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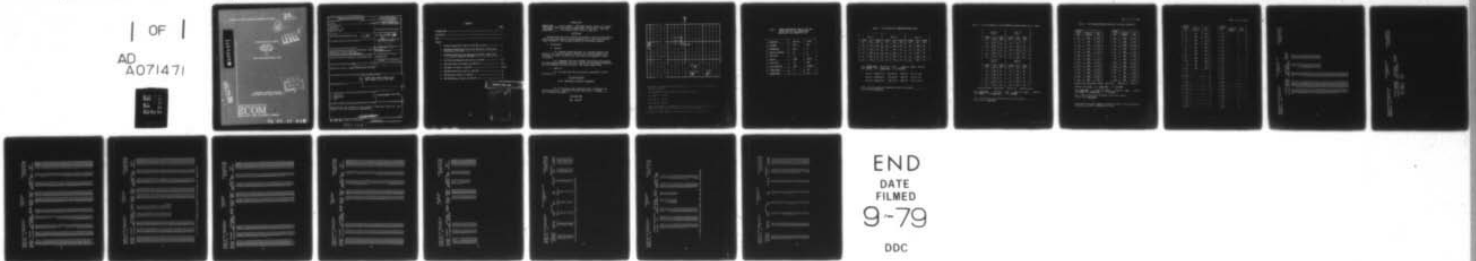
ARMY ELECTRONICS RESEARCH AND DEVELOPMENT COMMAND WS--ETC F/G 4/2  
19304 GSRS, MISSILE NUMBER 1137, ROUND NUMBER V-29, 16 MAY 1979--ETC(U)  
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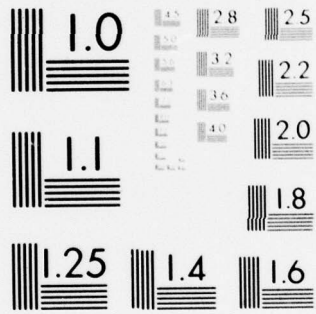
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METEOROLOGICAL DATA REPORT

19304 GSRS  
Missile No. 1137  
Round No. V-29  
16 May 1979

by

White Sands Meteorological Team

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FORM 112  
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ATMOSPHERIC SCIENCES LABORATORY  
WHITE SANDS MISSILE RANGE, NEW MEXICO

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UNITED STATES ARMY ELECTRONICS COMMAND

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REPORT DOCUMENTATION PAGE		READ INSTRUCTIONS BEFORE COMPLETING FORM
1. REPORT NUMBER DR 1015	2. GOVT ACCESSION NO. (11) <del>DR 1015</del>	3. RECIPIENT'S CATALOG NUMBER
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18. SUPPLEMENTARY NOTES		
19. KEY WORDS (Continue on reverse side if necessary and identify by block number) 1. Ballistics 2. Meteorology 3. Wind (9) Meteorological data rept.		
20. ABSTRACT (Continue on reverse side if necessary and identify by block number) Meteorological data gathered for the launching of 19304 GSRS, Missile No. 1137, Round No. V-29, are presented in tabular form. <del>400 877</del>		

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## INTRODUCTION

19304DT GSRS \_\_\_\_\_, Missile Number 1137, Round Number V-29, was launched from LC-33, White Sands Missile Range (WSMR), New Mexico, at 1713 MDT, 16 May 1979. The scheduled launch time was 1715 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 ( $\text{gm}/\text{m}^3$ ), 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 RPTS T-9 pibal observation at:

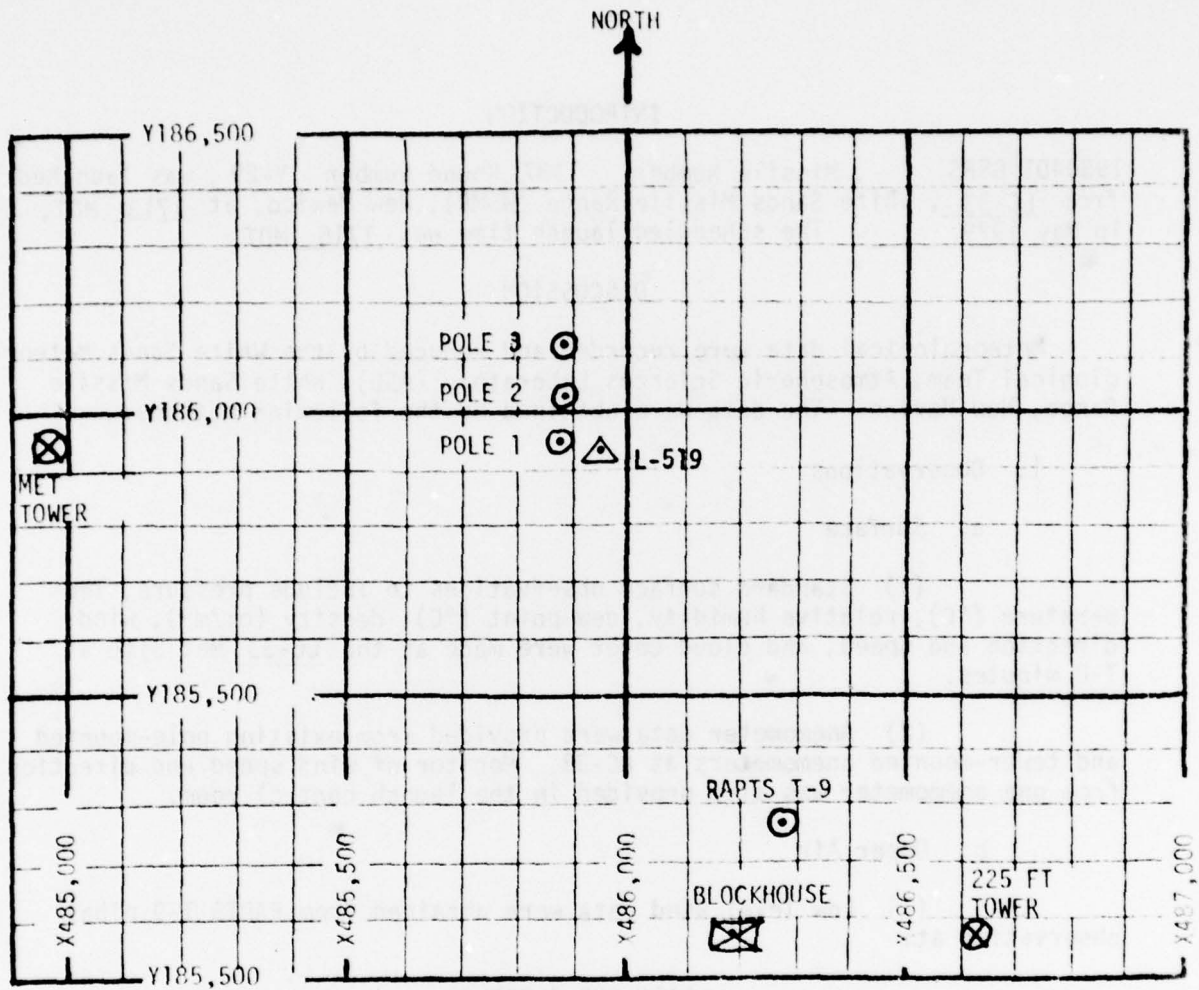
## SITE AND ALTITUDE

LC-33 1080 meters (30-meter increments)

(2) Air structure data (rawinsonde) were collected at the following Met Sites. Data were collected from surface to 91,500 feet in 500-foot increments.

## SITE AND TIME

SMR 1530 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, 138 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 1707 MDT,  
 16 MAY 1979 AT LC-33, 19304DT GSRS,  
 MISSILE NO. 1137, ROUND NO. V-29.

ELEVATION	3977.30	FT/MSL
PRESSURE	876.3	MBS
TEMPERATURE	28.2	°C
RELATIVE HUMIDITY	27	%
DEW POINT	7.2	°C
DENSITY	1008	GM/M <sup>3</sup>
WIND SPEED	20	MPH
WIND DIRECTION	220	DEGREES
CLOUD COVER	7	Ns
CLOUD COVER	3	Cu



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	177	08	-30	158	08	-30	180	05
-20	173	12	-20	153	10	-20	173	07
-10	166	11	-10	158	11	-10	152	07
0.0	165	13	0.0	156	13	0.0	172	12
+10	170	13	+10	135	13	+10	153	13

Type 19304DT GSRS, Missile No. 1137, Round No. V-29 launched  
from LC-33 on 16 May 1979 at 1713 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	167	12	-30	161	17
-20	169	17	-20	174	16
-10	172	13	-10	173	13
0.0	169	11	0.0	179	11
+10	172	09	+10	178	14
LEVEL #3 102 ft.			LEVEL #4 202 ft.		
T-TIME SEC	DIR DEG	SPEED MPH	T-TIME SEC	DIR DEG	SPEED MPH
-30	180	15	-30	175	16
-20	160	10	-20	175	17
-10	157	13	-10	168	19
0.0	165	12	0.0	163	19
+10	156	13	+10	167	19

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

Type 19304 GSRS, Missile No. 1137, Round No. Y-29 launched  
from LC-33 on 16 May 1979 at 1713 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	220	20.0
30	216	16.5
60	211	13.0
90	207	9.5
120	202	5.5
150	202	7.0
180	202	8.5
210	202	10.0
240	202	11.0
270	204	21.5
300	205	31.5
330	206	42.0
360	207	52.0

HEIGHT METERS AGL	DIRECTION DEGREES	SPEED MPH
390	208	52.5
420	208	52.5
450	208	52.5
480	208	52.5
510	208	52.5
540	208	52.0
570	208	52.0
600	208	51.5
630	208	50.5
660	207	49.5
690	207	48.5
720	206	47.0
750	206	45.5

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

Released from LC-33 on 16 May 1979 at 1721 MDT.

Type 19304 GSRS, Missile No. 1137, Round No. V-29 launched from LC-33 on 16 May 1979 at 1713 MDT.

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

\*These data are manually computer, non-quality assured, quick-look data and therefore are subject to computational errors.

HEIGHT METERS AGL	DIRECTION DEGREES	SPEED MPH
780	205	44.0
810	205	42.5
840	204	41.0
870	203	40.5
900	201	40.0
930	200	39.5
960	198	39.0
990	198	38.5
1020	198	38.0
1050	198	37.5
1080	198	36.5
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  
 16 MAY 79  
 ASCENSION NO. 120

SIGNIFICANT LEVEL DATA  
 1360060120  
 S M R

GEODETIC COORDINATES  
 32.48034 LAT DEG  
 106.42307 LON DEG

PRESSURE MILLIBARS	GEOMETRIC ALTITUDE MSL FEET	TEMPERATURE AIR DEGREES CENTIGRADE	REL. HUM. PERCENT
873.9	3997.3	29.0	23.0
847.4	4890.1	25.4	22.0
771.0	7575.2	17.2	34.0
700.0	10247.4	9.5	51.0
668.0	11515.5	5.6	59.0
597.0	14495.4	-2.5	78.0
558.9	16207.7	-5.5	47.0
554.6	16406.9	-6.0	62.0
530.2	17559.4	-9.0	45.0
500.0	19042.6	-12.5	18.0
486.7	19718.6	-13.3	17.0
471.4	20515.3	-15.5	77.0
467.6	20716.2	-16.0	34.0
452.0	21555.2	-17.4	65.0
400.0	24533.8	-23.5	80.0
380.6	25724.7	-26.0	48.0
373.8	26153.6	-26.7	16.0
347.6	27866.3	-30.7	51.0
316.0	30071.2	-35.8	48.0
300.0	31252.1	-39.2	48.0
275.0	33197.1	-43.6	51.0
250.0	35281.8	-49.2	
217.2	38268.6	-56.9	
200.0	39984.4	-58.4	
189.0	41157.3	-58.3	
176.2	42599.2	-62.0	
159.4	44663.7	-57.5	
150.0	45933.0	-56.3	
143.6	46848.4	-55.2	
132.6	48513.4	-58.5	
121.8	50272.6	-59.1	
111.8	52040.2	-60.1	
100.0	54318.3	-63.5	
84.4	57718.6	-68.0	
70.0	61452.2	-65.5	
65.2	62890.9	-62.0	
57.2	65564.9	-62.0	
50.0	68337.0	-58.4	
47.0	69628.5	-56.6	
37.0	74653.2	-55.8	

STATION ALTITUDE 3997.30 FEET MSL  
16 MAY 79 1530 HRS MST  
ASCENSION NO. 120

SIGNIFICANT LEVEL DATA  
1360060120  
S M R

GEODETIC COORDINATES  
32.48034 LAT DEG  
106.42307 LON DEG

TEMPERATURE	REL. HUM.
AIR	PERCENT
DEGREES	
CENTIGRADE	
30.0	79111.8
20.0	87957.6
17.0	91553.4
	-51.5
	-44.6
	-45.4

STATION ALTITUDE 3997.30 FEET MSL  
 16 MAY 79 1530 HRS MST  
 ASCENSION NO. 120

UPPER AIR DATA  
 1360060120  
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GEODETIC COORDINATES  
 32.48034 LAT DEG  
 106.42307 LON DEG

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	AIR TEMPERATURE DEGREES	DEWPOINT DEGREES	REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DIRECTION DEGREES (TN)	WIND SPEED KNOTS	INDEX OF REFRACTION
3997.3	873.9	29.0	5.8	23.0	1003.5	678.5	160.0	6.0	1.000262
4000.0	873.8	29.0	5.8	23.0	1003.5	678.5	160.1	6.0	1.000262
4500.0	858.9	27.0	3.7	22.4	993.4	676.1	173.8	7.2	1.000255
5000.0	844.1	25.1	2.2	22.5	982.9	673.8	183.2	8.7	1.000250
5500.0	829.4	23.5	2.2	24.7	970.7	672.1	189.8	10.4	1.000247
6000.0	814.9	22.0	2.1	27.0	958.7	670.4	191.5	11.6	1.000245
6500.0	800.7	20.5	2.0	29.2	946.8	668.7	190.1	12.3	1.000242
7000.0	786.8	19.0	1.7	31.4	935.2	666.9	190.4	11.4	1.000239
7500.0	773.0	17.4	1.3	33.7	923.7	665.2	191.7	9.8	1.000236
8000.0	759.3	16.0	1.2	36.7	911.8	663.5	195.5	9.3	1.000233
8500.0	745.6	14.5	1.1	39.9	899.9	661.9	200.3	9.2	1.000231
9000.0	732.3	13.1	.8	43.1	888.2	660.2	201.5	9.3	1.000228
9500.0	719.2	11.7	.5	46.2	876.7	658.6	202.8	9.4	1.000225
10000.0	706.3	10.2	.1	49.4	865.4	656.9	207.5	8.9	1.000222
10500.0	693.5	8.7	-.4	52.6	854.3	655.1	212.7	8.3	1.000219
11000.0	680.8	7.2	-1.1	55.7	843.4	653.3	218.7	7.7	1.000215
11500.0	668.4	5.6	-1.7	58.9	832.6	651.5	224.7	7.9	1.000212
12000.0	655.9	4.3	-2.3	62.1	821.2	649.9	229.6	8.5	1.000208
12500.0	643.7	2.9	-2.9	65.3	809.9	648.2	231.5	9.7	1.000205
13000.0	631.6	1.6	-3.6	68.5	798.7	646.6	228.7	10.6	1.000201
13500.0	619.8	.2	-4.3	71.7	787.8	645.0	224.4	11.3	1.000198
14000.0	608.3	-1.2	-5.0	74.8	777.0	643.3	219.5	11.9	1.000195
14500.0	596.9	-2.5	-5.8	77.9	766.4	641.7	214.6	12.3	1.000191
15000.0	585.5	-3.4	-8.3	68.9	754.5	640.5	209.4	12.6	1.000185
15500.0	574.3	-4.3	-10.9	59.8	742.8	639.4	206.6	13.0	1.000179
16000.0	563.4	-5.1	-13.7	50.8	731.3	638.2	206.0	13.4	1.000174
16500.0	552.6	-6.2	-12.6	60.6	720.1	637.0	205.9	14.0	1.000173
17000.0	541.9	-7.5	-15.4	53.3	709.8	635.3	206.4	14.8	1.000168
17500.0	531.4	-8.8	-18.4	45.9	699.7	633.7	205.9	15.5	1.000164
18000.0	521.0	-10.0	-21.9	37.0	689.3	632.2	204.4	16.0	1.000159
18500.0	510.8	-11.2	-26.1	27.9	679.1	630.7	202.7	16.4	1.000155
19000.0	500.8	-12.4	-31.3	18.8	668.9	629.2	200.5	16.7	1.000151
19500.0	491.0	-13.0	-32.7	17.3	657.4	628.4	198.1	17.4	1.000149
20000.0	481.2	-14.1	-25.2	38.2	646.7	627.2	195.1	19.2	1.000148
20500.0	471.7	-15.5	-18.7	75.8	637.0	625.7	195.4	20.3	1.000150
21000.0	462.3	-16.5	-24.2	51.3	626.9	624.4	199.1	20.7	1.000145
21500.0	453.0	-17.3	-19.7	81.6	616.2	623.5	203.9	19.9	1.000145
22000.0	443.8	-18.3	-20.3	84.3	606.1	622.2	210.0	18.6	1.000142
22500.0	434.8	-19.3	-21.4	83.4	596.2	621.0	215.0	18.0	1.000139
23000.0	426.0	-20.4	-22.5	82.6	586.5	619.7	219.6	17.6	1.000137

STATION ALTITUDE 3997.30 FEET MSL  
 16 MAY 79 1530 HRS MST  
 ASCENSION NO. 120

UPPER AIR DATA  
 1360060120  
 S M R

GEODETIC COORDINATES  
 32.48034 LAT DEG  
 106.42307 LON DEG

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES	TEMPERATURE DEWPOINT DEGREES CENTIGRADE	REL HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DATA DIRECTION DEGREES(TN)	SPEED KNOTS	INDEX OF REFRACTION
23500.0	417.3	-21.4	-23.7	81.7	577.0	618.4	221.3	18.2	1.000134
24000.0	408.9	-22.4	-24.8	80.9	567.6	617.1	222.2	19.1	1.000131
24500.0	400.6	-23.4	-25.9	80.1	558.4	615.8	221.2	19.9	1.000129
25000.0	392.3	-24.5	-28.7	67.5	549.3	614.5	220.2	20.7	1.000126
25500.0	384.2	-25.5	-32.1	54.0	540.3	613.2	221.3	21.6	1.000123
26000.0	376.2	-26.4	-39.6	27.5	531.2	612.0	222.8	22.8	1.000120
26500.0	368.3	-27.5	-42.2	23.1	522.3	610.6	224.6	24.6	1.000117
27000.0	360.6	-28.7	-39.7	33.3	513.8	609.2	226.1	28.3	1.000116
27500.0	353.0	-29.8	-38.2	43.5	505.4	607.7	224.8	30.9	1.000114
28000.0	345.6	-31.0	-37.8	50.8	497.1	606.3	221.7	32.8	1.000112
28500.0	338.2	-32.2	-39.0	50.1	486.8	604.8	216.8	34.1	1.000110
29000.0	331.0	-33.3	-40.2	49.5	480.7	603.4	213.3	36.7	1.000108
29500.0	323.9	-34.5	-41.4	48.8	472.7	601.9	211.3	39.8	1.000106
30000.0	317.0	-35.6	-42.6	48.1	464.8	600.4	212.6	41.5	1.000104
30500.0	310.1	-37.0	-44.0	48.0	457.4	598.7	214.1	41.9	1.000103
31000.0	303.3	-38.5	-45.3	48.0	450.2	596.8	216.4	40.5	1.000101
31500.0	296.7	-39.8	-46.4	48.4	442.8	595.2	219.2	40.2	1.000099
32000.0	290.1	-40.9	-47.4	49.2	435.1	593.7	222.0	40.5	1.000097
32500.0	283.7	-42.0	-48.3	49.9	427.6	592.3	225.0	42.7	1.000096
33000.0	277.4	-43.2	-49.2	50.7	420.2	590.8	227.6	44.6	1.000094
33500.0	271.2	-44.4	-51.7	43.6**	413.0	589.2	229.6	45.5	1.000092
34000.0	265.1	-45.8	-55.6	31.4**	406.1	587.5	230.7	46.0	1.000091
34500.0	259.1	-47.1	-60.7	19.1**	399.3	585.7	230.2	45.8	1.000089
35000.0	253.2	-48.4	-69.2	6.3**	392.6	584.0	229.5	45.5	1.000087
35500.0	247.4	-49.8			385.9	582.3	228.2	44.7	1.000086
36000.0	241.7	-51.1			379.1	580.6	226.8	44.0	1.000084
36500.0	236.1	-52.3			372.4	578.9	226.6	42.8	1.000083
37000.0	230.6	-53.6			365.9	577.2	226.6	41.5	1.000081
37500.0	225.2	-54.9			359.5	575.5	228.9	40.3	1.000080
38000.0	220.0	-56.2			353.2	573.8	232.0	39.2	1.000079
38500.0	214.8	-57.1			346.3	572.6	235.3	41.7	1.000077
39000.0	209.7	-57.5			338.8	572.0	236.3	45.4	1.000075
39500.0	204.7	-58.0			331.4	571.5	239.0	49.8	1.000074
40000.0	199.8	-58.4			324.2	570.9	239.1	54.5	1.000072
40500.0	195.1	-58.4			316.4	571.0	236.9	55.1	1.000070
41000.0	190.4	-58.3			306.8	571.0	238.7	54.8	1.000069
41500.0	185.9	-59.2			302.6	569.9	239.2	51.7	1.000067
42000.0	181.4	-60.5			297.1	568.2	240.0	48.3	1.000066
42500.0	177.1	-61.7			291.8	566.4	241.3	45.8	1.000065
43000.0	172.8	-61.1			283.9	567.3	242.9	43.8	1.000063

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



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GEODETIC COORDINATES  
 32.48034 LAT DEG  
 106.42307 LON DEG

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES	TEMPERATURE DEWPOINT DEGREES	REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DIRECTION DEGREES(TN)	WIND SPEED KNOTS	INDEX OF REFRACTION
43500.0	168.7	-60.0	-60.0	275.7	568.7	244.8	42.2	1.000061	
44000.0	164.6	-58.9	-58.9	267.7	570.2	246.7	41.3	1.000060	
44500.0	160.7	-57.9	-57.9	260.0	571.6	248.8	40.6	1.000058	
45000.0	156.9	-57.2	-57.2	253.0	572.5	251.4	41.1	1.000056	
45500.0	153.1	-56.7	-56.7	246.5	573.1	254.0	41.6	1.000055	
46000.0	149.5	-55.2	-55.2	240.1	573.8	254.6	42.2	1.000053	
46500.0	146.0	-55.6	-55.6	233.8	574.6	255.2	42.7	1.000052	
47000.0	142.6	-55.5	-55.5	228.2	574.7	255.2	42.2	1.000051	
47500.0	139.2	-56.5	-56.5	223.8	573.4	254.9	41.3	1.000050	
48000.0	135.9	-57.5	-57.5	219.5	572.1	254.9	40.8	1.000049	
48500.0	132.7	-58.5	-58.5	215.3	570.8	255.3	41.0	1.000048	
49000.0	129.5	-58.7	-58.7	210.4	570.5	255.7	41.2	1.000047	
49500.0	126.4	-58.8	-58.8	205.5	570.3	255.6	41.3	1.000046	
50000.0	123.4	-59.0	-59.0	200.8	570.1	255.5	41.4	1.000045	
50500.0	120.5	-59.2	-59.2	196.2	569.8	254.0	40.7	1.000044	
51000.0	117.6	-59.5	-59.5	191.7	569.4	251.5	39.4	1.000043	
51500.0	114.8	-59.8	-59.8	187.4	569.0	248.9	38.3	1.000042	
52000.0	112.0	-60.1	-60.1	183.1	568.7	246.4	37.1	1.000041	
52500.0	109.3	-60.8	-60.8	179.3	567.7	243.7	36.1	1.000040	
53000.0	106.7	-61.5	-61.5	175.6	566.7	243.9	35.9	1.000039	
53500.0	104.1	-62.3	-62.3	172.0	565.7	244.7	35.9	1.000038	
54000.0	101.6	-63.0	-63.0	168.4	564.7	245.5	35.7	1.000038	
54500.0	99.1	-63.7	-63.7	164.9	563.8	247.1	33.9	1.000037	
55000.0	96.7	-64.4	-64.4	161.3	562.9	248.9	32.2	1.000036	
55500.0	94.3	-65.1	-65.1	157.8	562.0	251.2	29.2	1.000035	
56000.0	92.0	-65.7	-65.7	154.4	561.1	254.6	24.9	1.000034	
56500.0	89.7	-66.4	-66.4	151.1	560.2	259.3	20.8	1.000034	
57000.0	87.5	-67.0	-67.0	147.9	559.3	259.9	19.6	1.000033	
57500.0	85.3	-67.7	-67.7	144.7	558.4	260.4	18.6	1.000032	
58000.0	83.2	-67.8	-67.8	141.2	558.3	262.4	17.6	1.000031	
58500.0	81.2	-67.5	-67.5	137.5	558.7	266.2	16.9	1.000031	
59000.0	79.2	-67.1	-67.1	133.8	559.2	270.4	16.2	1.000030	
59500.0	77.2	-66.8	-66.8	130.3	559.6	278.7	13.5	1.000029	
60000.0	75.3	-66.5	-66.5	126.9	560.1	291.7	10.9	1.000028	
60500.0	73.4	-66.1	-66.1	123.6	560.5	307.5	9.0	1.000028	
61000.0	71.6	-65.8	-65.8	120.3	561.0	318.1	7.3	1.000027	
61500.0	69.8	-65.4	-65.4	117.1	561.5	334.3	6.0	1.000026	
62000.0	68.1	-64.2	-64.2	113.6	563.2	348.2	4.9	1.000025	
62500.0	66.5	-63.0	-63.0	110.2	564.8	2.1	3.8	1.000025	
63000.0	64.9	-62.0	-62.0	107.0	566.1	24.1	3.1	1.000024	

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GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES	DEWPOINT DEGREES	REL.HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DIRECTION DEGREES(TN)	WIND SPEED KNOTS	INDEX OF REFRACTION
63500.0	63.3	-62.0			104.4	566.1	64.0	2.1	1.000023
64000.0	61.8	-62.0			101.9	566.1	113.7	2.7	1.000023
64500.0	60.3	-62.0			99.4	566.1	133.2	3.8	1.000022
65000.0	58.8	-62.0			97.0	566.1	136.4	3.2	1.000022
65500.0	57.4	-62.0			94.7	566.1	141.5	2.5	1.000021
66000.0	56.0	-61.4			92.2	566.9	152.1	1.9	1.000021
66500.0	54.7	-60.8			89.7	567.7	173.3	1.5	1.000020
67000.0	53.4	-60.1			87.3	568.6	203.1	1.4	1.000019
67500.0	52.1	-59.5			84.9	569.5	210.3	2.1	1.000019
68000.0	50.8	-58.8			82.6	570.3	208.2	3.0	1.000018
68500.0	49.6	-58.2			80.4	571.2	207.1	4.0	1.000018
69000.0	48.4	-57.5			78.2	572.1	204.4	4.1	1.000017
69500.0	47.3	-56.8			76.1	573.1	201.0	3.9	1.000017
70000.0	46.2	-56.5			74.3	573.4	197.3	3.8	1.000017
70500.0	45.1	-56.5			72.5	573.5	177.8	2.4	1.000016
71000.0	44.0	-56.4			70.8	573.6	120.8	1.7	1.000016
71500.0	43.0	-56.3			69.1	573.7	78.3	3.0	1.000015
72000.0	42.0	-56.2			67.4	573.8	64.1	4.2	1.000015
72500.0	41.0	-56.1			65.8	573.9	56.7	5.6	1.000015
73000.0	40.0	-56.1			64.2	574.0	52.2	7.0	1.000014
73500.0	39.1	-56.0			62.7	574.1	56.5	9.5	1.000014
74000.0	38.2	-55.9			61.2	574.2	60.7	12.4	1.000014
74500.0	37.3	-55.8			59.7	574.3	63.4	15.3	1.000013
75000.0	36.4	-55.5			58.3	574.8	67.1	17.3	1.000013
75500.0	35.6	-55.0			56.8	575.4	72.6	18.3	1.000013
76000.0	34.7	-54.5			55.3	576.1	77.4	19.4	1.000012
76500.0	33.9	-54.0			53.9	576.7	82.0	20.2	1.000012
77000.0	33.1	-53.5			52.6	577.3	87.9	19.1	1.000012
77500.0	32.4	-53.1			51.2	578.0	94.5	18.3	1.000011
78000.0	31.6	-52.6			49.9	578.6	101.6	17.7	1.000011
78500.0	30.9	-52.1			48.7	579.2	102.5	18.0	1.000011
79000.0	30.2	-51.6			47.4	579.9	102.2	18.5	1.000011
79500.0	29.5	-51.2			46.3	580.4	102.0	18.9	1.000010
80000.0	28.8	-50.8			45.1	580.9	102.3	19.8	1.000010
80500.0	28.2	-50.4			44.0	581.4	102.9	20.9	1.000010
81000.0	27.5	-50.0			43.0	581.9	103.4	22.1	1.000010
81500.0	26.9	-49.6			41.9	582.4	103.7	22.8	1.000009
82000.0	26.3	-49.2			40.9	582.9	103.6	22.3	1.000009
82500.0	25.7	-48.9			39.9	583.4	103.4	21.7	1.000009
83000.0	25.1	-48.5			38.9	584.0	103.3	21.2	1.000009

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GEOMETRIC ALTITUDE MSL 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
83500.0	24.5	-48.1	38.0	584.5	105.9	18.7	1.000008	
84000.0	24.0	-47.7	37.0	585.0	109.3	16.3	1.000008	
84500.0	23.4	-47.3	36.1	585.5	113.9	13.9	1.000008	
85000.0	22.9	-46.9	35.3	586.0	114.7	13.4	1.000008	
85500.0	22.4	-46.5	34.4	586.5	113.8	13.4	1.000008	
86000.0	21.9	-46.1	33.6	587.0	112.6	13.5	1.000007	
86500.0	21.4	-45.7	32.8	587.5	106.6	13.8	1.000007	
87000.0	20.9	-45.3	32.0	588.0	95.3	14.9	1.000007	
87500.0	20.4	-45.0	31.2	588.5	85.9	16.5	1.000007	
88000.0	20.0	-44.6	30.4	588.9	79.1	18.1	1.000007	
88500.0	19.5	-44.7	29.8	588.8	76.9	18.4	1.000007	
89000.0	19.1	-44.8	29.1	588.7	74.8	18.8	1.000006	
89500.0	18.7	-44.9	28.5	588.5	72.8	19.1	1.000006	
90000.0	18.2	-45.1	27.9	588.4			1.000006	
90500.0	17.8	-45.2	27.2	588.2			1.000006	
91000.0	17.4	-45.3	26.6	588.1			1.000006	
91500.0	17.0	-45.4	26.1	587.9			1.000006	

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MRN SIGNIFICANT LEVEL DATA  
 1360060120  
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GEODETIC COORDINATES  
 32.48034 LAT DEG  
 106.42307 LON DEG

GEOPOTENTIAL ALTITUDE DECAMETERS	DIRECTION DEG (TN)	WIND DATA		E-W MPS	DEW PT DEP DEG C	TEMPERATURE		PRESSURE MILLIBARS
		SPEED MPS	N-S MPS			AIR DEG C		
2777.	9999.**	9999.**	-9999.**	-9999.**	99	-45.4	1.700+1	
2688.	79.	9.	-2.	-9.	99	-44.6	2.000+1	
2401.	102.	10.	2.	-9.	99	-51.5	3.000+1	
2266.	64.	8.	-4.	-6.	99	-55.8	3.700+1	
2114.	200.	2.	2.	1.	99	-56.6	4.700+1	
2075.	207.	2.	2.	1.	99	-58.4	5.000+1	
1991.	142.	1.	1.	-1.	99	-62.0	5.720+1	
1910.	19.	2.	-2.	-1.	99	-62.0	6.520+1	
1867.	332.	3.	-3.	1.	99	-65.5	7.000+1	
1754.	261.	9.	2.	9.	99	-68.0	8.440+1	
1651.	247.	18.	7.	16.	99	-63.5	1.000+2	

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

STATION ALTITUDE 3997.30 FEET MSL  
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MANDATORY LEVELS  
 1360660120  
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GEODETTIC COORDINATES  
 32.48034 LAT DEG  
 106.42307 LON DEG

PRESSURE GEOPOTENTIAL		TEMPERATURE		REL. HUM.		WIND DATA	
MILLIBARS	FEET	AIR DEGREES	DEWPOINT CENTIGRADE	PERCENT	DIRECTION DEGREES(TN)	SPEED KNOTS	
850.0	4798.	25.8	2.5	22.	179.9	8.1	
800.0	6530.	20.4	1.9	29.	190.0	12.4	
750.0	8339.	15.0	1.1	39.	198.7	9.2	
700.0	10237.	9.5	-1.1	51.	209.9	8.6	
650.0	12235.	3.6	-2.6	64.	230.8	9.0	
600.0	14347.	-2.1	-5.5	77.	216.1	12.2	
550.0	16600.	-6.6	-13.2	59.	206.0	14.2	
500.0	19016.	-12.5	-31.8	18.	200.3	16.8	
450.0	21631.	-17.6	-19.5	85.	205.7	19.5	
400.0	24493.	-23.5	-26.0	80.	221.2	19.9	
350.0	27655.	-30.3	-37.8	48.	223.6	31.6	
300.0	31190.	-39.2	-46.0		217.7	40.2	
250.0	35205.	-49.2			228.8	45.1	
200.0	39888.	-58.4			239.1	54.2	
175.0	42630.	-61.7			242.0	44.9	
150.0	45810.	-56.3			254.5	42.1	
125.0	49593.	-58.9			255.6	41.4	
100.0	54151.	-63.5			246.4	34.6	
80.0	58588.	-67.3			268.3	16.6	
70.0	61242.	-65.5			331.3	6.1	
60.0	64356.	-62.0			133.5	3.8	
50.0	68080.	-58.4			207.5	3.6	
40.0	72723.	-56.1			52.4	0.9	
30.0	78774.	-51.5			102.2	18.5	
25.0	82685.	-48.4			103.3	21.2	
20.0	87545.	-44.6			79.5	18.0	

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

STATION ALTITUDE 3997.30 FEET MSL  
 16 MAY 79  
 ASCENSION NO. 120

MRN MANDATORY LEVELS  
 1360060120  
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GEODEIC COORDINATES  
 32.48034 LAT DEG  
 106.42307 LON DEG

GEOPOTENTIAL ALTITUDE DECAMETERS	DIRECTION DEG (TN)	WIND DATA SPEED MPS	N-S MPS	E-W MPS	DEW PT DEP DEG C	TEMPERATURE		PRESSURE MILLIBARS
						AIR DEG C		
2668.	80.	9.	-2.	-9.	99	-44.6		2.000+1
2520.	103.	11.	3.	-11.	99	-48.4		2.500+1
2401.	102.	10.	2.	-9.	99	-51.5		3.000+1
2217.	52.	4.	-2.	-3.	99	-56.1		4.000+1
2075.	207.	2.	2.	1.	99	-58.4		5.000+1
1962.	133.	2.	1.	-1.	99	-62.0		6.000+1
1867.	331.	3.	-3.	2.	99	-65.5		7.000+1
1786.	268.	9.	0.	9.	99	-67.3		8.000+1
1651.	246.	18.	7.	16.	99	-63.5		1.000+2
1512.	256.	21.	5.	21.	99	-58.9		1.250+2
1396.	255.	22.	6.	21.	99	-56.3		1.500+2
1299.	242.	23.	11.	20.	99	-61.7		1.750+2
1216.	239.	28.	14.	24.	99	-58.4		2.000+2
1073.	229.	23.	15.	17.	99	-49.2		2.500+2
951.	218.	21.	16.	13.	07	-39.2		3.000+2
843.	224.	16.	12.	11.	07	-30.3		3.500+2
747.	221.	10.	8.	7.	02	-23.5		4.000+2
659.	206.	10.	9.	4.	02	-17.6		4.500+2
580.	200.	9.	8.	3.	19	-12.5		5.000+2
506.	206.	7.	7.	3.	07	-6.6		5.500+2
437.	216.	6.	5.	4.	03	-2.1		6.000+2
373.	231.	5.	3.	4.	06	3.6		6.500+2
312.	210.	4.	4.	2.	10	9.5		7.000+2
254.	199.	5.	4.	2.	14	15.0		7.500+2
199.	190.	6.	6.	1.	18	20.4		8.000+2
146.	180.	4.	4.	-0.	23	25.8		8.500+2