AD-A079 990 ARMY ELECTRONICS RESEARCH AND DEVELOPMENT COMMAND WS--ETC F/G 4/2
19702A 6SR5, MISSILE NUMBER 310, ROUND NUMBER B-33, 27 AUGUST 1--ETC(U)
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1 OF 1
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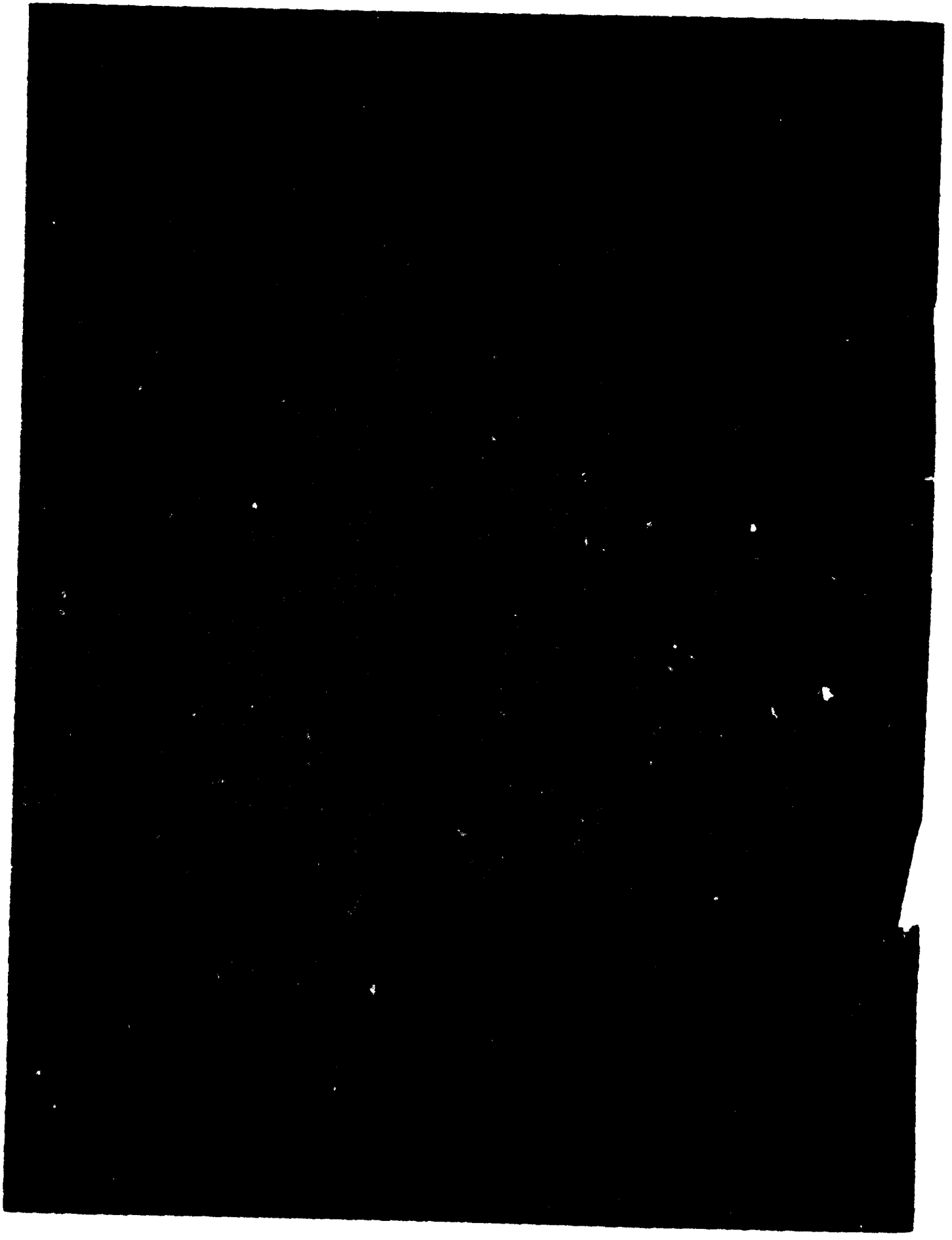

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1. Ballistics
2. Meteorology
3. Wind

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

Meteorological data gathered for the launching of 19702A GSPS, Missile Nr. 301, Round Number B-33, are presented in tabular form.

4/10 bmc

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CONTENTS

INTRODUCTION

19702A GSRS , Missile Number 310 , Round Number B-33, was launched from LC-33 , White Sands Missile Range (WSMR), New Mexico, at 0820 MDT, 27 August 1979 . The scheduled launch time was 0815 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 follcwing 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.

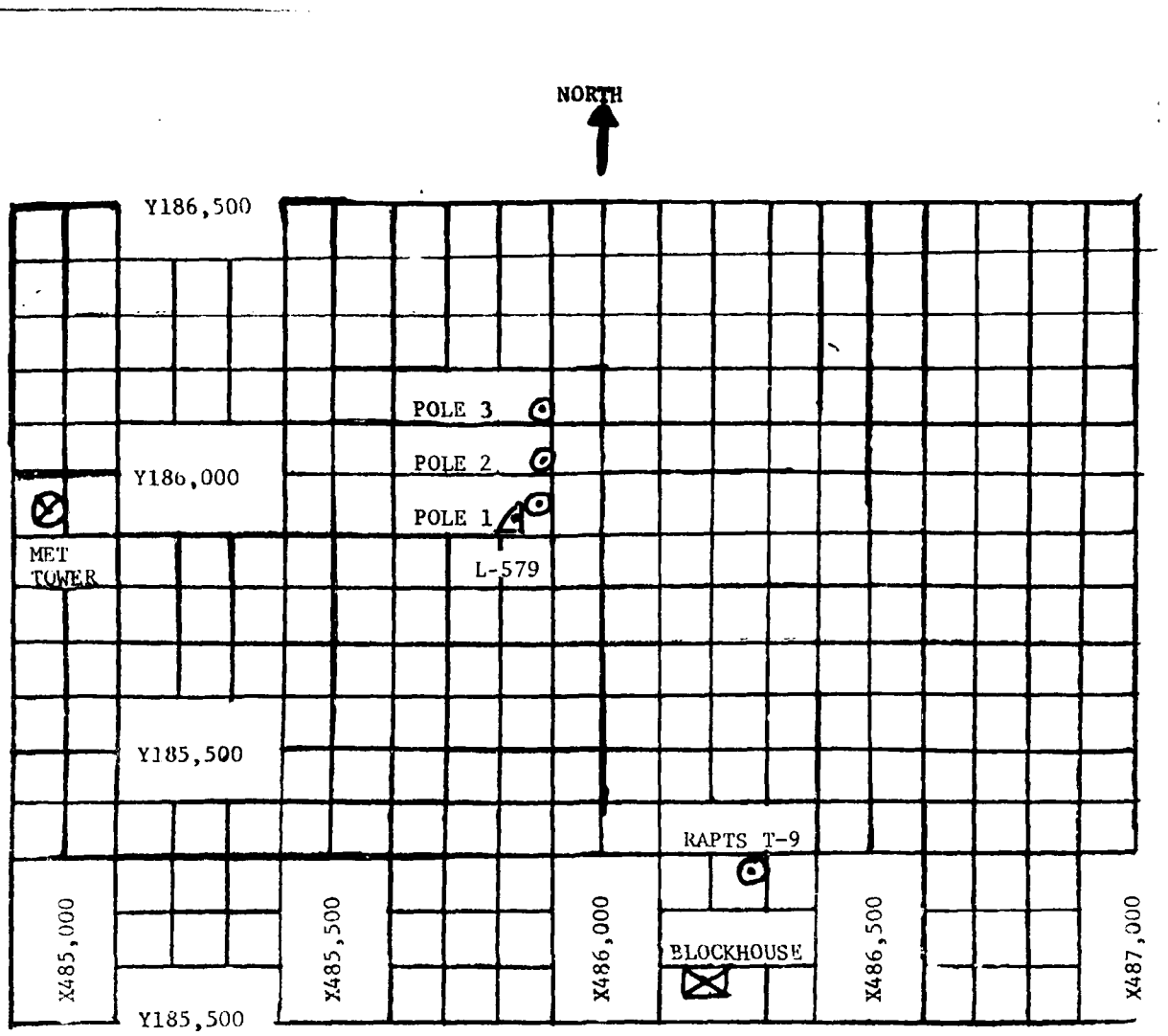
b. Upper Air

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

SITE AND ALTITUDE
LC-33 1080 Meters
NICK 1020 Meters

(2) Air structure data (rawinsonde) were collected at the following Met Sites. Data were collected from surface to 96 500 feet in 500-feet increments.

SITE AND TIME
SMR 0715 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 0820 MDT, 27 August 1979, at LC-33, 19702A GSRS, Missile Number 310,, Round Number B-33.

ELEVATION	3,977.3	FT/MSL
PRESSURE	880.5	MBS
TEMPERATURE	22.3	°C
RELATIVE HUMIDITY	63	%
DEW POINT	14.9	°C
DENSITY	1033	GM/M^3
WIND SPEED	03	MPH
WIND DIRECTION	130	DEGREES
CLOUD COVER	3	Cu
CLOUD COVER	1	Ci

TABLE 2. LC-33 FIXED POLE ANEMOMETER-MEASURED WINDS

POLE #1			POLE #2			POLE #3		
T-TIME SEC	DIR DEG	SPEED MPH	T-TIME SEC	DIR DEG	SPEED MPH	T-TIME SEC	DIR DEG	SPEED MPH
-30	085	03	-30	086	02	-30	090	06
-20	085	04	-20	076	03	-20	090	06
-10	084	04	-10	087	03	-10	091	05
0.0	084	04	0.0	084	03	0.0	091	06
+10	084	04	+10	090	03	+10	084	07

Type 19702 A GSRS, Missile No. 310, Round No. B-33 launched from LC-33 on 27 August 1979 at 0820 MDT.

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

NOTE: Wind Directions are referenced True North.

TABLE 3. LC-33 METEOROLOGICAL TOWER ANEMOMETER-MEASURED WINDS (202 FT. TOWER)

LEVEL #1 12 ft.			LEVEL #2 62 ft.		
T-TIME SEC	DIR DEG	SPEED MPH	T-TIME SEC	DIR DEG	SPEED MPH
-30	081	04	-30	090	04
-20	096	02	-20	088	04
-10	086	03	-10	083	04
0.0	087	02	0.0	073	04
+10	092	02	+10	073	04
LEVEL #3 102 ft.			LEVEL #4 202 ft.		
T-TIME SEC	DIR DEG	SPEED MPH	T-TIME SEC	DIR DEG	SPEED MPH
-30	102	04	-30	099	02
-20	096	05	-20	099	02
-10	087	04	-10	099	02
0.0	089	04	0.0	099	01
+10	079	04	+10	099	01

WTSM Coordinates: X484,982.64 Y185,957.73 H3983.00 (base)

Type 19702 A GSRS, Missile No. 310, Round No. B-33 launched from LC-33 on 27 August 1979 at 0820 MDT.

NOTE: Wind Directions are Referenced True North.

PILOT BALLOON MEASURED WIND DATA

TABLE 4

RELEASED FROM LC-33 DATE 27 August 1979 TIME 0812 MDT

MISSILE TYPE 19702A GSPS MISSILE NO. 310 ROUND NO. B-33

MISSILE LAUNCHED FROM LC-33 DATE 27 August 1979 TIME 0820 MDT

NOTE: WIND DIRECTIONS ARE REFERENCED TRUE NORTH.

HEIGHTS - METERS AGL

HEIGHT AGL	DIRECTION DEGREES	SPEED MPH
SFC	130	03
60	163	08
120	170	13
180	173	19
240	166	17
300	156	16
360	144	15
420	134	17
480	126	20
540	128	22
600	133	24
660	138	26
720	140	23

HEIGHT AGL	DIRECTION DEGREES	SPEED MPH
780	143	21
840	146	20
900	147	21
960	148	22
1020	149	21
1080	150	20

PILOT BALLOON MEASURED WIND DATA

TABLE 5

RELEASED FROM LC-33 DATE 27 August 1979 TIME 0820 MDT

RELEASE POINT COORDINATES (WSTM) X=486,037.24 Y=182,350.16 H=3,977.30

MISSILE TYPE 19702A GSRS MISSILE NO. 310 ROUND NO. B-33

MISSILE LAUNCHED FROM LC-33 DATE 27 August 1979 TIME 0820 MDT

NOTE: WIND DIRECTIONS ARE REFERENCED TRUE NORTH.

HEIGHTS - METERS AGL

HEIGHT AGL	DIRECTION DEGREES	SPEED MPH
SFC	130	02
60	179	08
120	187	14
180	189	20
240	178	17
300	159	13
360	136	12
420	125	16
480	118	19
540	123	22
600	132	24
660	139	27
720	142	26

HEIGHT AGL	DIRECTION DEGREES	SPEED MPH
780	146	24
840	150	23
900	152	22
960	155	21
1020	155	19
1080	155	17

DELAS-MS-MT-WS Form 46
1 Dec 79

PILOT BALLOON MEASURED WIND DATA

TABLE 6

RELEASED FROM NICK SITE DATE 27 AUGUST 1979 TIME 0810 MDT

RELEASE POINT COORDINATES (WSTM) X=470,734.56 Y=255,775.64 H=4,126.57

MISSILE TYPE 19702A GSPS MISSILE NO. 310 ROUND NO. B-33

MISSILE LAUNCHED FROM SMR DATE 27 AUGUST 1979 TIME 0820 MDT

NOTE: WIND DIRECTIONS ARE REFERENCED TRUE NORTH.

HEIGHTS - METERS AGL.

HEIGHT AGL	DIRECTION DEGREES	SPEED MPH
SFC	120	09
60	135	08
120	151	07
180	166	06
240	164	13
300	168	09
360	177	09
420	169	08
480	161	07
540	156	06
600	149	06
660	141	05
720	138	06

HEIGHT AGL	DIRECTION DEGREES	SPEED MPH
780	130	07
840	140	13
900	144	13
960	151	15
1020	159	18

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1 Dec 79

GSRS PILOT BALLOON MEASURED WIND DATA

TABLE 7

RELEASED FROM NICK SITE DATE 27 August 1979 TIME 0820 MDT

COORDINATES (WSTM) X= 470,734.56 Y 255,775.64 H 4,126.57

MISSILE TYPE 19702A GSRS MISSILE NO. 310 ROUND NO. B-33

MISSILE LAUNCHED FROM SMR DATE 27 August 1979 TIME 0820 MDT

NOTE: WIND DIRECTIONS ARE REFERENCED TRUE NORTH.

HEIGHT MTR AGL	DIRECTION DEGREES	SPEED kts
SFC	145	05
60	156	07
120	167	08
180	171	11
240	167	12
300	171	11
360	182	09
420	175	09
480	174	08
540	171	07
600	159	05
660	137	05
720	138	08

HEIGHT MTR AGL	DIRECTION DEGREES	SPEED kts
780	139	10
840	140	12
900	147	14
960	152	15
1020	156	17

STATION ALTITUDE 3997.30 FEET MSL
27 AUG 79 0715 HRS MST
ASCENSION NO. 253

SIGNIFICANT LEVEL DATA
20900202
S M R

GEODETIC COORDINATES
32.46034 LAT DEG
106.42307 LON DEG

TABLE 8

PRESSURE MILLIBARS	GEOMETRIC ALTITUDE MSL FEET	TEMPERATURE AIR DEGREES	TEMPERATURE DEWPOINT CENTIGRADE	REL.HUM. PERCENT
880.0	3997.3	22.2	16.0	68.0
875.0	4160.0	20.9	12.3	58.0
850.0	4963.4	19.8	11.8	60.0
834.4	5506.8	17.9	10.3	61.0
824.4	5847.3	19.5	10.5	56.0
814.4	6191.9	17.9	9.3	58.0
794.6	6885.4	18.4	8.9	54.0
731.3	9194.7	12.5	5.2	61.0
700.0	10410.6	12.8	3.2	52.0
625.8	13409.2	6.1	-4.1	48.0
581.6	15422.6	.2	-7.1	38.0
555.8	16612.7	-3.1	-6.2	79.0
551.6	16810.3	-3.5	-12.1	51.0
534.6	17611.6	-5.4	-20.2	30.0
522.6	18207.0	-5.5	-27.3	16.0
500.0	19341.4	-8.2	-29.3	16.0
490.4	19837.1	-7.5	-30.3	14.0
400.0	24940.0	-19.1	-39.1	15.0
358.0	27619.9	-26.0	-44.8	15.0
319.0	30355.3	-32.0	-49.3	16.0
300.0	31758.9	-33.5		
276.4	33639.3	-36.9		
250.0	35902.4	-42.0		
237.4	37049.5	-44.5		
226.4	38093.3	-45.8		
200.0	40778.5	-51.7		
191.8	41670.7	-53.0		
173.8	43738.6	-58.8		
150.0	46748.4	-64.4		
136.8	48623.5	-67.0		
129.0	49765.9	-66.1		
115.3	52007.0	-67.0		
108.4	53246.5	-63.8		
100.0	54876.1	-64.6		
83.6	58457.5	-64.8		
80.8	59160.9	-59.7		
70.0	62143.3	-59.6		
50.0	69178.4	-54.5		
43.2	72292.2	-51.7		
30.4	75954.9	-52.9		

STATION ALTITUDE 3997.30 FEET MSL
27 AUG. 79 0715 HRS MST
ASCENSION NO. 283

SIGNIFICANT LEVEL DATA
23900C0203
S M R

GEODETIC COORDINATES
32.46034 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
30.0	80119.9	-48.7		
20.0	88974.4	-47.0		
14.2	96539.2	-43.9		

UPPER AIR DATA

STATION ALTITUDE 3997.00 FEET MSL — 23000[illegible]200 — GEODETIC COORDINATES

[illegible] 79 0715 GMT MAY — S M R — 32.[illegible]034 LAT DEG

ASCENSION NO. 203 — 106.[illegible]307 LON DEG

TABLE 9

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(T.N.)	WIND DATA SPEED KNOTS	INDEX OF REFRACTION
3997.3	960.0	22.2	16.0	68.0	1029.8	672.2	.0	.0	1.000309
4000.0	959.9	22.2	16.0	67.8	1029.6	672.1	150.0	.0	1.000306
4500.0	904.6	20.4	12.1	56.8	1019.5	669.0	150.0	3.2	1.000269
5000.0	849.5	19.7	11.8	60.0	1004.2	666.8	150.0	6.5	1.000265
5500.0	834.6	17.9	10.3	61.0	995.2	665.0	150.0	9.7	1.000277
6000.0	820.0	18.8	10.1	56.9	972.9	663.5	150.0	12.8	1.000272
6500.0	805.5	18.1	9.3	56.2	956.1	660.7	150.2	15.8	1.000260
7000.0	791.3	18.1	8.8	54.3	941.4	660.7	155.4	17.3	1.000260
7500.0	777.3	16.8	8.0	55.9	926.9	655.1	156.9	18.8	1.000255
8000.0	763.5	15.6	7.2	57.4	913.6	650.0	161.0	17.8	1.000250
8500.0	749.9	14.3	6.4	58.9	900.5	662.1	164.0	17.3	1.000246
9000.0	736.6	13.0	5.5	60.4	892.0	660.3	167.5	16.2	1.000241
9500.0	723.5	12.6	4.7	58.7	876.1	660.0	170.6	14.8	1.000235
10000.0	710.5	12.7	3.9	55.0	862.1	658.1	190.0	11.9	1.000230
10500.0	697.7	12.6	3.0	51.9	847.1	659.9	207.5	9.1	1.000224
11000.0	685.0	11.5	1.8	51.2	833.1	658.6	232.9	6.1	1.000219
11500.0	672.6	10.4	.6	50.6	820.4	657.2	260.6	6.2	1.000214
12000.0	660.4	9.3	-.6	49.9	811.7	655.9	277.2	7.7	1.000209
12500.0	648.4	8.2	-1.8	49.3	800.3	654.5	274.0	10.8	1.000204
13000.0	636.6	7.1	-3.0	48.6	789.0	653.2	272.8	12.7	1.000200
13500.0	625.1	6.0	-4.1	48.2	777.9	651.8	272.2	13.0	1.000195
14000.0	613.5	4.5	-4.8	50.7	767.7	650.0	270.8	13.9	1.000192
14500.0	602.1	3.0	-5.6	53.3	757.6	648.2	268.5	13.8	1.000189
15000.0	590.9	1.5	-6.4	55.8	747.7	646.4	264.4	14.1	1.000186
15500.0	579.9	-.0	-7.0	59.4	737.9	644.8	263.0	14.5	1.000183
16000.0	569.0	-1.4	-8.5	58.2	727.5	643.0	263.0	15.5	1.000181
16500.0	558.2	-2.8	-8.2	77.0	717.4	641.4	263.7	16.8	1.000180
17000.0	547.6	-3.9	-13.8	46.0	707.6	639.7	263.0	18.7	1.000179
17500.0	537.1	-5.1	-18.9	32.9	697.5	638.1	262.1	20.4	1.000183
18000.0	526.8	-5.5	-24.3	20.9	686.2	637.0	264.3	21.9	1.000187
18500.0	516.7	-6.2	-27.6	16.0	676.9	635.7	266.2	22.0	1.000193
19000.0	506.7	-7.4	-28.6	16.0	666.9	633.2	266.6	21.3	1.000191
19500.0	496.9	-8.0	-29.7	15.4	657.3	634.5	268.1	19.5	1.000188
20000.0	487.2	-7.9	-30.6	14.0	639.6	634.8	269.9	18.1	1.000185
20500.0	477.6	-9.0	-31.4	14.1	629.7	633.3	271.1	17.0	1.000183
21000.0	468.1	-10.1	-32.3	14.2	619.9	631.7	274.6	17.3	1.000180
21500.0	458.9	-11.3	-33.2	14.3	610.3	630.3	274.3	18.0	1.000178
22000.0	449.8	-12.4	-34.0	14.4	600.8	629.1	274.4	18.8	1.000176
22500.0	440.9	-13.6	-34.9	14.5	591.6	627.8	275.3	19.1	1.000174
23000.0	432.2	-14.7	-35.7	14.6	582.4	626.4	275.1	19.3	1.000171

STATION ALTITUDE 3997.30 FEET MSL
27 AUG. 79 0715 HRS MST
ASCENSION NO. 283

UPPER AIR DATA
20900.0266
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
23500.0	423.7	-15.8	-36.6	14.7	575.4	625.0	269.7	19.7	1.000129
24000.0	415.3	-17.0	-37.5	14.8	564.6	623.6	270.4	19.6	1.000127
24500.0	407.1	-18.1	-38.3	14.9	553.9	622.2	272.0	19.4	1.000125
25000.0	399.0	-19.3	-39.2	15.0	543.4	620.8	274.6	19.1	1.000123
25500.0	390.8	-20.5	-40.3	15.0	533.9	619.2	278.2	18.8	1.000121
26000.0	382.8	-21.8	-41.4	15.0	524.6	617.7	280.5	18.4	1.000119
26500.0	375.0	-23.1	-42.4	15.0	515.4	616.1	282.8	18.7	1.000117
27000.0	367.3	-24.4	-43.5	15.0	506.3	614.5	285.7	19.3	1.000115
27500.0	359.6	-25.7	-44.6	15.0	497.4	612.9	288.2	20.6	1.000114
28000.0	352.3	-26.8	-45.4	15.1	488.7	611.4	289.1	22.4	1.000112
28500.0	344.9	-27.9	-46.3	15.3	480.2	610.1	287.8	24.7	1.000110
29000.0	337.6	-29.0	-47.1	15.5	471.8	608.7	286.7	27.2	1.000108
29500.0	330.5	-30.2	-47.9	15.7	463.6	607.3	285.8	28.5	1.000106
30000.0	323.6	-31.3	-48.7	15.9	455.6	605.9	284.5	29.5	1.000104
30500.0	316.7	-32.2	-50.5	14.1**	447.9	604.6	283.9	30.4	1.000102
31000.0	310.0	-32.7	-55.1	8.5**	440.1	604.1	283.6	31.4	1.000100
31500.0	303.4	-33.2	-63.8	2.9**	432.5	603.4	283.4	33.7	1.000098
32000.0	296.9	-33.9			425.0	602.5	283.1	35.9	1.000096
32500.0	290.5	-34.8			417.6	601.4	283.4	37.6	1.000095
33000.0	284.2	-35.7			410.3	600.3	283.5	39.7	1.000093
33500.0	278.1	-36.6			403.2	599.1	283.6	41.6	1.000091
34000.0	272.0	-37.7			396.2	597.8	283.6	42.6	1.000090
34500.0	266.0	-38.8			389.3	596.5	284.9	42.4	1.000088
35000.0	260.2	-40.0			382.7	594.9	284.2	43.2	1.000087
35500.0	254.5	-41.1			376.1	593.5	283.7	45.2	1.000085
36000.0	248.9	-42.2			369.7	592.0	283.8	47.5	1.000084
36500.0	243.4	-43.3			363.5	590.6	283.8	49.0	1.000082
37000.0	237.9	-44.4			357.4	589.2	283.8	49.9	1.000081
37500.0	232.6	-45.1			351.4	588.4	283.8	50.0	1.000079
38000.0	227.4	-45.7			345.6	587.6	283.8	51.5	1.000078
38500.0	222.2	-45.7			341.0	586.9	283.4	54.9	1.000076
39000.0	217.1	-47.8			335.3	584.8	282.9	55.5	1.000075
39500.0	212.2	-48.9			329.8	583.4	281.9	51.7	1.000073
40000.0	207.3	-50.0			324.4	582.0	281.8	48.7	1.000072
40500.0	202.6	-51.1			319.0	580.5	281.5	47.2	1.000071
41000.0	197.9	-52.0			313.8	579.1	281.1	47.0	1.000069
41500.0	193.3	-52.8			308.8	578.4	279.9	49.6	1.000068
42000.0	188.8	-53.9			303.8	576.9	279.5	51.6	1.000067
42500.0	184.4	-55.2			299.0	575.1	279.0	52.3	1.000066
43000.0	180.0	-56.5			294.3	573.5	279.9	53.6	1.000065

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

STATION ALTITUDE 3,997.30 FEET MSL
27 AUG 77 0715 HRS MST
[illegible] 283

UPPER AIR DATA
2090000283
S M R

GEODETIC COORDINATES
32.46034 LAT DEG
106.42307 LON DEG

TABLE 9 (CONT)

GEOMETRIC ALTITUDE FEET MSL	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES CENTIGRADE	TEMPERATURE DEWPOINT CENTIGRADE	RELATIVE HUMIDITY PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DATA DIRECTION DEGREES(T)	WIND DATA SPEED KNOTS	INDEX OF REFRACTION
4000.0	175.0	-56.0			284.6	571.5	240.2	54.8	1.000063
4050.0	171.6	-59.1			279.3	570.0	240.7	56.1	1.000062
4100.0	167.4	-60.1			276.7	569.7	240.2	57.2	1.000061
4150.0	163.4	-61.0			268.3	567.4	240.6	58.3	1.000060
4200.0	159.4	-62.0			260.1	566.1	240.6	62.7	1.000059
4250.0	155.6	-63.0			257.9	564.8	240.9	67.2	1.000057
4300.0	151.8	-63.9			252.6	563.5	247.3	66.1	1.000056
4350.0	148.1	-64.7			247.0	562.4	247.6	63.5	1.000055
4400.0	144.5	-65.4			242.3	561.5	250.2	58.5	1.000054
4450.0	140.9	-66.1			237.1	560.5	254.1	52.5	1.000053
4500.0	137.4	-66.8			232.1	559.6	257.7	50.3	1.000052
4550.0	134.0	-66.7			226.2	559.8	260.5	50.7	1.000050
4600.0	130.7	-66.3			220.2	560.3	263.4	50.1	1.000049
4650.0	127.5	-66.2			214.6	560.4	266.4	47.7	1.000048
4700.0	124.3	-66.4			209.5	560.2	269.4	45.3	1.000047
4750.0	121.3	-66.6			204.5	559.9	269.4	41.9	1.000046
4800.0	118.3	-66.8			199.7	559.6	269.4	38.2	1.000044
4850.0	115.3	-67.0			194.9	559.4	269.2	31.5	1.000043
4900.0	112.5	-65.6			189.9	561.2	268.0	24.1	1.000042
4950.0	109.7	-64.3			185.0	563.0	268.5	16.9	1.000041
5000.0	107.0	-63.8			180.1	563.7	261.4	9.9	1.000040
5050.0	104.4	-64.1			174.0	563.3	249.8	3.1	1.000039
5100.0	101.9	-64.4			170.0	562.9	240.7	4.6	1.000038
5150.0	99.4	-64.6			166.0	562.6	245.2	6.2	1.000037
5200.0	97.0	-64.8			162.0	562.8	247.5	6.4	1.000036
5250.0	94.6	-64.7			158.0	562.5	251.8	6.0	1.000035
5300.0	92.3	-64.7			154.2	562.5	251.9	5.0	1.000034
5350.0	90.0	-64.7			150.4	562.4	245.4	3.3	1.000033
5400.0	87.8	-64.7			146.7	562.4	219.6	1.8	1.000033
5450.0	85.6	-64.8			143.2	562.4	148.9	1.5	1.000032
5500.0	83.5	-64.4			139.4	562.9	113.5	2.9	1.000031
5550.0	81.5	-60.9			135.8	567.5	100.3	3.9	1.000030
5600.0	79.6	-59.7			129.3	569.2	93.1	4.9	1.000029
5650.0	77.7	-59.7			126.7	569.2	92.6	5.7	1.000028
5700.0	75.8	-59.7			123.7	569.2	102.6	5.6	1.000028
5750.0	74.0	-59.6			120.7	569.3	112.9	5.7	1.000027
5800.0	72.2	-59.6			117.6	569.3	120.6	6.8	1.000026
5850.0	70.5	-59.6			115.0	569.3	123.4	8.1	1.000026
5900.0	68.8	-59.3			112.1	569.7	127.3	9.2	1.000025
5950.0	67.2	-59.0			109.3	570.1	122.9	9.2	1.000024

UPPER AIR DATA

STATION ALTITUDE 3997.30 FEET MSL
27 AUG. 79 0715 HRS MST
ASCENSION NO. 263

2390000263
S M R

GEODETIC COORDINATES
32.46034 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(T)	WIND DATA SPEED KNOTS	INDEX OF REFRACTION
03500.0	65.6	-58.6			100.5	570.0	118.2	9.2	1.000024
04000.0	64.1	-58.3			103.8	571.1	114.0	9.2	1.000023
04500.0	62.5	-57.9			101.2	571.0	110.3	9.3	1.000023
05000.0	61.1	-57.5			98.7	572.1	106.0	9.4	1.000022
05500.0	59.6	-57.2			96.2	572.5	105.5	9.8	1.000021
06000.0	58.2	-56.8			93.7	573.0	104.4	10.2	1.000021
06500.0	56.8	-56.4			91.4	573.5	103.3	10.5	1.000020
07000.0	55.5	-56.1			89.1	574.0	102.3	10.9	1.000020
07500.0	54.2	-55.7			86.8	574.5	100.7	11.2	1.000019
08000.0	52.9	-55.4			84.6	574.9	99.3	11.4	1.000019
08500.0	51.6	-55.0			82.5	575.4	97.8	11.6	1.000018
09000.0	50.4	-54.6			80.4	575.9	96.1	11.8	1.000018
09500.0	49.3	-54.2			78.4	576.4	95.5	11.9	1.000017
10000.0	48.1	-53.8			76.4	577.0	95.2	12.0	1.000017
10500.0	47.0	-53.3			74.5	577.6	95.5	12.2	1.000017
11000.0	45.9	-52.9			72.6	578.2	97.0	12.4	1.000016
11500.0	44.8	-52.4			70.8	578.8	98.3	12.6	1.000016
12000.0	43.8	-52.0			69.0	579.4	98.5	12.3	1.000015
12500.0	42.8	-51.8			67.3	579.7	99.2	12.0	1.000015
13000.0	41.8	-51.9			65.6	579.4	100.5	11.7	1.000015
13500.0	40.8	-52.1			64.3	579.2	102.9	11.4	1.000014
14000.0	39.9	-52.3			62.9	579.0	103.3	11.1	1.000014
14500.0	39.0	-52.4			61.5	578.8	99.5	12.7	1.000014
15000.0	38.1	-52.6			60.1	578.6	95.7	14.9	1.000013
15500.0	37.2	-52.8			58.8	578.4	88.9	17.0	1.000013
16000.0	36.3	-52.9			57.4	578.2	82.7	18.2	1.000013
16500.0	35.5	-52.4			56.0	578.9	77.2	19.6	1.000012
17000.0	34.7	-51.8			54.6	579.5	73.4	20.2	1.000012
17500.0	33.9	-51.3			53.2	580.2	71.2	19.7	1.000012
18000.0	33.1	-50.8			51.9	580.9	68.7	19.1	1.000012
18500.0	32.3	-50.3			50.6	581.5	68.2	22.2	1.000011
19000.0	31.6	-49.8			49.3	582.2	68.8	28.0	1.000011
19500.0	30.9	-49.3			48.1	582.8	69.2	33.8	1.000011
20000.0	30.2	-48.8			46.8	583.5	71.4	34.9	1.000010
20500.0	29.5	-48.6			45.7	583.7	74.4	34.4	1.000010
21000.0	28.8	-48.5			44.7	583.9	77.3	34.0	1.000010
21500.0	28.2	-48.4			43.7	584.0	82.3	30.6	1.000010
22000.0	27.5	-48.3			42.7	584.1	88.3	26.9	1.000009
22500.0	26.9	-43.2			41.7	584.2	96.7	23.8	1.000009
23000.0	26.3	-48.1			40.7	584.4	96.8	24.4	1.000009

STATION ALTITUDE 3997.30 FEET MSL
27 AUG. 79 0715 HRS MST
ASCENSION NO. 203

UPPER AIR DATA
23900UU2U3
5 M R

GEODETIC COORDINATES
32.40034 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
03500.0	25.7	-48.1			39.8	564.5	90.0	24.9	1.000009
04000.0	25.1	-48.0			39.9	564.6	90.0	25.3	1.000009
04500.0	24.5	-47.9			39.0	564.7	94.9	25.2	1.000008
05000.0	24.0	-47.3			37.1	564.9	99.2	25.1	1.000008
05500.0	23.4	-47.7			38.2	565.0	91.5	25.1	1.000008
06000.0	22.9	-47.6			38.4	565.1	87.1	26.1	1.000008
06500.0	22.4	-47.5			34.6	565.2	83.1	27.3	1.000008
07000.0	21.9	-47.4			35.8	565.4	79.4	28.6	1.000008
07500.0	21.4	-47.3			35.0	565.5	77.2	29.3	1.000007
08000.0	20.9	-47.2			34.2	565.6	75.5	29.7	1.000007
08500.0	20.4	-47.1			31.5	565.7	73.5	30.3	1.000007
09000.0	20.0	-47.0			30.8	565.9	73.2	31.3	1.000007
09500.0	19.5	-46.8			30.1	566.1	73.7	32.5	1.000007
10000.0	19.1	-46.6			29.4	566.4	74.1	33.8	1.000007
10500.0	18.7	-46.4			28.7	566.7	75.0	34.6	1.000006
11000.0	18.2	-46.2			28.0	566.9	79.6	35.0	1.000006
11500.0	17.8	-46.0			27.4	567.2	83.5	35.6	1.000006
12000.0	17.4	-45.8			26.7	567.5	87.1	35.9	1.000006
12500.0	17.0	-45.6			26.1	567.7	90.5	34.7	1.000006
13000.0	16.7	-45.4			25.5	568.0	94.1	33.6	1.000006
13500.0	16.3	-45.1			24.9	568.3			1.000006
14000.0	15.9	-44.9			24.3	568.5			1.000005
14500.0	15.6	-44.7			23.8	568.8			1.000005
15000.0	15.2	-44.5			23.2	569.0			1.000005
15500.0	14.9	-44.3			22.7	569.3			1.000005
16000.0	14.6	-44.1			22.1	569.6			1.000005
16500.0	14.2	-43.9			21.6	569.8			1.000005

STATION ALTITUDE 3937.30 FEET MSL
27 AUG. 79 0715 HRS MST
ASCENSION NO. 203

MANDATORY LEVELS
20900802B3
S M R

GEODETIC COORDINATES
32.48034 LAT DEG
106.42307 LON DEG

TABLE 10

PRESSURE	GEOPOTENTIAL	TEMPERATURE		REL.HUM.	WIN. DATA	
		AIR	DEWPOINT	PERCENT	DIRECTION	SPEED
MILLIBARS	FEET	DEGREES CENTIGRADE			DEGREES(TN)	KNOTS
850.0	4980.	19.8	11.0	60.	150.8	6.4
800.0	6689.	18.3	9.1	55.	150.1	10.9
750.0	8495.	14.3	6.4	59.	102.0	17.3
700.0	10400.	12.8	3.2	52.	204.4	9.8
650.0	12426.	8.4	-1.0	49.	274.3	10.2
600.0	14580.	2.7	-5.7	54.	282.2	10.9
550.0	16864.	-3.7	-12.6	49.	280.0	10.3
500.0	19314.	-8.2	-29.5	10.	285.7	20.1
450.0	21984.	-12.4	-34.0	14.	284.4	10.6
400.0	24896.	-19.1	-39.1	15.	294.2	19.1
350.0	28105.	-27.2	-45.7	15.	272.5	22.9
300.0	31695.	-35.5			256.8	34.8
250.0	35823.	-42.0			253.6	47.2
200.0	40679.	-51.7			250.2	46.4
175.0	43484.	-56.2			240.1	55.0
150.0	46621.	-64.4			247.5	64.9
125.0	50249.	-66.4			266.9	46.0
100.0	54705.	-64.6			245.5	5.7
80.0	59189.	-59.7			95.0	4.6
70.0	61928.	-59.6			126.3	6.4
60.0	65109.	-57.3			105.9	9.7
50.0	68916.	-54.5			96.6	11.8
40.0	73643.	-52.2			104.8	11.2
30.0	79774.	-46.7			71.9	34.9
25.0	83713.	-47.9			96.5	25.3
20.0	88550.	-47.0			73.1	31.1
15.0	94641.	-44.4				

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