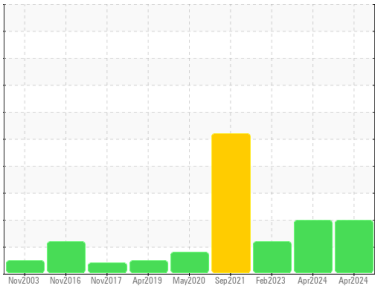
PROBLEM SUMMARY

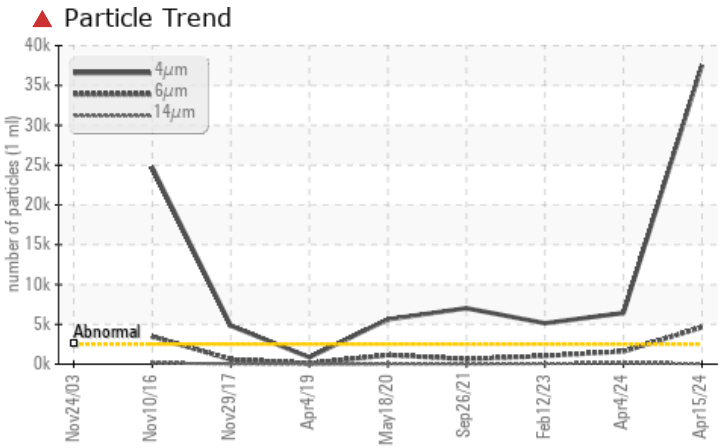
Sample Rating Trend



ISO

Area
Fwd Machinery Space
Machine Id
Generator - SKSG Turbocharger A - Intake Side (S/N Sample Tag CD-86201-S4)
Component
Turbine
Fluid
BP Enersyn TC-S 68 (1 LTR)

COMPONENT CONDITION SUMMARY



RECOMMENDATION

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 recommend you service the filters on this component. Resample in 30-45 days to monitor this situation.

PROBLEMATIC TEST RESULTS

Sample Status				SEVERE	ABNORMAL	ABNORMAL
Particles >4µm		ASTM D7647	>2500	▲ **37544**	▲ 6426	▲ 5139
Particles >6µm		ASTM D7647	>640	▲ **4635**	▲ 1602	● 1027
Oil Cleanliness		ISO 4406 (c)	>18/16/13	▲ **22/19/13**	▲ 20/18/14	▲ 20/17/13

Customer Id: TERHAM
Sample No.: PC0081240
Lab Number: 02634554
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
Change Filter	---	---	?	We recommend you service the filters on this component.
Resample	---	---	?	Resample in 30-45 days to monitor this situation.
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 Seals	---	---	?	Check seals and/or filters for points of contaminant entry.

HISTORICAL DIAGNOSIS

ISO

04 Apr 2024 Diag: Kevin Marson
We recommend you service the filters on this component. We recommend an early resample to monitor this condition.All component wear rates are normal. There is a moderate amount of silt (particulates < 14 microns in size) present in the oil. The AN level is acceptable for this fluid. The oil is still serviceable provided that the contaminant(s) can be reduced to acceptable levels.

view report

ISO

12 Feb 2023 Diag: Kevin Marson
We recommend you service the filters on this component. We recommend an early resample to monitor this condition.All component wear rates are normal. Particles >4µm and oil cleanliness are abnormally high. Particles >6µm are notably high. The AN level is acceptable for this fluid. The oil is still serviceable provided that the contaminant(s) can be reduced to acceptable levels.

view report

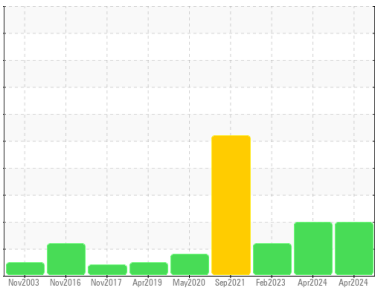
DIRT

26 Sep 2021 Diag: Kevin Marson
Check seals and/or filters for points of contaminant entry. We advise that you perform a filter service, and use off-line filtration to improve the cleanliness of the system fluid. 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 recommend an early resample to monitor this condition. Please specify the brand, type, and viscosity of the oil on your next sample.All component wear rates are normal. Silicon ppm levels are severely high. Particles >4µm are abnormally high. Elemental level of silicon (Si) above normal indicating ingress of seal material. The AN level is acceptable for this fluid. The oil is still serviceable provided that the contaminant(s) can be reduced to acceptable levels.

view report

OIL ANALYSIS REPORT

Sample Rating Trend



ISO

Area
Fwd Machinery Space
Machine Id
Generator - SKSG Turbocharger A - Intake Side (S/N Sample Tag CD-86201-S4)
Component
Turbine
Fluid
BP Enersyn TC-S 68 (1 LTR)

DIAGNOSIS

▲ Recommendation
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 recommend you service the filters on this component. Resample in 30-45 days to monitor this situation.

Wear
All component wear rates are normal.

▲ Contamination
There is a high amount of silt (particulates < 14 microns in size) present in the oil. The water content is negligible.

Fluid Condition
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		**PC0081240**	PC	PC
Sample Date		Client Info		**15 Apr 2024**	04 Apr 2024	12 Feb 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				**SEVERE**	ABNORMAL	ABNORMAL

WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185(m)	>10	**2**	0	<1
Chromium	ppm	ASTM D5185(m)	>3	**0**	0	0
Nickel	ppm	ASTM D5185(m)	>3	**0**	0	<1
Titanium	ppm	ASTM D5185(m)		**0**	0	0
Silver	ppm	ASTM D5185(m)		**0**	0	0
Aluminum	ppm	ASTM D5185(m)	>3	**0**	0	0
Lead	ppm	ASTM D5185(m)	>3	**0**	0	<1
Copper	ppm	ASTM D5185(m)	>4	**0**	0	0
Tin	ppm	ASTM D5185(m)	>3	**0**	0	0
Antimony	ppm	ASTM D5185(m)		**0**	0	<1
Vanadium	ppm	ASTM D5185(m)		**0**	0	0
Beryllium	ppm	ASTM D5185(m)		**0**	0	0
Cadmium	ppm	ASTM D5185(m)		**0**	0	0

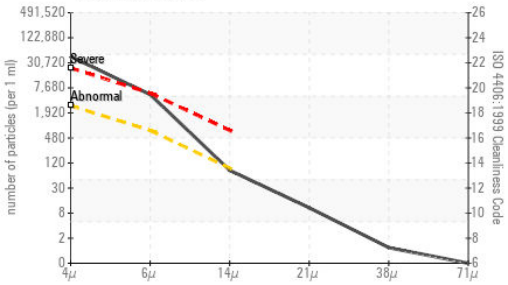
ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185(m)		**0**	0	<1
Barium	ppm	ASTM D5185(m)		**0**	0	0
Molybdenum	ppm	ASTM D5185(m)		**0**	0	0
Manganese	ppm	ASTM D5185(m)		**0**	0	0
Magnesium	ppm	ASTM D5185(m)		**<1**	0	0
Calcium	ppm	ASTM D5185(m)		**0**	<1	0
Phosphorus	ppm	ASTM D5185(m)		**766**	779	857
Zinc	ppm	ASTM D5185(m)		**<1**	1	1
Sulfur	ppm	ASTM D5185(m)		**429**	443	473
Lithium	ppm	ASTM D5185(m)		**<1**	<1	<1

CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185(m)	>10	**0**	0	4
Sodium	ppm	ASTM D5185(m)		**0**	0	0
Potassium	ppm	ASTM D5185(m)	>20	**0**	1	<1
Water	%	ASTM D6304*	>0.03	**0.001**	---	---
ppm Water	ppm	ASTM D6304*	>300	**2**	---	---

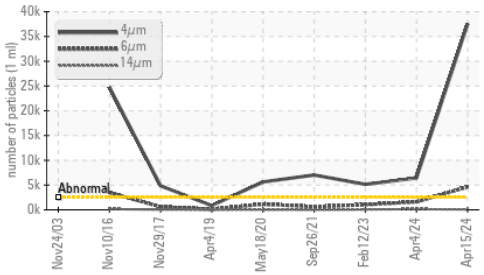
FLUID CLEANLINESS		method	limit/base	current	history1	history2
Particles >4µm		ASTM D7647	>2500	▲ **37544**	▲ 6426	▲ 5139
Particles >6µm		ASTM D7647	>640	▲ **4635**	▲ 1602	● 1027
Particles >14µm		ASTM D7647	>80	**71**	● 135	72
Particles >21µm		ASTM D7647	>20	**9**	● 40	18
Particles >38µm		ASTM D7647	>4	**1**	3	1
Particles >71µm		ASTM D7647	>3	**0**	1	0
Oil Cleanliness		ISO 4406 (c)	>18/16/13	▲ **22/19/13**	▲ 20/18/14	▲ 20/17/13

OIL ANALYSIS REPORT

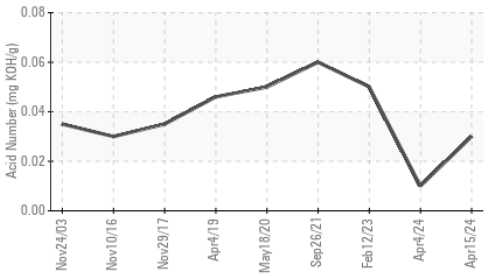
Particle Count



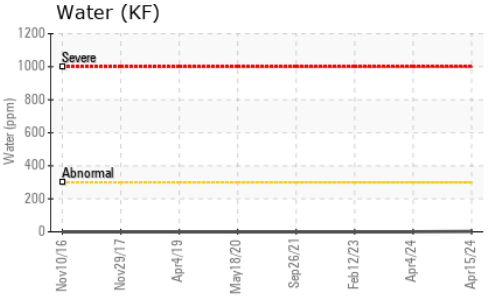
Particle Trend



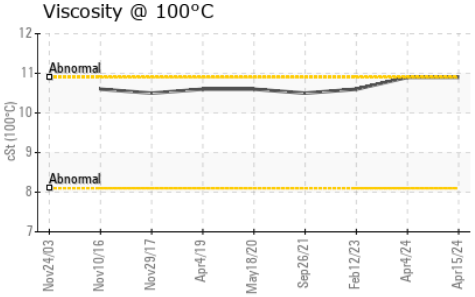
Acid Number



Water (KF)



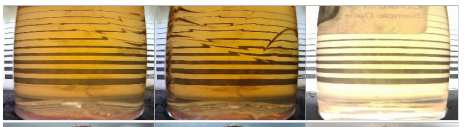
Viscosity @ 100°C



FLUID DEGRADATION		method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g	ASTM D974*		**0.03**	0.01	0.05

VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	Visual*	NONE	**NONE**	NONE	NONE
Yellow Metal	scalar	Visual*	NONE	**NONE**	NONE	NONE
Precipitate	scalar	Visual*	NONE	**NONE**	NONE	NONE
Silt	scalar	Visual*	NONE	**NONE**	NONE	NONE
Debris	scalar	Visual*	NONE	**NONE**	NONE	NONE
Sand/Dirt	scalar	Visual*	NONE	**NONE**	NONE	NONE
Appearance	scalar	Visual*	NORML	**NORML**	NORML	NORML
Odor	scalar	Visual*	NORML	**NORML**	NORML	NORML
Emulsified Water	scalar	Visual*	>0.03	**NEG**	NEG	NEG
Free Water	scalar	Visual*		**NEG**	NEG	NEG

FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D7279(m)	68	**69.1**	69.0	67.1
Visc @ 100°C	cSt	ASTM D7279(m)		**10.9**	10.9	10.6
Viscosity Index (VI)	Scale	ASTM D2270*		**148**	148	146

SAMPLE IMAGES	method	limit/base	current	history1	history2
Color					
Bottom					

ISO 17025:2017 Accredited Laboratory

Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
Sample No. : PC0081240 **Received** : 10 May 2024
Lab Number : 02634554 **Tested** : 13 May 2024
Unique Number : 5775707 **Diagnosed** : 13 May 2024 - Kevin Marson
Test Package : IND 2 (Additional Tests: KV100, 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.

Suncor - Terra Nova Projects
Scotia Centre, 235 Water Strret
St. John`s, NL
CA A1C 1B6
Contact: Josh Hynes
joshynes@suncor.com
T: (709)778-3575
F: (709)724-2835