



OIL ANALYSIS REPORT

WEAR	MARGINAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL

Area

(C-FECP)

Machine Id

[C-FECP] DIAMOND DA20 650000

Component

Piston Aircraft Engine

Fluid

SHELL AEROSHELL OIL W 100 PLUS (6 LTR)

RECOMMENDATION

Oil and filter change at the time of sampling has been noted. We recommend an early resample to monitor this condition. No other corrective action is recommended at this time.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		WC0956619	WC0936586	WC0936595
Sample Date		Client Info		17 Jun 2024	24 May 2024	02 May 2024
TSN	hrs	Client Info		0	0	0
TSO	hrs	Client Info		2295	2251	2214
Oil Age	hrs	Client Info		45	37	57
Filter Age	hrs	Client Info		45	37	57
Oil Changed		Client Info		Changed	Changed	Changed
Filter Changed		Client Info		Changed	Changed	Changed
Sample Status				MARGINAL	NORMAL	NORMAL

WEAR

Iron ppm levels are marginal. A sharp increase in the iron level is noted. All other component wear rates are normal.

PQ	UOM	Method	Limit/Abn	Current	History1	History2
PQ		ASTM D8184*		62	---	---
Iron	ppm	ASTM D5185(m)	>90	▲ 112	55	32
Chromium	ppm	ASTM D5185(m)	>20	13	13	13
Nickel	ppm	ASTM D5185(m)	>15	5	4	2
Titanium	ppm	ASTM D5185(m)		0	0	0
Silver	ppm	ASTM D5185(m)	>5	0	0	0
Aluminum	ppm	ASTM D5185(m)	>25	5	4	6
Lead	ppm	ASTM D5185(m)	>20000	4997	4550	6118
Copper	ppm	ASTM D5185(m)	>25	7	5	5
Tin	ppm	ASTM D5185(m)	>30	0	0	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

CONTAMINATION

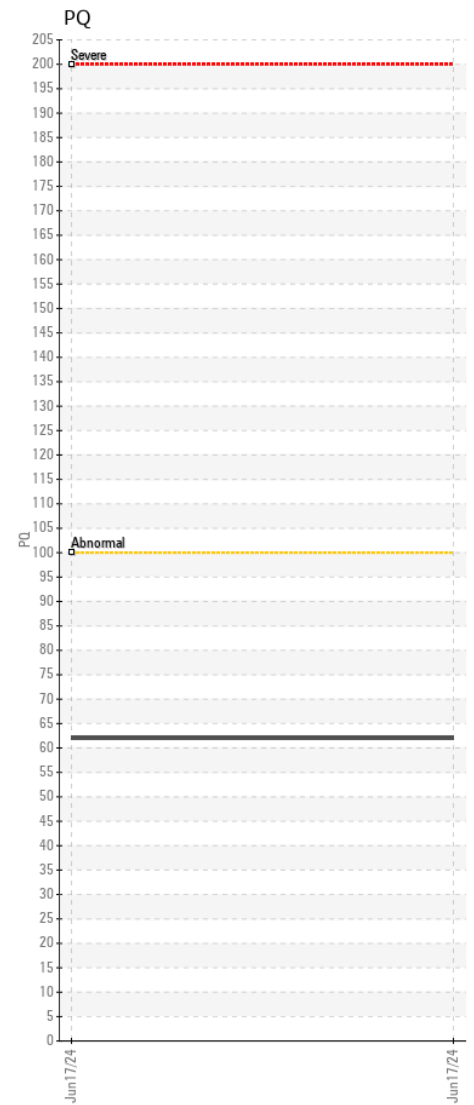
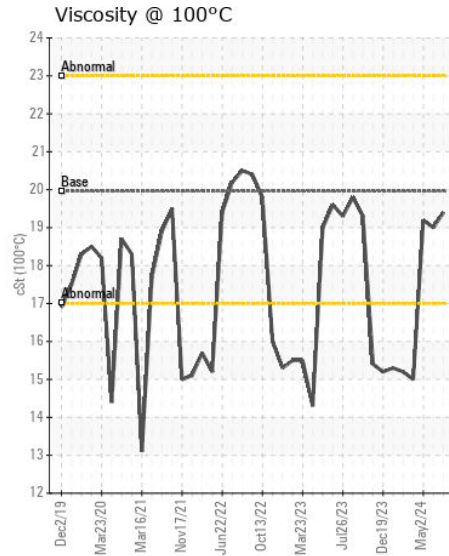
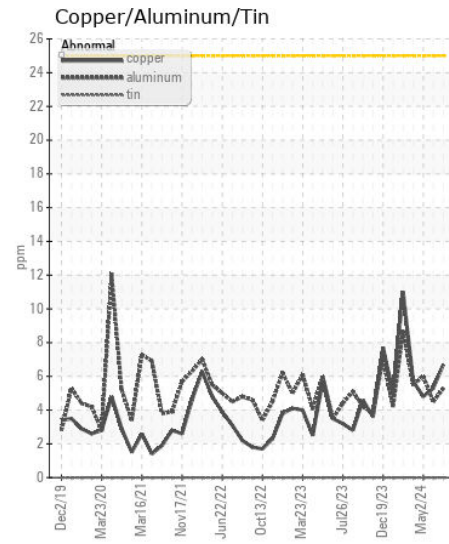
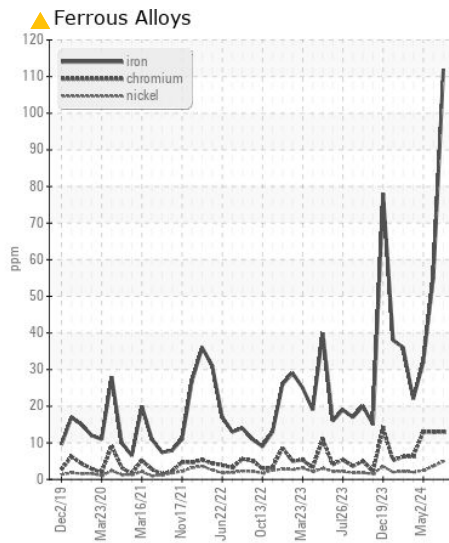
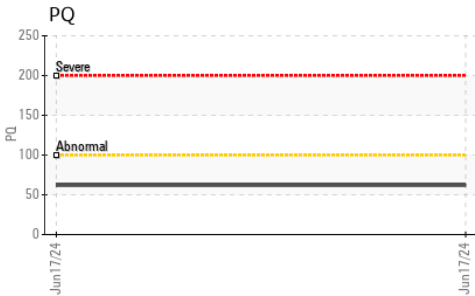
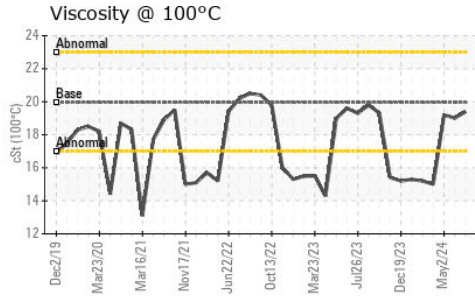
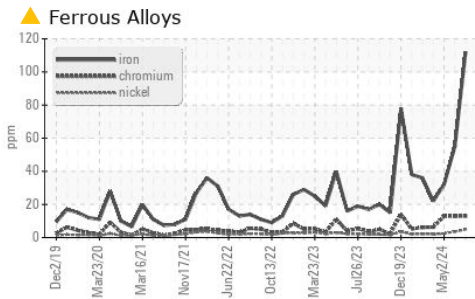
There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185(m)	>15	8	8	6
Potassium	ppm	ASTM D5185(m)	>20	<1	0	0
Fuel		WC Method	>4.0	<1.0	<1.0	<1.0
Water		WC Method	>0.1	NEG	NEG	NEG
Glycol		WC Method		NEG	NEG	NEG
Silt	scalar	Visual*	NONE	NONE	VLITE	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 condition of the oil is acceptable for the time in service.

Sodium	ppm	ASTM D5185(m)		<1	<1	<1
Boron	ppm	ASTM D5185(m)		<1	<1	<1
Barium	ppm	ASTM D5185(m)	0	0	0	0
Molybdenum	ppm	ASTM D5185(m)		11	11	3
Manganese	ppm	ASTM D5185(m)		0	0	0
Magnesium	ppm	ASTM D5185(m)	0	0	<1	<1
Calcium	ppm	ASTM D5185(m)	0	2	5	<1
Phosphorus	ppm	ASTM D5185(m)		1110	1149	965
Zinc	ppm	ASTM D5185(m)	0	7	8	4
Sulfur	ppm	ASTM D5185(m)	2600	2937	3005	3113
Visc @ 100°C	cSt	ASTM D7279(m)	19.96	19.4	19.0	19.2



Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
Sample No. : WC0956619
Lab Number : 02644034
Unique Number : 5801573
Test Package : AVI 1 (Additional Tests: PQ)

Received : 25 Jun 2024
Tested : 25 Jun 2024
Diagnosed : 25 Jun 2024 - 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.

W.C.S. AVIATION LTD.
 2600 AIRPORT ROAD UNIT 108
 WINDSOR, ON
 CA N8V 1A1
 Contact: James V
 james@wcsaviation.com
 T: (519)972-7271
 F: (519)972-8355