

**ATTACHMENT B** to State Letter LE 4/19.12 - 96/72

**THE SHOOTING DOWN OF TWO U.S.-REGISTERED  
PRIVATE CIVIL AIRCRAFT BY CUBAN MILITARY AIRCRAFT  
ON 24 FEBRUARY 1996**

**REPORT OF THE ICAO FACT-FINDING INVESTIGATION**

**JUNE 1996**

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*Note.- Unless stated otherwise, all dates and times in this report are local time in Havana, Cuba, and local time in Miami, Florida, United States, which is Eastern Standard Time (EST). Local time in both Havana and Miami is Co-ordinated Universal Time (UTC) -5 hours.*

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## INTRODUCTION

1. The Council of ICAO, on 6 March 1996, at the tenth meeting of its 147th Session, adopted a Resolution concerning the shooting down of two United States registered private civil aircraft by Cuban military aircraft on 24 February 1996. The Council consideration was based on the request of the United Nations Security Council, in a Presidential Statement of 27 February 1996, that the International Civil Aviation Organization investigate this incident in its entirety; the request of the Government of the United States for an investigation concerning this incident; and the request of the Government of Cuba inviting the Organization to carry out an exhaustive investigation. The Resolution, *inter alia*, directed the Secretary General to immediately initiate an investigation of the incident in its entirety to determine all relevant facts and technical aspects. The Council also called upon the parties concerned to co-operate fully in the investigation.
2. Immediately following the adoption of the Resolution by the Council, an investigation team was designated. It comprised three staff members and a consultant, on a full-time basis. Other officers of the Secretariat assisted as required.
3. On 19 March 1996, letters from the Secretary General of ICAO were sent to the Governments of the United States and Cuba, requesting their co-operation in providing all relevant information as well as seeking their agreement to visits by the investigating team for this purpose. The Secretary General notified each of the two States of specific areas that would be of interest to the team. Both States agreed to the visits of the team.
4. The ICAO team visited Cuba from 24 to 31 March 1996. A series of meetings was held at the Civil Aviation Institute of Cuba. Officials of the Civil Aviation Institute, Ministry of Foreign Affairs, the National Assembly, and the Anti-Aircraft Defence Forces were in attendance. The team also visited the Havana Area Control Centre (ACC) and the civil/military co-ordination unit (Joint National Centre for Flight Planning).
5. The following were made available to the ICAO team by the authorities in Cuba: interviews with and statements by the civil and military personnel involved; interviews with and statements by witnesses; communication recordings and transcripts; details of the military interceptor aircraft and armament; all relevant Air Traffic Control (ATC) records, NOTAMs<sup>1</sup> on the activation of the danger areas north of Cuba, and details on civil/military co-ordination; interception procedures; civil and military radar plots, charts and data; details of the search and rescue effort; weather forecast and weather reports for the area north of Cuba for 24 February 1996; and details related to incursions into Cuban airspace since 1994.
6. The ICAO team visited Washington, D.C. from 2 to 4 April 1996 for meetings at the offices of the National Transportation Safety Board (NTSB) and the Federal Aviation Administration (FAA). The meetings were attended by officials of these two agencies, as well as by officials from the Department of State, Department of Defense and the United States Coast Guard.

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<sup>1</sup> Notices containing information concerning the establishment, condition or change in any aeronautical facility, service, procedure or hazard, the timely knowledge of which is essential to personnel concerned with flight operations.

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7. The team visited Miami from 14 to 19 April 1996. It visited and held meetings at the NTSB Miami office, Miami Air Route Traffic Control Center (ARTCC), Miami International Aerodrome Control Tower (TWR), Miami Automated International Flight Service Station (AIFSS), Opa Locka TWR, Miami Flight Standards District Office (FSDO) of the FAA, the offices of the Federal Bureau of Investigation (FBI) in Miami, the offices of the United States Coast Guard in Miami, the hangar facilities of the Brothers to the Rescue at Opa Locka Airport used by the three aircraft involved, Husta International Aviation at Opa Locka Airport, the Norwegian cruise ship *Majesty of the Seas*, and television station NBC Channel 6 in Miami.

8. The following were made available to the ICAO team by the authorities in the United States: interviews with the pilot and the other occupants of the aircraft which returned to Opa Locka Airport, details of previous flights in or near Cuban airspace by the Brothers to the Rescue, details of their aircraft and operations; details of observations and actions by the United States Coast Guard and Air Force; details of surface vessels in the area, their records and reports; details of the three Cessna 337 aircraft concerned, details of the crew of the three aircraft, including their licences and experience; all relevant ATC records, NOTAMs on activation of danger areas north of Cuba, flight plans, distribution of flight plans, radar information and communication recordings; radar data from the United States South East Air Defense (SEAD) sector of the North American Air Defense (NORAD) facilities in Florida; details of the search and rescue effort; weather forecast and weather reports for the Florida Straits area for 24 February 1996; details related to the use of Guantánamo Bay Naval Station by civil aircraft; and actions and NOTAMs related to the prevention of incursions into Cuban airspace.

9. Further meetings and discussions with officials from FAA and NTSB took place at ICAO in Montreal from 2 to 3 May 1996 regarding: details of observations and actions by the United States Customs related to the shoot-down, including radar data from the Customs Domestic Air Interdiction Co-ordination Center (DAICC); radar data related to the shoot-down from the Caribbean Regional Operations Center (CARIBROC) facility in southern Florida; viewing of recorded radar data related to the shoot-down from the Miami ARTCC facilities and the SEAD facilities in Florida; radar track of a P-3 Orion aircraft just north of the 24N parallel between 14:45 and 15:15 hours on 24 February 1996; and information on the status of enforcement actions by FAA related to incursions into Cuban airspace prior to 24 February 1996.

10. On 6 and 7 May 1996 meetings and discussions took place at ICAO in Montreal with officials from FAA, NTSB, and the United States Air Force regarding recorded radar data related to the shoot-down from the SEAD facilities in Florida, and the radar track of the P-3 Orion aircraft. On 9 May 1996 the ICAO team listened to a recording of the communications between the Cuban military interceptor aircraft and their ground control, as provided by the United States. The cassette containing the recording was not handed over; however, a transcript in Spanish and an English translation were made available to the ICAO team.

11. Additional information was requested, and was provided on 10 and 23 May 1996 by the authorities in Cuba regarding the flight data recorders (FDR) installed on the military interceptor aircraft and the communication between the Cuban military interceptor aircraft and their ground control. The original tape of the Cuban recording was handed over to the ICAO team on 23 May 1996.

12. Additional information was requested, and was provided on 21 May 1996 by the authorities in the United States regarding the mission of the P-3 Orion aircraft, and radar data from Naval Air Station at Key West, CARIBROC and NORAD's SEAD sector.

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13. On 3 and 4 June 1996 the ICAO team listened to the original tape of the recording by sources of the United States of the communication between the Cuban military interceptor aircraft and their ground control.

14. The information, data, material and charts provided by the authorities in Cuba and in the United States were reviewed and analyzed. The report was finalized on 19 June 1996.

## 1. FACTUAL INFORMATION

### 1.1 History of the flights

1.1.1 Pilots and supporters of the Brothers to the Rescue assembled at the hangar at Opa Locka Airport in the morning of 24 February 1996. At 09:12 hours the pilot of the Cessna 337C, N2456S, who was chief of flight operations in the Brothers to the Rescue organization, commenced filing Visual Flight Rules (VFR) flight plans with the Miami Automated International Flight Service Station (AIFSS). These flight plans were for six aircraft for a "rafter rescue flight" with a departure time of 10:15 hours. The aircraft and their registrations were: Cessna T337H, N2506; Cessna 337C, N2456S; Cessna 337B, N5485S; Cessna 337G, N108LS; Cessna 337B, N2329S; and Cessna 310J, N312MX. The routing filed was from Opa Locka Airport to 24 00N 080 25W; thence 23 30N 080 25W; 23 30N 082 45W; 24 00N 082 45W; and return to Opa Locka Airport. This routing covered flight in both Miami and Havana Flight Information Regions (FIRs). Further details were: two persons on board each aircraft; speed 120 kt at an altitude of 500 ft; estimated time en route five hours; and endurance six hours. The safety equipment carried by each aircraft was two yellow life jackets and a four-to-six person yellow life raft. The planned route would cross MUD-8, MUD-9 and MUD-14 danger areas within Havana FIR. These danger areas had been notified as active from 08:00 to 18:30 hours on 24 February 1996 by NOTAMs. Miami AIFSS verified that the chief of flight operations of the Brothers to the Rescue had checked the applicable NOTAMs. Transponder codes were assigned: N2506, 1222; N2456S, 1223; N5485S, 1224; N108LS, 1225; N2329S, 1226; and N312MX, 1227. The filing of the VFR flight plans for the six aircraft was completed by 09:29 hours. The flight plans were transmitted to Miami ARTCC and Havana ACC.

1.1.2 Owing to other commitments by some of the pilots of the Brothers to the Rescue, the intended flight did not depart at 10:15 hours as planned. The pilots returned to the hangar after 11:00 hours and agreed to have lunch before commencing the flight.

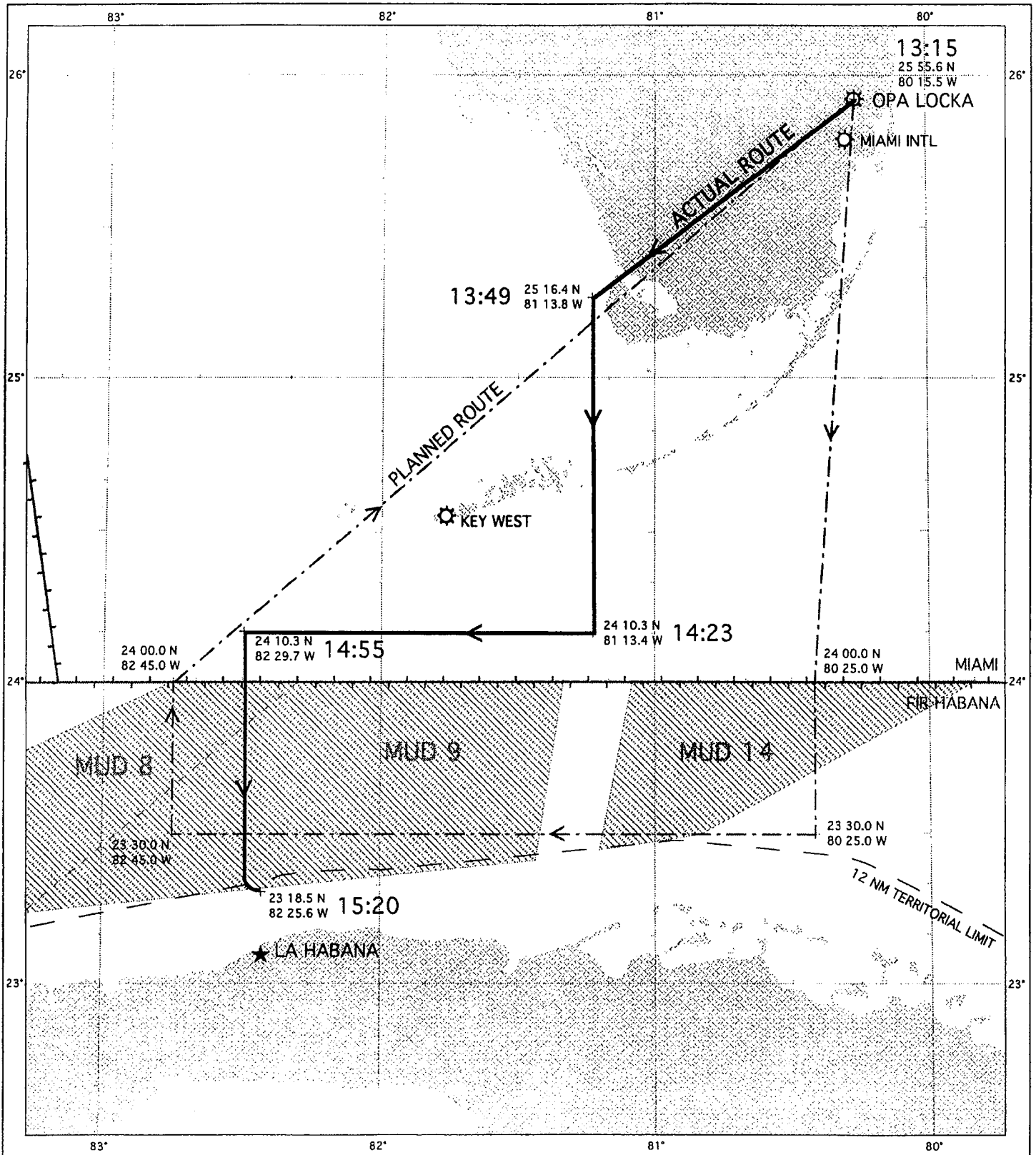
1.1.3 According to the authorities in Cuba the air defence radar detected three unidentified aircraft south of the 24N parallel, the outer boundary of the Cuban air defence identification zone (ADIZ), in the Havana FIR at 10:12 hours. These aircraft did not establish communication with Havana ACC, nor were transponder responses detected. They flew at an altitude of 500 to 1 500 m, and at a speed of 200 to 300 km/h. Between 10:16 and 10:50 hours the Cuban air defence radar showed aircraft on three occasions within the 12 NM territorial limit parallel to the Cuban coast between Havana and Varadero. At 10:34 hours Cuban Anti-Aircraft Defence interceptor aircraft took off on a patrol mission to persuade these aircraft to withdraw. These unidentified aircraft retired to the north at 11:17 hours in response to the military interceptor aircraft patrol, which was ordered to return to base at 11:30 hours.

1.1.4 At 10:40 hours Havana ACC queried Miami ARTCC on the presence of unidentified aircraft, showing no transponder responses, south of the 24N parallel and within the MUD-9 danger area. Miami ARTCC replied eight minutes later:

"We checked with the Coast Guard and we checked with everyone that we know and no one knows of any aircraft that they own down there."

1.1.5 At 11:47 hours the Brothers to the Rescue amended three flight plans and allowed the remaining three to expire. A new departure time of 12:30 hours was given for N2506, N2456S and





AIS/MAP 07/6/96

Chart 1 - Planned and actual routes of the three Cessna aircraft

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N5485S. Additionally, the number of persons on board N2506 was revised to four, with four life jackets, whilst three orange smoke generators were added to the equipment carried by N5485S. The routing given in the revised flight plans was not changed. These three revised flight plans were transmitted to Miami ARTCC and Havana ACC.

1.1.6 According to the authorities in the United States, their radar recorded Cuban military aircraft activity north of Havana between 12:15 and 12:45 hours. According to the authorities in Cuba, there was no such activity at that time.

1.1.7 At 13:01 hours the three Cessna 337 aircraft (N2506, N2456S and N5485S) taxied from the Brothers to the Rescue hangar for take-off. At 13:07 hours Opa Locka TWR reported to Miami ARTCC, in response to an earlier request for information on Brothers to the Rescue activity, that these three Brothers to the Rescue aircraft had taxied out for departure. The three aircraft departed runway 09L westbound at 13:11, 13:12 and 13:13 hours. At 13:14 hours Opa Locka TWR was asked by Miami ARTCC if any of the Brothers to the Rescue aircraft were airborne. Opa Locka TWR responded that the three Brothers to the Rescue aircraft had departed and were at that time westbound, just north of Opa Locka. Opa Locka TWR was requested to inform Miami ARTCC if any more Brothers to the Rescue aircraft were to depart.

1.1.8 Miami AIFSS (call sign Miami Radio) was contacted by each of the three Cessna aircraft after take-off, to activate their VFR flight plans. Activation of the flight plans was completed by 13:24 hours. Miami AIFSS transmitted departure messages for N5485S and N2506 to Miami ARTCC and Havana ACC. No departure message for N2456S was sent due to an operator error.

1.1.9 The three Cessna aircraft had arranged to be in contact with each other on VHF frequency 122.75 MHz. Routine arrangements had been made for the Brothers to the Rescue Opa Locka base to monitor the flight using VHF radio with a repeater or HF radio. The internal call signs of the three aircraft were: Seagull One (N2506), Seagull Charlie (N2456S) and Seagull Mike (N5485S).

1.1.10 The three Cessna aircraft did not follow the route given in the VFR flight plans. As recorded by United States air defence radar, the three aircraft proceeded initially west, then southwest reaching 25 16.4N 081 13.8W at 13:49 hours, then south to 24 10.3N 081 13.4W, and turning at 14:23 hours to the west along the 24 10N parallel. The aircraft were reported to have maintained visual contact with each other. At 14:50 hours the three Cessna aircraft passed at position 24 09N 082 17W an opposite direction United States Navy P-3 Orion, which was at an altitude of approximately 900 ft.

1.1.11 At 14:39 hours Cuban air defence radar detected aircraft north of the 24N parallel. The aircraft exhibited transponder codes normally allocated to VFR flights. Two military interceptor aircraft at San Antonio de los Baños air base were brought to immediate readiness at 14:43 hours. The interceptors were armed with air-to-air, heat seeking missiles and cannon. These aircraft, a two seat MiG-29 UB and a MiG-23 ML took off at 14:55 hours to patrol 15 to 20 km north of the coast at altitudes between 200 and 500 m.

1.1.12 At 14:55 hours the three Cessna aircraft were recorded by United States defence radar at position 24 10N 082 30W, when they turned south following approximately 082 30W.

1.1.13 Cuban air defence radar reported aircraft 12 NM south of the 24N parallel at 15:00 hours. The radar record showed one aircraft (N2456S) in position 23 48N 082 02W and two other aircraft crossing the 24N parallel at 082 20W (N5485S) and 082 24W (N2506), at approximately 15:00 hours.

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1.1.14 The three aircraft called Havana ACC on 133.7 MHz, prior to crossing the 24N parallel into the Havana FIR. N5485S called Havana at 14:56 hours. After establishing contact the following message was passed to Havana (in Spanish):

"November five four eight five good morning we are crossing parallel twenty four ... at this moment and will remain in this area for approximately five hours."

When asked for its transponder code, N5485S replied with 1224, and when asked for the area of operation, N5485S replied:

"Well that information is in our flight plan." (Translation from Spanish)

1.1.15 N2456S called Havana ACC at 14:57 hours, gave its transponder code 1223 and indicated crossing the 24N parallel in five minutes.

1.1.16 After N2456S, N2506 also called Havana ACC at 14:57 hours and transmitted the following message:

"Good afternoon Havana Centre. Greetings from November two five zero six. Please we should be crossing parallel twenty four in about five minutes and staying in your area for about three to four hours transponder code one two two two, at five hundred feet or more." (Translation from Spanish)

After acknowledgement by Havana ACC, N2506 proceeded:

"Thanks ... for your information, Havana Centre, we're today on a flight plan to the north of Havana, so we will be in your area and in contact with you. Brothers to the Rescue and myself, president of the organization, José Basulto, send you warm greetings." (Translation from Spanish)

Havana ACC replied:

"Roger. Sir, we inform you that the area north of Havana is activated; you are taking a risk by flying south of twenty four." (Translation from Spanish)

N2506 responded at 14:58 hours:

"We know that we are in danger each time that we fly into the area south of twenty four, but we are ready to do so as free Cubans." (Translation from Spanish)

Havana ACC acknowledged the transmission.

1.1.17 According to the pilot of N2506, the three aircraft continued south following approximately 082 30W. The intent was for N2456S to turn east on 23 35N, for N5485S to turn east on 23 30N, and for N2506 to turn east on 23 25N. The easterly track was to be maintained to the Cay Sal Bank between 080 25W and 080 00W, from where they intended to return to Opa Locka.

1.1.18 There was also maritime traffic in the sea area north of Havana. At 15:00 hours the Royal Caribbean Cruise Lines ship *Majesty of the Seas* was in position 23 29.0N 082 40.8W, heading

069°T, at a speed of 14 kt, towards the port of Miami. The *Majesty of the Seas* had an automatic system which recorded time, position, speed, heading, relative wind and depth every 5 minutes from its Global Positioning System (GPS) and other sensors.

1.1.19 Another vessel, a tuna fishing boat, the *Tri-Liner*, was east of the *Majesty of the Seas*. The bridge watchkeeping staff of the cruise ship were paying particular attention to the relative position of the fishing boat since it was observed to be on a collision course with the cruise ship. The *Tri-Liner* was maintaining a northerly course, at 7 to 8 kt, towards Key West. The *Tri-Liner* was equipped with a GPS for navigation but the crew kept no running log of position.

1.1.20 A sailing boat was also in the area. This boat was proceeding from 23 05.4N 082 30.6W, which it had passed at approximately 11:00 hours, maintaining a track of 044°T towards 23 44.0N 081 49.5W, at a speed of 6 kt, under the control of an autopilot coupled to a GPS. The yachtman did not keep a running log of position.

1.1.21 Between 14:55 and 15:11 hours the Cuban military interceptors were vectored in response to various air defence radar contacts, one of which they reported to be a large ship. At 15:11 hours vectors were given to a contact 30 km north of Baracoa and the MiG-23 was ordered to activate its airborne radar. A further air defence radar contact was reported 25 km north of Santa Fe. The MiG-29 reported visual contact with an aircraft at 15:17 hours. The MiG-23 then moved west of Baracoa to stay clear of the area, and took no further active part in the interception.

1.1.22 The United States air defence radar record showed that N5485S reached its southernmost position of 23 25.1N 082 29.7W at 15:17 hours. The Cuban radar record showed that N5485S entered Cuban territorial airspace at 15:18 hours at position 23 21N 082 25W.

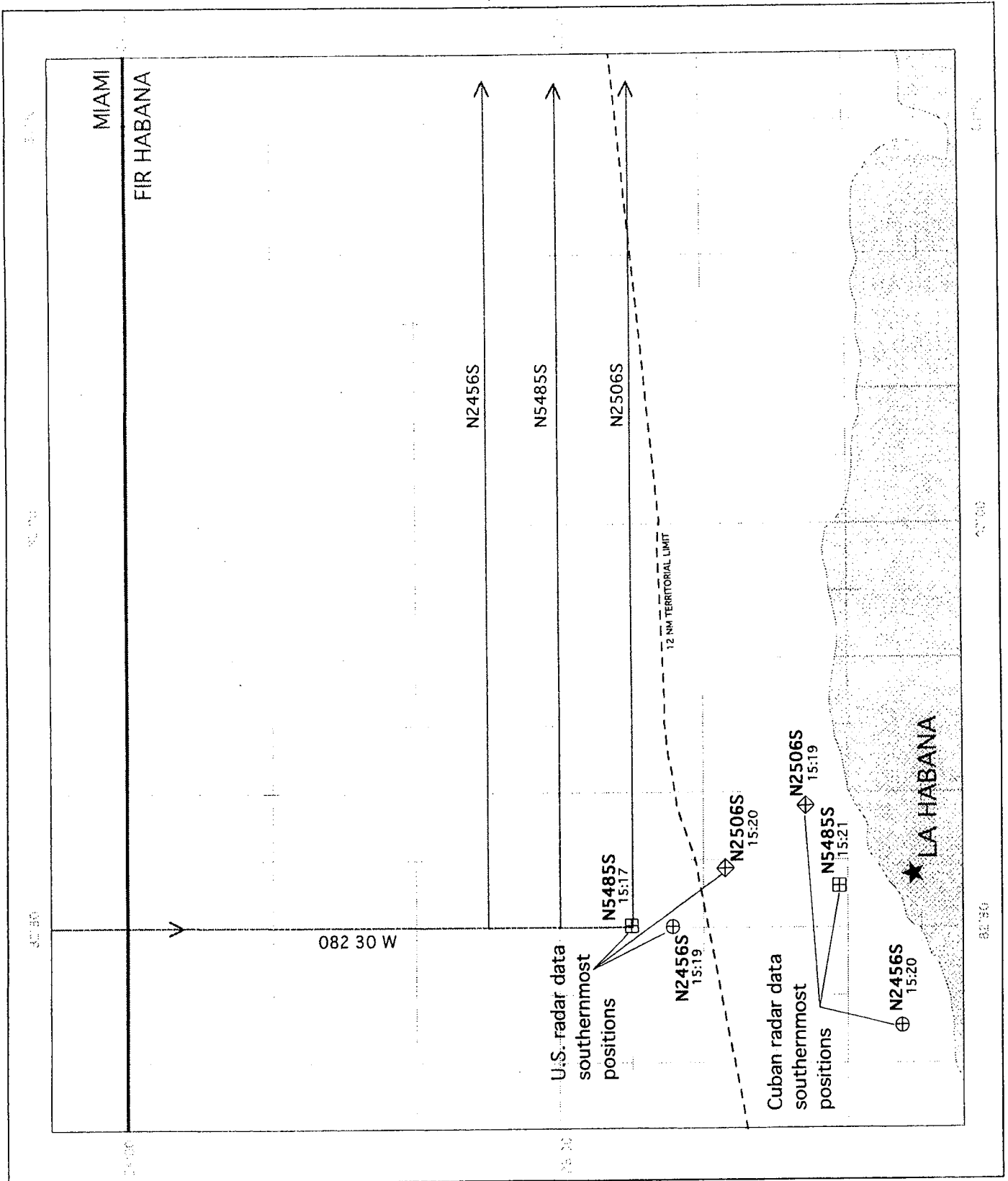
1.1.23 At 15:18 hours the pilot of N5485S (Seagull Mike) informed the other Cessna aircraft of his position:

"Mike is twenty three twenty eight, eighty two twenty nine do you want me to wait for you here?"

1.1.24 From 15:17 to 15:21 hours the MiG-29 manoeuvred under the instructions of the ground control and based on its own visual sighting of the aircraft (N2456S). The ground control requested identification of the aircraft by type, colour and registration.

1.1.25 As the MiG-29 was manoeuvring to intercept the aircraft it had in sight (N2456S), N2506 commenced a further exchange with Havana ACC on 133.7 MHz:

Time	Station	Transmission (Translation from Spanish)
15:20:27	N2506	Havana Centre November two five zero six
15:20:29	Havana	November two five zero six Havana
15:20:31	N2506	Warm greetings. We report to you from twelve miles from Havana and proceed on our search and rescue course to the east. It's a beautiful day today and Havana looks just fine from up here. Cordial greetings to you and to all the people of Cuba from Brothers to the Rescue.
15:20:50	Havana	Havana roger.



AIS-MAP 07/6/96R

Chart 2 - Intended search tracks for the three Cessna aircraft and their southernmost positions according to Cuban and U.S. radar data.

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1.1.26 A recording made onboard N2506 of the intercom in that aircraft and of radio communications showed at 15:21 hours that the occupants of N2506 had noticed a Cuban MiG in the area. At 15:22 hours the pilot of N5485S informed N2506 that there was a MiG in the air.

1.1.27 The pilot of the MiG-29 reported to the ground control that he was going to make a warning pass on a blue and white Cessna 337 (N2456S). According to the pilot of the MiG-29, the warning pass was carried out by moving forward to the left of the Cessna and turning sharply to the right above and ahead of the aircraft, but the Cessna paid no attention to the pass and continued towards Havana at an altitude of 270 m. As the MiG-29 again approached it from behind, ground control authorized the destruction of the Cessna and the MiG-29 fired a missile from a position on the right quarter of N2456S, at a range of 2 to 2.5 km. The missile exploded on impact or in close proximity to N2456S. The Cessna was destroyed.

1.1.28 According to United States radar records, N2456S reached its southernmost position of 23 22.2N 082 30.0W at 15:19 hours, then turned north and continued north until it disappeared from radar at 15:22 hours at position 23 25.8N 082 25.6W.

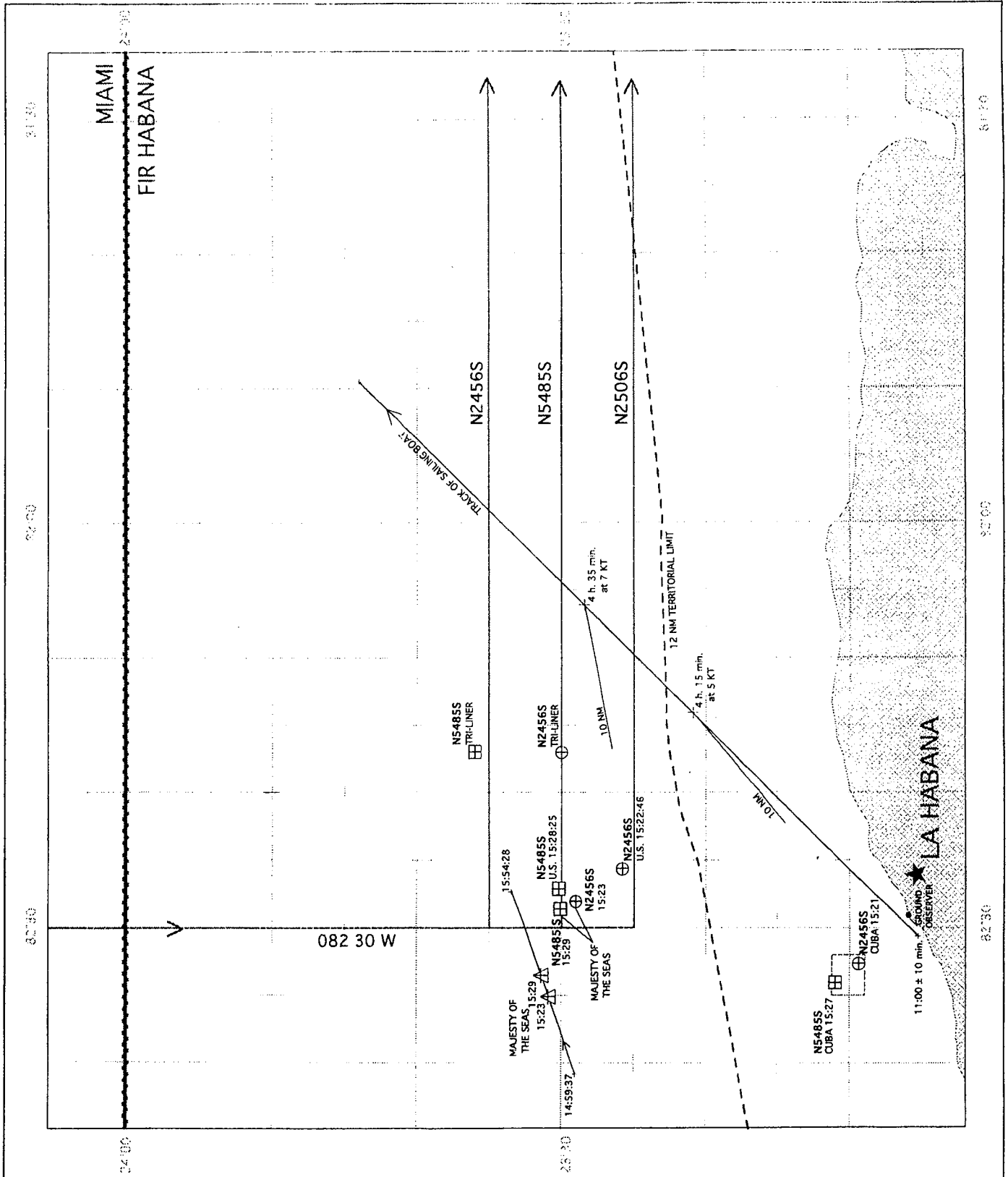
1.1.29 As derived from Cuban air defence radar sources and attested by a Cuban official, N2456S was destroyed at about 15:21 hours at position 23 09.4N 082 32.6W. Records from Cuban air defence radar stations show this aircraft to have entered the Cuban territorial airspace at 15:08 hours prior to its destruction 5NM north of Baracoa.

1.1.30 There were several eyewitnesses to the event. Personnel and passengers on board the *Majesty of the Seas* and the crew of the fishing boat *Tri-Liner* observed the destruction of an aircraft (N2456S) as well as the later destruction of another aircraft (N5485S). An observer on duty in an observation post on shore in Havana and the yachtsman on the sailing boat heard and saw one event, but neither of them was able to tell whether he saw the destruction of the first or the second aircraft.

1.1.31 The watchkeeping staff on the bridge of the *Majesty of the Seas*, at 15:23 hours in position 23 30.9N 082 35.1W, observed an explosion in the air at a height of 500 to 1 000 ft, on a bearing of 115°T, distance 6 to 7 NM. Debris was observed to fall into the sea beyond the fishing boat *Tri-Liner*, which they had been monitoring. The location was established as 23 29N 082 28W, based upon the position of the ship and the bearing and radar distance of the fishing boat. The *Majesty of the Seas* observed the fishing boat turn and head towards the impact position of the debris. Shortly thereafter the fishing boat was seen to resume its northerly course. A number of passengers and other crew members also saw the explosion and the falling debris. The occurrence was recorded in the ship's log.

1.1.32 A crewman of the *Tri-Liner* heard and saw an explosion directly overhead, and called the master, who was below deck. Both observed an aircraft on fire tumbling into the water 200 to 400 yards astern of their vessel. A military type aircraft was also seen. The fishing boat turned around, approached the impact position, and observed some small debris and an oil slick. A 1.5 ft square orange-coloured box or float, with a yellow line attached, was seen but not recovered. The boat remained on the scene for about ten minutes; no other items came to the surface. The *Tri-Liner* then resumed its course to the north. The master later estimated the time of the explosion as 15:15 hours and the position as 23 30N 082 17W.

1.1.33 The yachtsman on the sailing boat observed a military aircraft flying over his boat at about 15:00 hours and saw it again 8 to 10 minutes later, some 3 to 4 NM astern. Shortly thereafter he heard a double explosion and observed a falling object trailing smoke, but no impact splash, about



AIS/MAP 07/6/96

Chart 3 - Positions of the shoot-down of N2456S and N5485S according to Cuban and U.S. radar data, the Majesty of the Seas and the Tri-Liner.

20 degrees from directly astern, on the port side. He later estimated the position of his boat at the time to have been between 23 19.6N 082 15.3W and 23 22.6N 082 12.3W. Based on his observations he estimated the position of the impact site to have been not more than 10 NM from his boat and between 23 18.0N 082 19.3W and 23 22.5N 082 16.0W. The yachtsman neither saw nor heard another event and was unable to tell whether he had observed the destruction of the first or the second aircraft.

1.1.34 An observer on duty at an observation post west of Nautico (23 06N 082 29W) in Havana stated that he had been advised at 15:15 hours of the presence of intruding aircraft in Cuban territorial airspace. Whilst carrying out a visual search to seaward, with the aid of anti-aircraft binoculars, he saw a military aircraft and, shortly after, an aircraft in flames falling into the sea at a distance estimated as 5 to 6 NM northwest of his position. The observer neither saw nor heard another event and was unable to tell whether he had observed the destruction of the first or the second aircraft.

1.1.35 The occupants onboard N2506 and N5485S saw what they described as a flare with a parachute. Both aircraft attempted to contact N2456S by VHF radio without success.

1.1.36 Immediately after the destruction of N2456S, Cuban air defence ground control dispatched a search and rescue (SAR) helicopter to the area of impact.

1.1.37 During the next few minutes the *Tri-Liner* remained in the area of impact. The *Majesty of the Seas* continued on its heading of 069°T at 14 kt and the sailing boat continued tracking 044°T.

1.1.38 According to United States air defence radar sources, N2506 reached its southernmost position of 23 18.6N 082 25.6W (about 1.5 NM inside Cuban territorial airspace) at 15:20 hours, after which the aircraft turned towards the northeast. For the next six minutes N2506 maintained this heading. Cuban radar records showed that N2506 was within Cuban territorial airspace from 15:15 to 15:23 hours and reached its southernmost position 4 NM from the coast north of Havana. The pilot of N2506 stated that he did not enter Cuban territorial airspace on this flight.

1.1.39 Between 15:22 and 15:27 hours N2506 and N5485S continued their attempts to contact N2456S.

1.1.40 After the shoot-down of N2456S, the MiG-29 had been instructed to climb to 4 000 m and remain in the area. At 15:24 hours the pilot of the MiG-29 reported that he had another aircraft in sight. For the next three minutes the MiG-29 manoeuvred in pursuit of this aircraft (N5485S). According to the pilot of the MiG-29 he made a similar warning pass on this Cessna, turning sharply above and ahead of the Cessna from the left, but the Cessna paid no attention to the pass. At 15:25 hours the pilot of the MiG-29 was authorized to destroy the second Cessna. He later stated that it was on a heading towards Havana when he fired a missile from a position on its right rear quarter. The missile destroyed the second Cessna. The Cuban SAR helicopter was re-directed to the second impact site.

1.1.41 The second Cessna (N5485S) disappeared from the Cuban air defence radar between 15:25 and 15:27 hours at position 23 11.0N 082 34.1W, 6 NM off the coast of Havana. The time and position derived from United States radar sources was 15:28 hours, position 23 30.2N 082 27.1W.

1.1.42 The second shoot-down was witnessed by several crew members and passengers on board the *Majesty of the Seas*, and by the crew of the *Tri-Liner*. The observer on shore in Havana and the yachtsman heard and saw one event, but neither of them was able to tell whether it was the destruction of the first or the second aircraft.



1.1.43 The watchkeeping staff on the bridge and many of the passengers and other crew members on the weather decks of the *Majesty of the Seas* saw a small aircraft circling in an area to the east. According to the ship's log, at 15:27 hours the small aircraft approached from the starboard side heading north; it turned towards the ship for about a minute before turning north again. At 15:29 hours, when the aircraft was on a bearing of 095°T at a distance of 4 to 5 NM, a military aircraft appeared high up on the starboard side of the ship, and was observed to fire a missile. Seconds later the missile struck the small aircraft which was destroyed. Some wreckage was observed to burn for about half a minute before sinking. At this time the ship was at position 23 31.4N 082 33.5W. The estimated position of the impact of the wreckage with the water was 23 30.1N 082 28.6W. At 15:45 hours, when the ship was in position 23 32.6N 082 29.7W, at its closest point to the impact site, a thin oil slick was observed extending from a bearing of 150°T to 170°T, at a distance of 2 to 3 NM.

1.1.44 The crew of the fishing boat *Tri-Liner*, which had just resumed its course to the north, observed a small aircraft circling in the vicinity of their boat. As the aircraft was to the north of the *Tri-Liner*, they observed a military aircraft approach it from behind and fire a missile. The aircraft exploded in a large fireball before impacting the water. The military aircraft was observed to leave the area. The master later estimated the position of the impact as 23 36N 082 17 W. The *Tri-Liner* did not approach the second impact site. The crew observed a white cruise ship and estimated that the impact was 3 to 5 NM in front of that ship. The *Tri-Liner* later reported both occurrences to the United States Coast Guard.

1.1.45 The occupants of N2506 observed a flare and a ball of smoke at 15:28 hours. Subsequently, N2506 called both N5485S and N2456S without success. The pilot decided to leave the area, and he stated that he switched off the transponder and sought cover in scattered clouds. The Cuban radar record showed this aircraft tracking to the north and crossing the 24N parallel northbound at 15:42 hours at 082 25W. The United States radar record also showed a northerly progress; it showed no transponder return for N2506 from 15:33 hours in position 23 41.7N 082 26.0W to 15:42 hours in position 24 02.6N 082 32.2W. This record also showed that N2506 was at a very low altitude until the loss of transponder returns at 15:33 hours; was at 2 900 ft when the transponder returns were again received from 15:42 hours; and was at position 24 13N 082 35W at 15:46 hours.

1.1.46 Subsequent to the destruction of the second Cessna, the MiG-29 and the MiG-23 returned to base, and landed at 15:36 and 15:38 hours, respectively.

1.1.47 At 15:31 hours a second pair of Cuban military interceptor aircraft was launched to pursue a radar contact east of Havana and north of Bejucal. At 15:40 hours the interceptors were directed to fly north from a position 5 kilometres north of Santa Cruz in pursuit of a radar contact. At 15:45 hours the interceptors reported seeing a light blue and white Cessna 337 but were unable to read the registration. This aircraft was reported to be at an altitude of approximately 2 000 m. At 15:51 hours the interceptors were instructed to discontinue the mission. According to the authorities in Cuba, the reason was that the contact was then outside Cuban territorial airspace and withdrawing to the northeast. United States radar sources indicated that this search was in the area of 23 35N 082 58W, and did not show any radar contact in that area other than the Cuban interceptors. At the time of this search N2506 was tracking well to the north and was at 15:46 hours, according to both the Cuban and the United States radar records, some 40 NM northwest of the Cuban interceptors.

1.1.48 N2506 called Miami AIFSS at 15:46 hours and reported the possible loss of two aircraft, N2456S and N5485S, 20 to 25 NM north of Havana. N2506 also reported the presence of Cuban MiGs in that area. At 16:00 hours Miami AIFSS transmitted a telephone number (FAA Operations Center,

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Washington, D.C.) for the pilot of N2506 to call upon landing. Miami AIFSS also enquired whether N2506 could land at Key West and call Miami AIFSS. At 16:11 hours N2506 was again in contact with Miami AIFSS and advised that he intended to proceed to Opa Locka Airport instead of landing at Key West, which he reported to have in sight at that time. At 16:14 hours Miami AIFSS offered navigational assistance because N2506 had been observed on radar to have looped well to the west, before resuming a heading towards South Florida. N2506 declined the assistance.

1.1.49 Between 16:18 and 16:25 hours N2506 was in contact with the approach facility at the United States Naval Air Station at Key West. The pilot reported the possible loss of two aircraft, advised that he had reported this to Miami AIFSS already, and informed of his intent to proceed to Opa Locka Airport.

1.1.50 N2506 landed at Opa Locka Airport at 17:08 hours. The pilot was subsequently interviewed by representatives of several United States Government agencies, including Customs, FAA, Coast Guard, and FBI.

## 1.2 Injuries to persons

1.2.1 The pilot and the three other occupants of the Cessna T337H, N2506, returned to Opa Locka Airport, and were not injured. The four occupants were citizens of the United States.

1.2.2 The pilot and the other occupant of the Cessna 337C, N2456S, are missing and presumed fatally injured. The pilot was a citizen of the United States, and the other occupant was a legal resident of the United States.

1.2.3 The pilot and the other occupant of the Cessna 337B, N5485S, are missing and presumed fatally injured. Both occupants were citizens of the United States.

## 1.3 Damage to aircraft

1.3.1 The Cessna 337C, N2456S, and the Cessna 337B, N5485S, were each destroyed by one air-to-air missile fired from a Cuban MiG-29 military aircraft. Both Cessna aircraft broke up in the air from the explosions of the missiles, the wreckage impacted the sea and sank.

## 1.4 Other damage

1.4.1 There was no other damage.

## 1.5 Personnel information

### 1.5.1 Pilot of the Cessna T337H, N2506

1.5.1.1 The pilot of the Cessna T337H, N2506, was qualified in accordance with existing United States Federal Aviation Regulations (FAR). The pilot, male, 55 years of age, held a commercial pilot licence No. 2122405 issued 14 May 1980, with ratings for aeroplane single-engine land, aeroplane multi-engine land and instrument aeroplane. He held a valid second class medical certificate issued 22 March 1995. His total flying experience was about 3 000 hours, of which about 500 hours were in Cessna 337 aircraft.

**1.5.2 Pilot of the Cessna 337C, N2456S**

1.5.2.1 The pilot of the Cessna 337C, N2456S, was qualified in accordance with existing United States FARs. The pilot, male, 29 years of age, held a commercial pilot licence No. 590012404 issued 2 June 1992, and a flight instructor certificate issued 26 June 1992, both with ratings for aeroplane single-engine land, aeroplane multi-engine land and instrument aeroplane. He held a valid first class medical certificate issued 13 September 1995. His total flying experience was about 800 hours, of which about 400 hours were in Cessna 337 aircraft.

**1.5.3 Pilot of the Cessna 337B, N5485S**

1.5.3.1 The pilot of the Cessna 337B, N5485S, was qualified in accordance with existing United States FARs. The pilot, male, 24 years of age, held a commercial pilot licence No. 595668753 issued 20 June 1994, with ratings for aeroplane single-engine land, aeroplane multi-engine land and instrument aeroplane. He also held certificates for ground instructor-basic issued 14 February 1995, flight instructor (aeroplane single-engine land) issued 12 May 1995, and mechanic-airframe issued 24 August 1990. He held a valid first class medical certificate issued 8 June 1995. His total flying experience was about 700 hours, of which about 250 hours were in Cessna 337 aircraft.

**1.5.4 Pilot of the MiG-29**

1.5.4.1 The pilot of the MiG-29 was qualified in accordance with existing Cuban Anti-Aircraft Defence/Air Force regulations. The pilot, male, 44 years of age, held the rank of Lieutenant Colonel. His total flying experience was over 1 000 hours, of which about 500 hours were in MiG-29 aircraft. He had been flying MiG aircraft for 19 years and had participated in three international assignments, including 74 combat missions.

**1.5.5 Co-pilot of the MiG-29**

1.5.5.1 The co-pilot of the MiG-29 was qualified in accordance with existing Cuban Anti-Aircraft Defence/Air Force regulations. The co-pilot, male, 44 years of age, held the rank of Lieutenant Colonel. His total flying experience was over 1 800 hours. He had been flying for 26 years and had participated in international assignments, including over 30 combat missions.

**1.5.6 Pilot of the MiG-23**

1.5.6.1 The pilot of the MiG-23 was qualified in accordance with existing Cuban Anti-Aircraft Defence/Air Force regulations. The pilot, male, 35 years of age, held the rank of Major. His total flying experience was over 800 hours. He had been flying MiG aircraft for 15 years, and had participated in two international assignments, including some combat missions.

**1.6 Aircraft information**

**1.6.1 General information on Cessna 337**

1.6.1.1 The Cessna 337 is an all-metal four/six-seat business aircraft powered by two reciprocating engines, each driving a two-blade fully-feathering constant speed metal propeller. The front engine is arranged as tractor, and the rear engine as pusher. The tail unit consists of twin fins and rudders carried on two slim metal booms. Maximum certified take-off mass is 2 100 kg (4 630 lb).

1.6.1.2 The prototype (Cessna 336) flew for the first time in 1961, and FAA Type Approval was received in May 1962. In February 1965 the Cessna 336 was superseded by the model 337. Production was terminated in 1980. A total of 2 386 model 336/337 were built by Cessna, and 94 model 337 by Reims Aviation, France.

1.6.1.3 The turbo model (Cessna T337) is similar to the 337 model, but is powered by two turbocharged engines.

1.6.2 **Details of N2506, N2456S and N5485S**

Nationality and registration marks	N2506	N2456S	N5485S
Aircraft model	Cessna T337H	Cessna 337C	Cessna 337B
Year of manufacture	1978	1967	1967
Serial number	337-01871	337-0756	337-0585
Owner (purchase date)	Brothers to the Rescue Inc. (17 August 1993)	Brothers to the Rescue Inc. (29 April 1994)	Pipe Air Inc. (13 December 1993)
Certificate of Airworthiness (date of issue)	Valid (17 March 1994)	Valid (8 November 1967)	Valid (20 May 1992)
Engine type (number of)	Continental TSIO-360 SER (2)	Continental IO-360-C (2)	Continental IO-360-C (2)
Total flying time (date as of)	1 217.7 hours (17 March 1994)	3 239.0 hours (29 April 1994)	3 486.5 hours (18 January 1994)

1.6.3 **Avionics and modifications to the Cessna T337H, N2506**

1.6.3.1 The avionics on N2506 were mounted in the instrument panel in accordance with Cessna factory recommendations. The order from top to bottom was: audio panel KMA 20, Garmin GPS-100, NAV COM KX155 with glide slope KI-209 indicator, NAV COM KX155 with KI-208 indicator, KR870 ADF with KI-227, KN-64 DME, and KT-76A transponder. On the left side instrument panel was a radio altimeter. On the right side instrument panel was a Chaddin fuel totalizer. On the left console below the control column and light switches were two HF/FM communication systems.

1.6.3.2 The major modifications on N2506 consisted of installation of a short take-off and landing (STOL) kit (30 June 1992); removal of the aft main landing gear doors and installation of fixed panels (7 January 1993); installation of HF/FM communication systems (16 March 1994); installation of wind

deflectors and video camera (20 May 1994); removal of video camera and wind deflectors, and reinstallation of upper half of passenger entry door (14 June 1994).

#### 1.6.4 **Avionics and modifications to the Cessna 337C, N2456S**

1.6.4.1 The avionics on N2456S were mounted in the instrument panel in accordance with Cessna factory recommendations. The order from top to bottom was: Garmin GPS-100, audio panel KMA 20, NAV COM KX155 with glide slope KI-208 indicator, KR85 ADF, and KT-76A transponder. Instead of the left rear seat, a radio rack was installed with two non-pilot operated HF/FM communication systems.

1.6.4.2 The major modifications on N2456S consisted of installation of HF/FM communication systems (10 March 1994); installation of leading edge cuffs, stall fence and vortex generators on rear engine (3 August 1994); replacing the entry door (P/N 1517080-1) and installation of wind deflector on the new door (10 August 1994).

#### 1.6.5 **Avionics and modifications to the Cessna 337B, N5485S**

1.6.5.1 The avionics on N5485S were mounted in the instrument panel in accordance with Cessna factory recommendations. The order from top to bottom was: Garmin GPS-100, audio panel KMA 20, NAV COM KX155 with glide slope KI-209 indicator, NAV COM KX170B, KR85 ADF, and KT-76A transponder. Instead of the left rear seat, a radio rack was installed with two non-pilot operated HF/FM communication systems.

1.6.5.2 The major modifications on N5485S consisted of installation of an anti-collision strobe light system (22 May 1969); installation of a STOL kit (19 September 1990); removal of the aft main landing gear doors and installation of fixed panels (20 May 1992); installation of HF/FM communication systems (17 December 1993); and installation of entry door and wind deflector (14 February 1994).

#### 1.6.6 **MiG-29 UB**

1.6.6.1 The MiG-29 UB is a two-seat combat trainer that has been in production since 1982. It is powered by two Tumansky R-33D turbo-fan engines. It has one 30 mm gun, infra-red sensor, laser rangefinder and underwing pylons for six close-range air-to-air missiles. Maximum speed is Mach 2.3, service ceiling 17 000 m, take-off distance 240 m and landing distance 600 m.

1.6.6.2 The Mig-29 carried six R-73 air-to-air missiles. The R-73 is a close-range solid propellant air-to-air missile with infra-red homing guidance. It has a canard configuration with small cruciform control surfaces in tandem with nose foreplanes and cruciform rear mounted wings. This configuration provides high manoeuvrability with a minimum range of under 500 m. The R-73 missile is 2.90 m long, 17 cm in diameter, has a mass of 105 kg and a maximum range of 20 km. The missile has both a contact and a proximity fuse. It has a 7.4 kg explosive charge that creates a ring shape of shrapnel that moves forward and outwards.

#### 1.6.7 **MiG-23 ML**

1.6.7.1 The MiG-23 ML is a single-seat variable geometry air combat fighter that was in production from 1973 to the mid-1980s. It is powered by one Tumansky R-35F-300 turbojet with afterburner. It has one 23 mm gun; J band multi-mode radar; head-up display; pylons for air-to-air

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missiles, bombs, rocket packs or other external stores. Maximum speed is Mach 2.35, service ceiling 18 000 m, take-off distance 500 m and landing distance 750 m.

1.7 **Meteorological information**

1.7.1 **Weather situation**

1.7.1.1 A high pressure centre (1019 hPa) located between South Florida and the Northern Bahamas dominated the weather of the Florida Straits between 07:00 and 19:00 hours on 24 February 1996. The surface winds were light (20 km/h or less) and predominantly easterly. The visibility was fair (6 km or more) and the cloud amount varied from clear to scattered (4 oktas or less), with bases of clouds between 450 and 1 050 m (1 500 and 3 500 ft). The absence of clouds of great vertical extent was confirmed by a satellite image taken by the US NOAA GOES-8 satellite at 15:45 hours on 24 February 1996.

1.7.2 **Forecast and actual weather en-route of the flight**

1.7.2.1 In the area concerned no significant weather was forecast by the Havana meteorological office and the United States Aviation Weather Centre (AWC) (Kansas City, Missouri), nor did it occur. No SIGMET<sup>2</sup> information was issued for the Florida Straits by the meteorological watch offices concerned.

1.7.2.2 The upper winds at flight level (FL) 50 and FL 100 were light, from the north-north-easterly sector at 10-20 km/h; the corresponding upper air temperatures were +15°C and +7°C, respectively.

1.7.3 **Weather observations**

1.7.3.1 The weather observation made at 15:00 hours at Havana/José Marti International Airport indicated northerly surface winds at 18 km/h, visibility of 9 km, scattered clouds (3 to 4 oktas) at 600 m (2 000 ft), air temperature 28°C, dew-point temperature 15°C and QNH 1016 hPa. The state of the sea was calm to smooth (wave height less than 0.5 m). The weather conditions as described above continued for several hours.

1.7.4 **Light conditions**

1.7.4.1 The sun rose at 06:56 hours and set at 18:30 hours.

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<sup>2</sup> SIGMET information. Information issued by a meteorological watch office concerning the occurrence or expected occurrence of specified en-route weather phenomena which may affect the safety of aircraft operations.

1.8 **Aerodrome information**

1.8.1 **Miami/Opa Locka Airport**

1.8.1.1 The three Cessna 337 aircraft departed from Miami/Opa Locka Airport (KOPF), an international aerodrome for scheduled, non-scheduled and private traffic. Customs, immigration and health services are provided from 09:00 to 17:00 hours, Monday through Saturday, with a limitation on the number of passengers (30) that can be processed by Customs.

1.8.1.2 Opa Locka Airport has four runways. Runway 09L/27R is the longest runway, 2 440 m long and 46 m wide (8 002 x 150 ft). Air traffic control service is provided, with separate controllers for ground control and aerodrome control during busy periods.

1.8.2 **San Antonio de los Baños Airport**

1.8.2.1 The MiG-29 and MiG-23 military aircraft involved in the interception operated from San Antonio de los Baños Airport, a military airport southwest of Havana.

1.9 **Air traffic services, communications and aids to navigation**

1.9.1 At 09:12 hours, Miami AIFSS received by telephone six flight plans for international flights under VFR by the following aircraft operated by the Brothers to the Rescue: Cessna T337H, N2506; Cessna 337C, N2456S; Cessna 337B, N5485S; Cessna 337G, N108LS; Cessna 337B, N2329S; and Cessna 310J, N312MX. These aircraft were planned to depart from Opa Locka Airport at 10:15 hours, with two persons on board each aircraft, for a five-hour "rafter rescue flight" and to return to Opa Locka Airport. In accordance with the Aeronautical Information Publication (AIP) United States, a flight plan was required for VFR flights penetrating a United States ADIZ; an ICAO format flight plan was required, and filed, because the flight intended to cross the Miami/Havana FIR boundary.

1.9.2 The planned route of flight was from Opa Locka Airport through Miami FIR to cross the common boundary with Havana FIR at position 24 00N 080 25W, then via 23 30N 80 25W, 23 30N 082 45W and 24 00N 082 45W back to Opa Locka Airport. Within Havana FIR this route would cross danger areas MUD-8, MUD-9 and MUD-14. The AIP Cuba stated that danger areas MUD-8 and MUD-14 extended from surface to FL 055 and danger area MUD-9 from surface to FL 900. It furthermore listed the type of restriction as air-air, surface-air and surface-surface firing for MUD-8; air drills, air-surface and surface-surface firing for MUD-9; and air and naval drills for MUD-14; their activation to be announced by NOTAM. Danger areas MUD-8, MUD-9 and MUD-14 were promulgated by the Havana International NOTAM Office (NOTAMs A0268/96, A0269/96 and A0270/96, respectively) as being active from 08:00 to 18:30 hours daily from 21 to 28 February 1996. No additional information on the type of hazard was contained in the NOTAMs.

1.9.3 Miami AIFSS verified that the pilot submitting the flight plans had checked the applicable NOTAMs, and assigned a discrete secondary surveillance radar (SSR) transponder code to each of the aircraft from the 1200 code series allocated to VFR flights. Between 09:23 and 09:28 hours the six flight plans were transmitted to Miami ARTCC and Havana ACC. None of the aircraft departed at the flight plan time of departure.

1.9.4 At 11:47 hours the flight plans for N2506, N2456S and N5485S were amended by telephone, with a revised departure time of 12:30 hours and with four persons on board N2506. New

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filed flight plan messages for the three aircraft were transmitted to Miami ARTCC and Havana ACC. At Miami ARTCC, these flight plans were used by the aircraft movement information service (AMIS) sector, for the purpose of monitoring aircraft operating in the United States ADIZ. At Havana ACC, the flight plan information was forwarded to the Joint National Centre for Flight Planning (CNCPV), the civil/military co-ordination unit for the planning and control of all flights over Cuban territory and in Havana FIR. The flight plans for the other three aircraft (N108LS, N2329S and N312MX) expired at 12:15 hours and were deleted from the Miami AIFSS computers.

1.9.5 Between 13:01 and 13:03 hours, N5485S, N2456S and N2506 called Opa Locka ground control on VHF radio frequency 121.9 MHz and received taxi clearance to runway 09L for a westbound departure. They were transferred to Opa Locka TWR (local control north position) operating on 120.7 MHz, received their clearance for take-off, and departed at 13:11 (N2506), 13:12 (N2456S) and 13:13 hours (N5485S). N5485S, N2456S and N2506 contacted Miami AIFSS (call sign Miami Radio) at 13:16, 13:18 and 13:24 hours, respectively, to activate their flight plans. Miami AIFSS requested the aircraft to verify their assigned SSR codes 1224 (N5485S), 1223 (N2456S) and 1222 (N2506). A departure message for N5485S was sent to Miami ARTCC and Havana ACC at 13:19 hours and for N2506 at 13:24 hours, but no departure message was transmitted for N2456S due to an operator error.

1.9.6 The three aircraft communicated with each other on VHF radio using frequency 122.75 MHz and also maintained radio contact with their base station (located at the hangar of the Brothers to the Rescue at Opa Locka Airport) using VHF radio with a repeater or HF radio. Navigation was by visual contact with the ground, aided by GPS. Several ground-based navigation aids, including VHF omnidirectional radio range/distance measuring equipment (VOR/DME), were available both in the United States and Cuba.

1.9.7 The actual route of flight was different from the route given in the flight plans, as the aircraft first proceeded in a southwesterly direction, then turned south towards TADPO, a reporting point on Air Traffic Services (ATS) route G448. About 10 NM north of TADPO, the aircraft proceeded in a westerly direction along the 24 10N parallel, just north of the common Miami/Havana FIR boundary and turned south at longitude 082 30W in the direction of Havana. According to the pilot of N2506, the intent was for the three aircraft to turn east and proceed on three parallel tracks (23 35N, 23 30N and 23 25N) for their search mission.

1.9.8 At 14:56 hours N5485S reported to Havana ACC on frequency 133.7 MHz crossing the 24N parallel and its intent to remain in the area for approximately five hours. At 14:57 hours N2456S and N2506 informed Havana ACC that they would cross the 24N parallel in five minutes. All three aircraft confirmed their transponder codes. N2506 indicated its intent to remain in the area north of Havana for three to four hours and to remain in contact with Havana ACC. Havana ACC informed N2506 that the danger areas north of Havana were activated and that the aircraft was taking a risk by flying south of the 24N parallel. N2506 replied, "We know that we are in danger each time we fly into the area south of twenty-four, but we are ready to do so as free Cubans." At 15:20 hours N2506 reported its position as 12 NM from Havana, and proceeding on its search and rescue course to the east.

1.9.9 At 15:46 hours, N2506 reported to Miami AIFSS that it was returning from a search and rescue mission and that radio contact with the two other Brothers to the Rescue aircraft (N5485S and N2456S) had been lost 20 to 25 NM north of Havana. N2506 reported that MiG aircraft had operated in the area, that a large ball of smoke was seen in the water at 3 NM distance, and expressed concern that it might have been one of the Brothers to the Rescue aircraft. Miami AIFSS requested the position and time of the MiG aircraft sightings, which at 15:52 hours N2506 reported as 23 30N 082 30W about



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30 minutes earlier. At 15:53 hours, Miami AIFSS requested N2506 to maintain radio contact. N2506 did not respond to several calls between 15:56 and 16:00 hours. Radio contact was re-established and at 16:01 hours Miami AIFSS asked the pilot of N2506 if he could land at Key West.

1.9.10 At 16:11 hours, N2506 reported Key West in sight and asked the reason for the request to land there. N2506 was informed that the supervisor wished to talk with him. However, N2506 indicated its intent to proceed to Opa Locka Airport. The pilot also declared an emergency concerning the two other aircraft, in view of the likelihood that they had been shot down by the MiG aircraft. Miami AIFSS replied that the authorities had been advised of the situation and asked if N2506 required any navigational assistance. N2506 declined such assistance.

1.9.11 At 16:18 hours, at a distance of 20 NM northwest of Key West, N2506 contacted Key West Approach, squawking transponder code 1222 for identification, and reported a possible emergency in regard to the two other aircraft (N5485S and N2456S) north of Havana and the presence of MiG aircraft in that area. The pilot reported that he had already informed Miami AIFSS accordingly. Radar service to N2506 by Key West Approach was terminated at 16:25 hours.

1.9.12 At 16:53 hours, as N2506 was approaching Opa Locka Airport, it cancelled its flight plan with Miami AIFSS. At 17:00 hours, N2506 received a clearance from Opa Locka TWR for a straight-in approach to runway 09L, was requested to select transponder code 1200, and to squawk ident. Upon clearance to land, N2506 landed at Opa Locka Airport at 17:08 hours and was transferred to ground control at 17:09 hours. On frequency 121.9 MHz, Opa Locka ground control requested N2506 to taxi to the customs trailer.

#### 1.10 **Interceptor control, communications and aids to navigation**

1.10.1 Cuban Anti-Aircraft Defence ground control controlled the interceptors based on information from several radar stations located in the Havana area.

1.10.2 Communications between aerodrome control, air defence ground control, and the interceptors was maintained on a UHF radio frequency. The interceptors were equipped with one twenty channel UHF/VHF radio, type 862; channels 1 to 19 were UHF and channel 20 VHF, 121.5 MHz. This equipment provided the capability of transmission and reception on one selected channel. It was not possible to select a channel for transmission and reception and to simultaneously monitor another channel. It was not possible for the two pilots in the MiG-29 to communicate simultaneously on independent channels. Communications between the interceptors, the SAR helicopters, and the ground control were exercised on channel 1 from take-off to landing.

1.10.3 The military ground control station was also equipped to communicate on the normal civil air traffic VHF frequencies, including the emergency frequency 121.5 MHz.

1.10.4 For navigation purposes the interceptors operated under the control of the military ground control station based on radar derived positional information. Positions were confirmed both visually, when in visual contact with the coast, and by use of an onboard inertial navigation system (INS). The INS provided bearing and distance from base and enabled distance from the coastline to be estimated.

1.11 **Flight recorders**

1.11.1 None of the three Cessna aircraft was equipped with a cockpit voice recorder (CVR) or a flight data recorder (FDR), nor were such recorders required by existing United States FARs.

1.11.2 According to the authorities in Cuba the MiG-29 aircraft was equipped with a Tester-UZ digital flight data recorder (DFDR). However, the data from the DFDR had not been routinely downloaded for some time, because the LUCH-71 read-out equipment was out of service due to a shortage of spare parts, and therefore the data could not be read out. The duration of the recording in the Tester-UZ recorder was three hours. In the two weeks after 24 February 1996 the MiG-29 had flown some seven hours, and therefore the recording from the flight on 24 February 1996 had been erased and recorded over with data from later flights. The MiG-29 was not equipped with a CVR.

1.11.3 The MiG-23 aircraft was equipped with a SARPP-12 GM FDR. The authorities in Cuba provided a read-out of altitude, airspeed, normal acceleration and lateral acceleration versus time for the flight between 14:55 and 15:36 hours. The MiG-23 was not equipped with a CVR.

1.12 **Wreckage and impact information**

1.12.1 The Cessna 337C, N2456S, and the Cessna 337B, N5485S, broke up in the air, the wreckage impacted the sea and sank. The wreckage had not been located by 31 May 1996. The depth of the sea is from 1 200 to 2 000 m in the area of the shoot-down.

1.12.2 According to the authorities in the United States involved in the search and rescue effort some floating debris and two oil slicks were spotted in the hours after the shoot-down. However, no debris was later found floating, nor was any debris recovered.

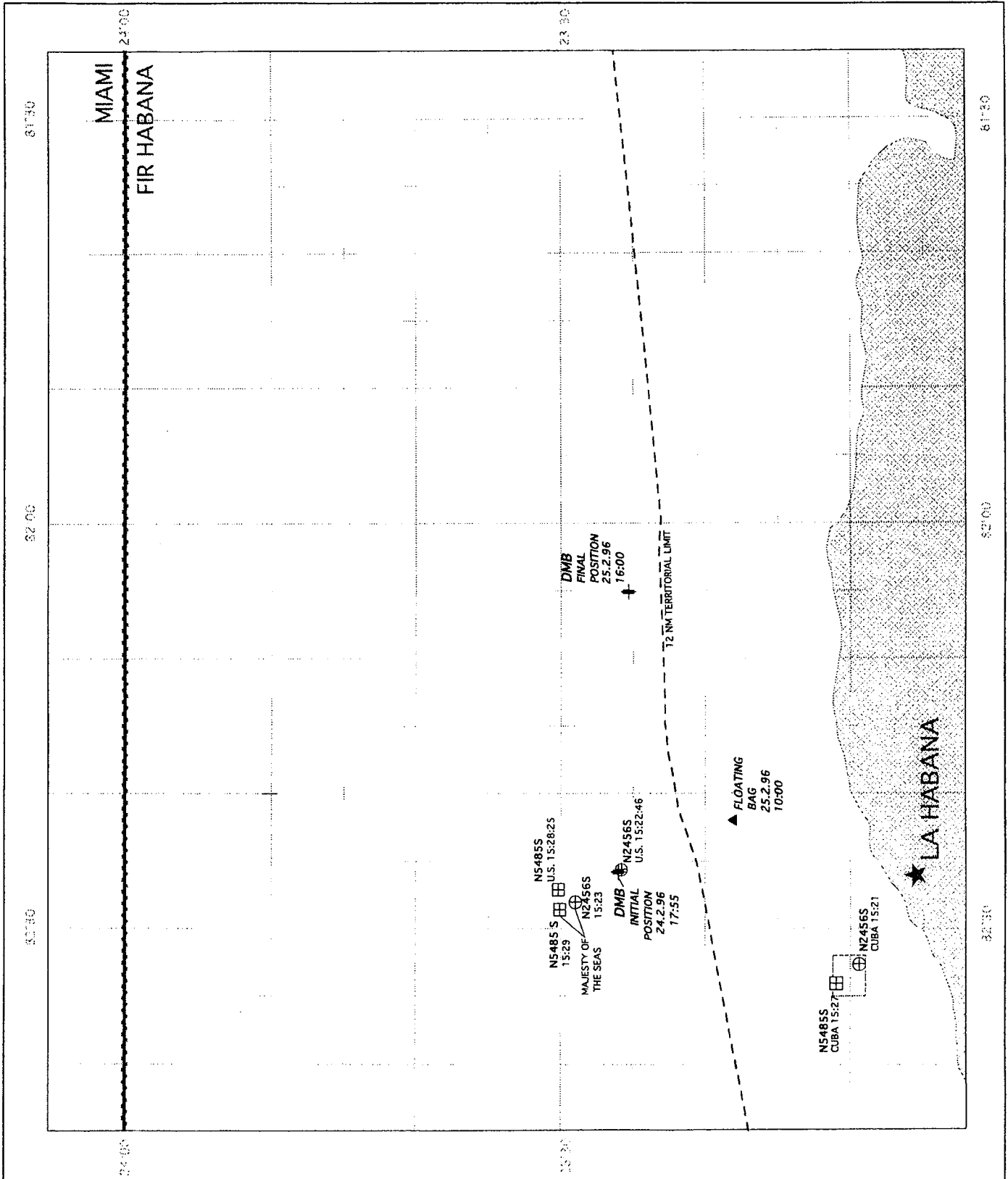
1.12.3 According to authorities in Cuba involved in the search and rescue effort a bag was recovered at 10:00 hours on 25 February 1996 in a position 9.3 NM north of Morro Castle in Havana at 23 18N 082 22W. The bag contained a battery charger of a type used for the batteries of video cameras and two Jeppesen high/low altitude en-route charts of the Caribbean area.

1.13 **Medical and pathological information**

1.13.1 The bodies of the four occupants of the two Cessna aircraft had not been recovered by 31 May 1996.

1.14 **Fire**

1.14.1 There was no indication of fire in either of the two Cessna aircraft prior to the explosion of the missiles. According to eyewitnesses some burning wreckage was seen falling into the sea and a fair amount of smoke was observed. The smoke was also evident from video recordings made by the pilot of N2506 and by a passenger on board the cruise ship *Majesty of the Seas*.



NS/MAP 07/6/96

Chart 4 - Positions of the shoot-down of N2456S and N5485S according to Cuban and U.S. radar data, the Majesty of the Seas and the positions of the floating bag and the data marker buoy.

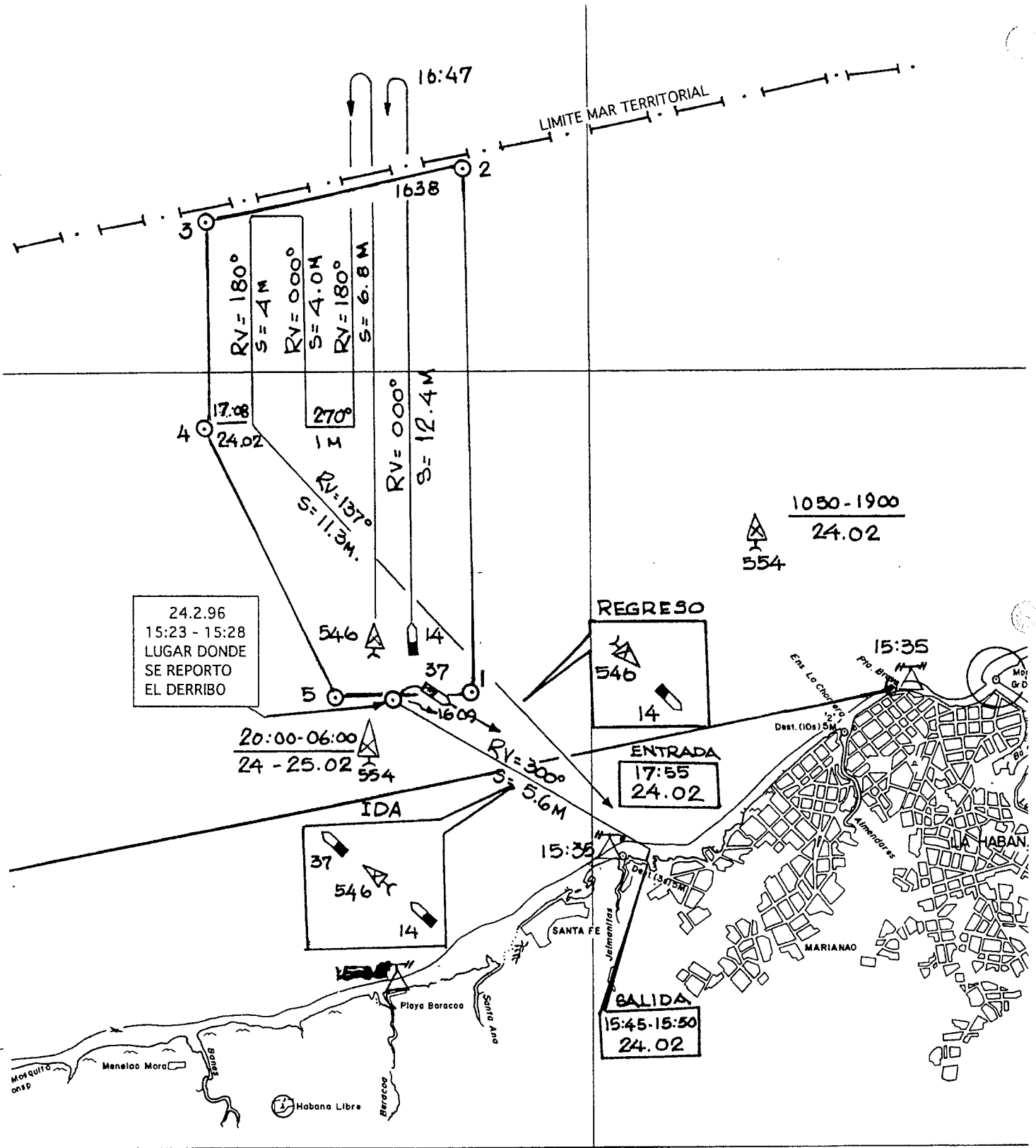


Chart 5 - Search and rescue activities by Cuba on 24 February 1996

APPENDIX E (pt. 1)

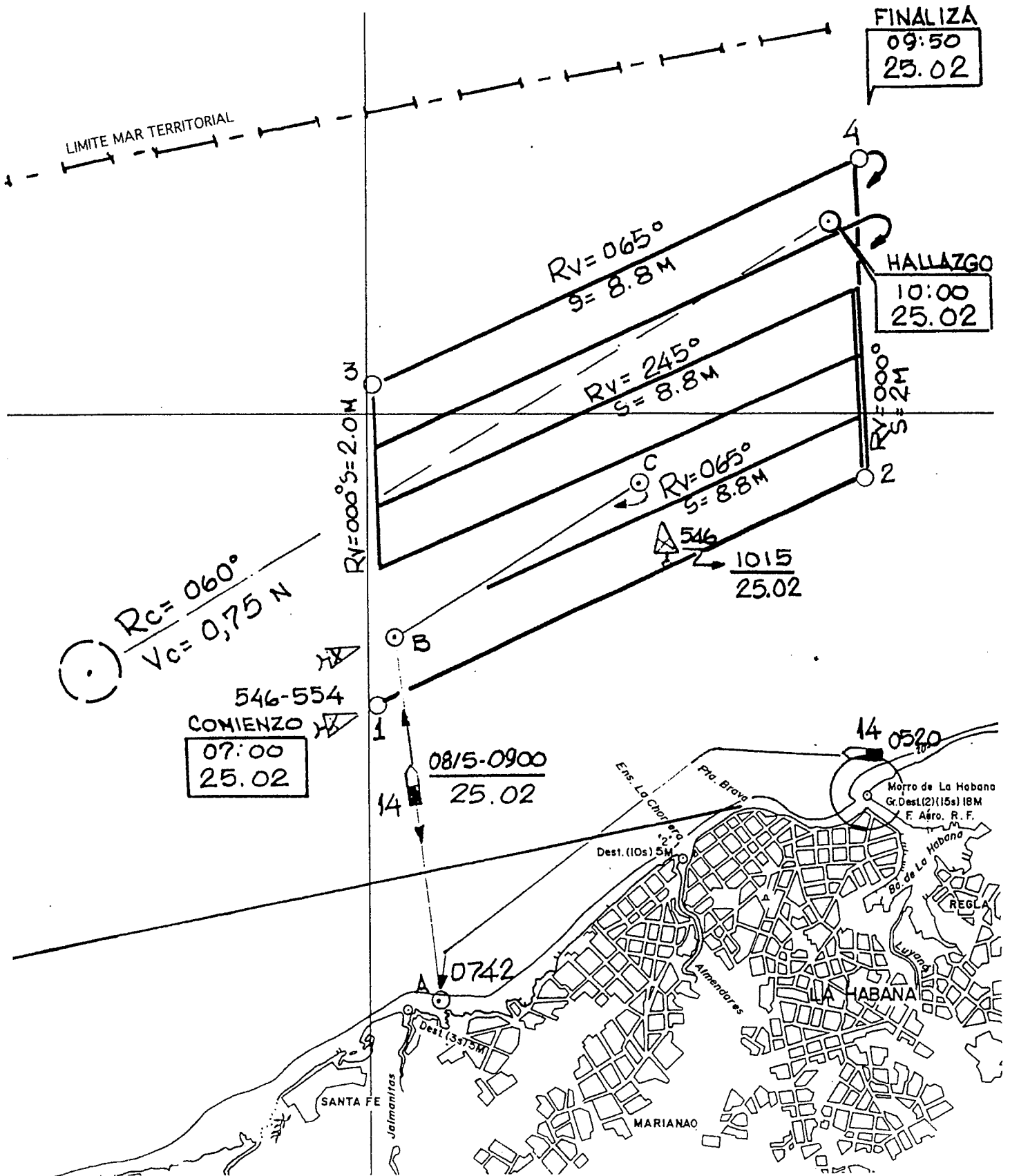


Chart 6 - Search and rescue activities by Cuba on 25 February 1996

APPENDIX E (pt. 1)

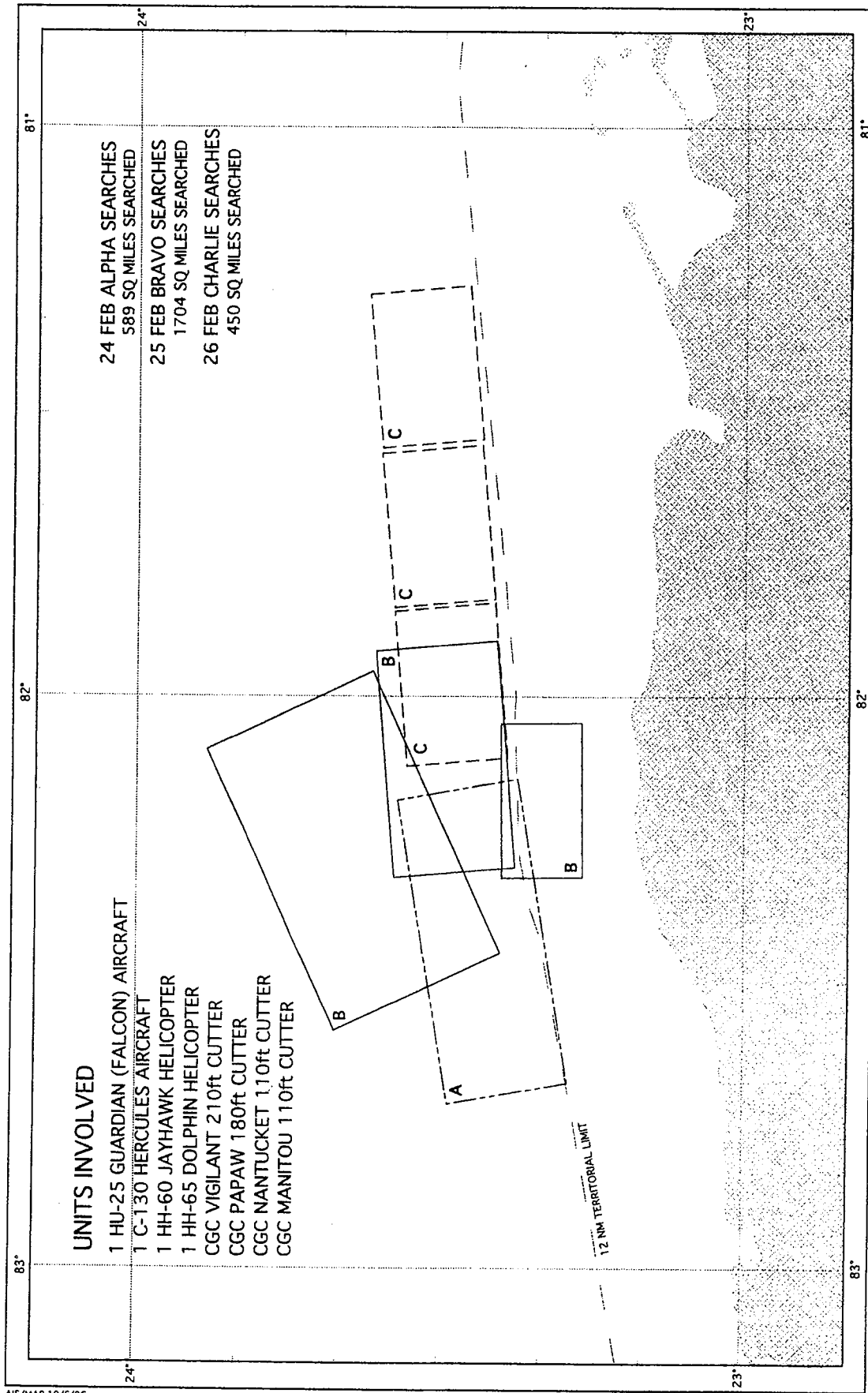


Chart 7 - Search and rescue activities by the United States from 24 to 26 February 1996

1.15 **Search and rescue**

1.15.1 **Cuban SAR activities**

1.15.1.1 On 24 and 25 February 1996, SAR missions were carried out by helicopters of the Revolutionary Armed Forces and vessels of the Border Patrol Troops. While the interceptions were in progress, the command centre of the Anti-Aircraft Defence Forces ordered the Rescue Services of the Air Force and of the Border Patrol Troops to alert status. After the shoot-down of the first Cessna aircraft, an MI-17 SAR helicopter reported, at 15:27 hours, leaving San Antonio de los Baños Airport to search for possible survivors, while a second MI-17 helicopter was ready to assist. The helicopter was initially directed to proceed in a northwesterly direction to an area 5 km north of Playa Baracoa. Also, a Border Patrol vessel and two speedboats were sent to an area 5 to 8 NM off the coast between the Banes and the Santa Ana rivers. However, the helicopter and surface vessels did not locate any survivors, nor was any wreckage found. All units completed their search within the initial search area (Chart 5) at 17:55 hours and returned to base.

1.15.1.2 On 25 February 1996, the SAR effort resumed at 05:20 hours. A speedboat searched an area between 23 09.6N 082 21.5W and 23 06.4N 082 28.7W until 07:42 hours, with negative results. Further searches, involving a helicopter and surface vessels, were conducted in the coastal areas near Havana and further north (Chart 6) until 12:20 hours. At 10:00 hours, a damaged video camera bag containing a battery charger and two Jeppesen charts was found by a Cuban Border Patrol vessel in position 23 18N 082 22W, 9.3 NM north of Havana. Between 13:25 and 16:25 hours, a Cuban patrol vessel searched for a United States data marker buoy in the vicinity of position 23 21.5N 082 11.2W, without success.

1.15.2 **United States SAR activities**

1.15.2.1 At 15:35 hours on 24 February 1996, the United States Coast Guard Seventh Coast Guard District received information from military intelligence sources that two Brothers to the Rescue aircraft were down in the sea north of Havana, and at 15:55 hours it received information that they had been shot down by Cuban MiG aircraft. In accordance with standard procedures, the Coast Guard determined search areas for initial "Alpha" (589 square miles) and subsequent "Bravo" (1 704 square miles) searches, taking into account the probable impact positions and available information on local currents.

1.15.2.2 At 16:29 hours, a Dassault-Breguet Falcon 20 (Coast Guard designation HU-25 Guardian) aircraft from Coast Guard Air Station Miami was directed to depart for a search mission. Clearance was obtained from Havana ACC at 17:22 hours to enter the active danger areas, and the Falcon arrived on scene at about 17:42 hours to commence a visual search. The Falcon located two oil slicks, and at 17:55 hours deployed a data marker buoy at position 23 25.9N 082 25.8W. The Falcon also located possible debris below the surface, but was unable to identify these, due to fading daylight and their depth below the surface. The Falcon was subsequently joined by a Coast Guard Sikorsky HH-60 Jayhawk helicopter. A Coast Guard Lockheed C-130 Hercules aircraft and an Aerospatiale SA365 (Coast Guard designation HH-65 Dolphin) helicopter relieved the first two aircraft shortly after 20:00 hours; the C-130 Hercules continued the search throughout the night. The first Coast Guard vessel to arrive on scene, Coast Guard cutter *Nantucket*, participated in the "Bravo" searches. The assistance of a nearby sailing boat *Kin Loch* was obtained in the initial search efforts for approximately 6 hours. No debris were located; only large patches of sargasso were observed in the area of the sightings of possible debris.

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1.15.2.3 On 25 February 1996 at 03:38 hours, the data marker buoy was in position 23 26.2N 082 11.5W, about 12 NM east of its initial position. Taking into account the average direction of drift (085°T) and drift speed (1.31 kt) of the data marker buoy, the search in the "Bravo" areas was adjusted and "Charlie" search areas (450 square miles) were designated further to the east. Coast Guard cutters *Manitou* and *Papaw* arrived on scene before 07:00 hours to participate in the search. Coast Guard cutter *Vigilant* joined them in the afternoon to complete the "Bravo" searches.

1.15.2.4 At 14:00 hours on 25 February 1996, it was believed that the data marker buoy had drifted into Cuban territorial waters, and permission was requested to enter the airspace above these waters to conduct search and rescue operations in the area of the buoy. At 14:45 hours authorization was received from the Cuban Border Patrol for a US Coast Guard aircraft to operate in the area inside 12 NM but no closer than 5 NM from the coast line. A C-130 Hercules was directed to search within a "Bravo" search area, inside Cuban territorial airspace, which it entered at about 16:32 hours. The C-130 Hercules was directed at 17:12 hours to leave the search area.

1.15.2.5 The data marker buoy was located four times by Coast Guard aircraft throughout the search. On 25 February 1996 at 16:00 hours, the buoy was last located in position 23 25.3N 082 05.1W, about 17NM east of its initial position. The average drift over 22 hours was 092°T at 0.9 kt. All "Bravo" and "Charlie" searches were completed by 18:00 hours on 26 February 1996, without any debris being recovered. The Coast Guard searches had covered over 2 500 square miles. A total of over 23 hours of on-scene air search had been conducted by the Falcon, the C-130 Hercules and two helicopters (HH-60 and HH-65) from 24 February 1996 until 18:12 hours on 25 February 1996. Four Coast Guard cutters (*Vigilant*, *Papaw*, *Nantucket* and *Manitou*) had participated in the search. The weather had been excellent throughout the searches, with north to northeasterly winds at 10 to 13 kt, wave height of 2 ft, unlimited visibility and no more than three-tenths cloud cover (scattered cloud). The probability of detection of a person in the water was estimated at over 85 per cent for the combined air and surface unit search. The search was suspended at 18:00 hours on 26 February 1996.

## 1.16 Additional information

### 1.16.1 The Convention on International Civil Aviation

1.16.1.1 Both Cuba and the United States are parties to the *Convention on International Civil Aviation* (Chicago, 7 December 1944). As of 31 May 1996, there were 184 parties to the Convention. The following provisions of the Convention are relevant to the consideration of the shooting down of the two aircraft on 24 February 1996:

#### Preambular paragraph 1:

"WHEREAS the future development of international civil aviation can greatly help to create and preserve friendship and understanding among the nations and peoples of the world, yet its abuse can become a threat to the general security;"

#### Article 1:

##### "Sovereignty

The contracting States recognize that every State has complete and exclusive sovereignty over the airspace above its territory."



**Article 2:**

*"Territory*

For the purposes of this Convention the territory of a State shall be deemed to be the land areas and territorial waters adjacent thereto under the sovereignty, suzerainty, protection or mandate of such State."

**Article 3:**

*"Civil and state aircraft*

(a) This Convention shall be applicable only to civil aircraft, and shall not be applicable to state aircraft.

(b) Aircraft used in military, customs and police services shall be deemed to be state aircraft.

(c) No state aircraft of a contracting State shall fly over the territory of another State or land thereon without authorization by special agreement or otherwise, and in accordance with the terms thereof.

(d) The contracting States undertake, when issuing regulations for their state aircraft, that they will have due regard for the safety of navigation of civil aircraft."

**Article 4:**

*"Misuse of civil aviation*

Each contracting State agrees not to use civil aviation for any purpose inconsistent with the aims of this Convention."

**Article 5 (first paragraph):**

*"Right of non-scheduled flight*

Each contracting State agrees that all aircraft of the other contracting States being aircraft not engaged in scheduled international air services shall have the right, subject to the observance of the terms of this Convention, to make flights into or in transit non-stop across its territory and to make stops for non-traffic purposes without the necessity of obtaining prior permission, and subject to the right of the State flown over to require landing. Each contracting State nevertheless reserves the right, for reasons of safety of flight, to require aircraft desiring to proceed over regions which are inaccessible or without adequate air navigation facilities to follow prescribed routes, or to obtain special permission for such flights."

**Article 9:**

*Prohibited areas*

(a) Each contracting State may, for reasons of military necessity or public safety, restrict or prohibit uniformly the aircraft of other States from flying over certain areas of its territory, provided that no distinction in this respect is made between the aircraft of the State whose territory is involved, engaged in international scheduled airline services, and

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the aircraft of the other contracting States likewise engaged. Such prohibited areas shall be of reasonable extent and location so as not to interfere unnecessarily with air navigation. Descriptions of such prohibited areas in the territory of a contracting State, as well as any subsequent alterations therein, shall be communicated as soon as possible to the other contracting States and to the International Civil Aviation Organization.

(b) Each contracting State reserves also the right, in exceptional circumstances or during a period of emergency, or in the interest of public safety, and with immediate effect, temporarily, to restrict or prohibit flying over the whole or any part of its territory, on condition that such restriction or prohibition shall be applicable without distinction of nationality to aircraft of all other States.

(c) Each contracting State, under such regulations as it may prescribe, may require any aircraft entering the areas contemplated in subparagraphs (a) or (b) above to effect a landing as soon as practicable thereafter at some designated airport within its territory."

**Article 11:**

*"Applicability of air regulations*

Subject to the provisions of this Convention, the laws and regulations of a contracting State relating to the admission to or departure from its territory of aircraft engaged in international air navigation, or to the operation and navigation of such aircraft while within its territory, shall be applied to the aircraft of all contracting States without distinction as to nationality, and shall be complied with by such aircraft upon entering or departing from or while within the territory of that State."

**Article 12:**

"Each contracting State undertakes to adopt measures to insure that every aircraft flying over or maneuvering within its territory and that every aircraft carrying its nationality mark, wherever such aircraft may be, shall comply with the rules and regulations relating to the flight and maneuver of aircraft there in force. Each contracting State undertakes to keep its own regulations in these respects uniform, to the greatest possible extent, with those established from time to time under this Convention. Over the high seas, the rules in force shall be those established under this Convention. Each contracting State undertakes to insure the prosecution of all persons violating the regulations applicable."

1.16.2 **Article 3 bis of the Convention on International Civil Aviation**

1.16.2.1 **Background information**

1.16.2.1.1 On 16 September 1983, the ICAO Council considered the destruction of Korean Air Lines flight KE 007 on 1 September 1983 by Soviet military aircraft, and adopted a resolution which reads in part:

"RECOGNIZING that such use of armed force against international civil aviation is incompatible with the norms governing international behaviour and elementary considerations of humanity and with the rules, Standards and Recommended Practices

enshrined in the Chicago Convention and its Annexes and invokes generally recognized legal consequences,

REAFFIRMING the principle that States, when intercepting civil aircraft, should not use weapons against them."

The 24th Session of the ICAO Assembly (20 September to 7 October 1983) endorsed that resolution.

1.16.2.1.2 The ICAO Council considered the report on the investigation of the same incident on 6 March 1984, and adopted a resolution which reads in part:

"REAFFIRMING that, whatever the circumstances which, according to the Secretary General's report, may have caused the aircraft to stray off its flight plan route, such use of armed force constitutes a violation of international law, and invokes generally recognized legal consequences;

RECOGNIZING that such use of armed force is a grave threat to the safety of international civil aviation, and is incompatible with the norms governing international behaviour and with the rules, Standards and Recommended Practices enshrined in the Chicago Convention and its Annexes and with elementary considerations of humanity;"

1.16.2.2 **Consideration of Article 3 *bis* by the ICAO Assembly (1984)**

1.16.2.2.1 The 25th Session (Extraordinary) of the Assembly (24 April to 10 May 1984) was held in Montreal to examine and adopt an amendment (Article 3 *bis*) to the Chicago Convention involving an undertaking to abstain from the use of force against civil aircraft. Opening the Session, the President of the Assembly stated:

"There may be some who believe that the prohibition of use of force against civil aircraft is already a firm part of general international law and that there is no need to codify that provision in the body of the Convention. ... Even in time of war, international law has explicit provisions for the protection of civilians in armed conflict, on the protection of the wounded and shipwrecked and on the protection of the prisoners of war. The International Court of Justice ruled, referring to customary international law, that these fundamentally humanitarian principles are more exacting in time of peace than they are in time of war. There is no doubt that these humanitarian principles concerning the protection of human life are deeply rooted in customary international law. ... A written rule of law is far superior to general principles recognized as customary law because frequently the very existence of a customary law or its exact scope and content may remain subject to challenge."

1.16.2.2.2 At the Assembly, the general and uncontroversial position taken was that there already existed as part of customary international law a prohibition against the use of force or weapons against civil aircraft in flight and that in cases of interception, the lives of persons on board and the safety of aircraft must not be endangered. This is reaffirmed in Article 3 *bis*, paragraph a).

1.16.2.2.3 Under paragraph a) of Article 3 *bis*, the protection is extended to civil aircraft of all States, not only contracting States. This wording was adopted since it was felt that the protection against the use of weapons against civil aircraft already existed in customary international law and did not rest

on a specific treaty rule to be applicable among parties only. The rights and obligations of States found in the Charter of the United Nations remain unaffected. Although a general formulation was adopted, the discussion in the Assembly focussed on the inherent right of self-defence under Article 51 of the Charter.

1.16.2.2.4 Similarly, paragraphs b) and c) of Article 3 *bis* were uncontroversial. Paragraph b) recognizes that every State is entitled to require the landing of "a civil aircraft flying above its territory without authority or if there are reasonable grounds to conclude that it is being used for any purpose inconsistent with the aims of this Convention; it may also give such aircraft any other instructions to put an end to such violations." To achieve this, contracting States may resort to any appropriate means consistent with international law, the Chicago Convention and paragraph a) of Article 3 *bis*. The wording of paragraph b), in which there is a recognition that every State (not only contracting States) has the right to require landing or to issue other instructions, indicates that this rule is reflective of existing (customary) international law. Under paragraph c), civil aircraft must comply with an order given in conformity with paragraph b).

1.16.2.2.5 The Assembly also recognized the need for a provision dealing with the misuse of civil aviation or the use of civil aircraft for any purpose inconsistent with the aims of the Chicago Convention. After debate, paragraph d) was formulated.

### 1.16.2.3 Adoption of Article 3 *bis*

1.16.2.3.1 On 10 May 1984, the Assembly, attended by 107 contracting States including Cuba and the United States, unanimously adopted a *Protocol relating to an amendment to the Chicago Convention on International Civil Aviation* [Article 3 *bis*]. The Assembly also adopted by acclamation Resolution A25-2 in which it urges all Contracting States to ratify the Protocol as soon as practicable. The Protocol requires 102 ratifications for entry into force; as of 31 May 1996, 80 such instruments had been deposited and consequently, the Protocol had not entered into force. Neither Cuba nor the United States had ratified the Protocol.

1.16.2.3.2 The following preambular paragraphs of the Protocol are of relevance to the consideration of the shooting down of the two aircraft on 24 February 1996:

#### THE ASSEMBLY OF THE INTERNATIONAL CIVIL AVIATION ORGANIZATION

[para 2] "HAVING NOTED that international civil aviation can greatly help to create and preserve friendship and understanding among the nations and peoples of the world, yet its abuse can become a threat to general security,"

[para 5] "HAVING NOTED that in keeping with elementary considerations of humanity the safety and the lives of persons on board civil aircraft must be assured,"

[para 6] "HAVING NOTED that in the Convention on International Civil Aviation done at Chicago on the seventh day of December 1944 the contracting States

— recognize that every State has complete and exclusive sovereignty over the airspace above its territory,

— undertake, when issuing regulations for their state aircraft, that they will have due regard for the safety of navigation of civil aircraft, and

— agree not to use civil aviation for any purpose inconsistent with the aims of the Convention,"

[para 7] "HAVING NOTED the resolve of the contracting States to take appropriate measures designed to prevent the violation of other States' airspace and the use of civil aviation for purposes inconsistent with the aims of the Convention and to enhance further the safety of international civil aviation."

1.16.2.3.3. Article 3 *bis* reads as follows:

**"Article 3 bis**

(a) The contracting States recognize that every State must refrain from resorting to the use of weapons against civil aircraft in flight and that, in case of interception, the lives of persons on board and the safety of aircraft must not be endangered. This provision shall not be interpreted as modifying in any way the rights and obligations of States set forth in the Charter of the United Nations.

(b) The contracting States recognize that every State, in the exercise of its sovereignty, is entitled to require the landing at some designated airport of a civil aircraft flying above its territory without authority or if there are reasonable grounds to conclude that it is being used for any purpose inconsistent with the aims of this Convention; it may also give such aircraft any other instructions to put an end to such violations. For this purpose, the contracting States may resort to any appropriate means consistent with relevant rules of international law, including the relevant provisions of this Convention, specifically paragraph (a) of this Article. Each contracting State agrees to publish its regulations in force regarding the interception of civil aircraft.

(c) Every civil aircraft shall comply with an order given in conformity with paragraph (b) of this Article. To this end each contracting State shall establish all necessary provisions in its national laws or regulations to make such compliance mandatory for any civil aircraft registered in that State or operated by an operator who has his principal place of business or permanent residence in that State. Each contracting State shall make any violation of such applicable laws or regulations punishable by severe penalties and shall submit the case to its competent authorities in accordance with its laws or regulations.

(d) Each contracting State shall take appropriate measures to prohibit the deliberate use of any civil aircraft registered in that State or operated by an operator who has his principal place of business or permanent residence in that State for any purpose inconsistent with the aims of this Convention. This provision shall not affect paragraph (a) or derogate from paragraphs (b) and (c) of this Article."

1.16.2.4 **Subsequent developments related to Article 3 bis**

1.16.2.4.1 Subsequent to the adoption of Article 3 *bis*, the Council on 13 and 14 July 1988 considered a request by the Islamic Republic of Iran concerning the shooting down, on 3 July 1988, of Iran Air flight IR 655; in its decision the Council "deplored the use of weapons against a civil aircraft" and "reaffirmed the fundamental principle that States must refrain from resorting to the use of weapons against civil aircraft; it also appealed to all States which have not yet done so to ratify, as soon as possible, the Protocol introducing Article 3 *bis* into the Convention on International Civil Aviation; ..."

1.16.2.4.2 On 7 December 1988, the Council, when considering the report on the investigation of the same incident, reaffirmed "the fundamental principle of general international law that States must refrain from resorting to the use of weapons against civil aircraft" and appealed urgently to all States which have not yet done so to ratify Article 3 *bis*. The Council also urged "all States to take all necessary action for the safety of navigation of civil aircraft, particularly by assuring effective co-ordination of civil and military activities;".

1.16.2.4.3 On 14 June 1993, the Council, when considering the report on the completion of the investigation of the Korean Air Lines (KE 007) incident, adopted a resolution in which it "*Appeals* again urgently to all Contracting States that have not yet done so to ratify, as soon as possible, the Protocol introducing Article 3 *bis* into the Convention on International Civil Aviation, which reaffirms the fundamental principle that States must refrain from resorting to the use of weapons against civil aircraft;". In the resolution, the Council also "*Urges* States to take all necessary measures to safeguard the safety of air navigation of civil aircraft, in compliance with the relevant rules, Standards and Recommended Practices enshrined in the Chicago Convention and its Annexes;".

1.16.2.4.4 Furthermore, the 31st Session of the Assembly adopted Resolution A31-15 which in its Appendix C urges all contracting States which so far have not done so to ratify those amendments to the Chicago Convention which are not yet in force, including the amendment introducing Article 3 *bis*.

1.16.3 **Interception procedures**

1.16.3.1 **ICAO interception procedures**

1.16.3.1.1 The ICAO Standards related to interception procedures are contained in Annex 2, paragraphs 3.8.1 and 3.8.2, as follows:

"3.8.1 Interception of civil aircraft shall be governed by appropriate regulations and administrative directives issued by Contracting States in compliance with the Convention on International Civil Aviation, and in particular Article 3(d) under which Contracting States undertake, when issuing regulations for their State aircraft, to have due regard for the safety of navigation of civil aircraft. Accordingly, in drafting appropriate regulations and administrative directives due regard shall be had to the provisions of Appendix 1, Section 2 and Appendix 2, Section 1 [in Annex 2].

*Note. — Recognizing that it is essential for the safety of flight that any visual signals employed in the event of an interception which should be undertaken only as a last resort be correctly employed and understood by civil and military aircraft throughout the world, the Council of the International Civil Aviation Organization, when adopting the visual signals in Appendix 1 to this Annex, urged Contracting States to ensure that they be*

*strictly adhered to by their State aircraft. As interceptions of civil aircraft are, in all cases, potentially hazardous, the Council has also formulated special recommendations which Contracting States are urged to apply in a uniform manner. These special recommendations are contained in Attachment A.*

3.8.2 The pilot-in-command of a civil aircraft, when intercepted, shall comply with the Standards in Appendix 2, Sections 2 and 3, interpreting and responding to visual signals as specified in Appendix 1, Section 2 [in Annex 2]."

1.16.3.1.2 As interceptions of civil aircraft are, in all cases, potentially hazardous, the Council of ICAO has formulated special recommendations which amplify paragraphs 3.8.1 and 3.8.2 in Annex 2. These special recommendations, as contained in Attachment A to Annex 2, include general recommendations that emphasize the principle that interception of civil aircraft should be avoided and should be undertaken only as a last resort. Some recommendations are aimed at eliminating or reducing the need for interception of civil aircraft, while others are made to ensure co-ordinated actions by the pilots and ground units concerned in order to eliminate or reduce the hazards inherent in interceptions undertaken as a last resort. Interception manoeuvres are addressed, including manoeuvres for visual identification and for navigational guidance. The recommendations further cover guidance of an intercepted aircraft, action by intercepted aircraft, air-to-air visual signals, radio communications with intercepted aircraft, the use of tracer bullets, and co-ordination between intercept control units and ATS units.

1.16.3.1.3 A consolidation of current ICAO provisions and special recommendations related to interception is contained in the ICAO *Manual Concerning Interception of Civil Aircraft* (Doc 9433). Further guidance material intended to promote effective civil/military co-ordination is contained in the ICAO *Manual Concerning Safety Measures Relating to Military Activities Potentially Hazardous to Civil Aircraft Operations* (Doc 9554).

#### 1.16.3.2 Cuban interception procedures

1.16.3.2.1 The AIP Cuba (RAC 8-1) contains the interception procedures of civil aircraft. It states that:

"... interception will be carried out as a final recourse for aircraft identification in order to protect the sovereignty of the airspace of the Republic of Cuba, under the following circumstances:

- a) When aircraft overflying the national territory and its territorial waters (ADIZ interior limit), without previous permit or when aircraft having not established communications immediately after break in the FIR/CTA (ADIZ exterior limit), for identification purposes.
- b) When aircraft infringe restrictions of the airspace or when they do not go back on the flight plan received accordingly.
- c) When it would be necessary to inquire into an aircraft identification."

1.16.3.2.2 The AIP Cuba also contains interception manoeuvres, manoeuvres for navigational guidance, guidance of an intercepted aircraft, action by intercepted aircraft, air-to-air visual signals and

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radio communications between the intercept control unit or the intercepting aircraft and the intercepted aircraft, identical to the Standards and special recommendations as contained in Annex 2 to the *Convention on International Civil Aviation*.



2. ANALYSIS

2.1 Incursions into Cuban airspace prior to 24 February 1996

2.1.1 Incursions into Cuban airspace from 15 May 1994 to 4 April 1995

2.1.1.1 According to the authorities in Cuba, the following violations of Cuban airspace took place from 15 May 1994 to 4 April 1995:

- 15 May 1994. Five aircraft coming from Florida violated Cuban airspace in the western region between Cárdenas, Matanzas Province, and El Mariel, Havana Province, between 15 and 80 miles along the shore, keeping a distance from the coast of between 1.5 and 5.5 miles;
- 17 May 1994. Two Cessna 337 aircraft (registration N58BB and N108LS) coming from Florida violated Cuban airspace in the western region between Cárdenas, Matanzas Province, and El Mariel, Havana Province, between 15 and 80 miles along the shore, keeping a distance from the coast of between 1.5 and 5.5 miles;
- 25 May 1994. Five aircraft coming from Florida violated Cuban airspace in the western region between Cárdenas, Matanzas Province, and El Mariel, Havana Province, between 15 and 80 miles along the shore, keeping a distance from the coast of between 1.5 and 5.5 miles;
- 29 May 1994. Five aircraft coming from Florida violated Cuban airspace in the western region between Cárdenas, Matanzas Province, and El Mariel, Havana Province, between 15 and 80 miles along the shore, keeping a distance from the coast of between 1.5 and 5.5 miles;
- 10 July 1994. At 10:00 hours, the violation of Cuban airspace by an aircraft (registration N2506) coming from the United States was detected 20 km north of Guanabo, Havana Province. This aircraft violated an 18 km length of airspace to a depth of 3 km, leaving Cuban airspace to the north of the city of Havana at 10:30 hours;
- 10 November 1994. At 13:13 hours, two C337 aircraft, which took off at 12:40 hours from Guantánamo Naval Base, violated Cuban airspace, overflying the Punta de Maisí lighthouse. During this overflight, the light aircraft released 200 leaflets against the Cuban constitutional government; and
- 4 April 1995. Between 10:14 and 10:57 hours, a C337 aircraft violated Cuban airspace in areas to the north of the western region between Santa Fe and Guanabo, Havana Province, over a length of 5 miles, keeping a distance from the Cuban coast which varied between 5 and 10 miles.

2.1.1.2 By Diplomatic Note No. 908 dated 21 July 1994 to the Interests Section of the United States (Embassy of Switzerland), the Ministry of Foreign Affairs of Cuba informed the United States that aircraft operating out of airports in Florida had violated Cuban airspace on numerous occasions. These aircraft had also "made unlawful use of radio frequencies established for air traffic control and have interfered with the efforts to detect and control drug trafficking in the [FIR] of Cuba." The Ministry

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stated that the flights "which have gone so far as to violate Cuban airspace, have taken place in the areas north of the western part of Cuba between Cárdenas in Matanzas province and Mariel in Havana province, along a trajectory of from 5 to 80 miles at distances from the Cuban coast of from 1.5 to 5.5 miles. The most recent examples are the flights on 17 May 1994, by two Cessna 337 planes, license numbers [registration] N58BB and N108LS. On 15, 25 and 29 May 1994, five aircraft committed similar violations. On 9 July 1994, an aircraft with license number [registration] N2506 carried out a flight of a similar sort. There is evidence of other violations on prior occasions." The Note further stated that on numerous occasions, aircraft had flown into active Cuban danger areas; specific information was provided on the dates of these incursions, the danger areas, aircraft model and registration. The Ministry demanded that the "U.S. authorities adopt the appropriate measures to put a stop to these practices."

2.1.1.3 By Diplomatic Note No. 1443 dated 18 November 1994, the Ministry of Foreign Affairs of Cuba informed the United States that on 10 November 1994 at 13:13 hours "two small C337 aircraft violated Cuban airspace by flying over the Punta de Maisí lighthouse after having taken off at 12:40 from the U.S. Naval Base in Guantánamo ...". The Note stated that these aircraft "dropped on Cuban territory approximately 200 flyers containing enemy propaganda belonging to the self-styled counter-revolutionary organization 'Brothers to the Rescue'." The Note identified these aircraft as "two of the three which arrived at the Naval Base ... on 7 November 1994 and their U.S. license numbers [registration] are as follows: N2506, N5485S and N2329S." The Ministry brought to the attention of the United States authorities the fact that there was still no concrete or effective response to Diplomatic Note No. 908. The Government of Cuba formally requested "the Government of the United States to act responsibly and to adopt permanent measures to put an end to the illegal and provocative activities that might have negative consequences and are not in the interest of either of our two countries."

2.1.1.4 When interviewed by the ICAO team in April 1996, Mr. Basulto stated that he had taken a group of attorneys to the Guantánamo Naval Base on 7 November 1994. On taking off on 10 November 1994 for his return flight he decided "on the spur of the moment" to fly over the place where he grew up in Cuba and "dropped some stickers over people looking up at the aircraft."

2.1.1.5 By Diplomatic Note No. 694 dated 25 May 1995, the Ministry of Foreign Affairs of Cuba protested to the United States "the violation of Cuban airspace by a small aircraft from the territory of the United States." The Note stated that on 4 April 1995, between 10:14 and 10:57 hours, a Cessna 337 aircraft violated Cuban airspace in areas north of the western part of Cuba between Santa Fe and Guanabo for five miles along the coast at a distance of 5 to 10 miles from the coast. The Ministry wanted to "make perfectly clear the worrisome danger of a situation that violates the sovereignty of Cuba and puts at risk air traffic in the area." The Ministry demanded that "the U.S. authorities adopt effective measures to put a stop to activities like the one described above."

2.1.1.6 The United States did not provide responses to Cuba to Diplomatic Notes No. 908 dated 21 July 1994, No. 1443 dated 18 November 1994 and No. 694 dated 25 May 1995 .

#### 2.1.2 **Incursions into Cuban airspace on 13 July 1995**

2.1.2.1 By Diplomatic Note No. 882 dated 5 July 1995, the Ministry of Foreign Affairs of Cuba informed the United States that radio stations in the United States had "been broadcasting information about the organization of a flotilla of boats that intends to depart from ports in the United States territory and arrive at the 12 mile boundary which demarcates Cuban territorial waters, with the explicit purpose of carrying out provocative actions and defying the Cuban Government and people. According to ... 'Radio Martí' ..., one of the boats intends to ... approach the Cuban coast up to a 6 mile distance ...". The Ministry, *inter alia*, emphasized that "Cuban authorities will not tolerate the slightest violation of

the territorial integrity of Cuba and will not bear any liability for measures taken in legitimate defence of its sovereignty."

2.1.2.2 On 7 July 1995, the Department of State issued a statement, in which the United States government stated that it was "aware of preparations being made to dispatch a 'flotilla' of privately owned vessels from Florida to enter Cuban territorial waters in order to lay wreaths and hold commemorative ceremonies at the site of the sinking of the tug boat 'Trece de Marzo' on July 13, the first anniversary of that tragedy." The organizers had been advised of "the risks participants may be undertaking." Participants were warned that any attempt to pick up persons from Cuba "with the intention of transporting them to the United States or taking steps in violation of the Neutrality Act may result in prosecution or other law enforcement action in the United States. ...If the protestors proceed as their pamphlets indicate and sail into Cuban territorial waters, they may be violating Cuban law by having entered Cuban territory illegally and participants might therefore be subject to arrest by Cuban authorities." The statement continued: "The Cuban government has informed the Department of State that it is very concerned about the proposed action and that its normal practice is to detain those who enter Cuban territory without permission."

2.1.2.3 According to the authorities in Cuba, the following violation of Cuban airspace took place on 13 July 1995:

Four aircraft from the United States (registrations N108LS, N2506, N5485S and N312MX) entered Cuban airspace to the north of the city of Havana, penetrated the MUP-1 prohibited area and overflew the city of Havana at a very low altitude in a dangerous and neglectful manner.

2.1.2.4 According to the authorities in Cuba, it was not by accident that the aircraft violated Cuban sovereignty; the Brothers to the Rescue group had publicly, openly and patently endeavoured, among other things, to provoke air incidents, violate Cuban territorial sovereignty, and ignore the regulations of the State in which their aircraft were registered. Furthermore, on 13 July 1995, photographs had been taken from these aircraft of central Havana. The photographs had been publicized and were available for sale in Miami.

2.1.2.5 The Cessna 337, nationality and registration marks N2506, was one of the aircraft which overflew the city of Havana on 13 July 1995. One of the occupants in N2506 on this flight was a reporter from NBC TV station channel 6 (then channel 4) in Miami. A video recording taken by the reporter on this flight and broadcast by NBC in Miami, showed a smoke marker drop in the sea north of Havana, and subsequently the aircraft over Havana well inside the coastline. The video recording broadcast by NBC contained the following reportage and interviews:

Reporter: "While the flotilla boats with exiles and journalists on board entered Cuban territorial waters, Brothers to the Rescue pilots were dropping smoke to mark the exact spot where the hijacked tugboat went down a year earlier."

Background voice: "Ok, drop smoke here"

Reporter: "They were not alone. Cuban fighter planes were in the area."

Reporter: "With the flotilla stalled, pilot José Basulto, just four miles off Cuba, made the decision he would fly over Havana, drop bumper stickers and religious medals. There was a

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tense several moments over the Malacon. The pilot began the drop. The plane roared at rooftop level through downtown, banking towards Havana harbour.

Background voice: "...over Havana....flying in circles"

Reporter: "Traffic along the Malacon: light; typical for early afternoon, certainly a unique look at Havana."

Mr. Basulto: "This is an act of civil disobedience. We realize what we're doing and all we're doing is signalling out to the people of Cuba that civil disobedience is possible."

Reporter: "The Cuban government responded by saying: 'Any ship from abroad that forcibly invades our sovereign water will be sunk and any aircraft downed'."

Department of State spokesperson: "When you do enter the airspace or territorial waters or territory of another country you are subject to the law enforcement agencies of that country."

Reporter: "Today José Basulto explained his decision to buzz Havana."

Mr. Basulto: "At that point we decided to go into Havana to create a diversionary manoeuvre by which we might have relieved the pressure on the boats..."

2.1.2.6 When interviewed by the ICAO team in April 1996 regarding the events on 13 July 1995, Mr. Basulto stated that the purpose of the flights, together with a flotilla, was a religious ceremony intended as a memorial to forty people who died when a tug boat was sunk by Cuban patrol boats seven miles off the coast of Cuba a year earlier. The aircraft proceeded to the location and dropped a smoke marker to indicate the position. As the lead boat of the flotilla was rammed by Cuban patrol boats, he decided to fly over Havana to create a diversionary manoeuvre to relieve the pressure on the boat and to attract the attention of the Cuban military aircraft which was flying over the flotilla. He made two circles over Havana and dropped some flyers and a handful of religious medals.

2.1.2.7 In a public announcement dated 8 August 1995, the Department of State warned that entering Cuban territory, territorial waters or airspace without prior authorization from the Cuban government may cause one to be subject to arrest or other enforcement action by Cuban authorities for violation of Cuban law. Any vessel or aircraft "inside the 12-mile limit off Cuba would be inside Cuban territorial waters or airspace and thus subject to the jurisdiction of the Cuban government." The announcement stated that :

"...under international agreement, Cuba provides air traffic control services up to the 25th (*sic*) [24th] parallel, an area well beyond its territorial jurisdiction. As required under the Convention on International Civil Aviation, to which the United States is a signatory, aircraft transiting another country's controlled airspace must follow established international rules of the air including positive communication with the providing air traffic service and submission of a flight plan."

The announcement continued:

"In a public statement issued on July 14, the Cuban government asserted its 'firm determination' to take actions necessary to defend Cuban territorial sovereignty and to

prevent unauthorized incursions into Cuban territorial waters and airspace. The statement continued, 'Once more (the Cuban government) warns that any boat from abroad can be sunk and any airplane downed.' The Department takes this statement seriously.

...

If persons enter Cuban territorial waters or airspace without prior permission, they may place themselves and others at serious personal risk. ...

The Department of State urges all persons who wish to travel to Cuba or to enter Cuban territorial waters or airspace to do so using safe, orderly and legal means, and to avoid unnecessary risks to themselves and others."

2.1.2.8 By a Diplomatic Note dated 21 August 1995 to the Cuban Interests Section, the Department of State referred Cuba to the public announcement issued by the Department on 8 August 1995. The Department stated that it "takes very seriously the public statements of the Government of Cuba concerning unauthorized incursions into Cuba's territorial sea and airspace, to the effect that the Government of Cuba would not tolerate violations of Cuba's territorial integrity." The Department stated that it was aware of plans for a flotilla to approach Cuban territorial waters on 2 September 1995 and that, in addition to the public announcement, United States officials had spoken with the organizers and had "warned them of the potential consequences of entering Cuban territorial waters for purposes inconsistent with the international law of the sea. Further, the United States Coast Guard has issued a Notice to Mariners, and the [FAA] plans to issue a Notice to Airmen, both of which parallel and reinforce the warning contained in the Department's announcement of August 8."

2.1.2.9 A NOTAM was issued on 28 August 1995, which read in part:

"...due to significant air traffic associated with a water borne event in the Florida Straits, effective 1000 UTC September 2, 1995 until 0100 UTC September 3, 1995 the FAA recommends that aircraft operators avoid airspace within the following coordinates from 2430N 8500W to 2430N 7700W to 2400N 7700W to 2400N 8500W at and below FL 200. ...

In a public statement issued on 14 July 1995, the Government of Cuba asserted its firm determination to take actions against aircraft violations of Cuban airspace. These measures are aimed at defending and preserving Cuban national sovereignty and preventing overflight by unauthorized aircraft. It further states that any airplane may be downed for incursions into its airspace. Operators conducting flights to Cuba should be familiar with all Federal Aviation Regulations and all applicable international and Cuban laws, rules, and regulations concerning the operations. Operators entering Cuban airspace without authorization may be subject to arrest and may place themselves and others at serious personal risk."

2.1.2.10 By Diplomatic Note No. 1100 dated 21 August 1995, the Ministry of Foreign Affairs of Cuba forwarded to the United States a copy of a letter, also dated 21 August 1995, from the Vice-President of the Civil Aviation Institute of Cuba (IACC) to the FAA Administrator. The letter stated that on 13 July 1995 "several aircraft registered in the U.S., whose flight plans we attach, entered Cuban jurisdictional waters north of the City of Havana, entered the prohibited area MUP-1 and even flew over said city at very low altitude, acting dangerously and carelessly." The letter continued:

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"In Appendix A ... we attach documents which prove the above-mentioned facts, which we specify ...:

1. Photocopies of the flight plans (FPL) of aircraft N108LS; N2506; N5485S; N312MX.
2. Photocopy of the video-radar reproduction taken on July 13, 1995 at 18:51 UTC which shows the circled position over the City of Havana of aircraft N108LS and N2506, whose codes SSR 1207 and 1210 match the ones in the respective flight plans (FPL).
3. That same video-radar reproduction shows the position of aircraft N5485S and N312MX north of the City of Havana but beyond Cuban jurisdictional waters.

In all cases, the aircraft flew off the path described in their flight plans, ignoring the warnings issued by the air traffic control offices not to enter dangerous zones or fly over Cuban territory.

...

I beg you to take the actions that your administration deems convenient to prevent such actions from reoccurring. ...According to information published in some United States media, ultra-rightist, anti-Cuban organizations established in the U.S. intend to carry out new action in violation of our laws on September 2, 1995, this time in the area of Varadero beach, using air and naval means of transportation.

...

The Government of the Republic of Cuba on July 14, 1995 issued a public statement declaring its 'firm determination to take all the necessary steps to prevent provocative actions' and clearly warned that 'any vessel coming from abroad and invading by force our sovereign waters may be sunk and any aircraft may be shot down.'

In the face of this situation, we call on your Administration to take all the necessary measures to prevent this publicized provocation to Cuban sovereignty from happening, in view of the unpredictable outcome this action may have."

2.1.2.11 By letter dated 29 August 1995, the FAA Administrator responded to the Cuban letter dated 21 August 1995, stating that the FAA took seriously any violations of FARs and international standards, and continued:

"Regarding the July 13 incident, the FAA Miami Flight Standards District Office has initiated a formal investigation of the event. Evidence is being gathered to substantiate the alleged overflight of Cuban airspace. If the evidence proves conclusively that FARs were violated, an enforcement action will be taken against the pilot in command. The information you have provided will be included in our investigation.

With respect to press reports that similar activities may occur on September 2, 1995, the FAA has issued a [NOTAM] recommending that all pilots avoid airspace within the coordinates of 2430N 8500W to 2430N 7700W to 2400N 7700W to 2400N 8500W at

and below 20,000 feet. The Notam further advises pilots to follow all applicable U.S. and international regulations for transiting another country's airspace."

2.1.2.12 In response to the Cuban Diplomatic Note No. 1100, the Department of State by Note to Cuba dated 28 August 1995, acknowledged that IACC had provided to FAA "information regarding the alleged unauthorized incursion of July 13, 1995 into Cuban airspace of aircraft originating in the United States." The Diplomatic Note continued:

"The FAA is investigating possible violations of Annex 2 to the [Chicago] Convention by the pilot involved, with a view to taking appropriate enforcement actions. ...

The Department reiterates that the Government of the United States neither sanctions nor encourages, nor is it indifferent to, the type of activity planned by organizers of the 'flotilla' when it violates either U.S., Cuban or international law. The Department will release this week a public statement paralleling its travel warning of August 8. A United States Coast Guard Notice to Mariners has been widely disseminated, and the Federal Aviation Administration will issue a Notice to Airmen this week, both of which parallel and reinforce the warning contained in the Department's public announcements.

The Government of the United States recognizes the right of peaceful protest. U.S. officials have, however, advised organizers of the 'flotilla' of the potential consequences of entering Cuban territorial seas for purposes inconsistent with the international law of the sea and have urged them not to do so. ...

The Government of the United States ... once again urges the Government of Cuba, in accordance with international legal principles concerning the use of force and the law of the sea, to exercise the utmost discretion and restraint and to avoid the use of excessive force in responding to the planned flotilla of private vessels and aircraft to ensure the safety of life."

2.1.2.13 The Department of State issued a public statement on 29 August 1995 which made reference to the announcement of 8 August 1995 and the Cuban public statement of 14 July 1995. It reiterated that "Persons entering Cuban territorial waters or airspace without permission may place themselves and others at serious personal risk."

2.1.2.14 By Diplomatic Note dated 30 August 1995, the Department of State informed Cuba that in relation to the flotilla and aircraft planning to approach Cuban territorial seas and airspace on 2 September 1995, a public statement had been released on 29 August 1995, and that FAA had issued a NOTAM on 28 August 1995. The Diplomatic Note further stated:

"The Government of the United States has taken all appropriate steps to enforce U.S. laws and regulations and will continue to do so. The Government of the United States recognizes the right of peaceful protest. United States Government officials have, however, advised organizers of the 'flotilla' of the potential consequences of entering Cuban territorial seas or airspace without authorization and have urged them not to do so."

2.1.2.15 The flotilla departed on 2 September 1995, but due to unfavourable weather conditions turned back in the early stages of its journey and returned to port. Hence, the aircraft that were planned to accompany the flotilla did not take off.

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2.1.2.16 By Diplomatic Note dated 5 October 1995, the Department of State informed Cuba:

"The FAA is charging José Basulto, a leader of the Brothers to the Rescue Group, with violating Federal Aviation Regulation (FAR) 91.703, operating a U.S.-registered aircraft within a foreign country in non-compliance with the regulations of that country; and FAR 91.13, operating an aircraft in a careless or reckless manner...".

The Diplomatic Note stated that these charges resulted from Mr. Basulto's flight on 13 July 1995 into Cuban airspace without permission from the Government of Cuba. A request was made to the Government of Cuba for any evidence that might be relevant to the charges, such as statements provided by Cuban air traffic controllers who observed the flight into Cuban airspace, or any other data to that effect. A request was also made for copies of "the Cuban regulations allegedly violated by Basulto."

2.1.2.17 By Diplomatic Note dated 18 October 1995, the Department of State informed Cuba of plans announced by organizations and individuals for a flotilla to approach Cuban territorial waters, perhaps accompanied by private aircraft, on 21 October 1995; the organizers had stated that they intended "to transmit shortwave radio and television signals into Cuba from vessels positioned outside Cuba's territorial waters for a period of approximately one half hour." The Department further informed Cuba that "the Government of the United States neither sanctions nor encourages, nor is it indifferent to, this type of activity... if it violates U.S. or international law." It advised that the Department would be releasing a public statement, that the Coast Guard would disseminate a Notice to Mariners and FAA would issue a NOTAM. The Government of the United States urged the Government of Cuba to exercise the utmost discretion and restraint and to avoid the use of excessive force in responding to the planned flotilla of private vessels and aircraft to ensure the safety of life.

2.1.2.18 The flotilla event planned for 21 October 1995 was subsequently cancelled due to unfavourable weather conditions.

2.1.2.19 On 3 November 1995, the Government of Cuba provided evidence related to the 13 July 1995 incursion in response to the Diplomatic Note from the United States dated 5 October 1995. The documents were sent through the United States Interests Section, and were passed on to FSDO, FAA in Miami. On 28 November 1995, the Department of State inquired whether the FAA office of International Aviation (AIA) had received the evidence from the Government of Cuba. The FAA AIA traced the documents, and received them from Miami FSDO on 1 December 1995.

### 2.1.3 **Incursions into Cuban airspace on 9 and 13 January 1996**

2.1.3.1 According to the authorities in Cuba, the following violations of Cuban airspace took place on 9 and 13 January 1996:

The Cuban authorities detected two light aircraft coming from Opa Locka Airport in Florida, which overflowed the territory of the Havana Provinces and released subversive propaganda, encouraging actions against the Cuban constitutional order.

2.1.3.2 According to the authorities in Cuba, leaflets were scattered not only over Havana, but covered all of the territory of Havana province. They added that Mr. Basulto had publicly stated that half a million leaflets had been dropped on 13 January 1996.

2.1.3.3 When interviewed by the ICAO team in April 1996 regarding the flights on 9 and 13 January 1996, Mr. Basulto said:



We had done calculations and experiments with leaflets. They were carried with the wind and sank 2.6 ft per second. We had been waiting for a suitable wind for three months, so that we could drop the leaflets over international waters and the wind would carry them over Havana. The wind conditions on 9 and 13 January 1996 made the drops possible. On 9 January we conducted an experiment, and on 13 January we dropped half a million leaflets very successfully. The drop was made over international waters and the wind carried them almost all over Havana. On 13 January 1946 the first draft of the Universal Declaration of Human Rights was presented to the United Nations by Cuba. The leaflets quoted excerpts from the Universal Declaration of Human Rights. Fifty years later we returned the declarations to Cuba.

2.1.3.4 By Diplomatic Note No. 45 dated 16 January 1996, the Ministry of Foreign Affairs of Cuba transmitted to the United States "its concern over the serious situation that has been created in the airspace of the Republic of Cuba by aircraft from the territory of the United States of America." The Diplomatic Note stated that Cuban authorities had "detected that two light aircraft from Opa Locka Airport... penetrated Cuban airspace on 9 and 13 January 1996 and flew over the territory of Havana's provinces dropping flyers of a subversive character in which they incited people to take action against the constitutional law and order of Cuba." The Ministry further stated that, by earlier diplomatic notes, it had informed the United States of "the occurrence of incidents of similar violations of Cuban airspace." The Diplomatic Note continued:

"The Government of the Republic of Cuba recognizes that the relevant U.S. authorities have adopted measures to discourage acts of an aggressive and terrorist nature towards Cuba. Nevertheless, the recent serious incidents ... demonstrate clearly that the measures taken are not strong enough to obviate the risk of dangerous acts whose perpetrators come from the United States.

For this reason the Government of the Republic of Cuba must demand of the Government of the United States of America that it adopt all additional measures necessary for the immediate halt of incidents of the kind that occurred on 9 and 13 January 1996."

2.1.3.5 The Department of State responded by Diplomatic Note dated 19 January 1996. It referred to the incidents of 9 and 13 January and stated that, as previously communicated, "the Government of the United States neither sanctions, nor encourages, nor is it indifferent to, this type of activity when it violates either U.S., Cuban or international law. The Government of the United States has consistently discouraged such activity, and has issued several public statements warning of the potentially serious consequences of entering Cuban territorial waters or airspace without prior authorization from the Government of Cuba." The Diplomatic Note stated further:

"The ... (FAA) has been informed of and is compiling data related to these reported incidents. On behalf of the FAA, the Department of State requests from the Government of Cuba any evidence or identifying data that might be relevant to the case, such as statements provided by Cuban air traffic controllers or others who observed the flights into Cuban airspace, or any other data to that effect.

The FAA would also like to obtain copies of the Cuban regulations allegedly violated by the pilots upon their unauthorized entry into Cuban airspace. ..."