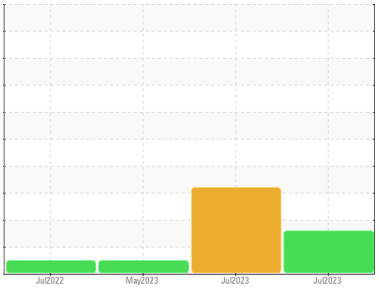
PROBLEM SUMMARY

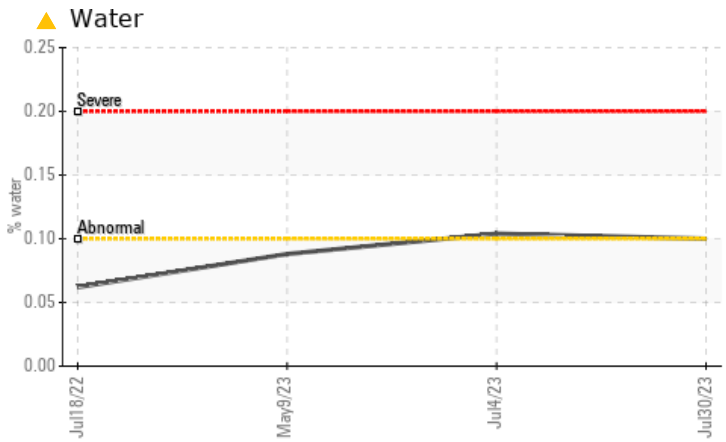
Sample Rating Trend



WATER

Area
(C-GIKP) WATSON`S SKYWAYS
Machine Id
[C-GIKP] CESSNA 208 PCE-PC2346 (S/N 20800141)
Component
1 Jet Turbine
Fluid
EASTMAN TURBO OIL 2380 (100 LTR)

COMPONENT CONDITION SUMMARY



RECOMMENDATION

We advise that you check for the source of water entry. We advise that you use off-line filtration with water adsorbent filters to attempt to remove the water from this oil. We recommend an early resample to monitor this condition.

PROBLEMATIC TEST RESULTS

Sample Status				ABNORMAL	ABNORMAL	NORMAL
Water	%	ASTM D6304*	>0.1	▲ **0.100**	▲ 0.104	0.088
ppm Water	ppm	ASTM D6304*	>1000	▲ **1007.1**	▲ 1045.3	886.0

Customer Id: SKYECH
Sample No.: WC0718635
Lab Number: 02577156
Test Package: AVI 3

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
Resample	---	---	?	We recommend an early resample to monitor this condition.
Check Water Access	---	---	?	We advise that you check for the source of water entry.
Filter Fluid	---	---	?	We advise that you use off-line filtration with water adsorbent filters to attempt to remove the water from this oil.

HISTORICAL DIAGNOSIS

04 Jul 2023 Diag: Kevin Marson

WATER

Check seals and/or filters for points of contaminant entry. We advise that you use off-line filtration with water adsorbent filters to attempt to remove the water from this oil. We recommend an early resample to monitor this condition.All component wear rates are normal. The direct-reading & analytical ferrographic results are normal indicating no abnormal wear in the system. There is a trace of moisture present in the oil. 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

09 May 2023 Diag: Kevin Marson

NORMAL

Resample at the next service interval to monitor.All component wear rates are normal. The direct-reading & analytical ferrographic results are normal indicating no abnormal wear in the system. The water content is negligible. There is no indication of any contamination in the oil. The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.

view report

18 Jul 2022 Diag: Kevin Marson

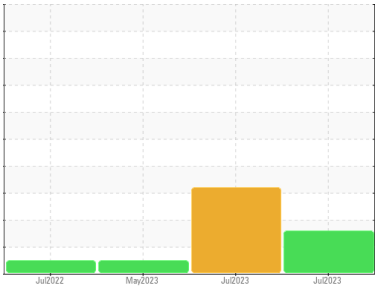
NORMAL

Resample at the next service interval to monitor.All component wear rates are normal. The direct-reading & analytical ferrographic results are normal indicating no abnormal wear in the system. The water content is negligible. There is no indication of any contamination in the 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



WATER

Area
(C-GIKP) WATSON`S SKYWAYS
Machine Id
[C-GIKP] CESSNA 208 PCE-PC2346 (S/N 20800141)
Component
1 Jet Turbine
Fluid
EASTMAN TURBO OIL 2380 (100 LTR)

DIAGNOSIS

Recommendation

We advise that you check for the source of water entry. We advise that you use off-line filtration with water adsorbent filters to attempt to remove the water from this oil. We recommend an early resample to monitor this condition.

Wear

All component wear rates are normal. The direct-reading & analytical ferrographic results are normal indicating no abnormal wear in the system.

Contaminants

There is a moderate concentration of water present in the oil.

Oil 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		**WC0718635**	WC0718634	WC0718636
Sample Date		Client Info		**30 Jul 2023**	04 Jul 2023	09 May 2023
TSN	hrs	Client Info		**314**	0	0
TSO	hrs	Client Info		**314**	0	0
Oil Age	hrs	Client Info		**149**	0	0
Oil Changed		Client Info		**N/A**	N/A	Changed
Sample Status				**ABNORMAL**	ABNORMAL	NORMAL

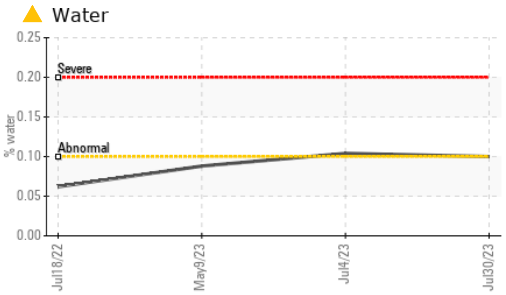
WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185(m)	>8	**0**	0	0
Chromium	ppm	ASTM D5185(m)	>2	**0**	0	0
Nickel	ppm	ASTM D5185(m)	>2	**<1**	0	0
Titanium	ppm	ASTM D5185(m)	>2	**0**	0	0
Silver	ppm	ASTM D5185(m)	>2	**0**	0	0
Aluminum	ppm	ASTM D5185(m)	>2	**0**	<1	0
Lead	ppm	ASTM D5185(m)	>3	**0**	0	<1
Copper	ppm	ASTM D5185(m)	>3	**0**	0	0
Tin	ppm	ASTM D5185(m)	>2	**<1**	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

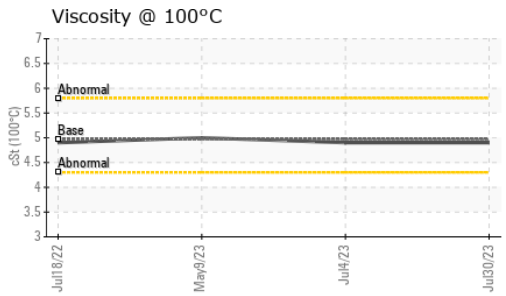
ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185(m)	0	**<1**	<1	<1
Barium	ppm	ASTM D5185(m)	0	**0**	0	0
Molybdenum	ppm	ASTM D5185(m)	0	**0**	0	0
Manganese	ppm	ASTM D5185(m)		**0**	0	0
Magnesium	ppm	ASTM D5185(m)	0	**<1**	<1	0
Calcium	ppm	ASTM D5185(m)	0	**<1**	<1	0
Phosphorus	ppm	ASTM D5185(m)	2500	**2823**	2852	2824
Zinc	ppm	ASTM D5185(m)	0	**1**	1	<1
Sulfur	ppm	ASTM D5185(m)	0	**2**	3	2
Lithium	ppm	ASTM D5185(m)		**<1**	<1	<1

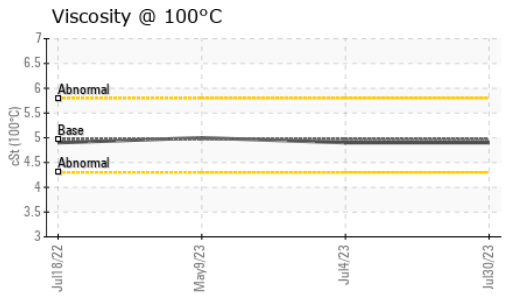
CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185(m)	>8	**1**	▲ 15	2
Sodium	ppm	ASTM D5185(m)		**0**	<1	<1
Potassium	ppm	ASTM D5185(m)	>20	**0**	<1	0
Water	%	ASTM D6304*	>0.1	▲ **0.100**	▲ 0.104	0.088
ppm Water	ppm	ASTM D6304*	>1000	▲ **1007.1**	▲ 1045.3	886.0

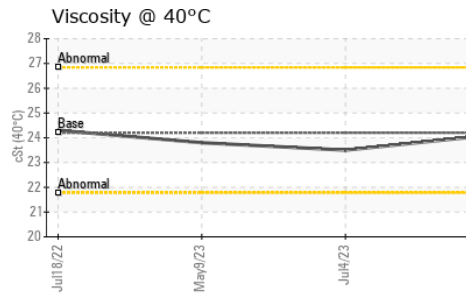
FLUID DEGRADATION		method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g	ASTM D974*	0.43	**0.25**	0.30	0.38

OIL ANALYSIS REPORT





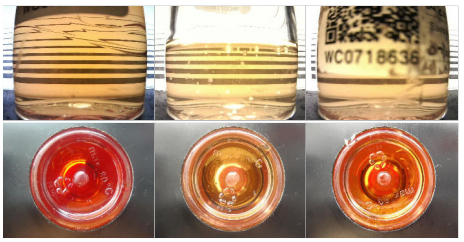




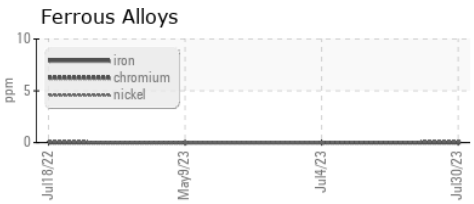
VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	Visual*	NONE	**NONE**	NONE	NONE
Yellow Metal	scalar	Visual*	NONE	**NONE**	NONE	NONE
Precipitate	scalar	Visual*	NONE	**NONE**	NONE	NONE
Silt	scalar	Visual*	NONE	**NONE**	NONE	NONE
Debris	scalar	Visual*	NONE	**NONE**	NONE	NONE
Sand/Dirt	scalar	Visual*	NONE	**NONE**	NONE	NONE
Appearance	scalar	Visual*	NORML	**NORML**	NORML	NORML
Odor	scalar	Visual*	NORML	**NORML**	NORML	NORML
Emulsified Water	scalar	Visual*	>0.1	**NEG**	NEG	NEG
Free Water	scalar	Visual*		**NEG**	NEG	NEG

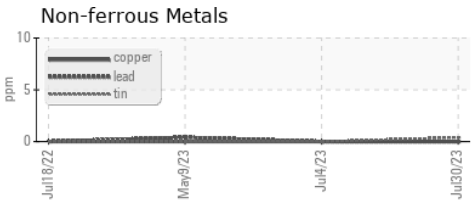
FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D7279(m)	24.2	**24.1**	23.5	23.8
Visc @ 100°C	cSt	ASTM D7279(m)	4.97	**4.9**	4.9	5
Viscosity Index (VI)	Scale	ASTM D2270*	134	**129**	135	141

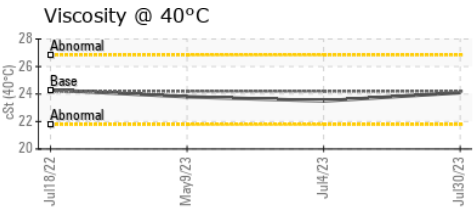
SAMPLE IMAGES	method	limit/base	current	history1	history2
Color					
Bottom					

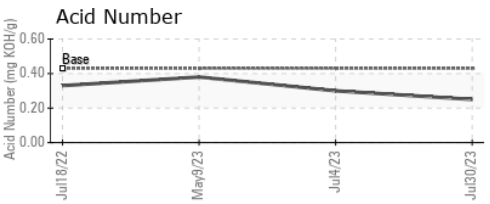


GRAPHS









ISO 17025:2017 Accredited Laboratory

Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
Sample No. : WC0718635
Lab Number : 02577156
Unique Number : 5630216
Test Package : AVI 3

Received : 21 Aug 2023
Diagnosed : 23 Aug 2023
Diagnostician : Kevin Marson

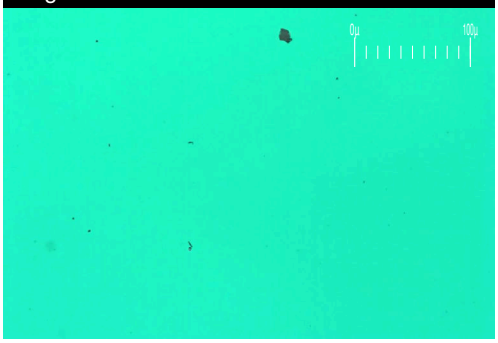
To discuss this sample report, contact Customer Service at 1-800-268-2131.
Test denoted (*) outside scope of accreditation, (m) method modified, (e) tested at external lab.
Validity of results and interpretation are based on the sample and information as supplied.

SPRINGER AEROSPACE
377 LAKEVIEW, P.O.BOX 269
ECHO BAY, ON
CA P0S 1C0
Contact: Robert Hope
robert@springeraerospace.com
T: (705)248-2158
F: (705)248-3397

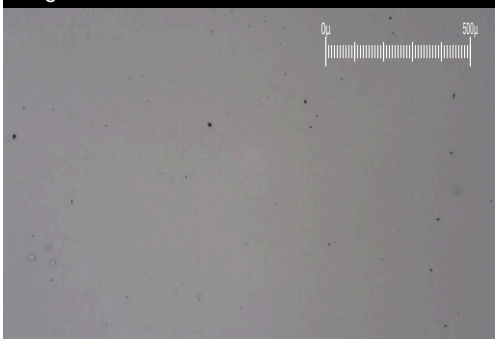
FERROGRAPHY REPORT

Area
(C-GIKP) WATSON`S SKYWAYS
Machine Id
[C-GIKP] CESSNA 208 PCE-PC2346 (S/N 20800141)
Component
1 Jet Turbine
Fluid
EASTMAN TURBO OIL 2380 (100 LTR)

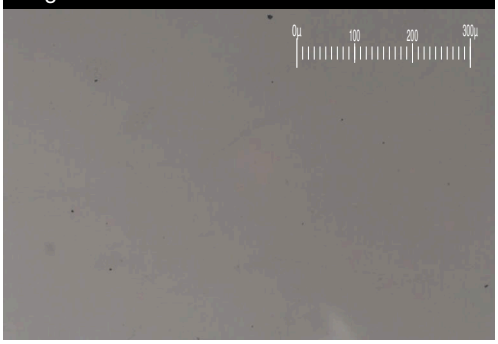
Magn: 200x Illum: BC



Magn: 50x Illum: RW



Magn: 100x Illum: RW

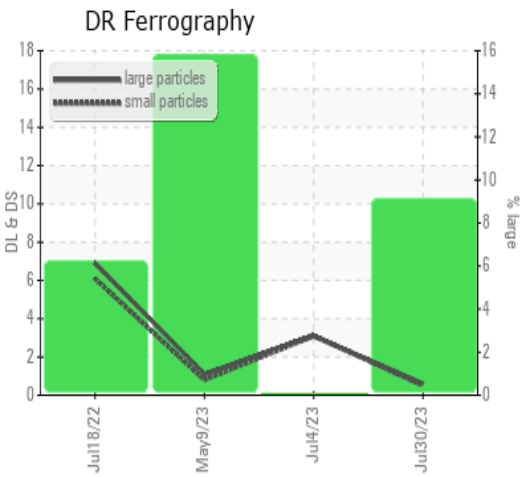


DR-FERROGRAPHY		method	limit/base	current	history1	history2
Large Particles		DR-Ferr*		**0.6**	3.1	1.1
Small Particles		DR-Ferr*		**0.5**	3.1	0.8
Total Particles		DR-Ferr*	>---	**1.1**	6.2	1.9
Large Particles Percentage	%	DR-Ferr*		**9.1**	0	15.8
Severity Index		DR-Ferr*		**0**	0	0

FERROGRAPHY		method	limit/base	current	history1	history2
Ferrous Rubbing	Scale 0-10	ASTM D7684*		**1**	1	1
Ferrous Sliding	Scale 0-10	ASTM D7684*				
Ferrous Cutting	Scale 0-10	ASTM D7684*				
Ferrous Rolling	Scale 0-10	ASTM D7684*		**1**	1	1
Ferrous Break-in	Scale 0-10	ASTM D7684*				
Ferrous Spheres	Scale 0-10	ASTM D7684*				
Ferrous Black Oxides	Scale 0-10	ASTM D7684*				
Ferrous Red Oxides	Scale 0-10	ASTM D7684*				
Ferrous Corrosive	Scale 0-10	ASTM D7684*				
Ferrous Other	Scale 0-10	ASTM D7684*				
Nonferrous Rubbing	Scale 0-10	ASTM D7684*				
Nonferrous Sliding	Scale 0-10	ASTM D7684*				
Nonferrous Cutting	Scale 0-10	ASTM D7684*				
Nonferrous Rolling	Scale 0-10	ASTM D7684*				
Nonferrous Other	Scale 0-10	ASTM D7684*				
Carbonaceous Material	Scale 0-10	ASTM D7684*				
Lubricant Degradation	Scale 0-10	ASTM D7684*				
Sand/Dirt	Scale 0-10	ASTM D7684*		**1**		1
Fibres	Scale 0-10	ASTM D7684*				
Spheres	Scale 0-10	ASTM D7684*				
Other	Scale 0-10	ASTM D7684*		**1**	1	1

WEAR

All component wear rates are normal. The direct-reading & analytical ferrographic results are normal indicating no abnormal wear in the system.



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