AD-A073 212 ARMY ELECTRONICS RESEARCH AND DEVELOPMENT COMMAND WS--ETC F/G 4/2
19305AT 6SRS, MISSILE NUMBER 1038, ROUND NUMBER V-39, 21 JUNE 1--ETC(U)
JUN 79

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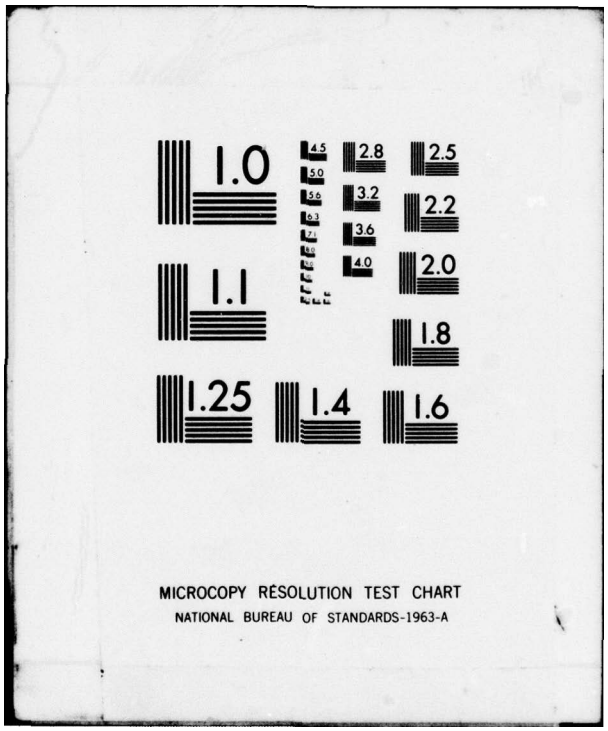
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NATIONAL BUREAU OF STANDARDS-1963-A

SECURITY CLASSIFICATION OF THIS PAGE (When Data Entered)

REPORT DOCUMENTATION PAGE

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3. RECIPIENT'S CATALOG NUMBER: (17) Ø2

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Approved for public release; distribution unlimited.

(9) Meteorological data rept.

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

18. SUPPLEMENTARY NOTES

(14) ERADCOM/ASL-DR-1Ø3Ø

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 19305AT GSRS, Missile Number 1038, Round Number V-39, are presented in tabular form.

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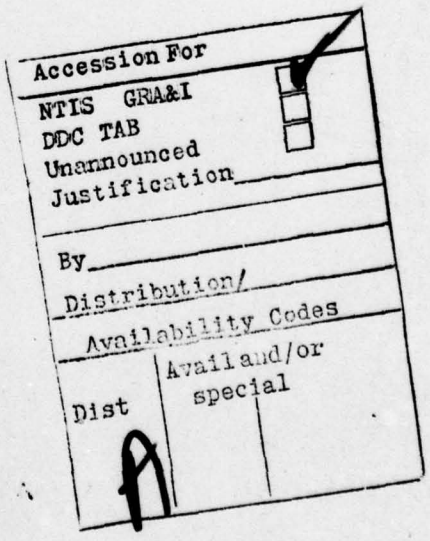
UNCLASSIFIED
SECURITY CLASSIFICATION OF THIS PAGE (When Data Entered)

CONTENTS



INTRODUCTION

19305AT GSRS, Missile Number 1038, Round Number V-39, was launched from LC-33, White Sands Missile Range (WSMR), New Mexico, at 1430 MDT, 21 June 1979. The scheduled launch time was 1430 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.

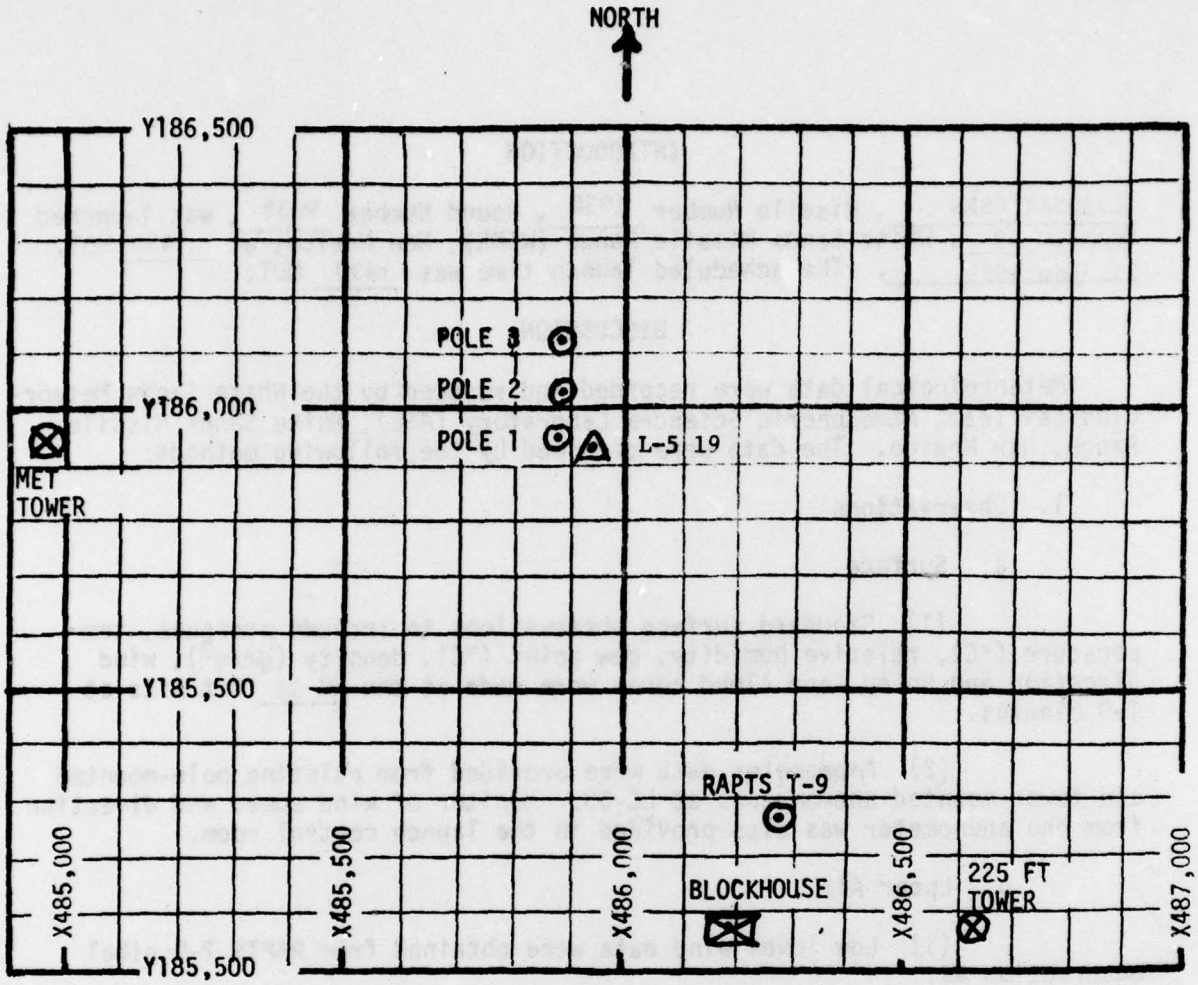
b. Upper Air

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

SITE AND ALTITUDE
LC-33 1080 Meters

(2) Air structure data (rawinsonde) were collected at the following Met Sites. Data were collected from surface to 94,500 feet in 500-feet increments.

SITE AND TIME
SMR 1345 MST



1. MET TOWER - 4 Bendix Model T-120 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. 225 FT WIND TOWER - 5 Bendix Model T-120 Anemometers at 35 ft, 88 ft, 128 ft, 168 ft and 200 ft with 5 X-Y visual indicators in Blockhouse.

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

TABLE 1. SURFACE OBSERVATION TAKEN AT LC-33
21 JUNE 1979 AT 1430 MDT, 19305AT GSRS,
MISSILE NO. 1038, ROUND NO. V-39

ELEVATION	3977.30	FT/MSL
PRESSURE	880.9	MBS
TEMPERATURE	35.8	°C
RELATIVE HUMIDITY	21	%
DEW POINT	9.9	°C
DENSITY	983	GM/M^3
WIND SPEED	Calm	MPH
WIND DIRECTION		DEGREES
CLOUD COVER	5	Cu
CLOUD COVER	2	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	174	7.0	-30	174	4.0	-30	180	9.0
-20	147	7.0	-20	156	4.0	-20	150	11.0
-10	123	6.0	-10	129	4.0	-10	162	6.0
0.0	138	7.0	0.0	146	6.0	0.0	133	6.0
+10	129	6.0	+10	162	2.0	+10	087	4.0

Type 19305AT GSRS, Missile No. 1038, Round No. V-39 launched from LC-33 on 21 June 1979 at 1430 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 to the firing azimuth _____ or true north 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	111	06.0	-30	105	06.0
-20	090	07.0	-20	120	08.0
-10	118	08.0	-10	113	08.0
0.0	129	08.0	0.0	097	08.0
+10	108	08.0	+10	110	10.0
LEVEL #3 102 ft.			LEVEL #4 202 ft.		
T-TIME SEC	DIR DEG	SPEED MPH	T-TIME SEC	DIR DEG	SPEED MPH
-30	118	07.0	-30	118	08.0
-20	135	09.0	-20	129	07.0
-10	126	08.0	-10	132	09.0
0.0	117	08.0	0.0	114	09.0
+10	127	10.0	+10	104	10.0

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

Type 19305AT GSRS, Missile No. 1038, Round No. V-39 launched from LC-33 on 21 June 1979 at 1430 MDT.

NOTE: Wind directions are referenced to the firing azimuth _____ or true north True North

TABLE 4. PILOT-BALLOON-MEASURED WIND DATA (30-METER INCREMENTS)

HEIGHT METERS AGL	DIRECTION DEGREES	SPEED MPH
SFC	000	000
30	040	00.5
60	079	01.0
90	119	01.5
120	158	02.0
150	159	04.5
180	160	07.0
210	161	09.5
240	162	11.5
270	165	11.5
300	167	11.5
330	169	11.5
360	171	11.0

HEIGHT METERS AGL	DIRECTION DEGREES	SPEED MPH
390	161	10.0
420	151	08.5
450	141	07.5
480	130	06.0
510	129	06.0
540	127	06.0
570	126	06.0
600	124	05.5
630	132	05.5
660	140	05.5
690	148	05.5
720	156	05.0
750	161	05.5

Release Point Coordinates (WSTM): X486,037.24 Y486,037.24 H3977.30

Released from LC-33 on 21 June 1979 at 1430 MDT.

Type 19305AT GSRS, Missile No. 1038, Round No. V-39 launched from LG-33 on 21 June 1979 at 1430 MDT.

NOTE: Wind directions are referenced to the firing azimuth or true north True North.

HEIGHT METERS AGL	DIRECTION DEGREES	SPEED MPH
780	166	06.0
810	171	06.5
840	175	06.5
870	178	07.0
900	181	07.0
930	184	07.0
960	187	07.0
990	193	07.5
1020	198	07.5
1050	203	07.5
1080	208	07.5
1110		
1140		
1170		
1200		
1230		
1260		
1290		
1320		
1350		
1380		
1410		

HEIGHT METERS AGL	DIRECTION DEGREES	SPEED MPH
1440		
1470		
1500		
1530		
1560		
1590		
1620		
1650		
1680		
1710		
1740		
1770		
1800		
1830		
1860		
1890		
1920		
1950		
1980		
2010		
2040		
2070		

STATION ALTITUDE 3997.30 FEET MSL
21 JUNE 79 1345 HRS MST
ASCENSION NO. 199

SIGNIFICANT LEVEL DATA
172006 0199
S M R

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
879.7	3997.3	36.4	10.6	21.0
872.6	4238.4	32.6	10.0	25.0
850.0	5012.8	31.3	10.6	28.0
805.4	6582.2	27.1	9.0	32.0
783.6	7382.4	24.5	6.7	32.0
731.0	9363.3	19.1	3.7	36.0
700.0	10578.7	15.2	2.1	41.0
651.8	12549.0	10.2	.5	51.0
614.2	14160.9	5.1	-1.6	62.0
605.4	14547.6	3.8	-9.9	36.0
561.6	16535.7	-1.2	-11.6	45.0
553.2	16930.5	-2.0	-8.9	59.0
536.6	17725.9	-3.2	-11.6	52.0
512.4	18921.2	-6.2	-12.1	63.0
500.0	19551.1	-7.0	-17.4	43.0
488.8	20131.0	-8.3	-27.7	19.0
459.0	21729.4	-10.7	-30.3	18.0
400.0	25157.7	-18.6	-35.9	20.0
377.2	26586.7	-22.6	-38.6	21.0
371.0	26986.4	-23.5	-32.6	42.0
364.6	27405.3	-23.5	-31.6	47.0
356.6	27804.6	-25.7	-35.7	32.0
352.6	28210.2	-24.1	-40.1	21.0
300.0	32023.3	-32.7	-48.6	18.0
250.0	36158.1	-43.4		
200.0	40979.6	-55.1		
177.8	43420.5	-61.4		
166.4	44769.2	-63.3		
150.0	46866.9	-64.3		
124.8	50530.3	-69.6		
100.0	54867.6	-71.5		
90.6	56792.7	-71.3		
70.0	61941.0	-62.2		
65.0	63453.9	-62.0		
50.0	68882.6	-56.6		
35.8	75907.7	-55.3		
30.0	79672.6	-51.2		
28.0	81164.3	-48.8		
20.0	88510.7	-47.0		
15.0	94867.1	-43.7		

STATION ALTITUDE 3997.30 FEET MSL
21 JUNE 79 1345 HRS MST
ASCENSION NO. 199

UPPER AIR DATA
1720060199
S M R

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
3997.3	879.7	36.4	10.6	21.0	984.6	687.3	180.0	9.9	1.000270
4000.0	879.6	36.4	10.6	21.0	984.6	687.3	179.9	9.9	1.000270
4500.0	864.9	32.2	10.2	26.0	981.5	682.6	169.2	10.8	1.000270
5000.0	850.4	31.3	10.6	28.0	967.4	681.7	166.4	12.0	1.000268
5500.0	836.0	30.0	10.2	29.2	956.2	680.2	160.7	9.4	1.000264
6000.0	821.8	28.7	9.6	30.5	943.3	678.7	180.2	3.7	1.000260
6500.0	807.9	27.3	9.1	31.8	931.5	677.2	184.0	7.5	1.000256
7000.0	794.0	25.8	7.8	32.0	920.6	675.2	173.2	9.1	1.000250
7500.0	780.4	24.2	6.6	32.2	910.0	673.3	171.0	5.7	1.000245
8000.0	766.8	22.8	5.8	33.2	898.5	671.8	176.7	4.4	1.000240
8500.0	753.5	21.5	5.1	34.3	887.1	670.1	197.6	2.4	1.000236
9000.0	740.4	20.1	4.3	35.3	875.8	668.5	228.6	2.1	1.000232
9500.0	727.4	18.7	3.5	36.6	864.9	666.9	221.9	4.5	1.000228
10000.0	714.6	17.1	2.9	38.6	854.4	665.0	215.3	5.9	1.000224
10500.0	702.0	15.5	2.2	40.7	844.1	663.1	204.9	5.7	1.000221
11000.0	689.4	14.1	1.8	43.1	832.8	661.6	193.2	6.1	1.000218
11500.0	677.0	12.9	1.4	45.7	821.5	660.1	192.7	7.4	1.000214
12000.0	664.9	11.6	1.0	48.2	810.4	658.6	198.3	8.3	1.000211
12500.0	653.0	10.3	.6	50.8	799.5	657.1	209.4	6.6	1.000208
13000.0	641.1	8.8	.0	54.1	789.3	655.3	221.0	4.0	1.000205
13500.0	629.3	7.2	-.6	57.5	779.3	653.4	235.6	1.6	1.000202
14000.0	617.9	5.6	-1.3	60.9	769.5	651.5	267.0	.9	1.000198
14500.0	606.5	4.0	-8.6	39.2	760.9	649.2	280.0	2.6	1.000165
15000.0	595.1	2.7	-10.2	38.0	750.4	647.6	270.0	4.5	1.000161
15500.0	584.0	1.4	-10.6	40.3	739.7	646.1	263.2	6.7	1.000179
16000.0	573.1	.1	-11.0	42.6	729.2	644.6	265.8	6.9	1.000176
16500.0	562.4	-1.1	-11.5	44.8	718.9	643.1	262.4	7.6	1.000173
17000.0	551.7	-2.1	-9.2	58.4	707.6	642.1	254.1	8.5	1.000173
17500.0	541.3	-2.9	-10.8	54.0	696.3	641.1	240.6	9.5	1.000169
18000.0	531.0	-3.9	-11.7	54.5	685.7	639.8	235.5	9.8	1.000166
18500.0	520.8	-5.1	-11.9	59.1	675.7	638.3	230.5	9.8	1.000164
19000.0	510.8	-6.3	-12.7	60.5	665.7	636.9	222.6	9.4	1.000161
19500.0	501.0	-6.9	-16.9	44.6	654.8	636.0	211.9	9.4	1.000155
20000.0	491.3	-8.0	-24.3	24.4	645.1	634.6	200.7	9.8	1.000148
20500.0	481.8	-8.9	-29.3	18.8	634.7	633.5	192.6	10.1	1.000145
21000.0	472.4	-9.6	-29.1	18.5	624.1	632.6	186.5	10.5	1.000142
21500.0	463.2	-10.4	-30.0	18.1	613.7	631.7	182.5	10.9	1.000139
22000.0	454.0	-11.3	-30.8	18.2	603.9	630.5	186.1	11.2	1.000137
22500.0	445.0	-12.5	-31.6	18.4	594.5	629.1	192.2	11.7	1.000135
23000.0	436.2	-13.6	-32.4	18.7	585.3	627.7	203.0	13.2	1.000133

STATION ALTITUDE 3997.30 FEET MSL
21 JUNE 79 1345 HRS MST
ASCENSION NO. 199

UPPER AIR DATA
172006Z199
S M R

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	427.5	-14.8	-33.2	19.0	576.2	626.3	211.2	14.5	1.000130
24000.0	419.0	-15.9	-34.0	19.3	567.3	624.9	218.1	15.5	1.000128
24500.0	410.7	-17.1	-34.8	19.6	558.6	623.5	222.1	14.3	1.000126
25000.0	402.5	-18.2	-35.6	19.9	550.0	622.1	225.2	12.3	1.000124
25500.0	394.4	-19.6	-36.6	20.2	541.7	620.5	231.9	9.9	1.000122
26000.0	386.4	-21.0	-37.6	20.6	533.6	618.7	243.5	8.4	1.000120
26500.0	378.5	-22.4	-38.6	20.9	525.7	617.0	260.2	8.6	1.000118
27000.0	370.8	-23.5	-32.7	42.2	517.2	615.7	272.4	12.4	1.000118
27500.0	363.2	-23.5	-32.5	43.4	506.7	615.6	276.3	16.8	1.000115
28000.0	355.7	-23.9	-37.6	26.7	497.0	615.1	276.6	21.3	1.000112
28500.0	348.3	-24.8	-40.8	20.8	488.4	614.1	274.8	22.6	1.000110
29000.0	341.0	-25.9	-41.9	20.4	480.3	612.7	272.2	23.6	1.000108
29500.0	333.8	-27.0	-43.1	20.0	472.4	611.3	268.7	24.5	1.000106
30000.0	326.9	-28.1	-44.2	19.6	464.7	609.8	268.0	26.1	1.000104
30500.0	320.0	-29.3	-45.3	19.2	457.0	608.4	267.9	27.8	1.000102
31000.0	313.3	-30.4	-46.5	18.8	449.5	607.0	268.1	29.5	1.000101
31500.0	306.7	-31.5	-47.6	18.4	442.2	605.6	267.5	31.4	1.000099
32000.0	300.3	-32.6	-48.8	18.0	434.9	604.2	265.8	33.5	1.000097
32500.0	293.8	-33.9	-50.9	15.9**	427.8	602.8	265.0	35.4	1.000096
33000.0	287.4	-35.2	-53.2	13.7**	420.7	600.9	265.6	36.9	1.000094
33500.0	281.1	-36.5	-55.7	11.6**	413.8	599.3	266.1	38.0	1.000092
34000.0	275.0	-37.8	-58.4	9.4**	407.0	597.6	266.6	38.5	1.000091
34500.0	269.0	-39.1	-61.5	7.2**	400.3	596.0	265.7	38.8	1.000089
35000.0	263.1	-40.4	-65.1	5.0**	393.8	594.3	263.7	39.1	1.000088
35500.0	257.4	-41.7	-70.1	2.9**	387.4	592.7	261.9	39.1	1.000086
36000.0	251.7	-43.0	-80.1	.7**	381.0	591.0	260.1	39.3	1.000085
36500.0	246.1	-44.2			374.5	589.4	260.1	40.8	1.000083
37000.0	240.4	-45.4			367.9	587.9	260.4	42.3	1.000082
37500.0	234.9	-46.7			361.4	586.3	261.1	43.6	1.000080
38000.0	229.6	-47.9			355.0	584.7	264.0	42.6	1.000079
38500.0	224.3	-49.1			348.8	583.2	268.0	41.1	1.000078
39000.0	219.2	-50.3			342.6	581.6	273.4	40.4	1.000076
39500.0	214.2	-51.5			336.6	580.0	279.2	40.3	1.000075
40000.0	209.3	-52.7			330.7	578.4	281.1	41.5	1.000074
40500.0	204.5	-53.9			325.0	576.8	281.5	43.1	1.000072
41000.0	199.8	-55.2			319.3	575.2	281.0	44.4	1.000071
41500.0	195.0	-56.4			313.5	573.5	279.9	45.4	1.000070
42000.0	190.4	-57.7			307.9	571.8	279.0	46.2	1.000069
42500.0	185.9	-59.0			302.4	570.1	280.2	46.7	1.000067
43000.0	181.4	-60.3			297.0	568.4	280.1	47.0	1.000066

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

STATION ALTITUDE 5997.30 FEET MSL
21 JUNE 79 . 1345 HRS MST
ASCENSION NO. 199

UPPER AIR DATA
172006O199
S M R

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
43500.0	177.1	-61.5			291.5	566.8	279.3	47.1	1.000065
44000.0	172.8	-62.2			285.4	565.6	277.9	46.7	1.000064
44500.0	168.6	-62.9			279.4	564.9	275.5	45.5	1.000062
45000.0	164.5	-63.4			273.2	564.2	274.1	43.8	1.000061
45500.0	160.5	-63.6			266.9	563.9	274.7	41.2	1.000059
46000.0	156.6	-63.9			260.6	563.6	274.4	40.8	1.000058
46500.0	152.7	-64.1			254.6	563.2	272.7	44.3	1.000057
47000.0	149.9	-64.5			248.8	562.7	271.4	45.8	1.000055
47500.0	145.3	-65.2			243.4	561.8	270.4	41.4	1.000054
48000.0	141.7	-65.9			238.2	560.8	269.3	37.0	1.000053
48500.0	138.2	-66.7			233.1	559.8	269.6	29.7	1.000052
49000.0	134.8	-67.4			228.2	558.8	270.7	21.9	1.000051
49500.0	131.4	-68.1			223.3	557.8	269.0	17.3	1.000050
50000.0	128.2	-68.8			218.5	556.9	263.2	16.2	1.000049
50500.0	125.0	-69.6			213.9	555.9	256.1	15.3	1.000048
51000.0	121.8	-69.8			208.7	555.5	245.6	15.0	1.000046
51500.0	118.8	-70.0			203.7	555.2	235.0	15.2	1.000045
52000.0	115.8	-70.2			198.8	554.9	239.2	16.6	1.000044
52500.0	112.9	-70.5			194.0	554.6	244.5	18.3	1.000043
53000.0	110.0	-70.7			189.3	554.3	249.0	18.0	1.000042
53500.0	107.2	-70.9			184.7	554.0	254.4	15.7	1.000041
54000.0	104.5	-71.1			180.2	553.7	261.0	13.4	1.000040
54500.0	101.9	-71.3			175.9	553.4	258.0	9.3	1.000039
55000.0	99.3	-71.5			171.6	553.2	250.5	5.3	1.000038
55500.0	96.8	-71.4			167.2	553.3	236.9	2.6	1.000037
56000.0	94.4	-71.4			162.9	553.4	188.4	1.0	1.000036
56500.0	92.0	-71.3			158.8	553.4	109.8	1.6	1.000035
57000.0	89.7	-70.9			154.5	554.0	104.2	1.1	1.000034
57500.0	87.4	-70.0			150.0	555.2	89.1	.6	1.000033
58000.0	85.3	-69.2			145.6	556.4	226.7	.5	1.000032
58500.0	83.2	-68.3			141.4	557.6	237.5	1.8	1.000032
59000.0	81.1	-67.4			137.3	558.8	233.2	2.6	1.000031
59500.0	79.1	-66.5			133.4	560.0	181.9	1.9	1.000030
60000.0	77.2	-65.5			129.5	561.2	137.7	2.9	1.000029
60500.0	75.2	-64.7			125.8	562.4	121.2	4.7	1.000028
61000.0	73.4	-63.9			122.1	563.6	114.0	6.7	1.000027
61500.0	71.6	-63.0			118.6	564.8	111.1	8.0	1.000026
62000.0	69.8	-62.2			115.3	565.8	112.3	7.1	1.000026
62500.0	68.1	-62.1			112.4	565.9	113.7	6.3	1.000025
63000.0	66.5	-62.1			109.7	566.0	110.1	5.8	1.000024

STATION ALTITUDE 3997.30 FEET MSL
21 JUNE 79 . 1345 HRS MST
ASCENSION NO. 199

UPPER AIR DATA
1720960199
S M R

GEODETIC COORDINATES
32.48034 LAT DEG
106.42307 LON DEG

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES	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
63500.0	64.9	-62.0			107.0	566.2	103.5	5.6	1.000024
64000.0	63.5	-61.5			104.2	566.8	96.1	5.5	1.000023
64500.0	61.8	-61.0			101.5	567.5	94.6	6.9	1.000023
65000.0	60.3	-60.5			98.8	568.2	93.7	8.4	1.000022
65500.0	58.9	-60.0			96.2	568.8	91.8	10.3	1.000021
66000.0	57.5	-59.5			93.7	569.5	88.8	13.2	1.000021
66500.0	56.1	-59.0			91.2	570.1	86.8	16.1	1.000020
67000.0	54.8	-58.5			88.9	570.8	85.7	17.4	1.000020
67500.0	53.5	-58.0			86.5	571.5	84.8	17.3	1.000019
68000.0	52.2	-57.5			84.3	572.1	83.9	17.3	1.000019
68500.0	50.9	-57.0			82.1	572.8	83.5	17.0	1.000018
69000.0	49.7	-56.6			80.0	573.3	83.4	16.7	1.000018
69500.0	48.6	-56.5			78.1	573.4	83.3	16.4	1.000017
70000.0	47.4	-56.4			76.2	573.6	82.6	17.8	1.000017
70500.0	46.3	-56.3			74.4	573.7	81.9	19.4	1.000017
71000.0	45.2	-56.2			72.6	573.8	81.3	20.9	1.000016
71500.0	44.1	-56.1			70.9	573.9	80.8	21.9	1.000016
72000.0	43.1	-56.0			69.2	574.1	80.4	22.8	1.000015
72500.0	42.1	-55.9			67.5	574.2	80.0	23.6	1.000015
73000.0	41.1	-55.8			65.9	574.3	79.8	24.1	1.000015
73500.0	40.1	-55.7			64.3	574.4	79.7	24.6	1.000014
74000.0	39.2	-55.7			62.8	574.5	79.3	24.5	1.000014
74500.0	38.3	-55.6			61.3	574.7	78.7	23.8	1.000014
75000.0	37.4	-55.5			59.8	574.8	78.0	23.0	1.000013
75500.0	36.5	-55.4			58.4	574.9	78.1	24.2	1.000013
76000.0	35.6	-55.2			57.0	575.1	78.4	26.1	1.000013
76500.0	34.8	-54.7			55.5	575.9	78.6	27.9	1.000012
77000.0	34.0	-54.1			54.1	576.6	82.1	29.0	1.000012
77500.0	33.2	-53.6			52.7	577.3	85.6	30.2	1.000012
78000.0	32.5	-53.0			51.4	578.0	88.9	31.4	1.000011
78500.0	31.7	-52.5			50.0	578.7	92.1	30.6	1.000011
79000.0	31.0	-51.9			48.8	579.4	95.5	29.9	1.000011
79500.0	30.2	-51.4			47.5	580.1	98.8	29.3	1.000011
80000.0	29.5	-50.7			46.3	581.1	97.4	29.7	1.000010
80500.0	28.9	-49.9			45.0	582.1	95.1	30.2	1.000010
81000.0	28.2	-49.1			43.9	583.2	94.8	30.6	1.000010
81500.0	27.6	-48.7			42.8	583.6	93.4	31.6	1.000010
82000.0	26.9	-48.6			41.8	583.8	96.1	32.7	1.000009
82500.0	26.3	-48.5			40.8	583.9	98.7	33.7	1.000009
83000.0	25.7	-48.4			39.9	584.1	98.5	34.3	1.000009

STATION ALTITUDE 5997.30 FEET MSL
21 JUNE 79 1345 HRS MST
ASCENSION NO: 199

UPPER AIR DATA
172060199
S M R

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
63500.0	25.2	-48.2			39.0	584.3	100.4	34.9	1.000009
64000.0	24.6	-48.1			38.1	584.4	102.2	35.4	1.000008
64500.0	24.0	-48.0			37.2	584.6	104.1	34.9	1.000008
65000.0	23.5	-47.5			36.3	584.7	105.1	34.0	1.000008
65500.0	23.0	-47.7			35.5	584.9	105.2	33.2	1.000008
66000.0	22.4	-47.6			34.7	585.1	108.4	31.4	1.000008
66500.0	21.9	-47.5			33.9	585.2	107.5	29.3	1.000008
67000.0	21.4	-47.4			33.1	585.4	106.5	27.1	1.000007
67500.0	20.9	-47.2			32.3	585.5	102.2	25.3	1.000007
68000.0	20.5	-47.1			31.6	585.7	94.9	24.2	1.000007
68500.0	20.0	-47.0			30.8	585.9	87.1	23.5	1.000007
69000.0	19.6	-46.7			30.1	586.2	80.2	23.0	1.000007
69500.0	19.1	-45.5			29.4	586.5	75.6	22.4	1.000007
70000.0	18.7	-46.2			28.7	586.9	70.7	21.9	1.000006
70500.0	18.3	-46.0			28.0	587.2	65.6	21.5	1.000006
71000.0	17.9	-45.7			27.4	587.5	63.1	21.8	1.000006
71500.0	17.5	-45.4			26.7	587.9	61.3	22.3	1.000006
72000.0	17.1	-45.2			26.1	588.2	59.0	22.8	1.000006
72500.0	16.7	-44.9			25.5	588.5			1.000006
73000.0	16.3	-44.7			24.9	588.9			1.000006
73500.0	16.0	-44.4			24.3	589.2			1.000005
74000.0	15.6	-44.2			23.7	589.5			1.000005
74500.0	15.3	-43.9			23.2	589.9			1.000005

MRN SIGNIFICANT LEVEL DATA

STATION ALTITUDE 3997.30 FEET MSL
21 JUNE 79 1345 HRS MST
ASCENSION NO. 199

1720060195
S M R

GEODETIC COORDINATES
32.48034 LAT DEG
106.42307 LON DEG

GEOPOTENTIAL ALTITUDE DECAMETERS	WIND DATA DIRECTION DEG (TN)	SPEED MPS	N-S MPS	E-W MPS	DEW PT DEP DEG C	TEMPERATURE AIR DEG C	PRESSURE MILLIBARS
2077.	9999.**	9999.**	-9999.**	-9999.**	99	-43.7	1.500+1
2085.	87.	12.	-1.	-12.	99	-47.0	2.000+1
2465.	95.	16.	1.	-16.	99	-48.8	2.800+1
2418.	98.	15.	2.	-15.	99	-51.2	3.000+1
2304.	78.	13.	-3.	-13.	99	-55.3	3.580+1
2092.	83.	9.	-1.	-9.	99	-56.6	5.000+1
1927.	104.	3.	1.	-3.	99	-62.0	6.500+1
1861.	112.	4.	1.	-3.	99	-62.2	7.000+1
1725.	107.	1.	0.	-1.	99	-71.3	9.060+1
1667.	253.	3.	1.	3.	99	-71.5	1.000+2

** WIND DATA NOT COMPUTED DUE TO MISSING RAW AZIMUTH AND ELEVATION ANGLES.

STATION ALTITUDE 5997.30 FEET MSL
21 JUNE 79 1345 HRS MST
ASCENSION NO. 199

MANDATORY LEVELS
1720060199
S M R

GEODETIC COORDINATES
32.48034 LAT DEG
106.42307 LON DEG

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	5009.	31.3	10.6	28.	160.3	12.0
800.0	6779.	26.5	8.4	32.	177.9	9.2
750.0	8628.	21.1	4.9	35.	207.1	1.8
700.0	10560.	15.2	2.1	41.	202.3	5.7
650.0	12611.	10.0	.4	52.	212.2	0.1
600.0	14769.	3.2	-10.0	37.	276.1	3.6
550.0	17060.	-2.2	-9.4	58.	251.9	0.6
500.0	19523.	-7.0	-17.4	43.	210.9	9.4
450.0	22195.	-11.8	-31.1	18.	188.3	11.3
400.0	25115.	-18.6	-35.9	20.	227.6	11.6
350.0	28335.	-24.5	-40.5	21.	275.3	22.3
300.0	31959.	-32.7	-48.6	18.	265.8	33.5
250.0	36078.	-43.4			260.1	39.7
200.0	40879.	-55.1			281.1	44.3
175.0	43632.	-61.9			278.9	47.1
150.0	46739.	-64.3			271.7	40.8
125.0	50352.	-69.6			256.7	15.3
100.0	54697.	-71.5			253.9	6.6
80.0	59051.	-66.9			215.5	2.1
70.0	61727.	-62.2			112.0	7.3
60.0	64861.	-60.4			93.6	8.6
50.0	68622.	-56.6			83.5	16.8
40.0	73275.	-55.7			79.7	24.7
30.0	79330.	-51.2			98.4	29.4
25.0	83256.	-48.2			100.7	35.0
20.0	88093.	-47.0			87.6	23.5
15.0	94391.	-43.7				

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

MRN MANDATORY LEVELS
1720060199
S M R

STATION ALTITUDE 3997.30 FEET MSL
21 JUNE 79 1345 HRS MST
ASCENSION NO. 199

GEODETIC COORDINATES
32.48034 LAT DEG
106.42307 LON DEG

GEOPOTENTIAL ALTITUDE DECAMETERS	WIND DATA DIRECTION DEG (TN)	SPEED MPS	N-S MPS	E-W MPS	DEW PT DEP DEG C	TEMPERATURE AIR DEG C	PRESSURE MILLIBARS
2877.	9999.**	9999.**	-9999.**	-9999.**	99	-43.7	1.500+1
2685.	68.	12.	-1.	-12.	99	-47.0	2.000+1
2538.	101.	18.	3.	-18.	99	-48.2	2.500+1
2416.	98.	15.	2.	-15.	99	-51.2	3.000+1
2233.	80.	13.	-2.	-12.	99	-55.7	4.000+1
2092.	83.	9.	-1.	-9.	99	-56.6	5.000+1
1977.	94.	4.	0.	-4.	99	-60.4	6.000+1
1881.	112.	4.	1.	-3.	99	-62.2	7.000+1
1800.	215.	1.	1.	1.	99	-66.9	8.000+1
1067.	254.	3.	1.	3.	99	-71.5	1.000+2
1535.	257.	8.	2.	8.	99	-69.6	1.250+2
1425.	272.	24.	-1.	24.	99	-64.3	1.500+2
1330.	279.	24.	-4.	24.	99	-61.9	1.750+2
1246.	281.	23.	-4.	22.	99	-55.1	2.000+2
1100.	260.	20.	4.	20.	99	-43.4	2.500+2
974.	266.	17.	1.	17.	16	-32.7	3.000+2
864.	275.	11.	-1.	11.	16	-24.5	3.500+2
766.	228.	6.	4.	4.	17	-18.6	4.000+2
676.	188.	6.	6.	1.	19	-11.8	4.500+2
595.	211.	5.	4.	2.	10	-7.0	5.000+2
520.	252.	4.	1.	4.	07	-2.2	5.500+2
450.	276.	2.	0.	2.	13	3.2	6.000+2
384.	212.	3.	3.	2.	10	10.0	6.500+2
322.	203.	3.	3.	1.	13	15.2	7.000+2
263.	207.	1.	1.	0.	16	21.1	7.500+2
207.	178.	5.	5.	-0.	18	26.5	8.000+2
153.	160.	6.	6.	-2.	21	31.3	8.500+2

** WIND DATA NOT COMPUTED DUE TO MISSING RAW AZIMUTH AND ELEVATION ANGLES.