AVI WEAR CHECK

OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	ABNORMAL
FLUID CONDITION	NORMAL

Area
(C-GMNQ) [13088]
Machine Id
[C-GMNQ] PIPER PA31 L-2789-68A
Component
Piston Aircraft Engine
Fluid
SHELL AEROSHELL W 15W50 MGR (12 LTR)

RECOMMENDATION

We advise that you check the air filter, air induction system, and any areas where dirt may enter the component. Oil and filter change at the time of sampling has been noted. We recommend an early resample to monitor this condition.

WEAR

All component wear rates are normal.

CONTAMINATION

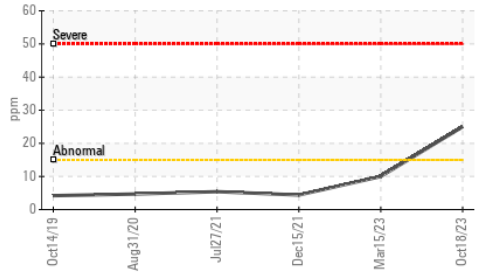
There is a moderate concentration of dirt present in the oil. The water content is negligible.

FLUID CONDITION

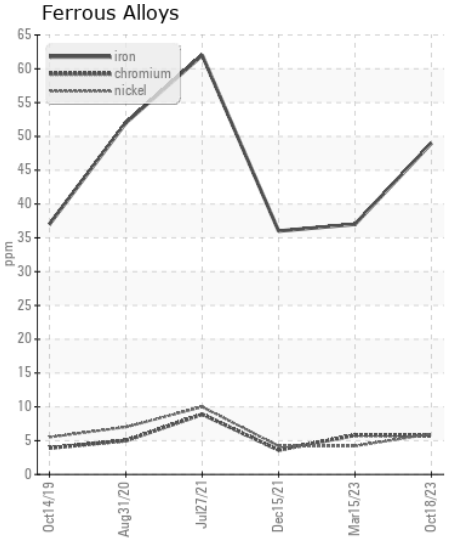
The oil is no longer serviceable due to the presence of contaminants.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		WC0834801	WC0768492	WC
Sample Date		Client Info		18 Oct 2023	15 Mar 2023	15 Dec 2021
TSN	hrs	Client Info		7145	7100	7012
TSO	hrs	Client Info		1335	1250	1193
Oil Age	hrs	Client Info		50	0	40
Filter Age	hrs	Client Info		50	0	40
Oil Changed		Client Info		Changed	Changed	Changed
Filter Changed		Client Info		Changed	Changed	Changed
Sample Status				ABNORMAL	NORMAL	NORMAL
Iron	ppm	ASTM D5185(m)	>90	49	37	36
Chromium	ppm	ASTM D5185(m)	>20	6	6	4
Nickel	ppm	ASTM D5185(m)	>15	6	4	4
Titanium	ppm	ASTM D5185(m)		0	<1	0
Silver	ppm	ASTM D5185(m)	>5	0	0	0
Aluminum	ppm	ASTM D5185(m)	>25	20	17	14
Lead	ppm	ASTM D5185(m)	>20000	5418	2667	5227
Copper	ppm	ASTM D5185(m)	>25	19	9	12
Tin	ppm	ASTM D5185(m)	>30	0	<1	0
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	▲ 25	10	4
Potassium	ppm	ASTM D5185(m)	>20	<1	0	1
Fuel		WC Method	>4.0	<1.0	<1.0	<1.0
Water	%	ASTM D6304*	>0.1	0.031	---	---
ppm Water	ppm	ASTM D6304*	>1000	313	---	---
Glycol		WC Method		NEG	NEG	NEG
Silt	scalar	Visual*	NONE	LIGHT	VLITE	VLITE
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	.5%	NEG	NEG
Sodium	ppm	ASTM D5185(m)		<1	<1	<1
Boron	ppm	ASTM D5185(m)		<1	<1	<1
Barium	ppm	ASTM D5185(m)		0	0	0
Molybdenum	ppm	ASTM D5185(m)	5	0	0	<1
Manganese	ppm	ASTM D5185(m)		0	0	0
Magnesium	ppm	ASTM D5185(m)	10	12	6	13
Calcium	ppm	ASTM D5185(m)	10	2	6	3
Phosphorus	ppm	ASTM D5185(m)	1280	987	212	1127
Zinc	ppm	ASTM D5185(m)	10	7	7	6
Sulfur	ppm	ASTM D5185(m)	1800	1185	979	1102
Visc @ 100°C	cSt	ASTM D7279(m)	18.2	18.9	17.4	18.4

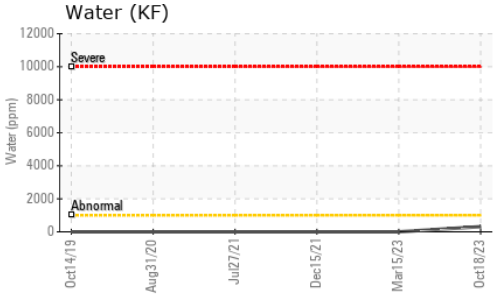
Silicon (ppm)



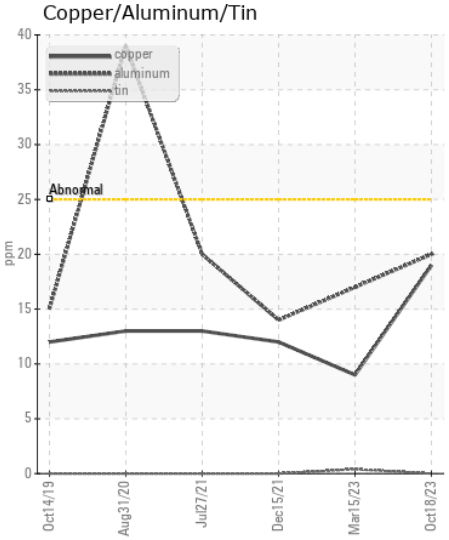
Ferrous Alloys



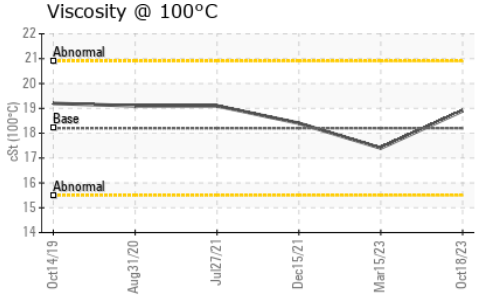
Water (KF)



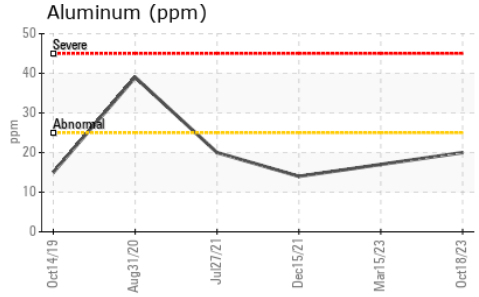
Copper/Aluminum/Tin



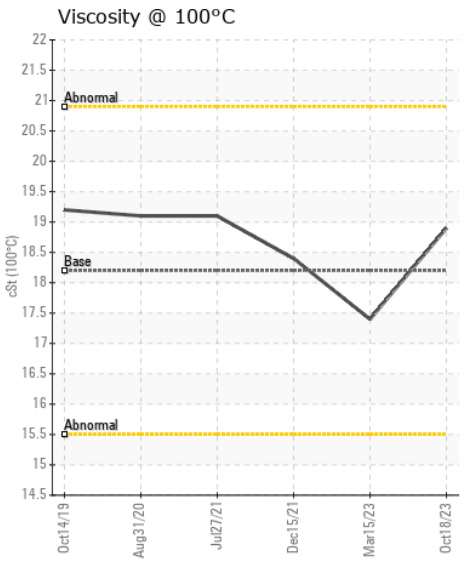
Viscosity @ 100°C



Aluminum (ppm)



Viscosity @ 100°C



ISO 17025:2017 Accredited Laboratory

Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
Sample No. : WC0834801 **Received** : 26 Apr 2024
Lab Number : 02631611 **Tested** : 29 Apr 2024
Unique Number : 5772764 **Diagnosed** : 29 Apr 2024 - Kevin Marson
Test Package : AVI 1 (Additional Tests: KF)

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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