

OIL ANALYSIS REPORT

(C-GHOA) [C-GHOA] AIRBUS AS350B3E M6859 Component

Gearbox

NYCOLUBE 3525 (6 LTR)

Recommendation

Resample at the next service interval to monitor.

Wear

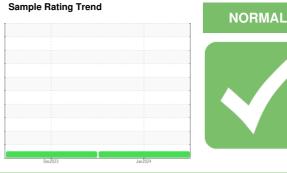
All component wear rates are normal. The ferrography results are normal indicating no abnormal wear in the system.

Contaminants

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

Oil Condition

The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.

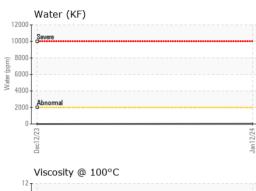


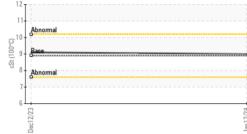


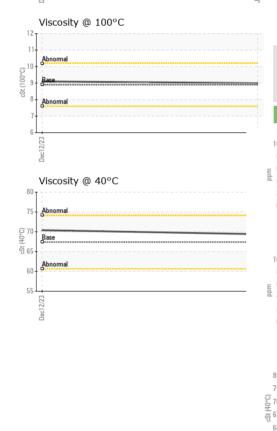
SAMPLE INFORM	ATION	method	limit/base	current	history1	history2
Sample Number		Client Info		WC0863959	WC0863956	
Sample Date		Client Info		12 Jan 2024	12 Dec 2023	
TSN	hrs	Client Info		30	12	
TSO	hrs	Client Info		0	0	
Oil Age	hrs	Client Info		30	12	
Oil Changed		Client Info		Not Changd	Not Changd	
Sample Status				NORMAL	NORMAL	
WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185(m)	>30	<1	<1	
Chromium	ppm	ASTM D5185(m)	>4	0	0	
Nickel	ppm	ASTM D5185(m)	>5	0	0	
Titanium	ppm	ASTM D5185(m)		0	0	
Silver	ppm	ASTM D5185(m)	>5	0	<1	
Aluminum	ppm	ASTM D5185(m)	>8	<1	0	
Lead	ppm	ASTM D5185(m)	>10	0	<1	
Copper	ppm	ASTM D5185(m)	>8	<1	<1	
Tin	ppm	ASTM D5185(m)	>4	0	0	
Antimony	ppm	ASTM D5185(m)	>5	0	0	
Vanadium	ppm	ASTM D5185(m)		0	0	
Beryllium	ppm	ASTM D5185(m)		0	0	
Cadmium	ppm	ASTM D5185(m)		0	0	
ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185(m)		0	<1	
Barium	ppm	ASTM D5185(m)		0	<1	
Molybdenum	ppm	ASTM D5185(m)		0	0	
Manganese	ppm	ASTM D5185(m)		0	0	
Magnesium	ppm	ASTM D5185(m)		3	3	
Calcium	ppm	ASTM D5185(m)		1	1	
Phosphorus	ppm	ASTM D5185(m)		14	13	
Zinc	ppm	ASTM D5185(m)		2	2	
Sulfur	ppm	ASTM D5185(m)		10269	10198	
Lithium	ppm	ASTM D5185(m)		<1	<1	
CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185(m)	>10	2	2	
Sodium	ppm	ASTM D5185(m)		0	<1	
Potassium	ppm	ASTM D5185(m)	>20	0	<1	
Water	%	ASTM D6304*	>0.2	0.002	0.00	
ppm Water	ppm	ASTM D6304*	>2000	25	0	
FLUID DEGRADA	TION	method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g	ASTM D974*	0.02	0.11	0.11	



OIL ANALYSIS REPORT







CALA Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9 HYDRO ONE HELICOPTER Sample No. : WC0863959 Recieved : 17 Jan 2024 LAKE SIMCOE REGIONAL AIRPORT, 224 LINE 7 o 17025:2017 Lab Number : 02609313 Diagnosed : 23 Jan 2024 ORO STATION, O		VISUAL		method	limit/base	current	history1	history2
Precipitate scalar Visual* NONE NONE NONE NONE		White Metal	scalar	Visual*	NONE	NONE	NONE	
Sit scalar Visual* NONE NONE NONE Debris scalar Visual* NONE NONE NONE Appearance scalar Visual* NORM NORM NORM Codor scalar Visual* NORM NORM NORM NORM Emulsified Water scalar Visual* NORM NORM NORM Emulsified Water scalar Visual* NORM NORM NORM Emulsified Water scalar Visual* NORM NORM NORM		Yellow Metal	scalar	Visual*	NONE	NONE	NONE	
Debris scalar Visual* NONE NONE NONE SandDirit scalar Visual* NONE NONE NONE SandDirit scalar Visual* NONE NONE NONE Coder scalar Visual* NORML NORML NORML NORML Coder scalar Visual* NORML NORML NORML NORML Tree Water scalar Visual* NORML NORML NORML NORML Free Water scalar Visual* NORML NORML NORML NORML Free Water scalar Visual* NORML NORML NORML NORML Visc @ 40°C cist AStM0723m 8 9 9 9.1 Visc @ 40°C cist AStM0723m 7 105 103 103 SAMPLE IMACES method Imitbase current history1 history2 Visc @ 40°C cist AStM0723m 7 105 103 103 SAMPLE IMACES method Imitbase current history1 history2 Non-ferrous Metals Oror are method Imitbase current history1 no image Oror are method Imitbase current history1 no image Non-ferrous Metals Viscosity @ 40°C Or		Precipitate	scalar	Visual*	NONE	NONE	NONE	
Sand/Dirt scalar Visual* NONE NONE NORE Appearance scalar Visual* NORML NORML NORMU Emulatified Water scalar Visual* 0-2.2 NEG NEG Emulatified Water scalar Visual* 0-2.2 NEG NEG Emulatified Water scalar Visual* 0-2.4 NEG NEG Emulatified Water scalar Visual* 0-2.4 NEG NEG Free Water scalar Visual* 0-2.4 NEG NEG Visc @ 100°C c c5t AStN0723ml 8.9 9 9.1 Visc @ 100°C c c5t AStN0723ml 8.9 9 9.1 Color no image Color no image GRAPHS Ferrous Alloys 		Silt	scalar	Visual*	NONE	NONE	NONE	
Appearance scalar Visual* NORML NORML NORML NORML mulsified Water scalar Visual* NORML NORML NORML NORML Free Water scalar Visual* NORML NORML NORML NORML Tem- Free Water scalar Visual* NEG NEG Free Water scalar Visual* NEG NEG Free Valer scalar Visual* NEG NEG Free Valer scalar Visual* NEG NEG Visce 0.40°C c51 ASIM0720m 0.7.4 69.4 70.4 Visce 0.40°C c51 ASIM0720m 0.7.4 69.4 70.4 Wisce 0.40°C c51 ASIM0720m 0.7.4 69.4 70.4 Wisce 0.40°C c51 ASIM0720m 0.7.4 69.4 70.4 Wisce 0.40°C c51 ASIM0720m 0.7.4 50.4 70.4 Wisce 0.40°C c51 ASIM0720m 0.7.4 40°C c51 ASIM07		Debris	scalar	Visual*	NONE	NONE	NONE	
Laboratory Sample No. Laboratory Sample No. Laboratory Laboratory Laboratory Laboratory Laboratory Laboratory Laboratory Laboratory Laboratory Laboratory Laboratory Laboratory Laboratory Laboratory Laboratory Laboratory Laboratory Laboratory Laboratory Laboratory Laboratory Laboratory Laboratory Laboratory Laboratory Laboratory Laboratory Laboratory Laboratory Laboratory Laboratory Laboratory Laboratory Laboratory Laboratory Laboratory Laboratory Laboratory		Sand/Dirt	scalar	Visual*	NONE	NONE	NONE	
Laboratory Sample No. Laboratory Sample No. Laboratory Laboratory Laboratory Laboratory Laboratory Laboratory Laboratory Laboratory Laboratory Laboratory Laboratory Laboratory Laboratory Laboratory Laboratory Laboratory Laboratory Laboratory Laboratory Laboratory Laboratory Laboratory Laboratory Laboratory Laboratory Laboratory Laboratory Laboratory Laboratory Laboratory Laboratory Laboratory Laboratory Laboratory Laboratory Laboratory Laboratory Laboratory		Appearance	scalar	Visual*	NORML	NORML	NORML	
Emulsified Water scalar Visual* >0.2 NEG NEG Free Water scalar Visual* Nead* NEG NEG NEG Neg Neg Neg Neg Neg Neg Neg Neg Neg		Odor		Visual*	NORML	NORML	NORML	
Free Water scalar Visual* NEG NEG FLUID PROPERTIES method imitbase current history1 history2 Visc @ 100°C c.St. ASIND7279/m 67.4 99.4 70.4 Visc @ 100°C c.St. ASIND7279/m 8.9 9 9.1 Viscosily Index (VI) Scale ASIND7270/m 8.9 9 9.1 SAMPLE IMAGES mothod imitbase current history1 history2 Color no image Bottom Office (VI) Scale ASIND7270/m 8.9 9 0.1 Color no image Bottom Office (VI) Scale ASIND7270/m 8.9 9 0.1 Color no image Bottom Office (VI) Scale ASIND7270/m 8.9 9 0.1 Color no image OFRAPHS Ferrous Alloys Viscosily Index (VI) Scale ASIND7270/m 8.9 9 0.1 Viscosily Index (VI) Scale ASIND7270/m 8.9 9 0.1 Non-ferrous Metals Viscosily @ 40°C Viscosily @ 40°C Viscosily @ 40°C 		Emulsified Water		Visual*				
Visc @ 40°C cst ASIMD229m 67.4 69.4 70.4 Visc @ 100°C cst ASIMD229m 8.9 9 9.1 Viscosity Index (VI) Scale ASIM D2270 105 103 103 SAMPLE IMAGES method ImiUbase current history1 history2 Color color colo								
Visc @ 40°C cst ASIMD229m 67.4 69.4 70.4 Visc @ 100°C cst ASIMD229m 8.9 9 9.1 Viscosity Index (VI) Scale ASIM D2270 105 103 103 SAMPLE IMAGES method ImiUbase current history1 history2 Color color colo		FLUID PROPERT	IES	method	limit/base	current	history1	history2
Viscosity Index (VI) Scale ASTM D2270 105 103 103 SAMPLE IMAGES method imit/base current history1 history2 Color no image Bottom Color no image GRAPHS Ferrous Allays Ferrous Metals Viscosity @ 40°C Viscosity @ 40°C								
Viscosity Index (VI) Scale ASTM D2270° 105 103 103 SAMPLE IMAGES method Imit/base current history1 history2 Color no image Bottom Color no image Color no image Non-ferrous Metals Viscosity @ 40°C Color no image Non-ferrous Metals Color no image Non-ferrous Metals Color no image Non-ferrous Metals Color no image Color no image Non-ferrous Metals Color no image Color no image Non-ferrous Metals Color no image Color n		00000000				9		
SAMPLE IMAGES method limit/base ourrent history1 history2 Color no image Bottom Color no image Color no image Color no image Color no image Color no image Retered to the color of t				. ,				
Color no image Color no image								history?
Color no image Bottom Decision of the second secon			,	method				matoryz
Bottom GRAPHS Ferrous Alloys								no imago
CRAPHS Ferrous Alloys		COIOI						no image
CRAPHS Ferrous Alloys								
CRAPHS Ferrous Alloys						8		
Image: Second State Sta		Bottom						no image
Image: Second State Sta								
Image: Second State Sta		GRAPHS						
Image: Sample No. Laboratory Sample No. Lab Number Unique Number : WearCheck - C8-1175 Appleby Line, Burlington, ON L/L 5H9 HYDRO ONE HELICOPTER Microsoftad : Wc0863959 Recieved : 17 Jan 2024 LaKE SIMCOE REGIONAL AIRPORT, 224 LINE 7 OT025:2017 Unique Number : 5710399 Diagnostician : Kevin Marson CALDU 2E					Jan12/24			
Acid Number Viscosity @ 40°C Viscosity @ 40°C			S					
CENCE Sample No. Laboratory Sample No. Lab Number Unique Number Unique Number Source Unique Number		8 - copper						
Viscosity @ 40°C Viscosity @								
Viscosity @ 40°C Viscosity @								
Viscosity @ 40°C		0			24			
Viscosity @ 40°C		Jec12/2			lan 12/2			
Laboratory Sample No. 17025:2017 Accredited Unique Number S70 5 5 7 7 6 5 7 7 6 6 5 7 7 7 6 6 6 5 7 7 7 7		Viscosity @ 40°C			~	Acid Number		
Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9 HYDRO ONE HELICOPTER Sample No. : WC0863959 Recieved : 17 Jan 2024 LAKE SIMCOE REGIONAL AIRPORT, 224 LINE 7 0 17025:2017 Lab Number : 02609313 Diagnosed : 23 Jan 2024 ORO STATION, O Accredited Unique Number : 5710399 Diagnostician : Kevin Marson CA Lol 2E					(B) 0.1			
Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9 HYDRO ONE HELICOPTER Sample No. : WC0863959 Recieved : 17 Jan 2024 LAKE SIMCOE REGIONAL AIRPORT, 224 LINE 7 0 17025:2017 Lab Number : 02609313 Diagnosed : 23 Jan 2024 ORO STATION, O Accredited Unique Number : 5710399 Diagnostician : Kevin Marson CA Lol 2E					20.1	0		
Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9 HYDRO ONE HELICOPTER Sample No. : WC0863959 Recieved : 17 Jan 2024 LAKE SIMCOE REGIONAL AIRPORT, 224 LINE 7 0 17025:2017 Lab Number : 02609313 Diagnosed : 23 Jan 2024 ORO STATION, O Accredited Unique Number : 5710399 Diagnostician : Kevin Marson CA Lol 2E					ber (r	5		
Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9 HYDRO ONE HELICOPTER Sample No. : WC0863959 Recieved : 17 Jan 2024 LAKE SIMCOE REGIONAL AIRPORT, 224 LINE 7 0 17025:2017 Lab Number : 02609313 Diagnosed : 23 Jan 2024 ORO STATION, O Accredited Unique Number : 5710399 Diagnostician : Kevin Marson CA Lol 2E		60 - P			10.0	Base		
Laboratory Sample No.: WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9HYDRO ONE HELICOPTER0 17025:2017 Accredited: WC0863959Recieved: 17 Jan 2024LAKE SIMCOE REGIONAL AIRPORT, 224 LINE 70 17025:2017 AccreditedLab Number: 02609313Diagnosed: 23 Jan 2024ORO STATION, OAccreditedUnique Number: 5710399Diagnostician: Kevin MarsonCA LoL 2E					0.0 Aci			42
Laboratory Sample No.: WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9HYDRO ONE HELICOPTER0 17025:2017 Accredited: WC0863959Recieved: 17 Jan 2024LAKE SIMCOE REGIONAL AIRPORT, 224 LINE 70 17025:2017 AccreditedLab Number: 02609313Diagnosed: 23 Jan 2024ORO STATION, OAccreditedUnique Number: 5710399Diagnostician: Kevin MarsonCA LoL 2E		Jec12/			lan 12/	Jec12/		Jan 12/24
Contact: Ken Sanfor	Sample So 17025:2017 Accredited Unique N	No. : WC0863959 F nber : 02609313 E umber : 5710399 E	Recieved Diagnose	: 17 J d : 23 J	an 2024 an 2024		COE REGIONAL AIRPO ORO	ORT, 224 LINE 7 N STATION, ON CA LOL 2E0
o discuss this sample report, contact Customer Service at 1-800-268-2131. ken.sanford@hydroone.co	Test Pac		00 ct 1 00	0 000 0101				

Report Id: ONE2ORO [WCAMIS] 02609313 (Generated: 01/23/2024 11:48:13) Rev: 1

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.

Contact/Location: Ken Sanford - ONE2ORO

T: (705)487-1771

F: (705)487-5817

FERROGRAPHY REPORT

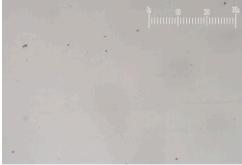
Area (C-GHOA) Machine Id [C-GHOA] AIRBUS AS350B3E M6859

Gearbox Fluid NYCOLUBE 3525 (6 LTR)

Magn: 200x Illum: BC



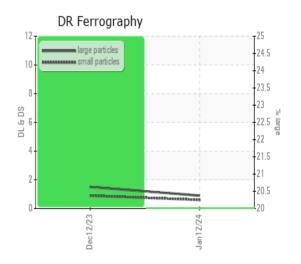
Magn: 100x Illum: RW



DR-FERROGRAP	ΡΗΥ	method				history2
Large Particles		DR-Ferr*		0.9	1.5	
Small Particles		DR-Ferr*		0.6	0.9	
Total Particles		DR-Ferr*	>	1.5	2.4	
Large Particles Percentage	%	DR-Ferr*		20	25	
Severity Index		DR-Ferr*		0	1	
FERROGRAPHY		method	limit/base	current	history1	history2
Ferrous Rubbing	Scale 0-10	ASTM D7684*		2	2	
Ferrous Sliding	Scale 0-10	ASTM D7684*				
Ferrous Cutting	Scale 0-10	ASTM D7684*				
Ferrous Rolling	Scale 0-10	ASTM D7684*		1	1	
Ferrous Break-in	Scale 0-10	ASTM D7684*				
Ferrous Spheres	Scale 0-10	ASTM D7684*				
Ferrous Black Oxides	Scale 0-10	ASTM D7684*		1		
Ferrous Red Oxides	Scale 0-10	ASTM D7684*				
Ferrous Corrosive	Scale 0-10	ASTM D7684*				
Ferrous Other	Scale 0-10	ASTM D7684*				
Nonferrous Rubbing	Scale 0-10	ASTM D7684*				
Nonferrous Sliding	Scale 0-10	ASTM D7684*				
Nonferrous Cutting	Scale 0-10	ASTM D7684*				
Nonferrous Rolling	Scale 0-10	ASTM D7684*				
Nonferrous Other	Scale 0-10	ASTM D7684*				
Carbonaceous Material	Scale 0-10	ASTM D7684*				
Lubricant Degradation	Scale 0-10	ASTM D7684*				
Sand/Dirt	Scale 0-10	ASTM D7684*		1	1	
Fibres	Scale 0-10	ASTM D7684*				
Spheres	Scale 0-10	ASTM D7684*				
Other	Scale 0-10	ASTM D7684*		1	2	

WEA

All component wear rates are normal. The ferrography results are normal indicating no abnormal wear in the system.



This page left intentionally blank