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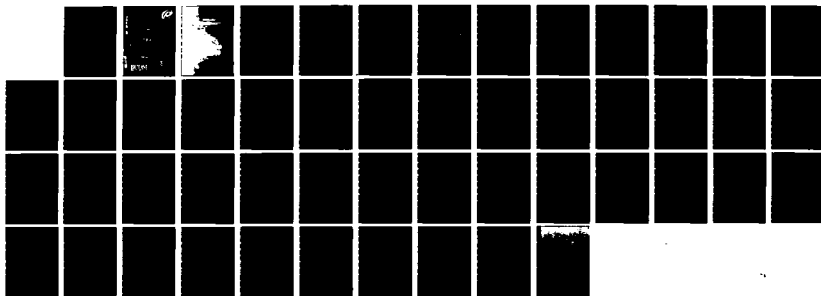
19318 BT MLRS MISSILE NUMBER Y5481 ROUND NUMBER  
503/CH-1 14 OCTOBER 1983(U) ARMY ELECTRONICS RESEARCH  
AND DEVELOPMENT COMMAND NSMR NM ATH. D C KELLER  
OCT 83 ERADCOM/ASL-DR-1321

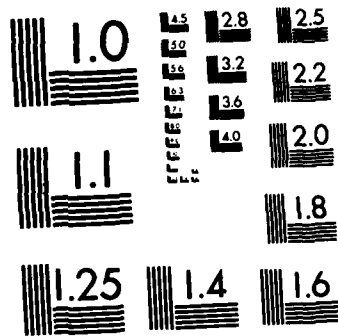
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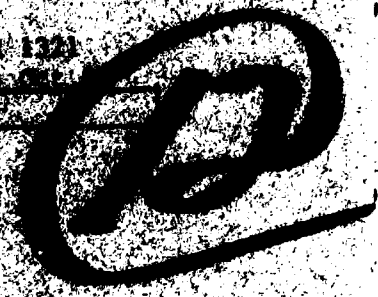




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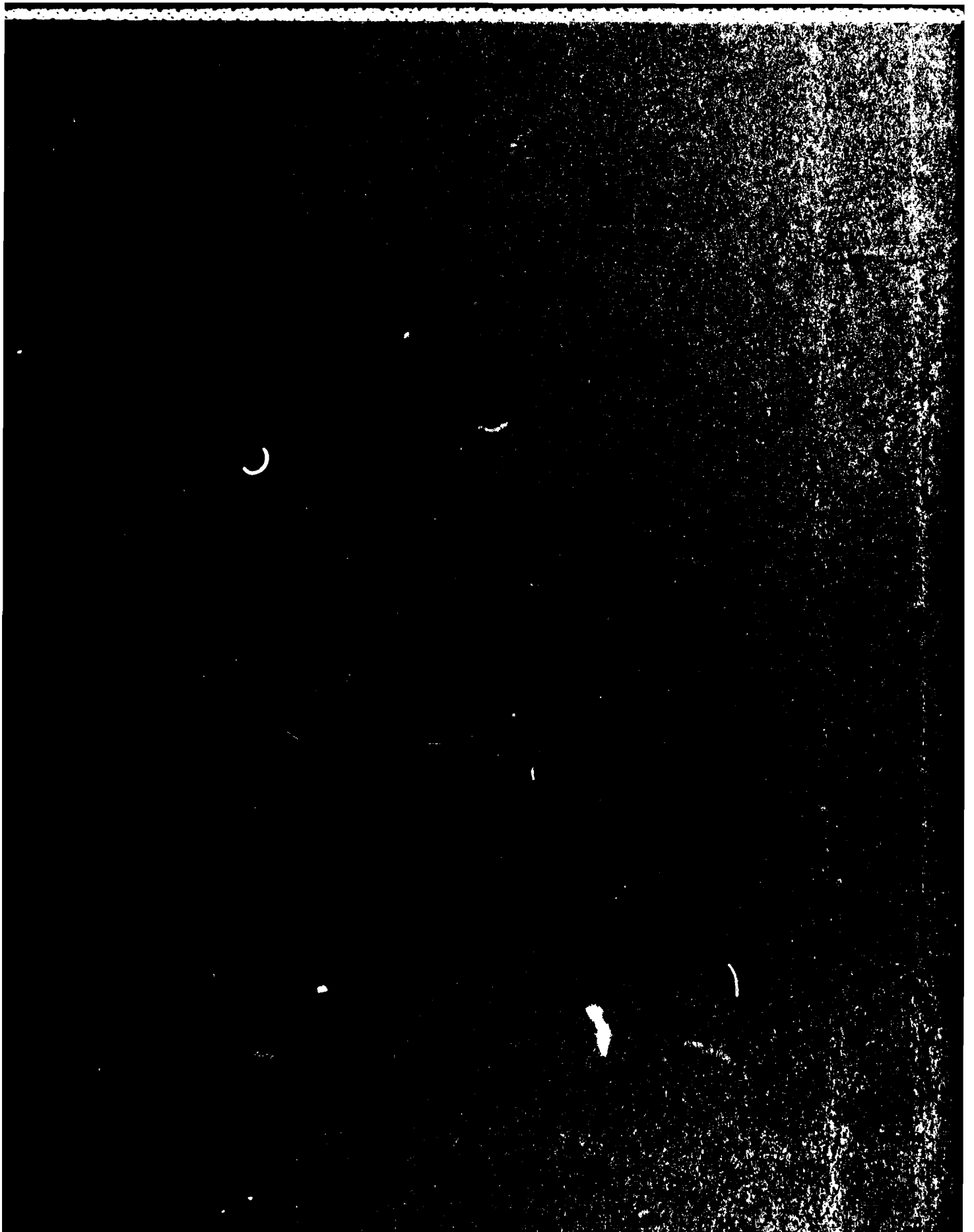
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REPORT DOCUMENTATION PAGE		READ INSTRUCTIONS BEFORE COMPLETING FORM
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19. KEY WORDS (Continue on reverse side if necessary and identify by block number)		
20. ABSTRACT (Continue on reverse side if necessary and identify by block number) Meteorological data gathered for the launching of the 19318 BT MLRS, Missile Number V5401, Round Number 503/CH-1, are presented in tabular form.		

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## INTRODUCTION

13818 BT MLRS, Missile Number V5401, Round Number 503/CH-1, was launched from LC-33, White Sands Missile Range (WSMR), New Mexico, at 0805:26 MDT 14 Oct 1983. The scheduled launch time was 0800 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 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 pilot-balloon observations at;

### SITE AND ALTITUDE

WSD 2 km

DON 2 km

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

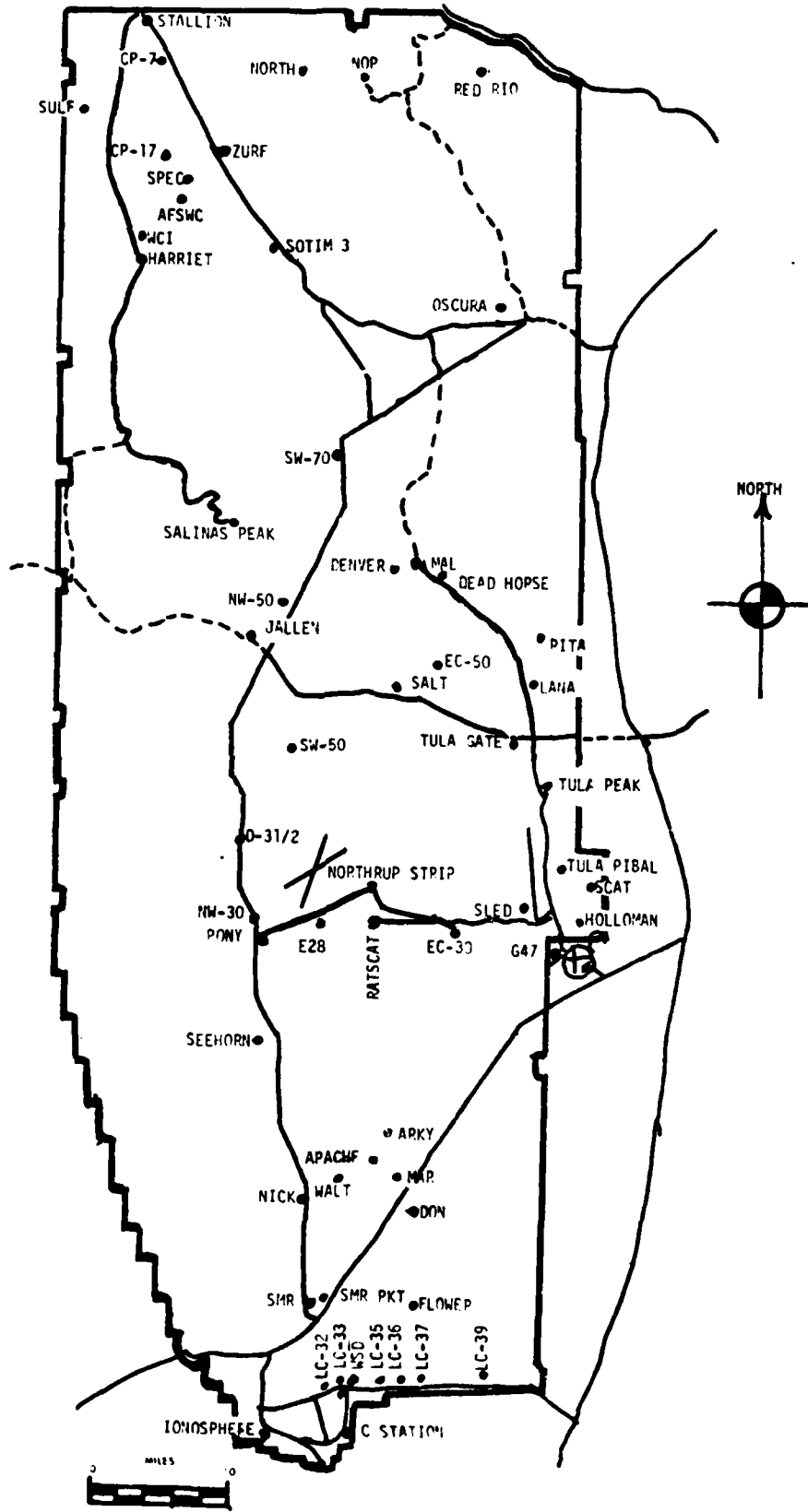
### SITE AND TIME

LC-37 0600 MDT

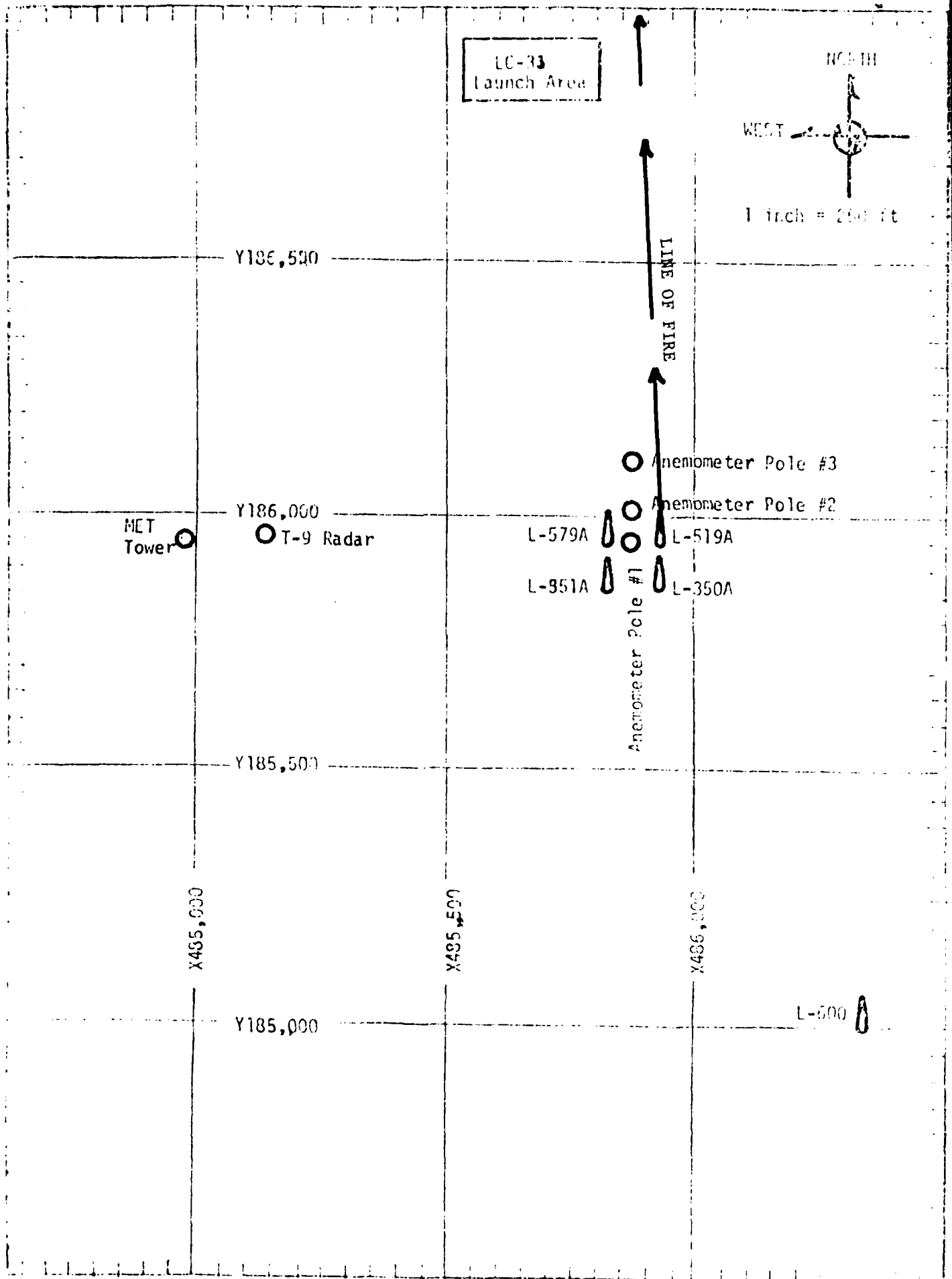
WSD 0630 MDT

WSD 0806 MDT

# WSMR METEOROLOGICAL SITES







PROJECT SURFACE OBSERVATION

TABLE <u>1</u>											
STATION <u>LC-33 E&amp;A</u>											
DATE	<u>14</u>	MO	<u>Oct</u>	YEAR	<u>83</u>	X =	<u>484,982.73</u>	Y =	<u>485,957.73</u>	H =	<u>3995.00</u>
TIME M D I	PRESSURE hPa	TEMPERATURE °C	DEW POINT °C	RELATIVE HUMIDITY %	DENSITY gm/m <sup>3</sup>	DIRECTION degs	WIND SPEED kts	WIND CHARACTER kts	VISIBIL- ITY		
0806	876.1	14.8	63	56		122	03		50		

OBSTRUCTIONS TO VISIBILITY	CLOUDS						REMARKS
	1st LAYER		2nd LAYER		3rd LAYER		
	AMT	TYPE	HGT	AMT	TYPE	HGT	
	2	SC	6000				H ALQNS

PSYCHROMETRIC COMPUTATION

TIME: MDT	0806
DRY BULB TEMP.	14.8
WET BULB TEMP.	10.0
WET BULB DEPR.	4.8
DEW POINT	63
RELATIVE HUMID.	56

LC-33 METEOROLOGICAL TOWER  
ANEMOMETER MEASURED WIND DATA

WSTM COORDINATES X=484,982.64 Y=185,957.73 H=3983.00 BASE

TABLE NO. 2

DATE 14 Oct 83 0806 M D Y  
DAY MONTH YEAR TIME

LEVEL #1 12 FT AGL			LEVEL #2 12 FT AGL		
T-TIME (SEC)	DIR (DEG)	SPEED (KTS)	T-TIME (SEC)	DIR (DEG)	SPEED (KTS)
T-30	111	04	T-30	121	05
T-20	114	04	T-20	125	06
T-10	116	03	T-10	120	06
T- 0 (1st T)	122	03	T- 0 (1st T)	123	04
T+10	113	03	T+10	125	05
T+20	128	04	T+20	128	05
T+30	125	04	T+30	125	05
T+40	126	03	T+40	129	04
T+50	123	03	T+50	131	05
T+60	139	03	T+60	137	05
LEVEL #3 102 FT AGL			LEVEL #4 202 FT AGL		
T-TIME (SEC)	DIR (DEG)	SPEED (KTS)	T-TIME (SEC)	DIR (DEG)	SPEED (KTS)
T-30	132	06	T-30		CALM
T-20	138	06	T-20		CALM
T-10	141	06	T-10		CALM
T- 0 (1st T)	141	06	T- 0 (1st T)		CALM
T+10	144	05	T+10		CALM
T+20	147	05	T+20		CALM
T+30	150	05	T+30	129	02
T+40	150	05	T+40	130	02
T+50	151	04	T+50	150	02
T+60	153	04	T+60	151	02

## T-TIME PILOT-BALLOON MEASURED WIND DATA

DATE 14 October 1983

SITE: WSD  
 TIME: 0806 MDT  
 WSTM COORDINATES:  
 X= 488,852.29  
 Y= 184,982.45  
 H= 3,993.75

SITE: DON  
 TIME 0806 MDT  
 WSTM COORDINATES:  
 X= 511,988.37  
 Y= 247,396.36  
 H= 3,996.83

LAYER MIDPOINT METERS AGL	DIRECTION DEGREES	SPEED KNOTS
SURFACE	110	04
150	259	02
210	234	04
270	243	02
330	240	03
390	229	04
500	239	09
650	240	09
800	242	09
950	240	14
1150	251	19
1350	260	23
1550	256	23
1750	260	27
2000	255	35

Data obtained from a Nike-Hercules Radar  
 Tracked pilot-balloon observation.

LAYER MIDPOINT METERS AGL	DIRECTION DEGREES	SPEED KNOTS
SURFACE	200	03
150	220	08
210	225	09
270	230	09
330	235	10
390	239	11
500	243	13
650	247	13
800	252	12
950	253	14
1150	244	18
1350	247	29
1550	252	33
1750	254	30
2000	259	33

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

AIMING AND T-TIME COMPUTER MET MESSAGES  
14 October 1983

LC-37 0600 MDT

METCM1324063

141200124873

00000000 28920873

10251005 29130862

02087003 29240838

03047001 28900799

04431006 28450753

05461026 27960709

06459037 27700667

07450038 27630627

08429043 27410589

09427035 26950553

WSD 0630 MDT

METCM1324064

141250122875

00178004 28880875

01292012 29140865

02505011 29170840

03464015 28930801

04447023 28500755

05456030 28060711

06462037 27750669

07456038 27390629

08439042 27130591

09428046 26950555

WSD 0806 MDT

METCM1324064

141410122875

00196004 28750875

01402002 29350865

02385003 29250840

03426011 29000802

04450003 28550756

05450003 28100712

06460001 27740670

07454000 27540630

08430000 27270592

09430000 26950556

STATION ALTITUDE 4651.57 FEET MSL  
 14 OCT. 83  
 ASCENSION 110. 155

SIGNIFICANT LEVEL DATA  
 2870100135  
 LC-37

GEODETIC COORDINATES  
 32.40175 LAT DEG  
 106.51252 LON DEG

TABLE 5

PRECIPITATION MILLIBARS	GEOMETRIC ALTITUDE FEET	TEMPERATURE AIR DEGREES CENTIGRADE	REL. HUM. PERCENT
872.5	4051.4	5.8	54.0
862.1	4350.3	6.6	50.0
850.0	4784.0	6.8	45.0
782.5	7096.4	3.9	53.0
700.0	10131.7	1.5	61.0
693.6	10377.7	2.3	91.0
677.8	10792.6	-1.8	72.0
675.9	11067.4	-1.7	73.0
674.1	11138.3	-10.3	38.0
671.3	11249.1	-10.7	35.0
650.0	12108.7	-17.1	20.0
596.8	14378.6	-16.7	24.0
553.4	16357.6	-4.1	31.0
526.2	17950.8	-7.8	23.0
500.0	18961.4	-28.2	19.0

STATION ALTITUDE 4051.37 FEET MSL  
 14 OCT. 83  
 ASCENSION NO. 133

UPPER AIR DATA  
 2870180135  
 LC-37

GEODETIC COORDINATES  
 32.40175 LAT DEG  
 106.31232 LON DEG

TABLE 6

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE		REL. HUM. PERCENT	DENSITY GM/CM <sup>3</sup> METER	SPEED OF SOUND KNOTS	WIND DATA DIRECTION DEGREES(TN)	SPEED KNOTS	INDEX OF REFRACTION
		AIR DEGREES	DEWPOINT CENTIGRADE						
4051.4	872.5	15.0	5.8	54.0	1050.6	662.6	.0	.0	1.000276
4100.0	871.0	15.3	5.9	53.4	1047.6	663.0	21.6	.0	1.000276
4200.0	867.9	15.9	6.2	52.2	1041.5	663.7	21.6	.0	1.000275
4300.0	864.8	16.6	6.4	51.0	1035.5	664.5	21.6	.0	1.000274
4400.0	861.7	17.2	6.6	49.8	1029.5	665.2	21.6	.0	1.000273
4500.0	858.6	17.6	6.7	48.6	1024.2	665.8	21.6	.0	1.000272
4600.0	855.6	18.1	6.7	47.3	1018.8	666.3	21.6	.1	1.000271
4700.0	852.5	18.6	6.8	46.1	1013.5	666.9	21.6	.1	1.000270
4800.0	849.5	19.0	6.8	45.1	1008.7	667.3	21.6	.1	1.000269
4900.0	846.5	18.7	6.7	45.4	1005.9	667.0	21.6	.1	1.000268
5000.0	843.5	18.5	6.6	45.7	1003.2	666.7	21.6	.1	1.000267
5100.0	840.4	18.2	6.4	46.1	1000.5	666.4	21.6	.1	1.000266
5200.0	837.4	18.0	6.3	46.4	997.8	666.2	21.6	.1	1.000265
5300.0	834.4	17.7	6.2	46.8	995.1	665.9	21.6	.1	1.000264
5400.0	831.5	17.5	6.1	47.1	992.4	665.6	21.6	.1	1.000263
5500.0	828.5	17.2	6.0	47.5	989.7	665.3	21.6	.2	1.000263
5600.0	825.5	17.0	5.9	47.8	987.0	665.0	21.6	.2	1.000262
5700.0	822.6	16.7	5.7	48.2	984.3	664.7	21.6	.2	1.000261
5800.0	819.7	16.5	5.6	48.5	981.7	664.4	21.6	.2	1.000260
5900.0	816.7	16.2	5.5	48.9	979.0	664.1	21.6	.2	1.000259
6000.0	813.8	16.0	5.4	49.2	976.4	663.8	21.6	.2	1.000258
6100.0	810.9	15.8	5.2	49.6	973.7	663.6	21.6	.2	1.000257
6200.0	808.0	15.5	5.1	49.9	971.1	663.3	21.6	.2	1.000256
6300.0	805.1	15.3	5.0	50.2	968.5	663.0	21.6	.2	1.000256
6400.0	802.2	15.0	4.9	50.6	965.9	662.7	21.6	.3	1.000255
6500.0	799.4	14.8	4.7	50.9	963.3	662.4	21.6	.3	1.000254
6600.0	796.5	14.5	4.6	51.3	960.7	662.1	290.7	.3	1.000253
6700.0	793.7	14.3	4.5	51.6	958.1	661.8	267.6	.8	1.000252
6800.0	790.8	14.0	4.3	52.0	955.5	661.5	262.0	1.3	1.000251
6900.0	788.0	13.8	4.2	52.3	952.9	661.2	259.5	1.8	1.000250
7000.0	785.2	13.5	4.1	52.7	950.4	660.9	258.0	2.3	1.000249
7100.0	782.4	13.3	3.9	53.0	947.8	660.6	257.1	2.9	1.000248
7200.0	779.5	13.0	3.9	54.0	945.3	660.3	256.5	3.4	1.000248
7300.0	776.7	12.7	3.9	54.9	942.8	660.0	256.0	3.9	1.000248
7400.0	773.8	12.4	3.8	55.8	940.3	659.6	255.6	4.4	1.000247
7500.0	771.0	12.1	3.8	56.7	937.8	659.3	255.4	4.9	1.000246
7600.0	768.2	11.8	3.8	57.6	935.3	659.0	255.1	5.4	1.000246
7700.0	765.4	11.6	3.7	58.6	932.8	658.6	254.9	6.0	1.000245
7800.0	762.5	11.3	3.7	59.5	930.3	658.3	254.8	6.5	1.000245
7900.0	759.8	11.0	3.6	60.4	927.9	658.0	254.6	7.0	1.000244

UPPER AIR DATA  
2870180133  
LC-37

STATION ALTITUDE 4051.37 FEET MSL  
14 OCT. 83  
ASCENSION NO. 133

GEODETIC COORDINATES  
32.40175 LAT UEG  
106.31232 LONG WEG

TABLE 6 Con't

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBAR'S	TEMPERATURE		REL. HUM. PERCENT	DENSITY GM/CM <sup>3</sup> METER	SPEED OF SOUND KNOTS	WIND DATA		INDEX OF REFRACTION
		AIR DEGREES CENTIGRADE	DEWPOINT CENTIGRADE				DIRECTION DEGREES(TN)	SPEED KNOTS	
8000.0	757.0	10.7	3.6	61.3	925.4	657.6	254.5	7.5	1.000243
8100.0	754.2	10.4	3.5	62.3	923.0	657.3	254.4	8.0	1.000243
8200.0	751.4	10.1	3.4	63.2	920.5	657.0	254.3	8.6	1.000242
8300.0	748.7	9.8	3.4	64.1	918.1	656.6	254.9	9.4	1.000241
8400.0	745.9	9.5	3.3	65.0	915.7	656.3	255.4	10.2	1.000241
8500.0	743.2	9.2	3.2	65.9	913.3	655.9	255.0	11.0	1.000240
8600.0	740.5	8.9	3.1	66.9	910.9	655.6	256.1	11.8	1.000239
8700.0	737.8	8.7	3.0	67.8	908.5	655.3	256.4	12.7	1.000239
8800.0	735.1	8.4	3.0	68.7	906.1	654.9	256.7	13.5	1.000238
8900.0	732.4	8.1	2.9	69.6	903.7	654.6	256.9	14.3	1.000237
9000.0	729.7	7.8	2.8	70.6	901.3	654.2	257.1	15.1	1.000237
9100.0	727.0	7.5	2.7	71.5	899.0	653.9	257.3	16.0	1.000236
9200.0	724.3	7.2	2.6	72.4	896.6	653.6	257.5	16.8	1.000235
9300.0	721.7	6.9	2.5	73.3	894.3	653.2	257.7	17.6	1.000235
9400.0	719.1	6.6	2.4	74.2	891.9	652.9	257.6	18.5	1.000234
9500.0	716.4	6.3	2.3	75.2	889.6	652.5	257.9	19.3	1.000233
9600.0	713.8	6.0	2.2	76.1	887.3	652.2	258.0	20.1	1.000232
9700.0	711.2	5.8	2.0	77.0	885.0	651.8	258.2	20.9	1.000232
9800.0	708.6	5.5	1.9	77.9	882.7	651.5	258.3	21.8	1.000231
9900.0	706.0	5.2	1.8	78.8	880.4	651.1	258.5	22.6	1.000230
10000.0	703.4	4.9	1.7	79.8	878.1	650.8	258.4	23.6	1.000230
10100.0	700.8	4.6	1.6	80.7	875.8	650.5	258.4	24.7	1.000229
10200.0	698.2	4.3	1.8	83.8	873.5	650.1	258.5	25.8	1.000229
10300.0	695.6	3.9	2.1	87.8	871.4	649.7	258.5	26.9	1.000229
10400.0	693.0	3.6	2.1	90.3	869.1	649.3	258.5	28.0	1.000229
10500.0	690.4	3.4	1.9	87.2	866.8	649.1	258.5	29.1	1.000227
10600.0	687.8	3.3	.9	84.1	863.8	648.9	258.5	30.2	1.000225
10700.0	685.3	3.1	.2	81.0	861.1	648.7	258.6	31.3	1.000223
10800.0	682.7	3.0	-.5	78.0	858.5	648.4	258.6	32.4	1.000221
10900.0	680.2	2.8	-1.2	74.9	855.9	648.2	258.6	33.5	1.000219
11000.0	677.6	2.7	-1.8	72.1	853.2	648.0	258.6	34.3	1.000217
11100.0	675.1	2.6	-5.1	56.9	850.8	647.7	258.5	34.8	1.000210
11200.0	672.5	2.0	-10.5	36.3	847.1	647.9	258.4	35.3	1.000202
11300.0	670.0	2.3	-11.0	34.1	843.0	648.3	258.4	35.9	1.000201
11400.0	667.5	3.4	-11.6	32.4	839.7	648.3	258.3	36.4	1.000200
11500.0	665.0	3.4	-12.2	30.6	836.5	648.3	258.2	37.0	1.000198
11600.0	662.5	3.5	-12.9	28.9	833.3	648.4	258.2	37.5	1.000197
11700.0	660.0	3.5	-13.6	27.1	830.1	648.4	258.1	37.9	1.000195
11800.0	657.6	3.6	-14.4	25.4	826.9	648.4	258.0	37.9	1.000194
11900.0	655.1	3.6	-15.2	23.6	823.7	648.4	257.9	37.9	1.000193



UPPER AIR DATA  
 2870100133  
 LC-37

STATION ALTITUDE 4051.37 FEET MSL  
 14 OCT. 83 0600 MDT  
 ASCENSION NO. 133

UPPER AIR DATA  
 2870100133  
 LC-37

GEODETIC COORDINATES  
 32.40175 LAT DEG  
 106.31232 LON DEG

TABLE 6 Con't

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES CELSIUS	REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DATA		INDEX OF REFRACTION
						DIRECTION DEGREES(TN)	SPEED KNOTS	
12000.0	652.7	3.6	21.9	820.6	648.5	257.8	37.9	1.000191
12100.0	650.2	3.7	20.2	817.4	648.5	257.8	37.9	1.000190
12200.0	647.8	3.6	20.2	814.6	648.4	257.5	37.9	1.000189
12300.0	645.3	3.5	20.3	811.8	648.3	257.1	37.8	1.000189
12400.0	642.9	3.4	20.5	809.0	648.2	256.5	37.6	1.000188
12500.0	640.5	3.4	20.7	806.2	648.1	255.9	37.4	1.000188
12600.0	638.1	3.3	20.9	803.4	648.0	255.2	37.2	1.000187
12700.0	635.7	3.2	21.0	800.7	647.9	254.6	37.1	1.000186
12800.0	633.3	3.1	21.2	797.9	647.8	253.9	36.9	1.000186
12900.0	630.9	3.0	21.4	795.2	647.7	252.9	36.9	1.000185
13000.0	628.6	2.9	21.6	792.4	647.6	251.8	37.0	1.000185
13100.0	626.2	2.8	21.7	789.7	647.5	250.7	37.1	1.000184
13200.0	623.9	2.7	21.9	787.0	647.4	249.6	37.3	1.000183
13300.0	621.5	2.7	22.1	784.3	647.3	248.6	37.4	1.000183
13400.0	619.2	2.6	22.3	781.6	647.2	247.5	37.5	1.000182
13500.0	616.9	2.5	22.5	778.9	647.1	246.4	37.7	1.000182
13600.0	614.5	2.4	22.6	776.2	647.0	245.6	38.2	1.000181
13700.0	612.2	2.3	22.8	773.5	646.9	245.3	38.9	1.000181
13800.0	609.9	2.2	23.0	770.9	646.8	244.7	39.5	1.000180
13900.0	607.6	2.1	23.2	768.2	646.7	244.3	40.2	1.000179
14000.0	605.4	2.0	23.3	765.6	646.6	243.8	40.9	1.000179
14100.0	603.1	1.9	23.5	762.9	646.5	243.3	41.6	1.000178
14200.0	600.8	1.9	23.7	760.3	646.4	242.9	42.2	1.000178
14300.0	598.6	1.8	23.9	757.7	646.3	242.4	42.9	1.000177
14400.0	596.3	1.6	24.1	755.2	646.1	242.0	43.6	1.000177
14500.0	594.0	1.5	24.4	753.1	645.8	241.6	44.3	1.000176
14600.0	591.8	1.1	24.8	751.1	645.4	241.2	44.9	1.000176
14700.0	589.5	.8	25.1	749.0	645.1	241.2	44.8	1.000175
14800.0	587.3	.5	25.5	747.0	644.7	241.1	44.6	1.000175
14900.0	585.0	.2	25.8	744.9	644.4	241.1	44.5	1.000174
15000.0	582.8	-.1	26.2	742.9	644.1	241.0	44.3	1.000174
15100.0	580.6	-.4	26.6	740.8	643.7	240.9	44.2	1.000173
15200.0	578.4	-.7	26.9	738.8	643.4	240.9	44.0	1.000173
15300.0	576.2	-1.0	27.3	736.8	643.0	240.8	43.9	1.000172
15400.0	574.0	-1.3	27.6	734.8	642.7	240.7	43.7	1.000172
15500.0	571.8	-1.6	28.0	732.8	642.3	240.7	43.6	1.000171
15600.0	569.6	-1.9	28.3	730.8	642.0	240.6	43.4	1.000171
15700.0	567.5	-2.2	28.7	728.8	641.6	240.5	43.3	1.000170
15800.0	565.3	-2.5	29.0	726.8	641.3	240.7	43.1	1.000170
15900.0	563.1	-2.8	29.4	724.8	640.9	241.0	43.0	1.000169

UPPER AIR DATA  
 2870180133  
 LC-37

STATION ALTITUDE 4951.37 FEET MSL  
 14 OCT. 83  
 ASCENSION NO. 133 0600 MDT

GEODETIC COORDINATES  
 J2.40175 LAT DEG  
 106.31232 LONG DEG

TABLE 6 Con't

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	AIR TEMPERATURE 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
16000.0	561.0	-3.1	-18.2	29.7	722.9	640.6	241.2	42.9	1.000169
16100.0	558.9	-3.3	-18.4	30.1	720.9	640.2	241.4	42.8	1.000168
16200.0	556.7	-3.6	-18.5	30.4	718.9	639.9	241.7	42.7	1.000168
16300.0	554.6	-3.9	-18.6	30.8	717.0	639.5	241.9	42.6	1.000167
16400.0	552.5	-4.2	-18.8	30.8	715.0	639.2	242.2	42.5	1.000166
16500.0	550.5	-4.4	-19.2	30.3	712.8	638.9	242.4	42.4	1.000166
16600.0	548.2	-4.7	-19.6	29.8	710.7	638.6	242.7	42.3	1.000165
16700.0	546.1	-4.9	-20.0	29.3	708.6	638.3	242.9	42.2	1.000164
16800.0	544.0	-5.1	-20.4	28.8	706.4	638.1	243.1	42.1	1.000164
16900.0	541.9	-5.4	-20.8	28.3	704.3	637.8			1.000163
17000.0	539.8	-5.6	-21.2	27.8	702.2	637.5			1.000162
17100.0	537.7	-5.8	-21.7	27.3	700.1	637.2			1.000162
17200.0	535.6	-6.1	-22.1	26.8	698.0	636.9			1.000161
17300.0	533.5	-6.3	-22.5	26.3	696.0	636.6			1.000160
17400.0	531.4	-6.5	-22.9	25.8	693.9	636.4			1.000160
17500.0	529.4	-6.8	-23.3	25.3	691.8	636.1			1.000159
17600.0	527.3	-7.0	-23.7	24.8	689.8	635.8			1.000158
17700.0	525.3	-7.2	-24.2	24.3	687.7	635.5			1.000158
17800.0	523.3	-7.4	-24.6	23.8	685.6	635.2			1.000157
17900.0	521.2	-7.7	-25.0	23.3	683.6	634.9			1.000157
18000.0	519.2	-7.9	-25.4	22.8	681.4	634.7			1.000156
18100.0	517.2	-8.0	-25.7	22.4	679.0	634.6			1.000155
18200.0	515.1	-8.1	-26.0	22.0	676.6	634.5			1.000155
18300.0	513.1	-8.2	-26.3	21.6	674.3	634.3			1.000154
18400.0	511.1	-8.3	-26.5	21.2	671.9	634.2			1.000153
18500.0	509.1	-8.4	-26.8	20.8	669.6	634.0			1.000153
18600.0	507.1	-8.5	-27.1	20.4	667.2	633.9			1.000152
18700.0	505.1	-8.6	-27.4	20.0	664.9	633.8			1.000152
18800.0	503.2	-8.7	-27.7	19.6	662.6	633.6			1.000151
18900.0	501.2	-8.8	-28.1	19.2	660.3	633.5			1.000150

STATION ALTITUDE 4051.37 F. ET MSL  
 14 OCT. 83  
 ASCENSION NO. 133

MANDATORY LEVELS  
 2870100133  
 LC-37  
 TABLE 7

GEODLTIC COORDINATES  
 32.40175 LAT DEG  
 106.31232 LON DEG

PRESSURE GEOPOTENTIAL MILLIBARS	TEMPERATURE AIR DEGREES CENTIGRADE	REL. HUM. PERCENT	WIND DATA	
			DIRECTION DEGREES(TN)	SPEED KNOTS
850.0	19.0	45.	21.6	.1
800.0	14.8	51.	21.6	.3
750.0	9.9	64.	250.7	9.0
700.0	4.5	81.	250.4	25.0
650.0	3.7	20.	257.0	37.9
600.0	1.8	24.	242.8	42.4
550.0	-4.5	30.	242.4	42.4
500.0	-8.9	19.		

STATION ALTITUDE 3989.00 FEET MSL  
 14 OCT. 83  
 ASCENSION NO. 488

SIGNIFICANT LEVEL DATA  
 2870020488  
 WHITE SANDS

GEODETIC COORDINATES  
 32.40043 LAT DEG  
 106.37033 LON DEG

TABLE 8

PRESSURE MILLIBARS	GEOMETRIC ALTITUDE MFL FEET	TEMPERATURE AIR DEGREES CENTIGRADE	REL. HUM. PERCENT
875.0	3789.0	14.1	60.0
869.0	4181.1	17.5	51.0
850.0	4801.6	17.3	49.0
838.6	5180.6	17.4	50.0
822.8	5713.9	16.7	51.0
763.6	7786.5	11.6	57.0
725.4	9188.9	8.0	61.0
709.0	10151.7	5.4	55.0
696.9	10271.0	5.1	62.0
687.7	10627.4	4.4	53.0
678.5	10987.6	4.2	18.0
669.3	11352.7	4.8	18.0
618.9	13428.3	-0.8	29.0
588.9	14728.5	-2.3	17.0
573.5	15419.9	-2.4	24.0
521.1	17001.2	-6.4	15.0
500.0	18057.2	-9.6	14.0

UPPER AIR DATA  
 2870020486  
 WHITE SANDS

STATION ALTITUDE 3989.00 FEET MSL  
 14 OCT. 63  
 ASCENSION NO. 438

GEODETIC COORDINATES  
 32.40043 LAT DEG  
 106.37033 LON DEG

TABLE 9

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	AIR TEMPERATURE DEGREES CENTIGRADE	REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	DIRECTION DEGREES (TN)	WIND SPEED KNOTS	INDEX OF REFRACTION
3989.0	875.0	14.1	60.0	1056.7	661.7	100.0	100.0	1.000260
4000.0	874.7	14.3	59.5	1055.6	661.9	100.3	100.3	1.000280
4100.0	871.5	16.1	54.8	1045.2	664.0	103.9	103.9	1.000278
4200.0	868.4	17.5	50.9	1036.3	665.6	110.1	110.1	1.000277
4300.0	865.3	17.5	50.6	1032.7	665.6	122.6	122.6	1.000275
4400.0	862.2	17.4	50.3	1029.2	665.6	152.8	152.8	1.000274
4500.0	859.2	17.4	50.0	1025.7	665.5	203.7	203.7	1.000273
4600.0	856.1	17.4	49.6	1022.1	665.5	232.6	232.6	1.000272
4700.0	853.1	17.3	49.3	1018.6	665.4	244.5	244.5	1.000271
4800.0	850.0	17.3	49.0	1015.2	665.4	250.5	250.5	1.000270
4900.0	847.0	17.3	49.3	1011.4	665.4	254.0	254.0	1.000269
5000.0	844.0	17.4	49.5	1007.7	665.5	256.3	256.3	1.000269
5100.0	841.0	17.4	49.8	1003.9	665.5	258.0	258.0	1.000268
5200.0	838.0	17.4	50.0	1000.4	665.5	259.2	259.2	1.000268
5300.0	835.0	17.2	50.2	997.2	665.4	260.1	260.1	1.000267
5400.0	832.1	17.1	50.4	994.2	665.2	260.8	260.8	1.000266
5500.0	829.1	17.0	50.6	991.1	665.1	261.4	261.4	1.000265
5600.0	826.2	16.8	50.8	988.0	664.9	261.9	261.9	1.000264
5700.0	823.2	16.7	51.0	984.9	664.8	262.3	262.3	1.000263
5800.0	820.3	16.5	51.2	982.2	664.5	262.7	262.7	1.000262
5900.0	817.3	16.2	51.5	979.5	664.2	263.0	263.0	1.000261
6000.0	814.4	16.0	51.8	976.9	663.9	263.2	263.2	1.000260
6100.0	811.4	15.8	52.1	974.2	663.6	263.5	263.5	1.000259
6200.0	808.5	15.5	52.4	971.6	663.3	263.7	263.7	1.000259
6300.0	805.6	15.3	52.7	968.9	663.0	263.2	263.2	1.000258
6400.0	802.7	15.0	53.0	966.3	662.7	262.2	262.2	1.000257
6500.0	799.8	14.8	53.3	963.7	662.4	261.3	261.3	1.000256
6600.0	796.9	14.5	53.6	961.0	662.2	260.4	260.4	1.000255
6700.0	794.1	14.3	53.9	958.4	661.9	259.6	259.6	1.000254
6800.0	791.2	14.0	54.1	955.8	661.6	258.8	258.8	1.000253
6900.0	788.4	13.8	54.4	953.2	661.3	258.0	258.0	1.000252
7000.0	785.5	13.5	54.7	950.7	661.0	257.3	257.3	1.000251
7100.0	782.7	13.3	55.0	948.1	660.7	256.5	256.5	1.000250
7200.0	779.9	13.0	55.3	945.5	660.4	255.8	255.8	1.000249
7300.0	777.1	12.8	55.6	942.9	660.1	255.1	255.1	1.000248
7400.0	774.3	12.6	55.9	940.4	659.8	254.3	254.3	1.000247
7500.0	771.5	12.3	56.2	937.8	659.5	253.8	253.8	1.000246
7600.0	768.7	12.1	56.5	935.3	659.2	253.2	253.2	1.000245
7700.0	766.0	11.8	56.7	932.8	658.9	252.8	252.8	1.000245
7800.0	763.2	11.6	57.0	930.2	658.6	252.1	252.1	1.000244

GEODLTIC COORDINATES  
32.4043 LAT DEG  
106.37033 LON DEG

UPPER AIR DATA  
2870020486  
WHITE SANDS

STATION ALTITUDE 3989.00 FEET MSL  
14 OCT. 43  
ASCESSION NO. 488

TABLE 9 Con't

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	AIR TEMPERATURE DEGREES CENTIGRADE	REL. HUM. PERCENT	WIND DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	DIRECTION DEGREES (TN)	WIND DATA SPEED KNOTS	INDEX OF REFRACTION
7900.0	760.4	11.5	57.3	927.7	658.3	253.3	21.2	1.000243
8000.0	757.7	11.1	57.6	925.2	658.0	253.6	21.7	1.000242
8100.0	754.9	10.8	57.9	922.7	657.7	253.8	22.2	1.000241
8200.0	752.1	10.5	58.2	920.2	657.4	254.0	22.8	1.000240
8300.0	749.4	10.3	58.5	917.7	657.1	254.2	23.3	1.000239
8400.0	746.6	10.0	58.7	915.2	656.8	254.4	23.9	1.000238
8500.0	743.9	9.8	59.0	912.7	656.5	254.6	24.4	1.000237
8600.0	741.2	9.5	59.3	910.2	656.2	254.8	25.0	1.000236
8700.0	738.5	9.3	59.6	907.7	655.9	255.0	25.5	1.000235
8800.0	735.8	9.0	59.9	905.2	655.5	255.1	26.1	1.000234
8900.0	733.1	8.7	60.2	902.8	655.2	255.3	26.6	1.000234
9000.0	730.4	8.5	60.5	900.4	654.9	255.4	27.2	1.000233
9100.0	727.8	8.2	60.7	897.9	654.6	255.6	27.7	1.000232
9200.0	725.1	8.0	60.9	895.5	654.3	255.7	28.2	1.000231
9300.0	722.4	7.7	60.3	893.1	654.0	255.9	28.8	1.000229
9400.0	719.6	7.4	59.7	890.7	653.6	256.0	29.3	1.000228
9500.0	717.1	7.2	59.1	888.4	653.3	256.2	29.7	1.000227
9600.0	714.4	6.9	58.4	886.0	652.9	256.4	30.1	1.000226
9700.0	711.8	6.6	57.8	883.7	652.6	256.6	30.5	1.000224
9800.0	709.2	6.3	57.2	881.3	652.3	256.7	30.9	1.000223
9900.0	706.6	6.1	56.6	879.0	651.9	256.9	31.2	1.000222
10000.0	703.9	5.8	55.9	876.6	651.6	257.1	31.6	1.000220
10100.0	701.3	5.5	55.3	874.3	651.2	257.3	32.0	1.000219
10200.0	698.7	5.3	54.7	871.8	651.0	257.4	32.4	1.000219
10300.0	696.1	5.0	54.1	869.2	650.7	257.6	32.7	1.000220
10400.0	693.6	4.8	53.5	866.7	650.5	257.8	33.1	1.000218
10500.0	691.0	4.7	52.9	864.2	650.2	257.9	33.5	1.000216
10600.0	688.4	4.5	52.3	861.7	649.9	258.1	33.9	1.000214
10700.0	685.8	4.4	51.7	859.1	649.7	258.2	34.2	1.000210
10800.0	683.3	4.3	51.1	856.5	649.5	258.4	34.6	1.000206
10900.0	680.7	4.2	50.5	853.8	649.2	258.5	35.0	1.000201
11000.0	678.2	4.2	50.0	851.1	649.1	258.5	35.2	1.000197
11100.0	675.7	4.4	49.4	847.4	649.3	258.3	35.3	1.000196
11200.0	673.1	4.5	48.8	843.7	649.5	258.2	35.5	1.000195
11300.0	670.6	4.7	48.2	840.1	649.7	258.1	35.6	1.000195
11400.0	668.1	4.7	47.6	837.0	649.6	257.9	35.7	1.000194
11500.0	665.6	4.4	47.0	834.7	649.3	257.8	35.8	1.000194
11600.0	663.1	4.1	46.4	832.3	649.0	257.7	35.9	1.000193
11700.0	660.6	3.9	45.8	830.0	648.7	257.6	36.0	1.000193
11800.0	658.1	3.6	45.2	827.7	648.4	257.4	36.2	1.000192

STATION ALTITUDE 3989.00 F ET MSL  
 14 OCT. 83  
 ASCENSION NO. 488 0630 MDT

UPPER AIR DATA  
 2870020488  
 WHITE SANDS

GEODETIC COORDINATES  
 32.40043 LAT DEG  
 106.37033 LON DEG

TABLE 9 Con't

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	AIR TEMPERATURE DEGREES CENTIGRADE	REL. HUM. PERCENT	DENSITY GM/CM <sup>3</sup>	SPEED OF SOUND KNOTS	WIND DIRECTION DEGREES (TN)	WIND DATA SPEED KNOTS	INDEX OF REFRACTION
11900.0	653.6	3.3	20.9	825.3	648.1	257.3	36.3	1.000192
12000.0	653.2	3.1	21.4	823.0	547.8	257.2	36.4	1.000191
12100.0	650.7	2.8	22.0	820.7	647.4	257.0	36.5	1.000191
12200.0	648.2	2.5	22.5	818.4	647.1	256.9	36.6	1.000191
12300.0	645.8	2.2	23.0	816.1	646.8	256.8	36.8	1.000190
12400.0	643.4	2.0	23.6	813.9	646.5	256.7	36.9	1.000190
12500.0	641.0	1.7	24.1	811.6	646.2	256.7	37.0	1.000189
12600.0	638.5	1.4	24.6	809.3	645.9	256.6	37.1	1.000189
12700.0	636.1	1.2	25.1	807.1	645.6	256.5	37.1	1.000188
12800.0	633.7	.9	25.7	804.8	645.2	256.5	37.2	1.000188
12900.0	631.4	.6	26.2	802.6	644.9	256.4	37.3	1.000187
13000.0	629.0	.4	26.7	800.3	644.6	256.4	37.4	1.000187
13100.0	626.6	.1	27.3	798.1	644.3	256.3	37.5	1.000186
13200.0	624.3	-.2	27.8	795.9	644.0	256.3	37.6	1.000186
13300.0	621.9	-.5	28.3	793.7	643.7	256.2	37.7	1.000185
13400.0	619.6	-.7	28.9	791.5	643.3	256.2	37.8	1.000185
13500.0	617.2	-.9	29.3	788.9	643.1	256.1	37.9	1.000184
13600.0	614.9	-1.0	27.4	786.3	643.0	255.4	38.4	1.000183
13700.0	612.5	-1.1	26.5	783.6	642.8	254.6	38.9	1.000182
13800.0	610.2	-1.2	25.6	781.0	642.7	253.9	39.4	1.000181
13900.0	607.8	-1.3	24.6	778.4	642.6	253.2	39.9	1.000180
14000.0	605.5	-1.5	23.7	775.8	642.4	252.5	40.5	1.000179
14100.0	603.2	-1.6	22.8	773.2	642.3	251.8	41.0	1.000179
14200.0	600.9	-1.7	21.9	770.6	642.1	251.1	41.6	1.000178
14300.0	598.6	-1.8	21.0	768.0	642.0	250.5	42.1	1.000177
14400.0	596.3	-1.9	20.0	765.4	641.8	249.8	42.5	1.000176
14500.0	594.1	-2.0	19.1	762.9	641.7	248.6	42.8	1.000175
14600.0	591.8	-2.2	18.2	760.3	641.5	247.9	43.1	1.000174
14700.0	589.5	-2.3	17.3	757.7	641.4	246.9	43.3	1.000173
14800.0	587.3	-2.3	17.7	755.0	641.3	246.0	43.6	1.000173
14900.0	585.0	-2.3	18.7	752.1	641.3	245.1	43.9	1.000173
15000.0	582.8	-2.3	19.7	749.2	641.3	244.2	44.2	1.000172
15100.0	580.6	-2.4	20.8	746.4	641.3	243.3	44.6	1.000172
15200.0	578.4	-2.4	21.8	743.5	641.3	242.5	44.9	1.000171
15300.0	576.1	-2.4	22.8	740.7	641.3	242.0	44.7	1.000171
15400.0	573.9	-2.4	23.8	737.9	641.3	241.4	44.5	1.000171
15500.0	571.7	-2.5	23.7	735.4	641.1	240.9	44.3	1.000170
15600.0	569.5	-2.7	23.3	733.0	640.9	240.4	44.2	1.000169
15700.0	567.3	-2.9	23.0	730.6	640.7	239.8	44.0	1.000169
15800.0	565.1	-3.0	22.6	728.3	640.5	239.3	43.9	1.000168

UPPER AIR DATA  
 2870020460  
 WHITE SANDS  
 TABLE 9 Con't

STATION ALTITUDE 3489.00 FEET MSL  
 14 OCT. 63  
 ASCENSION NO. 486 0630 MDT

GEODETIC COORDINATES  
 32.40043 LAT DEG  
 106.37033 LON DEG

GEOMETRIC ALTITUDE MSL FEET	PRESURE MILLIBARS	AIR TEMPERATURE DEGREES, CENTIGRADE	REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	DIRLCTION DEGREES(TN)	WIND DATA SPEED KNOTS	INDEX OF REFRACTION
15900.0	565.0	-3.2	22.3	725.9	640.3	239.0	43.9	1.000167
16000.0	560.0	-3.3	21.9	723.6	640.1	239.8	43.9	1.000167
16100.0	555.0	-3.5	21.5	721.2	640.0	240.1	44.0	1.000166
16200.0	550.0	-3.7	21.2	718.9	639.8	240.3	44.0	1.000165
16300.0	554.5	-3.8	20.8	716.5	639.6	240.6	44.1	1.000165
16400.0	552.2	-4.0	20.4	714.2	639.4	240.9	44.1	1.000164
16500.0	550.1	-4.1	20.1	711.9	639.2	241.7	43.9	1.000163
16600.0	548.0	-4.3	19.7	709.6	639.0	242.6	43.7	1.000163
16700.0	545.8	-4.5	19.4	707.3	638.8	243.4	43.5	1.000162
16800.0	543.7	-4.6	19.0	705.0	638.6	244.3	43.3	1.000161
16900.0	541.6	-4.8	18.6	702.7	638.4	245.2	43.2	1.000161
17000.0	539.6	-4.9	18.3	700.4	638.2			1.000160
17100.0	537.5	-5.1	17.9	698.2	638.0			1.000159
17200.0	535.4	-5.3	17.5	695.9	637.8			1.000159
17300.0	533.3	-5.4	17.2	693.7	637.6			1.000158
17400.0	531.3	-5.6	16.8	691.4	637.4			1.000158
17500.0	529.2	-5.8	16.5	689.2	637.2			1.000157
17600.0	527.2	-5.9	16.1	686.9	637.0			1.000156
17700.0	525.2	-6.1	15.7	684.7	636.8			1.000156
17800.0	523.1	-6.2	15.4	682.5	636.6			1.000155
17900.0	521.1	-6.4	15.0	680.3	636.4			1.000155
18000.0	519.1	-6.7	14.9	678.4	636.0			1.000154
18100.0	517.1	-7.0	14.8	676.5	635.7			1.000154
18200.0	515.0	-7.3	14.7	674.7	635.3			1.000153
18300.0	513.0	-7.6	14.6	672.8	635.0			1.000153
18400.0	511.0	-7.9	14.5	670.9	634.6			1.000152
18500.0	509.0	-8.2	14.4	669.1	634.2			1.000152
18600.0	507.0	-8.5	14.3	667.2	633.9			1.000151
18700.0	505.1	-8.8	14.2	665.4	633.5			1.000151
18800.0	503.1	-9.1	14.1	663.6	633.1			1.000150
18900.0	501.1	-9.4	14.1	661.7	632.8			1.000150



STATION ALTITUDE 3989.00 FEET MSL  
 14 OCT. 83  
 ASCENSION NO. 484 0630 MDT

MANDATORY LEVELS  
 2870020480  
 WHITE SANDS

GEODETIC COORDINATES  
 32.40043 LAT DEG  
 106.37033 LON DEG

TABLE 10

PRESSURE GEOPOTENTIAL		TEMPERATURE		REL. HUM.		WIND DATA	
MILLIBARS	FLEET	AIR DEGREES CENTIGRADE	DEWPOINT CENTIGRADE	PERCENT	DIRECTION DEGREES(TN)	SPEED KNOTS	
650.0	4798.	17.3	6.5	49.	250.5	3.2	
800.0	6493.	14.8	5.4	53.	261.4	16.3	
750.0	8272.	10.3	2.5	58.	254.2	23.2	
700.0	10142.	5.4	-2.9	55.	257.4	32.2	
650.0	12120.	2.7	-16.8	22.	257.0	36.6	
600.0	14224.	-1.7	-20.9	22.	250.9	41.7	
550.0	16487.	-4.1	-23.7	20.	241.7	43.9	
500.0	18931.	-9.6	-32.0	14.			

STATION ALTITUDE 3989.00 FT FT MSL  
 14 OCT. 83  
 ASCENSION 110. 489

SIGNIFICANT LEVEL DATA  
 2870020489  
 WHITE SANDS  
 TABLE 11

GEODETIC COORDINATES  
 32.40043 LAT DEG  
 106.37033 LON DEG

PRESSURE MILLIBARS	GEOMETRIC ALTITUDE MSL FEET	AIR TEMPERATURE DEGREES CENTIGRADE	REL. HUM. PERCENT
875.4	5989.0	12.0	69.0
860.6	4174.5	18.9	64.0
861.8	4029.7	20.2	56.0
850.0	4020.3	19.4	51.0
853.5	5372.1	16.7	53.0
809.7	6183.2	16.4	54.0
781.1	7184.7	13.6	59.0
762.5	7957.6	11.8	57.0
707.6	9988.0	6.5	71.0
700.0	10179.2	5.6	67.0
695.3	10360.3	4.8	68.0
676.5	11093.6	3.4	48.0
672.1	11267.7	3.6	21.0
661.1	11708.0	4.1	17.0
656.8	12705.4	2.5	20.0
645.4	14226.0	-1.1	19.0
660.4	16063.4	-4.2	18.0
641.6	16948.0	-4.0	19.0
628.0	17605.6	-5.6	16.0
616.1	19192.6	-6.2	15.0
600.0	19004.8	-8.1	12.0
466.2	20780.7	-11.6	15.0
428.6	22877.2	-17.3	17.0
400.0	24565.6	-21.7	18.0
385.8	25437.7	-24.0	20.0
372.2	26297.7	-25.1	18.0
358.6	28531.6	-31.4	20.0
300.0	31307.7	-39.2	20.0
270.4	33625.6	-44.4	22.0
250.0	35340.3	-48.7	
200.0	40073.1	-58.0	
183.6	41835.4	-62.0	
172.1	43156.9	-60.4	
165.6	43950.7	-58.8	
150.0	45988.0	-61.0	
141.3	47714.6	-60.2	
125.3	49671.4	-62.8	
113.7	51644.4	-63.1	
100.9	52331.5	-64.8	
102.9	53662.6	-62.9	

STATION ALTITUDE 3949.00 FEET MSL  
 14 OCT. 63  
 ASCENSION NO. 489 0800 MDT

SIGNIFICANT LEVEL DATA  
 2870020489  
 WHITE SANDS

GEODETIC COORDINATES  
 32.40043 LAT DEG  
 106.57053 LONG DEG

TABLE 11 Con't

PRESSURE GEOMETRIC ALTITUDE MILLIBARS MSL FEET	TEMPERATURE AIR DEWPOINT DEGREES CENTIGRADE	REL. HUM. PERCENT
100.0 54243.0	-63.3	
85.0 57337.0	-61.8	
76.3 59747.9	-63.7	
73.3 60568.9	-59.3	
70.0 61522.7	-58.8	
63.2 63661.7	-54.7	
60.6 64544.8	-57.0	
55.7 66312.5	-55.9	
50.0 68580.6	-56.2	
44.5 71030.5	-55.7	
42.8 71945.5	-58.3	
38.3 74176.9	-54.5	
36.5 75193.3	-55.7	
30.0 79351.5	-52.8	
28.0 80831.5	-50.7	
23.9 84251.5	-49.8	
20.7 87393.1	-45.6	
20.0 88151.9	-45.7	
16.8 91092.7	-46.3	

STATION ALTITUDE 3989.00 FEET MSL  
 14 OCT. 83  
 ASCENSION NO. 400 0800 MDT

UPPER AIR DATA  
 2870020489  
 WHITE SANDS  
 TABLE 12

GEOIDETIC COORDINATES  
 32.40043 LAT DEG  
 106.37033 LONG DEG

GEODETIC ALTITUDE FEET	PRESSURE MILLIBARS	AIR TEMPERATURE DEGREES CENTIGRADE	REL. HUM. PERCENT	DENSITY GM/CM <sup>3</sup> METER	SPEED OF SOUND KNOTS	DIRECTION DEGREES (TN)	WIND DATA SPEED KNOTS	INDEX OF REFRACTION
3989.0	875.4	12.0	69.0	1.065.0	659.2	110.0	4.1	1.000262
4000.0	875.1	12.4	68.7	1.062.9	659.7	110.5	4.0	1.000263
4100.0	871.4	10.8	66.0	1.044.5	664.4	115.9	3.6	1.000248
4200.0	868.8	11.9	63.2	1.029.6	667.9	122.6	3.2	1.000291
4300.0	865.8	11.0	60.1	1.024.3	668.5	131.0	2.9	1.000269
4400.0	862.7	11.3	56.9	1.019.0	669.0	141.3	2.6	1.000206
4500.0	859.7	10.8	55.1	1.015.0	669.0	153.3	2.5	1.000283
4600.0	855.8	10.2	53.8	1.012.9	668.7	160.2	2.5	1.000281
4700.0	853.6	9.7	52.5	1.010.2	668.4	173.8	2.5	1.000278
4800.0	850.6	9.1	51.3	1.007.5	668.1	190.0	2.7	1.000276
4900.0	847.8	8.7	51.3	1.005.8	667.6	199.4	3.0	1.000274
5000.0	844.6	8.4	51.7	1.003.8	667.0	207.0	3.4	1.000273
5100.0	841.6	8.0	52.0	1.002.0	665.4	213.0	3.8	1.000271
5200.0	838.6	7.7	52.4	1.000.2	665.8	217.9	4.2	1.000270
5300.0	835.6	7.3	52.7	998.5	665.2	221.8	4.7	1.000269
5400.0	832.7	7.1	53.0	996.2	664.8	225.0	5.2	1.000268
5500.0	829.7	7.1	53.2	992.8	664.7	227.8	5.7	1.000267
5600.0	826.7	7.1	53.3	989.4	664.7	229.8	6.2	1.000266
5700.0	823.8	7.1	53.4	985.9	664.7	231.7	6.7	1.000265
5800.0	820.9	7.1	53.5	982.5	664.6	233.2	7.2	1.000264
5900.0	817.9	7.1	53.7	979.1	664.6	234.7	7.7	1.000264
6000.0	815.0	7.1	53.8	975.8	664.5	235.9	8.3	1.000263
6100.0	812.1	7.1	53.9	972.4	664.5	237.6	8.9	1.000262
6200.0	809.2	7.1	54.1	969.2	664.4	239.9	9.7	1.000262
6300.0	806.3	6.9	54.6	966.0	664.1	241.9	10.6	1.000261
6400.0	803.4	6.8	55.1	964.1	663.8	243.5	11.4	1.000260
6500.0	800.5	6.7	55.6	961.8	663.4	244.9	12.3	1.000259
6600.0	797.7	6.5	56.1	959.1	663.1	246.2	13.2	1.000258
6700.0	794.8	6.4	56.6	956.7	662.8	247.2	14.0	1.000257
6800.0	792.0	6.3	57.1	954.2	662.4	248.2	14.9	1.000256
6900.0	789.1	6.1	57.6	951.7	662.1	249.1	15.8	1.000255
7000.0	786.3	6.0	58.1	949.2	661.8	249.8	16.7	1.000255
7100.0	783.5	5.9	58.6	946.8	661.5	250.5	17.5	1.000254
7200.0	780.7	5.7	59.0	944.3	661.1	250.9	17.9	1.000253
7300.0	777.8	5.4	58.7	941.9	660.8	251.4	18.3	1.000251
7400.0	775.0	5.1	58.4	939.4	660.5	251.8	18.8	1.000250
7500.0	772.2	4.7	58.1	937.0	660.1	252.2	19.2	1.000249
7600.0	769.4	4.4	57.8	934.6	659.8	252.6	19.7	1.000247
7700.0	766.7	4.1	57.5	932.1	659.4	253.0	20.1	1.000246
7800.0	763.9	3.8	57.2	929.7	659.1	253.3	20.5	1.000244

STATION ALTITUDE 3949.00 FEET MSL  
 14 OCT. 83  
 ASCENSION NO. 489

UPPER AIR DATA  
 2870020489  
 WHITE SANDS

GEODETIC COORDINATES  
 32.40043 LAT DEG  
 106.37033 LONG DEG

TABLE 12 Con't

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	AIR TEMPERATURE DEGREES CENTIGRADE	REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DATA DIRECTION DEGREES(TN)	SPEED KNOTS	INDEX OF REFRACTION
7900.0	761.1	11.7	57.3	927.2	650.8	253.7	21.0	1.000243
8000.0	753.5	11.4	58.0	924.7	658.5	254.0	21.4	1.000243
8100.0	753.6	11.2	58.7	922.1	658.2	254.3	21.9	1.000242
8200.0	752.8	10.9	59.4	919.6	657.9	254.5	22.2	1.000241
8300.0	750.0	10.6	60.1	917.1	657.6	254.6	22.2	1.000241
8400.0	747.5	10.4	60.7	914.6	657.3	254.6	22.3	1.000240
8500.0	744.6	10.1	61.4	912.1	657.0	254.7	22.3	1.000239
8600.0	741.8	9.9	62.1	909.6	656.7	254.7	22.3	1.000238
8700.0	739.1	9.6	62.8	907.1	656.5	254.7	22.3	1.000238
8800.0	736.4	9.3	63.5	904.6	656.0	254.8	22.4	1.000237
8900.0	733.7	9.1	64.2	902.2	655.7	254.8	22.4	1.000236
9000.0	731.0	8.8	64.9	899.7	655.4	254.9	22.4	1.000236
9100.0	728.5	8.6	65.6	897.3	655.1	254.9	22.5	1.000235
9200.0	725.7	8.3	66.3	894.8	654.8	254.9	22.5	1.000234
9300.0	723.0	8.0	66.9	892.4	654.5	255.0	22.5	1.000233
9400.0	720.4	7.8	67.6	890.0	654.2	255.2	23.0	1.000233
9500.0	717.7	7.5	68.3	887.5	653.9	255.5	23.7	1.000232
9600.0	715.1	7.3	69.0	885.1	653.6	255.7	24.3	1.000231
9700.0	712.5	7.0	69.7	882.7	653.3	256.0	25.0	1.000230
9800.0	709.9	6.7	70.4	880.3	653.0	256.2	25.6	1.000230
9900.0	707.3	6.5	70.8	878.0	652.6	256.4	26.3	1.000229
10000.0	704.7	6.2	69.5	875.8	652.2	256.7	26.9	1.000227
10100.0	702.1	5.8	68.1	873.6	651.8	256.9	27.6	1.000225
10200.0	699.5	5.5	67.1	871.6	651.4	257.1	28.2	1.000224
10300.0	696.9	5.1	67.7	869.8	650.9	257.2	28.9	1.000223
10400.0	694.3	4.7	66.9	867.7	650.4	257.4	29.5	1.000221
10500.0	691.7	4.5	64.2	865.2	650.2	257.6	30.2	1.000219
10600.0	689.1	4.3	61.5	862.7	649.9	257.7	30.9	1.000217
10700.0	686.5	4.2	59.7	860.2	649.6	258.0	31.5	1.000215
10800.0	684.0	4.0	56.0	857.7	649.3	258.2	32.1	1.000214
10900.0	681.4	3.8	53.3	855.2	649.1	258.5	32.8	1.000212
11000.0	678.9	3.6	50.6	852.7	648.8	258.8	33.4	1.000210
11100.0	676.3	3.4	47.0	850.2	648.5	259.0	34.1	1.000208
11200.0	673.8	3.5	41.5	847.2	648.5	259.3	34.7	1.000201
11300.0	671.3	3.6	20.7	844.1	648.4	259.5	35.3	1.000196
11400.0	668.8	3.8	19.8	840.6	648.6	259.8	36.0	1.000195
11500.0	666.3	3.9	18.9	837.2	648.7	260.0	36.6	1.000194
11600.0	663.8	4.0	18.0	833.7	648.8	260.2	37.3	1.000193
11700.0	661.3	4.1	17.1	830.3	648.9	260.4	37.9	1.000192
11800.0	658.8	4.0	17.3	827.0	648.8	260.6	38.6	1.000191

GEODETIC COORDINATES  
 32°40'43" LAT UEG  
 106°37'03"5" LON DEG

UPPER AIR DATA  
 2870020489  
 WHITE SANDS

TABLE 12 Con't

STATION ALTITUDE 3989.00 FEET MSL  
 14 OCT. 83 0800 MDT  
 ASCENSION NO. 439

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	AIR TEMPERATURE DEGREES CENTIGRADE	REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	DIRECTION DEGREES (TN)	WIND DATA SPEED KNOTS	INDEX OF REFRACTION
11900.0	650.4	3.8	17.6	825.0	648.6	260.2	38.8	1.000191
12000.0	653.9	3.6	17.9	822.3	648.4	259.7	38.9	1.000190
12100.0	651.4	3.5	18.2	819.7	648.2	259.3	39.1	1.000190
12200.0	649.0	3.3	18.5	817.1	648.0	258.9	39.2	1.000189
12300.0	646.6	3.2	18.8	814.5	647.8	258.4	39.4	1.000189
12400.0	644.1	3.0	19.1	811.9	647.7	258.0	39.6	1.000188
12500.0	641.7	2.8	19.4	809.4	647.5	257.6	39.7	1.000188
12600.0	639.3	2.7	19.7	806.8	647.3	257.2	39.9	1.000187
12700.0	636.9	2.5	20.0	804.2	647.1	256.8	40.1	1.000186
12800.0	634.5	2.3	20.0	801.7	646.9	256.3	40.2	1.000186
12900.0	632.1	2.2	19.9	799.1	646.7	255.9	40.4	1.000185
13000.0	629.7	2.0	19.9	796.6	646.5	255.3	40.6	1.000184
13100.0	627.3	1.9	19.8	794.0	646.3	254.8	40.9	1.000184
13200.0	625.0	1.7	19.8	791.5	646.1	253.9	41.1	1.000183
13300.0	622.6	1.5	19.7	789.0	645.9	253.3	41.4	1.000183
13400.0	620.3	1.4	19.7	786.5	645.7	252.6	41.6	1.000182
13500.0	617.9	1.2	19.6	784.0	645.5	251.9	41.9	1.000181
13600.0	615.6	1.0	19.6	781.5	645.4	251.3	42.2	1.000181
13700.0	613.2	.9	19.6	779.0	645.2	250.6	42.5	1.000180
13800.0	610.9	.7	19.5	776.5	645.0	250.0	42.7	1.000179
13900.0	608.6	.6	19.5	774.0	644.8	249.4	43.0	1.000179
14000.0	606.3	.4	19.4	771.5	644.6	248.8	43.3	1.000178
14100.0	604.0	.2	19.4	769.1	644.4	248.2	43.6	1.000177
14200.0	601.7	.1	19.3	766.6	644.2	247.7	43.7	1.000177
14300.0	599.5	-.1	19.3	764.2	644.0	247.2	43.9	1.000176
14400.0	597.2	-.2	19.2	761.8	643.8	246.7	44.0	1.000176
14500.0	594.9	-.4	19.2	759.3	643.6	246.2	44.2	1.000175
14600.0	592.7	-.6	19.1	756.9	643.4	245.7	44.3	1.000174
14700.0	590.4	-.7	19.1	754.5	643.2	245.2	44.5	1.000174
14800.0	588.2	-.9	19.1	752.1	643.0	244.7	44.7	1.000173
14900.0	586.0	-1.1	19.0	749.7	642.8	244.2	44.8	1.000173
15000.0	583.7	-1.3	18.9	747.5	642.5	243.7	45.0	1.000172
15100.0	581.5	-1.6	18.8	745.4	642.2	243.3	45.1	1.000171
15200.0	579.3	-1.8	18.8	743.3	641.9	243.5	45.0	1.000171
15300.0	577.1	-2.1	18.7	741.2	641.6	243.5	45.0	1.000170
15400.0	574.8	-2.4	18.6	739.2	641.2	243.5	44.9	1.000170
15500.0	572.6	-2.7	18.5	737.1	640.9	243.6	44.9	1.000169
15600.0	570.5	-2.9	18.4	735.0	640.6	243.6	44.8	1.000168
15700.0	568.3	-3.2	18.3	732.9	640.3	243.6	44.8	1.000168
15800.0	566.1	-3.5	18.2	730.9	639.9	243.6	44.8	1.000167

GEODETIC COORDINATES  
 52.40043 LAT DEG  
 106.37033 LON DEG

UPPER AIR DATA  
 2870020489  
 WHITE SANDS

TABLE 12 Con't

STATION ALTITUDE 3989.00 FEET MSL  
 14 OCT. 83  
 ASCENSION NO. 489 0800 MDT

GEO-METRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES CENTIGRADE	REL.HUM. PERCENT	DENSITY GM/CM <sup>3</sup> METER	SPEED OF SOUND KNOTS	WIND DATA		INDEX OF REFRACTION
						DIRECTION DEGREES(TN)	SPEED KNOTS	
15900.0	563.9	-3.8	18.1	728.8	639.6	243.7	44.7	1.000167
16000.0	561.8	-4.0	18.1	726.6	639.3	244.2	44.6	1.000166
16100.0	559.6	-4.2	17.9	724.4	639.1	244.8	44.5	1.000166
16200.0	557.5	-4.2	17.7	721.6	639.1	245.5	44.3	1.000165
16300.0	555.3	-4.1	17.5	718.8	639.1	246.1	44.2	1.000164
16400.0	553.2	-4.1	17.2	715.9	639.2	246.8	44.1	1.000164
16500.0	551.0	-4.1	17.0	713.1	639.2	247.4	44.0	1.000163
16600.0	548.9	-4.1	16.8	710.3	639.2	248.1	43.9	1.000162
16700.0	546.8	-4.1	16.6	707.5	639.2	248.7	43.8	1.000162
16800.0	544.7	-4.0	16.3	704.7	639.3	249.4	43.7	1.000161
16900.0	542.6	-4.0	16.1	702.0	639.3	249.8	43.6	1.000160
17000.0	540.5	-4.1	16.0	699.2	639.1	250.3	43.4	1.000160
17100.0	538.4	-4.4	16.0	697.5	638.9	250.7	43.2	1.000159
17200.0	536.3	-4.6	16.0	695.5	638.6	251.2	43.0	1.000159
17300.0	534.3	-4.9	16.0	693.4	638.3	251.6	42.9	1.000158
17400.0	532.2	-5.1	16.0	691.4	638.0	252.1	42.7	1.000158
17500.0	530.2	-5.3	16.0	689.3	637.7	252.6	42.6	1.000157
17600.0	528.1	-5.6	16.0	687.3	637.4	253.0	42.4	1.000157
17700.0	526.1	-5.7	15.8	684.9	637.3	253.3	42.4	1.000156
17800.0	524.0	-5.8	15.7	682.5	637.1	253.3	42.5	1.000155
17900.0	522.0	-5.9	15.5	680.1	637.0	253.3	42.6	1.000155
18000.0	520.0	-6.0	15.3	677.6	636.9	253.2	42.7	1.000154
18100.0	518.0	-6.1	15.2	675.4	636.8	253.2	42.9	1.000154
18200.0	516.0	-6.2	15.0	673.1	636.6	253.1	43.0	1.000153
18300.0	513.9	-6.5	14.6	671.0	636.3	253.1	43.1	1.000152
18400.0	511.9	-6.7	14.2	669.0	636.1	253.0	43.3	1.000152
18500.0	509.9	-6.9	13.9	667.0	635.8	253.0	43.4	1.000151
18600.0	508.0	-7.2	13.5	665.0	635.5	252.9	43.5	1.000151
18700.0	506.0	-7.4	13.1	663.0	635.2	252.9	43.6	1.000150
18800.0	504.0	-7.6	12.8	661.0	634.9	252.9	43.7	1.000150
18900.0	502.0	-7.9	12.4	659.0	634.6	252.8	43.7	1.000149
19000.0	500.1	-8.1	12.0	657.1	634.4	252.8	43.8	1.000148
19100.0	498.1	-8.3	12.3	655.0	634.1	252.7	43.9	1.000148
19200.0	496.2	-8.5	12.5	652.9	633.9	252.7	44.0	1.000147
19300.0	494.2	-8.7	12.5	650.8	633.6	252.7	44.1	1.000147
19400.0	492.3	-8.9	12.7	648.7	633.4	252.6	44.1	1.000146
19500.0	490.3	-9.1	12.8	646.7	633.2	252.6	44.1	1.000146
19600.0	488.4	-9.3	13.0	644.6	632.9	252.5	44.2	1.000146
19700.0	486.5	-9.5	13.2	642.5	632.7	252.5	44.2	1.000145
19800.0	484.6	-9.7	13.3	640.5	632.5	252.5	44.3	1.000145

UPPER AIR DATA  
 2870020489  
 WHITE SANDS

STATION ALTITUDE 3909.00 FEET MSL  
 14 OCT. 63  
 ASCENSION NO. 489 0800 MDT

TABLE 12 Con't

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARMS	AIR TEMPERATURE DEGREES CENTIGRADE	REL. HUM. PERCENT	DNFSITY GM/CURIC METER	SPEED OF SOUND KNOTS	WIND DIRECTION DEGREES (TH)	WIND SPEED KNOTS	INDEX OF REFRACTION
19900.0	482.7	-9.9	13.5	638.4	632.2	252.4	44.4	1.000144
20000.0	480.8	-10.1	13.7	636.4	632.0	252.4	44.5	1.000144
20100.0	478.9	-10.3	13.9	634.4	631.8	252.6	44.8	1.000143
20200.0	477.0	-10.5	14.0	632.4	631.5	252.7	45.0	1.000143
20300.0	475.1	-10.7	14.2	630.3	631.3	252.6	45.3	1.000143
20400.0	473.2	-10.8	14.4	628.3	631.0	252.9	45.6	1.000142
20500.0	471.4	-11.0	14.5	626.3	630.8	253.1	45.8	1.000142
20600.0	469.5	-11.2	14.7	624.3	630.5	253.2	46.1	1.000141
20700.0	467.7	-11.4	14.9	622.4	630.3	253.3	46.4	1.000141
20800.0	465.8	-11.7	15.0	620.4	630.1	253.4	46.7	1.000140
20900.0	464.0	-11.9	15.1	618.6	629.7	253.5	46.9	1.000140
21000.0	462.1	-12.2	15.2	616.7	629.4	253.6	47.2	1.000139
21100.0	460.3	-12.5	15.3	614.9	629.1	253.7	47.5	1.000139
21200.0	458.4	-12.7	15.4	613.1	628.8	253.8	47.8	1.000139
21300.0	456.6	-13.0	15.5	611.3	628.4	253.9	48.0	1.000138
21400.0	454.8	-13.3	15.6	609.5	628.1	254.0	48.3	1.000138
21500.0	452.9	-13.6	15.7	607.7	627.8	254.0	48.4	1.000137
21600.0	451.1	-13.8	15.8	605.9	627.4	254.1	48.6	1.000137
21700.0	449.3	-14.1	15.9	604.1	627.1	254.1	48.7	1.000136
21800.0	447.5	-14.4	16.0	602.3	626.8	254.1	48.9	1.000136
21900.0	445.7	-14.6	16.1	600.5	626.5	254.2	49.1	1.000136
22000.0	443.9	-14.9	16.2	598.7	626.1	254.2	49.2	1.000135
22100.0	442.2	-15.2	16.3	597.0	625.8	254.2	49.4	1.000135
22200.0	440.4	-15.5	16.4	595.2	625.5	254.2	49.5	1.000134
22300.0	438.6	-15.7	16.4	593.5	625.1	254.3	49.7	1.000134
22400.0	436.9	-16.0	16.5	591.7	624.8	254.3	49.8	1.000133
22500.0	435.1	-16.3	16.6	590.0	624.5	254.3	50.0	1.000133
22600.0	433.4	-16.5	16.7	588.2	624.1	254.3	50.2	1.000133
22700.0	431.7	-16.8	16.8	586.5	623.8	254.4	50.3	1.000132
22800.0	429.9	-17.1	16.9	584.8	623.5	254.4	50.2	1.000132
22900.0	428.2	-17.4	17.0	583.0	623.1	254.6	50.2	1.000131
23000.0	426.5	-17.6	17.1	581.3	622.8	254.9	50.2	1.000131
23100.0	424.7	-17.9	17.1	579.5	622.5	255.1	50.1	1.000131
23200.0	423.0	-18.1	17.2	577.7	622.2	255.3	50.1	1.000130
23300.0	421.3	-18.4	17.3	575.9	621.9	255.4	50.1	1.000130
23400.0	419.5	-18.7	17.3	574.2	621.5	255.6	50.0	1.000129
23500.0	417.8	-18.9	17.4	572.4	621.2	255.6	50.0	1.000129
23600.0	416.1	-19.2	17.4	570.7	620.9	256.0	50.0	1.000128
23700.0	414.4	-19.4	17.5	568.9	620.6	256.1	50.0	1.000128
23800.0	412.7	-19.7	17.5	567.2	620.3	256.4	50.0	1.000128



STATION ALTITUDE 5989.00 FEET MSL  
 14 OCT. 43  
 ASCENSION NO. 489 0800 MDT

UPPER AIR DATA  
 2870020489  
 WHITE SANDS

GEODETIC COORDINATES  
 32.40043 LAT DEG  
 106.37033 LON DEG

TABLE 12 Con't

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBAR'S	AIR TEMPERATURE DEGREES	TEMPERATURE DEWPOINT CENTIGRADE	REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DATA DIRECTION DEGREES (TN)	SPEED KNOTS	INDEX OF REFRACTION
23900.0	411.0	-20.0	-30.3	17.6	565.4	620.0	256.6	50.1	1.000127
24000.0	409.4	-20.2	-30.5	17.7	563.7	619.0	257.2	50.3	1.000127
24100.0	407.7	-20.5	-30.7	17.7	562.0	619.3	257.6	50.4	1.000126
24200.0	406.0	-20.7	-30.9	17.8	560.3	619.0	258.0	50.6	1.000126
24300.0	404.4	-21.0	-30.0	17.8	558.6	618.7	258.4	50.8	1.000126
24400.0	402.7	-21.3	-30.2	17.9	556.9	618.3	258.9	51.0	1.000125
24500.0	401.1	-21.5	-30.4	18.0	555.2	618.0	259.3	51.1	1.000125
24600.0	399.4	-21.8	-30.6	18.1	553.5	617.7	259.7	51.3	1.000124
24700.0	397.8	-22.1	-30.7	18.3	551.8	617.4	260.1	51.5	1.000124
24800.0	396.1	-22.3	-30.8	18.5	550.1	617.1	260.5	51.7	1.000124
24900.0	394.5	-22.6	-30.9	18.8	548.4	616.7	260.8	51.9	1.000123
25000.0	392.9	-22.8	-40.0	19.0	546.7	616.4	261.2	51.4	1.000123
25100.0	391.2	-23.1	-40.1	19.2	545.0	616.1	261.5	50.9	1.000122
25200.0	389.6	-23.4	-40.2	19.5	543.3	615.8	261.8	50.4	1.000122
25300.0	388.0	-23.6	-40.3	19.7	541.6	615.4	262.1	49.9	1.000122
25400.0	386.4	-23.9	-40.4	19.9	540.0	615.1	262.4	49.4	1.000121
25500.0	384.8	-24.1	-40.5	19.0	538.1	614.9	262.8	48.9	1.000121
25600.0	383.2	-24.2	-40.8	19.6	536.1	614.7	263.1	48.4	1.000120
25700.0	381.6	-24.3	-41.1	19.4	534.2	614.6	263.4	47.9	1.000120
25800.0	380.0	-24.5	-41.3	19.2	532.2	614.4	263.8	47.4	1.000120
25900.0	378.4	-24.6	-41.5	18.9	530.3	614.2	264.2	46.9	1.000119
26000.0	376.9	-24.7	-41.7	18.7	528.4	614.1	264.5	46.4	1.000119
26100.0	375.3	-24.8	-42.0	18.5	526.4	613.9	264.8	46.1	1.000118
26200.0	373.7	-25.0	-42.2	18.2	524.5	613.8	264.8	46.1	1.000118
26300.0	372.2	-25.1	-42.4	18.0	522.6	613.6	264.9	46.1	1.000117
26400.0	370.6	-25.4	-42.6	18.1	521.0	613.3	265.0	46.0	1.000117
26500.0	369.0	-25.7	-42.8	18.2	519.4	612.9	265.1	46.0	1.000117
26600.0	367.5	-26.0	-43.0	18.3	517.8	612.6	265.1	46.0	1.000116
26700.0	365.9	-26.2	-43.2	18.4	516.2	612.2	265.2	45.9	1.000116
26800.0	364.4	-26.5	-43.4	18.4	514.6	611.9	265.3	45.9	1.000115
26900.0	362.8	-26.8	-43.6	18.5	513.0	611.5	265.3	45.9	1.000115
27000.0	361.3	-27.1	-43.8	18.6	511.4	611.2	265.4	45.8	1.000115
27100.0	359.8	-27.4	-44.0	18.7	509.8	610.8	265.5	45.8	1.000114
27200.0	358.2	-27.6	-44.2	18.8	508.3	610.5	265.6	45.7	1.000114
27300.0	356.7	-27.9	-44.4	18.9	506.7	610.1	265.6	46.3	1.000114
27400.0	355.2	-28.2	-44.5	19.0	505.2	609.7	265.7	46.8	1.000113
27500.0	353.7	-28.5	-44.7	19.1	503.6	609.4	265.8	47.3	1.000113
27600.0	352.2	-28.8	-44.9	19.2	502.0	609.0	265.8	47.9	1.000113
27700.0	350.7	-29.1	-45.1	19.3	500.5	608.7	265.9	48.4	1.000112
27800.0	349.3	-29.3	-45.3	19.3	499.0	608.3	265.9	49.0	1.000112

UPPER AIR DATA  
 2870020489  
 WHITE SANDS

STATION ALTITUDE 3989.00 FT MSL  
 14 OCT. 83 0800 MDT  
 ASCENSION NO. 489

GEOMETRIC COORDINATES  
 32.40043 LAT DEG  
 106.37033 LONG DEG

TABLE 12 Con't

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	AIR TEMPERATURE DEGREES	REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED SOUND KNOTS	WIND DIRECTION ULGRLS(TIN)	WIND SPEED KNOTS	INDEX OF REFRACTION
27900.0	347.8	-29.6	19.4	497.4	608.0	260.0	49.5	1.000111
28000.0	346.3	-29.9	19.5	495.9	607.6	260.1	50.1	1.000111
28100.0	344.8	-30.2	19.6	494.4	607.3	260.1	50.6	1.000111
28200.0	343.4	-30.5	19.7	492.9	606.9	260.2	51.2	1.000110
28300.0	341.9	-30.7	19.8	491.4	606.6	260.2	51.7	1.000110
28400.0	340.5	-31.0	19.9	489.9	606.2	260.3	52.2	1.000110
28500.0	339.1	-31.3	20.0	488.4	605.9	260.3	52.4	1.000109
28600.0	337.6	-31.6	20.0	486.8	605.5	260.3	52.5	1.000109
28700.0	336.1	-31.9	20.1	485.3	605.2	260.3	52.7	1.000109
28800.0	334.7	-32.2	20.2	483.7	604.8	260.3	52.8	1.000108
28900.0	333.2	-32.4	20.3	482.2	604.5	260.3	53.0	1.000108
29000.0	331.8	-32.7	20.3	480.6	604.1	260.3	53.1	1.000108
29100.0	330.3	-33.0	20.4	479.1	603.8	260.3	53.3	1.000107
29200.0	328.9	-33.3	20.5	477.6	603.4	260.4	53.4	1.000107
29300.0	327.4	-33.6	20.6	476.1	603.0	260.4	53.6	1.000107
29400.0	326.0	-33.8	20.6	474.5	602.7	260.4	53.7	1.000106
29500.0	324.6	-34.1	20.7	473.0	602.3	260.4	53.9	1.000106
29600.0	323.2	-34.4	20.8	471.5	602.0	260.4	54.0	1.000105
29700.0	321.8	-34.7	20.8	470.0	601.6	260.3	54.2	1.000105
29800.0	320.4	-35.0	20.9	468.5	601.3	260.0	54.2	1.000105
29900.0	319.0	-35.2	21.0	467.1	600.9	265.7	54.2	1.000104
30000.0	317.6	-35.5	21.1	465.6	600.6	265.3	54.2	1.000104
30100.0	316.2	-35.8	21.1	464.1	600.2	265.0	54.2	1.000104
30200.0	314.8	-36.1	21.2	462.6	599.8	264.6	54.3	1.000103
30300.0	313.5	-36.4	21.3	461.2	599.5	264.3	54.3	1.000103
30400.0	312.1	-36.6	21.3	459.7	599.1	263.9	54.3	1.000103
30500.0	310.8	-36.9	21.4	458.3	598.8	263.6	54.3	1.000102
30600.0	309.4	-37.2	21.5	456.8	598.4	263.3	54.4	1.000102
30700.0	308.1	-37.5	21.6	455.4	598.1	262.9	54.4	1.000101
30800.0	306.7	-37.8	21.6	453.9	597.7	262.6	54.4	1.000101
30900.0	305.4	-38.1	21.7	452.5	597.4	262.2	54.5	1.000101
31000.0	304.1	-38.3	21.8	451.1	597.0	261.9	54.5	1.000101
31100.0	302.7	-38.6	21.9	449.6	596.6	261.5	54.5	1.000100
31200.0	301.4	-38.9	21.9	448.2	596.3	261.3	54.4	1.000100
31300.0	300.1	-39.2	22.0	446.8	595.9	261.1	54.3	1.000100
31400.0	298.8	-39.4	21.1**	445.2	595.6	260.9	54.2	1.000099
31500.0	297.4	-39.6	20.2**	443.7	595.3	260.7	54.0	1.000099
31600.0	296.1	-39.9	19.2**	442.1	595.1	260.5	53.9	1.000099
31700.0	294.8	-40.1	18.3**	440.6	594.8	260.3	53.8	1.000098
31800.0	293.5	-40.3	17.3**	439.0	594.5	260.1	53.6	1.000098

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

STATION ALTITUDE 3989.00 FEET MSL  
 14 OCT. 83  
 ASCENSION NO. 489 0800 MDT

UPPER AIR DATA  
 2870020489  
 WHITE SANDS  
 TABLE 12 Con't

GEODETIC COORDINATES  
 32.40003 LAT DEG  
 106.37033 LON DEG

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
31900.0	292.1	-40.5	16.4**	437.5	594.2	259.9	53.5	1.000098
32000.0	290.8	-40.8	15.0**	435.9	593.9	259.7	53.4	1.000097
32100.0	289.5	-41.0	14.5**	434.4	593.6	259.5	53.3	1.000097
32200.0	288.2	-41.2	13.5**	432.9	593.3	259.3	53.1	1.000097
32300.0	287.0	-41.4	12.6**	431.4	593.0	259.1	53.0	1.000096
32400.0	285.7	-41.7	11.6**	429.9	592.8	258.9	52.9	1.000096
32500.0	284.4	-41.9	10.7**	428.4	592.5	258.6	52.8	1.000096
32600.0	283.1	-42.1	9.7**	426.9	592.2	258.4	52.7	1.000095
32700.0	281.9	-42.3	8.8**	425.4	591.9	258.2	52.6	1.000095
32800.0	280.6	-42.5	7.8**	423.9	591.6	258.0	52.5	1.000094
32900.0	279.3	-42.8	6.9**	422.4	591.3	258.0	52.4	1.000094
33000.0	278.1	-43.0	5.9**	420.9	591.0	258.0	52.3	1.000094
33100.0	276.8	-43.2	5.0**	419.4	590.7	259.0	52.2	1.000093
33200.0	275.6	-43.4	4.0**	418.0	590.4	259.0	52.1	1.000093
33300.0	274.4	-43.7	3.1**	416.5	590.2	259.0	52.0	1.000093
33400.0	273.1	-43.9	2.1**	415.1	589.9	259.0	51.9	1.000092
33500.0	271.9	-44.1	1.2**	413.6	589.6	259.1	51.8	1.000092
33600.0	270.7	-44.3	.2**	412.2	589.3	259.1	51.7	1.000092
33700.0	269.5	-44.6		410.7	589.0	259.1	51.7	1.000091
33800.0	268.3	-44.8		409.3	588.7	259.3	51.7	1.000091
33900.0	267.1	-45.1		407.9	588.3	259.6	51.7	1.000091
34000.0	265.8	-45.3		406.5	588.0	259.9	51.8	1.000091
34100.0	264.6	-45.6		405.1	587.7	260.2	51.8	1.000090
34200.0	263.4	-45.8		403.7	587.4	260.4	51.9	1.000090
34300.0	262.2	-46.1		402.3	587.0	260.7	52.0	1.000090
34400.0	261.0	-46.3		400.9	586.7	261.0	52.0	1.000089
34500.0	259.8	-46.6		399.5	586.4	261.3	52.1	1.000089
34600.0	258.6	-46.8		398.1	586.1	261.6	52.2	1.000089
34700.0	257.4	-47.1		396.7	585.7	261.8	52.2	1.000088
34800.0	256.3	-47.3		395.3	585.4	262.1	52.3	1.000088
34900.0	255.1	-47.6		394.0	585.1	262.4	52.4	1.000088
35000.0	253.9	-47.9		392.6	584.8	262.7	52.4	1.000087
35100.0	252.8	-48.1		391.3	584.4	263.1	52.3	1.000087
35200.0	251.6	-48.3		389.9	584.1	263.5	52.1	1.000087
35300.0	250.5	-48.6		388.6	583.8	263.9	51.9	1.000087
35400.0	249.3	-48.8		387.1	583.5	264.4	51.8	1.000086
35500.0	248.1	-49.0		385.6	583.2	264.8	51.6	1.000086
35600.0	247.0	-49.2		384.2	583.0	265.2	51.5	1.000086
35700.0	245.8	-49.4		382.7	582.7	265.6	51.3	1.000085
35800.0	244.6	-49.6		381.2	582.5	266.1	51.2	1.000085

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

UPPER AIR DATA  
 2870020409  
 WHITE SANDS  
 TABLE 12 Con't

STATION ALTITUDE 3969.00 FEET MSL  
 14 OCT. 83  
 ASCENSION NO. 409

GEODETIC COORDINATES  
 32.400045 LAT DEG  
 106.57033 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 (TH)	SPEED KNOTS	
39900.0	243.5	-49.8	379.8	582.2	266.5		51.0	1.000065
36000.0	242.5	-50.0	378.5	582.0	267.0		50.8	1.000064
30100.0	241.2	-50.2	376.9	581.7	267.4		50.8	1.000064
30200.0	240.1	-50.4	375.4	581.5	267.8		50.6	1.000064
36300.0	233.9	-50.6	374.0	581.2	267.6		50.6	1.000063
30400.0	237.8	-50.8	372.6	580.9	267.2		50.6	1.000063
30500.0	236.7	-51.0	371.1	580.7	266.8		50.7	1.000063
30600.0	235.6	-51.2	369.7	580.4	266.4		50.7	1.000062
30700.0	234.5	-51.4	368.5	580.2	266.0		50.7	1.000062
30800.0	233.4	-51.6	366.9	579.9	265.6		50.8	1.000062
30900.0	232.3	-51.8	365.5	579.7	265.2		50.8	1.000061
37000.0	231.2	-52.0	364.1	579.4	264.7		50.8	1.000061
37100.0	230.1	-52.2	362.7	579.1	264.3		50.9	1.000061
37200.0	229.0	-52.4	361.5	578.9	263.9		50.9	1.000060
37300.0	227.9	-52.6	359.9	578.6	263.5		51.0	1.000060
37400.0	226.9	-52.7	358.6	578.4	263.1		51.0	1.000060
37500.0	225.8	-52.9	357.2	578.1	262.5		51.2	1.000060
37600.0	224.7	-53.1	355.8	577.9	261.7		51.7	1.000079
37700.0	223.7	-53.3	354.5	577.6	260.6		51.3	1.000079
37800.0	222.6	-53.5	353.1	577.5	260.0		52.8	1.000079
37900.0	221.6	-53.7	351.8	577.1	259.2		53.3	1.000078
38000.0	220.5	-53.9	350.4	576.8	258.4		53.9	1.000078
38100.0	219.5	-54.1	349.1	576.6	257.6		54.4	1.000078
38200.0	218.5	-54.3	347.8	576.3	256.9		55.1	1.000077
38300.0	217.4	-54.5	346.5	576.0	256.1		55.6	1.000077
38400.0	216.4	-54.7	345.1	575.8	255.5		56.2	1.000077
38500.0	215.4	-54.9	343.8	575.5	254.6		56.8	1.000077
38600.0	214.4	-55.1	342.5	575.3	253.9		57.4	1.000076
38700.0	213.4	-55.3	341.2	575.0	253.2		58.0	1.000076
38800.0	212.4	-55.5	339.9	574.7	252.6		58.4	1.000076
38900.0	211.4	-55.7	338.6	574.5	252.2		58.6	1.000075
39000.0	210.4	-55.9	337.3	574.2	251.7		58.8	1.000075
39100.0	209.4	-56.1	336.0	574.0	251.2		59.1	1.000075
39200.0	208.4	-56.3	334.8	573.7	250.8		59.3	1.000075
39300.0	207.4	-56.5	333.5	573.4	250.5		59.5	1.000074
39400.0	206.4	-56.7	332.2	573.2	249.8		59.7	1.000074
39500.0	205.5	-56.9	331.0	572.9	249.4		59.9	1.000074
39600.0	204.5	-57.1	329.7	572.7	248.9		60.2	1.000073
39700.0	203.5	-57.3	328.5	572.4	248.5		60.4	1.000073
39800.0	202.6	-57.5	327.2	572.1	248.0		60.6	1.000073

UPPER AIR DATA  
 2870020409  
 WHITE SANDS

STATION ALTITUDE 3989.00 FEET MSL  
 14 OCT. 83  
 ASCENSION NO. 489  
 0800 MDT

GEODETIC COORDINATES  
 32.40043 LAT DEG  
 106.37033 LONG DEG

TABLE 12 Con't

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARMS	AIR TEMPERATURE DEGREES CENTIGRADE	REL. HUM. PERCENT	DENSITY GM/CURIC METER	SPEED OF SOUND KILOTS	DIRECTION OF WIND (TIN) DEGREES	SPEED KNOTS	INDEX OF REFRACTION
3900.0	201.6	-57.7		326.0	571.9	247.0	60.9	1.000073
4000.0	200.7	-57.9		324.7	571.0	247.2	61.1	1.000072
4100.0	199.7	-58.1		323.5	571.4	246.7	61.4	1.000072
4200.0	198.8	-58.3		322.3	571.1	246.3	61.6	1.000072
4300.0	197.8	-58.5		321.1	570.7	246.2	61.2	1.000072
4400.0	196.8	-58.7		319.8	570.4	246.2	60.7	1.000071
4500.0	195.9	-59.0		318.6	570.1	246.1	60.3	1.000071
4600.0	194.9	-59.2		317.4	569.8	246.1	59.9	1.000071
4700.0	194.0	-59.4		316.2	569.5	246.0	59.5	1.000070
4800.0	193.1	-59.7		315.0	569.2	246.0	59.0	1.000070
4900.0	192.1	-59.9		313.8	568.9	245.9	58.6	1.000070
41000.0	191.2	-60.1		312.6	568.6	245.9	58.2	1.000070
41200.0	190.3	-60.3		311.4	568.3	245.8	57.8	1.000069
41400.0	189.3	-60.6		310.2	568.0	245.8	57.3	1.000069
41600.0	188.4	-60.8		309.1	567.7	245.7	56.9	1.000069
41800.0	187.5	-61.0		307.9	567.4	245.7	56.5	1.000069
42000.0	186.6	-61.2		306.8	567.1	245.7	56.1	1.000068
42200.0	185.7	-61.5		305.6	566.8	246.2	56.3	1.000068
42400.0	184.8	-61.7		304.4	566.5	246.7	56.5	1.000068
42600.0	183.9	-61.9		303.3	566.2	247.3	56.6	1.000068
42800.0	183.0	-61.9		301.8	566.2	247.8	56.8	1.000067
43000.0	182.1	-61.8		300.2	566.4	248.3	57.0	1.000067
43200.0	181.2	-61.7		298.5	566.5	248.6	57.2	1.000066
43400.0	180.3	-61.6		296.9	566.7	249.3	57.4	1.000066
43600.0	179.5	-61.4		295.3	566.9	249.8	57.6	1.000066
43800.0	178.6	-61.3		293.7	567.0	250.3	57.8	1.000065
44000.0	177.7	-61.2		292.1	567.2	250.8	58.0	1.000065
44200.0	176.8	-61.1		290.5	567.3	251.3	58.2	1.000065
44400.0	176.0	-61.0		288.9	567.5	251.7	59.1	1.000064
44600.0	175.1	-60.8		287.3	567.7	252.0	60.0	1.000064
44800.0	174.3	-60.7		285.8	567.8	252.4	60.9	1.000064
45000.0	173.4	-60.6		284.2	568.0	252.7	61.8	1.000063
45200.0	172.6	-60.5		282.7	568.1	253.1	62.7	1.000063
45400.0	171.7	-60.3		281.1	568.4	253.4	63.6	1.000063
45600.0	170.9	-60.1		279.5	568.6	253.7	64.5	1.000062
45800.0	170.1	-59.9		277.9	568.9	254.0	65.4	1.000062
46000.0	169.3	-59.7		276.3	569.2	254.3	66.3	1.000062
46200.0	168.4	-59.5		274.7	569.4	254.6	67.2	1.000061
46400.0	167.6	-59.3		273.1	569.7	254.9	68.1	1.000061
46600.0	166.8	-59.1		271.5	570.0	255.1	68.1	1.000060

UPPER AIR DATA  
 2870020489  
 WHITE SANDS

STATION ALTITUDE 3989.00 FT LL MSL  
 14 OCT. 83 0800 MDT  
 OBSERVATION NO. 404

GEODETIC COORDINATES  
 32.40043 LAT UFG  
 106.37033 LON LCG

TABLE 12 Con't

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES CENTIGRADE	REL. HUM. PERCENT	DENSITY GM/CM <sup>3</sup> METER	SPEED OF SOUND KNOTS	WIND DATA DIRECTION DEGREES (TN)	SPEED KNOTS	INDEX OF REFRACTION.
43900.0	160.0	-58.9		269.9	570.2	255.4	68.1	1.000060
44000.0	163.2	-58.9		260.6	570.3	255.7	68.2	1.000060
44100.0	164.4	-59.0		267.4	570.2	255.9	68.2	1.000060
44200.0	165.6	-59.1		266.2	570.0	256.2	68.2	1.000059
44300.0	162.8	-59.2		265.1	569.9	256.5	68.2	1.000059
44400.0	162.0	-59.3		263.9	569.7	256.7	68.3	1.000059
44500.0	161.2	-59.4		262.8	569.6	257.0	68.3	1.000059
44600.0	160.5	-59.5		261.6	569.4	257.2	68.3	1.000058
44700.0	159.7	-59.6		260.5	569.3	257.5	68.4	1.000058
44800.0	159.9	-59.7		259.4	569.1	257.8	68.4	1.000058
44900.0	150.1	-59.8		258.2	569.0	258.1	67.8	1.000058
45000.0	157.4	-59.9		257.1	568.9	258.4	67.0	1.000057
45100.0	150.6	-60.0		256.0	568.7	258.7	66.2	1.000057
45200.0	153.9	-60.1		254.9	568.6	259.0	65.4	1.000057
45300.0	153.1	-60.3		253.8	568.4	259.4	64.6	1.000057
45400.0	154.3	-60.4		252.7	568.3	259.7	63.8	1.000056
45500.0	153.6	-60.5		251.6	568.1	260.1	63.0	1.000056
45600.0	152.9	-60.6		250.5	568.0	260.4	62.3	1.000056
45700.0	152.1	-60.7		249.4	567.9	260.8	61.5	1.000056
45800.0	151.4	-60.8		248.3	567.7	261.2	61.7	1.000055
45900.0	150.6	-60.9		247.3	567.6	261.6	59.9	1.000055
46000.0	149.9	-61.0		246.2	567.4	261.9	59.0	1.000055
46100.0	149.2	-60.9		244.9	567.5	262.1	58.1	1.000055
46200.0	148.5	-60.9		243.6	567.6	262.4	57.1	1.000054
46300.0	147.7	-60.8		242.4	567.7	262.8	56.1	1.000054
46400.0	147.0	-60.7		241.1	567.8	262.9	55.2	1.000054
46500.0	146.3	-60.7		239.9	567.9	263.1	54.2	1.000053
46600.0	145.6	-60.6		238.6	568.0	263.4	53.3	1.000053
46700.0	144.4	-60.5		237.4	568.1	263.7	52.3	1.000053
46800.0	144.2	-60.5		236.2	568.1	264.0	51.3	1.000053
46900.0	143.5	-60.4		234.9	568.2	264.3	50.4	1.000052
47000.0	142.8	-60.3		233.7	568.3	264.7	49.4	1.000052
47100.0	142.1	-60.3		232.5	568.4	265.0	48.5	1.000052
47200.0	141.4	-60.2		231.3	568.5	265.2	48.0	1.000052
47300.0	140.7	-60.3		230.3	568.4	265.3	47.5	1.000051
47400.0	140.0	-60.4		229.3	568.2	265.5	47.0	1.000051
47500.0	139.3	-60.5		228.3	568.1	265.7	46.6	1.000051
47600.0	138.7	-60.6		227.3	568.0	265.9	46.1	1.000051
47700.0	138.0	-60.7		226.3	567.8	266.1	45.6	1.000050
47800.0	137.3	-60.8		225.3	567.7	266.3	45.1	1.000050

UPPER AIR DATA  
 2870020489  
 WHITE SANDS

GEODLTIC COORDINATES  
 32-40043 LAT LEG  
 106-37033 LONG LEG

STATION ALTITUDE 3989.00 FT MSL  
 14 OCT. 85  
 ASCENSION NO. 489  
 0800 MDT

TABLE 12 Con't

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	AIR TEMPERATURE DEGREES CENTIGRADE	REL. HUM. PERCENT	DENSITY GM/CM <sup>3</sup> METER	SPEED OF SOUND KNOTS	WIND DATA		INDEX OF REFRACTION
						DIRECTION DEGREES(TN)	SPEED KNOTS	
47900.0	130.6	-60.9		224.3	567.5	266.5	44.6	1.000050
48000.0	130.0	-61.0		223.3	567.4	266.7	44.1	1.000050
48100.0	130.3	-61.1		222.3	567.3	266.9	43.7	1.000050
48200.0	134.7	-61.2		221.4	567.1	267.1	43.2	1.000049
48300.0	134.0	-61.3		220.4	567.0	267.3	42.9	1.000049
48400.0	133.3	-61.5		219.4	566.8	267.3	42.8	1.000049
48500.0	132.7	-61.6		218.5	566.7	267.4	42.7	1.000049
48600.0	132.0	-61.7		217.5	566.5	267.5	42.6	1.000048
48700.0	131.4	-61.8		216.6	566.4	267.6	42.6	1.000048
48800.0	130.8	-61.9		215.6	566.3	267.7	42.5	1.000048
48900.0	130.1	-62.0		214.7	566.1	267.6	42.4	1.000048
49000.0	129.5	-62.1		213.7	566.0	267.6	42.3	1.000048
49100.0	128.9	-62.2		212.8	565.8	267.9	42.3	1.000047
49200.0	128.2	-62.3		211.8	565.7	268.0	42.2	1.000047
49300.0	127.6	-62.4		210.9	565.6	268.1	42.1	1.000047
49400.0	127.0	-62.5		210.0	565.4	268.2	42.0	1.000047
49500.0	126.4	-62.6		209.1	565.3	268.1	42.1	1.000047
49600.0	125.7	-62.7		208.2	565.1	267.9	42.2	1.000046
49700.0	125.1	-62.8		207.2	565.0	267.7	42.3	1.000046
49800.0	124.5	-62.8		206.2	565.0	267.5	42.4	1.000046
49900.0	123.9	-62.8		205.2	565.0	267.4	42.5	1.000046
50000.0	123.3	-62.8		204.2	565.0	267.2	42.6	1.000045
50100.0	122.7	-62.9		203.2	564.9	267.0	42.7	1.000045
50200.0	122.1	-62.9		202.3	564.9	266.9	42.8	1.000045
50300.0	121.5	-62.9		201.3	564.9	266.7	42.9	1.000045
50400.0	120.9	-62.9		200.3	564.9	266.5	42.9	1.000045
50500.0	120.3	-62.9		199.3	564.9	266.3	43.0	1.000044
50600.0	119.7	-62.9		198.4	564.8	266.1	43.1	1.000044
50700.0	119.1	-63.0		197.4	564.8	265.9	43.1	1.000044
50800.0	118.5	-63.0		196.5	564.8	265.6	43.2	1.000044
50900.0	117.9	-63.0		195.5	564.8	265.4	43.2	1.000044
51000.0	117.4	-63.0		194.6	564.8	265.1	43.2	1.000043
51100.0	116.8	-63.0		193.6	564.7	264.9	43.3	1.000043
51200.0	116.2	-63.0		192.7	564.7	264.7	43.3	1.000043
51300.0	115.6	-63.0		191.7	564.7	264.4	43.4	1.000043
51400.0	115.1	-63.1		190.8	564.7	264.2	43.4	1.000042
51500.0	114.5	-63.1		189.9	564.7	263.9	43.5	1.000042
51600.0	113.9	-63.1		189.0	564.6	263.8	43.5	1.000042
51700.0	113.4	-63.2		188.2	564.4	263.6	43.1	1.000042
51800.0	112.8	-63.5		187.5	564.1	263.4	42.9	1.000042

STATION ALTITUDE 5907.00 FEET MSL  
 14 OCT. 63  
 ASCENSION NO. 404 0800 MDT

UPPER AIR DATA  
 2870020489  
 WHITE SANDS

GEODEIC COORDINATES  
 52.40043 LAT DEG  
 106.57033 LONG DEG

TABLE 12 Con't

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	AIR TEMPERATURE DEGREES, CENTIGRADE	REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	DIRECTION OF WIND DEGREES(TIN)	WIND DATA SPEED KNOTS	INDEX OF REFRACTION
51900.0	112.3	-63.7		186.8	563.8	263.2	42.7	1.000042
52000.0	111.7	-64.0		186.1	563.4	263.0	42.5	1.000041
52100.0	111.2	-64.2		185.4	563.1	262.9	42.3	1.000041
52200.0	110.6	-64.5		184.7	562.8	262.7	42.1	1.000041
52300.0	110.1	-64.7		184.0	562.4	262.5	42.0	1.000041
52400.0	109.5	-64.9		183.0	562.5	262.3	41.8	1.000041
52500.0	109.0	-64.9		182.0	562.7	262.1	41.6	1.000041
52600.0	108.5	-64.4		181.0	562.8	261.9	41.4	1.000040
52700.0	107.9	-64.5		180.0	563.0	261.7	41.2	1.000040
52800.0	107.4	-64.1		179.0	563.2	261.5	41.0	1.000040
52900.0	106.9	-64.0		178.0	563.4	261.3	40.8	1.000040
53000.0	106.3	-63.8		177.0	563.6	261.2	40.6	1.000039
53100.0	105.8	-63.7		176.0	563.8	261.0	40.5	1.000039
53200.0	105.3	-63.6		175.0	564.0	260.8	40.3	1.000039
53300.0	104.8	-63.4		174.0	564.2	260.6	40.1	1.000039
53400.0	104.2	-63.3		173.0	564.4	260.4	39.9	1.000039
53500.0	103.7	-63.1		172.1	564.6	260.2	39.7	1.000038
53600.0	103.2	-63.0		171.1	564.8	260.0	39.5	1.000038
53700.0	102.7	-62.9		170.2	564.9	259.7	39.2	1.000038
53800.0	102.2	-63.0		169.4	564.8	259.4	38.8	1.000038
53900.0	101.7	-63.1		168.6	564.7	259.2	38.5	1.000038
54000.0	101.2	-63.1		167.9	564.6	258.9	38.1	1.000037
54100.0	100.7	-63.2		167.1	564.5	258.6	37.8	1.000037
54200.0	100.2	-63.3		166.3	564.4	258.3	37.4	1.000037
54300.0	99.7	-63.3		165.5	564.4	258.0	37.0	1.000037
54400.0	99.2	-63.2		164.7	564.5	257.7	36.7	1.000037
54500.0	98.7	-63.2		163.8	564.5	257.4	36.3	1.000036
54600.0	98.3	-63.1		163.0	564.6	257.0	36.0	1.000036
54700.0	97.8	-63.1		162.1	564.7	256.7	35.6	1.000036
54800.0	97.3	-63.0		161.3	564.7	256.4	35.0	1.000036
54900.0	96.8	-63.0		160.5	564.8	256.1	34.3	1.000036
55000.0	96.3	-62.9		159.7	564.8	255.8	33.6	1.000036
55100.0	95.9	-62.9		158.8	564.9	255.4	33.0	1.000035
55200.0	95.4	-62.8		158.0	565.0	255.1	32.3	1.000035
55300.0	94.9	-62.8		157.2	565.0	254.7	31.6	1.000035
55400.0	94.5	-62.7		156.4	565.1	254.3	30.9	1.000035
55500.0	94.0	-62.7		155.6	565.2	253.9	30.2	1.000035
55600.0	93.6	-62.6		154.8	565.2	253.5	29.5	1.000034
55700.0	93.1	-62.6		154.0	565.3	253.1	28.9	1.000034
55800.0	92.6	-62.5		153.2	565.4	252.6	28.2	1.000034



STATION ALTITUDE 3989.00 FEET MSL  
 14 OCT. 63  
 ASCENSION NO. 489

UPPER AIR DATA  
 2870020489  
 WHITE SANDS

GEODETIC COORDINATES  
 32.40043 LAT DEG  
 106.37033 LON DEG

TABLE 12 Con't

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(TM)	SPEED KNOTS	INDEX OF REFRACTION
55900.0	92.2	-62.5		152.4	565.4	252.5	27.6	1.000034
56000.0	91.7	-62.4		151.7	565.5	252.1	27.1	1.000034
56100.0	91.3	-62.4		150.9	565.6	251.8	26.6	1.000034
56200.0	90.8	-62.4		150.1	565.6	251.6	26.0	1.000033
56300.0	90.4	-62.5		149.3	565.7	251.4	25.5	1.000033
56400.0	89.9	-62.5		148.6	565.8	251.2	25.0	1.000033
56500.0	89.5	-62.2		147.8	565.8	250.9	24.5	1.000033
56600.0	89.1	-62.2		147.1	565.9	250.6	24.0	1.000033
56700.0	88.6	-62.1		146.3	566.0	250.4	23.5	1.000033
56800.0	88.2	-62.1		145.6	566.0	250.1	22.9	1.000032
56900.0	87.8	-62.0		144.8	566.1	249.6	22.4	1.000032
57000.0	87.3	-62.0		144.1	566.1	249.5	21.9	1.000032
57100.0	86.9	-61.9		143.3	566.2	249.4	21.7	1.000032
57200.0	86.5	-61.9		142.6	566.3	249.3	21.6	1.000032
57300.0	86.1	-61.8		141.9	566.3	249.1	21.4	1.000032
57400.0	85.6	-61.8		141.2	566.3	249.0	21.3	1.000031
57500.0	85.2	-61.9		140.5	566.2	248.9	21.1	1.000031
57600.0	84.8	-62.0		139.9	566.1	248.8	20.9	1.000031
57700.0	84.4	-62.1		139.3	566.0	248.7	20.8	1.000031
57800.0	84.0	-62.2		138.6	565.9	248.6	20.6	1.000031
57900.0	83.6	-62.2		138.0	565.8	248.4	20.5	1.000031
58000.0	83.1	-62.3		137.4	565.7	248.3	20.3	1.000031
58100.0	82.7	-62.4		136.8	565.6	248.2	20.2	1.000030
58200.0	82.3	-62.5		136.1	565.5	248.1	20.0	1.000030
58300.0	81.9	-62.6		135.5	565.5	247.9	19.9	1.000030
58400.0	81.5	-62.6		134.9	565.4	247.7	19.7	1.000030
58500.0	81.1	-62.7		134.3	565.4	247.5	19.6	1.000030
58600.0	80.7	-62.6		133.7	565.4	247.4	19.4	1.000030
58700.0	80.3	-62.9		133.1	564.9	247.2	19.2	1.000030
58800.0	79.9	-63.0		132.5	564.8	247.0	19.1	1.000030
58900.0	79.5	-63.0		131.9	564.7	246.8	18.9	1.000029
59000.0	79.2	-63.1		131.3	564.6	246.6	18.8	1.000029
59100.0	78.8	-63.2		130.7	564.5	246.4	18.6	1.000029
59200.0	78.4	-63.3		130.1	564.4	246.2	18.5	1.000029
59300.0	78.0	-63.3		129.5	564.3	246.0	18.3	1.000029
59400.0	77.6	-63.4		128.9	564.2	245.8	18.2	1.000029
59500.0	77.2	-63.5		128.3	564.1	245.5	17.8	1.000029
59600.0	76.9	-63.6		127.8	564.0	245.6	17.2	1.000028
59700.0	76.5	-63.7		127.2	563.9	244.6	16.6	1.000028
59800.0	76.1	-63.4		126.4	564.2	244.1	16.1	1.000028

STATION ALTITUDE 9999.00 FEET MSL  
 14 OCT. 63 0800 MDT  
 ASCENSION NO. 409

UPPER AIR DATA  
 2870020403  
 WHITE SANDS  
 TABLE 12 Con't

GEODETTIC COORDINATES  
 32.40043 LAT DEG  
 106.57033 LONG DEG

GEOMETRIC ALTITUDE FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREE CENTIGRADE	REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DATA		INDEX OF REFRACTION
						DIRECTION DEGREES (TN)	SPEED KNOTS	
59900.0	73.7	-62.9		125.5	564.9	243.5	15.5	1.000028
60000.0	73.4	-62.5		124.5	565.6	242.9	14.9	1.000028
60100.0	73.0	-61.3		123.0	566.3	242.5	14.4	1.000028
60200.0	74.0	-61.5		122.7	567.1	241.6	13.8	1.000027
60300.0	74.5	-60.7		121.8	567.8	240.8	13.2	1.000027
60400.0	73.9	-60.2		120.9	568.5	240.0	12.7	1.000027
60500.0	73.5	-59.7		120.0	569.2	239.1	12.1	1.000027
60600.0	73.2	-59.5		119.2	569.7	238.2	11.6	1.000027
60700.0	72.8	-59.2		118.6	569.8	237.4	11.3	1.000026
60800.0	72.5	-59.2		118.0	569.9	237.3	11.7	1.000026
60900.0	72.1	-59.1		117.4	569.9	237.2	12.0	1.000026
61000.0	71.8	-59.1		116.8	570.0	237.0	12.4	1.000026
61100.0	71.4	-59.0		116.2	570.1	236.9	12.7	1.000026
61200.0	71.1	-59.0		115.6	570.1	236.8	13.1	1.000026
61300.0	70.8	-58.9		115.1	570.2	236.7	13.4	1.000026
61400.0	70.4	-58.9		114.5	570.3	236.6	13.8	1.000025
61500.0	70.1	-58.8		113.9	570.4	236.5	14.1	1.000025
61600.0	69.7	-58.7		113.3	570.6	236.4	14.5	1.000025
61700.0	69.4	-58.5		112.8	570.6	236.3	14.8	1.000025
61800.0	69.1	-58.5		112.0	571.1	236.2	15.1	1.000025
61900.0	68.7	-58.1		111.4	571.3	235.7	15.3	1.000025
62000.0	68.4	-57.9		110.7	571.6	235.2	14.9	1.000025
62100.0	68.1	-57.7		110.1	571.8	235.7	14.5	1.000025
62200.0	67.8	-57.5		109.5	572.1	236.0	14.2	1.000024
62300.0	67.4	-57.3		108.9	572.3	225.1	13.9	1.000024
62400.0	67.1	-57.1		108.2	572.6	222.2	13.6	1.000024
62500.0	66.8	-56.9		107.6	572.9	219.1	13.4	1.000024
62600.0	66.5	-56.7		107.0	573.1	218.0	13.2	1.000024
62700.0	66.2	-56.5		106.4	573.4	212.7	13.0	1.000024
62800.0	65.9	-56.4		105.8	573.6	209.4	12.9	1.000024
62900.0	65.5	-56.2		105.2	573.9	206.0	12.8	1.000023
63000.0	65.2	-56.0		104.6	574.1	202.6	12.8	1.000023
63100.0	64.9	-55.8		104.0	574.4	199.2	12.8	1.000023
63200.0	64.6	-55.6		103.5	574.6	198.0	12.8	1.000023
63300.0	64.3	-55.4		102.9	574.9	198.2	12.7	1.000023
63400.0	64.0	-55.2		102.3	575.1	197.8	12.7	1.000023
63500.0	63.7	-55.0		101.7	575.4	197.4	12.6	1.000023
63600.0	63.4	-54.8		101.1	575.6	197.0	12.6	1.000023
63700.0	63.1	-54.8		100.6	575.7	196.6	12.6	1.000022
63800.0	62.8	-55.1		100.3	575.3	196.2	12.5	1.000022

STATION ALTITUDE, 3949.00 FEET MSL  
 14 OCT. 83  
 ASCENSION NO. 489 0800 MDT

UPPER AIR DATA  
 2870020489  
 WHITE SANDS

GEODETIC COORDINATES  
 32.40043 LAT DEG  
 106.37033 LON DEG

TABLE 12 Con't

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	AIR TEMPERATURE DEGREES CENTIGRADE	REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DIRECTION DEGREES (IN)	WIND SPEED KNOTS	INDEX OF REFRACTION
03900.0	62.5	-55.5		99.9	575.0	195.8	12.5	1.000022
04000.0	62.2	-55.6		99.6	574.6	195.4	12.5	1.000022
04100.0	61.9	-55.8		99.2	574.3	195.0	12.4	1.000022
04200.0	61.6	-56.1		98.9	573.9	194.6	12.4	1.000022
04300.0	61.3	-56.4		98.5	573.6	194.2	12.3	1.000022
04400.0	61.0	-56.6		98.2	573.3	197.4	12.6	1.000022
04500.0	60.7	-56.9		97.8	572.9	202.5	13.1	1.000022
04600.0	60.4	-57.0		97.4	572.8	207.2	13.7	1.000022
04700.0	60.2	-56.9		96.9	572.9	211.5	14.4	1.000022
04800.0	59.9	-56.8		96.4	573.0	215.4	15.1	1.000021
04900.0	59.6	-56.8		95.9	573.1	218.8	15.9	1.000021
05000.0	59.3	-56.7		95.4	573.1	222.0	16.8	1.000021
05100.0	59.0	-56.7		95.0	573.2	224.6	17.7	1.000021
05200.0	58.7	-56.6		94.5	573.3	227.3	18.7	1.000021
05300.0	58.5	-56.5		94.0	573.4	229.6	19.7	1.000021
05400.0	58.2	-56.5		93.5	573.5	231.7	20.7	1.000021
05500.0	57.9	-56.4		93.1	573.5	233.5	21.7	1.000021
05600.0	57.6	-56.3		92.6	573.6	234.5	22.3	1.000021
05700.0	57.4	-56.3		92.1	573.7	233.9	21.9	1.000021
05800.0	57.1	-56.2		91.7	573.8	233.4	21.5	1.000020
05900.0	56.8	-56.2		91.2	573.9	232.8	21.2	1.000020
06000.0	56.5	-56.1		90.7	574.0	232.2	20.8	1.000020
06100.0	56.3	-56.0		90.3	574.0	231.6	20.5	1.000020
06200.0	56.0	-56.0		89.8	574.1	230.9	20.1	1.000020
06300.0	55.7	-55.9		89.4	574.2	230.2	19.8	1.000020
06400.0	55.5	-55.9		88.9	574.2	229.5	19.4	1.000020
06500.0	55.2	-55.8		88.5	574.2	228.8	19.1	1.000020
06600.0	54.9	-55.7		88.1	574.2	228.1	18.7	1.000020
06700.0	54.7	-56.0		87.7	574.1	227.5	18.4	1.000019
06800.0	54.4	-56.0		87.3	574.1	226.4	18.0	1.000019
06900.0	54.2	-56.0		86.9	574.1	224.7	17.0	1.000019
07000.0	53.9	-56.0		86.5	574.1	222.7	16.0	1.000019
07100.0	53.7	-56.0		86.1	574.1	220.4	15.1	1.000019
07200.0	53.4	-56.0		85.7	574.1	217.8	14.1	1.000019
07300.0	53.1	-56.0		85.3	574.0	214.9	13.2	1.000019
07400.0	52.9	-56.0		84.9	574.0	211.6	12.3	1.000019
07500.0	52.6	-56.1		84.5	574.0	207.7	11.5	1.000019
07600.0	52.4	-56.1		84.1	574.0	203.3	10.7	1.000019
07700.0	52.1	-56.1		83.7	574.0	198.2	10.0	1.000019
07800.0	51.9	-56.1		83.3	574.0	192.5	9.4	1.000019

STATION ALTITUDE 3989.00 F ET MSL  
 14 OCT. 83  
 ASCRISJH P.O. 439 0800 MDT

UPPER AIR DATA  
 2870020489  
 WHITE SANDS

GEOMETRIC COORDINATES  
 32.40043 LAT DEG  
 106.37033 LON DEG

TABLE 12 Con't

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.
67900.0	51.6	-50.1		82.9	573.9	186.0	8.9	1.000018
68000.0	51.4	-50.1		82.5	573.9	178.9	8.6	1.000018
68100.0	51.2	-50.1		82.1	573.9	175.9	8.4	1.000018
68200.0	50.9	-50.1		81.7	573.9	174.5	8.3	1.000018
68300.0	50.7	-50.2		81.4	573.9	173.1	8.3	1.000018
68400.0	50.4	-50.2		81.0	573.9	171.6	8.2	1.000018
68500.0	50.2	-50.2		80.6	573.8	170.2	8.1	1.000018
68600.0	50.0	-50.2		80.2	573.8	168.7	8.1	1.000018
68700.0	49.7	-50.2		79.8	573.9	167.2	8.0	1.000018
68800.0	49.5	-50.2		79.4	573.9	165.6	8.0	1.000018
68900.0	49.2	-50.1		79.1	573.9	164.1	7.9	1.000018
69000.0	49.0	-50.1		78.7	573.9	162.5	7.9	1.000018
69100.0	48.8	-50.1		78.3	574.0	161.0	7.8	1.000017
69200.0	48.5	-50.1		77.9	574.0	159.4	7.8	1.000017
69300.0	48.3	-50.1		77.5	574.0	160.0	7.8	1.000017
69400.0	48.1	-50.0		77.2	574.0	163.8	7.7	1.000017
69500.0	47.9	-50.0		76.8	574.1	167.6	7.7	1.000017
69600.0	47.6	-50.0		76.4	574.1	171.4	7.7	1.000017
69700.0	47.4	-50.0		76.0	574.1	175.2	7.6	1.000017
69800.0	47.2	-50.0		75.7	574.1	178.9	7.6	1.000017
69900.0	47.0	-55.9		75.3	574.2	182.5	8.0	1.000017
70000.0	46.7	-55.9		74.9	574.2	186.0	8.2	1.000017
70100.0	46.5	-55.9		74.6	574.2	189.5	8.3	1.000017
70200.0	46.3	-55.9		74.2	574.3	192.5	8.3	1.000017
70300.0	46.1	-55.8		73.9	574.3	195.5	8.8	1.000016
70400.0	45.9	-55.8		73.5	574.3	198.4	9.0	1.000016
70500.0	45.6	-55.8		73.1	574.3	200.9	9.3	1.000016
70600.0	45.4	-55.8		72.8	574.4	201.2	9.2	1.000016
70700.0	45.2	-55.8		72.4	574.4	201.6	9.2	1.000016
70800.0	45.0	-55.7		72.1	574.4	201.9	9.2	1.000016
70900.0	44.8	-55.7		71.7	574.4	202.5	9.1	1.000016
71000.0	44.6	-55.7		71.4	574.5	202.6	9.1	1.000016
71100.0	44.4	-55.9		71.1	574.2	203.0	9.1	1.000016
71200.0	44.1	-56.2		70.9	573.8	203.5	9.0	1.000016
71300.0	43.9	-56.6		70.7	573.5	203.7	9.0	1.000016
71400.0	43.7	-56.9		70.4	572.9	204.0	9.0	1.000016
71500.0	43.5	-57.2		70.2	572.5	204.4	8.9	1.000016
71600.0	43.3	-57.5		70.0	572.1	204.6	8.9	1.000016
71700.0	43.1	-57.8		69.7	571.7	205.1	8.9	1.000016
71800.0	42.9	-58.2		69.5	571.2	205.5	8.8	1.000015

UPPER AIR DATA  
 2870020489  
 WHITE SANDS  
 TABLE 12 Con't

STATION ALTITUDE 3989.00 F. ET MSL  
 14 OCT. 63  
 ASCENSION NO. 489 0800 MDT

GEODESIC COORDINATES  
 32.40043 LAT (N)  
 106.37033 LONG (W)

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES CENTIGRADE	REL. HUM. PERCENT	DENSITY GM/CM <sup>3</sup> METER	SPEED OF SOUND KNOTS	WIND DATA DIRECTION DEGREES (TN)	SPEED KNOTS	INDEX OF REFRACTION
71900.0	42.7	-58.2	69.2	571.2	205.6	8.7	1.000015	
72000.0	42.5	-58.0	68.8	571.4	205.7	8.6	1.000015	
72100.0	42.3	-57.9	68.4	571.6	205.8	8.5	1.000015	
72200.0	42.1	-57.7	68.1	571.8	205.9	8.4	1.000015	
72300.0	41.9	-57.6	67.7	572.0	206.0	8.3	1.000015	
72400.0	41.7	-57.4	67.3	572.2	206.1	8.2	1.000015	
72500.0	41.5	-57.2	66.9	572.5	206.2	8.0	1.000015	
72600.0	41.3	-57.1	66.6	572.7	206.4	7.9	1.000015	
72700.0	41.1	-56.9	66.2	572.9	206.5	7.8	1.000015	
72800.0	40.9	-56.7	65.8	573.1	206.6	7.7	1.000015	
72900.0	40.7	-56.6	65.5	573.3	206.7	7.6	1.000015	
73000.0	40.5	-56.4	65.1	573.5	206.9	7.5	1.000014	
73100.0	40.3	-56.3	64.8	573.7	207.0	7.4	1.000014	
73200.0	40.1	-56.1	64.4	574.0	208.1	7.4	1.000014	
73300.0	39.9	-55.9	64.0	574.2	209.6	7.5	1.000014	
73400.0	39.7	-55.8	63.7	574.4	211.0	7.5	1.000014	
73500.0	39.6	-55.6	63.3	574.6	212.3	7.6	1.000014	
73600.0	39.4	-55.4	63.0	574.8	213.6	7.7	1.000014	
73700.0	39.2	-55.3	62.6	575.0	214.9	7.8	1.000014	
73800.0	39.0	-55.1	62.3	575.3	216.2	7.9	1.000014	
73900.0	38.8	-55.0	62.0	575.5	217.4	8.0	1.000014	
74000.0	38.6	-54.8	61.6	575.7	218.8	8.1	1.000014	
74100.0	38.4	-54.6	61.3	575.9	219.6	8.2	1.000014	
74200.0	38.3	-54.5	61.0	576.0	221.0	8.3	1.000014	
74300.0	38.1	-54.6	60.7	575.9	222.1	8.4	1.000014	
74400.0	37.9	-54.8	60.5	575.7	223.2	8.5	1.000013	
74500.0	37.7	-54.9	60.2	575.6	223.1	8.5	1.000013	
74600.0	37.5	-55.0	59.9	575.4	220.9	8.0	1.000013	
74700.0	37.4	-55.1	59.7	575.2	218.5	7.6	1.000013	
74800.0	37.2	-55.2	59.4	575.1	215.7	7.1	1.000013	
74900.0	37.0	-55.4	59.2	574.9	212.6	6.7	1.000013	
75000.0	36.8	-55.5	59.0	574.8	209.1	6.3	1.000013	
75100.0	36.7	-55.6	58.7	574.6	205.2	6.0	1.000013	
75200.0	36.5	-55.7	58.5	574.5	200.8	5.7	1.000013	
75300.0	36.3	-55.6	58.2	574.6	195.9	5.4	1.000013	
75400.0	36.1	-55.6	57.9	574.7	190.5	5.1	1.000013	
75500.0	36.0	-55.5	57.6	574.8	184.6	4.9	1.000013	
75600.0	35.8	-55.4	57.3	574.9	178.5	4.8	1.000013	
75700.0	35.6	-55.3	57.0	574.9	171.7	4.7	1.000013	
75800.0	35.5	-55.3	56.7	575.0	165.0	4.7	1.000013	

STATION ALTITUDE 3989.00 FT MSL  
 14 OCT. 63  
 ASCENSION NO. 449 0800 MDT

UPPER AIR DATA  
 2870020489  
 WHITE SANDS

GEODETTIC COORDINATES  
 32.40043 LAT (LEG  
 106.37033 LON LEG

TABLE 12 Con't

GEOMETRIC ALTITUDE MSL FEET	PRESSURE HILLIARY'S	TEMPERATURE AIR DEGREE'S CENTIGRADE	REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DIRECTION UEGRLS(IN)	WIND SPEED KNOTS	INDEX OF REFRACTION
7500.0	33.3	-55.2		56.4	575.1	158.5	4.7	1.000013
7600.0	33.1	-55.1		56.1	575.2	152.1	4.8	1.000013
7700.0	33.0	-55.1		55.9	575.3	146.0	4.9	1.000012
7800.0	34.8	-55.0		55.0	575.4	140.2	5.0	1.000012
7900.0	34.6	-54.9		55.3	575.5	134.8	5.2	1.000012
7950.0	34.5	-54.9		55.0	575.6	129.9	5.5	1.000012
7980.0	34.3	-54.8		54.8	575.7	125.4	5.8	1.000012
7990.0	34.2	-54.7		54.5	575.8	121.4	6.1	1.000012
7995.0	34.0	-54.6		54.2	575.9	117.0	6.5	1.000012
7998.0	33.8	-54.6		53.9	576.0	114.6	6.8	1.000012
7999.0	33.7	-54.5		53.7	576.1	111.7	7.2	1.000012
7999.5	33.5	-54.4		53.4	576.1	109.2	7.6	1.000012
7999.8	33.4	-54.4		53.1	576.2	106.9	8.1	1.000012
7999.9	33.2	-54.3		52.9	576.3	105.5	8.3	1.000012
7999.95	33.0	-54.2		52.6	576.4	105.6	8.0	1.000012
7999.98	32.9	-54.2		52.3	576.5	105.8	7.8	1.000012
7999.99	32.7	-54.1		52.1	576.6	105.9	7.5	1.000012
7999.995	32.6	-54.0		51.8	576.7	106.1	7.3	1.000012
7999.998	32.4	-54.0		51.5	576.8	106.3	7.0	1.000011
7999.999	32.3	-53.9		51.3	576.9	106.5	6.8	1.000011
7999.9995	32.1	-53.8		51.0	577.0	106.7	6.5	1.000011
7999.9998	32.0	-53.7		50.8	577.1	106.9	6.3	1.000011
7999.9999	31.8	-53.7		50.5	577.2	107.1	6.0	1.000011
7999.99995	31.7	-53.6		50.3	577.2	107.4	5.8	1.000011
7999.99998	31.5	-53.5		50.0	577.3	107.7	5.5	1.000011
7999.99999	31.4	-53.5		49.8	577.4	108.0	5.3	1.000011
7999.999995	31.2	-53.4		49.5	577.5	108.3	5.0	1.000011
7999.999998	31.1	-53.3		49.3	577.6	107.7	4.9	1.000011
7999.999999	30.9	-53.3		49.0	577.7	106.6	4.9	1.000011
7999.9999995	30.8	-53.2		48.8	577.8	105.4	4.8	1.000011
7999.9999998	30.6	-53.1		48.5	577.9	104.2	4.8	1.000011
7999.9999999	30.5	-53.0		48.3	578.0	103.0	4.8	1.000011
7999.99999995	30.4	-53.0		48.0	578.1	101.8	4.8	1.000011
7999.99999998	30.2	-52.9		47.8	578.2	100.6	4.7	1.000011
7999.99999999	30.1	-52.8		47.6	578.3	99.3	4.7	1.000011
7999.999999995	29.9	-52.7		47.3	578.4	98.1	4.7	1.000011
7999.999999998	29.8	-52.6		47.1	578.6	96.8	4.7	1.000010
7999.999999999	29.7	-52.4		46.8	578.8	95.6	4.7	1.000010
7999.9999999995	29.5	-52.3		46.6	578.9	94.3	4.7	1.000010
7999.9999999998	29.4	-52.2		46.3	579.1	93.0	4.6	1.000010

STATION ALTITUDE 3989.00 FEET MSL  
 14 OCT. 83  
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UPPER AIR DATA  
 2870020489  
 WHITE SANDS

GEODETIC COORDINATES  
 32.40043 LAT DEG  
 106.37033 LONG DEG

TABLE 12 Con't

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
7990.0	29.2	-52.0		46.1	579.3	91.7	4.6	1.000010
8000.0	29.1	-51.9		45.8	579.5	90.8	4.7	1.000010
80100.0	29.0	-51.7		45.6	579.7	90.4	5.0	1.000010
80200.0	28.8	-51.6		45.3	579.9	90.0	5.2	1.000010
80300.0	28.7	-51.5		45.1	580.1	89.6	5.5	1.000010
80400.0	28.6	-51.3		44.9	580.2	89.3	5.8	1.000010
80500.0	28.4	-51.2		44.6	580.4	89.0	6.0	1.000010
80600.0	28.3	-51.0		44.4	580.6	88.7	6.3	1.000010
80700.0	28.2	-50.9		44.2	580.8	88.5	6.5	1.000010
80800.0	28.0	-50.7		43.9	581.0	88.3	6.8	1.000010
80900.0	27.9	-50.7		43.7	581.1	88.0	7.1	1.000010
81000.0	27.8	-50.7		43.5	581.1	87.6	7.3	1.000010
81100.0	27.7	-50.6		43.3	581.1	87.7	7.6	1.000010
81200.0	27.5	-50.6		43.1	581.2	87.5	7.8	1.000010
81300.0	27.4	-50.6		42.9	581.2	87.3	8.1	1.000010
81400.0	27.3	-50.6		42.7	581.2	87.2	8.3	1.000010
81500.0	27.1	-50.5		42.5	581.3	89.0	8.3	1.000009
81600.0	27.0	-50.5		42.3	581.3	90.9	8.3	1.000009
81700.0	26.9	-50.5		42.1	581.3	92.7	8.3	1.000009
81800.0	26.8	-50.4		41.9	581.4	94.6	8.3	1.000009
81900.0	26.6	-50.4		41.7	581.4	96.4	8.3	1.000009
82000.0	26.5	-50.4		41.5	581.4	98.3	8.3	1.000009
82100.0	26.4	-50.4		41.3	581.5	100.1	8.4	1.000009
82200.0	26.3	-50.3		41.1	581.5	101.9	8.4	1.000009
82300.0	26.2	-50.3		40.9	581.6	103.7	8.5	1.000009
82400.0	26.0	-50.3		40.7	581.6	105.4	8.5	1.000009
82500.0	25.9	-50.3		40.5	581.6	107.2	8.6	1.000009
82600.0	25.8	-50.2		40.3	581.7	108.9	8.7	1.000009
82700.0	25.7	-50.2		40.1	581.7	110.6	8.7	1.000009
82800.0	25.6	-50.2		39.9	581.7	112.2	8.8	1.000009
82900.0	25.4	-50.2		39.7	581.8	116.1	8.7	1.000009
83000.0	25.3	-50.1		39.6	581.8	122.1	8.6	1.000009
83100.0	25.2	-50.1		39.4	581.8	123.2	8.5	1.000009
83200.0	25.1	-50.1		39.2	581.9	134.4	8.5	1.000009
83300.0	25.0	-50.1		39.0	581.9	140.5	8.6	1.000009
83400.0	24.9	-50.0		38.8	581.9	146.4	8.8	1.000009
83500.0	24.7	-50.0		38.6	582.0	151.9	9.1	1.000009
83600.0	24.6	-50.0		38.4	582.0	157.1	9.5	1.000009
83700.0	24.5	-49.9		38.3	582.0	161.6	9.9	1.000009
83800.0	24.4	-49.9		38.1	582.1	166.1	10.4	1.000008

STATION ALTITUDE 3989.00 FEET MSL  
 14 OCT. 53  
 ASCENSION NO. 487

UPPER AIR DATA  
 2870020487  
 WHITE SANDS

GEODETIC COORDINATES  
 32.40043 LAT DEG  
 106.37033 LON DEG

TABLE 12 Con't

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	AIR TEMPERATURE DEGREES (CENTIGRADE)	REL. HUM. PERCENT	DM/DEN. GM/CM <sup>3</sup> METP	SPEED OF SOUND KNOTS	WIND DIRECTION DEGREES (IN)	WIND SPEED KNOTS	INDEX OF REFRACTION
85900.0	24.3	-49.9		37.9	582.1	170.0	11.0	1.000008
84000.0	24.2	-49.9		37.7	582.1	173.5	11.6	1.000008
84100.0	24.1	-49.8		37.5	582.2	170.6	12.3	1.000008
84200.0	24.0	-49.8		37.4	582.2	179.4	12.9	1.000008
84300.0	23.8	-49.7		37.2	582.3	181.8	13.6	1.000008
84400.0	23.7	-49.6		37.0	582.5	183.2	13.1	1.000008
84500.0	23.6	-49.5		36.8	582.7	184.0	12.7	1.000008
84600.0	23.5	-49.5		36.6	582.8	186.2	12.3	1.000008
84700.0	23.4	-49.2		36.4	583.0	187.8	11.9	1.000008
84800.0	23.3	-49.1		36.2	583.2	189.0	11.5	1.000008
84900.0	23.2	-48.9		36.0	583.4	191.5	11.1	1.000008
85000.0	23.1	-48.8		35.9	583.5	193.5	10.8	1.000008
85100.0	23.0	-48.7		35.7	583.7	195.6	10.4	1.000008
85200.0	22.9	-48.5		35.5	583.9	197.9	10.1	1.000008
85300.0	22.8	-48.4		35.3	584.0	200.4	9.8	1.000008
85400.0	22.7	-48.3		35.1	584.2	203.0	9.5	1.000008
85500.0	22.6	-48.1		34.9	584.4	205.8	9.2	1.000008
85600.0	22.5	-48.0		34.8	584.6	208.7	8.9	1.000008
85700.0	22.4	-47.9		34.6	584.7	211.9	8.7	1.000008
85800.0	22.3	-47.7		34.4	584.9	215.1	8.4	1.000008
85900.0	22.2	-47.6		34.2	585.1	218.1	8.1	1.000008
86000.0	22.1	-47.5		34.1	585.3	221.0	7.9	1.000008
86100.0	22.0	-47.3		33.9	585.4	223.8	7.6	1.000008
86200.0	21.9	-47.2		33.7	585.6	226.4	7.4	1.000007
86300.0	21.8	-47.1		33.5	585.8	228.8	7.1	1.000007
86400.0	21.7	-46.9		33.4	586.0	231.2	6.9	1.000007
86500.0	21.6	-46.8		33.2	586.1	233.3	6.6	1.000007
86600.0	21.5	-46.7		33.0	586.3	235.4	6.4	1.000007
86700.0	21.4	-46.5		32.8	586.5	237.3	6.1	1.000007
86800.0	21.3	-46.4		32.7	586.6	239.1	5.9	1.000007
86900.0	21.2	-46.3		32.5	586.8	240.8	5.6	1.000007
87000.0	21.1	-46.1		32.3	587.0	242.3	5.4	1.000007
87100.0	21.0	-46.0		32.2	587.2	243.8	5.2	1.000007
87200.0	20.9	-45.9		32.0	587.3	245.2	5.0	1.000007
87300.0	20.8	-45.7		31.8	587.5	246.2	4.8	1.000007
87400.0	20.7	-45.6		31.7	587.7	247.1	4.6	1.000007
87500.0	20.6	-45.6		31.5	587.7	248.1	4.4	1.000007
87600.0	20.5	-45.6		31.4	587.6	249.1	4.2	1.000007
87700.0	20.4	-45.6		31.3	587.6	250.3	4.0	1.000007
87800.0	20.3	-45.7		31.1	587.6	251.5	3.8	1.000007



UPPER AIR DATA  
 2870020489  
 WHITE SANDS  
 TABLE 12 Cont'd

STATION ALTITUDE 5989.00 FEET MSL  
 14 OCT. 63 0800 MDT  
 ASCENSION NO. 409

GEOLETIC COORDINATES  
 32.40043 LAT DEG  
 106.37033 LON DEG

GEOLETIC 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(TIN)	SPEED KNOTS	
07900.0	20.2	-45.7		31.0	507.6	252.9	10.2	1.000007
08000.0	20.1	-45.7		30.6	507.6	254.3	9.7	1.000007
08100.0	20.0	-45.7		30.7	507.5	255.9	9.3	1.000007
08200.0	20.0	-45.7		30.6	507.5	257.7	8.9	1.000007
08300.0	19.9	-45.7		30.4	507.5	259.6	8.5	1.000007
08400.0	19.8	-45.7		30.3	507.5	261.7	8.1	1.000007
08500.0	19.7	-45.8		30.2	507.5	264.1	7.7	1.000007
08600.0	19.6	-45.8		30.0	507.5	266.6	7.3	1.000007
08700.0	19.5	-45.8		29.9	507.4	269.1	7.0	1.000007
08800.0	19.4	-45.8		29.8	507.4	267.2	6.9	1.000007
08900.0	19.3	-45.8		29.6	507.4	265.4	6.8	1.000007
09000.0	19.2	-45.8		29.5	507.4	263.5	6.8	1.000007
09100.0	19.2	-45.8		29.4	507.3	261.6	6.7	1.000007
09200.0	19.1	-45.9		29.2	507.3	259.6	6.6	1.000006
09300.0	19.0	-45.9		29.1	507.3	257.6	6.6	1.000006
09400.0	18.9	-45.9		29.0	507.3	255.5	6.6	1.000006
09500.0	18.8	-45.9		28.8	507.3	253.5	6.5	1.000006
09600.0	18.7	-45.9		28.7	507.2	251.4	6.5	1.000006
09700.0	18.6	-45.9		28.6	507.2	249.3	6.5	1.000006
09800.0	18.6	-46.0		28.5	507.2	247.2	6.5	1.000006
09900.0	18.5	-46.0		28.3	507.2	245.1	6.5	1.000006
10000.0	18.4	-46.0		28.2	507.2	243.0	6.5	1.000006
10100.0	18.3	-46.0		28.1	507.1	240.9	6.5	1.000006
10200.0	18.2	-46.0		28.0	507.1	238.8	6.5	1.000006
10300.0	18.1	-46.1		27.8	507.1			1.000006
10400.0	18.0	-46.1		27.7	507.1			1.000006
10500.0	18.0	-46.1		27.6	507.1			1.000006
10600.0	17.9	-46.1		27.5	507.0			1.000006
10700.0	17.8	-46.1		27.3	507.0			1.000006
10800.0	17.7	-46.1		27.2	507.0			1.000006
10900.0	17.7	-46.1		27.1	507.0			1.000006
11000.0	17.6	-46.1		27.0	507.0			1.000006
11100.0	17.5	-46.2		26.8	506.9			1.000006
11200.0	17.4	-46.2		26.7	506.9			1.000006
11300.0	17.3	-46.2		26.6	506.9			1.000006
11400.0	17.3	-46.2		26.5	506.9			1.000006
11500.0	17.2	-46.2		26.4	506.9			1.000006
11600.0	17.1	-46.2		26.3	506.8			1.000006
11700.0	17.0	-46.3		26.1	506.8			1.000006
11800.0	16.9	-46.3		26.0	506.8			1.000006

STATION ALTITUDE 3989.70 FEET MSL  
 14 OCT. 83  
 ASCENSION NO. 480

UPPER AIR DATA  
 2870020489  
 WHITE SANDS

GEODLTIC COORDINATES  
 52.40043 LAT DEG  
 106.57033 LON DEG

TABLE 12 Con't

GEOMETRIC ALTITUDE MFL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES, CENTIGRADE	REL. HUM. PERCENT	DENSITY GM/CM <sup>3</sup>	SPEED OF SOUND METERS	WIND DATA DIRECTION DEGREES(TI)	SPEED KNOTS	INDEX OF REFRACTION
9190.0	10.9	-46.5		25.9	580.6			1.000006

STATION ALTITUDE 3989.00 FEET MSL  
 14 OCT. 83  
 ASCENSION NO. 489 0800 MDT

MANDATORY LEVELLS  
 2870020489  
 WHITE SANDS

GEODETTIC COORDINATES  
 32.40043 LAT DEG  
 106.37033 LONG DEG

TABLE 13

PRESSURE MILLIBARS	GEOMETRICAL FEET	TEMPERATURE		REL. HUM. PERCENT	WIND DATA	
		AIR DEGREES CENTIGRADE	DEWPOINT CENTIGRADE		DIRECTION DEGREES(TN)	SPEED KNOTS
850.0	4817.	19.4	9.0	51.	191.9	2.8
800.0	6515.	15.5	6.7	56.	243.1	12.4
750.0	8297.	10.6	3.2	60.	254.6	22.2
700.0	10169.	5.6	-0	67.	257.0	28.1
650.0	12147.	3.4	-18.4	18.	259.1	39.2
600.0	14262.	-0	-20.7	19.	247.3	43.8
550.0	16528.	-4.1	-25.5	17.	247.7	44.0
500.0	18978.	-8.1	-32.4	12.	252.8	43.8
450.0	21635.	-14.0	-34.4	16.	254.1	48.7
400.0	24525.	-21.7	-39.5	18.	259.5	51.2
350.0	27706.	-29.2	-45.2	19.	265.9	48.7
300.0	31245.	-39.2	-52.7	22.	261.2	54.3
250.0	35263.	-48.7			264.0	51.9
200.0	39976.	-58.0			240.9	61.2
175.0	42705.	-60.8			252.0	59.9
150.0	45864.	-61.0			261.0	59.4
125.0	49577.	-62.8			267.7	42.3
100.0	54075.	-63.3			256.2	37.3
80.0	58593.	-62.0			247.1	19.2
70.0	61311.	-58.8			230.5	14.1
60.0	64520.	-56.9			212.3	14.5
50.0	68322.	-56.2			169.5	9.1
40.0	72968.	-56.0			200.5	7.4
30.0	79011.	-52.8			99.2	4.7
25.0	82905.	-50.1			130.6	0.5
20.0	87737.	-45.7			250.0	9.3

END

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