous Alloys



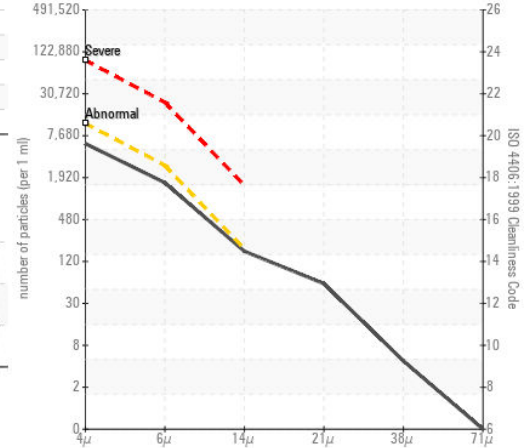
### Non-ferrous Metals



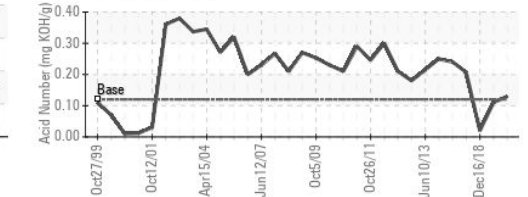
### Viscosity @ 40°C



### Particle Count



### Acid Number



ISO 17025:2017  
Accredited  
Laboratory

### Laboratory

Sample No.

Lab Number

Unique Number

Test Package

: WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9 NEWFOUNDLAND & LABRADOR HYDRO

: WC0762256

: 02578109

: 5631169

: IND 2 ( Additional Tests: TAN Man )

Received : 24 Aug 2023

Diagnosed : 25 Aug 2023

Diagnostician : Kevin Marson

BAY D'ESPOIR WHSE., 1 CAMP BOGGY RD., PO BOX 100

MILLTOWN, BAY D'ESPOIR, NL

CA A0H 1W0

Contact: Matthew Lambert

matthewlambert@nlh.nl.ca

T: (709)882-3126

F: (709)882-3161

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.