

MICROCOPY RESOLUTION TEST CHART  
NATIONAL BUREAU OF STANDARDS-1963-A

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20. ABSTRACT (Continue on reverse side if necessary and identify by block number) Meteorological data gathered for the launching of the 19308B MLRS, Missile Numbers BC-147, BC-143, BC-135, Round Numbers V-357/PQ-88, V-358/PQ-39, V-359/PQ-90 are presented in tabular form. ←		

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## INTRODUCTION

103038 MLRS, Missile Numbers BC-147, BC-143 and BC-135, Round Numbers V-357/PQ-88, V-358/PQ-89 and V-359/PQ-90, were launched from BRILLO, White Sands Missile Range (WSMR), New Mexico, at 0830:01, 0830:05 and 0830:10, MST, 02 Nov 82. The scheduled launch times were 0800, 0800:04.5 and 0800:09 MST.

## 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 BRILLO Net Site at T-0 minutes.

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

#### b. Upper Air

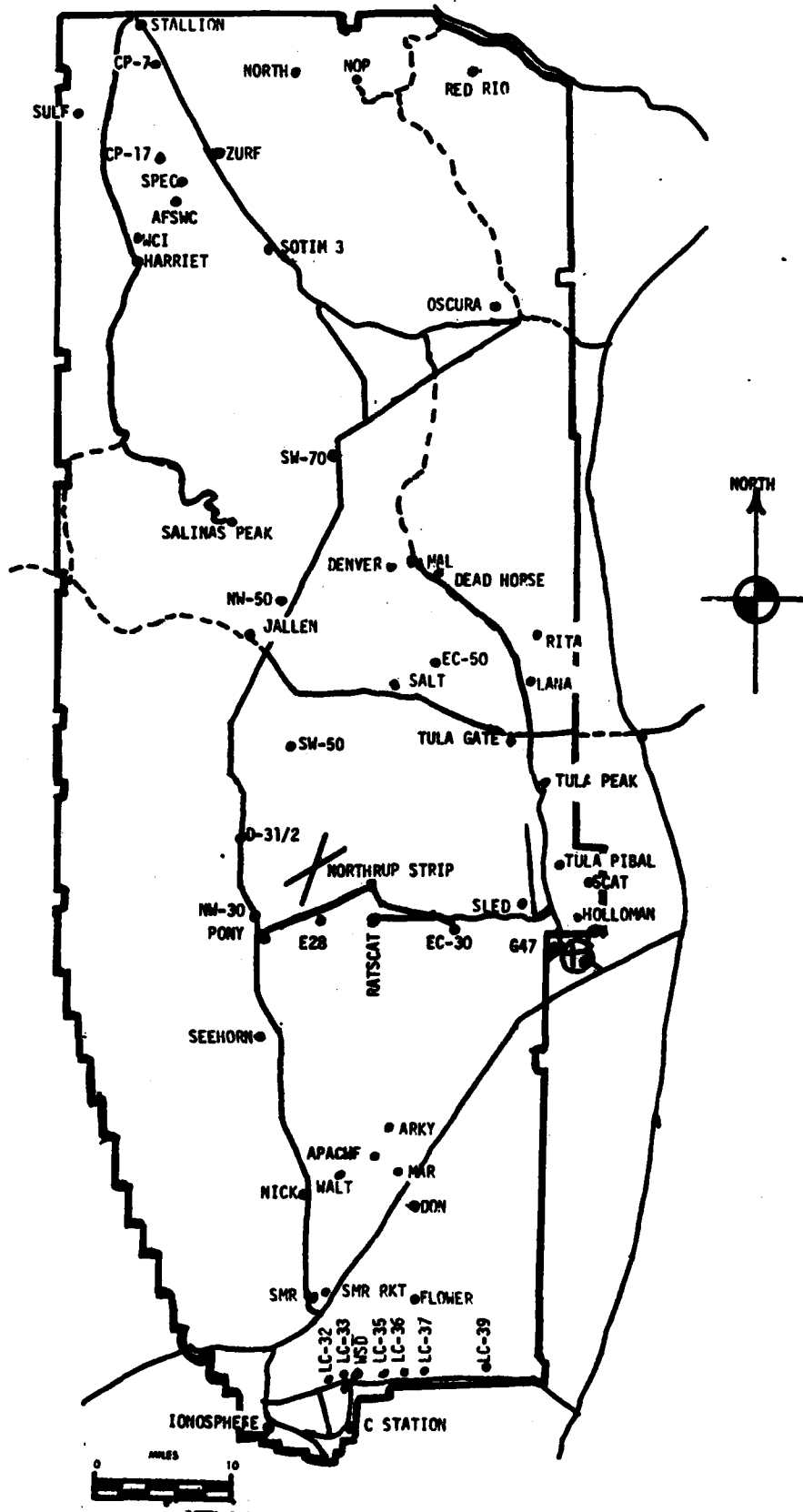
(1) Low level wind data were obtained from pilot-balloon observations at:

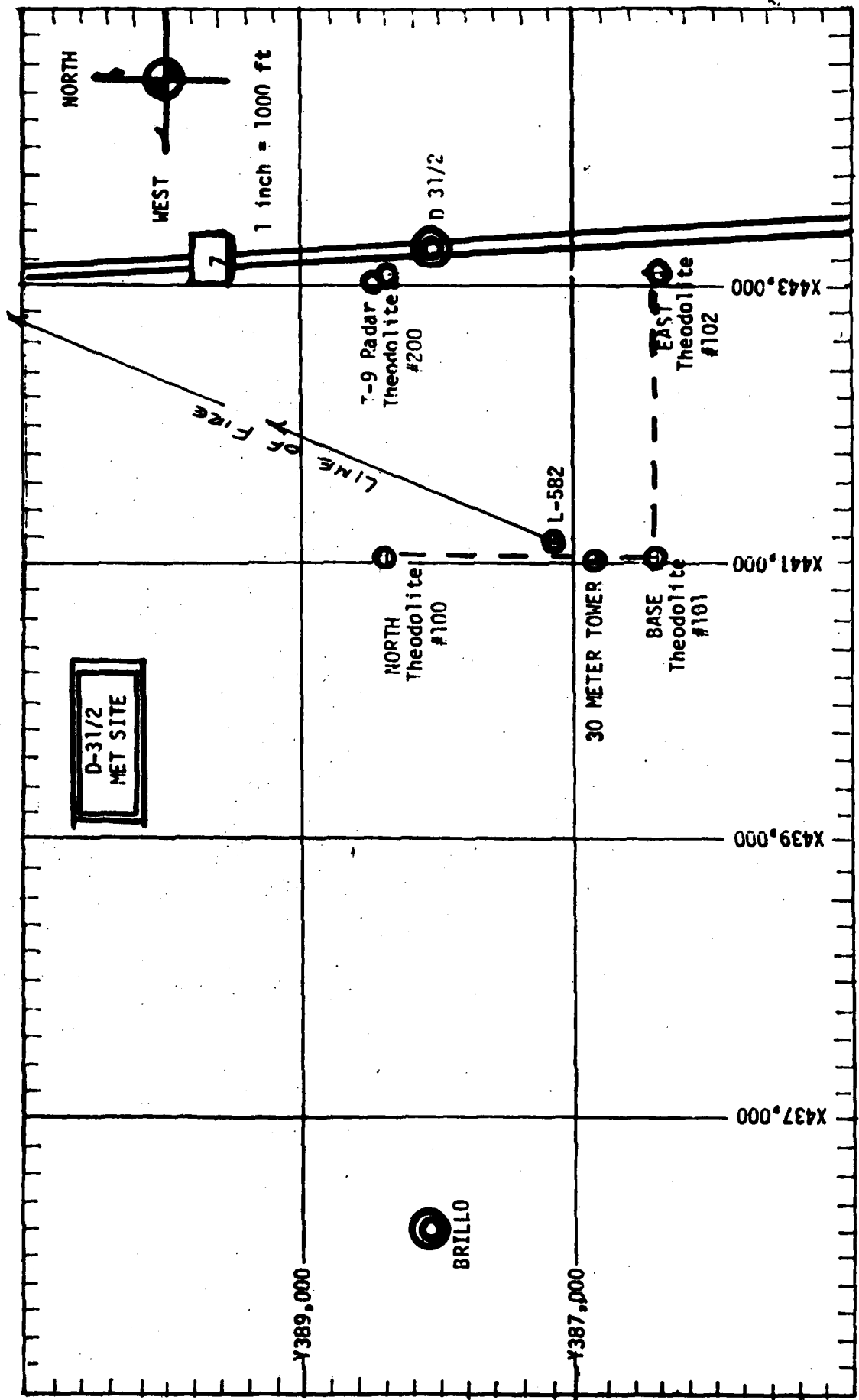
<u>SITE AND ALTITUDE</u>	
D 3 1/2	1350 meters
DEADHORSE	2000 meters

(2) Air structure data (rawinsonde) were collected at the following Net Sites.

<u>SITE AND TIME</u>	
E-28	0500 MST
E-28	0700 MST
NI-30	0800 MST

# WSMR METEOROLOGICAL SITES





PROJECT SURFACE OBSERVATION

TABLE 1 STATION BRILLO

DATE 2 DAY NOV MONTH 82 YEAR

X = 441,121.6 Y = 387,107.8 H = 4005.2

TIME M S T	PRESSURE mbs	TEMPERATURE OF °C	DEW POINT OF °C	RELATIVE HUMIDITY %	DENSITY gm/m <sup>3</sup>	WIND			VISIBIL- ITY
						DIRECTION degs In	SPEED kts	CHARACTER kts	
0830	878.3	12.7	-3.8	32	1069	020	06		50

OBSTRUCTIONS TO VISIBILITY	CLOUDS						REMARKS			
	1st LAYER		2nd LAYER		3rd LAYER					
	AMT	TYPE	HGT	AMT	TYPE	HGT				
	2	SC	6500	5	AC	12000	2	CI	24000	

PSYCHROMETRIC COMPUTATION

TIME: MST	0830
DRY BULB TEMP.	12.7
WET BULB TEMP.	5.5
WET BULB DEPR.	7.2
DEW POINT	-3.8
RELATIVE HUMID.	32



TABLE 2

Anemometer Data - 30 FT. Level of 30 Meter Tower

X= 441,018.71 Y= 386,849.19 H= 4,004.80 (BASE)

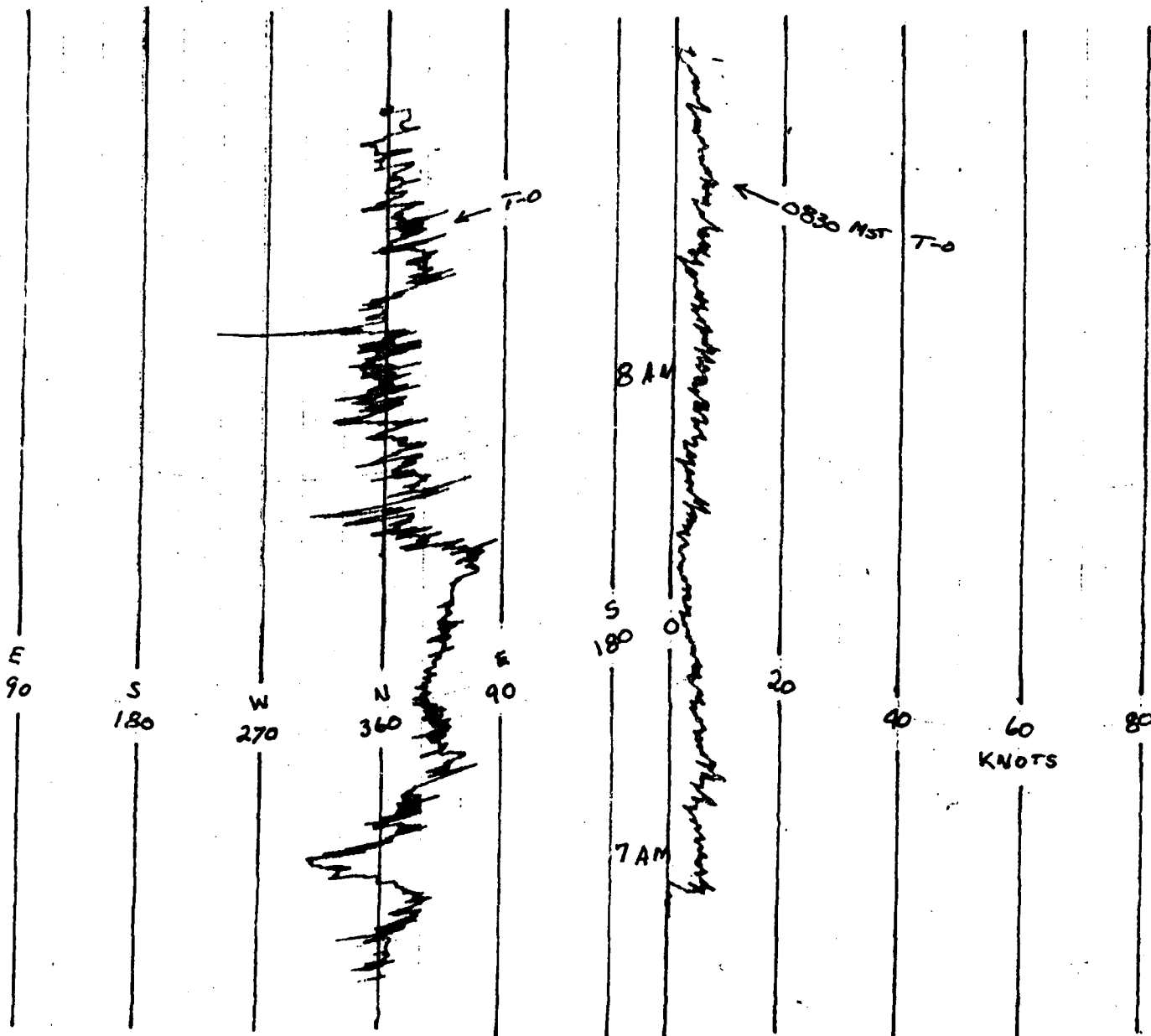


TABLE 3

Anemometer Data = 60 FT. Level of 30 Meter Tower

X= 441,018.71 Y= 386,849.19 H= 4,004.80 (BASE)

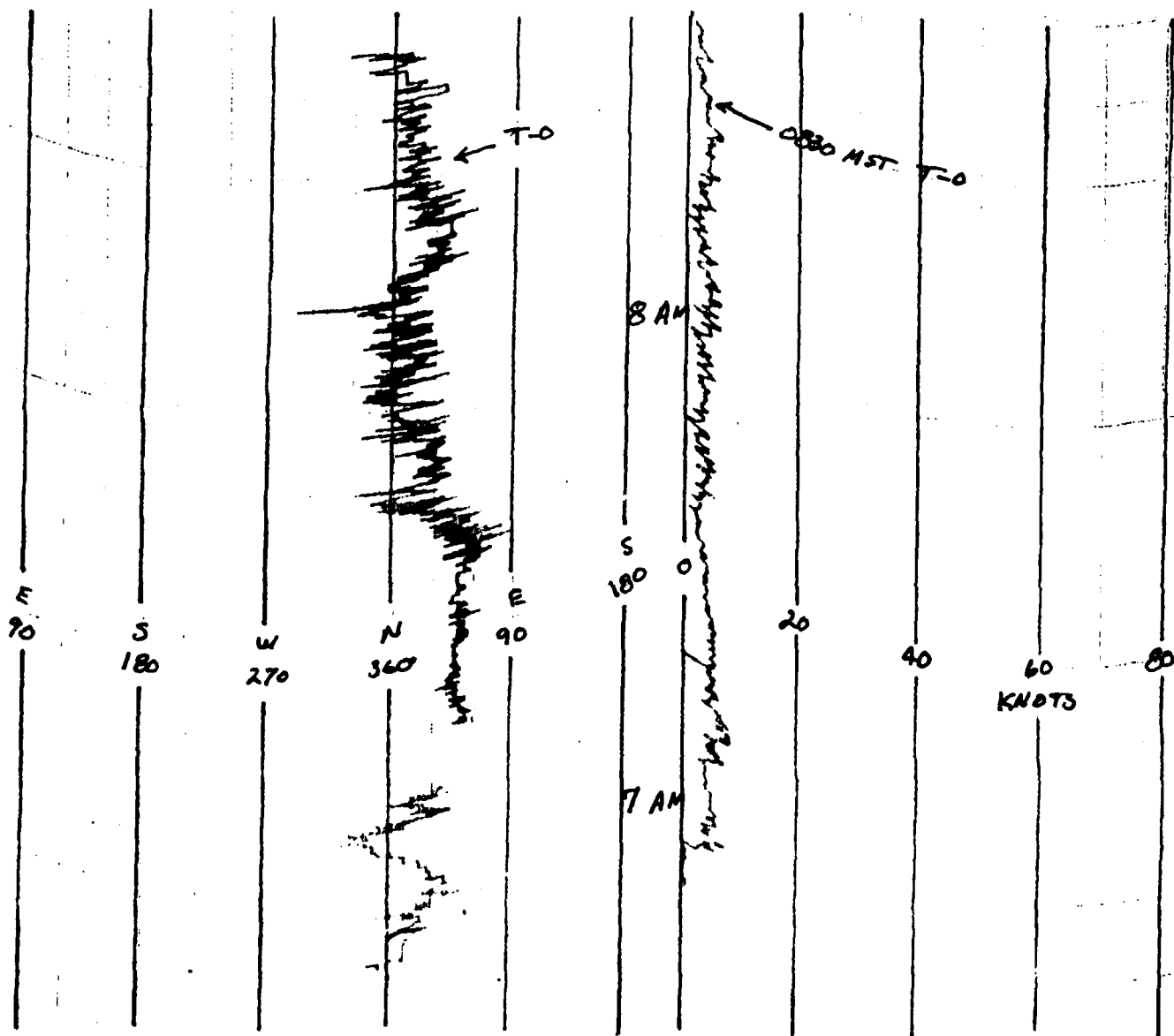
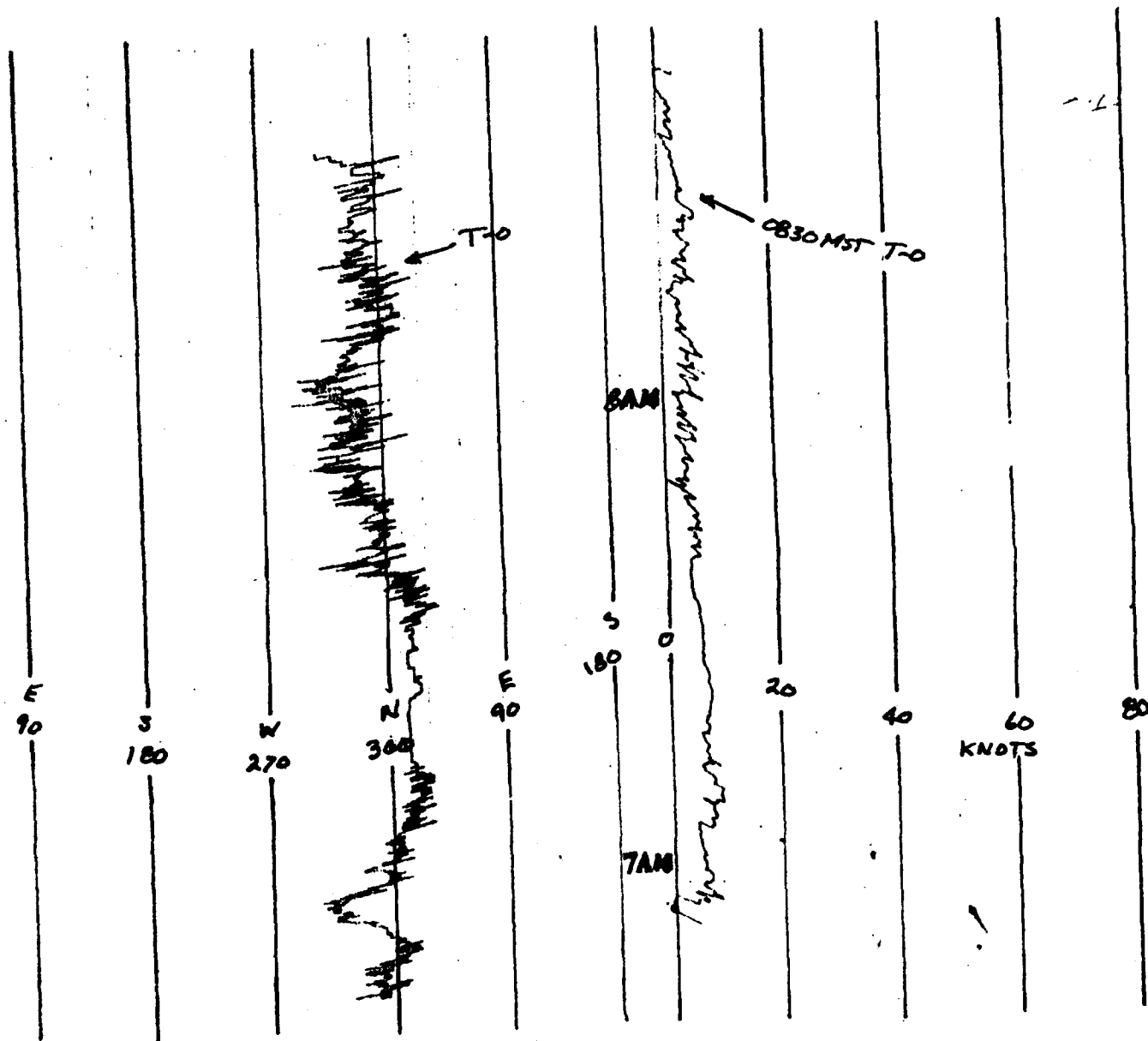


TABLE . 4

Anemometer Data - 90 FT Level of 30 Meter Tower

X= 441,018.71 Y= 336,849.19 H= 4,604.80 (BASE)



## T-TIME PILOT-BALLOON MEASURED WIND DATA

DATE 02 November 1982

SITE: D 3 1/2  
 TIME: 0830 MST  
 WSTM COORDINATES:  
 X= 441,053.12  
 Y= 386,316.94  
 H= 4,008.31

SITE: DEADMORSE  
 TIME 0830 MST  
 WSTM COORDINATES:  
 X= 519,982.11  
 Y= 490,249.23  
 H= 4,113.72

LAYER MIDPOINT METERS AGL	DIRECTION DEGREES	SPEED KNOTS
SURFACE	020	06
150	016	07
210	014	03
270	013	09
330	011	11
390	009	12
500	007	14
650	013	15
800	029	16
950	034	16
1150	041	20
1350	043	18
1550		
1750		
2000		

LAYER MIDPOINT METERS AGL	DIRECTION DEGREES	SPEED KNOTS
SURFACE	020	10
150	002	16
210	360	13
270	002	19
330	003	20
390	005	20
500	009	21
650	016	21
800	017	18
950	012	15
1150	007	14
1350	013	12
1550	026	11
1750	029	10
2000	026	07

Data obtained from a double Theodolite  
 Tracked pilot-balloon observation.

Data obtained from a single Theodolite  
 Tracked pilot-balloon observation.

TABLE 6

## AIMING AND T-TIME COMPUTER NET MESSAGES

02 November 1962

E-23 0500 MST	E-23 0700 MST	M1-30 0830 MST
NETCM1329064	NETCM1329064	NETCM1329065
021200119378	021400119379	021550122879
00587004 27940378	00587004 23050379	00080010 23420379
01001612 23540367	01010021 23340368	01617013 23470368
02006015 23600342	02640022 23440342	02624016 23400343
03019016 23360302	03037013 23320803	03023015 23210303
04012004 23040755	04054011 27950756	04077009 27930756
05495006 27670710	05431002 27610711	05236005 27560711
06454012 27270668	06446003 27250668	06409010 27160668
07468019 26830627	07462015 26850627	07464011 26740627
08466024 26480588	08465025 26480588	08472021 26380588
09437026 26140551	09454024 26070551	09453027 26000551
10435029 25720516	10462024 25650516	10457031 25590516
11470029 25280483	11464027 25430483	11465027 25180482
12443031 24690436	12456034 24630436	12453035 24550435
13460035 24080379	13475036 23940379	13490040 23970378
14470038 23630329	14503044 23300328	14515046 23830328
15493050 23670285		15503058 23830284
16515057 23570246		16522067 23580246
17508053 23000213		17500058 23040213
18510049 22310183		18509051 22390183
19527039 21660157		19509048 21770157
20492034 21020134		20496041 21120134
21514029 20540114		21501041 20710114
22467027 20410096		22486022 20680097
23502022 20580082		23536021 20930082
24553018 21030069		24567009 20930070
25453003 21020059		25371003 21110059
26488014 21330050		26453002 21310051

STATION ALTITUDE 3912.75 FEET MSL  
 2 NOV. 82 0500 HRS MST  
 ASCENSION NO. 140

SIGNIFICANT LEVEL DATA  
 3060290140  
 EAST-28/CHLRY  
 TABLE 7

GEOMETRIC COORDINATES  
 32.89927 LAT DEG  
 156.40591 LON DEG

PRESSURE MILLIBARS	GEOMETRIC ALTITUDE MSL FEET	TEMPERATURE AIR DEGREES CENTIGRADE	REL. HUM. PERCENT	
877.5	3912.7	5.4	-2.4	57.0
876.4	3946.5	7.3	-2.2	51.0
869.6	4158.9	12.1	-3.3	34.0
866.2	4266.9	13.4	-3.8	30.0
859.0	4787.6	12.8	-6.7	25.0
779.3	7477.7	7.9	-5.2	39.0
718.7	9342.7	3.7	-5.0	53.0
705.5	9836.5	2.7	-11.2	35.0
700.0	10044.5	2.2	-6.4	53.0
678.7	10862.5	.5	-6.1	61.0
656.6	11731.3	-2.6	-6.6	74.0
612.9	13514.9	-6.5	-17.0	43.0
559.9	16228.1	-11.7	-27.7	25.0
509.0	18639.8	-18.2	-27.4	44.0
493.0	18985.3	-19.4	-26.9	51.0
499.5	19109.5	-19.9	-26.8	54.0
484.8	19394.6	-20.3	-23.7	74.0
454.0	20983.2	-23.8	-29.2	61.0
451.8	21099.8	-24.2	-30.1	58.0
439.6	21754.9	-25.6	-28.1	79.0
432.4	22147.7	-27.1	-28.5	88.0
417.8	22959.9	-28.6	-34.1	59.0
409.0	23979.2	-31.9	-37.0	60.0
395.1	24269.1	-26.4	-31.3	63.0
381.4	25095.1	-34.3	-41.0	50.0
376.4	25399.3	-33.6	-44.2	33.0
356.6	26644.8	-34.5	-48.2	23.0
321.1	29040.2	-37.9	-52.0	21.0
309.0	30581.0	-38.2	-52.2	21.0
277.4	32366.6	-35.3	-50.1	20.0
261.0	33764.4	-35.4	-50.2	20.0
250.0	34748.6	-37.0	-51.6	20.0
218.9	37746.6	-41.5		
209.0	39743.3	-46.5		
159.0	45872.7	-58.4		
116.5	50992.0	-68.5		
109.5	52217.9	-68.3		
107.8	52528.5	-67.1		
109.0	54017.8	-68.0		
95.9	54842.4	-69.9		

STATION ALTITUDE 3912.75 FEET MSL  
 2 NOV. 62 0500 HRS MST  
 ASCENSION NO. 140

SIGNIFICANT LEVEL DATA  
 3060290140  
 EAST-28/CHEERY  
 TABLE 7 Cont'd

GEODETIC COORDINATES  
 32.89927 LAT DEG  
 136.40591 LON DEG

PRESSURE MILLIBARS	GEOMETRIC ALTITUDE MSL FEET	TEMPERATURE		REL. HUM. PERCENT
		AIR DEGREES	DEWPOINT CENTIGRADE	
86.1	56967.5			-68.5
76.7	59267.7			-66.2
70.0	61115.9			-61.9
56.7	65406.4			-63.4
50.0	67982.3			-59.5
45.9	69758.4			-57.8

UPPER AIR DATA  
 3060290140  
 EAST-20/CHERRY  
 TABLE 3

STATION ALTITUDE 3912.75 FEET MSL  
 2 NOV. 42  
 ASCENSION NO. 140

GEODETIC COORDINATES  
 32.6927 LAT DEG  
 136.40591 LONG DEG

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	AIR TEMPERATURE DEGREES	TEMPERATURE DEWPOINT DEGREES	REL. HUM. PERCENT	DENSITY GM/CURIC METER	SPEED OF SOUND KNOTS	WIND DIRECTION DEGREES (TN)	WIND SPEED KNOTS	INDEX OF REFRACTION
3912.7	877.5	5.4	-2.4	57.0	1095.0	650.9	330.0	4.1	1.000269
4000.0	874.7	8.5	-2.2	46.7	1079.4	654.6	335.6	4.5	1.000265
4500.0	858.9	13.1	-5.1	27.8	1043.2	659.8	354.2	7.1	1.000252
5000.0	843.4	12.4	-6.5	26.1	1027.2	658.9	2.4	10.0	1.000246
5500.0	828.1	11.5	-6.0	28.7	1011.7	657.9	6.9	13.1	1.000244
6000.0	813.1	10.6	-5.7	31.3	996.4	656.8	8.8	14.1	1.000241
6500.0	798.4	9.7	-5.4	33.9	981.5	655.8	10.2	14.1	1.000238
7000.0	783.9	8.8	-5.3	36.5	966.7	654.8	9.4	11.1	1.000235
7500.0	769.7	7.8	-5.2	39.2	952.2	653.7	7.5	7.7	1.000232
8000.0	755.5	6.7	-5.0	42.9	938.4	652.4	3.1	4.1	1.000229
8500.0	741.6	5.6	-4.9	46.7	924.8	651.1	328.4	1.5	1.000227
9000.0	727.9	4.5	-4.9	50.4	911.4	649.8	292.0	3.1	1.000224
9500.0	714.5	3.4	-6.8	47.3	898.3	648.5	280.9	5.2	1.000220
10000.0	701.2	2.3	-7.2	49.2	885.1	647.2	274.9	7.5	1.000215
10500.0	688.1	1.3	-6.2	57.5	871.7	646.0	270.1	9.6	1.000214
11000.0	675.2	.0	-6.2	63.1	859.2	644.6	262.9	11.1	1.000211
11500.0	662.4	-1.8	-6.4	70.5	848.5	642.5	258.7	12.7	1.000209
12000.0	649.8	-3.2	-8.0	69.3	836.9	640.7	257.6	14.4	1.000204
12500.0	637.4	-4.3	-10.7	60.6	824.5	639.3	258.5	16.3	1.000198
13000.0	625.2	-5.4	-13.7	51.9	812.3	637.9	261.0	18.5	1.000192
13500.0	613.3	-6.5	-16.9	43.3	800.3	636.5	261.8	20.6	1.000187
14000.0	601.3	-7.4	-18.7	39.8	787.7	635.3	262.8	22.6	1.000183
14500.0	589.6	-8.4	-20.6	36.5	775.2	634.1	264.2	23.4	1.000179
15000.0	578.1	-9.3	-22.5	33.1	763.0	633.0	269.3	24.0	1.000175
15500.0	566.9	-10.3	-24.6	29.8	750.9	631.8	273.7	24.5	1.000172
16000.0	555.9	-11.3	-26.7	26.5	739.1	630.6	273.7	25.4	1.000168
16500.0	544.9	-12.4	-27.4	27.1	727.8	629.2	274.7	26.9	1.000166
17000.0	534.1	-13.8	-27.2	31.1	717.0	627.6	275.0	28.2	1.000163
17500.0	523.4	-15.1	-27.1	35.0	706.4	625.9	273.7	28.6	1.000161
18000.0	513.0	-16.5	-27.2	39.0	696.0	624.3	272.6	28.8	1.000159
18500.0	502.8	-17.8	-27.3	42.9	685.7	622.7	272.0	28.5	1.000156
19000.0	492.7	-19.5	-26.9	51.4	676.2	620.7	269.0	27.8	1.000155
19500.0	482.7	-20.5	-24.1	73.1	665.2	619.4	262.7	26.8	1.000153
20000.0	472.8	-21.6	-25.8	69.0	654.5	618.0	256.5	27.0	1.000150
20500.0	463.2	-22.7	-27.5	65.0	644.0	616.6	250.9	28.2	1.000147
21000.0	453.7	-23.9	-29.3	60.6	633.7	615.2	249.4	30.0	1.000144
21500.0	444.3	-25.1	-28.8	70.8	623.6	613.8	249.5	32.0	1.000142
22000.0	435.1	-26.5	-28.3	84.6	614.3	611.9	249.4	32.3	1.000140
22500.0	426.0	-27.8	-30.7	75.4	604.5	610.4	249.4	32.6	1.000138
23000.0	417.1	-28.7	-34.2	59.0	594.3	609.2	250.1	33.0	1.000134



UPPER AIR DATA  
 3060290140  
 EAST-28/CHLRY  
 TABLE 3 Cont'd

STATION ALTITUDE 3912.75 FEET MSL  
 2 NOV. 62 0500 HRS MST  
 ASCENSION NO. 140

GEODETIC COORDINATES  
 32.69927 LAT DEG  
 136.40591 LON DEG

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE		REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DIRECTION DEGREES (TN)	WIND SPEED KNOTS	INJEX OF REFRACTION
		AIR DEGREES	DEWPOINT CENTIGRADE						
23500.0	408.3	-30.3	-35.6	59.5	585.6	607.1	251.2	33.4	1.000132
24000.0	399.6	-31.5	-36.6	60.2	576.0	605.7	253.1	33.7	1.000130
24500.0	391.2	-28.6	-34.0	59.4	557.1	609.3	255.8	34.0	1.000126
25000.0	383.0	-33.4	-39.9	51.5	556.3	603.3	259.3	34.5	1.000125
25500.0	374.8	-33.7	-44.5	32.2	545.1	602.9	261.1	35.0	1.000122
26000.0	366.7	-34.0	-46.1	28.2	534.2	602.4	262.1	35.5	1.000120
26500.0	358.8	-34.4	-47.7	24.2	523.5	602.0	263.6	38.6	1.000117
27000.0	351.1	-35.0	-48.8	22.7	513.6	601.2	265.1	41.3	1.000115
27500.0	343.5	-35.7	-49.6	22.3	503.9	600.3	268.0	39.5	1.000113
28000.0	336.1	-36.4	-50.4	21.9	494.5	599.4	270.8	37.8	1.000111
28500.0	328.8	-37.1	-51.1	21.5	485.3	598.5	271.2	35.1	1.000108
29000.0	321.7	-37.8	-51.9	21.0	476.2	597.0	271.2	33.2	1.000106
29500.0	314.7	-38.0	-52.1	21.0	466.1	597.4	268.6	37.0	1.000104
30000.0	307.8	-38.1	-52.1	21.0	456.1	597.3	269.4	40.8	1.000102
30500.0	301.1	-38.2	-52.2	21.0	446.4	597.2	274.3	45.0	1.000100
31000.0	294.5	-37.5	-51.7	20.8	435.4	598.0	278.0	48.6	1.000097
31500.0	288.1	-36.7	-51.2	20.5	424.5	599.1	280.9	51.6	1.000095
32000.0	281.9	-35.9	-50.6	20.2	413.9	600.1	281.9	52.5	1.000093
32500.0	275.8	-35.3	-50.2	20.0	403.9	600.8	282.3	52.8	1.000090
33000.0	269.8	-35.3	-50.2	20.0	395.3	600.8	283.4	54.8	1.000088
33500.0	264.0	-35.4	-50.2	20.0	386.8	600.7	284.4	56.9	1.000087
34000.0	258.3	-35.8	-50.6	20.0	379.1	600.2	285.7	57.3	1.000085
34500.0	252.7	-36.6	-51.3	20.0	372.2	599.2	287.1	57.7	1.000083
35000.0	247.2	-37.4	-52.7	18.3**	365.3	598.2	289.5	57.2	1.000082
35500.0	241.8	-38.1	-54.9	15.0**	358.4	597.3	291.7	56.8	1.000080
36000.0	236.5	-38.9	-57.6	11.7**	351.7	596.3	292.8	55.8	1.000078
36500.0	231.3	-39.6	-60.8	8.3**	345.1	595.3	292.9	54.7	1.000077
37000.0	226.3	-40.4	-65.2	5.0**	338.6	594.4	290.7	53.5	1.000075
37500.0	221.3	-41.1	-73.4	1.6**	332.3	593.4	267.3	52.7	1.000074
38000.0	216.4	-42.1			326.3	592.1	262.2	52.7	1.000073
38500.0	211.6	-43.4			320.8	590.5	260.4	52.6	1.000071
39000.0	206.8	-44.6			315.3	588.9	280.8	52.3	1.000070
39500.0	202.2	-45.9			310.0	587.3	283.5	51.8	1.000069
40000.0	197.6	-47.0			304.4	585.9	286.7	51.5	1.000068
40500.0	193.0	-48.0			298.6	584.6	286.9	51.2	1.000067
41000.0	188.5	-48.9			292.9	583.3	287.2	50.7	1.000065
41500.0	184.2	-49.9			287.4	582.1	288.2	49.5	1.000064
42000.0	179.9	-50.9			282.0	580.8	289.4	48.2	1.000063
42500.0	175.7	-51.9			276.6	579.5	290.8	46.4	1.000062
43000.0	171.7	-52.8			271.4	578.3	292.4	45.1	1.000060

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

STATION ALTITUDE 3912.75 FEET MSL  
 2 NOV. 42 0500 HRS MST  
 ASCENSION NO. 140

UPPER AIR DATA  
 3060290140  
 EAST-28/CHERRY  
 TALRE 3 Cont'd

GEODETIC COORDINATES  
 32.0927 LAT DEG  
 136.40591 LON DEG

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	AIR TEMPERATURE DEGREES CENTIGRADE	REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND MNOTS	WIND DIRECTION DEGREES (TN)	WIND SPEED KNOTS	INDEX OF REFRACTION
43500.0	167.7	-53.8		260.3	577.0	294.1	44.3	1.000059
44000.0	163.8	-54.8		261.3	575.7	295.6	44.1	1.000058
44500.0	160.0	-55.7		256.3	574.4	296.6	44.9	1.000057
45000.0	156.3	-56.7		251.5	573.2	296.8	45.3	1.000056
45500.0	152.6	-57.7		246.8	571.9	294.4	44.5	1.000055
46000.0	149.1	-58.7		242.1	570.6	291.7	43.2	1.000054
46500.0	145.4	-59.6		237.3	569.3	287.8	39.3	1.000053
47000.0	141.9	-60.6		232.6	567.9	283.2	35.6	1.000052
47500.0	138.4	-61.6		228.0	566.6	280.3	31.0	1.000051
48000.0	135.0	-62.6		223.4	565.3	276.5	26.8	1.000050
48500.0	131.8	-63.6		219.0	564.0	273.7	26.9	1.000049
49000.0	128.5	-64.6		214.7	562.8	270.9	27.1	1.000048
49500.0	125.4	-65.6		210.4	561.3	271.5	29.7	1.000047
50000.0	122.3	-66.5		206.3	560.0	272.0	32.4	1.000046
50500.0	119.4	-67.5		202.2	558.6	273.9	32.7	1.000045
51000.0	116.5	-68.5		198.2	557.3	276.1	32.6	1.000044
51500.0	113.5	-68.4		193.2	557.4	283.6	31.0	1.000043
52000.0	110.7	-68.3		188.3	557.5	294.5	29.6	1.000042
52500.0	108.0	-67.2		182.6	559.1	296.9	27.3	1.000041
53000.0	105.3	-67.6		178.4	558.5	292.3	24.1	1.000040
53500.0	102.6	-68.2		174.5	557.7	282.6	22.2	1.000039
54000.0	100.1	-68.8		170.6	556.9	269.6	22.0	1.000038
54500.0	97.6	-69.4		166.9	556.0	263.4	21.0	1.000037
55000.0	95.1	-69.8		163.0	553.5	261.2	18.9	1.000036
55500.0	92.8	-69.5		158.6	556.0	261.0	18.9	1.000035
56000.0	90.4	-69.1		154.4	556.4	261.9	20.0	1.000034
56500.0	88.2	-68.8		150.3	556.9	266.1	21.3	1.000033
57000.0	86.0	-68.5		146.3	557.4	273.6	22.9	1.000033
57500.0	83.8	-68.0		142.3	558.0	279.3	24.8	1.000032
58000.0	81.7	-67.5		138.5	558.7	280.7	26.4	1.000031
58500.0	79.7	-67.0		134.7	559.4	282.0	27.9	1.000030
59000.0	77.7	-66.5		131.0	560.1	286.2	27.4	1.000029
59500.0	75.8	-65.7		127.3	561.2	291.0	26.9	1.000028
60000.0	74.0	-64.5		123.5	562.7	296.9	25.4	1.000028
60500.0	72.2	-63.3		119.8	564.3	304.3	23.7	1.000027
61000.0	70.4	-62.2		116.2	565.9	309.9	21.8	1.000026
61500.0	68.7	-62.0		113.3	566.1	314.1	19.6	1.000025
62000.0	67.0	-62.2		110.7	565.8	322.4	15.1	1.000025
62500.0	65.4	-62.4		108.1	565.6	333.0	8.4	1.000024
63000.0	63.8	-62.6		105.6	565.3	44.8	7.1	1.000023

STATION ALTITUDE 3912.75 FEET MSL  
 2 NOV. 32 0500 HRS MST  
 ASCENSION NO. 140

UPPER AIR DATA  
 3060290140  
 EAST-28/CHEERY

GEOMETRIC COORDINATES  
 32.6927 LAT DEG  
 136.40591 LON DEG

TABLE 3 Cont'd

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	AIR TEMPERATURE DEGREES CENTIGRADE	REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DIRECTION DEGREES (TN)	WIND SPEED KNOTS	INDEX OF REFRACTION
63500.0	62.3	-62.7		103.1	565.1	55.3	5.1	1.000023
64000.0	60.8	-62.9		100.7	564.9	73.4	3.1	1.000022
64500.0	59.3	-63.1		98.3	564.6	262.7	2.8	1.000022
65000.0	57.8	-63.3		96.0	564.4	259.4	8.7	1.000021
65500.0	56.4	-63.3		93.7	564.4	253.5	11.9	1.000021
66000.0	55.1	-62.5		91.1	565.4	249.8	15.0	1.000020
66500.0	53.8	-61.7		88.6	566.4	251.8	14.5	1.000020
67000.0	52.5	-61.0		86.1	567.5	255.7	13.1	1.000019
67500.0	51.2	-60.2		83.8	568.5	268.4	12.5	1.000019
68000.0	50.0	-59.5		81.5	569.5	285.3	13.2	1.000018
68500.0	48.8	-59.0		79.3	570.1			1.000018
69000.0	47.6	-58.5		77.3	570.7			1.000017
69500.0	46.5	-58.0		75.3	571.4			1.000017

STATION ALTITUDE 3912.75 FEET MSL  
 2 NOV. 82  
 ASCENSION NO. 140

MANDATORY LEVELS  
 3060290140  
 EAST-28/CHERRY  
 TABLE 9

GEODETIC COORDINATES  
 32.89927 LAT DEG  
 136.40591 LON DEG

PRESSURE GEOPOTENTIAL		TEMPERATURE		REL. HUM. PERCENT	WIND DATA	
MILLIBARS	FEET	AIR DEGREES CENTIGRADE	DEWPOINT CENTIGRADE		DIRECTION DEGREES(TN)	SPEED KNOTS
850.0	4724.	12.8	-6.7	25.	359.6	8.7
800.0	6444.	9.8	-5.5	34.	10.0	14.1
750.0	8192.	6.3	-4.9	44.	358.4	2.8
700.0	10035.	2.2	-6.4	53.	274.6	7.7
650.0	11982.	-3.2	-7.9	69.	257.7	14.4
600.0	14045.	-7.5	-18.9	39.	261.9	22.8
550.0	16249.	-11.8	-27.7	25.	274.2	26.2
500.0	18615.	-18.2	-27.4	44.	271.8	28.5
450.0	21164.	-24.4	-29.7	61.	249.4	30.7
400.0	23941.	-31.9	-37.0	60.	253.0	33.6
350.0	27027.	-35.1	-48.9	23.	265.4	41.1
300.0	30522.	-38.2	-52.2	21.	274.9	45.6
250.0	34675.	-37.0	-51.6	20.	268.2	57.5
200.0	39650.	-46.5			284.9	51.7
175.0	42523.	-52.0			291.2	46.1
150.0	45751.	-58.4			292.6	43.9
125.0	49450.	-65.7			271.6	30.0
100.0	53854.	-68.8			269.8	22.0
80.0	58237.	-67.0			281.8	27.6
70.0	60910.	-61.9			310.6	21.4
60.0	64031.	-63.0			45.3	.4
50.0	67730.	-59.5			283.7	13.1

STATION ALTITUDE 3912.75 FEET MSL  
 2 NOV. 82 0700 HRS MST  
 ASCENSION NO. 141

SIGNIFICANT LEVEL DATA  
 3060290141  
 EAST-20/CHERRY

GEODETIC COORDINATES  
 32.89927 LAT UEG  
 136.40591 LON DEG

TABLE 17

PRESSURE MILLIBARS	GEOMETRIC ALTITUDE MSL FEET	TEMPERATURE AIR DEGREES CENTIGRADE	REL. HUM. PERCENT	
874.6	3912.7	6.5	-1.9	55.0
874.3	4045.7	9.6	-4.0	38.0
850.0	4415.5	10.9	-4.7	33.0
808.4	6187.3	10.2	-7.9	27.0
734.0	8795.2	4.0	-6.0	48.0
714.2	9524.1	2.5	-5.1	57.0
700.0	10057.1	1.8	-10.0	41.0
618.1	13308.8	-5.9	-12.4	60.0
606.2	13809.1	-6.4	-18.3	38.0
540.4	16721.1	-13.8	-27.6	50.0
500.0	18643.7	-18.9	-27.6	46.0
480.8	19605.4	-17.7	-23.7	59.0
461.7	20591.1	-24.1	-24.3	98.0
438.5	21823.0	-26.4	-29.1	78.0
400.0	23983.1	-32.2	-33.6	87.0
382.5	25017.0	-34.6	-36.9	79.0
373.0	25595.2	-34.7	-43.9	38.0
367.1	25962.0	-34.2	-45.9	29.0
336.6	27860.9	-34.0	-40.7	26.0
318.1	29257.2	-36.6	-49.0	26.0
300.0	30596.1	-35.7	-48.2	26.0
291.8	31230.8	-35.6	-48.1	26.0
282.2	31999.0	-34.5	-47.2	26.0

STATION ALTITUDE 3912.75 FEET MSL  
 2 NOV. 82 0700 HRS MST  
 ASCENSION NO. 141

UPPER AIR DATA  
 3060290141  
 EAST-23/CHLNRY  
 TABLE 11

GEODETIC COORDINATES  
 32.0927 LAT DEG  
 136.40591 LON DEG

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE		REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DIRECTION DEGREES(TN)	WIND SPEED KNOTS	INDEX OF REFRACTION
		AIR DEGREES	DEWPOINT DEGREES CENTIGRADE						
3912.7	878.6	6.5	-1.9	55.0	1092.0	652.2	330.0	4.1	1.000269
4000.0	875.8	8.5	-3.1	43.8	1080.8	654.5	336.2	4.5	1.000264
4500.0	859.9	10.4	-4.4	35.0	1054.5	656.6	355.3	7.7	1.000256
5000.0	844.3	10.8	-5.1	32.2	1033.9	657.1	2.8	11.2	1.000250
5500.0	829.0	10.6	-6.3	30.0	1016.2	656.8	6.7	14.9	1.000244
6000.0	814.0	10.3	-7.5	27.8	998.8	656.4	12.2	15.7	1.000239
6500.0	799.1	9.5	-7.4	29.5	983.4	655.5	22.7	13.7	1.000236
7000.0	784.4	8.3	-6.8	33.5	969.3	654.1	28.6	12.6	1.000234
7500.0	770.1	7.1	-6.4	37.6	955.5	652.8	29.8	11.8	1.000231
8000.0	755.9	5.9	-6.1	41.6	941.9	651.4	30.5	9.5	1.000229
8500.0	742.1	4.7	-6.0	45.6	928.5	650.0	31.4	6.5	1.000226
9000.0	728.4	3.6	-5.7	50.5	915.0	648.7	23.4	2.3	1.000224
9500.0	714.8	2.5	-5.2	56.7	901.3	647.6	23.9	2.4	1.000222
10000.0	701.5	1.9	-9.4	42.7	887.1	646.6	246.8	4.1	1.000213
10500.0	688.2	.8	-10.2	43.6	874.0	645.2	251.8	5.8	1.000209
11000.0	675.2	-.4	-10.5	46.5	861.2	643.9	250.9	6.8	1.000206
11500.0	662.4	-1.6	-10.8	49.4	848.5	642.4	249.7	6.1	1.000203
12000.0	649.8	-2.8	-11.2	52.4	836.1	641.0	248.6	9.9	1.000200
12500.0	637.5	-4.0	-11.6	55.3	823.9	639.6	255.9	12.8	1.000197
13000.0	625.4	-5.2	-12.1	58.2	811.9	638.2	262.3	16.3	1.000194
13500.0	613.5	-6.1	-14.4	51.6	799.3	637.0	263.8	19.7	1.000189
14000.0	601.7	-6.9	-18.9	37.5	786.5	636.0	264.2	23.0	1.000182
14500.0	589.9	-8.2	-20.5	36.1	774.9	634.4	262.7	24.5	1.000179
15000.0	578.4	-9.4	-22.1	34.7	763.5	632.9	260.3	24.9	1.000176
15500.0	567.1	-10.7	-23.7	33.4	752.3	631.3	258.2	24.6	1.000173
16000.0	556.0	-12.0	-25.3	32.0	741.2	629.8	256.1	23.8	1.000169
16500.0	545.1	-13.2	-26.9	30.6	730.3	628.2	256.1	23.3	1.000166
17000.0	534.3	-14.5	-27.4	32.3	719.5	626.6	258.9	22.9	1.000164
17500.0	523.7	-15.9	-27.3	36.5	708.7	625.0	258.3	23.2	1.000162
18000.0	513.2	-17.2	-27.3	40.6	698.1	623.4	259.7	23.7	1.000159
18500.0	502.9	-18.5	-27.5	44.8	687.7	621.8	260.7	24.7	1.000157
19000.0	492.8	-18.5	-26.1	50.8	673.7	621.9	261.4	25.9	1.000154
19500.0	482.9	-17.8	-24.1	57.6	658.4	622.7	260.7	28.2	1.000152
20000.0	473.1	-20.3	-23.6	74.6	651.2	619.7	260.1	30.5	1.000150
20500.0	463.4	-23.5	-24.1	94.4	646.2	615.8	259.0	32.3	1.000149
21000.0	453.9	-24.9	-25.9	91.4	636.4	614.1	258.1	34.0	1.000146
21500.0	444.5	-25.8	-27.8	83.2	625.6	612.9	257.2	34.1	1.000143
22000.0	435.2	-26.9	-29.4	78.7	615.3	611.5	256.3	34.2	1.000140
22500.0	426.1	-28.2	-30.5	80.8	605.7	609.8	255.5	33.9	1.000138
23000.0	417.1	-29.6	-31.5	82.9	596.3	608.1	254.6	33.5	1.000136

STATION ALTITUDE 3912.75 FEET MSL  
 2 NOV. 82 0700 HRS MST  
 ASCENSION NO. 141

UPPER AIR DATA  
 3060290141  
 EAST-28/CHLRRY  
 TABLE 11 Cont'd

GEODETIC COORDINATES  
 32.89927 LAT DEG  
 136.40591 LONG DEG

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR 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	408.3	-30.9	85.0	587.0	600.5	254.9	33.5	1.000133
24000.0	399.7	-32.2	86.9	577.8	604.8	255.2	33.5	1.000131
24500.0	391.2	-33.4	83.0	568.2	605.3	260.3	33.9	1.000129
25000.0	382.8	-34.6	79.1	559.8	601.8	265.4	34.6	1.000126
25500.0	374.5	-34.7	44.7	547.1	601.6	271.3	36.4	1.000123
26000.0	366.5	-34.2	28.9	534.3	602.2	276.1	38.3	1.000120
26500.0	358.6	-34.1	28.2	522.7	602.3	279.0	39.9	1.000117
27000.0	350.9	-34.1	27.4	511.4	602.4	281.1	41.7	1.000115
27500.0	343.4	-34.0	26.7	500.3	602.4	281.8	43.4	1.000112
28000.0	336.0	-34.1	26.0	489.6	602.4	282.4	44.4	1.000110
28500.0	328.8	-35.1	26.0	481.1	601.1	282.9	44.5	1.000108
29000.0	321.7	-36.1	26.0	472.7	599.9	283.1	45.0	1.000106
29500.0	314.7	-36.4	26.0	463.2	599.4	283.1	46.1	1.000104
30000.0	307.9	-36.1	26.0	452.5	599.8	281.8	46.9	1.000101
30500.0	301.3	-35.8	26.0	442.1	600.3	279.4	47.5	1.000099
31000.0	294.8	-35.6	26.0	432.3	600.4			1.000097
31500.0	288.4	-35.2	26.0	422.2	601.0			1.000095

STATION ALTITUDE 3912.75 FEET MSL  
 2 NOV. 82 0700 HRS MST  
 ASCENSION NO. 141

MANDATORY LEVELS  
 3060290141  
 EAST-28/CHERRY

GEODETIC COORDINATES  
 32.89927 LAT DEG  
 136.40591 LON DEG

TABLE 12

PRESSURE MILLIBARS	GEOPOTENTIAL FEET	TEMPERATURE AIR DEGREES CENTIGRADE	REL. HUM. PERCENT	WIND DATA		
				DIRECTION DEGREES (TN)	SPEED KNOTS	
850.0	4012.	10.9	33.	0	9.9	
800.0	6467.	9.5	29.	22.0	15.8	
750.0	8211.	5.4	43.	30.8	8.2	
700.0	10048.	1.8	41.	247.8	4.3	
650.0	11992.	-2.8	52.	248.6	9.9	
600.0	14057.	-7.1	37.	264.2	23.5	
550.0	16260.	-12.7	31.	255.8	23.5	
500.0	18619.	-18.9	46.	261.0	25.0	
450.0	21175.	-25.2	88.	257.7	34.0	
400.0	23945.	-32.2	87.	255.2	33.5	
350.0	27014.	-34.1	27.	281.1	41.8	
300.0	30537.	-35.7	26.	279.0	47.6	



STATION ALTITUDE 4010.40 FEET MSL  
 2 NOV. 82  
 ASCENSION: NO. 29 0830 HRS MST

SIGNIFICANT LEVEL DATA  
 3060220029  
 NW 30  
 TABLE 13

GEODETIC COORDINATES  
 32.88497 LAT DEG  
 106.49714 LON DEG

PRESSURE MILLIBARS	GOMETRIC ALTITUDE MSL FEET	TEMPERATURE		REL. HUM. PERCENT
		AIR DEGREES	DEWPOINT CENTIGRADE	
878.7	4010.4	10.5	-2.8	59.0
872.6	4201.1	11.1	-2.3	39.0
850.0	4919.5	10.7	-4.9	33.0
768.2	7668.0	6.7	-7.7	35.0
700.0	10151.0	1.1	-6.9	55.0
678.6	10969.2	-0.7	-10.3	48.0
650.2	12086.1	-3.6	-10.0	61.0
632.0	12821.1	-5.8	-7.5	88.0
613.8	13572.0	-7.7	-8.0	98.0
601.8	14076.3	-9.0	-10.8	87.0
587.2	14701.2	-9.3	-22.5	33.0
500.0	18711.4	-19.2	-26.7	51.0
487.6	19324.2	-20.7	-29.0	47.0
457.2	20877.9	-24.7	-29.2	66.0
454.9	20998.5	-25.5	-28.9	73.0
442.2	21672.9	-26.6	-27.0	96.0
400.0	24027.5	-32.6	-35.6	74.0
392.6	24459.7	-33.5	-44.4	32.0
352.8	26927.2	-33.8	-47.6	23.0
315.2	29517.4	-35.7	-49.3	23.0
306.7	30144.8	-34.6	-48.7	22.0
300.0	30652.5	-35.0	-49.1	22.0
262.8	33695.3	-34.7	-48.8	22.0
250.0	34839.0	-36.7	-50.5	22.0
225.2	37200.1	-41.1		
200.0	39836.9	-44.7		
178.2	42346.1	-51.1		
171.6	42906.3	-51.4		
150.0	45993.2	-57.3		
131.8	48655.4	-62.8		
116.6	51126.5	-66.0		
102.4	53719.6	-67.0		
100.0	54192.3	-66.8		
80.6	56613.4	-65.6		
78.8	58980.2	-63.0		
70.0	61378.6	-64.4		
50.0	68250.1	-59.7		
41.4	72155.9	-59.0		
35.4	75426.7	-55.8		
30.0	7921.5	-54.5		

GEODETIC COORDINATES  
52.88497 LAT. DEG  
106.49714 LON DEG

SIGNIFICANT LEVEL DATA  
3060220029  
NW 30

TABLE 13 Cont'd

STATION ALTITUDE 4010.40 FEET MSL  
2 NOV. 82 0830 HRS MST  
ASCENSION NO. 29

PRESSURE GEOMETRIC ALTITUDE MILLIBARS MSL FEET	TEMPERATURE AIR DEWPOINT DEGREES CENTIGRADE	REL. HUM. PERCENT
20.0 87570.2	-51.6	
15.8 92637.0	-51.4	

UPPER AIR DATA  
 3060220029  
 NW 30  
 TABLE 14

STATION ALTITUDE 4010.00 FEET MSL  
 2 NOV. 82 0830 HRS MST  
 ASCENSION NO. 29

GEODETIC COORDINATES  
 32.88497 LAT DEG  
 106.49714 LONG 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		INDEX OF REFRACTION
							DIRECTION DEGREES(TN)	SPEED KNOTS	
4010.4	878.7	10.5	-2.8	39.0	1070.9	656.0	45.0	9.9	1.000263
4500.0	863.1	10.9	-3.3	36.5	1056.2	657.3	30.3	10.8	1.000258
5000.0	847.5	10.6	-5.0	33.1	1038.6	656.8	18.2	12.3	1.000251
5500.0	832.0	9.9	-5.5	33.4	1022.3	656.0	9.0	14.2	1.000247
6000.0	816.9	9.1	-6.0	33.8	1006.3	655.1	2.6	16.2	1.000243
6500.0	802.0	8.4	-6.5	34.2	990.5	654.3	11.6	14.5	1.000239
7000.0	787.3	7.7	-7.0	34.5	975.0	653.4	22.0	13.1	1.000235
7500.0	773.0	6.9	-7.5	34.9	959.7	652.6	31.0	10.9	1.000231
8000.0	758.7	6.0	-7.4	37.7	945.3	651.4	43.6	8.8	1.000228
8500.0	744.6	4.8	-7.1	41.7	931.5	650.1	63.9	6.3	1.000225
9000.0	730.8	3.7	-6.9	45.7	917.9	648.8	96.3	4.7	1.000223
9500.0	717.3	2.6	-6.8	49.8	904.5	647.5	139.3	4.0	1.000220
10000.0	704.0	1.4	-6.3	53.8	891.4	646.2	177.6	4.5	1.000217
10500.0	690.8	.3	-8.3	52.0	878.0	644.8	209.4	5.4	1.000212
11000.0	677.8	-0.8	-10.3	48.4	865.6	643.4	225.1	7.1	1.000207
11500.0	665.0	-2.1	-10.1	54.2	853.2	641.9	232.9	9.0	1.000205
12000.0	652.3	-3.4	-10.0	60.0	841.0	640.4	238.8	10.1	1.000202
12500.0	639.9	-4.8	-8.4	76.2	829.2	638.8	244.2	10.9	1.000202
13000.0	627.6	-6.3	-7.6	90.4	817.5	637.1	253.5	11.9	1.000201
13500.0	615.5	-7.5	-7.9	97.0	805.6	635.6	262.6	13.4	1.000198
14000.0	603.6	-8.8	-10.3	88.7	794.1	634.0	264.7	16.6	1.000192
14500.0	591.9	-9.2	-17.6	50.4	780.4	633.2	265.3	20.1	1.000182
15000.0	580.2	-10.0	-22.8	34.3	767.7	632.1	262.1	22.5	1.000176
15500.0	568.7	-11.3	-23.1	36.6	756.0	630.6	259.1	24.9	1.000174
16000.0	557.4	-12.5	-23.6	38.8	744.6	629.1	258.0	26.6	1.000171
16500.0	546.3	-13.7	-24.1	41.1	733.3	627.7	257.2	28.2	1.000168
17000.0	535.5	-15.0	-24.6	43.3	722.2	626.1	257.4	29.1	1.000166
17500.0	524.9	-16.2	-25.2	45.6	711.2	624.6	257.9	29.9	1.000163
18000.0	514.5	-17.4	-25.8	47.8	700.5	623.1	258.3	29.3	1.000160
18500.0	504.3	-18.7	-26.5	50.1	690.0	621.6	258.8	28.2	1.000158
19000.0	494.1	-19.9	-27.8	49.1	679.4	620.1	260.1	27.9	1.000155
19500.0	484.1	-21.2	-29.0	49.2	668.9	618.6	261.8	28.0	1.000152
20000.0	474.1	-22.4	-28.9	55.3	658.5	617.0	262.7	29.1	1.000150
20500.0	464.4	-23.7	-28.0	61.4	648.4	615.4	262.4	31.1	1.000148
21000.0	454.9	-25.5	-28.9	73.1	639.6	613.2	261.7	33.0	1.000146
21500.0	445.4	-26.3	-27.4	90.1	628.3	612.2	259.0	34.1	1.000144
22000.0	436.1	-27.4	-28.2	92.9	617.9	610.8	258.5	35.4	1.000141
22500.0	426.9	-28.7	-30.0	88.3	608.1	609.2	258.0	36.3	1.000139
23000.0	417.9	-30.0	-31.8	83.6	598.5	607.6	255.8	37.2	1.000136
23500.0	409.1	-31.3	-33.7	78.9	589.0	606.0	259.8	37.8	1.000133

GEODETIC COORDINATES  
32.88497 LAT DEG  
106.49714 LON DEG

UPPER AIR DATA  
3060220029  
NW 30

STATION ALTITUDE 4010.40 FEET MSL  
2 NOV. 82 0830 HRS MST  
ASCENSION NO. 29

TABLE 14. Cont'd

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES CENTIGRADE	REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DATA DIRECTION DEGREES (TN)	SPEED KNOTS	INDEX OF REFRACTION
24000.0	400.5	-32.5	74.3	579.0	604.4	264.3	38.7	1.000131
24500.0	391.9	-33.5	31.9	569.7	603.1	268.8	39.1	1.000128
25000.0	383.5	-33.6	30.0	557.6	603.0	273.3	39.6	1.000125
25500.0	375.3	-33.6	28.2	545.8	603.0	276.9	40.5	1.000122
26000.0	367.3	-33.7	26.4	534.2	602.9	280.1	41.6	1.000120
26500.0	359.4	-33.7	24.6	522.9	602.8	282.9	42.9	1.000117
27000.0	351.7	-33.9	23.0	511.9	602.7	285.4	44.4	1.000115
27500.0	344.1	-34.2	23.0	501.7	602.2	287.6	45.4	1.000112
28000.0	336.7	-34.6	23.0	491.6	601.7	289.8	46.0	1.000110
28500.0	329.5	-35.0	23.0	481.8	601.3	290.8	46.7	1.000108
29000.0	322.4	-35.3	23.0	472.2	600.8	290.2	47.6	1.000106
29500.0	315.4	-35.7	23.0	462.7	600.4	289.5	48.6	1.000104
30000.0	308.6	-34.9	22.2	451.2	601.4	288.2	50.5	1.000101
30500.0	302.0	-34.9	22.0	441.5	601.4	287.1	52.3	1.000099
31000.0	295.5	-35.0	22.0	432.2	601.3	286.4	53.8	1.000097
31500.0	289.1	-34.9	22.0	422.8	601.3	285.8	55.3	1.000095
32000.0	282.9	-34.9	22.0	413.6	601.4	285.6	56.6	1.000093
32500.0	276.8	-34.8	22.0	404.6	601.5	285.6	57.8	1.000091
33000.0	270.9	-34.8	22.0	395.8	601.5	285.9	59.6	1.000089
33500.0	265.0	-34.7	22.0	387.2	601.6	286.5	62.0	1.000087
34000.0	259.3	-35.2	22.0	379.7	600.9	286.9	64.0	1.000085
34500.0	253.7	-36.1	22.0	372.9	599.8	287.0	65.0	1.000083
35000.0	248.2	-37.0	20.5**	366.2	598.7	287.1	65.7	1.000082
35500.0	242.8	-37.9	15.8**	359.6	597.5	287.4	64.8	1.000080
36000.0	237.5	-38.9	11.2**	353.1	596.3	287.7	63.8	1.000079
36500.0	232.3	-39.8	6.5**	346.8	595.1	288.1	63.0	1.000077
37000.0	227.2	-40.7	1.9**	340.5	593.9	288.6	62.2	1.000076
37500.0	222.2	-41.5		334.1	592.9	288.4	61.0	1.000074
38000.0	217.2	-42.2		327.7	592.1	288.0	59.7	1.000073
38500.0	212.4	-42.9		321.3	591.2	286.8	58.6	1.000072
39000.0	207.7	-43.6		315.1	590.3	284.6	57.9	1.000070
39500.0	203.1	-44.2		309.0	589.4	282.9	57.2	1.000069
40000.0	198.5	-45.1		303.3	588.3	283.1	55.7	1.000068
40500.0	194.0	-46.4		298.0	586.6	283.4	54.3	1.000066
41000.0	189.6	-47.7		292.9	585.0	285.0	53.3	1.000065
41500.0	185.3	-48.9		287.9	583.3	286.7	52.4	1.000064
42000.0	181.1	-50.2		282.9	581.7	287.2	51.7	1.000063
42500.0	176.9	-51.2		277.7	580.4	287.6	51.0	1.000062
43000.0	172.8	-51.6		271.7	579.9	287.4	53.6	1.000061
43500.0	168.8	-52.5		266.5	578.6	287.0	56.9	1.000059

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

STATION ALTITUDE 4010.00 FEET MSL  
 2 NOV. 62 0836 HRS MST  
 ASCENSION NO. 29

UPPER AIR DATA  
 3060220029  
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GEOMETRIC COORDINATES  
 32°08'49" LAT DEG  
 106°49'14" LON DEG

TABLE 14 Cont'd

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 (IN)	SPEED KNOTS	
44000.0	164.8	-53.5		261.4	577.4	286.8	57.3	1.000058
44500.0	161.0	-54.4		256.4	576.1	286.7	54.9	1.000057
45000.0	157.2	-55.4		251.5	574.9	286.5	51.9	1.000056
45500.0	153.5	-56.4		246.7	573.6	286.1	45.2	1.000055
46000.0	150.0	-57.3		242.0	572.3	285.6	38.5	1.000054
46500.0	146.4	-58.3		237.4	571.0	284.6	38.0	1.000053
47000.0	142.8	-59.4		232.8	569.6	284.1	39.0	1.000052
47500.0	139.4	-60.4		228.3	568.2	282.6	39.8	1.000051
48000.0	136.1	-61.4		223.9	566.8	280.2	40.4	1.000050
48500.0	132.8	-62.5		219.6	565.5	278.1	41.1	1.000049
49000.0	129.6	-63.2		215.0	564.4	276.6	41.6	1.000048
49500.0	126.4	-63.9		210.4	563.6	275.2	42.1	1.000047
50000.0	123.3	-64.5		205.9	562.7	276.0	43.2	1.000046
50500.0	120.3	-65.2		201.5	561.8	277.4	44.7	1.000045
51000.0	117.3	-65.8		197.2	560.9	278.0	45.3	1.000044
51500.0	114.4	-66.1		192.6	560.5	277.1	44.5	1.000043
52000.0	111.6	-66.3		188.0	560.3	276.3	43.6	1.000042
52500.0	108.8	-66.5		183.5	560.0	276.2	39.7	1.000041
53000.0	106.2	-66.7		179.1	559.7	276.1	35.5	1.000040
53500.0	103.5	-66.9		174.9	559.5	276.8	31.6	1.000039
54000.0	101.0	-66.9		170.5	559.5	278.7	28.1	1.000038
54500.0	98.5	-66.6		166.1	559.8	281.0	24.7	1.000037
55000.0	96.0	-66.4		161.8	560.2	282.9	22.5	1.000036
55500.0	93.7	-66.2		157.6	560.5	285.1	20.4	1.000035
56000.0	91.4	-65.9		153.6	560.8	286.7	20.7	1.000034
56500.0	89.1	-65.7		149.6	561.2	287.2	23.9	1.000033
57000.0	86.9	-65.2		145.6	561.8	287.5	27.1	1.000032
57500.0	84.8	-64.6		141.7	562.6	291.4	26.0	1.000032
58000.0	82.7	-64.1		137.8	563.3	296.2	24.6	1.000031
58500.0	80.7	-63.5		134.1	564.0	302.9	21.3	1.000030
59000.0	78.7	-63.0		130.5	564.7	319.5	14.5	1.000029
59500.0	76.8	-63.3		127.5	564.3	354.6	10.5	1.000028
60000.0	74.9	-63.6		124.6	564.0	7.9	10.1	1.000028
60500.0	73.1	-63.9		121.7	563.6	7.3	9.5	1.000027
61000.0	71.3	-64.2		118.9	563.2	6.2	8.9	1.000026
61500.0	69.6	-64.3		116.1	563.0	347.0	6.7	1.000026
62000.0	67.9	-64.0		113.1	563.4	316.8	5.8	1.000025
62500.0	66.3	-63.6		110.2	563.9	285.4	5.7	1.000025
63000.0	64.7	-63.3		107.3	564.4	250.2	5.7	1.000024
63500.0	63.1	-62.9		104.6	564.8	224.2	7.5	1.000023

STATION ALTITUDE 4010.40 FEET MSL  
 2 NOV. 82 0830 HRS MST  
 ASCENSION NO. 29

UPPER AIR DATA  
 3060220029  
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GEODETIC COORDINATES  
 32.88497 LAT DEG  
 106.49714 LONG DEG

TABLE 14 Cont'd

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	AIR TEMPERATURE DEGREES CENTIGRADE	REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DIRECTION DEGREES (TN)	WIND SPEED KNOTS	INEX OF REFRACTION
64000.0	61.6	-62.6		101.9	565.3	216.6	8.2	1.000023
64500.0	60.1	-62.3		99.2	565.7	213.7	8.1	1.000022
65000.0	58.6	-61.9		96.7	566.2	211.1	7.9	1.000022
65500.0	57.2	-61.6		94.2	566.7	216.2	8.2	1.000021
66000.0	55.8	-61.2		91.8	567.1	220.9	8.6	1.000020
66500.0	54.5	-60.9		89.4	567.6	229.4	8.2	1.000020
67000.0	53.2	-60.6		87.1	568.0	246.1	7.2	1.000019
67500.0	51.9	-60.2		84.9	568.5	266.0	6.9	1.000019
68000.0	50.6	-59.9		82.7	568.9	280.3	5.7	1.000018
68500.0	49.4	-59.7		80.6	569.2	300.7	4.6	1.000018
69000.0	48.2	-59.6		78.6	569.4	327.0	4.2	1.000018
69500.0	47.1	-59.5		76.7	569.5	337.3	3.0	1.000017
70000.0	45.9	-59.4		74.9	569.6	358.5	2.1	1.000017
70500.0	44.8	-59.3		73.1	569.7	379.9	1.7	1.000016
71000.0	43.8	-59.2		71.3	569.8	398.9	3.6	1.000016
71500.0	42.7	-59.1		69.6	569.9	285.8	8.1	1.000015
72000.0	41.7	-59.0		67.9	570.1	282.2	12.8	1.000015
72500.0	40.7	-58.7		66.1	570.6	270.0	15.5	1.000015
73000.0	39.8	-58.2		64.4	571.2	270.5	17.9	1.000014
73500.0	38.8	-57.7		62.8	571.9	288.3	20.5	1.000014
74000.0	37.9	-57.2		61.1	572.5	264.7	20.1	1.000014
74500.0	37.0	-56.7		59.6	573.1	264.1	17.9	1.000013
75000.0	36.1	-56.2		58.0	573.8	263.4	15.7	1.000013
75500.0	35.3	-55.8		56.5	574.4	265.2	14.1	1.000013
76000.0	34.5	-55.6		55.2	574.6	270.6	13.2	1.000012
76500.0	33.6	-55.4		53.8	574.9	276.7	12.4	1.000012
77000.0	32.9	-55.2		52.5	575.1	282.1	11.6	1.000012
77500.0	32.1	-55.0		51.2	575.4	284.9	10.7	1.000011
78000.0	31.3	-54.8		50.0	575.6	288.1	9.8	1.000011
78500.0	30.6	-54.7		48.8	575.9	291.0	9.0	1.000011
79000.0	29.9	-54.5		47.6	576.1	288.0	8.8	1.000011
79500.0	29.2	-54.3		46.5	576.3	284.9	8.5	1.000010
80000.0	28.5	-54.1		45.4	576.5	281.5	8.3	1.000010
80500.0	27.9	-54.0		44.3	576.8	275.3	7.4	1.000010
81000.0	27.2	-53.8		43.2	577.0	267.5	6.7	1.000010
81500.0	26.6	-53.6		42.2	577.2	257.9	6.1	1.000009
82000.0	26.0	-53.5		41.2	577.4	252.5	5.7	1.000009
82500.0	25.4	-53.3		39.2	577.6	248.1	5.3	1.000009
83000.0	24.8	-53.1		39.2	577.9	243.1	5.0	1.000009
83500.0	24.2	-53.0		38.3	578.1	235.7	5.4	1.000009

UPPER AIR DATA  
 3060220029  
 11W 30

STATION ALTITUDE 4010.40 FEET MSL  
 2 NOV. 62 0830 HRS MST  
 ASCENSION NO. 29

GEODETIC COORDINATES  
 32.88497 LAT DEG  
 106.49714 LON DEG

TABLE 14 Cont'd

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 (TH)	SPEED KNOTS	
84000.0	23.6	-52.8		37.4	578.3	228.6	6.4	1.000008
84500.0	23.1	-52.6		36.5	578.5	223.8	7.4	1.000008
85000.0	22.6	-52.5		35.6	578.7	219.5	7.8	1.000008
85500.0	22.0	-52.3		34.8	579.0	214.1	7.2	1.000008
86000.0	21.5	-52.1		33.9	579.2	207.8	6.8	1.000008
86500.0	21.0	-52.0		33.1	579.4	206.5	6.2	1.000007
87000.0	20.5	-51.8		32.3	579.6	216.0	5.4	1.000007
87500.0	20.1	-51.6		31.6	579.8	228.2	4.8	1.000007
88000.0	19.6	-51.6		30.8	579.9	245.0	6.2	1.000007
88500.0	19.2	-51.6		30.1	579.9	254.2	10.5	1.000007
89000.0	18.7	-51.5		29.4	579.9	258.0	14.9	1.000007
89500.0	18.3	-51.5		28.7	580.0	259.9	17.1	1.000006
90000.0	17.9	-51.5		28.1	580.0	261.7	15.3	1.000006
90500.0	17.5	-51.5		27.4	580.0	263.8	13.6	1.000006
91000.0	17.1	-51.5		26.8	580.0			1.000006
91500.0	16.7	-51.4		26.2	580.1			1.000006
92000.0	16.3	-51.4		25.6	580.1			1.000006
92500.0	15.9	-51.4		25.0	580.1			1.000006

STATION ALTITUDE 4010.40 FEET MSL  
 2 NOV. 42  
 ASCENSION NO. 29

MANDATORY LEVELS  
 3060220029  
 NW 30

GEODETIC COORDINATES  
 52.88497 LAT DEG  
 106.49714 LON DEG

TABLE 15

PRESSURE MILLIBARS	GEOPOTENTIAL FEET	TEMPERATURE		REL. HUM. PERCENT	WIND DATA	
		AIR DEGREES CENTIGRADE	DEWPOINT CENTIGRADE		DIRECTION DEGREES (TN)	SPEED KNOTS
850.0	4916.	10.7	-4.9	33.	20.0	12.0
800.0	6566.	8.3	-6.5	34.	13.0	14.3
750.0	8306.	5.3	-7.2	40.	54.5	7.1
700.0	10141.	1.1	-6.9	55.	188.0	4.6
650.0	12082.	-3.6	-10.0	61.	239.9	10.2
600.0	14137.	-9.0	-11.8	80.	204.9	17.6
550.0	16332.	-13.3	-23.9	40.	257.4	27.7
500.0	18686.	-19.2	-26.7	51.	259.0	27.8
450.0	21225.	-25.9	-28.1	82.	260.4	33.5
400.0	23989.	-32.6	-35.6	74.	264.4	30.7
350.0	27064.	-33.9	-47.8	23.	285.8	44.7
300.0	30594.	-35.0	-49.1	22.	286.9	52.7
250.0	34765.	-36.7	-50.5	22.	287.0	65.6
200.0	39743.	-44.7			283.0	56.2
175.0	42627.	-51.3			287.6	51.7
150.0	45871.	-57.3			285.6	36.9
125.0	49587.	-64.2			275.1	42.4
100.0	54027.	-66.8			279.4	27.0
80.0	58482.	-63.3			306.6	19.2
70.0	61170.	-64.4			353.9	7.3
60.0	64279.	-62.2			213.8	8.1
50.0	67996.	-59.7			288.1	5.1
40.0	72583.	-58.3			272.1	17.1
30.0	78588.	-54.5			288.7	8.8
25.0	82430.	-53.2			245.6	5.2
20.0	87164.	-51.6			229.0	4.8