Docket No. **SA-510**

Exhibit No. **5A**

NATIONAL TRANSPORTATION SAFETY BOARD

WASHINGTON, D.C.

METEOROLOGY GROUP CHAIRMAN'S FACTUAL REPORT

NATIONAL TRANSPORTATION SAFETY BOARD
Office of Aviation Safety
Washington, D.C. 20594

October 26, 1994

WEATHER GROUP CHAIRMAN'S FACTUAL REPORT OF INVESTIGATION

A. ACCIDENT: DCA-94-MA-076

Location: Aliquippa, Pennsylvania
Date: September 8, 1994
Time: 1904 Eastern Daylight Time
Airplane: Boeing 737-300, N513AU

B. WEATHER GROUP

The weather group met at the accident site on September 9 through 12, 1994. The following group members participated in the investigation:

Chairman: James T. Skeen, Jr.
NTSB
Washington, D.C.

Members: Stephen J. Skupien
ALPA
New Boston, New Hampshire

Paul Malobisky
USAir, Inc.
Pittsburgh, Pennsylvania

C. SUMMARY

On September 8, 1994, at 19043 Eastern Daylight time USAir flight 427, a Boeing 737-300, N513AU, crashed while maneuvering to land at Pittsburgh International Airport, Pittsburgh, Pennsylvania. The airplane was being operated on an instrument flight rules (IFR) flight plan under the provisions of Title 14, Code of Federal Regulation (CFR), Part 121, on a regularly scheduled flight from Chicago-O'Hare International Airport, Chicago, Illinois, to Pittsburgh. The airplane was destroyed by impact forces and fire near Aliquippa, Pennsylvania. All 132 persons on board the airplane were fatally injured.

The Weather Group was formed on September 9 and completed the on-scene phase of the investigation on September 12. During this period of time, the group visited the Pittsburgh International Airport (PIT) Weather Service Contract Meteorological Observatory (WSCMO) located in the airport terminal building and the Weather Service Forecast Office (WSFO) situated just north northwest of the airport. In addition, the group interviewed the weather observer on duty, and gathered pertinent weather data and forecasts. Finally, the group conducted a telephone interview of an expert in migratory bird activity.

D. DETAILS OF THE INVESTIGATION

1. Synoptic Information

The National Weather Service (NWS) 2000 Surface Analysis chart showed a high pressure ridge over the middle Atlantic states. A cold front extended from the vicinity of Lake Ontario southwestward through central Michigan.

2. Surface Weather Observations[1]

Greater Pittsburgh International Airport

The weather observations at PIT are taken by Sky Scan Weather, Inc., a private company under contract to the NWS. The company's sole role at PIT is the taking and dissemination of weather observations. No weather advisories, weather warnings, or forecasts are issued by the company. The PIT observing facility is located in Room 54056 of the Airside Terminal Building.

Pertinent surface weather observations taken from the PIT Surface Weather Observations forms (attachment one), in part, follow:

> Time--1852; Type--Record; sky condition--clear, visibility--15 miles, temperature--73° F, dew point--51° F, wind--250° at 7 knots, altimeter setting--30.10 inches of Hg, remarks--few cumulus cirrus.
>
> Time--1932; Type--Special; sky condition--clear, visibility--15 miles, wind--240° at 6 knots, altimeter setting--30.10 inches of Hg; remarks--few cumulus cirrus.

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[1]All heights above mean sea level unless noted. Heights in surface weather observations and terminal forecasts above ground level (AGL). All directions with reference to true north unless noted. All distances in statute miles unless noted.

Time--1952; Type--Record; sky condition--clear, visibility--15 miles, temperature--69° F, dew point--54° F, wind--240° at 5 knots, altimeter setting--30.10 inches of Hg.

Duquesne Light Company Meteorological Tower

Duquesne Light Company operates a meteorological tower midway between the Bruce Mansfield Power Station and Beaver Valley Power Station, on the southern side of the Ohio River. Meteorological instrumentation include sensors for wind direction, wind speed, and temperature. Data are collected at 35 feet, 150 feet, and 500 feet referenced to 735 feet mean sea level.

The following table shows wind information around the accident time extracted from data supplied by Duquesne Light Company.

TIME	35 FT	150 FT	500 FT
1845	244°/3.5 mph	253°/6.6 mph	255°/11.1 mph
1900	193°/2.2 mph	246°/4.5 mph	249°/9.7 mph
1915	186°/2.8 mph	214°/4.4 mph	242°/8.5 mph

3. Recorded Weather Measuring Equipment at PIT

Wind Gust Recorder - On the recorder trace, wind speeds varied from 6 to 8 knots during the period between 1840 to 1940. Wind directions were not recorded.

Laser Beam Ceilometer (LBC) - The LBC was off around the time of the accident.

Runway Visual Range (RVR) - Transmittance readings for runway 28R indicated the RVR was in excess of 6,000 feet.

4. Weather Radar Information

The Pittsburgh WSFO is located about 2 miles north northwest of PIT and about 6 miles southeast of the accident site. A Weather Surveillance Radar-88 Doppler (WSR-88D) is installed at that location. The radar is currently undergoing operational checkout and has not been officially commissioned.

WSR-88D base reflectivity products provided by the WSFO for 1859 and 1905 (attachments two and three) shows random radar returns in the PIT area. According to personnel at the WSFO, those returns are with the local ground clutter pattern around the radar.

The WSFO also supplied a WSR-88D velocity azimuth display (VAD) product. The VAD (attachment four) shows vertical wind profiles at intervals of approximately 6 minutes during the period from 1823 to 1922.

5. Sounding Information

The Pittsburgh WSFO launches radiosonde balloons twice daily around 0000 and 1200 Coordinated Universal Time (UTC). On September 8, the 0000 UTC balloon was released at 1914.

See attachment five for the raw data from the sounding. Attachment six shows a Man computer Interactive Data Access System (McIDAS) Skew-T Log-P plot of the data from the surface to about 10,000 feet.

6. NWS Aviation Forecasts and Advisories

A. Terminal Forecast (FT) - FT's for PIT are prepared by the Pittsburgh WSFO. Following are excerpts from the pertinent FT:

PIT FT
Valid September 8, 1300 to September 9, 1300
5,000 feet scattered 25,000 feet scattered, wind 240 degrees at 12 knots.
2200 12,000 feet scattered 25,000 feet scattered, wind 250 degrees at 6 knots.
September 9, 0400 Ceiling 12,000 feet broken 25,000 feet broken, wind 260 degrees at 8 knots.
September 9, 1000 4,000 feet scattered 25,000 feet scattered, wind 280 degrees at 12 knots; occasional ceiling 4,000 feet broken.

B. In-Flight Advisories - No AIRMETs, SIGMETs, Convective SIGMETs, or Center Weather Advisories were issued valid for the Pittsburgh area around the accident time.

C. Aviation Area Forecast (FA) - The FA for the PIT area is prepared by the National Severe Storms Forecast Center at Kansas City, Missouri. Following are excerpts from the pertinent FA:

Issued September 8, 1345
Synopsis and VFR Clouds/Weather
Synopsis valid until September 9, 0800
Clouds/Weather valid until September 9, 0200...Outlook valid September 9, 0200-0800
.
Synopsis...High pressure ridge over middle Atlantic States forecast move little through September 9, 0800. Cold front 1400 moving through lower Michigan forecast move southeastward

into northern Vermont-northwestern Pennsylvania-northern Ohio by September 9, 0200 and into northeastern Maine-western Massachusetts-northern Pennsylvania/Ohio by September 9, 0800.

.

Pennsylvania New Jersey
Central/western Pennsylvania...5,000 feet scattered. 2000 10,000 feet scattered. Outlook...visual flight rules.

7. Sunset

At 1903, the altitude of the sun above the horizon was approximately 7.9 degrees. The magnetic bearing from the accident location to the sun was about 278.7 degrees.

Sunset at 6,000 feet was about 1949.

8. Summary of Telephone Interview of Dr. Ronald Larkin

Dr. Larkin is employed by the Illinois Natural History Survey, which is funded by the State of Illinois. Dr. Larkin stated that he has been involved with the detection of birds on radar for the last 17 years.

He opined that the WSR-88D is capable of detecting bird activity. He also declared that the Federal Aviation Administration (FAA) ASR-9 radar can, under certain parameters, detect birds.

Although one can not rule out any type of birds, Mr. Larkin stated that the most likely types of migratory birds to be in the area were Giant Canada Geese, shore birds, and nighthawks.

During migration, Giant Canada Geese have been known to fly as high as 10,000 to 15,000 feet. Local, homing geese normally fly at 500 to 1,000 feet. The time of day that the Giant Canada Geese migrate is not well known. However, the geese do migrate about this time of year.

Shore birds, such as terns, also migrate at high altitudes. They have been know to fly as high as 15,000 feet over the Atlantic Ocean.

The common nighthawks migrate in dense numbers and are active at dusk.

Winds from the west and northwest are favorable for bird migration, while southerly winds lessen the possibility of widespread migration.

[redacted]
James T. Skeen, Jr.
Senior Meteorologist
Weather Group Chairman

Attachments

AS-30
10-28-94

ATTACHMENT ONE

Surface Weather Observations forms for WSCMO Pittsburgh for September 8, 1994

MF1-10A

U.S. DEPARTMENT OF COMMERCE, NOAA
NATIONAL WEATHER SERVICE

Surface Weather Observations

Station: WSCMO PITTSBURGH PA.
Date: SEP 08, 1994 To convert LST to UTC: 5

Type Time Sky&Ceiling Vsby&Wx&Obsns Slp/Temp/Dp/Wnd/Asl/ Remarks&SupplementalCodedData

SA 0050 CLR 20 211/53/47/0000/016/ 103 71 (JS 05:50Z)

72520 32980 00000 10117 20083 39770 40211 51003 333 10217 20111 70000 555 90806= (JS05:51Z)

SA 0151 CLR 20 212/52/46/0000/016 (JS 06:53Z)
SA 0250 CLR 20 208/52/46/2503/015/ 98415 (JS 07:52Z)
SA 0351 CLR 20 210/53/44/2705/016/ 500 (JS 08:52Z)
SA 0452 CLR 20 210/56/46/2606/016 (HM 09:53Z)
SA 0551 250 -SCT 15 215/52/46/2704/017 (HM 10:52Z)
SA 0650 250 -SCT 15 219/55/48/2803/018/ 307 1001 52 (HM 11:52Z)

72520 32974 22803 10128 20089 39777 40219 53007 80001 333 10217 20111 555 90812= (HM11:56Z)

SA 0751 250 -SCT 15 218/60/50/2506/018 (HM 12:51Z)
SA 0852 250 -SCT 15 221/65/51/2410/019 (HM 13:51Z)
SA 0953 250 -SCT 15 225/69/51/2510/020/ 307 1001 (HM 14:54Z)
SA 1051 250 -SCT 20 221/71/50/2711/019 (HM 15:52Z)
SA 1150 30 SCT 250 -SCT 20 217/73/52/2611/018 (HM 16:53Z)
SA 1253 33 SCT 250 SCT 20 208/75/53/2412/015/ 815 1101 52 (RS 17:55Z)

72520 32680 22412 10239 20117 39768 40208 58015 81101 333 10239 20111 555 90818= (RS18:04Z)

SA 1353 40 SCT 250 SCT 20 203/75/55/2609/014 (RS 18:55Z)
SA 1451 45 SCT 250 SCT 20 199/76/52/2510/013 (RS 19:53Z)
SA 1551 45 SCT 250 SCT 20 195/76/49/2611/012/ 712 1101 (RS 20:53Z)
SA 1652 250 SCT 15 191/75/51/2507/011/FEW CU (RS 21:54Z)
SA 1752 CLR 15 189/73/51/2507/010/FEW CU CI (RS 22:53Z)
*SA 1852 CLR 15 191/69/54/2405/010/FEW CU CI/ 605 1101 77 (RS 23:55Z)

72520 32774 12405 10206 20122 39751 40191 56005 81101 333 10250 20111 555 90900= (RS00:03Z)

SA 1953 CLR 15 192/68/55/2307/011 (RS 00:54Z)
SA 2052 CLR 15 197/64/55/2106/012 (RS 01:54Z)
SA 2152 250 -BKN 15 194/63/55/2004/012/ 105 1000 (JS 02:54Z)
SA 2253 250 -SCT 15 194/62/54/2107/012 (JS 03:54Z)
SA 2354 250 -SCT 15 194/61/55/2209/012 (JS 04:55Z)

* - SP 1852 recorded in col 70, sent out locally over AWIPS

MF1-10B

U.S. DEPARTMENT OF COMMERCE, NOAA
NATIONAL WEATHER SERVICE

Surface Weather Observations

Station: WSCMO PITTSBURGH PA.
Date: SEP 05, 1994 To convert LST to UTC: 5

Time	Station Pressure	Dry Bulb	Wet Bulb	[pressure] tend-ency	net chg	Preci-pitation
-16-	-17-	-18-	-19-	-37-	-38-	-40-
0050	28.850			1	003	
0151	28.850					
0250	28.840					
0351	28.850			5	000	
0452	28.850					
0551	28.860					
0650	28.870			3	007	
0751	28.870					
0852	28.880					
0953	28.890			3	007	
1051	28.880					
1150	28.870					
1253	28.845			8	015	
1353	28.830					
1451	28.820					
1551	28.810			7	012	
1652	28.800					
1752	28.790					
1852	28.795			6	005	
1953	28.800					
2052	28.815					
2152	28.810			1	005	
2253	28.810					
2354	28.810					

[CLOUD LAYERS AND OBSCURING PHENOMENA]

	[FIRST]				[SECOND]				[THIRD]				[FOURTH]				[FIFTH]				[SIXTH]				
	Tot.							1st.				2nd.				3rd.				4th				Tot.
Time	Sky	Amt	Type	Hgt	Amt	Type	Hgt	Sum	Amt	Type	Hgt	Sum	Amt	Type	Hgt	Sum	Amt	Type	Hgt	Sum	Amt	Type	Hgt	Opq.
-16-	-21-	-22-	-23-	-24-	-25-	-26-	-27-	-28-	-29-	-30-	-31-	-32-	-33-	-34-	-35-									-36-
0050	0																							0
0151	0																							0
0250	0																							0
0351	0																							0
0452	0																							0
0551	5	5	CI	250																				0
0650	3	3	CI	250																				0
0751	2	2	CI	250																				0
0852	2	2	CI	250																				0
0953	3	3	CI	250																				0
1051	3	3	CI	250																				0
1150	3	1	CU	30	2	CI	250	3																1
1253	2	1	CU	33	1	CI	250	2																2

1451	2	1	CU	45	1	CI	250	2	2
1551	2	1	CU	45	1	CI	250	2	2
1652	1	0	CU	50	1	CI	250	1	1
1752	0	0	CU	50	0	CI	250	0	0
1852	0	0	CU	50	0	CI	250	0	0
1953	0								0
2052	0								0
2152	7	7	CS	250					1
2253	4	4	CS	250					0
2354	3	3	CI	250					0

Synoptic Observations

Time (LST)	No.	Precip. (ins.)	Snow Fall (ins.)	Snow Depth (ins.)	Max. Temp (°F)	Min. Temp (°F)	State of Grnd.	Soil Temp (°F)	[Station Pressure] [Computations] Barograph	Corr.
-42-	-43-	- 44 -	- 45 -	- 46 -	- 47 -	- 48 -	- 50 -	- 56 -	- 64 -	-65 -
Mid to										
0050		0.00	0.0		53	52				
0050	1	0.00	0.0	0	64	52			28.840	+0.010
0650	2	0.00	0.0	0	56	52			28.860	+0.010
1250	3	0.00	0.0	0	75	55			28.840	+0.005
1850	4	0.00	0.0	0	77	69			28.785	+0.010
Mid.		0.00	0.0	0	69	61				

Summary of Day (Midnight to midnight)

[TEMPS] Max (°F) -66-	Min (°F) -67-	24-hr Precip (ins.) -68-	24-hr Snow Unmltd (ins.) -69-	Snow Depth (ins.) -70-	[Peak Wind] Spd (kts.) -71	Dir. 72	Time (LST) 73-	[Sky Cover] SR-SS -78-	Mid-Mid -79-	Water Equiv. (ins.) -80-	Sun-Rise	Sun-Set	Total Sun	% Psbl	[Fastest Wind] Spd (mph)	Dir.	Time (LST)
77	52	0.00	0.0	0	20	W	1222	2	2		0555	1842	706	92	14	24	1253

Weather & Obstruction to Vision

Type -82-	began -83-	end -84-

<<<< None Logged >>>>

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90. Remarks, Notes & Miscellaneous Phenomena

Character of Sunrise: CLEAR Character of Sunset: CLEAR

Time Check: 0030/0630/1230/1830

WG READING AT 0040 1.99 AT 0640 1.99 AT 1240 1.95 AT 1840 1.93//SP TAKEN AT 1832

UPON TOWER REQUEST-NO REASON GIVEN AT TIME-NOT ENTERED ON MAPSO-READS AS FOLLOWS: SP 1832 CLR 15 2406/010/FEW CU CI//DAILY TOTALS L-00 SP-00 RS-00

MONTHLY TOTALS L-00 SP-15 RS-03//

*- TWR DID not indicate it was a mistAP, just Wanted a SP.

LBC - turned off no clouds under 12,000 ft.

ATTACHMENTS TWO - FOUR

Attachment two - WSR-88D base reflectivity product taken from the WSFO Pittsburgh Principal User Processor (PUP) for 1859 September 8, 1994

Attachment three - WSR-88D base reflectivity product taken from the WSFO Pittsburgh PUP for 1905 September 8, 1994

Attachment four - WSR-88D velocity azimuth display (VAD) wind profile product taken from the WSFO Pittsburgh PUP for the period 1823 to 1922 September 8, 1994

ATTACHMENTS FIVE - SIX

Attachment five - Radiosonde data obtained from WSFO Pittsburgh for the nominal time of 0000 UTC September 9, 1994

Attachment six - Skew-T Log-P plot from the surface to 700 millibars of the Pittsburgh 0000 UTC September 9, 1994, sounding

FLIGHT SUMMARY DATA

STATION: Pittsburgh, PA INDEX: 72520 WBAN: 94823
DATE: 09-SEP-94 HOUR: 0 ASC. NO: 491-1
R/S No.: 84422626.ST LAUNCH TIME: 23:14
TERM: BALLOON BURST TERM PRESS: 12.7 TERM HT: 29700

TIME(min)	PRESS(mb)	HT(M-MSL)	TEMP(C)	RH(%)	DP(C)	WINDS DIR	WINDS SPEED	REASON
0.0	976.3	360	21.5	50	10.7	250	6	SFC
0.2	971.2	405	21.5	47	9.6	250	7	SFC20
2.0	925.0	825	17.6	53	7.8	253	14	MAND
5.0	850.0	1540	11.3	70	6.0	263	16	MAND
6.9	799.5	2048	7.0	72	2.4	283	12	TEMP
7.6	779.9	2252	6.0	54	-2.7	292	12	TEMP
8.1	766.0	2399	5.9	21	-14.8	297	12	RH
8.5	755.0	2517	6.0	18	-16.5	297	13	TEMP
11.0	700.0	3131	2.3	20	-18.2	288	21	MAND
12.9	660.6	3597	0.0	17	-22.4	287	23	FRZ
13.6	647.1	3762	-0.5	15	-23.7	289	23	TEMP
21.2	500.0	5766	-15.0	15	-35.7	273	29	MAND
22.6	475.4	6145	-18.2	16	-37.8	272	29	TEMP
25.7	424.8	6977	-23.1	16	-42.0	279	29	TEMP
27.5	400.0	7414	-26.9	19	-43.5	277	31	MAND
28.8	380.6	7770	-30.2	28	-42.7	278	31	RH
29.4	372.5	7922	-31.5	21	-46.4	278	31	RH
30.3	360.1	8161	-33.7	28	-46.0	279	32	TEMP
35.1	300.0	9415	-43.3	28	-54.3	280	36	MAND
36.2	289.2	9661	-44.8	27	-55.8	285	35	TEMP
39.8	250.0	10619	-52.1	29	-61.8	286	34	MAND
44.9	200.0	12035	-60.8	30	-69.3	271	51	MAND
45.4	196.2	12154	-60.6	30	-69.0	272	53	TEMP
46.5	187.6	12434	-58.7	30	-67.4	272	55	TEMP
49.9	162.6	13333	-57.9	29	-67.0	276	53	TEMP
50.5	158.4	13499	-56.7	28	-66.0	273	49	TEMP
51.8	150.0	13844	-56.1	27	-65.7	268	43	MAND
52.9	143.4	14131	-55.4	27	-65.3	270	40	TEMP
57.6	116.5	15443	-59.2	26	-68.8	269	40	TEMP
58.3	113.1	15629	-58.4	26	-68.2	269	40	TEMP
58.9	110.3	15786	-59.4	26	-69.0	269	40	TEMP
61.2	100.0	16400	-59.2	26	-68.9	277	35	MAND
62.7	93.4	16830	-56.5	25	-66.7	285	28	TEMP
65.4	82.9	17585	-57.4	25	-67.5	286	18	TEMP
66.1	80.5	17771	-56.0	25	-66.4	287	18	TEMP
68.6	71.9	18488	-56.7	24	-67.2	282	17	TEMP
69.2	70.0	18658	-56.3	24	-66.9	281	14	MAND
70.0	67.6	18881	-54.2	23	-65.1	276	11	TEMP
73.7	57.1	19959	-55.5	23	-66.5	262	13	TEMP
76.6	50.0	20809	-53.4	22	-65.0	255	12	MAND
78.9	45.0	21486	-54.0	21	-65.7	249	10	TEMP
81.1	40.5	22166	-51.5	20	-63.8	230	4	TEMP
82.3	37.9	22596	-51.9	20	-64.3	226	4	TEMP
84.5	34.0	23294	-55.5	20	-67.4	194	4	TEMP
87.0	30.0	24095	-53.4	20	-65.7	105	2	MAND
91.6	23.5	25668	-52.8	19	-65.4	52	13	TEMP

TIME(min)	PRESS(mb)	HT(M-MSL)	TEMP(C)	RH(%)	DP(C)	WINDS DIR	WINDS SPEED	REASON
94.5	20.0	26715	-50.1	19	-63.1	80	15	MAND
97.1	17.3	27661	-50.3	19	-63.4	76	12	TEMP
102.0	12.7	29700	-45.5	18	-59.7	0	0	TERM

Fixed Ht. (ft)	Wind Dir	Wind Speed (kts)
1000	0	0
2000	251	13
3000	253	14
4000	254	15
6000	274	15
7000	287	12
8000	297	13
9000	295	16
12000	287	23
14000	290	24
16000	277	29
20000	272	29
25000	277	32
30000	278	36
35000	285	34
50000	270	41
70000	247	11
90000	81	13

Station: Pittsburgh, PA
MicroART Rework Program

Ascension: 491-1 Release: 23:14 8-SEP-94
Version 1.52 Print: 17:53 9-SEP-94

WINDS DATA

TIME(min)	HEIGHT(M-AGL)	DIR	SPEED	HEIGHT(FT-MSL)	NOTES
0	0	250	6	1181	SIG
1	232	251	13	1942	
2	465	253	14	2707	
3	703	253	15	3487	
4	942	255	15	4272	SIG
5	1180	263	16	5052	
6	1447	273	15	5928	
7	1717	284	12	6814	
8	2010	297	12	7775	SIG
9	2280	297	14	8661	
10	2525	292	18	9465	
11	2771	288	21	10272	
12	3016	285	22	11076	
13	3261	287	23	11880	
14	3507	290	23	12687	
15	3771	291	23	13553	
16	4035	289	24	14419	
17	4299	283	26	15285	
18	4562	276	30	16148	SIG
19	4826	274	31	17014	
20	5090	275	30	17880	
21	5353	273	29	18743	
22	5623	272	28	19629	
23	5892	272	30	20512	
24	6161	273	31	21394	
25	6429	278	30	22273	
26	6690	279	29	23130	
27	6933	277	30	23927	
28	7191	277	32	24773	
29	7461	278	31	25659	
30	7721	279	32	26512	
31	7984	279	33	27375	
32	8245	279	35	28231	
33	8506	278	35	29088	
34	8768	278	36	29947	
35	9029	279	36	30803	
36	9256	284	35	31548	
37	9514	288	36	32395	
38	9780	289	37	33267	
39	10046	289	34	34140	
40	10315	285	34	35023	SIG
41	10592	280	37	35931	
42	10870	279	43	36843	
43	11147	275	46	37752	
44	11425	270	46	38664	
45	11699	271	51	39563	
46	11947	273	55	40377	
47	12206	270	55	41227	
48	12471	268	57	42096	SIG
49	12735	273	56	42962	
50	13001	276	53	43835	
51	13272	271	46	44724	
52	13536	267	42	45590	

WINDS DATA

TIME(min)	HEIGHT(M-AGL)	DIR	SPEED	HEIGHT(FT-MSL)	NOTES
53	13799	270	40	46453	
54	14078	272	40	47368	
55	14357	273	39	48284	
56	14636	273	40	49199	
57	14916	270	41	50118	
58	15189	269	40	51013	
59	15453	269	40	51879	
60	15720	270	39	52755	
61	15987	276	36	53631	SIG
62	16269	281	32	54556	SIG
63	16554	286	27	55491	
64	16834	289	21	56410	
65	17113	286	18	57325	
66	17384	287	18	58215	
67	17669	284	18	59150	
68	17956	283	19	60091	
69	18241	282	15	61026	
70	18521	276	11	61945	SIG
71	18812	270	10	62899	
72	19104	262	10	63857	
73	19395	259	12	64812	
74	19687	263	13	65770	
75	19980	253	13	66731	
76	20273	253	13	67693	
77	20567	256	12	68657	SIG
78	20861	245	12	69622	
79	21157	250	10	70593	
80	21466	253	7	71607	
81	21775	230	4	72621	
82	22128	226	4	73779	
83	22458	227	5	74861	
84	22775	195	4	75901	
85	23094	193	3	76948	
86	23415	206	1	78001	
87	23735	105	2	79051	
88	24077	49	3	80173	
89	24419	34	5	81295	
90	24761	50	9	82417	
91	25103	44	12	83539	SIG
92	25452	57	14	84684	
93	25813	72	16	85868	
94	26174	74	15	87053	
95	26537	86	16	88244	SIG
96	26901	86	13	89438	
97	27265	76	12	90632	
98	27676	74	12	91981	SIG
99	28092	74	12	93345	
100	28508	78	12	94710	
101	28924	86	11	96075	SIG

Station: Pittsburgh, PA Ascension: 491-1 Release: 23:14 8-SEP-94
MicroART Rework Program Version 1.52 Print: 17:58 9-SEP-94

LEVELS

Time (min)	Pressure (mb)	Tempr (C)	RH (%)	Reason
0.0	976.3	21.5	50.0	SFC
0.2	971.2	21.5	46.7	SFC20
2.0	925.0	17.6	52.6	MAND
5.0	850.0	11.3	69.8	MAND
6.9	799.5	7.0	72.2	TEMP
7.6	779.9	6.0	53.7	TEMP
8.1	766.0	5.9	21.0	RH
8.5	755.0	6.0	18.1	TEMP
11.0	700.0	2.3	20.4	MAND
12.9	660.6	0.0	16.7	FRZ
13.6	647.1	-0.5	15.4	TEMP
21.2	500.0	-15.0	15.2	MAND
22.6	475.4	-18.2	16.0	TEMP
25.7	424.8	-23.1	15.8	TEMP
27.5	400.0	-26.9	18.9	MAND
28.8	380.6	-30.2	28.3	RH
29.4	372.5	-31.5	21.2	RH
30.3	360.1	-33.7	27.5	TEMP
35.1	300.0	-43.3	28.1	MAND
36.2	289.2	-44.8	27.4	TEMP
39.8	250.0	-52.1	29.0	MAND
44.9	200.0	-60.8	30.0	MAND
45.4	196.2	-60.6	30.2	TEMP
46.5	187.6	-58.7	29.8	TEMP
49.9	162.6	-57.9	28.5	TEMP
50.5	158.4	-56.7	28.2	TEMP
51.8	150.0	-56.1	27.3	MAND
52.9	143.4	-55.4	26.6	TEMP
57.6	116.5	-59.2	25.8	TEMP
58.3	113.1	-58.4	25.7	TEMP
58.9	110.3	-59.4	25.7	TEMP
61.2	100.0	-59.2	25.6	MAND
62.7	93.4	-56.5	25.1	TEMP
65.4	82.9	-57.4	24.8	TEMP
66.1	80.5	-56.0	24.5	TEMP
68.6	71.9	-56.7	23.9	TEMP
69.2	70.0	-56.3	23.7	MAND
70.0	67.6	-54.2	23.4	TEMP
73.7	57.1	-55.5	22.5	TEMP
76.6	50.0	-53.4	21.6	MAND
78.9	45.0	-54.0	21.1	TEMP
81.1	40.5	-51.5	20.4	TEMP
82.3	37.9	-51.9	19.9	TEMP
84.5	34.0	-55.5	19.8	TEMP
87.0	30.0	-53.4	19.6	MAND
91.6	23.5	-52.8	19.0	TEMP
94.5	20.0	-50.1	18.9	MAND
97.1	17.3	-50.3	18.5	TEMP
102.0	12.7	-45.5	17.7	TERM