

Final Report of the Aircraft Accident Investigation Bureau

concerning the incident (Airprox)

between AZA116 and CFG869

on 9th February 2003

north of Aosta

FINAL REPORT

AIR TRAFFIC INCIDENT REPORT (ATIR)

AIRPROX (NEAR MISS)

This report has been prepared for the purpose of accident/incident prevention.
The legal assessment of accident/incident causes and circumstances is no concern of the incident investigation
(art. 24 of the air navigation law)

PLACE/DATE/TIME	North of Aosta, 9 February 2003, 13:45 UTC
AIRCRAFT	Alitalia, AZA 116, Airbus 319, I-BIME, from Milan Malpensa to Amsterdam (LIMC – EHAM) Condor Berlin, CFG 869, Airbus 320, D-AICI, from Palma de Majorca to Erfurt (LEPA – EDDE)
ATC UNIT	Swiss Radar Area West, UAC sector MS3/MA3
CONTROLLERS	Radar coordinator Radar controller Trainee controller
AIRSPACE	C

HISTORY

On Sunday 9 February 2003, Condor flight CFG 869 was making a scheduled flight between Palma de Majorca and Erfurt. At 13:33 UTC and flight level 300, the pilot made contact with Swiss radar on the Geneva MS3 sector frequency of 126.05 MHz. The pilot was cleared by air traffic control on route IRMAR – KINES – DITON at flight level 300.

At 13:42 UTC, Alitalia flight AZA 116 reported on the Geneva sector MS3 frequency of 126.05 MHz. It was making a scheduled flight between Milan Malpensa and Amsterdam. The pilot confirmed his route in the direction of the MOLUS waypoint. He was authorised by the controller to climb to flight level 290. The pilot acknowledged and read back the clearance to climb to flight level 290.

At 13:45, the radar controller informed the pilot of the Alitalia flight that he would be cleared to climb to a higher level but not before flying 15 NM because of traffic 1000 ft above his flight level.

One minute later, the radar controller noticed that the Alitalia flight had climbed above its authorised flight level; he then took avoiding action to ensure separation from the Condor flight. He instructed the pilot of the Alitalia flight to make a 30 degrees right turn because of traffic. He instructed the pilot of the Condor to climb to flight level 310, then instructed the pilot of the Alitalia flight to descend immediately to flight level 280. Finally, the controller informed the pilot of the Condor flight of the conflicting traffic by issuing essential traffic information.

According to the radar plot, the minimum distance between the two aircraft was a lateral distance of 3.4 NM and an altitude difference of 400 ft.

The pilot of Condor flight CFG 869 submitted an ATIR report.

The ATC unit submitted an ATIR report.

The pilot of Alitalia flight AZA 116 submitted an ASR (Air Safety Report) to his airline.

FINDINGS

- The control frequencies of sector MS3/MA3 126.05 MHz and 132.315 MHz were coupled.
- The radar controller in charge of the sector was a trainee controller, under the direct supervision of an instructor.
- All the radiotelephone exchanges between the aircraft and the controller took place using English phraseology.
- According to the controller's report, the traffic load was average. Eleven aircraft were in contact on the control sector frequency.
- The incident took place under visual meteorological conditions (VMC).
- The wind at flight level 300 was from 330 degrees at 55 knots.
- At 13:33:45 UTC, the pilot of aircraft CFG869 contacted the radar sector on frequency 126.05 MHz stating flight level 300.
- At 13:33:49, the controller identified the aircraft and cleared it for the route IRMAR – KINES - DITON at flight level 300. The pilot acknowledged this clearance.

All times are specified in the universal time coordinated (UTC) format (local time – 1).

- At 13:42:58, the pilot of flight AZA116 contacted the radar sector on frequency 126.05 MHz stating that he was climbing to flight level 240 in the direction of waypoint MOLUS.
- At 13:43:02, the controller identified flight AZA116 and cleared it to climb to flight level FL290.
- At 13:43:07, the pilot of flight AZA116 acknowledged the clearance to climb to flight level FL290.
- At 13:45:43, the radar controller informed the pilot of flight AZA116 that he would be cleared to climb to a higher level after flying 15 NM because of traffic 1000 ft above his authorised level.
- The pilot of flight AZA116 acknowledged receipt of this message.
- According to the report by the pilot of flight AZA116, three crew members were in the cockpit of the aircraft, namely one commander and two co-pilots. He stated that he received clearance to climb to flight level 290 from Geneva control on frequency 126.05 MHz but indicated that he set flight level FL300.
- At 13:45:57, the STCA alarm (an automatic alarm in case of loss of separation between aircraft) tripped, according to the radar recordings and the onboard electronic STCA log.
- At 13:46:05, the radar controller instructed the pilot of flight AZA116 to make a 30 degree right turn because of traffic.
- The pilot acknowledged this message.
- According to the report by the pilot of flight AZA116, a TCAS (TA) alert was activated at this time. He did not indicate any resolution advisory (RA). He also said that he had visual contact with the conflicting traffic after the alert.
- At 13:46:09, aircraft AZA116 crossed flight level 293 in a climb. Aircraft CFG869 was at flight level 300 and a distance of 9.6 NM from the converging route of the conflicting aircraft.
- At 13:46:19, the radar controller instructed the pilot of flight CFG869 to climb to flight level 310 because of traffic.
- The pilot acknowledged this message, stating that he was starting to climb towards flight level 310.
- At 13:46:21, aircraft AZA116 crossed flight level FL296 in a climb. Aircraft CFG869 was at flight level 300 and a distance of 7.8 NM from the converging route of the conflicting aircraft.
- At 13:46:29, the radar controller instructed the pilot of aircraft AZA116 to descend immediately to flight level 280 because of traffic.
- At 13:46:33, the pilot acknowledged this message, stating that he was descending: "leaving now".
- At 13:46:33, aircraft AZA116 crossed flight level 298 in a climb. Aircraft CFG869 was at level 300 and a distance of 6.0 NM from the converging route of the conflicting aircraft.
- At 13:46:37, the radar controller informed the pilot of flight CFG869 of the conflicting traffic by issuing essential traffic information: "At your 1 o'clock, 6 miles descending to FL280".

All times are specified in the universal time coordinated (UTC) format (local time – 1).

- At 13:46:51, the pilot of flight CFG869 informed the radar controller that he was crossing flight level 304 climbing towards flight level 310 and that the conflicting traffic was 3 NM in front of his route, 700 ft below.
- According to the report by the pilot of flight CFG869, a TCAS (TA) alert only was activated, without a resolution advisory (RA).
- At 13:46:57, the two aircraft crossed with a minimum lateral distance of 3.4 NM and an altitude difference of 400 ft.
- At 13:48:16, the pilot of flight CFG869 informed the controller that he was submitting an ATIR report.
- At 13:49:01, the radar controller cleared flight CFG869 to descend to flight level 300.
- At 13:49:54, the radar controller cleared flight AZA116 to climb to flight level 310.
- At 13:54:38, the radar controller informed the pilot of flight AZA116 that the ATC unit was submitting an ATIR report following these events.
- Weather: Geneva, 13:20 UTC
Wind: 190 DEG, 3 KT
Visibility: 10 KM
Cloud: light 1600 FT, broken 2200 FT
Temperature: +03°C
QNH 1018 hPa

ANALYSIS

The report by the pilot of flight AZA116 mentions that he selected flight level 300 instead of flight level 290 which had been allocated to him by Geneva control. This error was therefore at the origin of this incident.

Alerted by the STCA (short term conflict alert) and noting that flight AZA116 was climbing through the authorised flight level, the radar controller reacted immediately by instructing the pilot of flight AZA116 to make a 30 degrees right turn to take it away from the converging trajectory of the conflicting aircraft. Consequently, the distance between the two aircraft at the time of crossing with minimum distance was 3.4 NM instead of 2.7 NM.

The controller successively instructed the pilot of flight CFG869 to climb 1000 ft and the pilot of flight AZA116 to descend immediately to flight level 280, which was appropriate for this type of situation. Finally, the radar controller issued essential traffic information to the pilot of flight CFG869.

The reaction of the radar controller who was undergoing "on the job training" is remarkable and, in many ways, exemplary. Indeed, the priorities in the avoiding action which was undertaken were logical and effective: separation of the trajectories, vertical separations and essential traffic information.

Thanks to the outcome of these actions, no TCAS resolution advisory was activated in the two aircraft involved. The purpose of STCA, which is to alert the radar controller before the pilot follows a resolution advisory, was achieved.

The information issued prior to the incident to the pilot of flight AZA116 by the radar controller concerning the delayed clearance for a higher flight level, because of the presence of traffic 1000 ft above his authorised level, was unfortunately not sufficient to draw the attention of the pilot of flight AZA116.

All times are specified in the universal time coordinated (UTC) format (local time – 1).

CAUSE

The incident is due to the fact that a crew member of flight AZA116 erroneously set FL300 instead of FL290, which was the flight level authorised by air traffic control, without intervention of the second crew member.

Berne, 26 February 2004

Aircraft Accident Investigation Bureau

**This report has been prepared for the purpose of accident/incident prevention.
The legal assessment of accident/incident causes and circumstances is no concern of the incident investigation (art. 24 of the air navigation law)**

The language of the valid formulation of this report is French.

All times are specified in the universal time coordinated (UTC) format (local time – 1).

**TRANSCRIPT OF TELEPHONY
OR RADIOTELEPHONY COMMUNICATION TAPE-RECORDINGS**

Investigation into the **incident** that occurred on **9 February 2003**

- Subject of transcript: **AZA116 / CFG869**
- Centre concerned: Swiss Radar Area West
- Designation of unit: Swiss UAC sector MS3/MA3
- Frequency / Channel: 126.05 MHz
- Date and period (UTC) covered by attached extract: 9 February 2003
13:33 - 13:57 UTC
- Date of transcript: 21 February 2003
- Name of official in charge of transcription: Didier Javet

- Certificate by official in charge of transcription:

I hereby certify:

- That the accompanying transcript of the telephony or radiotelephony communication tape-recordings, retained at the present time in the premises of the Analysis Department, has been made, examined and checked by me.
- That no changes have been made to the entries in columns 2, 3 and 4, which contain only clearly understood indications in their original form.

Geneva, 21 February 2003

Didier JAVET

Abbreviations

<u>Sector</u>	<u>Designation of sector</u>
MS3	- Swiss UAC Sector MOLUS3

<u>Aircraft</u>	<u>Callsign</u>	<u>Type of acft</u>	<u>Flight rules</u>	<u>ADEP</u>	<u>ADES</u>
869	- Condor 869	A320	IFR	LEPA	- EDDE
825Y	- Reach 825Y	B763	IFR	KJFK	- LIPA
606	- Alitalia 606	B763	IFR	LIMC	- KEWR
234	- Mediterranee 234	B732	IFR	LIME	- LFBT
811	- Egyptair 811	A320	IFR	HEGN	- LSGG
315	- Antinea 315	A319	IFR	LFSB	- DAAG
116	- Alitalia 116	A319	IFR	LIMC	- EHAM
4543	- Iberia 4543	A320	IFR	EDDT	- LEBL
1639	- KLM 1639	F70	IFR	EHAM	- LIMF
2296	- Spanair 2296	A320	IFR	LSZH	- GCLP
4161	- Lufthansa 4161	B735	IFR	LFMN	- EDDF

TRANSCRIPT SHEET

Occurrence: AZA116 / CFG869

Date: 9 February 2003



To Col.1	From Col.2	Time Col.3	Communications Col.4	Observations Col.5
<u>Coupled Frequency/Channel: Swiss UAC 126.05 MHz and 132.315 MHz</u>				
MS3	869	13:33:45	<i>Radars, bonjour, Condor eight six nine, level three hundred.</i>	
869	MS3	49	<i>Condor eight six nine, bonjour, identified, cleared IRMAR - KINES - DITON, flight level three zero zero.</i>	
MS3	869	57	<i>Heu... Condor eight six nine, IRMAR - KINES - DITON, level three hundred.</i>	
825Y	MS3	13:34:30	Reach eight two five Yankee, contact Milano on one two five decimal two seven, goodbye.	
MS3	825Y	36	XXXXXX, Reach eight two five Yankee, one two five two seven, so long.	Probably "Okay"
MS3	606	13:35:00	Swiss Radar..., bonjour, this is Alitalia six zero six, climbing up flight level... two six... zero.	
606	MS3	07	Alitalia six zero six, bonjour, climb flight level three one zero.	
MS3	606	12	Climbing up flight level three one zero, Alitalia six zero six.	
606	MS3	13:36:22	Alitalia six zero six, set course direct Dijon, climb flight level three two zero.	
MS3	606	27	Direct Dijon, climbing up flight level three two zero, Alitalia six zero six, merci.	
606	MS3	13:37:56	Alitalia six zero six, contact Radar, channel one two four decimal zero three zero, goodbye.	
MS3	606	13:38:01	One two four zero three zero, Alitalia six zero six, bye-bye Sir, thank you.	
234	MS3	13:39:26	Mediterranee two three four, contact Marseilles on one three three decimal four two, goodbye.	
MS3	234	31	One three three four two..., ... two three four, goodbye Sir.	
MS3	811	13:40:29	Swiss Radar, Egyptair eight one one, bonjour.	
811	MS3	33	Egyptair eight one one, bonjour, squawk five seven one two.	
MS3	811	38	On the squawk five seven one two.	
MS3	315	13:41:10	Radars, good afternoon, Antinea three one five, climbing level two six zero, to... MILPA.	

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To Col.1	From Col.2	Time Col.3	Communications Col.4	Observations Col.5
315	MS3	13:41:16	Antinea three one five, bonjour, climb flight level two niner zero.	
MS3	315	20	Climbing level two niner zero, Antinea <i>two</i> one five	Should be "three"
811	MS3	31	Egyptair eight one one, identified, cleared AOSTA -BANKO for BANKO five Romeo Arrival, flight level three zero zero.	
MS3	811	40	AOSTA - BANKO - BANKO five Romeo, flight level two zero zero, confirm?	
811	MS3	46	That's correct.	
MS3	116	13:42:58	XXXXX, Alitalia one one six, climbing level two four zero, inbound MOLUS.	Probably "Radar"
116	MS3	13:43:02	Alitalia one one six, bonjour, identified, climb flight level two niner zero.	
MS3	116	07	Climbing level two nine zero, Alitalia one one six.	
MS3	4543	34	Swiss Radar, good evening, Iberia four five four three, maintaining three one zero, to OLBEN.	
4543	MS3	38	Iberia four five four three, bonjour, identified, cleared MILPA - BALS, flight level three one zero.	
MS3	4543	44	MILPA - BALS, maintaining three one zero, Iberia four five four three.	
811	MS3	13:44:07	Egyptair eight one one, I confirm you were cleared flight level three zero zero.	
MS3	811	12	Heu..., I re-confirmed with you Sir, two zero zero, you said "confirm"..., so I was... astonished.	
811	MS3	19	Egyptair two ... Egyptair eight one one, stop descent flight level two eight zero.	
MS3	811	23	We stop two eight zero, Sir.	
MS3	1639	26	Radar, bonjour, KLM one six three niner, maintaining three one zero, inbound Geneva	
1639	MS3	31	KLM one six three niner, bonjour, identified, cleared Geneva - MOBLO - Torino, flight level three one zero.	
MS3	1639	39	Geneva - MOBLO - Torino, three one zero for the KLM one six three niner.	
811	MS3	13:45:10	Egyptair eight one one, descend flight level two seven zero.	

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To Col.1	From Col.2	Time Col.3	Communications Col.4	Observations Col.5
MS3	811	13	Descend two seven zero, Egyptair eight one one.	
811	MS3	13:45:16	Correct, contact Radar on one two five decimal five five, goodbye.	
MS3	811	20	One two five five five.	
116	MS3	43	Alitalia one one six, expect higher in fifteen miles due crossing traffic one thousand feet above your cleared level.	
MS3	116	49	One one six.	
116	MS3	13:46:05	Alitalia one one six..., turn right ... three zero degrees due traffic.	
MS3	116	10	Right three zero degrees, Alitalia one one six.	
?	MS3	13	?????.	Unreadable
869	MS3	19	Condor eight six niner, due traffic, climb flight level three one zero.	
MS3	869	24	Heu..., Condor eight six nine, due to traffic, we are leaving flight level three hundred, climbing ... flight level three one zero.	
116	MS3	29	Ali one one six, descend flight level two eight zero immediately due traffic.	
MS3	116	33	Two eight zero, Alitalia one one six, leaving now.	
869	MS3	37	Condor eight six niner, traffic at your... one o'clock, six miles, descending flight level two eight zero.	
MS3	869	51	?????, Condor eight six nine is out of level three O four now, climbing flight level three one zero, the traffic three miles ahead of us, was seven hundred feet lower.	Unreadable
869	MS3	13:47:00	Roger.	
MS3	116	03	?????, Alitalia one one six.	Unreadable
MS3	869	12	And Condor eight six nine?	
869	MS3	15	Go ahead.	
MS3	869	15	Okay, was the traffic coming from Italy?	
869	MS3	21	Condor eight six niner, the traffic was cleared flight level two niner zero, he is now at your twelve o'clock, flight level two niner zero, maintaining.	
MS3	869	29	Okay, the traffic was, understood the traffic was cleared level two nine zero.	

Signature of person
in charge of transcription:

TRANSCRIPT SHEET

Occurrence: AZA116 / CFG869

Date: 9 February 2003



To Col.1	From Col.2	Time Col.3	Communications Col.4	Observations Col.5
869	MS3	13:47:33	<i>Affirm.</i>	
?	MS3	47	?????	Unreadable
MS3	869	53	<i>????? from Condor eight six nine, so the traffic..., you suppose the traffic to be at level two nine zero, but ????? to our indication, it was about level two nine nine.</i>	Unreadable
869	MS3	13:48:04	<i>Condor eight six nine..., the traffic overshooted the cleared level.</i>	
MS3	869	09	<i>????? dangerous, he was... minimum four miles from us and about hundred feet close.</i>	Unreadable
869	MS3	15	<i>I know that.</i>	
MS3	869	16	<i>We write a report, thank you.</i>	
869	MS3	19	<i>Roger.</i>	
MS3	869	31	<i>And... Condor eight six nine, can ..., just give me the callsign of the Alitalia flight?</i>	
869	MS3	36	<i>An Alitalia one one six.</i>	
MS3	869	39	<i>Thank you.</i>	
?	116	54	<i>Heu... Alitalia one one six, ????? the name of the aircraft?</i>	Unreadable
869	MS3	13:49:01	<i>Condor eight six niner, descend now flight level three zero zero.</i>	
MS3	869	06	<i>Okay, Condor eight six nine is leaving three one zero ... descending flight level three hundred again, confirm level three hundred?</i>	
869	MS3	12	<i>Condor eight six niner, affirm, flight level three zero zero.</i>	
MS3	869	17	<i>Level three zero zero, Condor eight six nine.</i>	
MS3	2296	19	Swiss Radar, Gruezi, Spanair two two niner six, passing level two two two, climbing level two six zero.	
2296	MS3	25	Spanair two two nine six, bonjour, climb flight level two seven zero.	
MS3	2296	30	Continue climb level two seven zero, Spanair two two niner six.	
MS3	116	34	Swiss, Alitalia one one six?	
116	MS3	37	Go ahead.	

Signature of person
in charge of transcription:

TRANSCRIPT SHEET

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To Col.1	From Col.2	Time Col.3	Communications Col.4	Observations Col.5
MS3	116	13:49:38	Do you confirm we overshoot... our cruise... cleared altitude.	
116	MS3	44	Alitalia one one six, on the initial contact, you were cleared flight level two niner zero.	
MS3	116	50	Copy, Alitalia one one six.	
116	MS3	54	Alitalia one one six, climb now flight level three one zero.	
MS3	116	58	Three one zero, Alitalia one one six.	
MS3	4161	13:50:01	Swiss Radar, Lufthansa four one six one, heu..., good afternoon, flight level two eight zero.	
4161	MS3	07	Lufthansa four one six one, bonjour, identified, cleared IRMAR - KINES - DITON, flight level two eight zero.	
MS3	4161	13	IRMAR - KINES - DITON, flight level two eight zero and do you have any turbulence report, Lufthansa four one six one?	
4161	MS3	18	Negative, not so far.	
MS3	4161	19	Thank you.	
116	MS3	21	Alitalia one one six, climb flight level three six zero.	
MS3	116	25	Three six zero, Alitalia one one six.	
315	MS3	30	Antinea three one five, contact Marseilles on one three three decimal four two, goodbye.	
MS3	315	35	One three three four two, three one five, good day.	
116	MS3	13:51:12	Alitalia one one six, set course direct PENDU.	
MS3	116	15	PENDU, Alitalia one one six.	
869	MS3	13:52:03	And Condor eight six niner, contact now Radar on one three three decimal zero five.	
MS3	869	13	Heu... one three three zero five for Condor eight six nine, bye.	
1639	MS3	18	KLM one six three nine, descend flight level two seven zero, fifteen hundred feet per minute or more.	
MS3	1639	24	Descending flight level two seven zero with fifteen hundred feet... per minute or more for the KLM one six three nine.	

TRANSCRIPT SHEET

Occurrence: AZA116 / CFG869

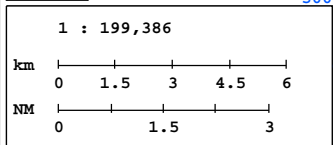
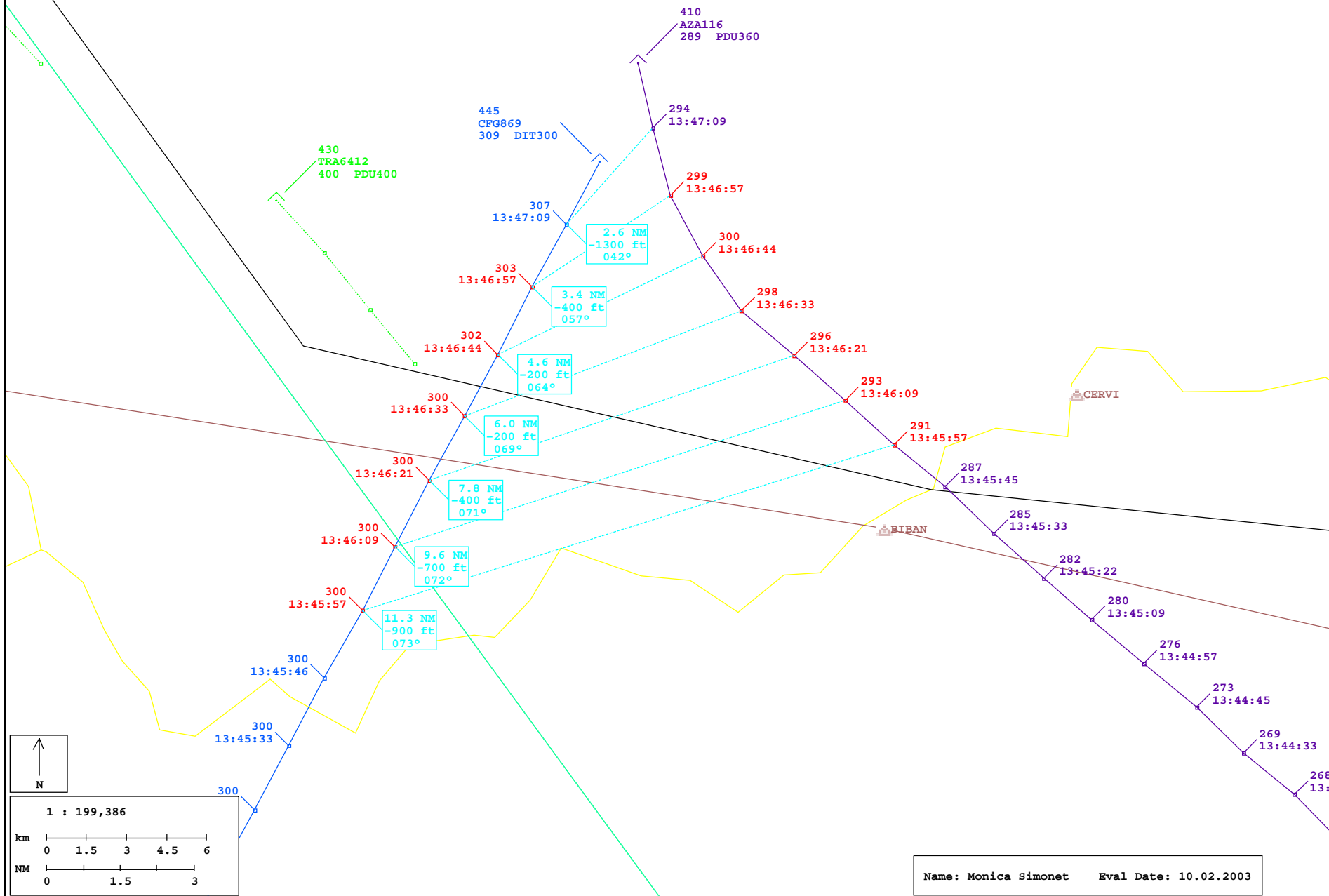
Date: 9 February 2003



To Col.1	From Col.2	Time Col.3	Communications Col.4	Observations Col.5
MS3	2296	31	Spanair two two niner six is... reaching level two seven zero.	
2296	MS3	13:52:36	Spanair two two niner six, climb flight level three zero zero.	
MS3	2296	40	Continue climb level three zero zero, Spanair two two niner six.	
MS3	869	44	And Condor eight six nine, just to confirm I was talking to Geneva Control.	
869	MS3	49	That's correct, that's Swiss Radar but that was the Geneva sectors.	
MS3	869	52	Okay Swiss Radar, thank you, bye.	
				MS3 in contact with: IBE4543 JKK2296 BPA1700
116	MS3	13:54:34	Alitalia one one six, Swiss Radar?	Coach is taking over
MS3	116	37	Go ahead.	
116	MS3	38	Just for information, we'll have to file a report because you were cleared level two niner zero, your readback was two niner zero and you're climbing up to two nine nine and we had to... turn you and to climb another traffic.... very close.	
MS3	116	52	Heu..., we'll make a report, Alitalia one one six.	
116	MS3	55	Roger.	Trainee is taking over
				MS3 in contact with: JKK2296 BPA1700 LGL3595 KLM1639 IBE4543
116	MS3	13:56:49	Alitalia one one six, contact Reims, channel one three three decimal eight three zero.	
MS3	116	55	One three three eight three zero, Alitalia one one six.	

Src
ACC
ACN

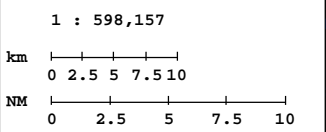
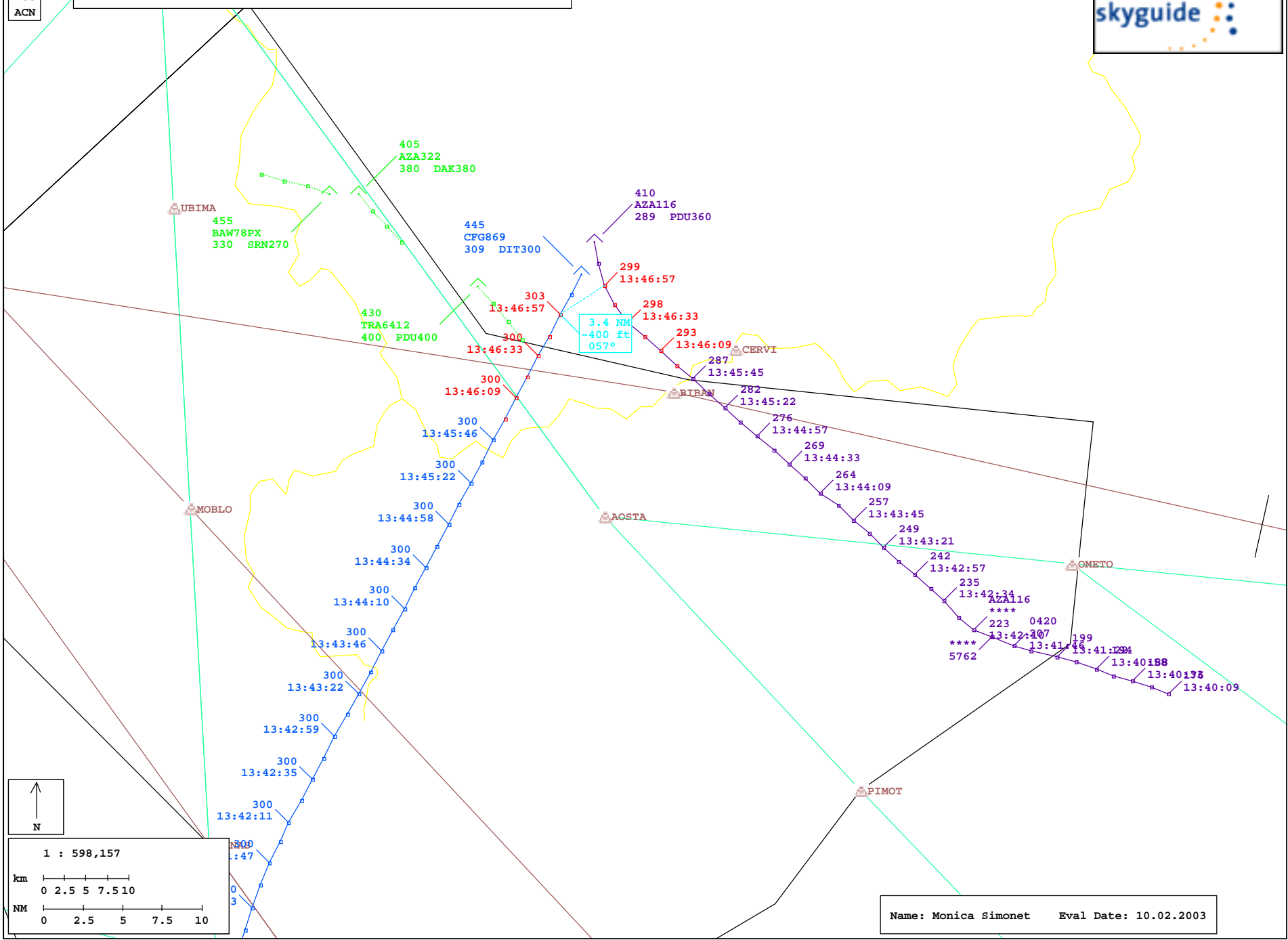
Analysis: AIRPROX AZA116 / CFG869 Time [UTC]: 09.02.2003 13:47:29



Name: Monica Simonet Eval Date: 10.02.2003

Src
ACC
ACN

Analysis: AIRPROX AZA116 / CFG869 Time [UTC]: 09.02.2003 13:47:29



Name: Monica Simonet Eval Date: 10.02.2003