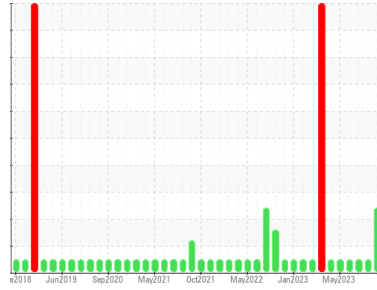


PROBLEM SUMMARY

Area
TEAM 1
Machine Id
122553 Turbo Generator
Component
Hydraulic System
Fluid
PETRO CANADA TURBOFLO R&O 32 (1250 GAL)

Sample Rating Trend



WATER



COMPONENT CONDITION SUMMARY

No relevant graphs to display

RECOMMENDATION

We advise that you check for the source of water entry. Check seals and/or filters for points of contaminant entry. The air breather requires service. If unrated, we recommend that you replace with a suitable micron rated and/or desiccant air breather. If rated, we recommend that you service/replace the breather. We advise that you follow the water drain-off procedure for this component. We recommend an early resample to monitor this condition. 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				ABNORMAL	NORMAL	NORMAL
Appearance	scalar	Visual*	NORML	▲ WGOIL	NORML	NORML
Free Water	scalar	Visual*		▲ 1%	NEG	NEG

Customer Id: CANDRY
Sample No.: PC0069918
Lab Number: 02591749
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

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

RECOMMENDED ACTIONS

Action	Status	Date	Done By	Description
Water Drain-off	---	---	?	We advise that you follow the water drain-off procedure for this component.
Resample	---	---	?	We recommend an early resample to monitor this condition.
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 Breathers	---	---	?	The air breather requires service. If unrated, we recommend that you replace with a suitable micron rated and/or desiccant air breather. If rated, we recommend that you service/replace the breather.
Check Water Access	---	---	?	We advise that you check for the source of water entry.
Check Seals	---	---	?	Check seals and/or filters for points of contaminant entry.

HISTORICAL DIAGNOSIS

10 Aug 2023 Diag: Wes Davis

NORMAL



Resample at the next service interval to monitor. All component wear rates are normal. There is no indication of any contamination in the oil. The condition of the oil is acceptable for the time in service.

view report



10 Aug 2023 Diag: Wes Davis

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



08 Jun 2023 Diag: Wes Davis

NORMAL

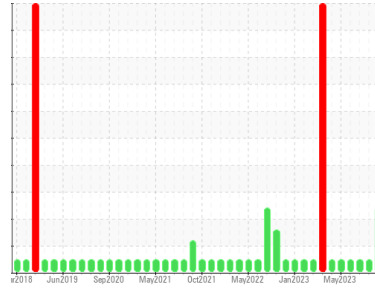


Resample at the next service interval to monitor. All component wear rates are normal. The system cleanliness is acceptable for your target ISO 4406 cleanliness code. The system and fluid cleanliness is acceptable. The AN level is acceptable for this fluid. The condition of the oil is suitable for further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

view report



Area
TEAM 1
Machine Id
122553 Turbo Generator
Component
Hydraulic System
Fluid
PETRO CANADA TURBOFLO R&O 32 (1250 GAL)



DIAGNOSIS

Recommendation
We advise that you check for the source of water entry. Check seals and/or filters for points of contaminant entry. The air breather requires service. If unrated, we recommend that you replace with a suitable micron rated and/or desiccant air breather. If rated, we recommend that you service/replace the breather. We advise that you follow the water drain-off procedure for this component. We recommend an early resample to monitor this condition. 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
Free water present. The system cleanliness is acceptable for your target ISO 4406 cleanliness code.

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			PC0069918	PC0074826	PC0070436
Sample Date	Client Info			05 Oct 2023	10 Aug 2023	10 Aug 2023
Machine Age	hrs	Client Info		0	0	0
Oil Age	hrs	Client Info		0	0	0
Oil Changed	Client Info			N/A	N/A	N/A
Sample Status				ABNORMAL	NORMAL	NORMAL

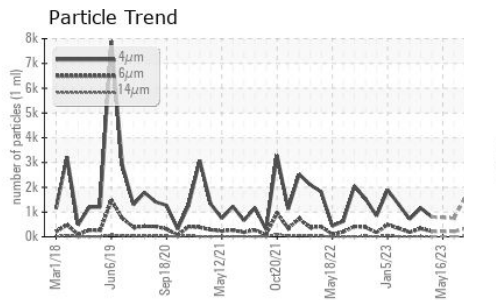
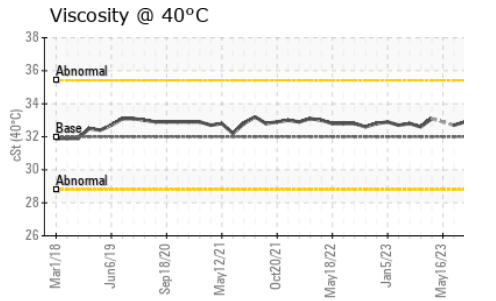
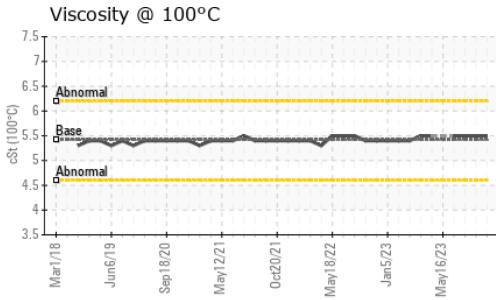
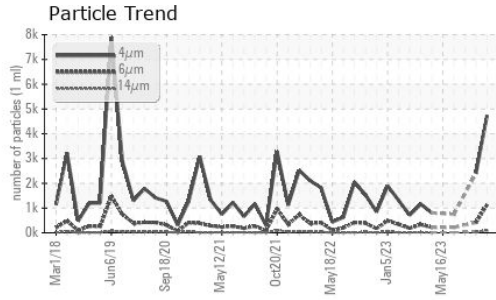
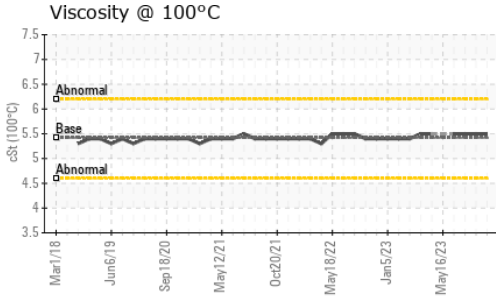
WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185(m)	>20	2	2	2
Chromium	ppm	ASTM D5185(m)	>20	0	0	0
Nickel	ppm	ASTM D5185(m)	>20	0	<1	<1
Titanium	ppm	ASTM D5185(m)		0	0	0
Silver	ppm	ASTM D5185(m)		<1	0	0
Aluminum	ppm	ASTM D5185(m)	>20	0	0	0
Lead	ppm	ASTM D5185(m)	>20	<1	<1	<1
Copper	ppm	ASTM D5185(m)	>20	<1	<1	<1
Tin	ppm	ASTM D5185(m)	>20	0	0	0
Antimony	ppm	ASTM D5185(m)		0	0	0
Vanadium	ppm	ASTM D5185(m)		0	0	0
Beryllium	ppm	ASTM D5185(m)		0	0	0
Cadmium	ppm	ASTM D5185(m)		0	0	0

ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185(m)		<1	0	<1
Barium	ppm	ASTM D5185(m)		<1	<1	<1
Molybdenum	ppm	ASTM D5185(m)		0	0	0
Manganese	ppm	ASTM D5185(m)		0	0	0
Magnesium	ppm	ASTM D5185(m)		0	<1	0
Calcium	ppm	ASTM D5185(m)	0	<1	<1	1
Phosphorus	ppm	ASTM D5185(m)	4	13	16	15
Zinc	ppm	ASTM D5185(m)	0	3	4	5
Sulfur	ppm	ASTM D5185(m)		1138	1182	1139
Lithium	ppm	ASTM D5185(m)		<1	<1	<1

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

FLUID CLEANLINESS		method	limit/base	current	history1	history2
Particles >4µm		ASTM D7647		4740	---	2402
Particles >6µm		ASTM D7647	>5000	1142	---	415
Particles >14µm		ASTM D7647	>640	97	---	33
Particles >21µm		ASTM D7647	>160	30	---	10
Particles >38µm		ASTM D7647	>40	2	---	1
Particles >71µm		ASTM D7647	>10	0	---	0
Oil Cleanliness		ISO 4406 (c)	>--/19/16	19/17/14	---	18/16/12

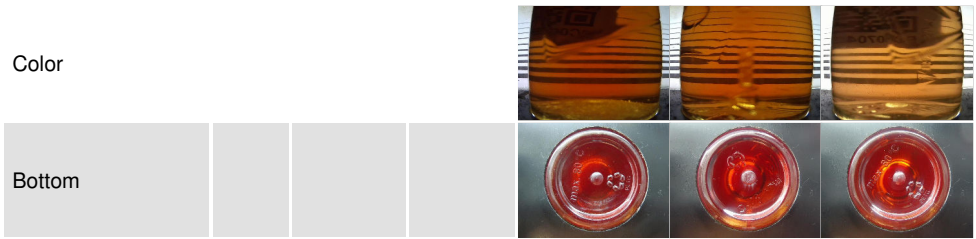
FLUID DEGRADATION		method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g	ASTM D974*	0.15	0.08	---	0.06



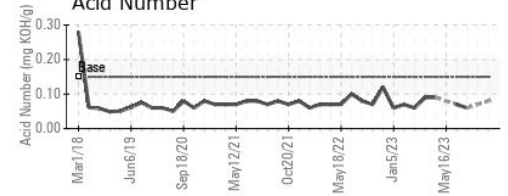
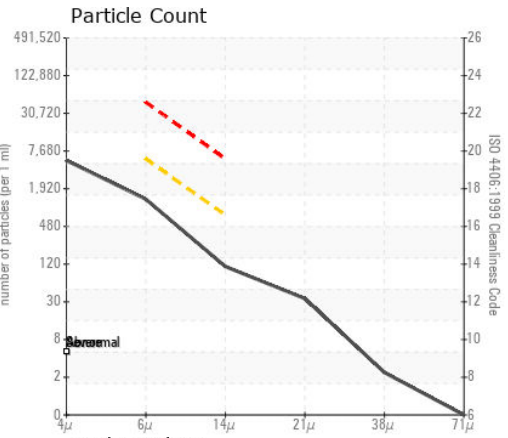
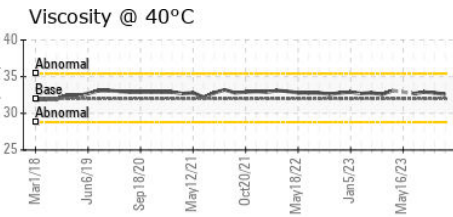
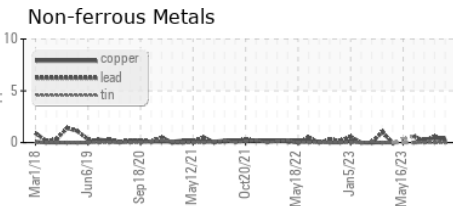
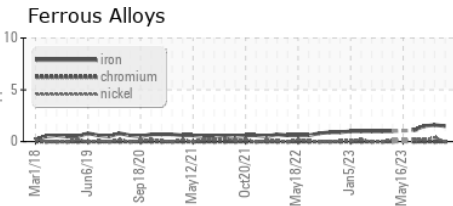
VISUAL	method	limit/base	current	history1	history2
White Metal	scalar	Visual*	NONE	NONE	NONE
Yellow Metal	scalar	Visual*	NONE	NONE	NONE
Precipitate	scalar	Visual*	NONE	NONE	NONE
Silt	scalar	Visual*	NONE	NONE	NONE
Debris	scalar	Visual*	NONE	VLITE	VLITE
Sand/Dirt	scalar	Visual*	NONE	NONE	NONE
Appearance	scalar	Visual*	NORML	▲ WGOIL	NORML
Odor	scalar	Visual*	NORML	NORML	NORML
Emulsified Water	scalar	Visual*	>0.05	.2%	NEG
Free Water	scalar	Visual*		▲ 1%	NEG

FLUID PROPERTIES	method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D7279(m)	32.0	32.6	32.8
Visc @ 100°C	cSt	ASTM D7279(m)	5.42	5.5	5.5
Viscosity Index (VI)	Scale	ASTM D2270*	103	104	103

SAMPLE IMAGES	method	limit/base	current	history1	history2
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GRAPHS



Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
Sample No. : PC0069918 **Received** : 25 Oct 2023
Lab Number : 02591749 **Diagnosed** : 26 Oct 2023
Unique Number : 5668828 **Diagnostician** : Kevin Marson
Test Package : IND 2 (Additional Tests: KV100, TAN Man, VI)

Dryden Fibre
 Box 3001, 1 Duke Street
 Dryden, ON
 CA P8N 2Z7
 Contact: Adebukola Adekanye
 AADEKANYE@DRYDENFIBRE.CA
 T: (807)223-9950
 F: (807)223-9176

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.