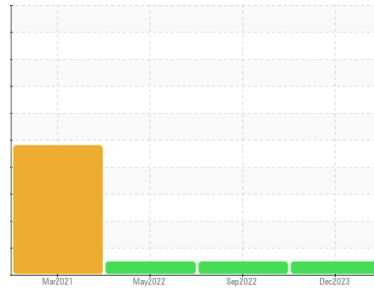




OIL ANALYSIS REPORT

Sample Rating Trend



NORMAL



Machine Id

CONTINENTAL N415LS

Component

Piston Aircraft Engine

Fluid

PHILLIPS 66 AVIATION X/C OIL SAE20W50 (--- GAL)

DIAGNOSIS

Recommendation

Resample at the next service interval to monitor.

Wear

All component wear rates are normal.

Contamination

There is no indication of any contamination in the oil.

Fluid Condition

The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

SAMPLE INFORMATION

	method	limit/base	current	history1	history2
Sample Number	Client Info		WC0674748	WC0674753	WC0674746
Sample Date	Client Info		20 Dec 2023	11 Sep 2022	12 May 2022
TSN	hrs	Client Info	0	0	0
TSO	hrs	Client Info	0	1005	925
Oil Age	hrs	Client Info	40	79	49
Oil Changed		Client Info	Changed	Changed	Changed
Sample Status			NORMAL	NORMAL	NORMAL

CONTAMINATION

	method	limit/base	current	history1	history2
Fuel	WC Method	>4.0	<1.0	<1.0	<1.0
Glycol	WC Method		NEG	NEG	NEG

WEAR METALS

	method	limit/base	current	history1	history2	
Iron	ppm	ASTM D5185m	>90	43	52	46
Chromium	ppm	ASTM D5185m	>20	6	15	12
Nickel	ppm	ASTM D5185m	>15	<1	2	2
Titanium	ppm	ASTM D5185m		0	<1	0
Silver	ppm	ASTM D5185m	>5	0	1	<1
Aluminum	ppm	ASTM D5185m	>25	11	16	12
Lead	ppm	ASTM D5185m	>20000	2121	4647	2748
Copper	ppm	ASTM D5185m	>25	10	12	11
Tin	ppm	ASTM D5185m	>30	1	3	2
Antimony	ppm	ASTM D5185m		---	---	---
Vanadium	ppm	ASTM D5185m		0	<1	0
Cadmium	ppm	ASTM D5185m		10	5	5

ADDITIVES

	method	limit/base	current	history1	history2	
Boron	ppm	ASTM D5185m		0	2	4
Barium	ppm	ASTM D5185m		0	0	0
Molybdenum	ppm	ASTM D5185m		0	<1	<1
Manganese	ppm	ASTM D5185m		<1	1	<1
Magnesium	ppm	ASTM D5185m		34	14	24
Calcium	ppm	ASTM D5185m		66	76	101
Phosphorus	ppm	ASTM D5185m		173	338	320
Zinc	ppm	ASTM D5185m		18	12	23
Sulfur	ppm	ASTM D5185m		1906	1730	2234

CONTAMINANTS

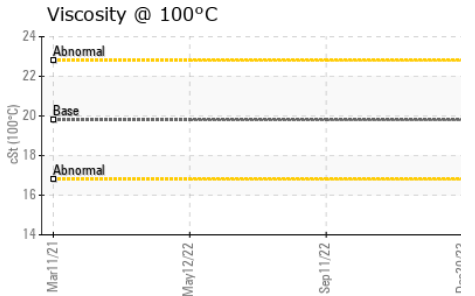
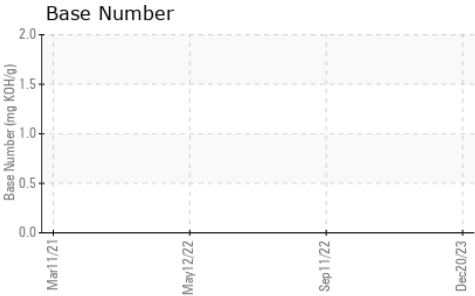
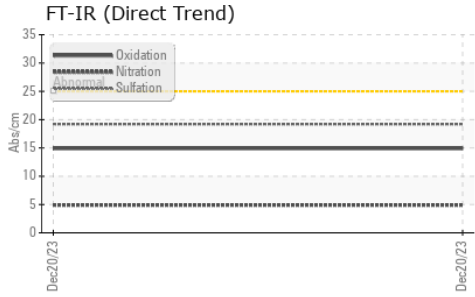
	method	limit/base	current	history1	history2	
Silicon	ppm	ASTM D5185m	>15	14	13	16
Sodium	ppm	ASTM D5185m		<1	<1	<1
Potassium	ppm	ASTM D5185m	>20	<1	2	2
Water	%	ASTM D6304	>0.1	NEG	NEG	NEG

INFRA-RED

	method	limit/base	current	history1	history2	
Soot %	%	*ASTM D7844		0.1	---	---
Nitration	Abs/cm	*ASTM D7624	>20	4.9	---	---
Sulfation	Abs./1mm	*ASTM D7415	>30	19.2	---	---



OIL ANALYSIS REPORT

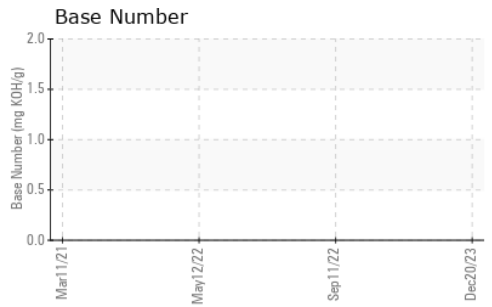
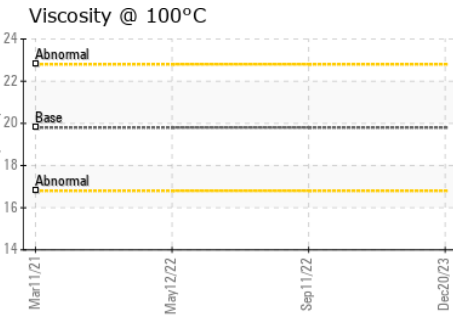
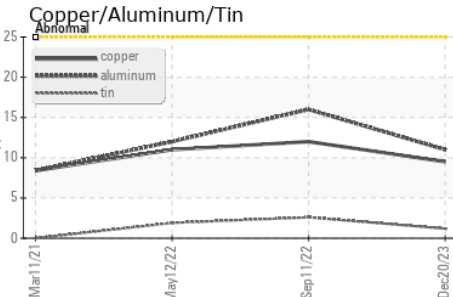
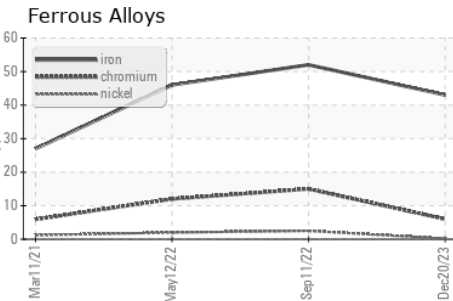


FLUID DEGRADATION	method	limit/base	current	history1	history2	
Oxidation	Abs/.1mm	*ASTM D7414	>25	14.9	---	---
Base Number (BN)	mg KOH/g	ASTM D2896		1.6	---	---

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	---	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	---	NONE	NONE
Appearance	scalar	*Visual	NORML	---	NORML	MILKY
Odor	scalar	*Visual	NORML	---	NORML	NORML
Emulsified Water	scalar	*Visual	>0.1	---	NEG	NEG
Free Water	scalar	*Visual		---	NEG	NEG

FLUID PROPERTIES	method	limit/base	current	history1	history2	
Visc @ 100°C	cSt	ASTM D445	19.8	17.43	---	---

GRAPHS



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : WC0674748 **Received** : 15 Apr 2024
Lab Number : **06149240** **Tested** : 18 Apr 2024
Unique Number : 10979318 **Diagnosed** : 18 Apr 2024 - Jonathan Hester
Test Package : AVI 1 (Additional Tests: FT-IR, KF, TBN)

JOHN TROWBRIDGE
 9816 MEMORIAL BLVD
 HUMBLE, TX
 US 77338

To discuss this sample report, contact Customer Service at 1-800-237-1369.
 * - Denotes test methods that are outside of the ISO 17025 scope of accreditation.
 Statements of conformity to specifications are based on the simple acceptance decision rule (JCGM 106:2012)

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