



OIL ANALYSIS REPORT

WEAR	ABNORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL

Area
(C-GQNA)
Machine Id
[C-GQNA] PIPER PA28R-201T 299764R
Component
Center Piston Aircraft Engine
Fluid
SHELL AEROSHELL W 80 (--- GAL)

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.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		WC0882180	WC0841063	WC0841043
Sample Date		Client Info		07 Mar 2024	14 Nov 2023	08 Aug 2023
TSN	hrs	Client Info		0	0	0
TSO	hrs	Client Info		0	1352	1325
Oil Age	hrs	Client Info		24	26	51
Filter Age	hrs	Client Info		24	26	51
Oil Changed		Client Info		Changed	Changed	N/A
Filter Changed		Client Info		Changed	Changed	N/A
Sample Status				ABNORMAL	ABNORMAL	SEVERE

WEAR

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

PQ		ASTM D8184*		32	41	23
Iron	ppm	ASTM D5185(m)	>90	107	133	172
Chromium	ppm	ASTM D5185(m)	>20	22	26	35
Nickel	ppm	ASTM D5185(m)	>15	▲ 46	▲ 50	▲ 70
Titanium	ppm	ASTM D5185(m)		<1	<1	2
Silver	ppm	ASTM D5185(m)	>5	0	<1	0
Aluminum	ppm	ASTM D5185(m)	>25	7	9	15
Lead	ppm	ASTM D5185(m)	>20000	3381	4540	6188
Copper	ppm	ASTM D5185(m)	>25	9	15	26
Tin	ppm	ASTM D5185(m)	>30	0	0	<1
Vanadium	ppm	ASTM D5185(m)		0	0	<1
White Metal	scalar	Visual*	NONE	NONE	NONE	NONE
Yellow Metal	scalar	Visual*	NONE	NONE	NONE	NONE

CONTAMINATION

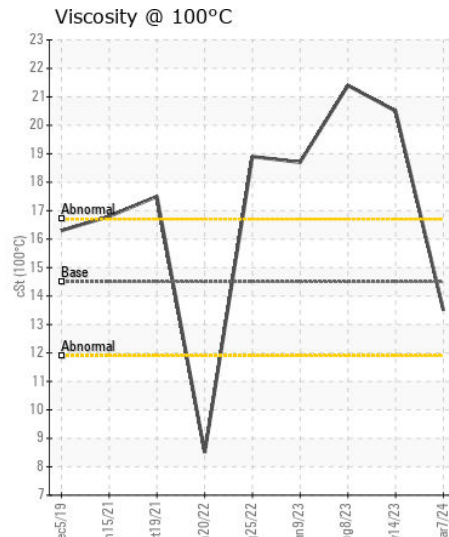
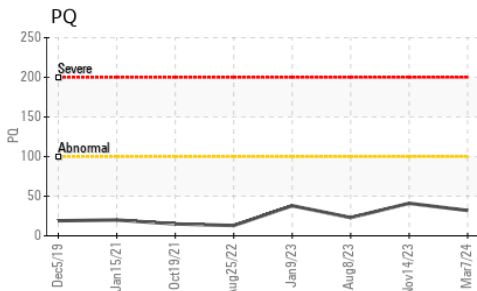
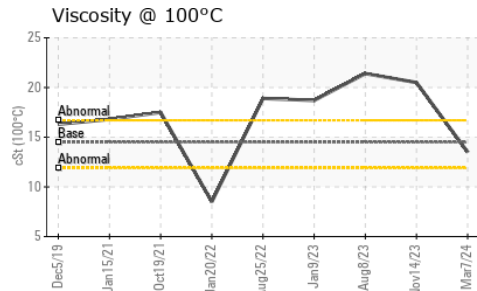
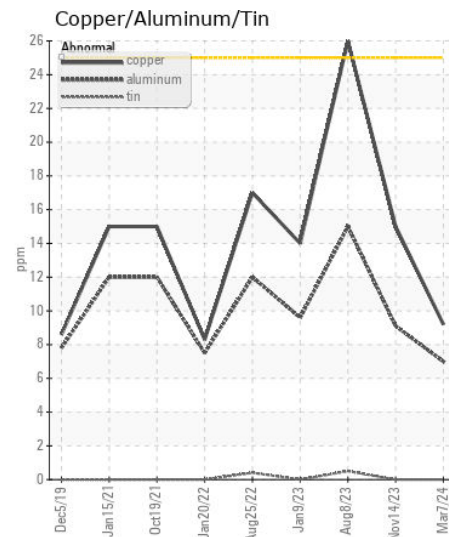
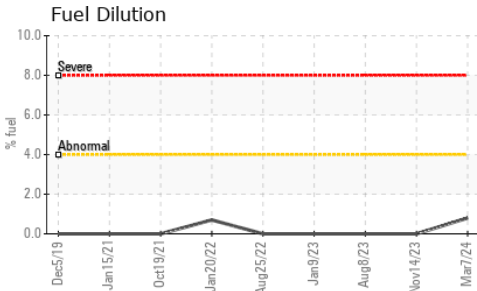
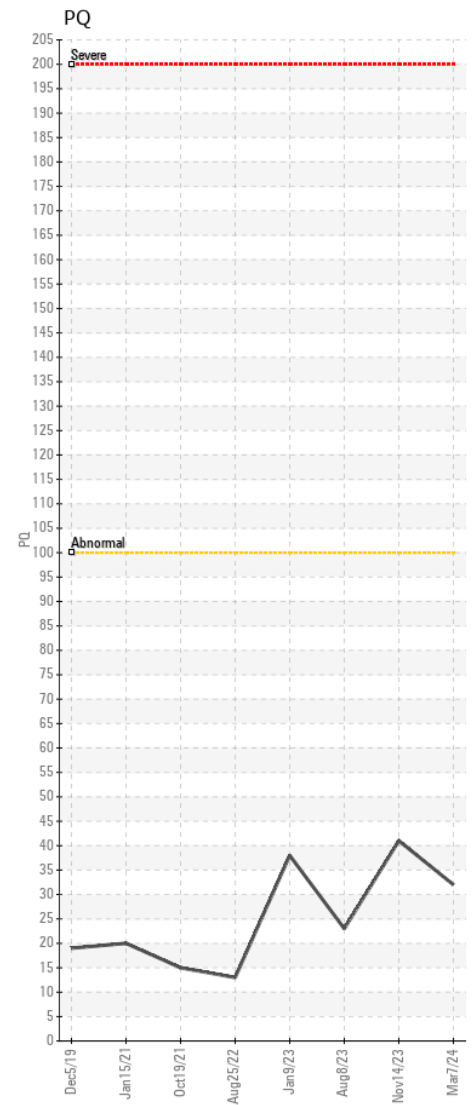
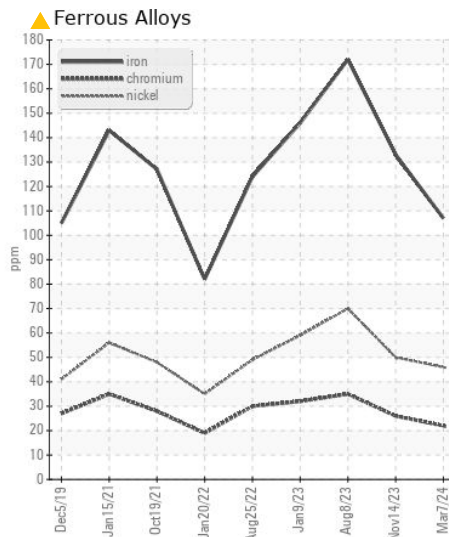
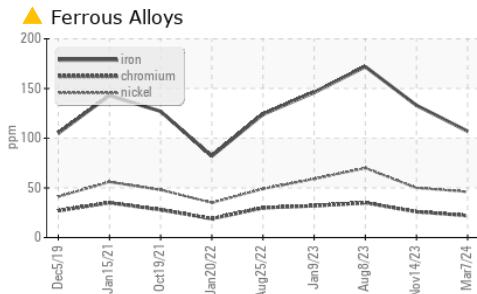
Fuel content negligible. There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185(m)	>15	6	6	7
Potassium	ppm	ASTM D5185(m)	>20	2	0	0
Fuel	%	ASTM D7593*	>4.0	0.8	<1.0	<1.0
Water		WC Method	>0.1	NEG	NEG	NEG
Glycol		WC Method		NEG	NEG	NEG
Silt	scalar	Visual*	NONE	VLITE	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

FLUID CONDITION

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

Sodium	ppm	ASTM D5185(m)		1	<1	0
Boron	ppm	ASTM D5185(m)		<1	<1	<1
Barium	ppm	ASTM D5185(m)		0	0	0
Molybdenum	ppm	ASTM D5185(m)		8	8	12
Manganese	ppm	ASTM D5185(m)		0	0	<1
Magnesium	ppm	ASTM D5185(m)		2	<1	2
Calcium	ppm	ASTM D5185(m)		6	3	6
Phosphorus	ppm	ASTM D5185(m)		1242	1176	1279
Zinc	ppm	ASTM D5185(m)		6	7	13
Sulfur	ppm	ASTM D5185(m)	3000	3711	3135	2585
Visc @ 100°C	cSt	ASTM D7279(m)	14.5	13.5	20.5	21.4



Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
Sample No. : WC0882180
Lab Number : 02620816
Unique Number : 5737926
Test Package : AVI 1 (Additional Tests: FuelDilution, PercentFuel, PQ)
Received : 08 Mar 2024
Tested : 11 Mar 2024
Diagnosed : 11 Mar 2024 - Kevin Marson

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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.