



OIL ANALYSIS REPORT

WEAR	SEVERE
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL

Area
(C-GKPK)
Machine Id
CESSNA 519566
Component
Left Piston Aircraft Engine
Fluid
SHELL AEROSHELL W 15W50 MGR (12 LTR)

RECOMMENDATION

We advise that you check the engine tuning and timing. We advise that you check for excessive valve and valve guide clearance. The oil change at the time of sampling has been noted. We recommend an early resample to monitor this condition.

WEAR

Nickel ppm levels are severe. Exhaust valve wear is indicated.

CONTAMINATION

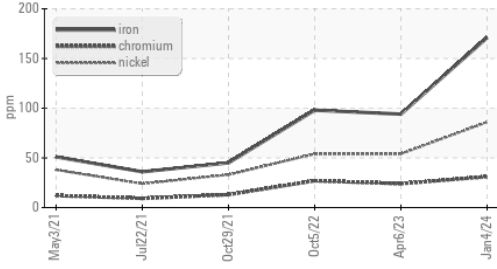
The water content is negligible.

FLUID CONDITION

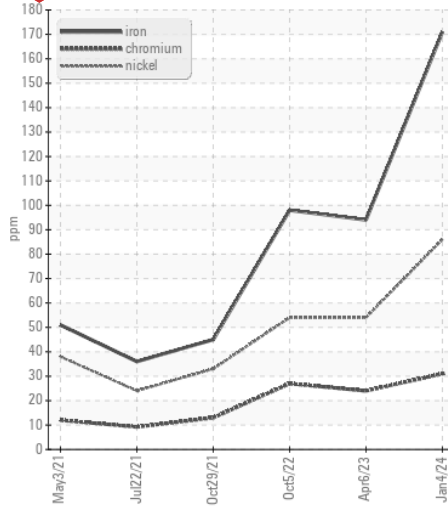
The oil is no longer serviceable as a result of the abnormal and/or severe wear.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		WC0811221	WC0712111	WC0712103
Sample Date		Client Info		04 Jan 2024	06 Apr 2023	05 Oct 2022
TSN	hrs	Client Info		0	0	0
TSO	hrs	Client Info		422	335	308
Oil Age	hrs	Client Info		36	27	25
Filter Age	hrs	Client Info		36	27	25
Oil Changed		Client Info		Changed	Changed	Changed
Filter Changed		Client Info		Changed	Changed	Changed
Sample Status				SEVERE	ABNORMAL	ABNORMAL
PQ		ASTM D8184*		45	18	18
Iron	ppm	ASTM D5185(m)	>90	171	94	98
Chromium	ppm	ASTM D5185(m)	>20	31	24	27
Nickel	ppm	ASTM D5185(m)	>15	86	54	54
Titanium	ppm	ASTM D5185(m)		1	1	1
Silver	ppm	ASTM D5185(m)	>5	0	0	0
Aluminum	ppm	ASTM D5185(m)	>25	25	19	23
Lead	ppm	ASTM D5185(m)	>20000	5892	4996	4476
Copper	ppm	ASTM D5185(m)	>25	23	15	15
Tin	ppm	ASTM D5185(m)	>30	2	<1	2
Vanadium	ppm	ASTM D5185(m)		0	0	0
White Metal	scalar	Visual*	NONE	NONE	NONE	NONE
Yellow Metal	scalar	Visual*	NONE	NONE	NONE	NONE
Silicon	ppm	ASTM D5185(m)	>15	9	11	13
Potassium	ppm	ASTM D5185(m)	>20	6	0	<1
Fuel		WC Method	>4.0	<1.0	<1.0	<1.0
Water	%	ASTM D6304*	>0.1	0.011	---	---
ppm Water	ppm	ASTM D6304*	>1000	112	---	---
Glycol		WC Method		NEG	NEG	NEG
Silt	scalar	Visual*	NONE	NONE	VLITE	VLITE
Debris	scalar	Visual*	NONE	NONE	NONE	NONE
Sand/Dirt	scalar	Visual*	NONE	NONE	NONE	NONE
Appearance	scalar	Visual*	NORML	MILKY	NORML	NORML
Odor	scalar	Visual*	NORML	NORML	NORML	NORML
Emulsified Water	scalar	Visual*	>0.1	NEG	NEG	NEG
Sodium	ppm	ASTM D5185(m)		<1	1	2
Boron	ppm	ASTM D5185(m)		<1	<1	<1
Barium	ppm	ASTM D5185(m)		0	0	0
Molybdenum	ppm	ASTM D5185(m)	5	10	7	8
Manganese	ppm	ASTM D5185(m)		0	<1	<1
Magnesium	ppm	ASTM D5185(m)	10	<1	<1	<1
Calcium	ppm	ASTM D5185(m)	10	1	4	17
Phosphorus	ppm	ASTM D5185(m)	1280	1100	901	855
Zinc	ppm	ASTM D5185(m)	10	5	4	4
Sulfur	ppm	ASTM D5185(m)	1800	1281	1128	1119
Visc @ 100°C	cSt	ASTM D7279(m)	18.2	18.0	18.0	18.3

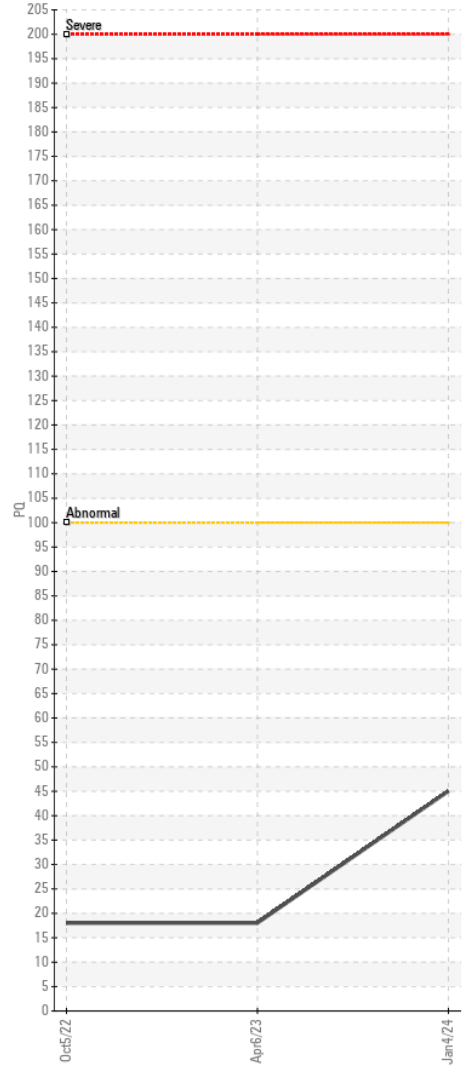
Ferrous Alloys



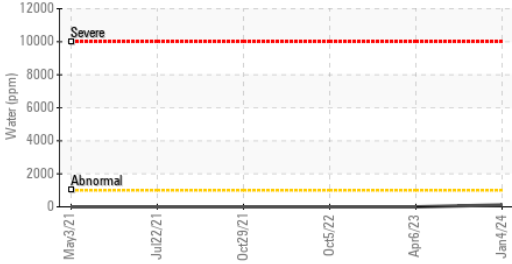
Ferrous Alloys



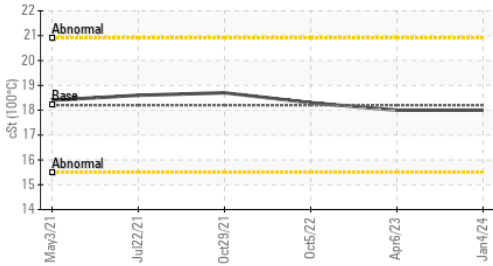
PQ



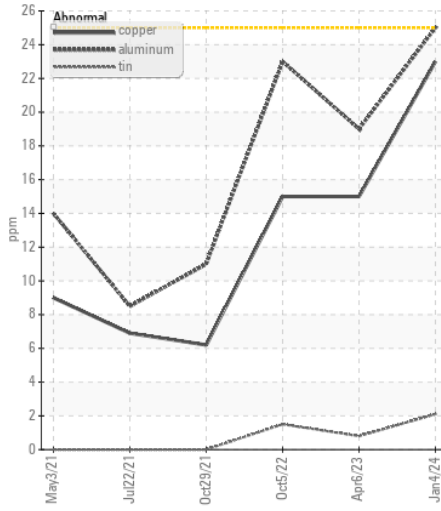
Water (KF)



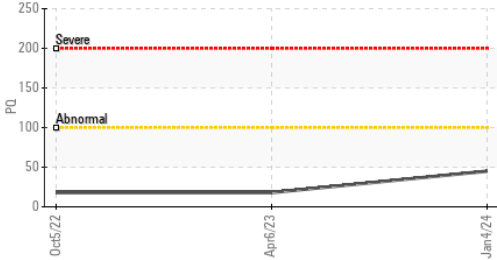
Viscosity @ 100°C



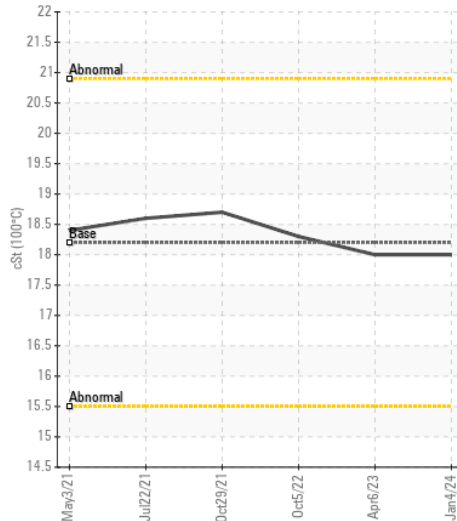
Copper/Aluminum/Tin



PQ



Viscosity @ 100°C



ISO 17025:2017
Accredited
Laboratory

Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
Sample No. : WC0811221 **Received** : 11 Jan 2024
Lab Number : 02608153 **Diagnosed** : 15 Jan 2024
Unique Number : 5709239 **Diagnostician** : Kevin Marson
Test Package : AVI 1 (Additional Tests: KF, PQ)

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.

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