

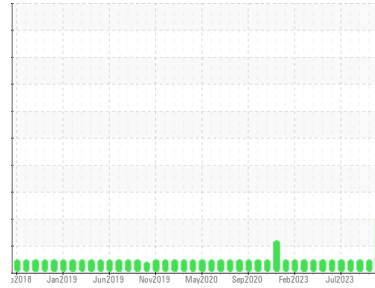
# PROBLEM SUMMARY

Sample Rating Trend

ISO

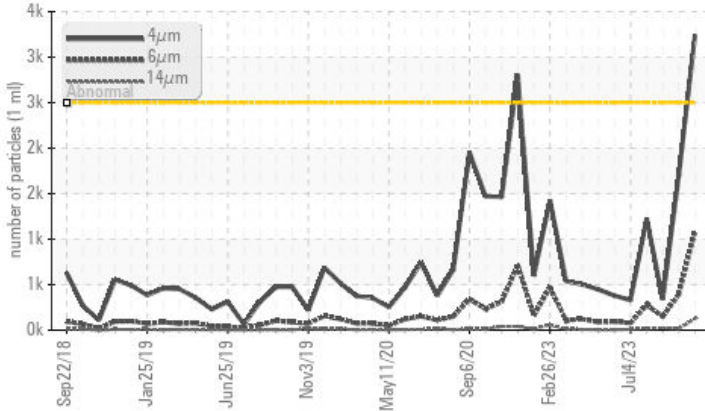


Area  
**Main Power Generation [450191501]**  
Machine Id  
**Generator MPG (Stbd) - Lubrication System (S/N Sample Tag XX-80101-S1)**  
Component  
**Turbine**  
Fluid  
**PETRO CANADA TURBOFLO 32 (8300 LTR)**



## COMPONENT CONDITION SUMMARY

### ▲ Particle Trend



## RECOMMENDATION

We recommend you service the filters on this component. Resample at the next service interval to monitor. 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			ATTENTION	NORMAL	NORMAL
Particles >4µm	ASTM D7647	>2500	▲ <b>3243</b>	1707	339
Particles >6µm	ASTM D7647	>640	▲ <b>1080</b>	394	149
Particles >14µm	ASTM D7647	>80	▲ <b>127</b>	15	25
Particles >21µm	ASTM D7647	>20	▲ <b>35</b>	4	7
Oil Cleanliness	ISO 4406 (c)	>18/16/13	▲ <b>19/17/14</b>	18/16/11	16/14/12

Customer Id: TERHAM  
Sample No.: PC0052567  
Lab Number: 02582115  
Test Package: MAR 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
Change Filter	---	---	?	We recommend you service the filters on this component.
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,

## HISTORICAL DIAGNOSIS

### 28 Jul 2023 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



### 19 Jul 2023 Diag: Kevin Marson

NORMAL



Resample at the next service interval to monitor. NOTE: We recommend using Advanced Oil Monitoring (AOM) kits for this system. The AOM test package includes advanced level testing to determine the suitability of turbine and large industrial compressor oils for continued use. This testkit includes Analytical Ferrography which provides a detailed morphological analysis of wear particles present in the fluid. Component wear rates appear to be normal (unconfirmed). 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



### 04 Jul 2023 Diag: Kevin Marson

NORMAL

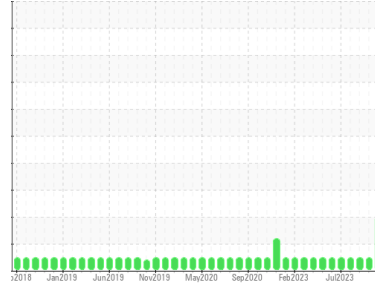


Resample at the next service interval to monitor. Please contact your representative for information regarding the proper sampling kits for your service. NOTE: We recommend using MAR 3 test kits, this testkit includes Analytical Ferrography which provides a detailed morphological analysis of wear particles present in the fluid. Component wear rates appear to be normal (unconfirmed). 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



Area  
**Main Power Generation [450191501]**  
Machine Id  
**Generator MPG (Stbd) - Lubrication System (S/N Sample Tag XX-80101-S1)**  
Component  
**Turbine**  
Fluid  
**PETRO CANADA TURBOFLO 32 (8300 LTR)**



**DIAGNOSIS**

**Recommendation**

We recommend you service the filters on this component. Resample at the next service interval to monitor. 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**

Component wear rates appear to be normal (unconfirmed).

**Contamination**

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

**Fluid Condition**

The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.

SAMPLE INFORMATION		method	limit/base	current	history1	history2
Sample Number	Client Info			<b>PC0052567</b>	PC	PC
Sample Date	Client Info			<b>22 Aug 2023</b>	28 Jul 2023	19 Jul 2023
Machine Age	hrs	Client Info		<b>0</b>	0	0
Oil Age	hrs	Client Info		<b>0</b>	0	0
Oil Changed	Client Info			<b>N/A</b>	N/A	N/A
Sample Status				<b>ATTENTION</b>	NORMAL	NORMAL

WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185(m)	>15	<b>1</b>	1	1
Chromium	ppm	ASTM D5185(m)	>4	<b>0</b>	0	0
Nickel	ppm	ASTM D5185(m)	>2	<b>0</b>	<1	0
Titanium	ppm	ASTM D5185(m)		<b>0</b>	0	0
Silver	ppm	ASTM D5185(m)		<b>0</b>	0	0
Aluminum	ppm	ASTM D5185(m)	>10	<b>&lt;1</b>	<1	0
Lead	ppm	ASTM D5185(m)		<b>&lt;1</b>	0	0
Copper	ppm	ASTM D5185(m)	>5	<b>&lt;1</b>	<1	1
Tin	ppm	ASTM D5185(m)	>5	<b>1</b>	2	1
Antimony	ppm	ASTM D5185(m)		<b>0</b>	0	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

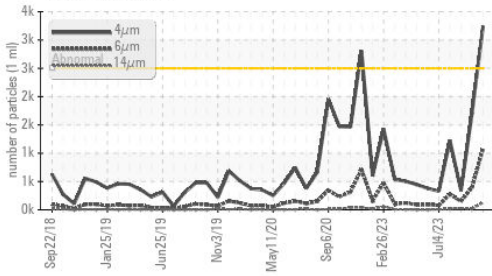
ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185(m)	0	<b>&lt;1</b>	<1	<1
Barium	ppm	ASTM D5185(m)	0	<b>0</b>	0	0
Molybdenum	ppm	ASTM D5185(m)	0	<b>0</b>	0	0
Manganese	ppm	ASTM D5185(m)		<b>0</b>	0	0
Magnesium	ppm	ASTM D5185(m)	0	<b>&lt;1</b>	<1	0
Calcium	ppm	ASTM D5185(m)	0	<b>&lt;1</b>	<1	<1
Phosphorus	ppm	ASTM D5185(m)	120	<b>298</b>	277	290
Zinc	ppm	ASTM D5185(m)	0.0	<b>2</b>	2	1
Sulfur	ppm	ASTM D5185(m)	0	<b>655</b>	617	572
Lithium	ppm	ASTM D5185(m)		<b>&lt;1</b>	<1	<1

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

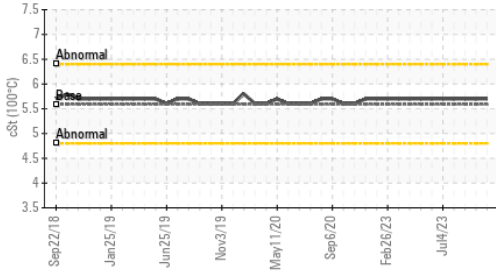
FLUID CLEANLINESS		method	limit/base	current	history1	history2
Particles >4µm		ASTM D7647	>2500	<b>▲ 3243</b>	1707	339
Particles >6µm		ASTM D7647	>640	<b>▲ 1080</b>	394	149
Particles >14µm		ASTM D7647	>80	<b>▲ 127</b>	15	25
Particles >21µm		ASTM D7647	>20	<b>▲ 35</b>	4	7
Particles >38µm		ASTM D7647	>4	<b>1</b>	0	0
Particles >71µm		ASTM D7647	>3	<b>0</b>	0	0
Oil Cleanliness		ISO 4406 (c)	>18/16/13	<b>▲ 19/17/14</b>	18/16/11	16/14/12

FLUID DEGRADATION		method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g	ASTM D974*	0.04	<b>0.12</b>	0.04	0.08

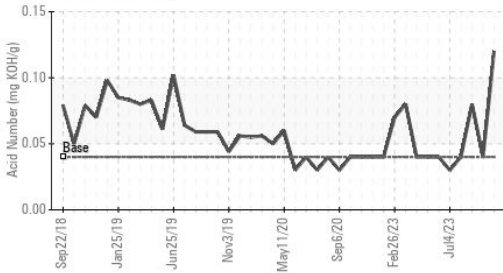
**Particle Trend**



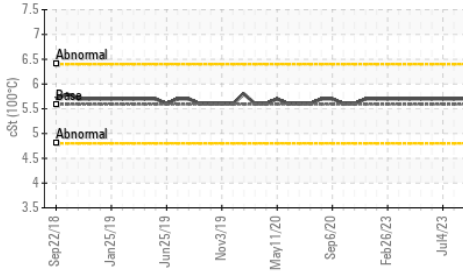
**Viscosity @ 100°C**



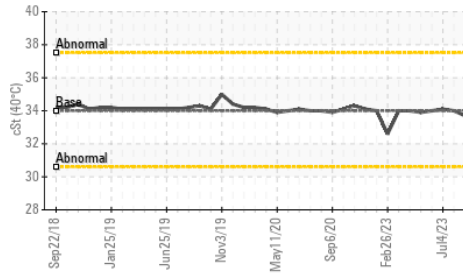
**Acid Number**



**Viscosity @ 100°C**



**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	NONE	NONE
Sand/Dirt	scalar	Visual*	NONE	NONE	NONE
Appearance	scalar	Visual*	NORML	NORML	NORML
Odor	scalar	Visual*	NORML	NORML	NORML
Emulsified Water	scalar	Visual*	>0.03	NEG	NEG
Free Water	scalar	Visual*		NEG	NEG

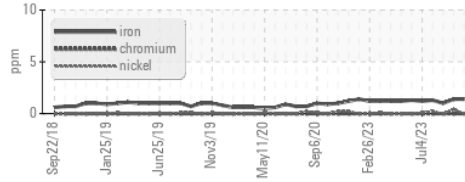
FLUID PROPERTIES	method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D7279(m)	34.0	33.9	34.2
Visc @ 100°C	cSt	ASTM D7279(m)	5.59	5.7	5.7
Viscosity Index (VI)	Scale	ASTM D2270*	110	107	105

**SAMPLE IMAGES**

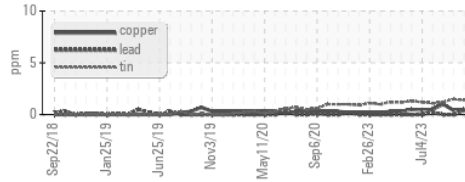


**GRAPHS**

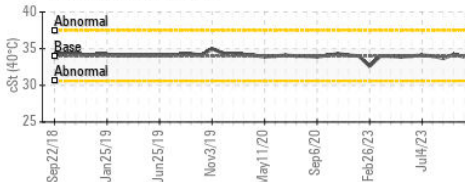
**Ferrous Alloys**



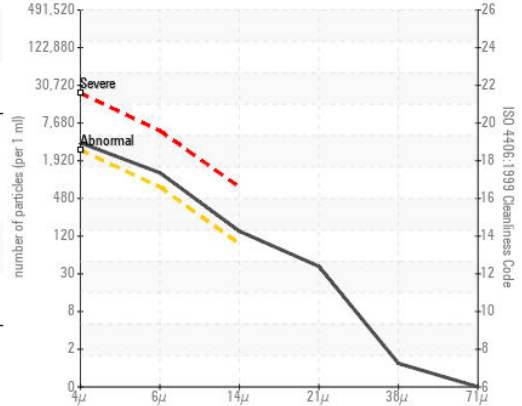
**Non-ferrous Metals**



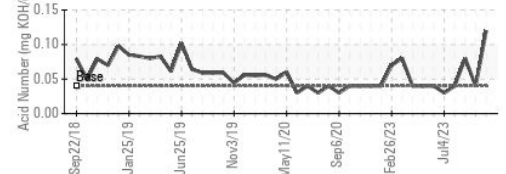
**Viscosity @ 40°C**



**Particle Count**



**Acid Number**



ISO 17025:2017  
Accredited  
Laboratory

**Laboratory** : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9  
**Sample No.** : PC0052567  
**Lab Number** : 02582115  
**Unique Number** : 5643180  
**Test Package** : MAR 2 ( Additional Tests: KV100, TAN Man, VI )

**Received** : 13 Sep 2023  
**Diagnosed** : 14 Sep 2023  
**Diagnostician** : Kevin Marson

**Suncor - Terra Nova Projects**  
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 CA A1C 1B6  
 Contact: Josh Hynes  
 joshhynes@suncor.com  
 T: (709)778-3575  
 F: (709)724-2835

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.