AD-A080 000 ARMY ELECTRONICS RESEARCH AND DEVELOPMENT COMMAND WS--ETC F/G 4/2
19702D GSRS, MISSILE NUMBER 023, ROUND NUMBER B-38, 8 SEPTEMBER--ETC(U)
SEP 79

UNCLASSIFIED ERADCOM/ASL-DR-1065 NL

[redacted]

END
DATE FILMED
2-80
DDC

DR 1065
SEPTEMBER 1979

AD

LEVEL II

METEOROLOGICAL DATA REPORT

19702D GSRS
Missile No. 023
Round No. B-38
8 September 1979

by

White Sands Meteorological Team

ATMOSPHERIC SCIENCES LABORATORY
WHITE SANDS MISSILE RANGE, NEW MEXICO

ECOM
UNITED STATES ARMY ELECTRONICS COMMAND

DISPOSITION INSTRUCTIONS

Destroy this report when it is no longer needed. Do not return to the originator.

DISCLAIMER

The findings in this report are not to be construed as an official Department of the Army position, unless so designated by other authorized documents.

The citation of trade names and names of manufacturers in this report is not to be construed as official Government indorsement or approval of commercial products or services referenced herein.

SECURITY CLASSIFICATION OF THIS PAGE *(When Data Entered)*

REPORT DOCUMENTATION PAGE

READ INSTRUCTIONS BEFORE COMPLETING FORM

1. REPORT NUMBER: DR 1065	2. GOVT ACCESSION NO.
3. RECIPIENT'S CATALOG NUMBER	
4. TITLE *(and Subtitle)*: 19702D GSRS, Missile Number 023, Round Number B-38,	5. TYPE OF REPORT & PERIOD COVERED
	6. PERFORMING ORG. REPORT NUMBER
7. AUTHOR(s): White Sands Meteorological Team	8. CONTRACT OR GRANT NUMBER(s): DA Task 1P665702D127-02
9. PERFORMING ORGANIZATION NAME AND ADDRESS	10. PROGRAM ELEMENT, PROJECT, TASK AREA & WORK UNIT NUMBERS: 12)21
11. CONTROLLING OFFICE NAME AND ADDRESS: US Army Electronics Research & Development Cmd, Atmospheric Sciences Laboratory, White Sands Missile Range, NM 88002	12. REPORT DATE: Sep[illegible] 1979
	13. NUMBER OF PAGES: 21
14. MONITORING AGENCY NAME & ADDRESS *(if different from Controlling Office)*: US Army Electronics Research & Development Cmd, Adelphi, MD 20783	15. SECURITY CLASS. *(of this report)*: UNCLASSIFIED
	15a. DECLASSIFICATION/DOWNGRADING SCHEDULE

16. DISTRIBUTION STATEMENT *(of this Report)*

17. DISTRIBUTION STATEMENT *(of the abstract entered in Block 20, if different from Report)*

Approved for public release; distribution unlimited.

18. SUPPLEMENTARY NOTES

19. KEY WORDS *(Continue on reverse side if necessary and identify by block number)*

1. Ballistics
2. Meteorology
3. Wind

20. ABSTRACT *(Continue on reverse side if necessary and identify by block number)*

Meteorological data gathered for the launching of the 19702D GSRS, Missile Number 023, Round Number B-38 are presented in tabular form.

DD FORM 1 JAN 73 1473 EDITION OF 1 NOV 65 IS OBSOLETE

UNCLASSIFIED
SECURITY CLASSIFICATION OF THIS PAGE *(When Data Entered)*

CONTENTS

INTRODUCTION

19702D GSRS , Missile Number 023 , Round Number B-38 , was launched from LC-33 , White Sands Missile Range (WSMR), New Mexico, at 0948 MDT, 8 September 1979 . The scheduled launch time was 0945 MDT.

DISCUSSION

Meteorological data were recorded and reduced by the White Sands Meteorological Team, Atmospheric Sciences Laboratory (ASL), White Sands Missile Range, New Mexico. The data were obtained by the following methods:

1. Observations

a. Surface

(1) Standard surface observations to include pressure, temperature (°C), relative humidity, dew point (°C), density (gm/m^3), wind direction and speed, and cloud cover were made at the LC-33 Met Site at T-0 minutes.

(2) Anemometer data were provided from existing pole-mounted and tower-mounted anemometers at LC-33. Monitor of wind speed and direction from one anemometer was also provided in the launch control room.

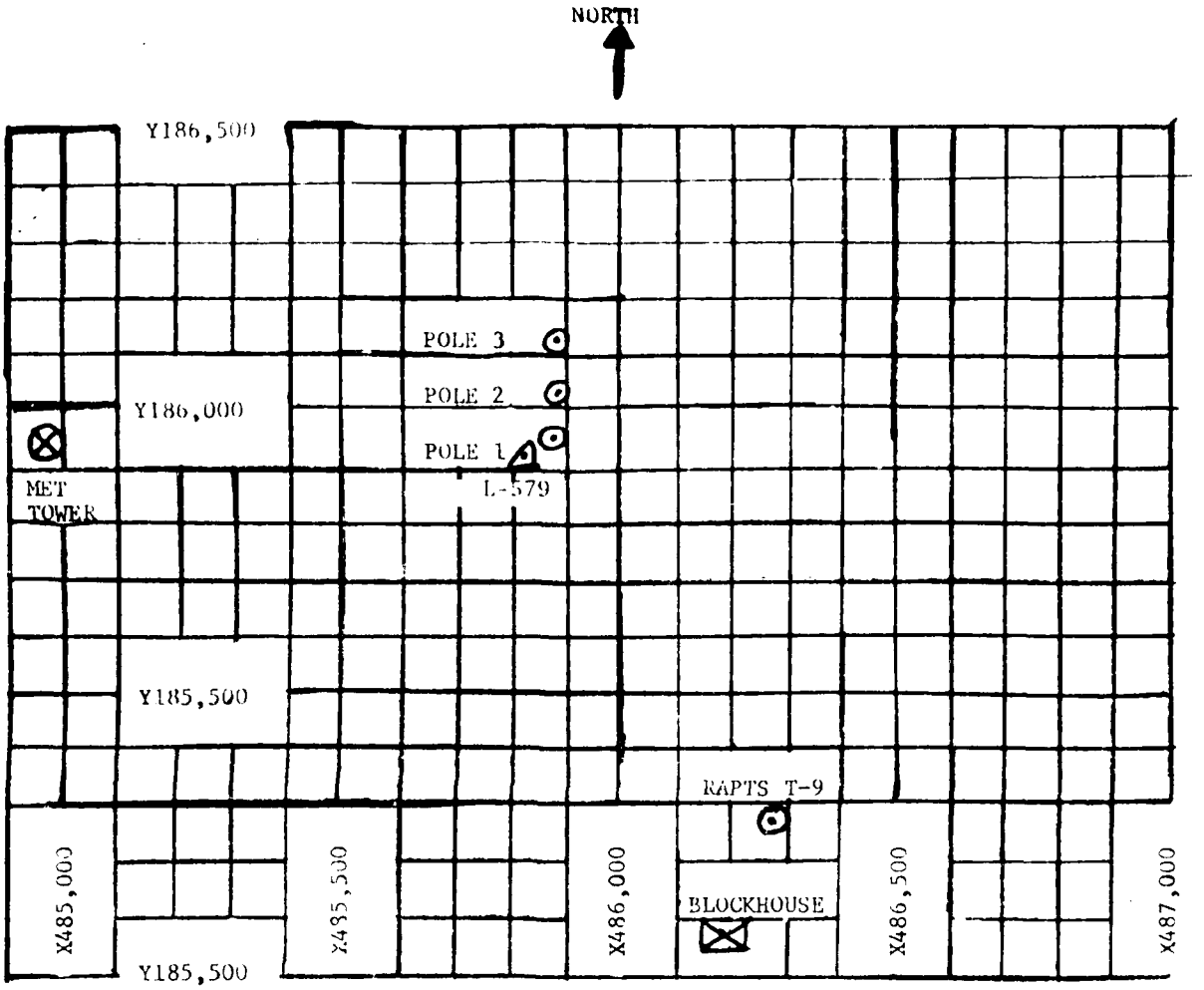
b. Upper Air

(1) Low level wind data were obtained from RAPTS T-9 pibal observation at:

SITE AND ALTITUDE	
LC-33	2040 Meters
NICK	2040 Meters

(2) Air structure data (rawinsonde) were collected at the following Met Sites. Data were collected from surface to 101,000 feet in 500-feet increments.

SITE AND TIME
SMR 0845 MST



1. MET TOWER - 4 Bendix Model T-20 Anemometers at 12 ft, 62 ft, 102 ft, and 202 ft with E/A recorders.

2. POLE ANEMOMETER - Bendix Model T-120 with E/A recorders.

   (a) Pole #1 - 38.7 ft

   (b) Pole #2 - 53.0 ft

   (c) Pole #3 - 83.6 ft

3. RAPTS T-9 Radar Automatic Pilot-Balloon Tracking System T-9 Radar.

TABLE 1. Surface Observations taken at 0943 MDT, 8 September, at LC-33, 19702D GSRS, Missile Number 023, Round Number B-38.

ELEVATION	3977.30	FT/MSL
PRESSURE	884.2	MBS
TEMPERATURE	24.2	°C
RELATIVE HUMIDITY	53	%
DEW POINT	13.9	°C
DENSITY	1028	GM/M^3
WIND SPEED	CALM	KTS
WIND DIRECTION	CALM	DEGREES
CLOUD COVER	2	Ac

LC-33 FIXED POLE ANEMOMETER MEASURED WINDS

POLE #1			POLE #2			POLE #3		
T-TIME SEC	DIR DEG	SPEED KTS	T-TIME SEC	DIR DEG	SPEED KTS	T-TIME SEC	DIR DEG	SPEED KTS
-30	220	04	-30	255	04	-30	284	04
-20	273	04	-20	279	04	-20	270	03
-10	259	03	-10	263	04	-10	253	02
0.0	258	04	0.0	254	04	0.0	306	02
+10	255	03	+10	267	03	+10	306	02

POLE #1 = X485,874.29 Y185,958.90 H4018.74 38.7 ft. AGL

POLE #2 = X485,874.93 Y186,012.00 H4033.57 53.0 ft. AGL

POLE #3 = X485,877.29 Y186,116.06 H4063.92 83.6 ft. AGL

TABLE 2

TYPE 19702D GSRS MISSILE NO. 023 ROUND NO. B-38

LAUNCHED FROM LC-33 DATE 8 September 1979 TIME 0948 MDT

NOTE: WIND DIRECTIONS ARE REFERENCED

LC-33 METEOROLCGICAL TOWER ANEMOMETER MEASURED WINDS (202 FT TOWER)

LEVEL #1 12 ft			LEVEL #2 62 ft		
T-TIME SEC	DIR DEG	SPEED KTS	T-TIME SEC	DIR DEG	SPEED KTS
-30	M	01	-30	203	01
-20	M	01	-20	203	01
-10	M	02	-10	203	01
0.0	M	02	0.0	203	01
+10	M	01	+10	162	01
LEVEL #3 102 ft			LEVEL #4 202 ft		
T-TIME SEC	DIR DEG	SPEED KTS	T-TIME SEC	DIR DEG	SPEED KTS
-30	000	00	-30	000	00
-20	000	00	-20	136	01
-10	000	00	-10	137	01
0.0	000	00	0.0	C00	00
+10	151	02	+10	136	01

WTSM COORDINATES: X484,982.64 Y185,057.73 H3983.00(base)

TABLE 3

TYPE 19702D GSRS MISSILE NO. 023 ROUND NO. B-38

LAUNCHED FROM LC-33 DATE 8 September 1979 TIME 0948 MDT

NOTE: Wind directions are referenced to true north.

PILOT BALLOON MEASURED WIND DATA

TABLE 4

RELEASED FROM LC-33 DATE 8 Septe,ber 1979 TIME 0935 MDT

RELEASE POINT COORDINATES (WSTM) X= 486,037.24 Y= 182,350.16 H= 3977.30

MISSILE TYPE 19702D GSRS MISSILE NO. 023 ROUND NO. B-38

MISSILE LAUNCHED FROM LC-33 DATE 8 September 1979 TIME 0948 MDT

NOTE: WIND DIRECTIONS ARE REFERENCED TRUE NORTH.

HEIGHT - METERS AGL

HEIGHT AGL	DIRECTION DEGREES	SPEED KTS
SFC		CALM
60	008	01
120	165	02
180	266	03
240	265	03
300	129	04
360	158	08
420	123	07
480	126	05
540	122	05
600	113	07
660	110	05
720	105	04
780	105	05
840	104	03
900	102	05
960	102	05
1020	087	07
1080	099	06

HEIGHTS AGL	DIRECTION DEGREES	SPEED KTS
1140	090	12
1200	093	14
1260	085	14
1320	092	13
1380	088	14
1440	089	13
1500	078	14
1560	069	17
1620	080	15
1680	070	18
1740	070	15
1800	069	16
1860	082	16
1920	090	17
1980	084	19
2040	093	18
2100		
2160		
2220		

PILOT BALLOON MEASURED WIND DATA

TABLE 5

RELEASED FROM LC-33 DATE 8 September 1979 TIME 0948 MDT

RELEASE POINT COORDINATES (WSIM) X= 486,037.24 Y= 182,350.16 H= 3977.30

MISSILE TYPE 19702D GSRS MISSILE NO. 023 ROUND NO. B-38

MISSILE LAUNCHED FROM LC-33 DATE 8 September 1979 TIME 0948 MDT

NOTE: WIND DIRECTIONS ARE REFERENCED TRUE NORTH.

HEIGHT - METERS AGL

HEIGHT AGL	DIRECTION DEGREES	SPEED KTS
SFC		CALM
60	326	02
120	223	01
180	319	03
240	197	03
300	056	03
360	096	03
420	117	05
480	106	02
540	158	01
600	141	05
660	116	08
720	114	07
780	111	09
840	120	09
900	103	07
960	091	09
1020	099	09
1080	094	14

HEIGHTS AGL	DIRECTION DEGREES	SPEED KTS
1140	085	15
1200	099	13
1260	092	14
1320	102	17
1380	101	14
1440	087	17
1500	090	15
1560	076	15
1620	081	16
1680	076	16
1740	079	16
1800	088	17
1860	083	15
1920	088	17
1980	094	16
2040	093	17
2100		
2160		
2220		

PILOT BALLOON MEASURED WIND DATA

TABLE 6

RELEASED FROM NICK DATE 8 September 1979 TIME 0935 MDT

RELEASE POINT COORDINATES (WSTM) X= 470,734.56 Y= 255,755.64 H= 4126.57

MISSILE TYPE 19702D GSkS MISSILE NO. 023 ROUND NO. B-38

MISSILE LAUNCHED FROM LC-33 DATE 8 September 1979 TIME 0948 MDT

NOTE: WIND DIRECTIONS ARE REFERENCED TRUE NORTH.

HEIGHT - METERS AGL

HEIGHT AGL	DIRECTION DEGREES	SPEED KTS
SFC	150	10
60	148	09
120	146	07
180	144	06
240	142	05
300	143	05
360	143	05
420	143	05
480	143	04
540	137	04
600	130	04
660	124	04
720	117	04
780	112	04
840	106	04
900	101	05
960	095	05
1020	088	05
1080	081	04

HEIGHTS AGL	DIRECTION DEGREES	SPEED KTS
1140	074	04
1200	067	03
1260	073	05
1320	079	06
1380	085	06
1440	090	07
1500	091	07
1560	092	08
1620	093	09
1680	093	09
1740	090	09
1800	087	09
1860	084	10
1920	080	10
1980	082	10
2040	084	11
2100		
2160		
2220		

PILOT BALLOON MEASURED WIND DATA

TABLE 7

RELEASED FROM NICK DATE 8 September 1979 0948 MDT

RELEASE POINT COORDINATES (WSTM) X= 470,734.56 Y= 255,755.64 H=4126.57

MISSILE TYPE 19702D GSRS MISSILE NO.023 ROUND NO. B-38

MISSILE LAUNCHED FROM LC-33 DATE 8 September 1979 TIME 0948 MDT

NOTE: WIND DIRECTIONS ARE REFERENCED TRUE NORTH.

HEIGHT - METERS AGL

HEIGHT AGL	DIRECTION DEGREES	SPEED KTS
SFC	150	09
60	153	07
120	155	06
180	157	05
240	159	04
300	157	04
360	154	04
420	151	04
480	148	04
540	145	04
600	142	04
660	139	05
720	135	05
780	126	05
840	116	05
900	106	05
960	096	04
1020	090	04
1080	083	04

HEIGHTS AGL	DIRECTION DEGREES	SPEED KTS
1140	076	04
1200	069	04
1260	076	05
1320	083	06
1380	090	06
1440	097	07
1500	095	07
1560	092	07
1620	090	07
1680	087	07
1740	088	09
1800	089	10
1860	090	11
1920	091	12
1980	092	11
2040	093	11
2100		
2160		
2220		

STATION ALTITUDE 3997.30 FEET MSL
8 SEP. 79 0845 HRS MST
ASCENSION NO. 300

SIGNIFICANT LEVEL DATA
2510060300
S M R
TABLE 8

GEODETIC COORDINATES
32.48034 LAT DEG
106.42307 LON DEG

PRESSURE MILLIBARS	GEOMETRIC ALTITUDE MSL FEET	TEMPERATURE AIR DEGREES	TEMPERATURE DEWPOINT CENTIGRADE	REL.HUM. PERCENT
883.0	3997.3	24.9	13.5	49.0
876.2	4219.5	22.6	11.7	50.0
850.0	5065.5	20.7	11.3	55.0
807.6	6532.1	17.3	10.2	63.0
778.8	7549.4	15.3	10.1	71.0
722.6	9632.3	13.4	4.5	55.0
700.0	10509.3	11.5	2.0	52.0
650.0	12527.9	6.6	-8.9	32.0
623.6	13643.3	5.0	-10.3	32.0
564.0	16305.3	-1.8	-10.8	50.0
539.4	17466.2	-5.1	-6.9	67.0
512.5	18781.9	-8.4	-8.6	97.0
500.0	19414.6	-6.9	-15.1	52.0
483.6	20268.2	-8.5	-27.4	20.0
457.2	21691.0	-12.0	-22.5	41.0
446.0	22315.6	-13.5	-30.1	23.0
435.0	22938.1	-14.0	-26.4	34.0
424.2	23565.0	-15.0	-32.4	21.0
409.6	24423.9	-15.3	-34.7	17.0
400.0	25024.2	-16.5	-35.7	17.0
362.2	27449.3	-23.0	-40.5	18.0
355.6	27892.6	-23.3	-41.4	17.0
323.6	30142.7	-28.1	-44.0	20.0
300.0	31915.2	-32.8	-44.7	29.0
265.0	34754.3	-39.0	-49.9	30.0
250.0	36062.8	-41.8		
213.2	39556.7	-49.7		
200.0	40928.7	-51.8		
168.4	44543.1	-59.1		
150.0	46913.0	-63.0		
108.6	53317.1	-72.8		
100.0	54911.4	-73.6		
74.8	60622.5	-65.8		
70.0	61952.5	-65.8		
58.2	65676.9	-63.4		
55.6	66609.0	-61.3		
50.0	68803.9	-57.7		
30.0	79550.0	-54.1		
20.0	88303.8	-46.7		
17.2	91638.7	-43.6		

STATION ALTITUDE 3997.30 FEET MSL
8 SEP. 79 0845 HRS MST
ASCENSION NO. 300

SIGNIFICANT LEVEL DATA
25100₆0300
S M R

GEODETIC COORDINATES
32.48034 LAT DEG
106.42307 LON DEG

TABLE 8 Cont.

PRESSURE MILLIBARS	GEOMETRIC ALTITUDE MSL FEET	TEMPERATURE AIR DEGREES CENTIGRADE	TEMPERATURE DEWPOINT DEGREES CENTIGRADE	REL.HUM. PERCENT
11.1	101402.9	-43.2		

STATION ALTITUDE 3997.30 FEET MSL
8 SEP. 79 0845 HRS MST
ASCENSION NO. 300

UPPER AIR DATA
25100600300
S M R
TABLE 9

GEODETIC COORDINATES
32.46034 LAT DEG
106.42307 LON DEG

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES CENTIGRADE	TEMPERATURE DEWPOINT CENTIGRADE	REL.HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DATA DIRECTION DEGREES(TN)	WIND DATA SPEED KNOTS	INDEX OF REFRACTION
3997.3	863.0	24.9	13.5	49.0	1025.2	674.8	180.0	5.1	1.000294
4000.0	862.9	24.9	13.4	49.0	1025.2	674.8	179.9	5.1	1.000294
4500.0	857.6	22.0	11.6	51.6	1018.0	671.3	170.3	5.4	1.000286
5000.0	852.6	20.9	11.4	54.5	1004.0	670.0	162.0	5.8	1.000283
5500.0	837.6	19.7	11.0	57.3	990.4	668.7	153.9	6.4	1.000279
6000.0	822.9	18.0	10.7	60.1	977.0	667.3	143.6	7.3	1.000275
6500.0	808.5	17.4	10.2	62.8	963.8	666.0	128.9	7.9	1.000271
7000.0	794.2	16.4	10.2	66.7	950.0	664.9	114.7	8.9	1.000268
7500.0	780.2	15.4	10.1	70.6	936.3	663.8	98.9	10.0	1.000265
8000.0	766.3	14.9	8.9	67.5	921.5	663.1	88.7	11.6	1.000258
8500.0	752.6	14.4	7.6	63.7	908.9	662.4	81.5	12.7	1.000250
9000.0	739.2	14.0	6.3	59.9	892.5	661.8	78.6	14.0	1.000243
9500.0	726.0	13.5	4.9	56.0	878.3	661.1	81.1	15.4	1.000236
10000.0	713.0	12.6	3.5	53.7	865.7	659.9	85.3	16.7	1.000229
10500.0	700.2	11.5	2.0	52.0	853.6	658.6	92.4	17.8	1.000223
11000.0	687.5	10.3	-.5	47.1	842.2	657.0	97.5	19.3	1.000216
11500.0	675.0	9.1	-3.1	42.2	830.9	655.4	100.8	20.9	1.000208
12000.0	662.7	7.9	-5.8	37.2	819.6	653.8	102.0	22.9	1.000202
12500.0	650.7	6.7	-8.7	32.3	808.6	652.3	102.3	25.2	1.000195
13000.0	638.7	5.9	-9.5	32.0	795.9	651.4	99.9	26.3	1.000192
13500.0	626.9	5.2	-10.1	32.0	783.3	650.5	96.9	27.1	1.000188
14000.0	615.3	4.1	-10.2	34.4	771.8	649.2	90.4	27.0	1.000186
14500.0	603.8	2.8	-10.1	37.8	760.8	647.7	83.3	27.0	1.000184
15000.0	592.5	1.5	-10.2	41.2	750.1	646.3	74.6	26.9	1.000181
15500.0	581.4	.3	-10.4	44.6	739.5	644.8	69.7	26.5	1.000179
16000.0	570.5	-1.0	-10.6	47.9	729.1	643.2	67.2	25.3	1.000176
16500.0	559.8	-2.4	-9.9	56.2	718.7	641.7	66.2	24.7	1.000175
17000.0	549.1	-3.8	-8.0	72.1	708.5	640.1	66.3	24.4	1.000175
17500.0	538.7	-5.2	-7.0	87.3	698.5	638.5	66.7	25.0	1.000175
18000.0	528.3	-6.4	-7.7	91.1	688.4	637.0	67.1	26.0	1.000172
18500.0	518.1	-7.7	-8.4	94.9	678.4	635.5	70.4	24.4	1.000169
19000.0	508.2	-7.9	-10.5	81.5	669.0	633.2	75.3	22.1	1.000163
19500.0	498.3	-7.1	-16.0	48.8	659.6	632.9	76.6	18.4	1.000155
20000.0	488.7	-8.0	-22.4	30.1	649.6	634.6	78.2	14.4	1.000148
20500.0	479.2	-9.1	-26.1	23.4	639.8	633.3	74.3	12.8	1.000145
21000.0	469.8	-10.3	-24.2	30.8	629.3	631.8	69.4	11.5	1.000143
21500.0	460.7	-11.5	-22.9	38.2	619.9	630.4	71.0	12.0	1.000142
22000.0	451.6	-12.7	-25.9	32.1	609.6	628.9	72.3	12.6	1.000139
22500.0	442.7	-13.6	-28.9	26.3	599.0	627.7	74.4	13.8	1.000135
23000.0	433.9	-14.1	-26.9	32.7	588.2	627.2	76.0	15.1	1.000134

STATION ALTITUDE 3997.30 FEET MSL
8 SEP. 79 0845 HRS MST
ASCENSION NO. 300

UPPER AIR DATA
2510060300
S M R

TABLE 9 Cont.

GEODETIC COORDINATES
32.48034 LAT DEG
106.42307 LON DEG

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES CENTIGRADE	TEMPERATURE DEWPOINT CENTIGRADE	REL.HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DATA DIRECTION DEGREES(TN)	WIND DATA SPEED KNOTS	INDEX OF REFRACTION
23500.0	425.3	-14.9	-31.6	22.3	573.5	626.2	77.5	16.7	1.000130
24000.0	416.8	-15.2	-33.5	19.0	562.7	625.9	79.0	18.1	1.000127
24500.0	408.5	-15.5	-34.9	17.0	552.1	625.5	81.1	18.0	1.000125
25000.0	400.4	-16.5	-35.7	17.0	543.2	624.3	82.9	17.7	1.000123
25500.0	392.3	-17.8	-36.7	17.2	535.0	622.6	83.2	17.0	1.000121
26000.0	384.3	-19.1	-37.7	17.4	526.9	621.0	83.6	16.5	1.000119
26500.0	376.6	-20.5	-38.7	17.6	519.0	619.4	84.3	16.7	1.000117
27000.0	368.9	-21.8	-39.7	17.8	511.2	617.7	84.8	16.9	1.000115
27500.0	361.4	-23.0	-40.7	17.9	503.3	616.2	84.6	17.2	1.000113
28000.0	354.0	-23.5	-41.5	17.1	494.0	615.6	84.3	17.3	1.000111
28500.0	346.7	-24.6	-42.1	17.8	485.8	614.2	83.8	17.2	1.000109
29000.0	339.5	-25.7	-42.6	18.5	477.8	612.9	83.4	16.8	1.000107
29500.0	332.4	-26.7	-43.2	19.1	469.9	611.6	83.0	15.5	1.000105
30000.0	325.5	-27.8	-43.8	19.8	462.2	610.3	82.6	14.3	1.000104
30500.0	318.7	-29.0	-44.0	21.8	454.8	608.7	82.3	13.3	1.000102
31000.0	312.0	-30.4	-44.1	24.4	447.6	607.1	81.7	12.6	1.000100
31500.0	305.4	-31.7	-44.4	26.9	440.5	605.4	80.3	12.3	1.000099
32000.0	298.9	-33.0	-44.9	29.0	433.5	603.8	80.2	12.1	1.000097
32500.0	292.4	-34.1	-45.6	29.2	426.1	602.4	81.6	12.0	1.000096
33000.0	286.1	-35.2	-46.7	29.4	418.8	601.0	82.2	12.0	1.000094
33500.0	279.9	-36.3	-47.6	29.6	411.6	599.6	80.3	12.4	1.000092
34000.0	273.9	-37.4	-48.5	29.7	404.6	598.3	76.9	13.1	1.000091
34500.0	268.0	-38.4	-49.4	29.9	397.7	596.9	66.2	15.6	1.000089
35000.0	262.1	-39.5	-52.1	24.4**	390.8	595.5	59.1	18.7	1.000087
35500.0	256.3	-40.6	-58.2	12.9**	384.0	594.1	58.3	24.0	1.000086
36000.0	250.7	-41.7	-74.6	1.4**	377.3	592.7	57.7	29.0	1.000084
36500.0	245.1	-42.8			370.6	591.3	57.1	31.6	1.000083
37000.0	239.5	-43.9			364.0	589.8	56.6	33.8	1.000081
37500.0	234.1	-45.0			357.6	588.4	56.0	33.6	1.000080
38000.0	228.9	-46.2			351.3	586.9	55.8	33.4	1.000078
38500.0	223.7	-47.3			345.1	585.5	57.9	32.7	1.000077
39000.0	218.7	-48.4			339.0	584.0	59.6	32.0	1.000076
39500.0	213.8	-49.6			333.1	582.5	57.6	30.0	1.000074
40000.0	208.8	-50.4			326.6	581.5	55.0	28.1	1.000073
40500.0	204.0	-51.1			320.2	580.5	51.6	26.1	1.000071
41000.0	199.3	-51.9			313.9	579.4	47.7	24.3	1.000070
41500.0	194.6	-53.0			307.9	578.1	45.5	23.6	1.000069
42000.0	190.1	-54.0			302.1	576.8	43.8	23.2	1.000067
42500.0	185.6	-55.0			296.5	575.4	43.9	22.6	1.000066
43000.0	181.2	-56.0			290.7	574.1	45.0	21.9	1.000065

** AT LEAST ONE ASSUMED RELATIVE HUMIDITY VALUE WAS USED IN THE INTERPOLATION.

STATION ALTITUDE 3997.30 FEET MSL
8 SEP. 79 0845 HRS MST
ASCENSION NO. 300

UPPER AIR DATA
2510060300
S M R

GEODETIC COORDINATES
32.48034 LAT DEG
106.42307 LON DEG

TABLE 9 Cont.

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES CENTIGRADE	TEMPERATURE DEWPOINT CENTIGRADE	REL.HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DATA DIRECTION DEGREES(TN)	WIND DATA SPEED KNOTS	INDEX OF REFRACTION
43500.0	177.0	-57.0			285.2	572.8	46.5	20.8	1.000064
44000.0	172.8	-58.0			279.8	571.4	48.4	19.3	1.000062
44500.0	168.7	-59.0			274.5	570.1	49.6	18.3	1.000061
45000.0	164.7	-59.9			269.0	569.0	48.9	18.2	1.000060
45500.0	160.7	-60.7			263.5	567.9	49.0	18.2	1.000059
46000.0	156.8	-61.5			258.1	566.8	51.4	18.3	1.000057
46500.0	153.1	-62.3			252.9	565.7	54.0	18.5	1.000056
47000.0	149.3	-63.1			247.7	564.6	57.4	18.6	1.000055
47500.0	145.6	-63.9			242.4	563.5	60.6	18.6	1.000054
48000.0	142.0	-64.7			237.3	562.5	62.9	18.1	1.000053
48500.0	138.5	-65.4			232.2	561.5	65.2	17.4	1.000052
49000.0	135.0	-66.2			227.3	560.4	66.7	14.5	1.000051
49500.0	131.7	-67.0			222.4	559.4	69.0	11.7	1.000050
50000.0	128.4	-67.7			217.7	558.4	72.0	11.2	1.000048
50500.0	125.2	-68.5			213.1	557.3	75.2	11.0	1.000047
51000.0	122.1	-69.3			208.5	556.3	72.7	8.5	1.000046
51500.0	119.0	-70.0			204.1	555.2	57.5	4.7	1.000045
52000.0	116.1	-70.8			199.8	554.2	6.2	2.6	1.000044
52500.0	113.2	-71.5			195.6	553.1	326.1	3.4	1.000044
53000.0	110.4	-72.3			191.4	552.1	306.9	5.1	1.000043
53500.0	107.6	-72.9			187.1	551.3	352.6	4.5	1.000042
54000.0	104.8	-73.1			182.6	551.0	15.5	5.3	1.000041
54500.0	102.2	-73.4			178.1	550.6	32.1	6.8	1.000040
55000.0	99.6	-73.5			173.7	550.5	24.8	6.0	1.000039
55500.0	97.1	-72.8			168.7	551.4	15.2	5.3	1.000038
56000.0	94.6	-72.1			164.0	552.4	23.5	4.5	1.000037
56500.0	92.2	-71.4			159.3	553.3	39.4	4.0	1.000035
57000.0	89.9	-70.7			154.8	554.2	60.8	3.9	1.000034
57500.0	87.7	-70.1			150.4	555.2	96.6	5.1	1.000033
58000.0	85.5	-69.4			146.1	556.1	111.2	7.0	1.000033
58500.0	83.3	-68.7			142.0	557.0	100.1	8.5	1.000032
59000.0	81.2	-68.0			137.9	558.0	102.5	10.0	1.000031
59500.0	79.2	-67.3			134.0	558.9	94.5	12.0	1.000030
60000.0	77.2	-66.7			130.2	559.8	88.2	14.4	1.000029
60500.0	75.3	-66.0			126.6	560.8	81.1	16.9	1.000028
61000.0	73.4	-65.8			123.0	561.0	82.5	17.9	1.000027
61500.0	71.6	-65.8			120.3	561.0	83.7	18.9	1.000027
62000.0	69.8	-65.8			117.3	561.0	84.6	19.5	1.000026
62500.0	68.1	-65.4			114.3	561.5	85.4	19.6	1.000025
63000.0	66.5	-65.1			111.3	561.9	86.1	19.8	1.000025

STATION ALTITUDE 3997.30 FEET MSL
8 SEP. 79 0845 HRS MST
ASCENSION NO. 300

UPPER AIR DATA
25100o0300
S M R
TABLE 9 Cont.

GEODETIC COORDINATES
32.48034 LAT DEG
106.42307 LON DEG

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES CENTIGRADE	TEMPERATURE DEWPOINT CENTIGRADE	REL.HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DATA DIRECTION DEGREES(TN)	WIND DATA SPEED KNOTS	INDEX OF REFRACTION
03500.0	64.8	-64.8			108.4	562.3	66.5	19.3	1.000024
04000.0	63.2	-64.5			105.6	562.8	86.8	18.6	1.000024
04500.0	61.7	-64.2			102.8	563.2	87.1	18.0	1.000023
05000.0	60.2	-63.8			100.2	563.6	87.2	17.5	1.000022
05500.0	58.7	-63.5			97.6	564.1	87.2	16.9	1.000022
06000.0	57.3	-62.7			94.8	565.2	87.4	16.3	1.000021
06500.0	55.9	-61.5			92.0	566.7	87.8	15.7	1.000020
07000.0	54.6	-60.7			89.4	567.9	88.2	15.0	1.000020
07500.0	53.3	-59.8			87.0	569.0	89.7	14.3	1.000019
08000.0	52.0	-59.0			84.6	570.1	91.4	13.5	1.000019
08500.0	50.7	-58.2			82.2	571.2	95.4	13.1	1.000018
09000.0	49.5	-57.6			80.1	571.9	105.2	14.2	1.000018
09500.0	48.4	-57.5			78.1	572.1	113.4	15.6	1.000017
10000.0	47.2	-57.3			76.2	572.4	121.1	16.2	1.000017
10500.0	46.1	-57.1			74.4	572.6	129.7	15.9	1.000017
11000.0	45.0	-57.0			72.6	572.8	138.5	15.9	1.000016
11500.0	44.0	-56.8			70.8	573.0	140.4	14.1	1.000016
12000.0	43.0	-56.6			69.1	573.3	138.5	11.3	1.000015
12500.0	41.9	-56.5			67.4	573.5	135.4	8.6	1.000015
13000.0	41.0	-56.3			65.8	573.7	121.8	7.7	1.000015
13500.0	40.0	-56.1			64.2	573.9	105.6	7.7	1.000014
14000.0	39.1	-56.0			62.6	574.1	90.7	8.4	1.000014
14500.0	38.1	-55.8			61.1	574.4	83.6	9.5	1.000014
15000.0	37.2	-55.6			59.6	574.6	79.8	10.8	1.000013
15500.0	36.4	-55.5			58.2	574.8	76.7	12.2	1.000013
16000.0	35.5	-55.3			56.8	575.0	73.2	13.2	1.000013
16500.0	34.7	-55.1			55.4	575.2	69.6	14.2	1.000012
17000.0	33.9	-55.0			54.1	575.5	66.9	15.2	1.000012
17500.0	33.1	-54.8			52.8	575.7	67.1	16.5	1.000012
18000.0	32.3	-54.6			51.5	575.9	68.7	18.0	1.000011
18500.0	31.5	-54.5			50.2	576.1	70.1	19.6	1.000011
19000.0	30.8	-54.3			49.0	576.3	73.2	22.2	1.000011
19500.0	30.1	-54.1			47.8	576.6	76.9	25.7	1.000011
20000.0	29.4	-53.7			46.6	577.1	79.7	29.4	1.000010
20500.0	28.7	-53.3			45.5	577.6	82.6	30.5	1.000010
21000.0	28.1	-52.9			44.4	578.2	84.5	28.8	1.000010
21500.0	27.4	-52.5			43.3	578.8	86.9	27.0	1.000010
22000.0	26.8	-52.0			42.2	579.3	89.3	24.8	1.000009
22500.0	26.2	-51.6			41.1	579.9	90.7	21.4	1.000009
23000.0	25.6	-51.2			40.1	580.4	92.6	17.9	1.000009

STATION ALTITUDE 3997.30 FEET MSL
8 SEP. 79 0845 HRS MST
ASCENSION NO. 300

UPPER AIR DATA
2510060300
S M R

GEODETIC COORDINATES
32.48034 LAT DEG
106.42307 LON DEG

TABLE 9 Cont.

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES CENTIGRADE	TEMPERATURE DEWPOINT CENTIGRADE	REL.HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DATA DIRECTION DEGREES(TN)	WIND DATA SPEED KNOTS	INDEX OF REFRACTION
83500.0	25.0	-50.8			39.1	581.0	94.7	15.0	1.000009
84000.0	24.4	-50.3			38.2	581.5	92.4	16.1	1.000008
84500.0	23.9	-49.9			37.2	582.1	90.5	17.3	1.000008
85000.0	23.3	-49.5			36.3	582.6	88.7	18.5	1.000008
85500.0	22.8	-49.1			35.4	583.2	87.9	20.2	1.000008
86000.0	22.3	-48.6			34.5	583.7	87.3	21.9	1.000008
86500.0	21.7	-48.2			33.7	584.3	86.7	23.7	1.000007
87000.0	21.2	-47.8			32.8	584.8	86.7	23.9	1.000007
87500.0	20.8	-47.4			32.0	585.4	86.9	23.6	1.000007
88000.0	20.3	-47.0			31.2	585.9	87.0	23.4	1.000007
88500.0	19.8	-46.5			30.5	586.5	87.5	22.4	1.000007
89000.0	19.4	-46.1			29.7	587.1	88.4	20.9	1.000007
89500.0	18.9	-45.6			29.0	587.7	89.4	19.5	1.000006
90000.0	18.5	-45.1			28.3	588.3	90.6	18.2	1.000006
90500.0	18.1	-44.7			27.6	588.9	93.0	17.1	1.000006
91000.0	17.7	-44.2			26.9	589.5	95.4	16.1	1.000006
91500.0	17.3	-43.7			26.3	590.1	97.8	15.1	1.000006
92000.0	16.9	-43.6			25.7	590.3	97.9	14.1	1.000006
92500.0	16.5	-43.6			25.1	590.3	98.1	13.2	1.000006
93000.0	16.2	-43.5			24.6	590.3	96.2	12.3	1.000005
93500.0	15.8	-43.5			24.0	590.3	94.1	12.2	1.000005
94000.0	15.5	-43.5			23.5	590.4	89.3	12.4	1.000005
94500.0	15.1	-43.5			22.9	590.4	84.7	12.7	1.000005
95000.0	14.8	-43.5			22.4	590.4	84.9	13.4	1.000005
95500.0	14.5	-43.4			21.9	590.5	89.4	14.5	1.000005
96000.0	14.1	-43.4			21.4	590.5	93.1	15.7	1.000005
96500.0	13.8	-43.4			21.0	590.5	90.4	16.9	1.000005
97000.0	13.5	-43.4			20.5	590.5			1.000005
97500.0	13.2	-43.4			20.0	590.6			1.000004
98000.0	12.9	-43.3			19.6	590.6			1.000004
98500.0	12.6	-43.3			19.2	590.6			1.000004
99000.0	12.4	-43.3			18.7	590.6			1.000004
99500.0	12.1	-43.3			18.3	590.7			1.000004
100000.0	11.8	-43.3			17.9	590.7			1.000004
100500.0	11.6	-43.2			17.5	590.7			1.000004
101000.0	11.3	-43.2			17.1	590.7			1.000004

STATION ALTITUDE 3997.30 FEET MSL
8 SEP. 79 0845 HRS MST
ASCENSION NO. 300

MANDATORY LEVELS
2510060300
S M R

GEODETIC COORDINATES
32.46034 LAT DEG
106.42307 LON DEG

TABLE 10

PRESSURE MILLIBARS	GEOPOTENTIAL FEET	TEMPERATURE AIR DEGREES CENTIGRADE	TEMPERATURE DEWPOINT CENTIGRADE	REL.HUM. PERCENT	WIND DATA DIRECTION DEGREES(TN)	WIND DATA SPEED KNOTS
850.0	5082.	20.7	11.3	55.	160.7	5.9
800.0	6792.	16.8	10.2	65.	120.2	6.4
750.0	8592.	14.3	7.4	65.	80.7	15.0
700.0	10499.	11.5	2.0	52.	92.4	17.9
650.0	12514.	6.6	-8.9	32.	102.3	25.3
600.0	14656.	2.4	-10.2	39.	80.5	26.9
550.0	16939.	-3.7	-8.2	71.	66.3	24.4
500.0	19387.	-6.9	-15.1	52.	76.6	19.1
450.0	22056.	-13.0	-27.0	29.	72.8	12.8
400.0	24982.	-16.5	-35.7	17.	82.9	17.7
350.0	28222.	-24.1	-41.8	18.	64.0	17.3
300.0	31851.	-32.8	-44.7	29.	79.9	12.1
250.0	35983.	-41.8			57.7	29.2
200.0	40828.	-51.8			48.4	24.6
175.0	43633.	-57.5			47.3	20.1
150.0	46785.	-63.0			56.7	18.6
125.0	50418.	-68.5			75.5	11.0
100.0	54740.	-73.6			26.7	6.2
80.0	59084.	-67.6			99.9	10.8
70.0	61739.	-65.8			84.5	19.4
60.0	64825.	-63.8			87.2	17.5
50.0	68544.	-57.7			100.8	13.6
40.0	73181.	-56.1			107.6	7.7
30.0	79209.	-54.1			77.0	25.8
25.0	83076.	-50.8			94.7	15.1
20.0	87886.	-46.7			87.2	25.1
15.0	94213.	-43.5			83.5	12.8

** AT LEAST ONE ASSUMED RELATIVE HUMIDITY VALUE WAS USED IN THE INTERPOLATION.