

1. DATE - TIME GROUP 7 Sept 64 08/0306Z	2. LOCATION Whiteman AFB, Missouri
3. SOURCE Military	10. CONCLUSION INSUFFICIENT DATA FOR EVALUATION
4. NUMBER OF OBJECTS One	
5. LENGTH OF OBSERVATION One Hour	11. BRIEF SUMMARY AND ANALYSIS Object changing course moving with wind. Observed as a bright light to South of several Missile sites. In sight for over one hour. Kept changing course. Report as low (200 ft). Efforts by mobile team to close on object failed. Chase turned over to civil authorities. Object described as a blue light size and brightness of auto headlight. At one time reported to appear to explode in mid air. Kept moving and reported to be as low as 20 ft off ground at one of the sites. COMMENTS: Object apparently moving with wind. Definite track of object as observed not included with the report. Sighting indicates a possible balloon at low altitude with light attached. Insufficient data for a firm analysis. No report from the civil authorities who continued chase of object and no flight path of object included with the report.
6. TYPE OF OBSERVATION Ground-Visual	
7. COURSE Erratic	
8. PHOTOS ☐ Yes ☒ No	
9. PHYSICAL EVIDENCE ☐ Yes ☒ No	

COLUMBIA, MO.
38° 58' N 92° 22' W
TST-90th Meridian El. 238
Rawinsonde WBRT-57

U.S. DEPARTMENT OF COMMERCE
WEATHER BUREAU

WINDS-ALOFT COMPUTATION SHEET (LAND STATION FORM)

WBAN-20

	Year	Month	Day	Time
Actual time th mer.	1964	SEP	5	1215
Scheduled (G.M.T.)	1964	SEP	6	20
Ascension No.	025			

Page
2

Slant range (M.) (yds.)	Pibal ht. above sfc. (m.)	Minute	Raw in ht. above surface (m.)	Elevation angle°		Distance from observation point (m.)	Azimuth angle °	Minute	Wind	
	100- gram			Observed	Smoothed				Direction° 360°= N	Speed (m.p.s.)
	14570	51	17480	17.25		39500	256.2	51		
	14860	52		17.15			256.3	52	261	23.0
	15145	53	13020	17.05		41800	256.6	53		
	15425	54	13280	16.75		43500	256.7	54	260	25.0
	15705	55	12630	16.55		45100	256.8	55		
	15985	56	13880	16.45		46400	256.8	56	260	24.5
	16265	57		16.20			256.9	57		
	16545	58	14420	16.00		49400	257.2	58	262	21.0
	16825	59		16.00			257.6	59		
	17105	60	14920	15.95		51400	257.7	60	264	16.5
	17385	61		15.90			257.7	61		
	17670	62	15440	15.80		53300	257.8	62	268	13.0
	17950	63		16.00			258.2	63		
	18235	64	15980	16.10		54450	258.2	64	274	8.5
	18515	65		16.25			258.3	65		
	18795	66	16520	16.45		55000	258.5	66	275	8.0
	19080	67		16.55			258.8	67		
	19360	68	17200	16.70		56400	258.8	68	266	8.5
	19645	69		16.90			258.6	69		
	19925	70	17890	17.10		57200	258.5	70	248	6.5
	20210	71		17.30			258.4	71		
	20490	72	18500	17.50		57700	258.2	72	242	5.5
	20775	73		17.65			258.0	73		
	21055	74	19100	17.80		58500	258.1	74	244	6.0
	21340	75		17.95			258.1	75		
	21620	76	19780	18.15		59300	258.0	76	258	5.0
	21905	77		18.35			258.1	77		
	22185	78	20420	18.20		59500	258.2	78	89	4.0
	22470	79		18.95			258.1	79		
	22750	80	20980	19.25		59200	258.0	80	81	4.0
	23040	81		19.60			257.9	81		
	23320	82	21580	19.55		58800	258.0	82	72	2.5
	23600	83		20.2			258.1	83		
	23880	84	22200	20.4		58500	258.2	84	53	2.0
	24160	85		20.7			258.3	85		
	24440	86	22820	21.0		58200	258.5	86	43	2.0

Slant range (m.) (yds.)	Minute	Rawin ht. above surface (m.)	Elevation angle°		Distance from observation Point (m.)	Azimuth angle °	Minute	Direction° 360° = N	Wind Speed (m.p.s.)
	106		Observed	Smoother			106		
	107						107		
	108						108		
	109						109		
	110						110		
	111						111		
	112						112		
	113						113		
	114						114		
	115						115		

*Stamp the following:

1. Name of Station
2. Lat. and long.
3. Local Standard time, _____ meridian
4. El. of S
5. Method of obs., e. rawinson, rawin, p
6. Type of equip., WBRT-5, GMD-1A, GMD-1, SCR-65, theodal

Altitude:
in km., m.

Punched Card Data

Altitude #	Direction (degrees)	Speed (m.p.s.)	Card columns	Altitude #	Direction (degrees)	Speed (m.p.s.)
Card No. 3			15	Card No. 4		
Type of				Type of		

20210	71		17.30					
20490	72	18500	17.50		57700	258.2	72	242 5.5
20775	73		17.65			258.0	73	
21055	74	19100	17.80		58500	258.1	74	244 6.0
21340	75		17.95			258.1	75	
21620	76	19780	18.15		59300	258.0	76	258 5.0
21905	77		18.35			258.1	77	
22185	78	20420	18.50		59500	258.2	78	89 4.0
22470	79		18.65			258.1	79	
22750	80	20980	19.25		59200	258.0	80	81 4.0
23040	81		19.60			257.9	81	
23320	82	21580	19.85		58800	258.0	82	72 2.5
23600	83		20.2			258.1	83	
23880	84	22200	20.4		58500	258.2	84	53 2.0
24160	85		20.7			258.3	85	
24440	86	22830	21.0		58200	258.5	86	49 2.0
24730	87		21.5			258.6	87	
25010	88	23470	21.8		58000	258.6	88	76 1.5
25300	89		22.1			258.2	89	
25580	90	24140	22.3		57900	258.2	90	134 3.0
25860	91		22.6			258.1	91	
26140	92	24900	22.9		57800	258.0	92	158 3.5
26420	93		23.3			257.8	93	
26700	94	25640	23.6		57800	257.6	94	167 3.5
26980	95		24.0			257.6	95	
27260	96	26500	24.7		57600	257.4	96	165 3.0
27540	97		24.7			257.3	97	
27820	98	27300	25.0		57800	257.0	98	167 2.5
28100	99		25.0			256.9	99	
28380	100	28100	25.5		58000	256.2	100	169 2.5
28660	101	288					101	
28940	102						102	
29220	103						103	
29500	104	28370					104	
29780	105						105	

Minute	106	107	108	109	110	111	112	113	114	115
Slant range (m.) (yds.)										

Altitude in km., n

Punched Card Data

Altitude#	Direction (degrees)	Speed (m.p.s.)	Card columns	Altitude#	Direction (degrees)	Speed (m.p.s.)
Card No. 3			15	Card No. 4		
Type of equipment	8		16	Type of equipment	8	
19 241	5		17-21 31			
20 255	5		22-26 32			
21 84	4		27-31 33			
22 68	2		32-36 34			
23 48	2		37-41 35			
24 94	2		42-46 36			
25 152	3		47-51 37			
26 167	4		52-56 38			
27 166	3		57-61 39			
28 169	3		62-66 40			
29			67-71 41			
30			72-76 42			

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.)		

amp the
following:
Name of
Station
Lat. and
long.
Local
Standard
time, _____
meridian
El. of Station
Method of
obs., e.g.,
rawinsonde,
rawln, 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.

*Identification
COLUMBIA, MO.
33° 58' N 92° 22' W
LST-004 Meridian El. 238
Rawinsonde WBRT-57

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

Actual
time
th mer.
1964 SEP 6
Scheduled
(G.M.T.)
1964 SEP 6
Ascension No. 927

Type of balloon 600 G

Orientation, 360° = South

Rawinsonde Time-Altitude Data

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	
				Observed	Smoothed				Direction ° 360° = N. sfc. 130	Speed (m.p.s.) 3.1
	216	1	240	213		620	155.2	1	170	12.4
	350									
	414	2	320	18.65		1450	169.6	2	189	14.8
	570									
	612	3	230	17.65		2280	178.2	3	199	13.0
	980									
	801	4	960	18.15		2920	185.1	4	214	10.4
	1285									
	990	5	1170	19.90		3400	190.2	5	221	10.2
	1585									
	1170	6	1390	19.20		4000	195.6	6	224	11.4
	1880									
	1350	7	1620	19.55		4600	199.8	7	227	11.1
	2170									
	1530	8	1860	19.75		5200	203.3	8	229	11.3
	2455									
	1710	9	2100	19.65		5800	206.4	9	228	12.5
	2740									
	1890	10	2310	19.40		6600	208.6	10	227	12.3
	3020									
	2070	11	2530	19.10		7300	210.8	11	232	12.6
	3300									
	2280	12	2780	19.10		8000	212.9	12	235	12.4
	3580									
	2430	13	3020	19.05		8700	214.8	13	234	11.9
	3855									
	2610	14	3250	19.05		9350	216.0	14	229	13.0
	4130									
	2790	15	3500	18.80		10250	216.8	15	219	15.2
	4405									
	2970	16	3720	18.50		11200	216.5	16	216	14.4
	4675									
	3160	17	3940	18.15		12050	216.5	17	222	12.1
	4945									
	3350	18	4200	18.40		12650	217.3	18	239	11.6
	5215									
	3510	19	4460	18.50		13300	218.7	19	245	10.6
	5485									
	3700	20	4740	18.20		13800	219.7	20	251	9.6
	5765									
	3890	21	5020	18.10		14300	221.1	21	262	10.0
	6045									
	4080	22	5240	18.50		14750	222.7	22	268	10.4
	6305									
	4270	23	5510	19.80		15200	224.5	23	260	11.4
	6565									
	4460	24						24	272	11.5
	6825									
	4650	25						25	272	11.5
	7085									
	4840	26						26	272	11.5
	7345									
	5030	27						27	272	11.5
	7605									
	5220	28						28	272	11.5
	7865									
	5410	29						29	272	11.5
	8125									
	5600	30						30	272	11.5
	8385									
	5790	31						31	272	11.5
	8645									
	5980	32						32	272	11.5
	8905									
	6170	33	8110	19.25		23500	225.4	33	272	11.5
	9165									
	6360	34		19.08			230.8	34	254	14.5
	9425									
	6550	35	8650	19.00		24400	231.6	35		
	9685									
	6740	36		18.60			227.3	36	256	13.0

Contact	Pressure (mb.)	Altitude (m., m.s.l.)	Elapsed time (min.)
5	986	238	0.0
10	942	600	
15	878	1260	4.0
20	817	1850	7.0
25	758	2470	9.0
30	702	3110	12.0
35	648	3740	15.0
40	598	4420	18.0
45	549	5100	20.0
50	502	5800	23.0
55	459	6490	26.0
60	417	7210	28.0
65	379	7890	31.0
70	342	8620	34.0
75	307	9390	37.0
80	275	10150	39.0
85	244	11000	42.0
90	216	11800	45.0
95	190	12600	48.0
100	167	13400	52.0
105	144	14300	55.0
110	123	15220	58.0
115	105	16220	62.0
120	88	17250	65.0
125	72	18410	69.0
130	57	19920	74.0
135	42	21500	80.0
140	28	23100	86.0
145	15	24700	92.0
150	3	26300	98.0

Punched Card Data					
Altitude	Direction (degrees)	Speed (m.p.s.)	Card columns	Altitude	Direction (degrees)
Card No. 1	15	Card No. 2			
Type of	16	Type of			

Computer: C. PAPALIS
 Verifier: M. L. ANTHONY

5485	19	27900	18.50	13200	2177.7	19	245	10.0
5690	20	4710	18.00	13800	2177.7	20	251	9.6
5755	21	4750	17.10	14300	221.1	21	262	10.0
3670	22	5240	19.50	14750	222.7	22	268	10.4
6025	23	5510	19.90	15200	224.5	23	260	11.4
4080	24	5800	19.20	15600	225.6	24	239	12.5
6296	25	6010	19.20	16000	225.9	25	232	15.5
4230	26	6300	19.45	17000	226.4	26	232	16.0
6666	27	6390	19.25	18000	226.5	27		
4410	28		19.30		227.2	28	241	11.5
6835	29	7040	19.25	20000	227.6	29		
4590	30		19.15		228.1	30	241	15.0
7105	31	7600	19.15	21750	228.6	31		
4770	32		19.10		229.2	32	248	14.0
7375	33	8110	19.05	23300	229.9	33		
4950	34		19.05		230.8	34	254	14.5
7645	35	8650	19.00	24900	231.6	35		
5130	36		18.90		232.3	36	256	13.0
7915	37	9170	18.95	26500	232.9	37		
5310	38		19.00		233.5	38	257	11.0
8185	39	9030	19.00	27700	234.2	39		
5490	40		19.20		234.8	40	260	14.0
8455	41	10230	19.10	29200	235.3	41		
6670	42		19.35		236.3	42	270	11.5
8730	43	10780	19.45	30300	237.1	43		
5850	44		19.50		238.0	44	276	12.5
9005	45	11300	19.60	31500	238.9	45		
6030	46		19.70		239.4	46	282	13.0
9285	47	11830	19.70	32750	240.8	47		
6210	48		19.65		241.6	48	271	15.0
9565	49	12330	19.66	34300	242.4	49		
6390	50		19.45		243.3	50	273	19.5
9850								

105	144	74000	55.1
110	123	15270	58.7
115	105	16220	62.0
120	88	17280	65.5
125	72	18480	69.6
130	57	19930	74.4
135	43	21770	80.0
140	28		
145	13		
376	34	23267	83.8

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.	130	3		17-21		7	240	12		17-21		7	
150 M.	158	10		22-26		8	246	14		22-26		8	
300 M.	173	13		27-31		9	255	15		27-31		9	
0.5	168	13		32-36		10	258	12		32-36		10	
1.0	200	13		37-41		11	274	17		37-41		11	
1.5	229	10		42-46		12	270	14		42-46		12	
2.0	228	11		47-51		13	275	15		47-51		13	
2.5	228	13		52-56		14	270	16		52-56		14	
3	234	12		57-61		15	252	17		57-61		15	
4	217	14		62-66		16	248	18		62-66		16	
5	249	10		67-71		17	291	19		67-71		17	
6	243	12		72-76		18	302	20		72-76		18	

Identification

COLUMBIA, MO.
38° 53' N 92° 22' W
LST-90th Meridian El. 238
Rawinsonde WBRT-57

U.S. DEPARTMENT OF COMMERCE
WEATHER BUREAU

WINDS-ALOFT COMPUTATION SHEET
(LAND STATION FORM)

WBAN-20

	Year	Month	Day	Time
Actual time th mer.	1964	SEP	6	0515
Scheduled (G.M.T.)	1964	SEP	6	12
Ascension No.	927			

Page

2

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	
	100- gram			Observed	Smoothed				Direction° 360°= N	Speed (m.p.s.)
	14570	51	12960	19.4		36400	244.3	51		
	14860	52		19.35			245.1	52	270	16.0
	15145	53	13400	19.25		38100	245.5	53		
	15425	54	13720	19.25		39200	24.0	54	270	17.0
	15705	55	13980	19.0		40200	24.8	55		
	15985	56	14280	18.9		41200	24.72	56	262	18.7
	16265	57		18.7			247.5	57		
	16545	58	14860	18.6		43600	247.7	58	247	17.0
	16825	59		18.6			247.6	59		
	17105	60	15430	18.6		45300	247.3	60	238	12.6
	17385	61		18.5			246.9	61		
	17670	62	16000	18.5		46800	247.2	62	269	10.7
	17950	63		18.5			247.6	63		
	18235	64	16560	18.5		47800	248.4	64	294	12.4
	18515	65		18.9			249.1	65		
	18795	66	17240	19.2		48800	249.8	66	301	8.3
	19080	67		19.55			250.0	67		
	19360	68	17870	19.8		49000	250.0	68	301	2.5
	19645	69		20.1			250.0	69		
	19925	70	18470	20.4		49200	253.2	70	224	2.0
	20210	71		20.6			250.0	71		
	20490	72	19080	20.9		49500	249.6	72	197	5.5
	20775	73		21.1			249.2	73		
	21055	74	19720	21.3		49800	249.1	74	185	5.0
	21340	75		21.5			248.6	75		
	21620	76	20300	21.8		50100	248.5	76	179	4.0
	21905	77		22.0			248.4	77		
	22185	78	20930	22.4		50200	248.0	78	156	3.5
	22470	79		22.7			247.7	79		
	22750	80	21554	23.0		50200	247.5	80	148	1.5
	23040	81		23.3			247.5	81		
	23320	82	22240	23.7		50200	247.5	82	66	2.5
	23600	83	22600	24.0		50000	247.7	83		
	23880	84						84		
	24160	85						85		

Wind Direction° 360°= N	Speed (m.p.s.)	Minute	Azimuth angle °	Distance from observation Point (m.)	Elevation angle° Observed	Smoothed	Rawin ht. above surface (m.)	Minute	Slant range (m.) (yds.)
		106						106	
		107						107	
		108						108	
		109						109	
		110						110	
		111						111	
		112						112	
		113						113	
		114						114	
		115						115	

*Stamp the
following:

1. Name of Station
2. Lat. and long.
3. Local Standard time, meridian
4. El. of S.
5. Method obs., e. rawinsonde, rawin, p.
6. Type of equip., WBRT-5, GMD-1A, GMD-1, SCR-65, theodolite

*Altitude
in km., m.

Punched Card Data

Altitude#	Direction (degrees)	Speed (m.p.s.)	Card columns	Altitude#	Direction (degrees)	Speed (m.p.s.)
Card No. 3			15	Card No. 4		

19360	68	11870	19.00			2300	69		
19645	69		20.1						
19925	70	15470	20.4		49200	2332	70	224	2.0
20210	71		20.6			2500	71		
20490	72	19080	20.9		49500	249.6	72	197	5.5
20771	73		21.1			249.2	73		
21055	74	19790	21.3		49800	249.1	74	185	5.0
21340	75		21.5			248.6	75		
21620	76	20700	21.8		50100	248.5	76	179	4.0
21905	77		22.0			248.4	77		
22185	78	20930	22.4		50200	248.0	78	156	3.5
22470	79		22.7			247.7	79		
22750	80	21554	23.0		50200	247.5	80	148	1.5
23040	81		23.3			247.5	81		
23320	82	22240	23.7		50200	247.5	82	66	2.5
23600	83	22600	24.0		50000	247.7	83		
23880	84						84		
24160	85						85		
24440	86	22475					86		
24730	87						87		
25010	88						88		
25300	89						89		
25580	90						90		
25860	91						91		
26140	92						92		
26420	93						93		
26700	94						94		
26980	95						95		
27260	96						96		
27540	97						97		
27820	98						98		
28100	99						99		
28380	100						100		
28660	101						101		
28940	102						102		
29220	103						103		
29500	104						104		
29760	105						105		

Row in ht. above surface (m.)																			
Minute	106	107	108	109	110	111	112	113	114	115									
Slant range (m.) (yds.)																			

Altitude:
in km., n

Punched Card Data

Altitude#	Direction (degrees)	Speed (m.p.s.)	Card columns	Altitude#	Direction (degrees)	Speed (m.p.s.)
Card No. 3			15	Card No. 4		
Type of equipment	8		16	Type of equipment	2	
19	213	4	17- 21	31		
20	186	5	22- 26	32		
21	11.1	4	27- 31	33		
22	133	2	32- 36	34		
23			37- 41	35		
24			42- 46	36		
25			47- 51	37		
26			52- 56	38		
27			57- 61	39		
28			62- 66	40		
29			67- 71	41		
30			72- 76	42		

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.)		

camp the
following:
Name of
Station
Lat. and
long.
Local
Standard
time, 90th
meridian
El. of Station
Method of
obs., e.g.,
rawinsonde,
rowin, 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.

*Identification										U.S. DEPARTMENT OF COMMERCE WEATHER BUREAU		Year Month Day Time			
COLUMBIA, MO. 38° 58' N 92° 22' W LST-90th Meridian El. 238 Rawinsonde WBRT-57										WINDS-ALOFT COMPUTATION SHEET (LANDSTATION FORM) WBAN-20		1964 SEP 6 1715 1964 SEP 7 00 Ascension No. 929			
Type of balloon <u>Laete</u>										Orientation, 360° = South		Rawinsonde Time-Altitude Data			
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		Con- tact	Pressure (mb.)	Altitude (m., m.s.l.)	Elapsed time (min.)	
				Observed	Smoothed				Direction ° 360° = N.	Speed (m.p.s.)					
	216	1	210	23.1		490	180.6	1	183	7.5	6.5	984	238	0.0	
	350										10	942	630	1.9	
	414	2	460	25.7		950	185.2	2	182	7.3	15	897	1250	4.4	
	670										20	814	1870	7.0	
	612	3	700	26.7		1390	112.1	3	199	7.7	25	754	2530	9.8	
	980										30	697	3160	12.8	
	801	4	980	27.7		1860	180.5	4	178	7.4	35	642	3840	15.8	
	1285										40	590	4530	18.7	
	990	5	1210	28.4		2220	180.3	5	174	7.0	45	539	5260	21.7	
	1585										50	491	6000	25.2	
	1170	6	1480	27.6		2720	178.7	6	177	8.0	55	446	6730	28.2	
	1880										60	403	7540	31.4	
	1350	7	1690	27.4		3240	179.3	7	180	8.2	65	361	8360	34.7	
	2170										70	324	9160	38.0	
	1530	8	1920	27.8		3610	179.2	8	180	7.0	75	287	10000	41.6	
	2455										80	253	10880	45.0	
	1710	9	2180	28.9		3910	179.5	9	183	6.1	85	222	11740	48.2	
	2740										90	194	12600	52.7	
	1890	10	2400	29.2		4290	181.7	10	186	6.3	95	168	13500	56.3	
	3020										100	143	14500	60.1	
	2070	11	2680	29.6		4670	180.7	11	183	5.8	105	122	15480	64.1	
	3300										110	102	16580	67.9	
	2250	12	2900	29.7		4970	180.3	12	188	4.0	115	85	17650	71.9	
	3580										120	70	18860	76.0	
	2430	13	3120	31.4		5100	181.6	13	199	2.3	125	56	20240	81.5	
	3855										130	43	21950	87.6	
	2610	14	3360	33.2		5200	181.7	14	262	1.5	135	31	24100	95.1	
	4130										140	19	27400	106.0	
	2790	15	3580	35.0		5100	183.3	15	276	3.8					
	4405														
	2970	16	3790	36.7		5000	186.6	16	262	4.2					
	4676														
	3150	17	4000	37.2		5250	184.5	17	241	6.4					
	4945														
	3330	18	4240	37.6		5550	191.2	18	241	6.5					
	5216														
	3510	19	4480	38.2		5700	194.6	19	249	6.0					
	5485														
	3690	20	4720	38.3		6000	197.2	20	237	6.2					
	5756														
	3870	21	4950	38.3		6300	199.1	21	232	6.2					
	6025														
	4080	22	5190	38.2		6550	200.2	22	225	6.0					
	6298														
	4230	23	5430	38.1		6950	201.4	23	222	6.4					
	6565														
	4410	24	5670	37.7		7400	202.7	24	225	7.2					
	6835														
	4590	25	5900	37.6		7750	204.3	25	234	6.0					
	7105														
	4770	26	6120	37.7		7950	205.2	26	240	6.0					
	7375														
	4950	27	6350	37.6		8300	207.8	27	232	6.8					
	7645														
	5130	28	6580	37.1		8700	208.2	28	226	7.6					
	7915														
	5310	29	6800	36.6		9200	209.2	29							
	8185														
	5490	30		36.2			210.5	30	235	8.0					
	8455														
	5670	31	7300	35.9		10100	211.8	31							
	8730														
	5850	32		35.6			213.4	32	243	9.0					
	9005														
	6030	33	7780	35.1		11000	215.0	33							
	9285														
	6210	34		34.5			216.7	34	243	12.0					
	9565														
	6390	35	8920	33.4		12300	218.4	35							

Punched Card Data

Altitude #	Direction (degrees)	Speed (m.p.s.)	Card columns	Altitude #	Direction (degrees)	Speed (m.p.s.)
143	17	29.28	114.6			

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

By *W. L. T.*

Computer A. R. Brown

Verifier:

3180	17	4240	37.6	5550	191.2	18	241	65
3330	18	4340	37.6	5720	194.6	19	247	60
3510	19	4450	38.2	6000	197.2	20	237	62
3690	20	4720	38.3	6300	199.1	21	232	62
3870	21	4950	38.3	6550	202.2	22	225	6.0
4050	22	5190	38.2	6950	206.4	23	221	6.4
4230	23	5430	38.1	7350	208.7	24	215	7.2
4410	24	5670	37.7	7750	209.5	25	234	6.0
4590	25	5900	37.6	8150	216.2	26	240	6.0
4770	26	6150	37.7	8300	207.8	27	232	6.8
4950	27	6350	37.6	8700	208.2	28	226	7.6
5130	28	6580	37.1	9200	209.2	29		
5310	29	6800	36.6		213.5	30	235	8.0
5490	30		36.2	10100	216.8	31		
5670	31	7300	35.9		213.4	32	243	9.0
5850	32		35.6	11000	215.0	33		
6030	33	7800	35.1		216.7	34	243	12.0
6210	34		34.5	12300	218.4	35		
6390	35	8220	33.8		219.8	36	245	13.6
6570	36		33.1	13750	221.1	37		
6750	37	8900	32.3		222.7	38	246	14.4
6930	38		31.5	15300	224.3	39		
7110	39	9180	30.7		225.4	40	237	15.0
7290	40		30.2	17100	226.0	41		
7470	41	9680	29.4		226.5	42	237	15.5
7650	42		28.7	19000	227.0	43		
7830	43	10120	28.0		227.7	44	238	16.5
8010	44		27.6	21000	228.4	45		
8190	45	10580	26.6		229.1	46	242	17.5
8370	46		26.0	23000	229.9	47		
8550	47	11050	25.5		230.9	48	244	17.0
8730	48		25.1	25000	231.5	49		
8910	49	11580	24.7		231.9	50	245	17.5
9090	50		24.3					
9270								

Coded Data for Transmission

PP92445	00951	2009	21814	1815	41814	1715	61816	1814	81812
1912	01809	22605	42412	62412	82211	02311	32315	52416	02525
52432	02437	52525	02521	32523	0	99496	02512	42702	80905
01205	21506	60204	00910	00809	70607	0			

100	143	14500	60.1
105	122	15410	50.1
110	102	16580	67.8
115	85	17650	71.9
120	70	18860	76.4
125	56	20240	81.5
130	43	21950	87.6
135	31	24100	95.1
140	19	27400	106.0
			8.1
145	17	29328	114.6

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
sf.	210	4	17-21	7	229	8
150 M.	190	6	22-26	8	244	11
300 M.	182	7	27-31	9	246	14
0.5	184	7	32-36	10	236	16
1.0	179	8	37-41	11	242	18
1.5	175	7	42-46	12	245	18
2.0	179	8	47-51	13	245	13
2.5	184	6	52-56	14	250	15
3	185	5	57-61	15	254	16
4	265	4	62-66	16	253	16
5	236	6	67-71	17	251	11
6	229	7	72-76	18	255	9

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		COLUMBIA, MO. 38° 58' N 92° 22' W LST-90th Meridian El. 238 Rawinsonde WBRT-57		U.S. DEPARTMENT OF COMMERCE WEATHER BUREAU WINDS-ALOFT COMPUTATION SHEET (LAND STATION FORM) WBAN-20		Year Month Day Time 1964 SEP 6 1715 Scheduled (G.M.T.) 1964 SEP 7 00 Ascension No. 229			
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Slant range (M.) (yds.)	Pibal ht. above sfc. (m.)	Minute	Rowin ht. above surface (m.)	Elevation angle ^o		Distance from observation point (m.)	Azimuth angle °	Minute	Wind	
	100- gram			Observed	Smoothed				Direction ^o 360° = N	Speed (m.p.s.)
	14570	51	17040	24.0		27900	232.3	51		
	14860	52		23.7			232.7	52	246	14.0
	15145	53	17510	23.5		28800	232.0	53		
	15425	54		23.3			233.1	54	246	13.0
	15705	55	18020	23.1		30400	232.7	55		
	15985	56	18250	22.9		31200	234.2	56	248	12.5
	16265	57	18540	22.8		32000	234.6	57		
	16545	58	18800	22.6		32900	235.1	58	250	14.5
	16825	59		22.4			235.5	59		
	17105	60	14300	22.2		34750	236.0	60	252	15.0
	17385	61		22.1			236.5	61		
	17670	62	14500	22.1		36100	237.0	62	254	11.0
	17950	63		22.1			237.3	63		
	18235	64	15020	22.2		37200	237.6	64	256	10.5
	18515	65		22.2			237.8	65		
	18795	66	15800	22.1		38500	238.2	66	256	12.0
	19080	67		22.1			238.4	67		
	19360	68	16220	22.0		39950	238.5	68	251	10.5
	19645	69		22.0			239.0	69		
	19925	70	16860	22.1		41000	239.4	70	252	11.0
	20210	71		22.2			239.5	71		
	20490	72	17540	22.2		42500	239.6	72	253	9.5
	20775	73		22.3			239.8	73		
	21055	74	18020	22.4		43300	240.2	74	256	6.5
	21340	75		22.6			240.5	75		
	21620	76	18600	22.7		44000	240.6	76	254	3.5
	21905	77		22.9			240.3	77		
	22185	78	19160	23.3		44200	240.4	78	249	1.5
	22470	79		23.6			240.3	79		
	22750	80	19700	23.7		44400	240.3	80	32	1.0
	23040	81		24.1			240.3	81		
	23320	82	20240	24.4		44200	240.0	82	79	2.5
	23600	83		24.7			239.6	83		
	23880	84	20780	25.0		44000	239.3	84	107	3.0
	24160	85		25.2			239.3	85		

Wind Direction ^o 360° = N	Speed (m.p.s.)	Minute	Azimuth angle °	Distance from observation Point (m.)	Elevation angle ^o Observed	Smoothed	Rawin ht. above surface (m.)	Minute	Slant range (m.) (yds.)
84	4.5	106	235.9	41400	33.2		27170	106	
		107	235.6		34.2			107	
75	6.0	108	235.3	40700	34.7		27730	108	
		109	235.2		35.1			109	
73	5.5	110	235.3	39800	35.3		28380	110	
		111	235.2		35.9			111	
69	4.0	112	234.9	39400	36.1		28920	112	
		113	235.2		36.4			113	
60	3.5	114	235.4	39000	36.9		29440	114	
		115						115	

*Stamp the following:

1. Name of Station
2. Lat. and long.
3. Local Standard time, meridian
4. El. of S
5. Method obs., c. rawinsonde, p.
6. Type of equip., WBRT-5, GMD-1A, GMD-1, SCR-65, theodolite

Altitudes in km., n

Punched Card Data

Altitude ^o	Direction (degrees)	Speed (m.p.s.)	Card columns	Altitude ^o	Direction (degrees)	Speed (m.p.s.)
Card No. 3	15	Card No. 4				

29673

19645	69		22.0		41000	239.6	69		
19925	70	16860	22.1			239.7	70	252	11.0
20210	71		22.2			239.8	71		
20490	72	17540	22.2		42500	239.6	72	253	9.5
20775	73		22.3			239.8	73		
21055	74	18020	22.4		43300	240.2	74	256	6.5
21340	75		22.5			240.5	75		
21620	76	18600	22.7		44000	240.6	76	254	3.5
21905	77		22.7			240.5	77		
22185	78	19160	23.3		44200	240.4	78	249	1.5
22470	79		23.6			240.3	79		
22750	80	19700	23.7		44400	240.3	80	32	1.0
23040	81		24.1			240.3	81		
23320	82	20240	24.4		44200	240.0	82	79	2.5
23600	83		24.7			239.6	83		
23880	84	20780	25.0		44000	239.3	84	107	3.0
24160	85		25.2			239.3	85		
24440	86	21300	25.5		44200	239.4	86	129	3.0
24730	87		25.7			239.4	87		
25010	88	21850	26.0		44200	239.2	88	147	3.0
25300	89		26.3			239.0	89		
25580	90	22400	26.5		44300	238.0	90	76	1.0
25860	91		26.9			237.9	91		
26140	92	22940	27.2		44200	238.1	92	25	2.0
26420	93		27.4			238.5	93		
26700	94	23560	28.0		43800	238.4	94	77	4.0
26980	95		28.6			238.1	95		
27260	96	24130	29.1		43000	237.4	96	94	5.0
27540	97		29.5			236.9	97		
27820	98	24720	29.9		42600	236.9	98	92	4.0
28100	99		30.3			236.6	99		
28380	100	25300	30.6		42400	236.7	100	91	3.0
28660	101		31.0			236.8	101		
28940	102	25970	31.4		42000	236.8	102	70	3.0
29220	103		32.1			236.2	103		
29500	104	26540	32.3		41800	236.0	104	93	4.0
29780	105		33.1			236.0	105		

Rawin ht. above surface (m.)	27170	27770	28370	28970	29470	29670
Minute	106	107	108	109	110	111
Slant range (m.) (yds.)						

Altitudes
in km, n

Punched Card Data

Altitude#	Direction (degrees)	Speed (m.p.s.)	Card columns	Altitude#	Direction (degrees)	Speed (m.p.s.)
Card No. 3			15	Card No. 4		
Type of equipment			8	Type of equipment		
19	253	3	17-21	31		
20	32	1	22-26	32		
21	106	3	27-31	33		
22	144	2	32-36	34		
23	113	2	37-41	35		
24	83	4	42-46	36		
25	92	4	47-51	37		
26	91	3	52-56	38		
27	91	4	57-61	39		
28	75	6	62-66	40		
29	70	5	67-71	41		
30			72-76	42		

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.)		

WHITEMAN AFB, 7 Sep 64 *missouri*

On 8 Sep 64 Hq USAF SAFOI PB (Helen) called regarding a sighting at Whiteman AFB on 7 Sep 64. UPI had asked them for information on sighting. Helen gave this information: Blue object 500 ft in air, speed 5 knots, & crashed *rose 20 ft in air* in field, rose about 5 ft took off at 4 - 5 knots. This was reported by Highway Patrol. Air Force Security People on station at Whiteman had done reporting to Highway Patrol.

On 8 Sep 64 call made to Whiteman AFB, Base Security Office, area code 816 Logan 3 5511. Spoke with Airman Farley. told him we were checking up on a UFO report. We have reports from Wash which we want to find out about. Call transfered to Wing (387). Spoke with Sgt Lemington. Last night at 2106 hours about 20 and 25 miles. Appeared about 200 ft in air. Similar reports. Directly South of original sighting. Col Baker said no action unless object intends penetration. Sgt Lemington said he would find out more information and give us a call right back after Maj Q informed him that the Secreaty of the Air Force needed this information in a hurry as someone had reported it to the UPI and associated press also had info on it.

10 Sep 64 placed a Call to Whiteman AFB, spoke with Command post. Sighting at 0336Z, 8 Sep 64, India reported sighting UFO, small blue light size of auto headlight. Also 5 other sighted south of Whiteman Moved ~~to~~ ~~South~~ towards Clinton, Missouri about 20 ft off ground. Mobile Strike team sent ~~to~~ out. Looked like it was hovering over another site. State highway patrol notified. Always in South. Striketeam called back in. Seemed to be moving with wind. Wind to South. Ask command Post to find out lateral movement. Command post ext 3855.

WX CLOKED 9/22

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.

BURST

R.S. Veach

Computer
G. BARNES

2250	12	2000	19.60	8300	200.4	12	201	12.5
3580	13	3210	19.55	9000	200.9	13	208	10.8
2430	14	3430	19.75	9600	201.3	14	204	10.0
3855	15	3700	19.95	10200	201.2	15	194	10.0
2610	16	3930	20.0	10800	200.5	16	192	11.4
4130	17	4180	19.90	11500	200.1	17	190	12.6
2790	18	4410	19.80	12300	199.2	18	184	12.5
4405	19	4650	19.70	13000	198.3	19	186	11.1
2970	20	4910	19.75	13600	197.9	20	191	10.2
4675	21	5140	19.90	14200	197.7	21	192	9.1
3150	22	5400	20.2	14700	197.8	22	200	9.0
4945	23	5660	20.3	15300	197.9	23	202	9.0
3330	24	5900	20.5	15800	198.1	24	206	2.5
5215	25	6140	20.8	16500	198.4	25	213	6.0
3510	26	6400	21.2	16500	198.6	26	213	5.0
5485	27	6640	21.5	16800	198.9	27	208	6.2
5690	28	6900	21.6	17400	199.2	28	208	5.6
5755	29	7080	21.9	17500	199.3	29	1	
3870	30		22.1		199.0	30	198	5.3
6025	31	7560	22.4	18200	198.8	31		
4050	32		22.8		198.5	32	196	6.0
6295	33	8060	23.0	18900	198.8	33		
4230	34		23.3		199.1	34	219	6.2
6565	35	8550	23.5	19600	199.6	35		
4410	36		23.9		200.4	36	234	7.5
6835	37	9120	24.0	20400	201.1	37		
4590	38		24.2		201.7	38	220	8.8
7105	39	9670	24.2	21400	202.4	39		
4770	40		24.3		203.1	40	213	8.5
7375	41	10240	24.5	22200	204.1	41		
4950	42		25.1		204.7	42	245	6.4
7645	43	10840	25.4	22750	205.4	43		
5130	44		25.9		206.2	44	294	4.7
5310	45	11350	26.3	22750	206.9	45		
8185	46		26.7		207.6	46	273	6.0
5490	47	11930	27.2	23100	208.5	47		
8455	48		27.6		209.1	48	262	5.3
5670	49	12500	27.9	23500	209.8	49		
8730	50		28.3		210.8	50	277	7.0

Coded Data for Transmission

19222	02025	22119	41923	61823	81917	02016	32112	52611	02315
52513	02211	52816	02718	326130	99996	02705	52207	00705	00712
20816									

70	332	4450	35.4
75	278	9700	38.3
80	264	10550	41.3
85	234	11360	44.4
90	206	12180	47.5
95	180	13160	50.7
100	156	13950	53.9
105	135	14840	57.3
110	114	15860	60.7
115	97	16800	64.5
120	81	17800	68.2
125	66	19130	72.4
130	52	20610	77.1
135	39	22500	82.8
140	26	25180	90.1
145	12		1.3
150	24	25661	91.6

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.	160	4	17-21	7	207	6
150 M.	179	9	22-26	8	198	6
300 M.	193	13	27-31	9	253	7
0.5	192	13	32-36	10	240	9
1.0	208	14	37-41	11	261	6
1.5	207	11	42-46	12	270	6
2.0	197	9	47-51	13	272	7
2.5	195	9	52-56	14	275	9
3	196	13	57-61	15	265	9
4	193	10	62-66	16	262	7
5	187	11	67-71	17	240	5
6	204	9	72-76	18	236	3

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.		

FORM 610-12
631
COMM-WB-DC

Page

1

Stamp the following:
Name of Station
Lat. and long.
Local Standard time, 20th 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

*Identification

COLUMBIA, MO.
38° 58' N · 92° 22' W
LST-00th Meridian El. 238
Rawinsonde WBRT-57

U.S. DEPARTMENT OF COMMERCE
WEATHER BUREAU

WINDS-ALOFT COMPUTATION SHEET
(LAND STATION FORM)

WBAN-20

	Year	Month	Day	Time
Actual time mer.	1964	SEP	7	0515
Scheduled (G.M.T.)	1964	SEP	7	12
Ascension No.	931			

Type of balloon 600CP

Orientation, 360° = South

Rawinsonde Time-Altitude Data

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.)	Altitude (m., m.s.l.)	Elapsed time (min.)
				Observed	Smoothed				Direction ° 360° = N. sfc.	Speed (m.p.s.)				
	216 350	1	270	20.1		740	187.3	1	194	13.8	6.5	988	238	0.0
	414 670	2	520	17.35		1660	193.9	2	204	15.5	10	936	710	2.1
	612 980	3	770	16.95		2500	198.3	3	211	13.8	15	870	1360	4.7
	801 1285	4	1020	17.15		3300	202.3	4	215	12.5	20	807	2000	7.2
	990 1585	5	1280	17.80		4000	205.5	5	207	10.8	25	749	2630	9.9
	1170 1880	6	1520	18.25		4600	208.9	6	201	9.0	30	692	3280	12.6
	1350 2170	7	1760	19.10		5100	203.3	7	196	9.3	35	639	3950	15.3
	1530 2455	8	2020	19.55		5700	202.8	8	196	9.2	40	587	4620	18.1
	1710 2740	9	2260	20.0		6200	202.2	9	195	9.0	45	539	5290	20.9
	1890 3020	10	2480	20.1		6800	201.4	10	194	11.0	50	494	5980	23.6
	2070 3300	11	2730	19.90		7500	201.0	11	195	12.5	55	450	6680	26.5
	2250 3580	12	2960	19.60		8300	200.4	12	201	12.5	60	410	7390	29.4
	2430 3855	13	3210	19.55		9000	200.9	13	208	10.8	65	367	8200	32.3
	2610 4130	14	3430	19.75		9600	201.3	14	204	10.0	70	332	9930	35.4
	2790 4405	15	3700	19.95		10200	201.2	15	194	10.0	75	298	9700	38.3
	2970 4675	16	3930	20.0		10800	200.5	16	192	11.4	80	264	10550	41.3
	3150 4945	17	4180	19.90		11500	200.1	17	190	12.6	85	234	11360	44.4
	3330 5215	18	4410	19.80		12300	199.2	18	184	12.5	90	206	12180	47.5
	3510 5485	19	4650	19.70		13000	198.3	19	186	11.1	95	180	13160	50.7
	3690 5755	20	4910	19.75		13600	197.9	20	171	10.2	100	156	13950	53.9
	3870 6025	21	5140	19.70		14200	197.2	21	172	9.1	105	135	14840	57.7
											110	114	15860	60.2
											115	97	16200	64.1

17670	62	17150	30.0			772.3	63		
17950	63		30.2			772.3	64	239	4.6
18235	64	16490	30.4		27900	772.5	65		
18515	65		30.5			772.9	66	241	5.5
18795	66	17080	30.7		28600	772.7	67		
19080	67		30.8			773.1	68	236	3.8
19360	68	17700	31.1		29200	773.4	69		
19645	69		31.4			773.4	70	224	2.6
19925	70	18300	31.7		29500	773.5	71		
20210	71		31.9			773.6	72	227	3.7
20490	72	18920	32.2		29900	773.5	73		
20775	73		32.3			773.5	74	224	3.6
21055	74	19560	32.5		30600	773.5	75		
21340	75		32.6			773.5	76	122	1.0
21620	76	20100	32.9		30900	773.5	77		
21905	77		33.4			774.0	78	72	2.4
22185	78	20780	34.0		30600	773.7	79		
22470	79		34.4			773.4	80	71	2.9
22750	80	21420	34.7		30500	773.1	81		
23040	81		35.0			772.9	82	95	1.6
23320	82	22000	35.5		30400	773.0	83		
23600	83		36.0			773.0	84	92	3.0
23880	84	22700	36.7		30300	772.8	85		
24160	85		37.4			772.3	86	72	4.1
24440	86	23500	38.0		29900	771.8	87		
24730	87		38.5			771.9	88	66	5.6
25010	88	24180	39.3		29300	771.8	89		
25300	89		40.1			771.5	90	89	8.8
25580	90	24890	40.9		28600	770.5	91		
25860	91	25360	41.5		28400	770.5	92		
26140	92						93		
26420	93						94		
26700	94						95		
26980	95						96		
27260	96						97		
27540	97						98		
27820	98						99		
28100	99						100		
28380	100						101		
28660	101						102		
28940	102						103		
29220	103						104		
29500	104						105		
29780	105								

Elevation angle	Smoothed										
	Observed										
Rawin ht. above surface (m.)											
Slant range (m.) (yds.)											
Minute	106	107	108	109	110	111	112	113	114	115	

rawinson
rawin, p
6. Type of
equip.,
WBRT-5
GMD-1A
GMD-1,
SCR-65E
theodolite

Altitudes
in km., n

Punched Card Data

Altitude#	Direction (degrees)	Speed (m.p.s.)	Card columns	Altitude#	Direction (degrees)	Speed (m.p.s.)
Card No. 3			15	Card No. 4		
Type of equipment	8		16	Type of equipment	8	
19	227	3	17-21	31		
20	195	3	22-26	32		
21	75	2	27-31	33		
22	75	2	32-36	34		
23	91	3	37-41	35		
24	70	4	42-46	36		
25	73	8	47-51	37		
26			52-56	38		
27			57-61	39		
28			62-66	40		
29			67-71	41		
30			72-76	42		

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.)		

Identification

COLUMBIA, MO.
38° 58' N 92° 22' W
LST-90th Meridian El. 238
Rawinsonde WBRT-57

U.S. DEPARTMENT OF COMMERCE
WEATHER BUREAU

WINDS-ALOFT COMPUTATION SHEET
(LAND STATION FORM)

WBAN-20

	Year	Month	Day	Time
Actual time th mer.	1964	SEP	7	0515
Scheduled (G.M.T.)	1964	SEP	7	12
Ascension No.	951			

Page
2

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	
				Observed	Smoothed				Direction° 360°= N	Speed (m.p.s.)
	14570	51	13080	28.6		23900	211.8	51		
	14860	52	13380	29.0		24000	213.3	52	285	8.5
	15145	53	13620	29.3		24200	214.1	53		
	15425	54	13890	29.6		24500	215.0	54	274	8.0
	15705	55		29.7			216.0	55		
	15985	56	14380	29.8		25000	217.1	56	265	9.5
	16265	57		29.8			218.0	57		
	16545	58	14900	29.8		25900	218.8	58	265	9.5
	16825	59		29.8			219.8	59		
	17105	60	15430	29.8		26700	220.6	60	263	9.5
	17385	61		29.8			221.5	61		
	17670	62	15950	30.0		27500	222.1	62	250	6.5
	17950	63		30.2			222.3	63		
	18235	64	16490	30.4		27900	222.5	64	239	4.6
	18515	65		30.5			222.9	65		
	18795	66	17080	30.7		28600	222.7	66	241	5.5
	19080	67		30.8			223.1	67		
	19360	68	17700	31.1		29200	223.6	68	236	3.8
	19645	69		31.4			223.4	69		
	19925	70	18300	31.7		29500	223.4	70	224	2.6
	20210	71		31.9			223.6	71		
	20490	72	18920	32.2		29900	223.5	72	227	3.7
	20775	73		32.3			223.5	73		
	21055	74	19560	32.4		30600	223.5	74	224	3.6
	21340	75		32.6			223.5	75		
	21620	76	20100	32.9		30900	223.5	76	122	1.0
		77					223.6	77		

*Stamp the
following:

1. Name of Station
2. Lat. and long.
3. Local Standard time, meridian
4. El. of St
5. Method of obs., e. rawinsonde rawin, p
6. Type of equip., WBRT-5, GMD-1A, GMD-1, SCR-65, theodolite

*Altitude
in km, m

Page
1

Name of Station
 Lat. and long.
 Local Standard time, 90 th 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

*Identification				COLUMBIA, MO. 38° 53' N 92° 22' W LST-90th Meridian El. 238 Rawinsonde WBRT-57				U.S. DEPARTMENT OF COMMERCE WEATHER BUREAU WINDS-ALOFT COMPUTATION SHEET (LANDSTATION FORM) WBAN-20				<table border="1"> <tr> <th>Actual time</th> <th>Year</th> <th>Month</th> <th>Day</th> <th>Time</th> </tr> <tr> <td>20th mer.</td> <td>1964</td> <td>SEP</td> <td>7</td> <td>1715</td> </tr> <tr> <th>Scheduled (G.M.T.)</th> <td>1964</td> <td>SEP</td> <td>8</td> <td>00</td> </tr> <tr> <th colspan="5">Ascension No. 4125</th> </tr> </table>					Actual time	Year	Month	Day	Time	20th mer.	1964	SEP	7	1715	Scheduled (G.M.T.)	1964	SEP	8	00	Ascension No. 4125				
Actual time	Year	Month	Day	Time																																
20th mer.	1964	SEP	7	1715																																
Scheduled (G.M.T.)	1964	SEP	8	00																																
Ascension No. 4125																																				
Type of balloon 600 ft. PA 322				Orientation, 360° = South				Rawinsonde Time-Altitude Data																												
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.)	Altitude (m., m.s.l.)	Elapsed time (min.)																						
				Observed	Smoothed				Direction ° 360° = N.	Speed (m.p.s.)																										
	216 350	1	230	32.2		370	204.4	1	207	8.1	6P	988	238	0.0																						
	414 670	2	500	29.0		890	206.6	2	206	9.9	10	934	740	2.0																						
	612 980	3	770	27.0		1500	207.6	3	204	10.0	15	866	1410	4.6																						
	801 1285	4	1040	26.5		2090	203.2	4	196	10.1	20	801	2080	7.5																						
	990 1585	5	1290	25.9		2690	201.1	5	191	10.0	25	740	2760	9.9																						
	1170 1880	6	1560	25.4		3250	199.9	6	190	10.5	30	681	3410	12.5																						
	1350 2170	7	1800	24.3		3950	197.7	7	188	11.2	35	627	4100	15.5																						
	1530 2455	8	2050	23.7		4590	196.1	8	188	10.7	40	574	4800	18.5																						
	1710 2740	9	2280	23.8		5100	195.2	9	189	9.4	45	524	5540	21.4																						
	1890 3020	10	2540	24.0		5630	194.7	10	193	8.1	50	477	6280	24.7																						
	2070 3300	11	2800	24.4		6080	195.0	11	201	7.9	55	432	7030	27.7																						
	2250 3580	12	3050	24.5		6590	195.9	12	206	9.0	60	390	7800	30.8																						
	2430 3855	13	3280	24.4		7130	196.5	13	209	8.7	65	350	8609	33.9																						
	2610 4130	14	3500	24.4		7580	197.6	14	213	8.6	70	314	9450	37.3																						
	2790 4405	15	3780	24.2		8250	198.7	15	214	9.4	75	280	10190	40.4																						
	2970 4675	16	3990	24.1		8740	199.5	16	214	10.5	80	246	11110	43.6																						
	3150 4945	17	4250	24.2		9430	200.7	17	215	10.3	85	217	11950	46.9																						
	3330 5215	18	4500	24.4		9900	201.5	18	217	9.1	90	190	12960	50.7																						
	3510 5485	19	4770	24.7		10320	202.0	19	219	7.9	95	164	13680	54.2																						
	3690 5755	20	5000	24.9		10750	203.1	20	223	8.2	100	141	14640	57.7																						
	3870 6025	21	5280	25.0		11250	204.3	21	227	8.3	105	120	15620	61.4																						
	4050 6295	22	5500	25.1		11740	205.3	22	224	8.8	110	101	16650	65.1																						
	4230 6565	23	5780	25.1		12300	205.4	23	217	8.4	115	84	17740	69.3																						
	4410 6835	24	5980	25.2		12610	205.6	24	209	6.3	120	64																								

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

המחלקה לטיפול בנפגעים

Ph est

Computer W. J. DODD/erifior 11-11-11

2250 3580	12	3050	24.5	6590	195.7	12	206	7.0
2430 3855	13	3280	24.4	7130	196.5	13	209	8.7
2610 4130	14	3500	24.4	7580	197.6	14	213	8.6
2790 4405	15	3780	24.2	8250	198.7	15	214	9.4
2970 4675	16	3990	24.1	8740	199.5	16	214	10.5
3150 4945	17	4250	24.2	9430	200.7	17	215	10.3
3330 5215	18	4500	24.4	9900	201.5	18	217	9.1
3510 5485	19	4770	24.7	10320	202.0	19	219	7.9
3690 5755	20	5000	24.9	10750	203.1	20	223	8.2
3870 6025	21	5280	25.0	11250	204.3	21	227	8.3
4050 6295	22	5500	25.1	11740	205.3	22	224	8.8
4230 6565	23	5780	25.1	12300	205.4	23	217	8.4
4410 6835	24	5980	25.2	12610	205.6	24	209	6.3
4590 7105	25	6200	25.3	12870	205.2	25	204	5.2
4770 7375	26	6480	25.4	13490	205.4	26	207	7.0
4950 7645	27	6710	25.7	14000	206.2	27	220	8.0
5130 7915	28	6960	26.1	14220	207.0	28	236	7.1
5310 8185	29	7180	26.5	14350	208.0	29		
5490 8455	30		26.8		208.6	30	229	6.5
5670 8730	31	7680	26.9	15100	209.2	31		
5850 9005	32		27.2		209.5	32	228	6.0
6030 9285	33	8200	27.4	15750	209.9	33		
6210 9565	34		27.5		210.0	34	225	6.5
6390 9850	35	8900	27.6	16400	210.0	35		
6570 10135	36		27.7		210.1	36	221	7.0
6750 10420	37	9200	27.7	17400	210.3	37		
6930 10715	38		27.8		210.7	38	225	6.0
7110 11005	39	9700	28.2	18000	211.0	39		
7290 11300	40		28.6		211.5	40	232	4.5
7470 11595	41	10200	28.8	18500	211.9	41		
7650 11890	42		29.1		211.9	42	242	2.5
7830 12185	43	10700	29.6	18800	212.0	43		
8010 12480	44		30.1		212.2	44	250	2.0
8190 12775	45	11200	30.6	18900	212.8	45		
8370 13075	46		31.3		213.4	46	289	5.0
8550 13375	47	11700	32.0	18900	214.9	47		
8730 13675	48		32.4		216.0	48	304	6.5
8910 13975	49	12200	32.9	18800	217.0	49		
9090 14275	50		33.4		217.8	50	306	11.5

[illegible]

70	219	10110	37.3
75	280	10180	40.0
80	246	11110	43.6
85	217	11250	46.9
90	190	12910	50.5
95	164	13690	54.2
100	141	14640	57.7
105	120	15620	61.4
110	101	16650	65.1
115	84	17740	69.3
120	69	18930	73.2
125	54	20240	77.1
130	41	22230	84.0
135	28	24640	92.9
140	14	27300	105.8
			8.3
14/1	10	31552	112.9

Punched Card Data

Altitude #	Direction (degrees)	Speed (m.p.s.)	Card columns	Altitude #	Direction (degrees)	Speed
Card No. 1			15	Card No. 2		
Type of equipment		8	16	Type of equipment		8
sf.	220	5	17-21	7	220	5
150 M.	212	7	22-26	8	227	6
300 M.	207	9	27-31	9	222	7
0.5	207	8	32-36	10	230	5
1.0	204	10	37-41	11	247	2
1.5	192	10	42-46	12	300	2
2.0	188	11	47-51	13	294	1
2.5	187	10	52-56	14	277	7
3	200	8	57-61	15	285	6
4	214	7	62-66	16	260	7
5	218	8	67-71	17	246	6
6	218	8	72-76	18	240	6

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.		

17670	62	15.5					
17950	63		35.9		2287	63	
18235	64	16.140	35.9	22200	2274	64	250 7.0
18515	65		35.8		2303	65	
18795	66	16680	36.0	22800	2307	66	247 5.5
19080	67		36.2		2310	67	
19360	68	17220	36.4	23300	2312	68	243 5.0
19645	69		36.5		2306	69	
19925	70	17780	36.5	23900	2308	70	240 4.0
20210	71		36.6		2316	71	
20490	72	18300	37.1	24100	2316	72	239 3.0
20775	73		37.3		2313	73	
21055	74	18920	37.5	24550	2312	74	222 2.5
21340	75		37.7		2311	75	
21620	76	19520	38.3	24700	2308	76	198 3.5
21905	77		38.7		2313	77	
22185	78	20080	38.9	24800	2297	78	165 3.0
22470	79		39.0		2295	79	
22750	80	20700	39.1	25300	2293	80	157 2.0
23040	81		39.5		2295	81	
23320	82	21300	40.1	25300	2295	82	150 1.5
23600	83		40.5		2293	83	
23880	84	21900	40.9	25200	2291	84	122 2.0
24160	85		41.3		2290	85	
24440	86	22480	41.8	25050	2289	86	85 3.0
24730	87		42.0		2291	87	
25010	88	23080	43.3	24400	2292	88	58 6.0
25300	89		44.1		2288	89	
25580	90	23620	44.9	23600	2283	90	18 6.5
25860	91		45.5		2277	91	
26140	92	24350	46.1	23250	2277	92	75 4.0
26420	93		46.8		2273	93	
26700	94	25240	47.5	23000	2275	94	78 4.5
26980	95		48.4		2269	95	
27260	96	25920	49.2	22300	2259	96	85 6.5
27540	97		49.9		2251	97	
27820	98	26500	50.5	21700	2241	98	94 5.5
28100	99		51.0		2230	99	
28380	100	27140	51.3	21500	2226	100	100 4.0
28660	101		51.9		2222	101	
28940	102	27800	52.5	21300	2219	102	96 3.0
29220	103		52.9		2218	103	
29500	104	28480	53.5	21000	2213	104	66 4.0
29780	105		54.2		2214	105	

Elevation angle	Smoothed	
	Observed	Smoothed
106	550	
107	555	
108	562	
109	569	
110	577	
111	585	
112	589	
113	592	
114		
115		

6. Type of equip.,
WBRT-5
GMD-1A
GMD-1,
SCR-65
theodol

* Altitude
in km.,

Punched Card Data

Altitude#	Direction (degrees)	Speed (m.p.s.)	Card columns	Altitude#	Direction (degrees)	Speed (m.p.s.)
Card No. 3			15	Card No. 4		
Type of equipment	8	16	Type of equipment	8		
19 224	2	17-21 31	57	5		
20 171	4	22-26 32				
21 156	2	27-31 33				
22 130	2	32-36 34				
23 70	4	37-41 35				
24 69	7	42-46 36				
25 76	4	47-51 37				
26 82	6	52-56 38				
27 90	5	57-61 39				
28 100	3	62-66 40				
29 57	5	67-71 41				
30 45	5	72-76 42				

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.)		

Identification

COLUMBIA, MO.

38° 58' N 92° 22' W
LST-90th Meridian El. 238
Rawinsonde WBRT-57U.S. DEPARTMENT OF COMMERCE
WEATHER BUREAUWINDS-ALOFT COMPUTATION SHEET
(LAND STATION FORM)

WBAN-20

Actual time th mer.	Year	Month	Day	Time
Scheduled (G.M.T.)	1964	SEP	7	1715
Ascension No.	1964	SEP	8	00
			933	

Page
2

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	
				Observed	Smoothed				Direction° 360°= N	Speed (m.p.s.)
	14570	51	12710	33.7		18800	218.4	51		
	14860	52		34.0			219.2	52	280	4.0
	15145	53	13230	34.4		19200	219.9	53		
	15425	54	13490	34.6		19430	220.4	54	278	5.5
	15705	55	13750	35.0		19670	221.6	55		
	15985	56	14020	35.2		19900	223.2	56	279	7.5
	16265	57		35.6			225.5	57		
	16545	58	14520	36.0		20000	226.8	58	285	9.0
	16825	59		36.1			227.3	59		
	17105	60	15020	36.0		20600	227.6	60	280	5.0
	17385	61		35.9			228.2	61		
	17670	62	15530	36.0		21300	228.6	62	265	7.0
	17950	63		35.9			228.7	63		
	18235	64	16140	35.9		22200	229.4	64	250	7.0
	18515	65		35.8			230.2	65		
	18795	66	16680	36.0		22800	230.7	66	247	5.5
	19080	67		36.2			231.0	67		
	19360	68	17220	36.4		23300	231.2	68	243	5.0
	19645	69		36.5			230.6	69		
	19925	70	17780	36.5		23900	230.8	70	240	4.0
	20210	71		36.6			231.6	71		
	20490	72	18300	37.1		24100	231.6	72	239	3.0
	20775	73		37.3			231.3	73		
	21055	74	18970	37.5		24550	231.2	74	222	2.5
	21340	75		37.7			231.1	75		
	21620	76	19520	38.3		24700	230.8	76	178	3.5
	21905	77		38.7			230.7	77		
	22185	78	20080	38.9		24800	229.7	78	165	3.0
	22470	79		39.0			229.5	79		
	22750	80	20700	39.1		25300	229.3	80	157	2.0
	23040	81		39.5			229.1	81		

Wind Speed (m.p.s.)	Direction° 360°= N	Minute	Azimuth angle °	Distance from observation Point (m.)	Elevation angle° Observed	Smoothed	Rawin ht. above surface (m.)	Minute	Slant range (m.) (yds.)
5.5	42	106	221.0	20700	55.0		29000	106	
5.0	45	107	220.6		55.5			107	
5.0	52	108	221.2	19700	56.2		29680	108	
5.5	58	109	221.3		56.9			109	
		110	220.9	19200	57.7		30240	110	
		111	220.2		58.5			111	
		112	219.3	18600	58.9		30860	112	
		113	219.1	18400	59.2		31140	113	
		114					238	114	
		115					31098	115	

*Stamp the
following:

1. Name of Station
2. Lat. and long.
3. Local Standard time, meridian
4. El. of S.
5. Method of obs., e. rawinsonde, rawin, p.
6. Type of equip., WBRT-57, GMD-1A, GMD-1, SCR-65, theodolite

Altitude
in km., r

Punched Card Data

Stamp the following:

Name of Station

Lat. and long.

Local Standard time, 9:10th 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

*Identification

COLUMBIA, MO.
38° 58' N 92° 22' W
LST-90th Meridian El. 238
Rawinsonde WBRT-57

U.S. DEPARTMENT OF COMMERCE
WEATHER BUREAU

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

Actual time with mer.	Year	Month	Day	Time
Scheduled (G.M.T.)	1964	SEP	8	0515
	1964	SEP	8	12
Ascension No.	935			

Type of balloon 600CR

Orientation, 360° = South

Rawinsonde Time-Altitude Data

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.)	Altitude (m., m.s.l.)	Elapsed time (min.)
				Observed	Smoothed				Direction ° 360° = N.	Speed (m.p.s.)				
	216 350	1	240	19.35		680	207.7	1	215	12.9	65	990	238	0.0
	414 670	2	480	17.20		1540	214.9	2	221	14.8	10	935	730	2.2
	612 980	3	730	16.45		2450	217.3	3	222	14.2	15	668	1360	4.9
	801 1285	4	960	16.35		3240	219.6	4	223	13.8	20	802	2030	7.4
	990 1505	5	1200	16.40		4100	219.8	5	226	13.0	25	742	2680	—
	1170 1880	6	1470	17.15		4800	221.4	6	228	10.1	30	684	3370	12.9
	1350 2170	7	1700	17.80		5300	221.9	7	230	8.3	35	628	4070	15.5
	1530 2455	8	1960	18.75		5800	222.7	8	233	7.6	40	576	4760	18.1
	1710 2740	9	2200	19.65		6200	223.5	9	243	6.1	45	527	5460	21.1
	1890 3020	10	2480	20.9		6500	224.9	10	250	4.6	50	479	6220	23.9
	2070 3300	11	2710	22.1		6700	225.8	11	242	2.6	55	437	6920	26.7
	2250 3580	12	2970	23.3		6800	225.7	12	243	2.5	60	394	7710	29.6
	2430 3855	13	3220	24.4		7100	226.8	13	237	2.5	65	356	8460	32.5
	2610 4130	14	3480	25.7		7200	226.5	14	202	1.8	70	319	9260	35.6
	2790 4405	15	3740	26.9		7300	226.1	15	194	1.8	75	285	10040	38.6
	2970 4675	16	4000	28.3		7350	225.0	16	197	1.9	80	252	10840	41.7
	3150 4945	17	4250	29.5		7500	225.2	17	189	3.2	85	224	11650	44.7
	3330 5215	18	4520	30.4		7700	223.8	18	188	5.1	90	197	12510	47.9
	3510 5485	19	4800	30.9		8000	222.6	19	195	4.6	95	172	13380	51.0
	3690 5755	20	5030	31.5		8200	221.9	20	215	6.0	100	149	14250	54.0
	3870 6025	21	5300	31.6		8700	221.8	21	225	6.0	105	129	15120	57.1
	4050 6295	22	5590	31.9		8900	222.5	22	237	4.8	110	110	16070	60.4
	4230 6565	23	5870	32.3		9200	223.7	23	257	5.0	115	93	17060	63.7
	4410 6835	24	6080	32.9		9400	224.5	24	244	3.0	120	77	18200	67.0
	4590 7105	25	6320	33.7		9550	224.6	25	229	1.7	125	63	19380	70.3
	4770 7375	26	6600	34.2		9700	224.8	26	225	1.4	130	50	20101	73.6
	4950 7645	27	6860	34.8		9800	224.9	27			135	37	22820	81.0
	5130 7915	28		35.6			225.4	28	236	1.4	140	26	25200	88.3
							225.7	29			145	13	29771	91.1

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. J. EMERY
erifier R. S. VENCH

2250	12	2970	23.3	6500	225.7	12	243	2.5
2430	13	3220	24.4	7100	226.8	13	237	2.5
2610	14	3480	25.7	7700	226.5	14	202	1.8
2790	15	3740	26.9	7300	226.1	15	194	1.8
2970	16	4000	28.3	7350	225.0	16	197	1.9
3150	17	4250	29.5	7500	225.2	17	189	3.2
3330	18	4520	30.4	7700	223.8	18	188	5.1
3510	19	4800	30.9	8000	222.6	19	175	4.6
3690	20	5030	31.5	8200	221.9	20	215	6.0
3870	21	5300	31.6	8700	221.8	21	225	6.0
4050	22	5590	31.9	8900	222.5	22	253	4.8
4230	23	5820	32.3	9200	223.7	23	257	5.0
4410	24	6080	32.9	9400	224.5	24	244	3.0
4590	25	6320	33.7	9550	224.6	25	227	1.7
4770	26	6600	34.2	9700	224.8	26	225	1.4
4950	27	6860	34.8	9800	224.9	27		
5130	28		35.6		225.4	28	236	1.4
5310	29	7570	36.0	10000	225.7	29		
5490	30		36.4		225.9	30	232	2.8
5670	31	7900	36.8	10600	225.5	31		
5850	32		37.6		225.8	32	343	4.0
6030	33	8430	38.4	10600	225.9	33		
6210	34		39.4		226.6	34	352	5.3
6390	35	8930	40.5	10300	227.8	35		
6570	36		41.4		228.9	36	323	3.0
6750	37	9440	42.4	10300	230.0	37		
6930	38		43.2		231.5	38	324	5.5
7110	39	9970	43.9	10250	233.7	39		
7290	40		44.7		236.9	40	328	8.8
7470	41	10510	45.5	10250	239.9	41		
7650	42		46.4		242.9	42	330	8.8
7830	43	11020	47.0	10250	245.8	43		
8010	44		47.4		247.5	44	326	5.5
8190	45	11540	47.8	10400	249.4	45		
8370	46		47.9		251.0	46	284	5.0
8550	47	12080	48.0	10800	251.7	47		
8730	48		48.0		252.2	48	224	4.3
8910	49	12660	47.9	11400	253.3	49		
9090	50		47.5		255.1	50	303	10.0

Coded Data for Transmission

PP22445	12941	1807	22227	2228	42226	2323	62318	2316	82412
2510	02505	22204	41904	61710	82211	02110	32302	52402	03510
53317	02810	52920	02814	32612	07777	01803	00304	63303	00715
20714	60802								

70	319	9260	35.6
75	255	10040	38.6
80	257	10840	41.7
85	224	11650	44.7
90	197	12510	47.9
95	172	13380	51.0
100	149	14250	54.6
105	129	15120	57.1
110	110	16070	60.4
115	93	17060	63.7
120	77	18200	67.2
125	62	19430	71.2
130	50	20701	75.7
135	37	22820	81.0
140	26	25200	88.7
145	13	29771	97.1
150	13	29771	99.1

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	3		16	Type of equipment		
alt.	190	3	17-21	7	227	1
150 M.	170	5	22-26	8	232	3
300 M.	214	13	27-31	9	350	5
0.5	212	12	32-36	10	324	5
1.0	214	14	37-41	11	332	9
1.5	227	12	42-46	12	210	5
2.0	230	8	47-51	13	270	8
2.5	244	6	52-56	14	288	1
3	247	3	57-61	15	284	8
4	194	2	62-66	16	264	6
5	192	5	67-71	17	257	6
6	256	5	72-76	18	207	3

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.	

UNCLAS EFTO

11 SEP 81 21 01z

WPA054

CZCSQJ279ZCJYA823

RR RUCDSQ

DE RUEAGL 58 14/1803Z

R 141751Z

FM AFSC

TO FTD WPAFB OHIO

BT

UNCLAS E F T O SCFTC 74-9-13.

FOR TDEW (UFO). THE FOLLOWING MSG FROM 351 STRATMSLWG

WHITEMAN AFB MO IS QUOTED FOR YOUR INFORMATION. QUOTE. UNCLAS

BC 00001. AFSC FOR SCFD & SCFT; CSAF FOR AFNIN;

USAF FOR SAFOI

~~SAFOI~~ SAFOIPB & SAFOIPC. UFO. IN ACCORDANCE WITH PARA

W

ITH PARA

14, AFR -00--, THE FOLLOWING IS SUBMITTED: IARA A, (1) ROUND, (2) BLANK, (3) BLUE, (4) ONE, (5) N/A, (6) BLUE LIG T ABOUT THE SIZE OF AN AUTOMMBILE HEADLIGHT, (7) BLANK, (8) NONE, (9) APPEARED TO EXPLODE IN MID AIR AND LAND IN FIELD, KEPT MOVING ABOUT 20 FEET OFF GROUND AT SITE I-10 (ABOUT 15 MILES SOUTHWEST OF WHITEMAN AFB

Identification

COLUMBIA, MO.
 38° 58' N 92° 22' W
 LST-90th Meridian El. 238
 Rawinsonde WBRT-57

U.S. DEPARTMENT OF COMMERCE
WEATHER BUREAU

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

	Year	Month	Day	Time
Actual time th mer.	1964	SEP	8	0515
Scheduled (G.M.T.)	1964	SEP	8	12
Ascension No.	935			

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	
	100- gram			Observed	Smoothed				Direction° 360°= N	Speed (m.p.s.)
	14570	51	13200	47.7		12000	256.9	51		
	14860	52	13470	47.4		12400	255.9	52	306	10.0
	15145	53	13780	47.1		12800	261.0	53		
	15425	54	14000	46.8		13200	262.9	54	289	8.0
	15705	55		46.6			263.1	55		
	15985	56	14680	46.2		14100	262.8	56	283	7.8
	16265	57		45.7			263.1	57		
	16545	58	15230	45.4		15000	263.9	58	269	6.0
	16825	59		45.3			263.6	59		
	17105	60	15760	45.2		15500	263.5	60	262	6.2
	17385	61		45.0			263.5	61		
	17670	62	16400	44.6		16500	263.5	62	264	6.0
	17950	63		44.6			263.6	63		
	18235	64	16970	44.5		17200	263.4	64	247	5.0
	18515	65		45.0			263.1	65		
	18795	66	17600	45.0		17600	263.0	66	220	3.3
	19080	67		45.6			261.5	67		
	19360	68	18240	45.9		17700	261.6	68	154	1.0
	19645	69		46.4			261.5	69		
	19925	70	18900	46.7		17800	261.2	70	121	1.5
	20210	71		47.0			261.6	71		
	20490	72	19500	47.0		18000	262.7	72	101	2.0
	20775	73		47.5			262.6	73		
	21055	74	20180	48.6		17500	262.1	74	85	2.5
	21340	75		49.9			262.1	75		
	21620	76	20870	50.9		16800	260.8	76	54	2.5
	21905	77		51.4			261.0	77		
	22185	78	21540	51.5		17200	260.8	78	347	2.0
							261.2	79		

Wind Direction° 360°= N	Speed (m.p.s.)										
Minute		106	107	108	109	110	111	112	113	114	115
Azimuth angle °											
Distance from observation Point (m.)											
Elevation angle° Smoothed											
Observed											
Rawin ht. above surface (m.)											
Minute		106	107	108	109	110	111	112	113	114	115
Slant range (m.) (yds.)											

*Stamp the
following:

1. Name of Station
2. Lat. and long.
3. Local Standard time, meridian
4. El. of S
5. Method of obs., e. rawinsonde rawin, p.
6. Type of equip., WBRT-5, GMD-1A, GMD-1, SCR-65 theodolite

Altitude
in km., m.

17950	63		44.6			263.6	63		
18235	64	16970	44.5		17200	263.4	64	247	5.0
18515	65		45.0			263.1	65		
18795	66	17600	45.0		17600	263.0	66	220	3.3
19080	67		45.6			261.5	67		
19360	68	18240	45.9		17700	261.6	68	154	1.0
19645	69		46.4			261.5	69		
19925	70	18900	46.7		17800	261.2	70	121	1.5
20210	71		47.0			261.6	71		
20490	72	19500	47.0		18000	262.7	72	101	2.0
20775	73		47.5			263.6	73		
21055	74	20180	48.6		17500	263.1	74	85	2.5
21340	75		49.9			262.1	75		
21620	76	20870	50.9		16800	260.8	76	54	2.5
21905	77		51.4			261.0	77		
22185	78	21540	51.5		17200	260.8	78	347	2.0
22470	79		51.7			261.2	79		
22750	80	22280	52.3		17200	261.3	80	320	2.0
23040	81		52.8			261.4	81		
23320	82	23030	53.2		17200	263.6	82	333	2.0
23600	83		53.9			263.6	83		
23880	84	23650	54.0		17200	264.0	84	87	4.0
24160	85		54.9			263.5	85		
24440	86	24260	56.3		16200	263.2	86	97	12.5
24730	87		57.7			261.7	87		
25010	88	25000	60.1		14300	261.3	88	85	13.5
25300	89		61.8			261.2	89		
25580	90	25810	63.3		129500	263.3	90	62	10.8
25860	91		64.5			264.9	91		
26140	92	26590	65.7		11900	265.2	92	79	8.6
26420	93		67.0			265.0	93		
26700	94	27480	68.2		10900	264.1	94	90	6.5
26980	95		69.1			263.7	95		
27260	96	28230	69.9		10300	264.6	96	82	4.4
27540	97		70.6			265.4	97		
27820	98	29030	71.1		9900	264.4	98	86	3.6
28100	99	29440	71.9		9500	265.4	99		
28380	100	238					100		
28660	101	29268					101		
28940	102						102		
29220	103						103		
29500	104						104		
29780	105						105		

Slant range (m.) (yds.)	° 5 Min	Raw in ht. above surface (m.)	Elevation angle°	
			Observed	Smoothed
	106			
	107			
	108			
	109			
	110			
	111			
	112			
	113			
	114			
	115			

Punched Card Data

Altitude#	Direction (degrees)	Speed (m.p.s.)	Card columns	Altitude#	Direction (degrees)	Speed (m.p.s.)
Card No. 3			15	Card No. 4		
Type of equipment	8		16	Type of equipment	8	
19	132	1	17-21	31		
20	96	2	22-26	32		
21	60	3	27-31	33		
22	354	1	32-36	34		
23	326	2	37-41	35		
24	85	4	42-46	36		
25	92	13	47-51	37		
26	64	11	52-56	38		
27	82	8	57-61	39		
28	88	6	62-66	40		
29	84	4	67-71	41		
30			72-76	42		

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.)		

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Altitudes
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UNITED STATES DEPARTMENT OF COMMERCE
WEATHER BUREAU
Airport Station
Springfield, Missouri

September 28, 1964

Colonel Eric T. de Jonckheere
Deputy for Technology & Subsystems
Foreign Technology Division
United States Air Force
Wright-Patterson AFB, Ohio

Dear Colonel:

Reference is made to your letter of September 25, 1964, requesting wind data. It is assumed that you are interested in upper air data. Copies for the period requested are enclosed.

Yours truly,

Ray C. Nelson

Ray C. Nelson
Meteorologist in Charge

Encls

TDEW

Wind Data for Springfield, Missouri, 7 - 8 September 1964 25 Sep 64

U S Weather Station
Springfield, Missouri

1. We would like to have copies of the wind data for 7 - 8 Sep 64. Contact with the U S Weather Records Center at Ashville, North Carolina, revealed that these records are not forwarded for approximately thirty days.

2. We are attaching a self addressed label for your convenience in mailing. Thank you for your cooperation in this matter.

FOR THE COMMANDER

ERIC T de JONCKHEERE
Colonel, USAF
Deputy for Technology
and Subsystems

1 Atch
a/s

NO. 100-11-12
1-201
11-20-11-11

STATION: ST. LOUIS, MISSOURI				DEPARTMENT OF COMMERCE NAVY BUREAU				Date: Nov 7 1911	
ALSOY COMPUTATION SHEET				HANDSATION FOR				PLAN: 2	
Type of station				Observation				Remarks	
Time	Lat.	Long.	Altitude	Observed	Computed	Distance	Direction	Remarks	Remarks
1. 10.00	38.50	90.00	100	10.00	10.00	10.00	10.00		
2. 10.10	38.50	90.00	100	10.10	10.10	10.10	10.10		
3. 10.20	38.50	90.00	100	10.20	10.20	10.20	10.20		
4. 10.30	38.50	90.00	100	10.30	10.30	10.30	10.30		
5. 10.40	38.50	90.00	100	10.40	10.40	10.40	10.40		
6. 10.50	38.50	90.00	100	10.50	10.50	10.50	10.50		
7. 11.00	38.50	90.00	100	11.00	11.00	11.00	11.00		
8. 11.10	38.50	90.00	100	11.10	11.10	11.10	11.10		
9. 11.20	38.50	90.00	100	11.20	11.20	11.20	11.20		
10. 11.30	38.50	90.00	100	11.30	11.30	11.30	11.30		
11. 11.40	38.50	90.00	100	11.40	11.40	11.40	11.40		
12. 11.50	38.50	90.00	100	11.50	11.50	11.50	11.50		
13. 12.00	38.50	90.00	100	12.00	12.00	12.00	12.00		
14. 12.10	38.50	90.00	100	12.10	12.10	12.10	12.10		
15. 12.20	38.50	90.00	100	12.20	12.20	12.20	12.20		
16. 12.30	38.50	90.00	100	12.30	12.30	12.30	12.30		
17. 12.40	38.50	90.00	100	12.40	12.40	12.40	12.40		
18. 12.50	38.50	90.00	100	12.50	12.50	12.50	12.50		
19. 1.00	38.50	90.00	100	1.00	1.00	1.00	1.00		
20. 1.10	38.50	90.00	100	1.10	1.10	1.10	1.10		
21. 1.20	38.50	90.00	100	1.20	1.20	1.20	1.20		
22. 1.30	38.50	90.00	100	1.30	1.30	1.30	1.30		
23. 1.40	38.50	90.00	100	1.40	1.40	1.40	1.40		
24. 1.50	38.50	90.00	100	1.50	1.50	1.50	1.50		
25. 2.00	38.50	90.00	100	2.00	2.00	2.00	2.00		
26. 2.10	38.50	90.00	100	2.10	2.10	2.10	2.10		
27. 2.20	38.50	90.00	100	2.20	2.20	2.20	2.20		
28. 2.30	38.50	90.00	100	2.30	2.30	2.30	2.30		
29. 2.40	38.50	90.00	100	2.40	2.40	2.40	2.40		
30. 2.50	38.50	90.00	100	2.50	2.50	2.50	2.50		
31. 3.00	38.50	90.00	100	3.00	3.00	3.00	3.00		
32. 3.10	38.50	90.00	100	3.10	3.10	3.10	3.10		
33. 3.20	38.50	90.00	100	3.20	3.20	3.20	3.20		
34. 3.30	38.50	90.00	100	3.30	3.30	3.30	3.30		
35. 3.40	38.50	90.00	100	3.40	3.40	3.40	3.40		
36. 3.50	38.50	90.00	100	3.50	3.50	3.50	3.50		
37. 4.00	38.50	90.00	100	4.00	4.00	4.00	4.00		
38. 4.10	38.50	90.00	100	4.10	4.10	4.10	4.10		
39. 4.20	38.50	90.00	100	4.20	4.20	4.20	4.20		
40. 4.30	38.50	90.00	100	4.30	4.30	4.30	4.30		
41. 4.40	38.50	90.00	100	4.40	4.40	4.40	4.40		
42. 4.50	38.50	90.00	100	4.50	4.50	4.50	4.50		
43. 5.00	38.50	90.00	100	5.00	5.00	5.00	5.00		
44. 5.10	38.50	90.00	100	5.10	5.10	5.10	5.10		
45. 5.20	38.50	90.00	100	5.20	5.20	5.20	5.20		
46. 5.30	38.50	90.00	100	5.30	5.30	5.30	5.30		
47. 5.40	38.50	90.00	100	5.40	5.40	5.40	5.40		
48. 5.50	38.50	90.00	100	5.50	5.50	5.50	5.50		
49. 6.00	38.50	90.00	100	6.00	6.00	6.00	6.00		
50. 6.10	38.50	90.00	100	6.10	6.10	6.10	6.10		
51. 6.20	38.50	90.00	100	6.20	6.20	6.20	6.20		
52. 6.30	38.50	90.00	100	6.30	6.30	6.30	6.30		
53. 6.40	38.50	90.00	100	6.40	6.40	6.40	6.40		
54. 6.50	38.50	90.00	100	6.50	6.50	6.50	6.50		
55. 7.00	38.50	90.00	100	7.00	7.00	7.00	7.00		
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58. 7.30	38.50	90.00	100	7.30	7.30	7.30	7.30		
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60. 7.50	38.50	90.00	100	7.50	7.50	7.50	7.50		
61. 8.00	38.50	90.00	100	8.00	8.00	8.00	8.00		
62. 8.10	38.50	90.00	100	8.10	8.10	8.10	8.10		
63. 8.20	38.50	90.00	100	8.20	8.20	8.20	8.20		
64. 8.30	38.50	90.00	100	8.30	8.30	8.30	8.30		
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66. 8.50	38.50	90.00	100	8.50	8.50	8.50	8.50		
67. 9.00	38.50	90.00	100	9.00	9.00	9.00	9.00		
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73. 10.00	38.50	90.00	100	10.00	10.00	10.00	10.00		
74. 10.10	38.50	90.00	100	10.10	10.10	10.10	10.10		
75. 10.20	38.50	90.00	100	10.20	10.20	10.20	10.20		
76. 10.30	38.50	90.00	100	10.30	10.30	10.30	10.30		
77. 10.40	38.50	90.00	100	10.40	10.40	10.40	10.40		
78. 10.50	38.50	90.00	100	10.50	10.50	10.50	10.50		
79. 11.00	38.50	90.00	100	11.00	11.00	11.00	11.00		
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84. 11.50	38.50	90.00	100	11.50	11.50	11.50	11.50		
85. 12.00	38.50	90.00	100	12.00	12.00	12.00	12.00		
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90. 12.50	38.50	90.00	100	12.50	12.50	12.50	12.50		
91. 1.00	38.50	90.00	100	1.00	1.00	1.00	1.00		
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96. 1.50	38.50	90.00	100	1.50	1.50	1.50	1.50		
97. 2.00	38.50	90.00	100	2.00	2.00	2.00	2.00		
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The image shows a document page, likely a ledger or form, with a header section at the top and a main body of rows and columns. The text is heavily degraded and illegible. The header section contains faint, mirrored text that appears to be a title or description. The main body of the page is divided into columns and rows, suggesting a table structure. The bottom section contains more text, including what appears to be a date "1944" and some numbers. The overall quality is poor, making most details difficult to discern.

[illegible][illegible]

WS Form 110-12
Rev. 1-1-30

Identification
WEATHER FIELD MISSOURI
Date: 6/10/30
Time: 1200
Wind: 100
Temp: 70
Bar: 30.0

U.S. DEPARTMENT OF COMMERCE
WEATHER BUREAU
WINDS-ALOFT COMPUTATION SHEET
(LAND STATION FORM)
WEATHER

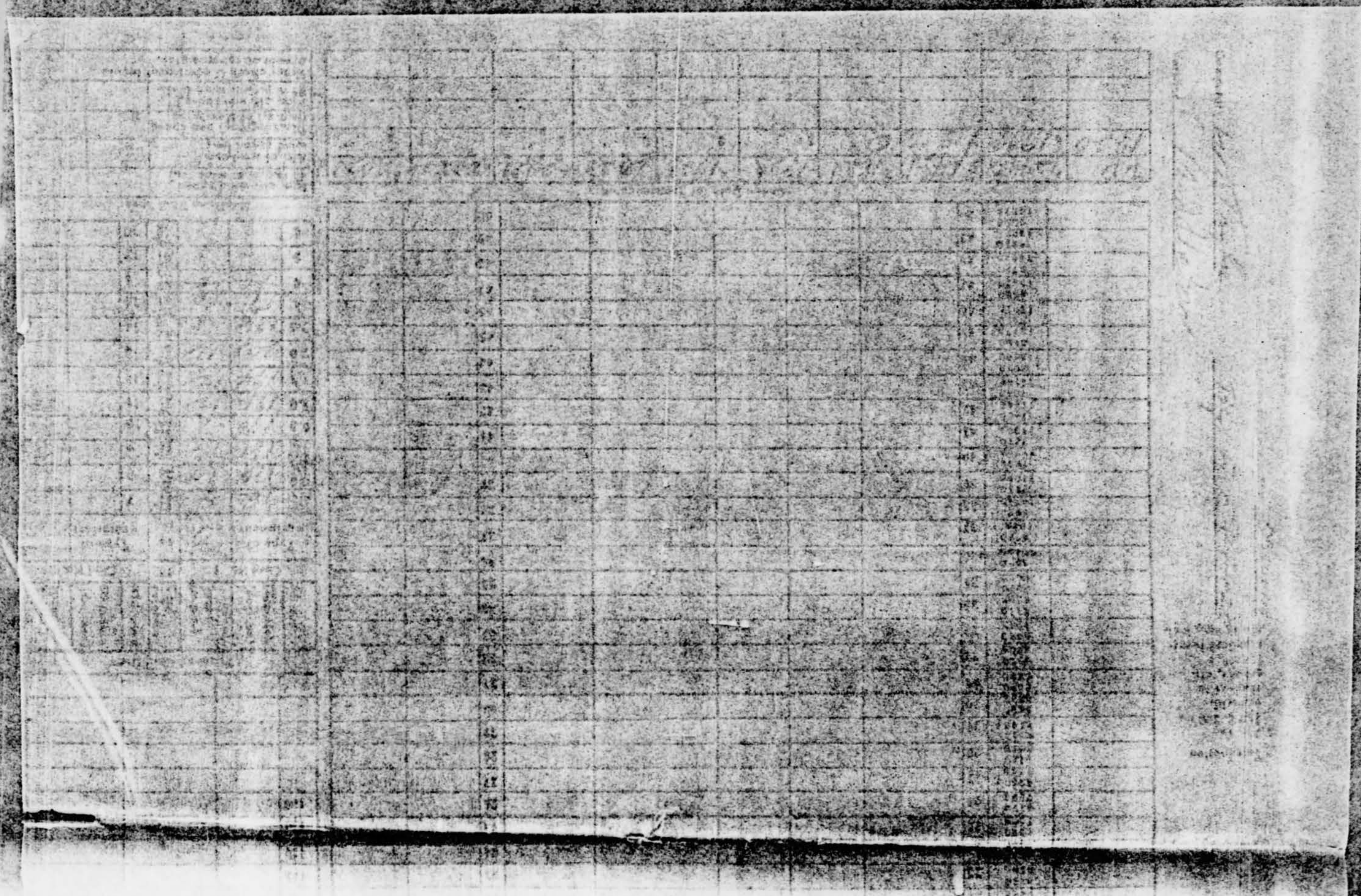
Year	Month	Day	Time
1930	09	7	1200
Approximate No. 38			

Page 1

Stations are following:

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Type of station		Elevation		Distance from		Orientation		360° to 0°		Barometric/Time-Altitude Data			
Station code (val.)	File no. above 100 (val.)	Station code (val.)	Station code (val.)	Station code (val.)	Station code (val.)	Station code (val.)	Station code (val.)	Station code (val.)	Station code (val.)	Station code (val.)	Station code (val.)	Station code (val.)	Station code (val.)
1	1	1	1	1	1	1	1	1	1	1	1	1	1
2	2	2	2	2	2	2	2	2	2	2	2	2	2
3	3	3	3	3	3	3	3	3	3	3	3	3	3
4	4	4	4	4	4	4	4	4	4	4	4	4	4
5	5	5	5	5	5	5	5	5	5	5	5	5	5
6	6	6	6	6	6	6	6	6	6	6	6	6	6
7	7	7	7	7	7	7	7	7	7	7	7	7	7
8	8	8	8	8	8	8	8	8	8	8	8	8	8
9	9	9	9	9	9	9	9	9	9	9	9	9	9
10	10	10	10	10	10	10	10	10	10	10	10	10	10
11	11	11	11	11	11	11	11	11	11	11	11	11	11
12	12	12	12	12	12	12	12	12	12	12	12	12	12
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45	45	45	45	45	45	45	45	45	45	45	45	45	45
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98	98	98	98	98	98	98	98	98	98	98	98	98	98
99	99	99	99	99	99	99	99	99	99	99	99	99	99
100	100	100	100	100	100	100	100	100	100	100	100	100	100



PAGE 2 RUEAGL 58 UNCLAS E F T O

MISSOURI); PAR B, KEPT CHANGING COURSE, (1) OBJECT AT ABOUT 500 FEET OVER SEVERAL SITES, I-10, I-11, J-8, G-4, G-11; (2) BLANK, (3) BLANK, (4) MOVING WITH THE WIND, (5) BLANK, (6) APPROXIMATELY ONE HOUR; PAR C, (1) SOUND VISUAL, (2) BLANK, 3() N/A; PAR D, (1) 08/0306Z, (2) NIGHT, PAR EN SIGHT I-10, 15 MILES SOUTHWEST OF WHITEMAN AFB MO; PAR F, (1) N/A, (2) REPORTED BY CAPTAIN W.M. BERRY, MISSILE COMBAT CREW COMMANDER, AT I-1 LAUNCH CONTROL FACILITY, 510 MISSILE SQUADRON, 351ST STRATEGIC MISSILE WING. SITE GUARD AT I-11 SIGHTED OBJECT. CONFIRMED BY SEVERAL PERSONS; PAR G, WEATHER AT 0300Z CLEAR 10 1016.3 MB 76/66 190/03 3002, WEATHER AT 0400Z CLEAR, 10 75/66 180/04 3003, WINDS: 2M 210/20, 5M 190-20, 8M 200/20, 10M 200/15, 14M 210/20, 20M 210/15, 25M 230/15, 30M 240/15, 35M 260/08, 40M 270/20, 50M 240/12; PAR H. NONE; PAR I, EFFORTS BY MOBILE STRIKE TEAM TO INTERCEPT FAILED, OBJECT KEPT MOVING, APPEARED TO BE ABOUT 20 FEET OFF OF THE GROUND; PAR J, NONE; PAR K, MAJOR GEORGE B. BAXTER, DIRECTOR OF INFORMATION, 351ST STRATEGIC MISSILE WING, WHITEMAN AFB MO. EVIDENCE OF METEORITE SHOWING DURING THE PERIOD. THE CHASE WAS TURNED OVER TO CIVIL AUTHORITIES AND MSG WAS DIRECTED TO RETURN TO THE LAUNCH CONTROL FACILITY AT 0400Z, BY THE 351ST SMW DIRECTOR OF OPERATIONS; PAR L,

PAGE 3 RUEAGL 58 UNCLAS E F T O

NONE. UNQUOTE.

BT

UNCLAS E F T O

[illegible]

The image shows a document page that is severely degraded. It features a grid-like structure, likely a table or ledger, with numerous rows and columns. The text within the grid is mostly illegible due to the high contrast and noise. A prominent horizontal band of dark noise or damage runs across the lower third of the page. Faint, illegible text is visible in the top left corner and along the right edge.

Account	Type	Month	Day	Time
Account No.	100	07	07	1710
Account No.	100	07	07	0000
Account No.	100	07	07	0000

Termination
of 10, for
150 & 300 m
and with
a 1000 g to
2000 g, with
a 1000 g to
2000 g, with
a 1000 g to
2000 g, with

[illegible]

1. *Chrysomelids* (Chrysomelidae) - 1000

22	124102340	1212	1212	1212	1212	1212	1212
23	124102340	1212	1212	1212	1212	1212	1212

[illegible]

U.S. DEPT. OF COMMERCE
NO. 1117
REVISED 1912

1. Station

W. FAIRBANKS, ALASKA

U.S. DEPARTMENT OF COMMERCE
WEATHER BUREAU

THREE-SLOFT COMPUTATION SHEET

(LAND STATION FORM)

WEATHER

Year	Month	Day
1907	03	07
1907	03	08

Station No. 154

Page

Type of balloon: 1000 ft. 1000 ft. 1000 ft.

Time	Wind	Temp	Bar	Humid	Cloud	Vis	Remarks
0100	1000	1000	1000	1000	1000	1000	1000
0200	1000	1000	1000	1000	1000	1000	1000
0300	1000	1000	1000	1000	1000	1000	1000
0400	1000	1000	1000	1000	1000	1000	1000
0500	1000	1000	1000	1000	1000	1000	1000
0600	1000	1000	1000	1000	1000	1000	1000
0700	1000	1000	1000	1000	1000	1000	1000
0800	1000	1000	1000	1000	1000	1000	1000
0900	1000	1000	1000	1000	1000	1000	1000
1000	1000	1000	1000	1000	1000	1000	1000
1100	1000	1000	1000	1000	1000	1000	1000
1200	1000	1000	1000	1000	1000	1000	1000
1300	1000	1000	1000	1000	1000	1000	1000
1400	1000	1000	1000	1000	1000	1000	1000
1500	1000	1000	1000	1000	1000	1000	1000
1600	1000	1000	1000	1000	1000	1000	1000
1700	1000	1000	1000	1000	1000	1000	1000
1800	1000	1000	1000	1000	1000	1000	1000
1900	1000	1000	1000	1000	1000	1000	1000
2000	1000	1000	1000	1000	1000	1000	1000
2100	1000	1000	1000	1000	1000	1000	1000
2200	1000	1000	1000	1000	1000	1000	1000
2300	1000	1000	1000	1000	1000	1000	1000
2400	1000	1000	1000	1000	1000	1000	1000

Page

Page

Page

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Page

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Page

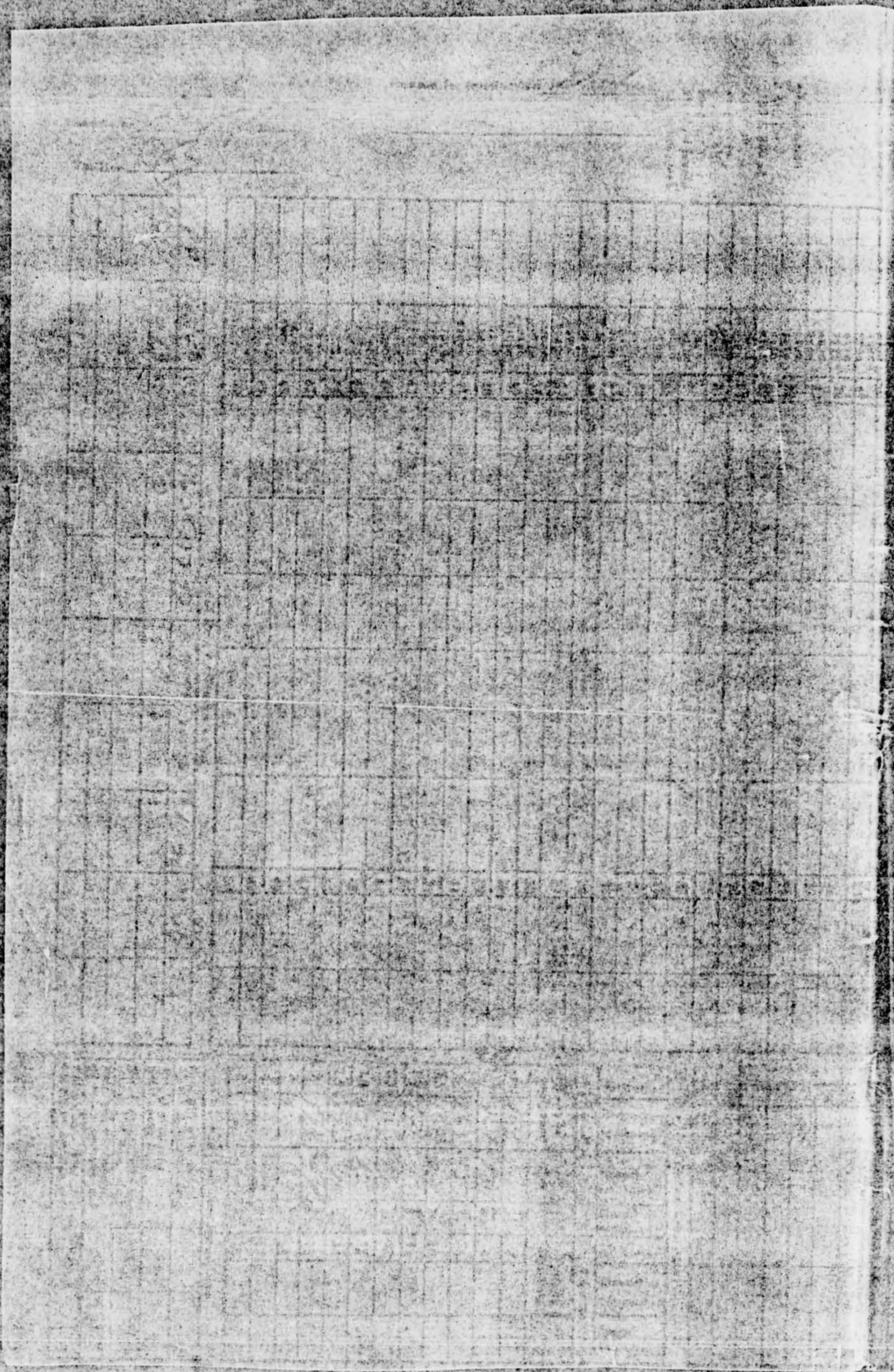
Page

Page

Page

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Page



OFFICIAL FILE COPY

TDEW

Wind Data for Springfield, Missouri, 7 - 8 September 1964 25 Sep 64

U S Weather Station
Springfield, Missouri

1. We would like to have copies of the wind data for 7 - 8 Sep 64. Contact with the U S Weather Records Center at Ashville, North Carolina, revealed that these records are not forwarded for approximately thirty days.
2. We are attaching a self addressed label for your convenience in mailing. Thank you for your cooperation in this matter.

FOR THE COMMANDER

ERIC T de JONCKHEERE
Colonel, USAF
Deputy for Technology
and Subsystems

1 Atch
a/s

OFFICIAL FILE COPY

DATA PROCESSING DIVISION
CLIMATIC CENTER, USAF
Air Weather Service (MATS)
Asheville, North Carolina

REPLY TO
ATTN OF: CCDDPD

SUBJECT: Selected Surface and Winds Aloft Data

28 Sep 1964

TO: Aerospace Technical Intelligence Center
Foreign Technology Division (Sgt. Moody)
Wright-Patterson AFB, Ohio

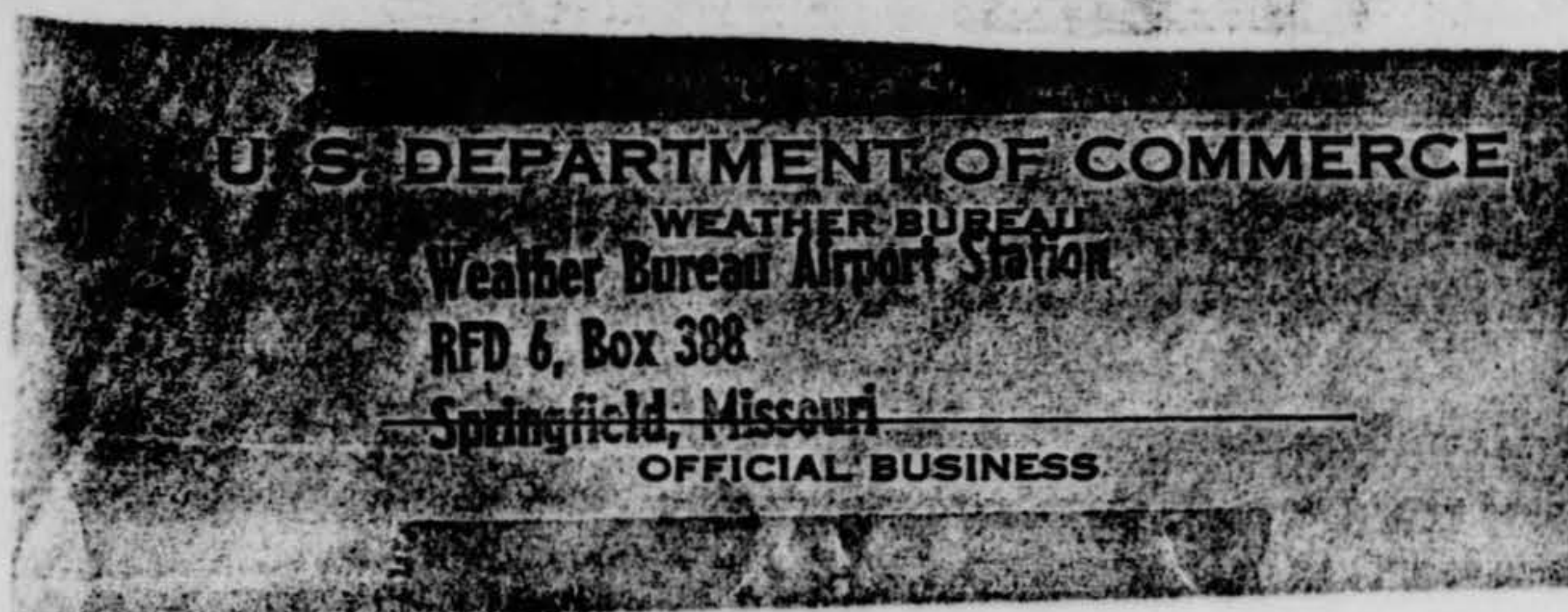
1. Reference: Telecon with this Division 24 Sep 64.
2. We are sending copies of weather records as follows:
 - a. WBAN-10 Anderson, S. C. 28-30 June 1964
 - b. WBAN-20 Colombia, Mo. 6-8 September 1964

3. Springfield, Missouri is a Pibal station, and it is doubtful that data reach 50-60,000 feet. This station submits data monthly and the September 1964 records are not yet available. However, Colombia, Missouri is a rawinsonde station which forwards records weekly and we have included copies of the 6-8 Sep 64 for Colombia as a substitute.

FOR THE DIRECTOR

Thomas D. Fillenworth
THOMAS D. FILLENWORTH
2D LT, USAF
Administrative Officer

Atch
a/s



amp the
ollowings:
Name of
Station
Lat. and
long.
Local
Standard
time, 90th
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.

*Identification										U.S. DEPARTMENT OF COMMERCE WEATHER BUREAU										Year Month Day Time			
COLUMBIA, MO. 38° 58' N 92° 22' W LST-90th Meridian El. 238 Rawinsonde WBRT-57										WINDS-ALOFT COMPUTATION SHEET (LANDSTATION FORM) WBAN-20										Actual time th mer. 1964 SEP 5 1911 Scheduled (G.M.T.) 1964 SEP 6 01 Ascension No. 4			
Type of balloon 100 gram										Orientation, 360° = South										Rawinsonde Time-Altitude Data			
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		Con- tact	Pressure (mb.)	Altitude (m., m.s.l.)	Elapsed time (min.)									
				Observed	Smoothed				Direction ° 360° = N.	Speed (m.p.s.)													
	216	1	250	46.6		240	125.8	1	139	5.0	5	986	238	0.0									
	350	2	520	42.7		570	138.8	2	146	5.5	10	941	600	1.4									
	414	3	790	41.0		910	141.9	3	154	5.9	15	899	1220	3.1									
	612	4	1050	39.1		1280	145.8	4	166	6.1	20	818	1640	6.3									
	980	5	1300	39.4		1580	152.3	5	181	5.8	25	760	2480	9.3									
	1285	6	1580	40.3		1860	156.7	6	193	5.0	30	704	3060	11.8									
	1585	7	1800	41.0		2060	163.1	7	196	4.7	35	652	3760	14.5									
	1880	8	2080	41.9		2300	166.9	8	207	4.6	40	602	4400	17.1									
	2170	9	2300	42.8		2470	172.8	9	223	5.0	45	556	5020	19.6									
	2455	10	2570	43.9		2640	181.0	10	241	5.6	50	508	5720	22.6									
	2740	11	2800	45.8		2710	187.3	11	255	5.8	55	466	6400	25.5									
	3020	12	3010	46.8		2810	194.1	12	262	5.9	60	424	7120	28.1									
	3300	13	3280	47.4		2990	200.2	13	258	6.0	65	385	7890	31.4									
	3580	14	3500	46.7		3250	204.8	14	248	6.8	70	349	8600	34.2									
	3865	15	3750	45.6		3650	209.7	15	244	7.2	75	311	9300	37.4									
	4130	16	3980	44.7		3990	213.1	16	243	7.8	80	282	10020	40.5									
	4405	17	4180	43.5		4500	216.7	17	242	8.7	85	251	10840	43.6									
	4675	18	4450	41.9		5000	219.3	18	239	10.2	90	223	11600	46.7									
	4945	19	4690	40.1		5670	221.5	19	241	10.8	95	197	12500	49.9									
	5215	20	4920	38.6		6200	223.9	20	248	10.5	100	172	13300	53.1									
	5490	21	5150	37.1		6800	226.6	21	254	10.7	105	150	14114	56.2									
	5765	22	5390	35.9		7390	228.4	22	255	12.9	110	128	15100	59.7									
	6040	23	5630	34.4		8200	231.7	23	256	15.8	115	109	16100	63.5									
	6315	24		32.1		9160	234.7	24	252	17.5	120	91	17190	67.0									
	6590	25		29.3		10150	237.1	25	270	17.4	125	74	18410	70.7									
	6865	26		28.2		11600	240.7	26	278	17.3	130	58	19600	75.0									
	7140	27		27.2		12600	247.3	27	275	17.9	135	44	20800	79.0									
	7415	28		26.0		13600	252.2	28			140	38	22000	82.0									
	7690	29		24.7		14600	256.5	29			145	25	23600	86.0									
	7965	30		23.5		15600	261.8	30			150	15	25000	90.0									
	8240	31		22.0		16600	266.0	31			155	5	26400	94.0									
	8515	32		20.7		17600	270.2	32			160												
	8790	33		19.3		18600	274.4	33			165												
	9065	34		17.9		19600	278.4	34			170												
	9340	35		16.5		20600	282.2	35			175												
	9615	36		15.1		21600	286.0	36			180												

Punched Card Data					
Altitude #	Direction (degrees)	Speed (m.p.s.)	Card columns	Altitude #	Direction (degrees)
Card No. 1	15	Card No. 2	16	Card No. 3	17
Type of	18	Type of	19	Type of	20

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

BUKST

Computer A. R. BROWN

Verifier D. R. Lennard

3690	20	4720	38.6	6200	253.9	20	208	10.3
3750	21	5150	37.1	6500	226.5	21	254	10.7
3870	22	5390	35.9	7390	229.4	22	255	12.9
4060	23	5630	34.4	8200	231.7	23	256	15.8
4230	24	5720	37.9	9160	234.9	24	262	16.6
4410	25	5720	31.6	10000	237.6	25	270	16.4
4590	26	5720	50.5	10750	241.1	26	278	17.0
4770	27	5720	29.3	11600	244.7	27	278	19.3
4950	28	5720	28.2	12600	247.3	28	275	19.9
5130	29	5720	27.4	13600	249.3	29		
5310	30		26.7		252.3	30	268	19.1
5490	31	7520	26.0	15400	251.1	31		
5670	32		25.3		251.5	32	259	16.0
5850	33	8020	24.7	17350	251.8	33		
6030	34		24.0		252.0	34	257	17.0
6210	35	8520	23.5	19500	252.1	35		
6390	36		22.8		252.2	36	256	17.5
6570	37	9000	22.2	21900	252.5	37		
6750	38		21.8		252.7	38	255	19.0
6930	39	9530	21.5	24000	252.9	39		
7110	40		21.1		253.1	40	256	18.2
7290	41	10000	20.8	26200	253.4	41		
7470	42		20.4		253.8	42	260	19.3
7650	43	10480	20.0	28500	254.0	43		
7830	44		19.75		254.3	44	261	19.5
8010	45	10960	19.35	30950	254.6	45		
8190	46		19.05		255.0	46	259	23.0
8370	47	11430	18.65	33700	255.4	47		
8550	48		18.35		255.7	48	260	22.3
8730	49	11960	17.95	36500	255.8	49		
8910	50		17.65		255.9	50	261	23.6

Coded Data for Transmission

00431	1408	21410	1512	41612	1811	61910	2009	82164
2310	02511	22613	42415	62420	82522	02632	32837	52833
52638	02645	52648	02633	32719	11999	02411	52510	80908
00809	50504	01306	01905	319050				

110	124	16100	63.5
115	107	16100	63.5
120	91	17190	67.0
125	74	18410	70.7
130	58	19960	76.0
135	44	21510	82.0
140	28	24420	90.7
145	12		
1470	15	28694	100.5

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				16	Type of equipment	
sfc.	110	4	17-21	7	279	19
150 M.	139	5	22-26	8	262	16
300 M.	139	5	27-31	9	255	20
0.5	137	5	32-36	10	256	17
1.0	132	6	37-41	11	261	22
1.5	128	6	42-46	12	269	21
2.0	195	5	47-51	13	262	25
2.5	215	5	52-56	14	260	22
3	253	6	57-61	15	264	17
4	243	7	62-66	16	271	17
5	243	11	67-71	17	272	17
6	260	17	72-76	18	253	17

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.		

Page

amp the
following:

Name of
Station

Lat. and
long.

Local
Standard
time, 90th
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.
ore with
respect to
ground, alt.
or other
standard levels
are in km., msl.

*Identification

COLUMBIA, MO.
38° 58' N 92° 22' W
LST-90th Meridian El. 238
Rawinsonde WBRT-57

U.S. DEPARTMENT OF COMMERCE
WEATHER BUREAU

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

Year Month Day Time
Actual time mer. 1964 SEP 5 191
Scheduled (G.M.T.) 1964 SEP 6 0
Ascension No. 9

Type of balloon LA 45

Orientation, 360° = South

Rawinsonde Time-Altitude Data

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		Con- tact	Pressure (mb.)	Altitude (m., m.s.l.)	Elapsed time (min.)
				Observed	Smoothed				Direction ° 360° = N. sfc. 140	Speed (m.p.s.) 3.6				
	216	1	250	46.6		240	125.8	1	139	5.0	5	986	238	0.0
	350										10	941	240	1.4
	414	2	520	42.7		570	138.8	2	146	5.5	15	879	1222	3.1
	620										20	818	1740	6.3
	612	3	790	41.0		910	141.9	3	154	5.9	25	760	2480	9.3
	980										30	704	3060	11.8
	801	4	1050	39.1		1280	146.8	4	166	6.1	35	652	3760	14.5
	1285										40	602	4400	17.1
	990	5	1300	39.4		1580	152.3	5	181	5.8	45	556	5020	19.6
	1585										50	508	5720	22.6
	1170	6	1580	40.3		1860	158.7	6	193	5.0	55	466	6400	25.5
	1880										60	424	7120	28.1
	1350	7	1700	41.0		2060	163.1	7	196	4.7	65	385	7890	31.4
	2170										70	349	8600	34.2
	1530	8	2050	41.9		2300	166.9	8	207	4.6	75	311	9300	37.4
	2455										80	280	10020	40.5
	1710	9	2300	42.8		2470	172.8	9	223	5.0	85	251	10840	43.6
	2740										90	223	11600	46.7
	1800	10	2570	43.9		2640	181.0	10	241	5.6	95	197	12500	49.9
	3020										100	172	13300	53.1
	2070	11	2800	45.8		2710	187.3	11	255	5.8	105	150	14114	56.2
	3300										110	128	15100	59.7
	2260	12	3010	46.8		2810	194.1	12	262	5.9	115	109	16100	63.5
	3580										120	91	17190	67.0
	2430	13	3280	47.4		2990	200.2	13	258	6.0	125	74	18410	70.7
	3855										130	58	19600	75.0
	2610	14	3500	46.7		3250	204.8	14	248	6.8	135	44	20800	79.0
	4130										140	35	21400	82.0
	2790	15	3750	45.6		3650	209.7	15	244	7.2	145	28	22600	85.0
	4405										150	22	23400	88.0
	2970	16	3980	44.7		3990	213.1	16	243	7.8	155	17	24200	91.0
	4675										160	12	25000	94.0
	3160	17	4180	43.5		4500	216.7	17	242	8.7	165	7	25800	97.0
	4945										170	4	26600	100.0
	3330	18	4450	41.9		5000	219.3	18	239	10.2	175	3	27400	103.0
	5215										180	2	28200	106.0
	3510	19	4690	40.1		5670	221.5	19	241	10.8	185	1	29000	109.0
	5485										190	0	29800	112.0
	3690	20	4920	38.6		6200	223.9	20	248	10.5	195		30600	115.0
	5765										200		31400	118.0
	3870	21	5150	37.1		6800	226.6	21	254	10.7	205		32200	121.0
	6025										210		33000	124.0
	4050	22	5390	35.9		7390	228.4	22	255	12.9	215		33800	127.0
	6295										220		34600	130.0
	4260	23	5630	34.4		8200	231.4	23	256	15.8	225		35400	133.0
	6565										230		36200	136.0
	3970	24		37.2		9100	234.0	24	257	17.0	235		37000	139.0
	6825										240		37800	142.0
	4180	25		36.0		10000	236.0	25	258	18.0	245		38600	145.0
	7085										250		39400	148.0
	4390	26		34.8		10750	238.0	26	259	19.0	255		40200	151.0
	7345										260		41000	154.0
	4590	27		33.6		11600	240.0	27	259	20.0	265		41800	157.0
	7615										270		42600	160.0
	4790	28		32.4		12600	242.0	28	259	21.0	275		43400	163.0
	7875										280		44200	166.0
	4990	29		31.2		13600	244.0	29	259	22.0	285		45000	169.0
	8145										290		45800	172.0
	5190	30		30.0		14600	246.0	30	259	23.0	295		46600	175.0
	8405										300		47400	178.0
	5390	31	7520	28.8		15400	248.0	31	259	24.0	305		48200	181.0
	8665										310		49000	184.0
	5590	32		27.6		16400	250.0	32	259	25.0	315		49800	187.0
	9005										320		50600	190.0
	6030	33	8020	26.4		17350	251.8	33	259	26.0	325		51400	193.0
	9265										330		52200	196.0
	6210	34		25.2		18300	253.0	34	259	27.0	335		53000	199.0
	9565										340		53800	202.0
	6390	35	8520	24.0		19250	254.1	35	259	28.0	345		54600	205.0
	9865										350		55400	208.0
	6570	36		22.8		20200	255.2	36	259	29.0	355		56200	211.0

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			15	Type of		