

PROJECT 10073 RECORD CARD

1. DATE 18 May 64		2. LOCATION Mount Vernon, Virginia		12. CONCLUSIONS ☐ Was Balloon ☐ Probably Balloon ☐ Possibly Balloon ☐ Was Aircraft ☐ Probably Aircraft ☐ Possibly Aircraft ☐ Was Astronomical ☐ Probably Astronomical ☐ Possibly Astronomical ☐ Other <u>UNIDENTIFIED</u> ☐ Insufficient Data for Evaluation ☒ Unknown	
3. DATE-TIME GROUP Local _____ GMT <u>18/2315Z</u>		4. TYPE OF OBSERVATION ☒ Ground-Visual ☐ Ground-Radar ☐ Air-Visual ☐ Air-Intercept Radar			
5. PHOTOS ☐ Yes ☒ No		6. SOURCE <u>civilian</u>			
7. LENGTH OF OBSERVATION 17 minutes		8. NUMBER OF OBJECTS one/two		9. COURSE West	
10. BRIEF SUMMARY OF SIGHTING Small oval obj with white glow brighter than the brightest star visible observed in diameter from the Moon at the moon's 3 o'clock position. Obj gradually moved around moon to 12 o'clock position of moon 3 diameter's length. This motion took 15 mins. Then obj moved to W about 15 diameters of Moon in one min. Then obj grew dim, split in two particles with one being a grey cloud-like followed with BX. No longer visible to naked eye. Obj split in two again and gradually faded. This sequence consumed one min. Total duration 17 min. Sighting at dusk toward setting sun.				11. COMMENTS Possibility of research balloon with pkg breaking. Data not sufficient to support this evaluation. Case regarded as UNIDENTIFIED. <u>Balloon RULED OUT: Motion AGAINST WIND</u>	

	Year
Actual time 7 th mar.	1964
Scheduled (G.M.T.)	1964
Ascension No.	

Page
1

Name of
 Station
 Lat. and
 long.
 Local
 Standard
 time, 75th
 meridian
 El. of Station
 Method of
 obs., e.g.,
 rawinsonde,
 rawin, albal
 Type of
 equip., e.g.,
 WBRT-57,
 GAD-1A,
 GAD-1,
 SCR-658,
 theodolite

Termination
Alt. for
150 & 300 m.
are with
respect to
ground, alt.
for other
standard levels
are in km., mal.

Reason for termination

Computer

Verifier —

Type of balloon 1000			Orientation, 360° = South										Rawinsonde										
Slant range (m.) (yds.)	Pibal ht. above sfc. (m.)	Minute	Rawin ht. above surface (m.)	Elevation angle °		Distance from observation point (m.)	Azimuth angle °	Minute	Wind		Contact	Pressure (mb.)											
				Observed	Smoothed				Direction ° 360° = N.	Speed (m.p.s.)													
	30 gram	100 gram																					
	216		1	350	35.6	490	307.2	1	320	9.5	5	1010											
	350										10	935											
	414		2	700	31.3	1150	320.1	2	334	9.7	15	864											
	612										20	788											
	810		3	1010	31.3	1650	326.5	3	345	8.7	25	734											
	1001										30	674											
	1285		4	1400	32.8	2160	332.3	4	344	6.8	35	616											
	1555										40	564											
	1880		5	1700	34.6	2450	332.0	5	308	6.0	45	514											
	2170										50	466											
	2455		6	2100	36.6	2800	326.5	6	286	8.1	55	422											
	2740										60	381											
	3020		7	2410	37.6	3200	319.5	7	250	8.7	65	342											
	3300										70	306											
	3580		8	2800	37.2	3700	316.9	8	284	11.5	75	273											
	3855										80	242											
	4130		9	3160	36.6	4400	305.0	9	282	13.2	85	214											
	4405										90	188											
	4675		10	3520	35.2	5100	306.5	10	294	12.0	95	164											
	4950										100	143											
	5225		11	3900	33.7	5800	305.7	11	304	13.5	105	122											
	5500										110	102											
	5775		12	4300	32.8	6700	315.9	12	314	14.3	115	82											
	6050										120	73											
	6325		13	4700	32.1	7500	307.4	13	325	16.0	125	59											
	6600										130	47											
	6875		14	5100	31.0	8500	310.7	14	328	20.9	135	34											
	7150										140	21											
	7425		15	5500	27.0	9900	312.3	15	314	24.0													
	7700																						
	7975		16	5900	27.4	11400	311.5	16	302	23.4													
	8250																						
	8525		17	6290	26.2	12700	310.0	17	301	22.0													
	8800																						
	9075		18	6700	25.5	14000	309.6	18	310	22.5													
	9350																						
	9625		19	7090	24.7	15400	310.0	19															
	9900																						
	10175		20		22.7		310.3	20	313	22.0													
	10450																						
	10725		21	7810	22.2	18100	310.7	21															
	11000																						
	11275		22		22.6		310.2	22	309	25.5													
	11550																						
	11825		23	8610	22.0	21200	310.1	23															
	12100																						
	12375		24		21.5		310.5	24	317	26.0													
	12650																						
	12925		25	9470	21.2	24300	311.1	25															
	13200																						
	13475		26		20.6		311.6	26	319	29.0													
	13750																						
	14025		27	10170	20.0	27700	312.2	27															
	14300																						
	14575		28		19.50		312.6	28	318	30.5													
	14850																						
	15125		29	10900	19.05	31400	312.9	29															
	15400																						
	15675		30		18.70		313.6	30	330	27.0													
	15950																						
	16225		31	11660	18.50	34500	314.4	31															
	16500																						
	16775		32		18.35		314.3	32	303	24.0													
	17050																						
	17325		33	12420	18.25	37300	313.5	33															
	17600																						
	17875		34		17.80		312.9	34	309	28.0													
	18150																						
	18425		35	13220	17.70	40900	312.1	35															
	18700																						
	18975		36	13670	17.75	42200	312.9	36	304	18.0													
	19250																						
	19525		37	14070	17.90	43000	312.5	37															
	19800																						
	20075		38	14520	18.25	42500	312.0	38	284	14.0													
	20350																						
	20625		39		18.50		311.2	39															
	20900																						
	21175		40	15300	18.20	45300	310.5	40	285	13.8													
	21450																						
	21725		41		18.75		310.5	41															
	22000																						
	22275		42	16400	19.20	46500	310.0	42	276	12.5													
	22550																						
	22825		43		19.05		309.5	43															
	23100																						
	23375		44	17200	19.25	47300	309.0	44	281	6.5													
	23650																						
	23925		45		20.1		309.0	45															
	24200																						
	24475		46	18010	20.4	47800	309.0	46	313	5.2													
	24750																						
	25025		47		20.6		308.7	47															
	25300																						
	25575		48	18860	21.0	48500	309.1	48	321	5.0													
	25850																						
	26125		49		21.3		309.0	49															
	26400																						
	26675		50	19720	21.6	49300	309.3	50	325	3.5													

Altitude #

Direction (degrees)

Speed

Card No. 1

Type of equipment

sfc.

150 M.

300 M.

0.5

1.0

1.5

2.0

2.5

3

4

5

6

[illegible]

Maxim
Min. alt. wind s 45 m.p.s. or mo
Alt. of maximum wind speed (m'
Dir. (degrees) c (m.p.s.) of Max.
Max. alt. wind s 45 m.p.s. or mo
Enter check if appear on rever

U.S. DEPARTMENT OF COMMERCE
WEATHER BUREAU

WINDS-ALOFT COMPUTATION SHEET
(LANDSTATION FORM)
WBAN-20

59° N LONG. 77° 28' W
STATION 360=S
5 FLOORS ABOVE SEA LEVEL

Actual time th mer.	Year	Month	Day	Time
2	1964	MAY	18	000
Scheduled (G.M.T.)	1964	MAY	18	12

Ascension No. 550

Orientation, 360°= South

Rawinsonde Time-Altitude Data

Rawin above surface (m.)	Elevation angle°		Distance from observation point (m.)	Azimuth angle °	Minute	Wind	
	Observed	Smoothed				Direction° 360°= N.	Speed (m.p.s.)
						sfc. 012, 11 -	
270	41.5		300	347.5	1	16	4.2
530	46.4		500	157.7	2	38	5.1
800	44.3		820	22.0	3	26	5.4
1090	43.8		1120	23.6	4	14	6.1
1380	41.9		1340	18.7	5	2	6.7
1650	40.6		1510	15.0	6	360	6.0
1920	39.6		2300	12.6	7	360	7.8
2200	37.9		2810	9.7	8	360	9.2
2480	36.3		3350	8.0	9	354	11.0
2750	33.5		4080	4.5	10	347	14.8
3000	30.5		5050	0.7	11	341	16.7
3260	28.9		5950	336.8	12	332	13.6
3560	28.5		6500	353.9	13	332	10.3
3870	28.4		7100	352.7	14	336	12.4
4170	27.5		7850	351.0	15	340	17.0
4470	26.0		7100	349.7	16	337	20.4
4760	24.5		10400	347.3	17	327	21.0
5000	23.4		11520	345.1	18	325	19.3
5300	22.6		12600	343.4	19	327	20.8
5600	21.9		13900	341.9	20	324	20.6
5990	21.4		14900	340.5	21	323	18.5
6140	20.9		16000	339.4	22	327	20.1
6400	20.2		17300	338.7	23	331	22.3
6700	19.65		18600	338.1	24	328	22.3
7000	19.25		19900	337.4	25		
	18.95			336.7	26	325	23.3
7620	18.60		22500	335.9	27		
	18.20			335.2	28	322	24.0
8220	17.85		25300	334.3	29		
	17.50			333.9	30	328	27.2
8820	17.05		28500	333.7	31		
	16.60			333.2	32	323	29.5
9420	16.25		32000	332.6	33		
	15.90			332.2	34	327	27.0
10000	15.65		35300	332.1	35		
	15.35			331.9	36	327	30.2
10600	15.05		38900	331.7	37		
	14.87			331.6	38	323	27.8
11200	14.65		41200	330.9	39		
	14.49			330.3	40	323	26.0
11800	14.36		45300	330.2	41		
	14.16			330.1	42	326	30.5
12400	13.99		49000	330.1	43		
	13.83			329.9	44	320	27.0
13000	13.77		52000	329.5	45		
	13.76			329.5	46	321	17.3
13600	13.54		54100	329.2	47		
14200	13.46		55000	328.8	48	307	16.5
14800	14.00		55900	328.6	49		
15000	14.03		56900	328.3	50	298	13.7

Contact	Pressure (mb.)	Altitude (m., m.s.l.)	Elapsed time (min.)
5	1010	120	0.3
10	999	720	2.3
15	982	1330	4.7
20	967	1960	6.7
25	949	2600	9.2
30	931	3180	11.6
35	916	3950	13.7
40	894	4580	16.1
45	876	5250	18.5
50	858	5920	21.0
55	844	6660	23.7
60	820	7450	26.2
65	802	8150	28.7
70	786	8900	31.1
75	770	9700	33.7
80	760	10450	36.5
85	729	11280	39.0
90	700	12110	41.6
95	675	12950	44.7
100	652	13780	47.2
105	630	14770	50.5
110	610	15800	54.0
115	593	16850	57.5
120	577	18020	61.2
125	562	19380	65.2
130	549	20880	69.7
135	536	22880	74.7
140	523	25800	81.1
145	510	31420	92.0
MS. 6	9	32151	93.6

Punched Card Data

Altitude #	Direction (degrees)	Speed (m.p.s.)	Card columns	Altitude #	Direction (degrees)	Speed (m.p.s.)
Card No. 1			15	Card No. 2		
Type of equipment	8	16	Type of equipment	8		
sfc.	00	00	17-21	7	327	22
150 M.	16	3	22-26	8	322	24
300 M.	18	4	27-31	9	325	25
0.5	25	5	32-36	10	326	26
1.0	22	6	37-41	11	323	27
1.5	1	7	42-46	12	325	28
2.0	360	8	47-51	13	314	23
2.5	355	11	52-56	14	299	16
3	341	16	57-61	15	296	14
4	336	13	62-66	16	213	12
5	326	20	67-71	17	308	9
6	323	19	72-76	18	290	5

Maximum Wind Speed Data

Min. alt. wind speed 45 m.p.s. or more (m.)		
Alt. of maximum wind speed (m.)		
Dir. (degrees) and speed (m.p.s.) of Max. wind		
Max. alt. wind speed 45 m.p.s. or more (m.)		
Enter check if additional levels appear on reverse side.		

Coded Data for Transmission

20410	0311	40112	3613	6 3613	3617	8 3620
4 3432	6 2240	83 3413	0 3238	33334	5 3246	03257
0 3026	7 3123					
6 0 3412	03507	0 0506	0 0802	0 0802	3 0802	D

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*Identification

WASHINGTON, D. C.
(SPRINGFIELD, VA.) LAT. 38° 59' N LONG. 77° 28' W
RAWIN WBR-50 ORIENTATION 360=S
OBSERVATION POINT 65 METERS ABOVE SEA LEVEL

U.S. DEPARTMENT OF COMMERCE
WEATHER BUREAUWINDS-ALOFT COMPUTATION SHEET
(LANDSTATION FORM)
WBAN-20Act
time
th
Sched
(G.M.
Ascer

Type of balloon 400

Orientation, 360° = South

Slant range (m.) (yds.)	Pibal ht. above sfc. (m.) 30 gram 100 gram	Minute	Rawin ht. above surface (m.)	Elevation angle °		Distance from observation point (m.)	Azimuth angle °	Minute	Wind		Cor tac
				Observed	Smoothed				Direction ° 360° = N. sfc. (01) 1 -	Speed (m.p.h.)	
	216	1	270	41.5		300	347.5	1	16	4.2	1
	350										
	414	2	530	46.4		500	15.7	2	38	5.1	2
	670										
	612	3	100	44.3		820	22.0	3	26	5.4	2
	980										
	801	4	1090	43.8		1120	23.6	4	14	6.1	3
	1285										
	990	5	1380	41.9		1370	18.7	5	2	6.7	3
	1585										
	1170	6	1650	40.6		1710	15.0	6	360	6.0	4
	1880										
	1350	7	1920	39.6		2300	12.6	7	360	7.8	4
	2170										
	1530	8	2200	37.9		2810	9.7	8	360	9.2	5
	2455										
	1710	9	2480	36.3		3350	8.0	9	354	11.6	5
	2740										
	1890	10	2730	33.5		4080	4.5	10	347	14.8	6
	3020										
	2070	11	3000	30.5		5050	0.7	11	341	16.7	6
	3300										
	2280	12	3260	28.9		5750	336.8	12	332	13.6	7
	3580										
	2430	13	3560	28.5		6500	353.9	13	332	10.3	7
	3855										
	2610	14	3870	28.4		7100	352.7	14	336	12.4	8
	4130										
	2790	15	4170	27.5		7950	351.0	15	340	17.0	8
	4405										
	2970	16	4470	26.0		7100	347.7	16	337	20.4	9
	4675										
	3150	17	4760	24.5		10100	347.3	17	327	21.0	9
	4945										
	3330	18	5000	23.4		11520	345.1	18	325	19.3	10
	5215										
	3510	19	5300	22.6		12000	343.4	19	327	20.8	10
	5485										
	3690	20	5600	21.9		13900	341.9	20	324	20.6	11
	5755										
	3870	21	5890	21.4		14900	340.5	21	323	18.5	11
	6025										
	4050	22	6140	20.9		16000	339.4	22	327	20.1	12
	6295										
	4230	23	6400	20.2		17300	338.7	23	331	22.3	12
	6565										
	4410	24	6700	19.65		18600	338.1	24	328	22.3	13
	6835										
	4590	25	7000	19.25		19900	337.4	25			
	7105										
	4770	26		18.95			336.7	26	325	23.3	13
	7375										
	4950	27	7620	18.60		22500	335.9	27			
	7645										
	5130	28		18.20			335.2	28	322	24.0	14
	7915										
	5310	29	8220	17.85		25300	334.3	29			
	8185										
	5490	30		17.50			333.9	30	328	27.2	14
	8455										
	5670	31	8820	17.05		28500	333.7	31			
	8730										
	5850	32		16.60			333.2	32	323	24.5	15
	9005										
	6030	33	9420	16.25		32000	332.6	33			
	9285										
	6210	34		15.90			332.2	34	327	27.0	15
	9565										
	6390	35	10000	15.65		35300	332.1	35			
	9850										
	6570	36		15.35			331.9	36	327	30.2	16
	10135										
	6750	37	10600	15.05		38900	331.7	37			
	10420										
	6930	38		14.87			331.6	38	323	27.8	16
	10710										
	7110	39	11200	14.65		42200	330.9	39			
	11005										
	7290	40		14.49			330.3	40	323	26.0	17
	11300										
	7470	41	11800	14.36		45300	330.2	41			
	11595										
	7650	42		14.16			330.1	42	326	30.5	17
	11890										
	7830	43	12400	13.99		49000	330.1	43			
	12185										
	8010	44		13.83			329.9	44	320	27.0	18
	12480										
	8190	45	13000	13.79		52000	329.5	45			
	12775										
	8370	46		13.76			329.5	46	321	17.3	18
	13075										
	8550	47	13600	13.84		54100	329.2	47			
	13375										
	8730	48	13900	13.92		55000	328.8	48	307	16.5	19
	13675										
	8910	49	14300	14.00		55900	328.6	49			
	13975										
	9090	50	14500	14.03		56900	328.3	50	298	13.7	19
	14275										

Coded Data for Transmission

007210	0207	20410	0311	40112	3613	63613	3617	83620
3527	03422	23320	43432	63340	83340	03233	53334	53246
53356	03357	53053	03026	33123	0			
5511	72103	11911	92516	02412	03507	00506	00802	00802

Stamp the
following:Name of
StationLat. and
long.Local
Standard
time, 75th
meridian

El. of Station

Method of
obs., e.g.,
rawinsonde,
rawin, pibalType of
equip., e.g.,
WBRT-57,
GMD-1A,
GMD-1,
SCR-658,
theodolite

Termination

Alt. for
150 & 300 m.
are with
respect to
ground, alt.
for other
standard levels
are in km., msl.

Reason for termination

BURST

E. C. HARRISON

Computer

Verifier

WINDS-ALOFT COMPUTATION SHEET
(LAND STATION FORM)
WBAN-20

	Year	Month	Day	Time
Actual time 21 st Mar.	1964	MAY	18	1220
Scheduled (G.M.T.)	1964	MAY	18	18
Ascension No. 551				

Rawinsonde Time-Altitude Data

Contact	Pressure (mb.)	Altitude (m., m.s.l.)	Elapsed time (min.)
5	1011	100	0.1
10	936	750	1.6
15	866	1380	2.8
20	800	2060	4.4
25	736	2730	6.4
30	676	3410	8.2
35	620	4100	9.9
40	564	4850	11.9
45	516	5550	13.7
50	468	6290	15.5
55	423	7040	17.4
60	380	7510	19.3
65	342	8570	21.4
70	305	9310	23.2
75	272	10140	25.8
80	240	10970	27.9
85	211	11780	30.3
90	184	12640	32.0
95	161	13410	34.0
100	138	14380	35.9
105	118	15350	37.8
110	100	16390	39.5
115	84	17490	42.1
120	70	18640	44.7
125	55	20140	47.8
130	42	21890	51.6
135	30	24060	56.5
140	1'		
1374	25	25260	59.4

Altitude #	Direction (degrees)	Speed (m.p.s.)	Card columns	Altitude #	Direction (degrees)	Speed (m.p.s.)
Card No. 1			15	Card No. 2		
Type of equipment			16	Type of equipment		
a/c.	310	4	17-21	7	328	17
150 M.	314	5	22-26	8	326	20
300 M.	317	5	27-31	9	330	22
0.5	319	5	32-36	10	334	22
1.0	302	5	37-41	11	336	33
1.5	306	5	42-46	12	341	28
2.0	324	7	47-51	13	320	16
2.5	335	11	52-56	14	308	15
3	340	10	57-61	15	305	16
4	344	12	62-66	16	308	12
5	345	17	67-71	17	309	10
6	333	16	72-76	18	305	9

Min. alt. wind speed 45 m.p.s. or more (m.)		
Alt. of maximum wind speed (m.)		
Dir. (degrees) and speed (m.p.s.) of Max. wind		
Max. alt. wind speed 45 m.p.s. or more (m.)		
Enter check if additional levels appear on reverse side.		

3207	² 3210	3110	⁴ 3010	3111	⁶ 3212	3315	⁸ 3421
3423	⁴ 3425	⁶ 3532	⁸ 2334	⁰ 3331	³ 3332	⁵ 3236	⁰ 3344
3449	⁵ 3128	03131	33122	03016	73507	01104	81104
70							

Page

1

Name of Station
Lat. and long.
Local Standard time, 25th meridian
El. of Station
Method of obs., e.g., rawinsonde, rawin, pibal
Type of occul., e.g., W13RT-17, G1AD-1A, G1AD-1, SC-R-65B, theodolite

Termination
Alt. for 150 & 300 m. are with respect to ground, alt. for other standard levels are in km., msl.

*Identification

WASHINGTON, D. C.
(STERLING, VA.) LAT. 38° 59' N LONG. 77° 28' W
RAWIN WEA-80 ORIENTATION 360=S
OBSERVATION POINT 85 meters ABOVE SEA LEVEL

U.S. DEPARTMENT OF COMMERCE
WEATHER BUREAUWINDS-ALOFT COMPUTATION SHEET
(LANDSTATION FORM)
WBAN-20

Actual time 1954
Scheduled (G.M.T.) 1954
Ascension No. 55

Type of balloon 1000

Orientation, 360° = South

Rawinsonde

Slant range (m.) (yds.)	Pibal ht. above sfc. (m.) 30 gram 100 gram	Minute	Rawin ht. above surface (m.)	Elevation angle °		Distance from observation point (m.)	Azimuth angle °	Minute	Wind		Contact	Pressure (mb.)
				Observed	Smoothed				Direction ° 360° = N.	Speed (m.p.s.)		
	216	1	350	50.7		2800	325.8	1	318	4.1	5	1011
	350	2	900	51.4		6000	318.2	2	302	5.0	10	936
	414	3	1400	58.2		8700	310.5	3	306	5.5	15	866
	612	4	1890	55.8		12800	311.5	4	326	7.0	20	800
	980	5	2240	52.6		17000	318.1	5	325	10.2	25	736
	801	6	2590	46.6		24500	323.3	6	337	12.0	30	676
	1285	7	2940	43.2		31000	326.4	7	339	10.7	35	620
	990	8	3290	41.7		36600	328.5	8	344	10.7	40	576
	1588	9	3670	39.8		47100	332.0	9	343	12.1	45	516
	1170	10	4080	38.3		51000	332.5	10	343	12.8	50	468
	1880	11	4500	37.7		59000	334.6	11	349	14.5	55	423
	1350	12	4900	35.8		68000	336.9	12	345	17.5	60	380
	2170	13	5300	33.7		80000	337.1	13	335	18.0	65	342
	1530	14	5700	32.6		90000	336.7	14	332	15.5	70	305
	2455	15	6100	31.6		98000	336.2	15	332	16.0	75	272
	1710	16	6500	30.9		109000	335.9	16	332	15.7	80	240
	2740	17	6900	30.3		118000	335.5	17			85	211
	1890	18		29.6			334.2	18	323	18.0	90	184
	3020	19	7700	28.8		140000	333.5	19			95	161
	2070	20		27.5			331.5	20	327	20.7	100	127
	3300	21	8500	27.0		145000	331.4	21			105	111
	2280	22		26.2			331.2	22	326	20.7	110	100
	3580	23	9060	25.3		190000	331.8	23			115	85
	2430	24		24.4			331.8	24	333	24.0	120	75
	3855	25	9790	23.9		219000	332.1	25			125	55
	2610	26		23.5			332.1	26	334	21.0	130	45
	4130	27	10610	23.3		245000	332.2	27			135	30
	2790	28		22.9			332.6	28	337	23.4	140	15
	4405	29	11400	21.6		285000	333.0	29				
	2970	30		21.2			333.5	30	344	30.0		
	4675	31	12240	20.6		323000	334.3	31				
	3160	32		20.6			334.5	32	325	18.0		
	4945	33	13070	20.6		345000	333.8	33				
	3330	34	13550	20.6		356000	333.0	34	312	14.0		
	5215	35	13990	20.9		365000	332.4	35				
	3510	36	14430	21.2		368000	331.0	36	301	16.0		
	4455	37		21.2			330.2	37				
	5700	38	15400	21.3		390000	329.7	38	309	16.0		
	10135	39		21.5			329.0	39				
	6750	40	16390	21.8		400000	328.8	40	305	10.0		
	10420	41		22.2			328.1	41				
	6930	42	17320	22.5		410000	328.0	42	309	10.0		
	10710	43		22.5			328.0	43				
	7110	44	18280	22.9		420000	327.6	44	303	8.0		
	11005	45		23.2			327.0	45				
	7290	46	19260	23.6		435000	326.7	46	300	6.0		
	11300	47		23.0			326.8	47				
	7470	48	20150	24.3		442000	326.6	48	316	4.0		
	11595	49		25.1			326.5	49				
	7650	50	21100	25.2		445000	326.5	50	113	2.4		

1117 22403 1111 / 0362 34065 Coded Data for Transmission

PP 72403	17771	3209	² 3210	3110	⁴ 3010	3111	⁶ 3212	3315	⁸ 3421
7422	0 3420	2 3423	4 3425	6 3532	8 2334	0 3331	3 3332	5 3236	0 3344
53452	73463	0 3449	5 3128	0 3131	3 3122	0 3016	7 3507	0 1104	8 1104
01104	11104	00							

Con-	Pressure	
tact	(mb.)	
5	1011	
10	936	
15	866	
20	800	
25	736	
30	676	
35	620	
40	576	
45	516	
50	468	
55	423	
60	380	
65	342	
70	305	
75	272	
80	240	
85	211	
90	184	
95	161	
100	127	
105	111	
110	100	
115	85	
120	75	
125	55	
130	45	
135	30	
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995		
1000		

Altitude	Direction	Speed
(m.)	(degrees)	(m.p.s.)
150	314	5
300	317	5
0.5	319	5
1.0	302	5
1.5	306	5
2.0	324	7
2.5	335	11
3	340	1
4	344	1
5	345	1
6	333	1

Maximum
Min. alt. wind 45 m.p.s. or more
Alt. of maximum wind speed (m.)
Dir. (degrees) at (m.p.s.) of Max.
Max. alt. wind 45 m.p.s. or more
Enter check if appear on reverse

Computer

Verifier

H. L. CHADAY

12.55° 59' N LONG. 77° 28' W ALTITUDE 560=S 100 FEET ABOVE SEA LEVEL	U.S. DEPARTMENT OF COMMERCE WEATHER BUREAU WINDS-ALOFT COMPUTATION SHEET (LANDSTATION FORM) WBAN-20	<table border="1" style="width:100%; border-collapse: collapse;"> <tr> <th>Actual time</th> <th>Year</th> <th>Month</th> <th>Day</th> <th>Time</th> </tr> <tr> <td>21st May</td> <td>1964</td> <td>MAY</td> <td>18</td> <td>1800</td> </tr> <tr> <td>Scheduled (G.M.T.)</td> <td>1964</td> <td>MAY</td> <td>19</td> <td>00</td> </tr> </table> Ascension No. 552	Actual time	Year	Month	Day	Time	21 st May	1964	MAY	18	1800	Scheduled (G.M.T.)	1964	MAY	19	00
	Actual time	Year	Month	Day	Time												
	21 st May	1964	MAY	18	1800												
Scheduled (G.M.T.)	1964	MAY	19	00													

Orientation, 360° = South										Rawinsonde Time-Altitude Data			
Minute	Rawin ht. above surface (m.)	Elevation angle °		Distance from observation point (m.)	Azimuth angle °	Minute	Wind		Con- tact	Pressure (mb.)	Altitude (m., m.s.l.)	Elapsed time (min.)	
		Observed	Smoothed				Direction ° 360° = N.	Speed (m.p.s.)					
							sfc.	—	CALM				
1	270	69.5		100	12.9	1	347	2.1		5	1010	100	0.1
2	540	66.6		230	347.4	2	327	3.0		10	938	730	2.4
3	860	63.8		420	337.6	3	320	3.6		15	870	1380	4.7
4	1120	60.3		640	332.4	4	320	4.6		20	806	2030	7.1
5	1400	56.2		980	328.1	5	320	5.4		25	746	2670	9.4
6	1660	52.5		1300	325.3	6	313	7.0		30	687	3330	11.8
7	1920	48.0		1800	320.9	7	302	7.3		35	632	4000	14.2
8	2180	44.5		2200	317.3	8	306	8.4		40	580	4680	16.6
9	2440	41.0		2800	315.5	9	325	10.3		45	532	5350	19.1
10	2720	38.6		3400	320.0	10	346	10.2		50	484	6100	21.5
11	2980	37.3		3900	324.5	11	348	11.0		55	440	6800	23.7
12	3280	35.9		4600	327.6	12	342	12.0		60	399	7560	25.9
13	3600	32.1		5300	329.4	13	326	12.5		65	360	8260	28.8
14	3900	32.8		6100	327.4	14	307	9.6		70	324	9000	31.6
15	4180	32.6		6500	325.6	15	308	8.4		75	288	9800	33.7
16	4470	32.2		7100	324.5	16	313	11.2		80	256	10600	36.0
17	4760	31.0		7800	322.9	17	315	13.6		85	227	11410	38.7
18	5060	29.8		8800	322.4	18	313	16.0		90	200	12200	41.5
19	5360	28.8		9700	321.4	19	312	18.0		95	175	13020	44.1
20	5660	28.0		10600	320.7	20	313	15.0		100	152	13860	46.9
21	5930	27.3		11500	320.2	21	313	13.0		105	130	14810	49.9
22	6220	26.8		12200	319.8	22	313	14.0		110	111	15800	53.1
23	6530	26.2		13200	319.3	23	313	17.0		115	94	16830	56.5
24	6840	25.6		14200	318.7	24	317	15.8		120	78	17910	60.0
25	7160	25.3		15100	318.1	25				125	64	19220	64.2
26	—	25.0		—	320.0	26	332	14.8		130	50	20780	68.6
27	7840	24.8		16900	320.5	27				135	35	23100	74.4
28		24.4			320.8	28	324	12.4		140	21	26400	82.4
29	8310	24.2		18400	320.5	29							
30		24.1			320.7	30	325	11.0					
31	8820	24.0		19700	320.7	31							
32		24.0			320.7	32	332	11.0					
33	9440	24.0		21100	321.4	33							
34		24.2			322.1	34	340	11.5					
35	10120	24.2		22300	322.7	35							
36		24.2			323.1	36	334	14.0					
37	10730	24.0		24000	323.4	37							
38		23.9			323.8	38	340	15.0					
39	11340	23.6		25700	324.8	39							
40		23.3			326.4	40	355	21.0					
41	11950	23.0		27900	327.8	41							
42		22.7			329.0	42	357	20.0					
43	12600	22.6		30000	329.7	43							
44		22.5			330.0	44	324	16.0					
45	13200	22.3		31900	329.6	45							
46		22.0			329.6	46	314	17.0					
47	13800	21.9		34000	329.6	47							
48	14110	21.7		35100	327.7	48	304	18.0					
49	14410	21.6		36000	327.0	49							
50	14730	21.4		37200	326.4	50	313	18.4					

Punched Card Data									
Altitude #	Direction (degrees)	Speed (m.p.s.)	Card columns	Altitude #	Direction (degrees)	Speed (m.p.s.)			
Card No. 1			15	Card No. 2					
Type of equipment	8	16	Type of equipment	8	16				
sfc.	0	0	17- 21	7	319	16			
150 M.	347	1	22- 26	8	326	13			
300 M.	342	2	27- 31	9	328	11			
0.5	334	3	32- 36	10	340	12			
1.0	321	4	37- 41	11	340	15			
1.5	318	6	42- 46	12	356	21			
2.0	302	8	47- 51	13	324	16			
2.5	323	10	52- 56	14	308	18			
3	347	11	57- 61	15	316	14			
4	308	10	62- 66	16	318	13			
5	313	15	67- 71	17	316	12			
6	314	13	72- 76	18	338	10			

Maximum Wind Speed Data									
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Coded Data for Transmission							
3503	23306	3208	43210	3212	63116	3017	83219
23324	43117	63277	83131	03126	73323	53329	03322
53133	03230	33224	10				
23711	53116	03418	00302	03404	00314	20315	0

Punched Card Data			
Altitude #	Direction (degrees)	Speed (m.p.s.)	Card columns
Card No. 1	15	Card No. 2	
Type of equipment	8	Type of equipment	8
sfc.	0	17-21	7 319 16
150 M.	347	22-26	8 326 13
300 M.	342	27-31	9 328 11
0.5	334	32-36	10 340 12
1.0	321	37-41	11 340 15
1.5	318	42-46	12 356 21
2.0	302	47-51	13 324 16
2.5	323	52-56	14 308 18
3	347	57-61	15 316 17
4	308	62-66	16 318 13
5	313	67-71	17 316 13
6	314	72-76	18 338 10

Maximum Wind Speed Data			
Min. alt. wind speed 45 m.p.s. or more (m.)			
Alt. of maximum wind speed (m.)			
Dir. (degrees) and speed (m.p.s.) of Max. wind			
Max. alt. wind speed 45 m.p.s. or more (m.)			
Enter check if additional levels appear on reverse side.			

*Identification No. D. C.
(STERLING, VA.) LAT. 38° 59' N LONG. 77° 28' W
RAWIN WIND-30 ORIENTATION 360=S
OBSERVATION 2000 03 meters ABOVE SEA LEVEL

U.S. DEPARTMENT OF COMMERCE
WEATHER BUREAU
WINDS-ALOFT COMPUTATION SHEET
(LANDSTATION FORM)
WBAN-20

Actual time 21st mer. 1964
Scheduled (G.M.T.) 1964
Ascension No. 552

Type of balloon 600

Orientation, 360° = South

Rawinsonde

Slant range (m.) (yds.)	Pibal ht. above sfc. (m.) 30 gram 100 gram	Minute	Rawin ht. above surface (m.)	Elevation angle °		Distance from observation point (m.)	Azimuth angle °	Minute	Wind		Contact	Pressure (mb.)	Alt. (m)
				Observed	Smoothed				Direction ° 360° = N. sfc. — CALM	Speed (m.p.s.)			
	216	1	270	69.5		100	12.9	1	347	2.1	5	1010	
	350										10	938	
	414	2	540	66.6		230	347.4	2	327	3.0	15	870	1
	612										20	806	2
	860	3	860	63.8		420	337.6	3	320	3.4	25	746	2
	1285										30	687	3
	1400	4	1120	60.3		640	332.4	4	320	4.6	35	632	4
	1660										40	580	4
	1770	5	1400	56.2		980	328.1	5	320	5.4	45	532	5
	1880										50	484	6
	1950	6	1660	52.5		1300	325.3	6	313	7.2	55	440	6
	2170										60	399	7
	2455	7	1920	48.0		1800	320.9	7	302	7.3	65	360	8
	2740										70	324	9
	3020	8	2180	44.5		2200	317.3	8	306	8.4	75	288	9
	3300										80	256	1
	3580	9	2440	41.0		2800	315.5	9	325	10.3	85	227	1
	3860										90	200	1
	4130	10	2720	38.6		3400	320.0	10	346	10.2	95	175	1
	4405										100	152	1
	4675	11	2980	37.3		3900	324.5	11	348	11.0	105	130	1
	4945										110	111	1
	5215	12	3280	35.9		4600	327.6	12	342	12.0	115	94	1
	5485										120	78	1
	5755	13	3600	34.1		5300	329.4	13	326	12.5	125	64	1
	6025										130	50	2
	6295	14	3900	32.8		6100	327.4	14	307	9.6	135	35	2
	6565										140	21	2
	6835	15	4180	32.6		6500	325.6	15	308	8.4			
	7105												
	7375	16	4470	32.2		7100	324.5	16	313	11.2			
	7645												
	7915	17	4760	31.0		7800	322.9	17	315	13.6			
	8185												
	8455	18	5060	29.8		8800	322.4	18	313	16.0			
	8725												
	8995	19	5360	28.8		9700	321.4	19	312	18.0			
	9265												
	9535	20	5660	28.0		10600	320.7	20	313	15.0			
	9805												
	10075	21	5930	27.3		11500	320.2	21	313	13.0			
	10345												
	10615	22	6220	26.8		12200	319.8	22	313	14.0			
	10885												
	11155	23	6530	26.2		13200	319.3	23	313	17.0			
	11425												
	11695	24	6840	25.6		14200	318.7	24	317	15.8			
	11965												
	12235	25	7160	25.3		15100	318.1	25					
	12505												
	12775	26	—	25.0		—	320.0	26	332	14.8			
	13045												
	13315	27	7840	24.8		16900	320.5	27					
	13585												
	13855	28	—	24.4		—	320.8	28	324	12.4			
	14125												
	14395	29	8310	24.2		18400	320.5	29					
	14665												
	14935	30	—	24.1		—	320.7	30	325	11.0			
	15205												
	15475	31	8820	24.0		19700	320.7	31					
	15745												
	16015	32	—	24.0		—	320.7	32	332	11.0			
	16285												
	16555	33	9440	24.0		21100	321.4	33					
	16825												
	17095	34	—	24.2		—	322.1	34	340	11.5			
	17365												
	17635	35	10120	24.2		22300	322.7	35					
	17905												
	18175	36	—	24.2		—	323.1	36	334	14.0			
	18445												
	18715	37	10730	24.0		24000	323.4	37					
	18985												
	19255	38	—	23.9		—	323.8	38	340	15.0			
	19525												
	19795	39	11340	23.6		25700	324.8	39					
	20065												
	20335	40	—	23.3		—	326.4	40	355	21.0			
	20605												
	20875	41	11950	23.0		27900	327.8	41					
	21145												
	21415	42	—	22.7		—	329.0	42	357	20.0			
	21685												
	21955	43	12600	22.6		30000	329.7	43					
	22225												
	22495	44	—	22.5		—	330.0	44	324	16.0			
	22765												
	23035	45	13200	22.3		31900	329.6	45					
	23305												
	23575	46	—	22.0		—	329.6	46	314	17.0			
	23845												
	24115	47	13800	21.9		34000	328.6	47					
	24385												
	24655	48	14110	21.7		35100	327.7	48	304	18.0			
	24925												
	25195	49	14410	21.6		36000	327.0	49					
	25465												
	25735	50	14730	21.4		37200	326.4	50	313	18.4			

Coded Data for Transmission

2400	23900	3503	23306	3200	43210	3212	63116	3017	83219
3420	03500	23324	43117	63227	83131	03126	83323	53329	03322
53428	03640	53133	03230	33224	00				
2013	20000	23711	99116	03418	00302	03404	00314	20316	0

Maxim.
Min. alt. wind 45 m.p.s. or mo.
Alt. of maximum wind speed (m.)
Dir. (degrees) u (m.p.s.) of Max.
Max. alt. wind 45 m.p.s. or mo.
Enter check if appear on rever

Name of Station
Lat. and long.
Local Standard time, 25th meridian
El. of Station
Method of obs., e.g., rawinsonde, rawin, pibal
Type of equip., e.g., WBRT-57, GMD-1A, GMD-1, SCR-658, theodolite

Termination
Alt. for 150 & 300 m. are with respect to ground, alt. for other standard levels are in km., msl.

Reason for Termination

Computer H. L. GHOSE
Verifier J. L. GHOSE

(2) 50 DEGREES ABOVE HORIZON -- APPROX 1 DIAMETER OF MOON
SOUTH OF MOON, S 3 0, CLOCK POSITION.

(3) 50 DEGREES ABOVE HORIZON -- APPROX 3 DIAMETERS OF MOON
WEST OF 12 0, CLOCK POSITION.

(4) OBJECT OBSERVED AT 3 0, CLOCK POSITION OF MOON --
GRADUALLY MOVED AROUND MOON TO 12 OCLOCK POSITION. THIS
MOVEMENT TOOK APPROXIMATELY 15 MINUTES. THEN RATE OF MOVE-
MENT INCREASED AND OBJECT MOVED TOWARD WEST, 12 TO 15 DIA-
METERS OF MOON. THIS MOVEMENT REQUIRED APPROXIMATELY ONE
MINUTE.

(5) OBJECT BEGAN TO GROW DIM AND THEN SPLIT IN TWO,
BOTH OBJECT REMAINED DIM AND A YELLOWISH-GRAY CLOUD
FORMED. OBJECTS THEN HAD TO BE OBSERVED WITH BINOCULARS
AND ONLY ONE OBJECT FOLLOWED. OBJECT SPLIT IN TWO AGAIN
AND GRADUALLY FADED OUT OF SIGHT.

(6) APPROXIMATELY 17 MINUTES.

C. (1) GROUND VISUAL.

(2) BINOCULARS.

PAGE 3 RUEAGL 151 UNCLAS

(3) N/A.

D. (1) 19/0015Z, MAY 64.

(2) DUSK, SUN SETTING.

E. 77 07 WEST; 38 43 NORTH -- APPROXIMATELY 1 MILE WEST OF
MOUNT VERNON ESTATES, VIRGINIA.

F. MR. [REDACTED] DRIVE, ALEXANDRIA, VA.
CIVIL ENGINEER WITH GIMRADA, FORT BELVOIR, VA. SOUNDED
RELIABLE.

G. (1) HIGH, THIN, BROKEN; VISIBILITY 10 72/57 CALM/014

(2) PIBAL. SFC - 2611; 6M - 2711; 10M - 3216; 16M - 3020;
20M - 3023; 30M - 3223; 50M - 3127; 80M - NOT AVAILABLE.

18 May Dusk

1915 Local

Check Holcoman for Green
MOUNT VERNON, VIRGINIA

20 MAY 64 00 19z

NNNN

SQW004WPA002CZCSQA517ZCJYX435

PP RUCDSQ

DE RUEAGL 151 19/2114Z

ZNR

P 192113Z

FM 1001 ABW ANDREWS AFB MD

TO RUEASN/26 ADIV HANCOCK FLD NY

RUCDSQ/AFSC FTD WPAFB OHIO

ZEN/CSAF WASHDC

ZEN/OSAF WASHDC

BT

UNCLAS 1001 AB WG (DOOT) 19-E-115. CSAF FOR AFNIN. OSAF FOR
SAFOI. UFO. REFERENCE PARA 14, AFR 200-2.

A. (1) OVAL.

(2) HEAD OF A PIN.

(3) WHITE GLOW, BRIGHTER THAN THE BRIGHTEST STAR.

(4) ONE.

(5) N/A.

(6) N/A.

(7) NONE.

(8) NONE.

PAGE 2 RUEAGL 151 UNCLAS

(9) NONE

B. (1) VISUAL SIGHTING.

PRIORITY

~~1-5 E (UFO)~~

1-5 E (UFO)

(3) UNLIMITED.

(4) 10 MILES.

(5) THIN, BROKEN, CLOUDS TRANSPARENT.

(6) NONE.

(7) STRONG SUBSIDENCE 780 MBS, APPROXIMATELY 7,000 FT.

QUASI STABLE GRADIENT 780 MBS TO TROPOPAUSE. AVERAGE TEMPERATURE, SFC TO TROPOPAUSE ABOVE STANDARD LAPSE RATE ABOUT PLUS 60 DEGREE C.

H. NO UNUSUAL METEOROLOGICAL CONDITIONS EXISTED AT THIS

PAGE 4 RUEAGL 151 UNCLAS

TIME.

I. NONE.

J. NONE.

K. CAPT WILLIAM W. MCLEAN, ASST BASE OPS OFFICER, ANDREWS AFB, WASHINGTON, DC 20331. INFORMATION INDICATES IT MIGHT HAVE BEEN A MISSILE SIGHTING WITH SEPARATION OF VARIOUS STAGES. HOWEVER, NO CONTRAIL WAS EVIDENCED AND MR. MEYER WAS SPECIFICALLY ASKED THIS QUESTION.

L. NONE.

BT

NNNN

U.S. DEPARTMENT OF COMMERCE - WEATHER BUREAU

Washington, D.C., 00806
STATION (Sterling, Va.)

DATE 1964 MAY 18

SURFACE WEATHER OBSERVATIONS

Visibility (Statute Miles)		Weather and obstructions to vision (5)	Sea level press. (Mba.) (6)	Temp. (°F) (7)	Dew pt. (°F) (8)	Wind			Altimeter setting (Inch.) (12)	Remarks and supplemental coded data (13)	(14a)	(14b)	Observer initials (15)
Surface (4)	Tower (4a)					Direction (9)	Speed (Kts) (10)	Character and shifts (11)					
1/8		F	187	56	56	00	00		007	F6/ 303	82		HL
6		GF	192	58	58	35	07		015				SL
6		GF	194	58	57	35	08		009				SL
5		GF	203	54	54	00	00		011	212			SL
5		GF	211	51	51	00	00		014				SL
7			216	52	52	00	00		015				SG
12			224	61	57	00	00		018	224	51		EH
15			231	66	58	00	00		020				EH
157			233	72	52	01	07		021				EH
157			233	74	53	36	04		021	108			EH
157			231	77	52	28	07		020				EH
157			227	79	54	34	10		019				EH
157			224	80	53	29	07		018	708 1101 51			EH
157			223	81	48	33	05		018				TP
157			220	83	47	36	07		016				TP
157			216	83	48	36	05		015	710 1100			TP
157			215	83	54	36	05		015				TP
157			213	81	60	00	00		014				TP
157			214	72	60	00	00		015	500 1005 83			TP
12			217	66	61	00	00		016				HL
12			223	61	59	00	00		018				HL
12			226	60	57	00	00		019	114 1006			HL
12			226	60	57	00	00		019				HL
15			226	57	56	00	00		019				HL

WBAF FORM 10A
(REV. 11-1-60)

U.S. DEPARTMENT OF COMMERCE - WEATHER BUREAU

Washington, D.C.
STATION (Sterling, Va.)

SURFACE WEATHER OBSERVATIONS

DATE 1964 MAY

Type (1)	Time (LST) (2)	Sky and ceiling (Hundreds of Feet) (3)	Visibility (Statute Miles) (4)		Weather and obstructions to vision (5)	Sea level press. (Mbs.) (6)	Temp. (F) (7)	Dew pt. (F) (8)	Wind			Altimeter setting (Inch.) (12)	Remarks and supplemental coded (13)
			Surface (4a)	Tower (4b)					Direction (9)	Speed (Kts) (10)	Character and shifts (11)		
R	0255	-X	1/8		F	187	56	56	00	00		007	F6/ 303
R	0158	0	6		GF	192	56	52	35	07		009	
R	0255	0	6		GF	194	58	57	35	08		009	
R	0355	0	5		GF	203	54	54	00	00		011	212
R	0455	0	5		GF	211	51	51	00	00		014	
R	0555	0	7			216	52	52	00	00		015	
R	0658	0	12			224	61	57	00	00		018	224
R	0758	0	15			231	66	55	00	00		020	
R	0858	0	15			233	72	52	01	07		021	
R	0958	0	15			233	74	53	36	04		021	108
R	1058	0	15			231	77	52	28	07		020	
R	1158	400/-0	15			227	79	54	34	10		019	
R	1258	400/-0	15			224	80	53	29	07		018	708 1101
R	1359	400	15			223	81	48	33	05		018	
R	1455	400	15			220	83	47	36	07		016	
R	1555	400	15			216	83	48	36	05		015	710 1100
R	1655	1-0	15			215	83	54	36	05		015	
R	1759	0	15			213	81	60	00	00		014	
R	1859	1-0	15			214	72	60	00	00		015	500 1005
R	1958	1-0	12			217	66	61	00	00		016	
R	2058	1-0	12			223	61	59	00	00		018	
R	2158	1-0	12			226	60	57	00	00		019	114 1006
R	2256	1-0	12			226	60	57	00	00		019	
R	2355	1-0	15			226	57	56	00	00		019	

A synoptic observation, in WMO code format FM11A, is entered on line following related aviation observation.

SURFACE WEATHER OBSERVATIONS

Washington, D.C., 01220

DATE 1964 MAY 18

STATION

SYNOPTIC OBSERVATIONS

OF DAY (MIDNIGHT TO MIDNIGHT)

PHENOMENA						
Sunrise _____	Sunset _____					
speed _____ m.p.h., or						
p.h.; associated direction _____ and time: _____						

[illegible]

U. S. DEPARTMENT OF COMMERCE, WEATHER BUREAU

SURFACE WEATHER OBSERVATIONS

STATION

Washington, D.C. 00000

DATE

1964 MAY 18

TIME (L.S.T.)	STATION PRESSURE (INS.)	DRY BULB (°F.)	WET BULB (°F.)	REL. HUMIDITY (%)	TOTAL SKY COVER	CLOUDS AND OBSCURING PHENOMENA														TOTAL OPAQUE SKY COVER	PRESSURE TENDENCY
						LOWEST LAYER			SECOND LAYER			SUMMA- TION TOTAL	THIRD LAYER			SUMMA- TION TOTAL	FOURTH LAYER				
						AMT.	TYPE & DIR.	HEIGHT	AMT.	TYPE & DIR.	HEIGHT		AMT.	TYPE & DIR.	HEIGHT		AMT.	TYPE & DIR.	HEIGHT		
18	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37
0055	29.785	56			6	6	F	—	0			6	0			6	0			6	3
0158	29.790	58			0	0			0			0	0			0	0			0	
0255	29.785	58			0	0			0			0	0			0	0			0	
0358	29.820	54			0	0			0			0	0			0	0			0	2
0455	29.850	51			0	0			0			0	0			0	0			0	
0555	29.860	52			0	0			0			0	0			0	0			0	
0658	29.890	61			0	0			0			0	0			0	0			0	2
0758	29.910	66			0	0			0			0	0			0	0			0	
0858	29.915	72			0	0			0			0	0			0	0			0	
0958	29.915	74			0	0			0			0	0			0	0			0	1
1058	29.910	77			0	0			0			0	0			0	0			0	
1158	29.900	79			2	1	CU	40	1	CI	1	2	0			2	0			1	
1258	29.890	80			4	1	CU	40	3	CI	1	4	0			4	0			1	7
1359	29.885	81			3	3	CU	40	0			3	0			3	0			3	
1455	29.875	83			2	2	CU	40	0			2	0			2	0			2	
1555	29.860	83			1	1	CU	40	0			1	0			1	0			1	7
1655	29.860	83			1	0	CU	40	1	CI	1	1	0			1	0			0	
1759	29.855	81			0	0			0			0	0			0	0			0	
1859	29.860	72			4	4	CI	1	0			4	0			4	0			1	
1958	29.870	66			6	6	CI	1	0			6	0			6	0			2	
2058	29.890	61			8	8	CI	1	0			8	0			8	0			3	
2158	29.900	60			8	8	CI	1	0			8	0			8	0			3	
2256	29.900	60			6	6	CI	1	0			6	0			6	0			3	
2355	29.900	57			4	4	CS	1	0			4	0			4	0			2	

SYNOPTIC OBSERVATIONS

TIME (G. C. T.)	TIME (L. S. T.)	NO.	PRECIP. (INS.)	SNOW FALL (INS.)	SNOW DEPTH (INS.)	MAX. TEMP. (°F.)	MIN. TEMP. (°F.)	HGT. 850 MB. SURFACE	STATE OF GRND.	SEA STATE & DIR.	SWELL HGT. & DIR.	SWELL PERIOD	SURF H ₂ H ₂ M ₂ P ₂ D ₂	WATER TEMP.	SOIL TEMP.			STATION PRESSURE		
41	49	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	TIME (L. S. T.) 59	6055	0655
	MID. TO 0055	X	0	0	X	58	56	X	X	X	X	X	X	X	X			ATT. THERM. 60	-	-
	0055	1	0	0	0	70	56											OBSRVD. BAR. 61	1008.6	101.
	0655	2	0	0	0	61	51											TOTAL CORR. 62	-	-
	0855	3	0	0	0	80	61											STA. PRESS. 63	29.785	29.
	1857	4	0	0	0	83	72											BAROGRAPH 64	29.785	29.
	MID.	X	0	0	0	72	57	X	X	X	X	X	X	X	X			BAR. CORR. 65	± 0	±

SUMMARY OF DAY (MIDNIGHT TO MIDNIGHT)

24-HR. MAX. TEMP. (°F.)	24-HR. MIN. TEMP. (°F.)	24-HR. PRECIP. WATER EQUIV. (INS.)	24-HR. SNOWFALL UNMLTD. (INS.)	SNOW DEPTH (INS.)	PEAK GUST			THICK- NESS OF ICE ON WATER (INS.)	FROZEN GRND. LAYER (INS.)		RIVER GAGE	24-HR. MAX. R. H.	24-HR. MIN. R. H.	WATER EQUIV. (INS.)	PRECIP. & THDRSTM. 66	BEGAN 67	ENDED 68	DUR. 69 Hrs. Mins.	OBSTR. TO VIS. 70	BL 71
					SPEED (KNOTS)	DI- REC- TION	TIME L.S.T.		TOP	BASE										
83	51	0	0	0	14	14	245												GF 10	
																			F 01	
																			GF 0.	

90 REMARKS, NOTES AND MISCELLANEOUS PHENOMENA

Total sunshine _____ Sunrise _____ Sunset _____

Fastest observed 1-minute wind speed _____ m. p. h., or

Fastest mile _____ m. p. h.; associated direction _____ and time: _____

Excessive precipitation:

At (MINUTES)	5	10	15	20	30	45	60	80	100	120	150	180
PRECIPITATION (INCHES)												

U.S. DEPARTMENT OF COMMERCE
WEATHER BUREAU

WINDS-ALOFT COMPUTATION SHEET
(LANDSTATION FORM)
WBAN-20

Actual time
th mer.

1964 MAY 18

0020

Scheduled
(G.M.T.)

1964 MAY 18

06

Ascension No. 549

Lat. 33° 50' N Long. 77° 28' W
Orientation 360=S
CLIM 95 meters ABOVE SEA LEVEL

Orientation, 360° = South								
Minute	Row in ht. above surface (m.)	Elevation angle °		Distance from observation point (m.)	Azimuth angle °	Minute	Wind	
		Observed	Smoothed				Direction ° 360° = N. sfc. (ALM) —	Speed (m.p.s.)
1	250	35.6		490	307.2	1	320	9.5
2	700	31.3		1150	320.1	2	334	9.7
3	1010	31.3		1650	326.5	3	345	8.7
4	1400	32.8		2160	332.3	4	344	6.8
5	1700	34.6		2450	332.0	5	308	6.0
6	2100	36.6		2800	326.5	6	286	8.1
7	2410	37.6		3200	319.5	7	250	8.7
8	2800	37.2		3700	316.9	8	284	11.5
9	3160	36.2		4400	305.0	9	222	13.2
10	3520	35.2		5100	306.5	10	294	12.0
11	3900	33.7		5800	305.7	11	304	13.5
12	4300	32.8		6700	305.9	12	314	14.3
13	4700	32.1		7500	307.4	13	325	16.0
14	5100	31.0		8500	310.9	14	328	20.9
15	5500	27.0		9900	312.3	15	314	24.0
16	5900	27.4		11400	311.5	16	302	23.8
17	6290	26.2		12700	310.0	17	301	23.0
18	6700	25.5		14000	309.6	18	310	22.5
19	7080	24.7		15400	310.0	19		
20		23.9			310.3	20	313	22.0
21	7810	23.2		18100	310.9	21		
22		22.6			310.2	22	309	25.5
23	8610	22.0		21200	310.1	23		
24		21.5			310.5	24	317	26.0
25	9470	21.2		24300	311.1	25		
26		20.6			311.6	26	319	29.0
27	10170	20.0		27700	312.2	27		
28		19.50			312.6	28	318	30.5
29	10900	19.05		31400	312.9	29		
30		18.70			313.6	30	330	27.0
31	11660	18.50		34500	314.4	31		
32		18.35			314.3	32	303	24.0
33	12420	18.25		37300	313.5	33		
34		17.80			312.9	34	309	28.0
35	13220	17.70		40900	312.1	35		
36	13670	17.75		42200	312.5	36	304	18.0
37	14070	17.50		43000	312.5	37		
38	14520	18.35		43500	312.0	38	284	14.0
39		18.00			311.2	39		
40	15200	18.70		45300	310.9	40	285	13.8
41		18.78			310.5	41		
42	16400	19.70		46500	310.0	42	276	10.5
43		19.05			309.5	43		
44	17200	19.25		47300	309.0	44	281	6.5
45		20.1			309.0	45		
46	18010	20.4		47800	309.0	46	313	5.0
47		20.6			308.7	47		
48	18860	21.0		48500	309.1	48	321	5.0
49		21.3			309.0	49		
50	19720	21.6		49300	309.3	50	325	3.5

Rawinsonde Time-Altitude Data			
Contact	Pressure (mb.)	Altitude (m., m.s.l.)	Elapsed time (min.)
5	1010		
10	935	710	2.0
15	864	1390	4.0
20	788	2060	5.7
25	734	2710	7.1
30	674	3410	9.6
35	616	4140	11.4
40	564	4810	13.2
45	514	5510	15.1
50	466	6270	16.9
55	422	7000	18.7
60	381	7720	20.7
65	342	8500	22.6
70	306	9290	24.5
75	273	10040	26.6
80	242	10820	28.6
85	214	11610	30.7
90	188	12400	32.7
95	164	13280	34.7
100	143	14130	37.0
105	123	15090	39.2
110	104	16100	41.3
115	88	17140	43.5
120	73	18330	46.5
125	59	19680	49.6
130	47	21110	53.1
135	34	23200	58.1
140	21	26360	65.2
144	10	31370	
145	7	33870	
146	19	22000	65.8

Punched Card Data					
Altitude #	Direction (degrees)	Speed (m.p.s.)	Card columns	Altitude #	Direction (degrees)
Card No. 1			15	Card No. 2	
Type of equipment		8	16	Type of equipment	
sfc.	00	00	17-21	7	311
150 M.	320	5	22-26	8	311
300 M.	320	8	27-31	9	317
0.5	320	10	32-36	10	319
1.0	342	9	37-41	11	325
1.5	343	7	42-46	12	326
2.0	276	7	47-51	13	310
2.5	280	9	52-56	14	297
3	284	12	57-61	15	284
4	306	14	62-66	16	281
5	326	19	67-71	17	280
6	306	24	72-76	18	310

Coded Data for Transmission							
1	2	3319	3418	4	3516	3413	6
2	2224	4	3127	6	3334	8	3245
3	23154	5	3034	0	2827	32822	03110
7	2916	8	2917	3	3144	5	3144
9	3251						
11	30802						

Maximum Wind Speed Data

Min. alt. wind speed 45 m.p.s. or more (m.)

Alt. of maximum wind speed (m.)

Dir. (degrees) and speed (m.p.s.) of Max. wind

Max. alt. wind speed 45 m.p.s. or more (m.)

Enter check if additional levels appear on reverse side.