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19305A 6SRS MISSILE NUMBER 1044 ROUND NUMBER V-34.(U)
MAY 79

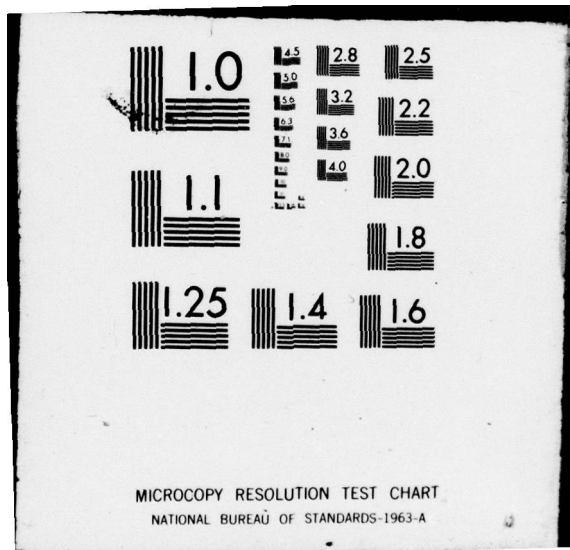
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SECURITY CLASSIFICATION OF THIS PAGE (When Data Entered)

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3. RECIPIENT'S CATALOG NUMBER

4. TITLE (and Subtitle)

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Missile No. 1044
Round No. V-34

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data rept.

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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 19305A GSRS, Missile No. 1044, Round No. V-34, are presented in tabular form.

410 663

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INTRODUCTION

19305A GSRS _____, Missile Number 1044, Round Number V-34, was launched from LC-33, White Sands Missile Range (WSMR), New Mexico, at 1200 MDT, 31 May 1979. The scheduled launch time was 1200 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 ($^{\circ}\text{C}$), relative humidity, dew point ($^{\circ}\text{C}$), 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:

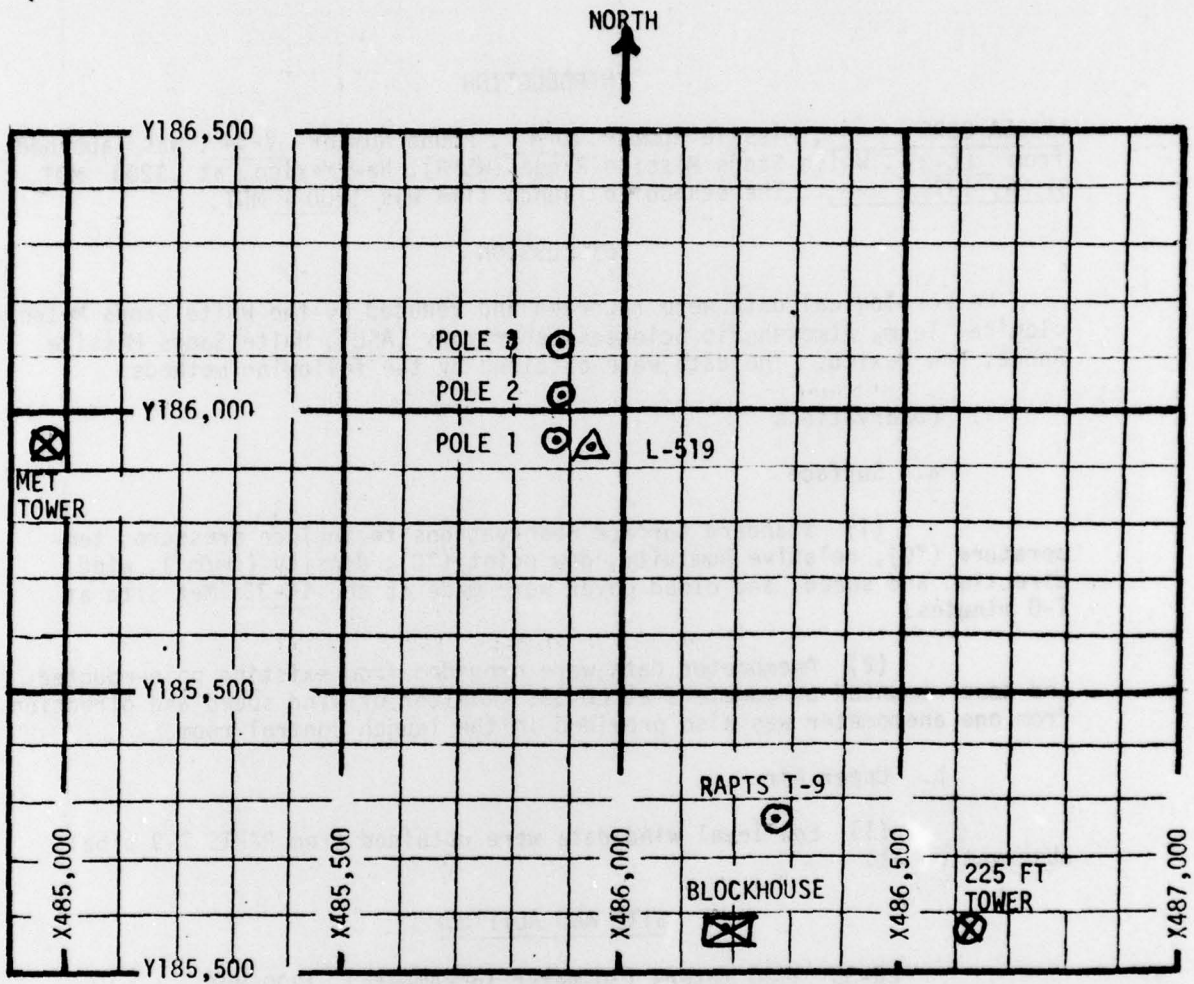
SITE AND ALTITUDE

LC-33 1020 meters (30-meter increments) 1200 MDT

(2) Air structure data (rawinsonde) were collected at the following Met Sites. Data were collected from surface to 62,500 feet in 500-foot increments.

SITE AND TIME

SMR 1125 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 OBSERVATIONS TAKEN AT 1200 MDT,
 31 MAY 1979 AT LC-33, 19305A GSRS,
 MISSILE NO. 1044, ROUND NO. V-34

ELEVATION	3977.30	FT/MSL
PRESSURE	878.4	MBS
TEMPERATURE	29.8	°C
RELATIVE HUMIDITY	31	%
DEW POINT	10.7	°C
DENSITY	1003	GM/M ³
WIND SPEED	Calm	MPH
WIND DIRECTION	Calm	DEGREES
CLOUD COVER	1	Cu
CLOUD COVER	1	Cb

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

HEIGHT METERS AGL	DIRECTION DEGREES	SPEED MPH
SFC	Calm	Calm
30	Calm	Calm
60	Calm	Calm
90	Calm	Calm
120	Calm	Calm
150	068	.5
180	090	.5
210	083	3.0
240	075	5.0
270	050	3.5
300	024	2.0
330	018	2.5
360	011	3.0

HEIGHT METERS AGL	DIRECTION DEGREES	SPEED MPH
390	030	4/0
420	048	4.5
450	048	6.0
480	048	7.0
510	043	8.0
540	037	8.5
570	051	8.5
600	064	8.0
630	050	8.0
660	036	7.5
690	033	7.0
720	029	6.0
750	028	7.5

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

Released from LC-33 on 31 May 1979 at 1200 LST.

Type 19305A GSRS, Missile No. 1044, Round No. V-34 launched from LC-33 on 31 May 1979 at 1200 LST.

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

HEIGHT METERS AGL	DIRECTION DEGREES	SPEED MPH
780	027	8.5
810	023	8.0
840	019	7.5
870	025	5.5
900	031	3.5
930	054	2.0
960	076	.5
990	124	1.5
1020	172	2.0
1050		
1080		
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		

GEODETIC COORDINATES
 32.48034 LAT DEG
 106.42307 LON DEG

SIGNIFICANT LEVEL DATA
 1510660161
 S M R

STATION ALTITUDE 3997.30 FEET MSL
 31 MAY 79
 OBSERVATION NO. 101

GEOMETRIC ALTITUDE MILLIBARS MSL FEET	TEMPERATURE AIR DEWPOINT DEGREES CENTIGRADE	REL. HUM. PERCENT
376.9	29.7	29.0
664.3	25.6	28.0
850.0	24.6	27.0
810.3	20.6	24.0
777.6	18.0	24.0
700.0	9.8	39.0
590.3	-2.9	63.0
522.8	-9.3	15.0
500.0	-11.8	15.0
468.3	-14.8	22.0
409.6	-22.4	23.0
400.0	-23.3	20.0
374.8	-26.8	16.0
317.6	-36.7	25.0
300.0	-40.7	
282.8	-43.9	
250.0	-49.1	
233.8	-51.5	
200.0	-54.7	
191.3	-55.3	
187.3	-54.6	
161.8	-55.0	
150.0	-58.4	
128.3	-60.4	
104.8	-68.2	
100.0	-67.5	
91.8	-66.9	
88.8	-64.7	
76.3	-66.9	
70.0	-65.9	
65.2	-61.5	

STATION ALTITUDE 3997.30 FEET MSL
 31 MAY 79 1125 HRS MST
 ASCENSION NO. 101

UPPER AIR DATA
 1910060101
 S M R

GEODETIC COORDINATES
 32.48034 LAT DEG
 106.42307 LON DEG

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREE CENTIGRADE	REL-HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED SOUND KNOTS	WIND DIRECTION DEGREES (T)	WIND SPEED KNOTS	INDEX OF REFRACTION
3997.3	876.9	29.7	29.0	1003.4	679.7	0	0	1.000274
4000.0	876.8	29.7	29.0	1003.4	679.7	27.9	0	1.000274
4500.0	861.8	25.8	27.8	1001.6	674.5	27.9	1.2	1.000262
5000.0	847.0	24.3	29.0	988.1	673.2	27.9	2.4	1.000258
5500.0	832.5	22.8	38.9	974.8	671.9	27.9	3.6	1.000264
6000.0	817.9	21.4	43.7	961.8	670.5	27.2	3.6	1.000269
6500.0	803.5	20.1	47.9	949.7	668.9	24.8	2.3	1.000261
7000.0	789.5	19.0	35.0	938.1	667.1	24.9	1.2	1.000243
7500.0	775.6	17.8	24.4	926.5	665.3	103.6	3	1.000229
8000.0	761.8	16.4	27.0	914.3	663.7	145.6	2.0	1.000226
8500.0	748.1	15.0	29.5	902.2	662.1	143.7	4.1	1.000224
9000.0	734.7	13.6	32.4	890.4	660.5	140.3	6.6	1.000221
9500.0	721.6	12.2	34.7	878.8	658.9	143.3	7.8	1.000219
10000.0	708.7	10.8	37.2	867.3	657.3	151.3	8.7	1.000216
10500.0	695.8	9.4	39.8	855.9	655.0	159.6	8.7	1.000213
11000.0	682.9	8.0	42.5	844.2	654.0	160.8	8.8	1.000210
11500.0	670.5	6.6	45.1	832.7	652.4	167.7	8.6	1.000207
12000.0	657.8	5.2	47.8	821.4	650.7	168.8	8.7	1.000204
12500.0	645.6	3.8	50.4	810.2	649.1	170.3	9.5	1.000200
13000.0	633.6	2.4	53.0	799.3	647.4	178.7	10.6	1.000197
13500.0	621.9	1.0	55.7	788.5	645.7	190.7	12.4	1.000194
14000.0	610.5	-0.4	58.3	777.9	644.1	200.8	15.1	1.000191
14500.0	599.0	-1.8	60.9	767.4	642.4	208.0	18.4	1.000188
15000.0	587.8	-3.1	61.3	756.9	640.8	212.8	21.4	1.000184
15500.0	576.5	-4.1	53.6	745.4	639.5	210.3	24.3	1.000179
16000.0	565.4	-5.2	46.0	734.1	638.1	219.5	26.4	1.000174
16500.0	554.5	-6.2	38.3	722.9	636.8	212.4	28.3	1.000169
17000.0	543.8	-7.2	30.6	711.9	635.5	224.3	28.9	1.000164
17500.0	533.4	-8.2	22.9	701.1	634.2	220.6	29.4	1.000160
18000.0	523.1	-9.3	15.2	690.4	633.0	230.6	30.4	1.000156
18500.0	512.9	-10.4	15.0	679.7	631.8	234.3	31.5	1.000154
19000.0	502.9	-11.5	15.0	669.3	630.3	230.5	31.8	1.000151
19500.0	492.9	-12.5	16.5	658.5	629.1	238.9	31.2	1.000149
20000.0	483.2	-13.4	18.7	647.8	628.0	239.9	26.5	1.000147
20500.0	473.6	-14.3	20.8	637.2	626.9	240.1	22.9	1.000144
21000.0	464.2	-15.3	22.1	626.9	625.7	230.9	21.3	1.000142
21500.0	454.8	-16.5	22.2	617.1	624.5	231.4	21.7	1.000140
22000.0	445.7	-17.6	22.4	607.4	623.8	225.1	23.8	1.000137
22500.0	436.7	-18.8	22.5	597.9	623.4	220.8	24.7	1.000135
23000.0	427.9	-19.9	22.7	588.5	620.0	210.5	25.5	1.000133

UPPER AIR DATA
 1510060161
 S M R

STATION ALTITUDE 3997.30 FEET MSL
 31 MAY 79
 ASCENSION NO. 161

GEODETIC COORDINATES
 32.48034 LAT DEG
 106.42307 LON DEG

GEOMETRIC ALTITUDE MS. FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREE CENTIGRADE	REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DATA DIRECTION DEGREES(TN)	SPEED KNOTS	INDEX OF REFRACTION
2350.0	419.2	-21.1	22.8	579.3	616.6	216.1	26.3	1.000131
2400.0	418.8	-22.3	23.0	570.3	617.1	216.4	27.1	1.000128
2450.0	402.4	-23.1	20.7	560.4	616.1	219.0	27.1	1.000126
2500.0	394.1	-24.1	19.1	551.1	614.8	224.3	27.0	1.000124
2550.0	385.9	-25.2	17.8	542.2	613.5	227.1	27.2	1.000122
2600.0	377.9	-26.4	16.5	533.4	612.1	229.1	27.5	1.000120
2650.0	370.0	-27.6	16.7	524.8	610.5	229.1	27.1	1.000118
2700.0	362.1	-28.9	17.9	516.3	608.9	229.8	26.9	1.000116
2750.0	354.4	-30.2	19.1	508.1	607.3	231.5	26.9	1.000114
2800.0	346.9	-31.4	20.2	499.9	605.7	231.8	27.7	1.000112
2850.0	339.5	-32.7	21.4	491.9	604.1	231.2	29.2	1.000110
2900.0	332.5	-34.0	22.6	484.1	602.5	229.6	29.9	1.000108
2950.0	325.2	-35.3	23.7	476.3	600.8	227.9	30.1	1.000107
3000.0	318.5	-36.6	24.9	468.8	599.2	226.5	29.4	1.000105
3050.0	311.4	-38.1	16.1**	461.5	597.3	225.9	28.3	1.000103
3100.0	304.6	-39.7	6.5**	454.4	595.3	225.2	27.5	1.000101
3150.0	297.9	-41.1		447.1	593.3	224.0	26.9	1.000100
3200.0	291.5	-42.3		439.5	591.9	223.8	26.9	1.000098
3250.0	284.8	-43.5		432.0	590.3	223.0	27.3	1.000096
3300.0	278.4	-44.6		424.3	589.0	223.4	28.1	1.000094
3350.0	272.1	-45.5		416.4	587.8	223.2	29.5	1.000093
3400.0	265.9	-46.5		408.7	586.5	227.0	31.2	1.000091
3450.0	259.9	-47.5		401.2	585.3	231.4	34.1	1.000089
3500.0	254.0	-48.4		393.8	584.0	234.7	37.2	1.000088
3550.0	248.3	-49.3		386.5	582.8	239.7	37.7	1.000086
3600.0	242.6	-50.2		379.0	581.7	239.0	38.2	1.000084
3650.0	237.0	-51.0		371.7	580.0	239.9	37.4	1.000083
3700.0	231.5	-51.7		364.2	579.7	239.9	36.1	1.000081
3750.0	226.1	-52.2		356.5	579.1	237.4	35.2	1.000079
3800.0	220.9	-52.7		349.0	578.5	238.0	35.0	1.000078
3850.0	215.7	-53.1		341.6	577.8	240.1	34.9	1.000076
3900.0	210.7	-53.6		334.4	577.2	240.8	35.5	1.000074
3950.0	205.8	-54.1		327.3	576.0	241.5	36.0	1.000073
4000.0	201.0	-54.6		320.4	575.9	242.2	36.1	1.000071
4050.0	196.3	-55.0		313.4	575.5	242.9	35.9	1.000070
4100.0	191.7	-55.3		306.5	575.0	243.6	35.4	1.000068
4150.0	187.2	-54.6		299.4	575.9	244.7	34.0	1.000066
4200.0	182.8	-54.9		292.1	575.3	245.0	32.7	1.000065
4250.0	178.5	-55.1		285.1	575.3	240.5	32.0	1.000064
4300.0	174.3	-55.3		278.7	575.0	247.1	31.6	1.000062

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

STATION ALTITUDE 3997.30 FEET MSL
 31 MAY 79
 ASCENSION NO. 161

UPPER AIR DATA
 1510060161
 S M R

GEODETTIC COORDINATES
 32.48034 LAT DEG
 106.42307 LON DEG

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES CENTIGRADE	REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DATA		INDEX OF REFRACTION
						DIRECTION DEGREES (TN)	SPEED KNOTS	
43500.0	170.2	-55.5		272.5	574.7	247.9	30.8	1.000061
44000.0	169.2	-55.7		266.3	574.4	249.2	29.5	1.000059
44500.0	162.3	-56.0		260.4	574.1	250.7	28.1	1.000058
45000.0	158.5	-56.7		255.0	573.2	251.1	27.8	1.000057
45500.0	154.7	-57.4		249.8	572.2	251.3	27.8	1.000056
46000.0	151.1	-58.2		244.8	571.2	251.0	28.5	1.000055
46500.0	147.4	-58.6		239.4	570.6	250.1	30.5	1.000053
47000.0	143.9	-58.9		234.0	570.2	249.3	32.4	1.000052
47500.0	140.5	-59.2		228.8	569.8	248.1	33.8	1.000051
48000.0	137.1	-59.5		223.6	569.4	247.0	35.1	1.000050
48500.0	133.8	-59.9		218.6	569.0	246.7	35.7	1.000049
49000.0	130.6	-60.2		213.7	568.5	247.3	35.6	1.000048
49500.0	127.5	-60.6		209.0	567.9	247.8	35.4	1.000047
50000.0	124.4	-61.6		204.2	568.0	246.9	35.4	1.000046
50500.0	121.3	-62.6		200.7	565.4	250.0	35.3	1.000045
51000.0	118.4	-63.5		197.7	564.1	250.2	35.2	1.000044
51500.0	115.5	-64.5		192.7	562.8	249.0	34.9	1.000043
52000.0	112.6	-65.4		188.9	561.5	247.6	34.7	1.000042
52500.0	109.9	-66.4		185.1	560.2	247.1	33.9	1.000041
53000.0	107.2	-67.3		181.4	558.9	246.7	32.9	1.000040
53500.0	104.6	-68.2		177.7	557.6	246.0	31.9	1.000040
54000.0	102.0	-67.8		173.0	556.3	243.1	31.1	1.000039
54500.0	99.4	-67.5		168.4	556.7	240.0	30.4	1.000038
55000.0	97.0	-67.0		164.1	559.0	237.2	29.3	1.000037
55500.0	94.6	-67.1		159.9	559.2	234.4	27.5	1.000036
56000.0	92.2	-66.9		155.8	559.0	231.3	25.9	1.000035
56500.0	89.9	-66.5		150.9	561.3	231.3	24.6	1.000034
57000.0	87.7	-66.9		146.7	562.2	232.1	23.3	1.000033
57500.0	85.6	-66.4		143.4	561.6	232.9	22.3	1.000032
58000.0	83.4	-65.8		140.2	561.0	232.9	22.1	1.000031
58500.0	81.4	-66.2		137.0	560.4	232.9	21.9	1.000031
59000.0	79.4	-66.7		133.9	559.8	232.9	22.1	1.000030
59500.0	77.4	-66.6		130.7	559.6	232.9	22.7	1.000029
60000.0	75.5	-66.6		127.4	559.9	232.9	23.4	1.000028
60500.0	73.7	-66.8		124.1	560.2			1.000028
61000.0	71.8	-66.1		120.9	560.5			1.000027
61500.0	70.1	-65.9		117.8	560.6			1.000026
62000.0	68.4	-66.4		114.1	562.8			1.000025
62500.0	66.7	-62.9		110.5	564.9			1.000025

THIS REPORT IS BEST QUALITY PRACTICABLE
 INFORMATION FURNISHED TO DDC

STATION ALTITUDE 5997.30 FEET MSL
 31 MAY 79
 ASCENSION NO. 101

MRN SIGNIFICANT LEVEL DATA
 1510060161
 S M R

GEODETIC COORDINATES
 32.48034 LAT DEG
 106.42307 LON DEG

GEOPOTENTIAL ALTITUDE METERS	DIRECTION DEG (TN)	WIND DATA		DEW PT DEP DEG C	TEMPERATURE		PRESSURE MILLIBARS
		SPEED MPS	N-S MPS		AIR DEG C		
1912.	9999.**	9999.**	-9999.**	99	-61.5	6.520+1	
1869.	9999.**	9999.**	-9999.**	99	-65.9	7.000+1	
1801.	233.	12.	7.	99	-66.9	7.830+1	
1724.	232.	12.	8.	99	-64.7	8.880+1	
1704.	231.	13.	8.	99	-66.9	9.180+1	
1693.	241.	16.	8.	99	-67.5	1.000+2	

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

STATION ALTITUDE 9997.30 FEET MSL
 31 MAY 79
 1125 HRS MST
 ASCENSION NO. 101

MANDATORY LEVELS
 1010060161
 5 M R

GEODETIC COORDINATES
 32.48034 LAT DEG
 106.42307 LON DEG

PRESSURE MILLIBARS	GEOPOTENTIAL FEET	TEMPERATURE AIR DEGREES DEPT POINT CENTIGRADE	REL. HUM. PERCENT	WIND DATA	
				DIRECTION DEGREES(TN)	SPEED KNOTS
850.0	4395.	24.6	27.	27.9	2.2
800.0	6524.	19.8	45.	24.3	2.0
750.0	8432.	15.2	29.	144.5	3.8
700.0	10331.	9.8	39.	156.8	6.7
650.0	12331.	4.3	49.	169.9	9.2
600.0	14447.	-1.7	61.	207.5	18.1
550.0	16698.	-6.6	35.	223.5	28.6
500.0	19117.	-11.8	15.	237.1	31.6
450.0	21739.	-17.1	24.	228.0	22.7
400.0	24601.	-23.3	20.	220.8	27.1
350.0	27760.	-30.9	20.	232.1	27.1
300.0	31279.	-40.7	20.	224.8	27.1
250.0	35274.	-49.1	20.	235.4	37.5
200.0	40010.	-54.7	20.	242.3	30.1
175.0	42810.	-55.2	20.	247.0	31.7
150.0	46021.	-58.4	20.	250.8	29.0
125.0	49753.	-61.4	20.	248.6	30.4
100.0	54217.	-67.5	20.	240.9	30.6
80.0	58653.	-66.5	20.	232.9	21.8
70.0	61300.	-65.9	20.		

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

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STATION ALTITUDE 3997.30 FEET MSL
 31 MAY 79 1125 HRS NST
 ASCENSION NO. 101

MRN MANDATORY LEVELS
 1510060161
 S M R

GEODETIC COORDINATES
 32.48034 LAT DEG
 106.42307 LON DEG

GEOPOTENTIAL ALTITUDE METERS	DIRECTION DEG (TN)	SPEED MPS	WIND DATA		E-W MPS	DEW PT DEP DEG C	TEMPERATURE		PRESSURE MILLIBARS
			N-S MPS	9999.**			AIR DEG C		
169.	9999.**	9999.**	-9999.**	-9999.**	99	99	-65.9	7.000+1	
1780.	233.	11.	7.	9.	99	99	-66.5	8.000+1	
1653.	241.	16.	8.	14.	99	99	-67.5	1.000+2	
1517.	249.	18.	7.	17.	99	99	-61.4	1.250+2	
1403.	251.	15.	5.	14.	99	99	-58.4	1.500+2	
1503.	247.	16.	6.	15.	99	99	-55.2	1.750+2	
1220.	242.	19.	9.	16.	99	99	-54.7	2.000+2	
1075.	235.	19.	11.	16.	99	99	-49.1	2.500+2	
953.	225.	14.	10.	16.	99	99	-40.7	3.000+2	
840.	232.	14.	9.	11.	16	16	-30.9	3.500+2	
750.	221.	14.	11.	9.	17	17	-23.3	4.000+2	
603.	228.	12.	8.	9.	16	16	-17.1	4.500+2	
583.	237.	10.	9.	14.	21	21	-11.8	5.000+2	
509.	223.	15.	11.	10.	13	13	-6.6	5.500+2	
440.	207.	9.	8.	4.	07	07	-1.7	6.000+2	
370.	170.	5.	5.	-1.	10	10	4.3	6.500+2	
315.	157.	4.	4.	-2.	13	13	9.8	7.000+2	
257.	144.	2.	2.	-1.	18	18	15.2	7.500+2	
202.	24.	1.	-1.	-0.	12	12	19.8	8.000+2	
149.	28.	1.	-1.	-1.	20	20	24.6	8.500+2	

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