

AD-A100 447

ARMY ELECTRONICS RESEARCH AND DEVELOPMENT COMMAND WS--ETC F/S 5/2
19305A MLRS, MISSILE NUMBER BN-004, BN-005, BN-006, ROUND NUMBE--ETC(U)
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LEVEL 7

METEOROLOGICAL DATA REPORT

19305A MLAS

Missile No. BM-004, BM-005, BM-006

Round No. Y-137/MO-4, Y-138/MO-5, Y-139/MO-6

28 April 1961

by

DONALD C. KELLER

Program Support Coordinator

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AT 349-9568

US Meteorological Team

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AERONAUTIC SCIENCE LABORATORY
WHITE SANDS MISSILE RANGE, NEW MEXICO

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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 19305A MLRS, Missile No. BN-004, BN-005, BN-006, Round No. V-137/MD-4, V-138/MD-5, V-139/MD-6 presented in tabular form.		

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INTRODUCTION

19305A MLRS , Missile Numbers BN-004, BN-006 , Round Numbers V-137/MD-4
V-138/MD-5 and V-139/MD-6, were launched from LC-33, White Sands Missile
Range (WSMR), New Mexico, at 1211:38, 1211:42 and 1211:47 MDT, 28 April 1981.
The scheduled launch times were 1200, 1200:03 and 1200:06 MDT.

DISCUSSION

Meteorological data were recorded and reduced by the White Sands Meteorological Team, Atmospheric Sciences Laboratory (ASL), White Sands Missile Range, New Mexico. The data were obtained by the following methods:

1. Observations

a. Surface

(1) Standard surface observations to include pressure, temperature (C), relative humidity, dew point (C), density (gm/m), wind direction and speed, and cloud cover were made at the LC-33 Met Site at T-0 minutes.

(2) Anemometer data were provided from existing pole-mounted and tower-mounted anemometers at LC-33. Monitor of wind speed and direction from one anemometer was also provided in the launch control room.

b. Upper Air

(1) Low level wind data were obtained from RAPTS T-9 pibal observation at: LC33 and NICK Site to 2km

SITE AND ALTITUDE

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

SITE AND TIME

WSD	0900 MDT
LC-37	1023 MDT
WSD	1100 MDT
*LC-37	1237 MDT

* No data due to ground equipment failure.

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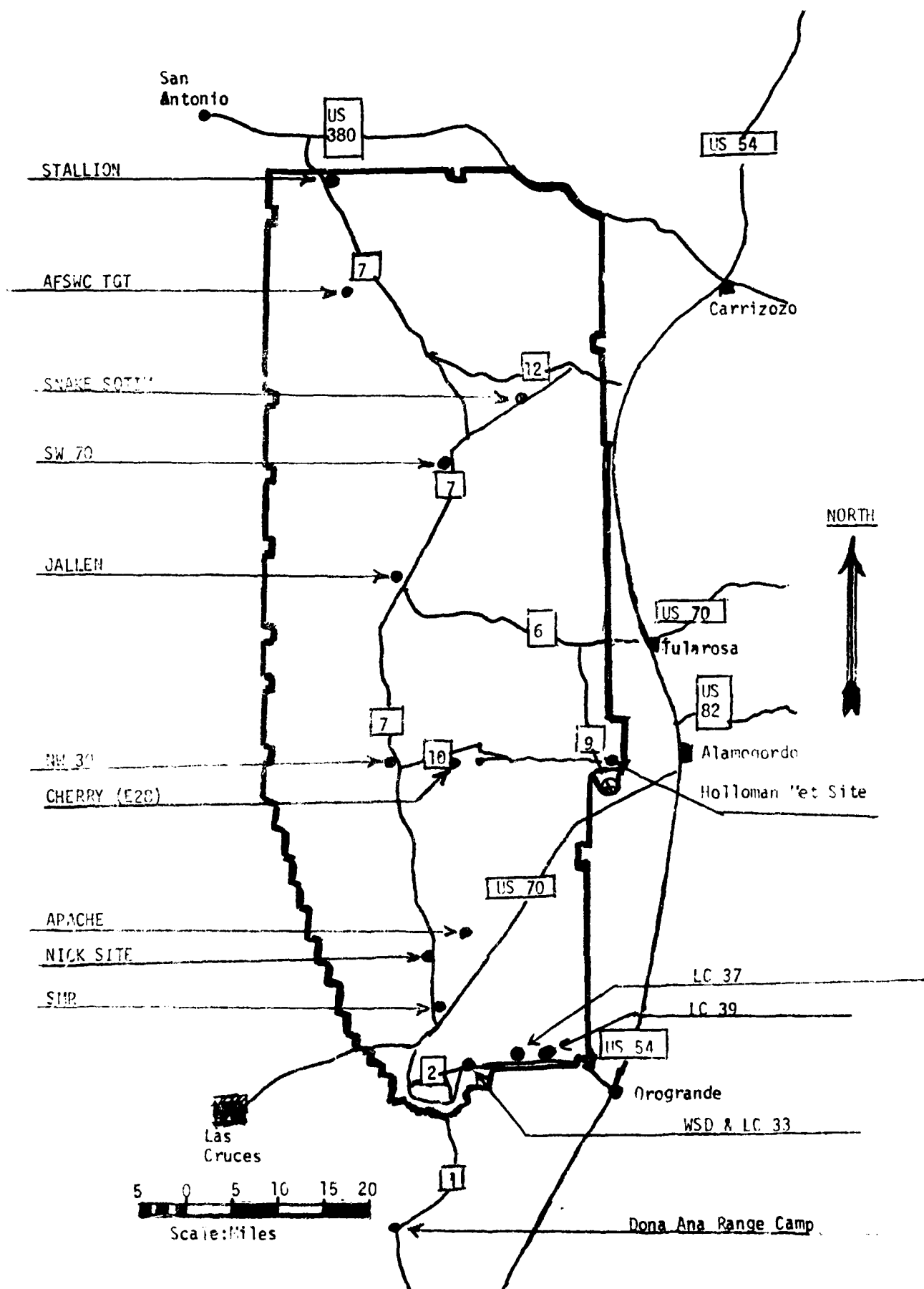


TABLE 1. Surface Observations taken at 1214 MDT,
28 April 1981, at LC-33, 19305A MLRS,
Missile No. BN-004, BN-005, BN-006,
Round No. V-137/MD-4, V-138/MD-5, V-139/MD-6.

ELEVATION	3983	FT/MSL
PRESSURE	878.0	MBS
TEMPERATURE	28.2	°C
RELATIVE HUMIDITY	28	%
DEW POINT	7.9	°C
DENSITY	1008	GM/M ³
WIND SPEED	05	KTS
WIND DIRECTION	360	DEGREES
CLOUD COVER	0/CU/8000	AMT/TYPERHGT

TABLE 2 LC-33 FIXED POLE ANEMOMETER MEASURED WINDS

28 April 1981
1214 MDT

POLE #1 X485,874.29 Y185,958.90 H4018.74 38.7 ft. AGL			POLE #2 X485,874.93 Y186,012.00 H4033.57 53.0 ft. AGL			POLE #3 X485,877.29 Y186,116.06 H4063.92 83.6 ft. AGL		
T-TIME SEC	DIR DEG	SPEED KTS	T-TIME SEC	DIR DEG	SPEED KTS	T-TIME SEC	DIR DEG	SPEED KTS
T-30	017	06	T-30	017	03	T-30	020	06
T-20	011	05	T-20	022	04	T-20	011	05
T-10	013	05	T-10	013	04	T-10	013	05
T0.0	004	04	T0.0	008	03	T0.0	012	05
T+10	005	04	T+10	360	04	T+10	003	04

TABLE 3 LC-33 METEOROLOGICAL TOWER ANEMOMETER MEASURED WINDS (202 FT TOWER)

LEVEL #1, 12 FEET X484,982.64, Y185,057.73, H3983.00 (base)			LEVEL #2, 62 FEET X484,982.64, Y185,057.73, H3983.00 (base)		
T-TIME SEC	DIR DEG	SPEED KTS	T-TIME SEC	DIR DEG	SPEED KTS
T-30	023	06	T-30	096	03
T-20	360	05	T-20	100	02
T-10	001	05	T-10	100	02
T0.0	360	05	T0.0	100	02
T+10	355	06	T+10	100	02

LEVEL #3, 102 FEET X484,982.64, Y185,057.73, H3983.00 (base)			LEVEL #4, 202 FEET X484,982, Y185,057.73, H3983.00 (base)		
T-TIME SEC	DIR DEG	SPEED KTS	T-TIME SEC	DIR DEG	SPEED KTS
T-30	MISG	MISG	T-30	157	03
T-20	"	"	T-20	176	02
T-10	"	"	T-10	166	02
T0.0	"	"	T0.0	166	03
T+10	"	"	T+10	153	04

TABLE 4

T-TIME PILOT-BALLOON MEASURED WIND DATA

DATE 28 April 1981

SITE: LC-33
TIME: 1211 MDT
WSTM COORDINATES:
X= 486,037.24
Y= 182,350.16
H= 3977.30

SITE: NICK
TIME: 1211 MDT
WSTM COORDINATES:
X= 470,734.56
Y= 255,775.64
H= 4126.57

LAYER MIDPOINT METERS AGL	DIRECTION DEGREES	SPEED KNOTS
SURFACE	360	05
150	046	08
210	028	08
270	034	08
330	060	09
390	077	09
500	088	07
650	140	04
800	130	03
950	133	02
1150	154	03
1350	141	06
1550	199	03
1750	177	02
2000	116	09

LAYER MIDPOINT METERS AGL	DIRECTION DEGREES	SPEED KNOTS
SURFACE	321	03
150	315	05
210	010	06
270	068	09
330	061	11
390	062	08
500	041	06
650	020	07
800	071	07
950	117	08
1150	137	08
1350	177	09
1550	189	11
1750	151	10
2000	113	09

TABLE 5

AIMING COMPUTER MET MESSAGES
28 April 1981

WSD 0900 MDT METCM1325065 281500122879		LC-37 1023 MDT METCM1325064 281640124877		WSD 1100 MDT METCM1325065 281700124879	
00284001	29360879	00000000	29870877	00142004	29970879
01328003	29330869	01287005	29650867	01236008	29830869
02476001	29270844	02563001	29360843	02628005	29500844
03354002	29130805	03496001	29010804	03627003	29070806
04198006	28750759	04355003	28590758	03243003	28720760
05217009	28360715	05226009	28280714	05233009	28400716
06167008	28000673	06197007	27970672	06184008	28030674
07151006	27520633	07175008	27510631	07163006	27560634
08340006	27080595	08332010	27040594	08346010	27110595
09368014	26760558	09353017	26740556	09362017	26810559
		10335017	26420521	10355018	26480524
		11354017	26040489	11353015	26110491
				12344023	25460445

52.40043 LAT LEG
106.57035 LONG LEG

SIGNIFICANT LEVEL DATA

701105 311105
4650200811

TABLE 6

REL. HUM.	PERCENT	TEMPERATURE	DEW POINT	REL. HUM.
		DEGREES	DEGREES	
378.9	3909.0	19.0	10.3	57.0
354.0	4773.5	16.0	6.7	46.0
350.0	4932.1	15.5	6.4	45.0
310.4	6274.2	17.7	3.9	40.0
700.0	62319.6	8.3	-2.9	45.0
357.2	10620.5	8.6	-4.8	40.0
615.0	13786.0	-3.4	-9.0	52.0
589.0	19215.8	-5.6	-17.0	34.0
572.0	19676.0	-8.2	-24.9	19.0
555.2	19445.5	-6.2	-26.6	18.0
533.6	17216.0	-6.7	-27.6	17.0
500.0	19119.2	-11.0	-30.6	18.0
000.0	24595.4	-26.0	-41.7	21.0
362.0	26604.3	-32.3	-46.7	22.0
325.0	29704.8	-35.0	-49.5	21.0
300.0	31234.5	-40.9		

GEODETIC COORDINATES
32.40043 LAT DEG
100.37033 LONG DEG

UPPER AIR DATA
1100020297
WHITE SANDS

TABLE 7

STATION ALTITUDE ASL FEET	PRESSURE MILLIBARS	TEMPERATURE AT DEWPOINT DIFFERENCES CENTIGRADE	REL. HUM. PERCENT	DENSITY GM/CM ³	SPEED OF SOUND KNOTS	WIND DATA		INDEX OF REFRACTION
						DIRECTION DEGREES (T)	SPEED KNOTS	
3700.0	370.9	14.7	57.6	1042.4	667.7	136.0	1.0	1.000288
3800.0	370.0	14.3	56.8	1042.0	667.7	136.7	1.0	1.000268
3900.0	369.1	13.7	56.0	1035.5	667.1	131.7	1.0	1.000276
4000.0	368.0	13.0	46.0	1038.7	666.7	114.0	1.3	1.000267
4100.0	366.0	12.2	42.0	992.1	660.3	223.4	1.7	1.000261
4200.0	365.0	11.5	41.0	975.8	665.9	223.4	1.0	1.000255
4300.0	364.0	10.8	40.5	960.9	665.0	178.0	1.5	1.000250
4400.0	363.0	10.0	40.9	947.6	663.7	132.7	2.6	1.000245
4500.0	362.0	9.2	41.5	934.5	662.3	117.0	4.0	1.000240
4600.0	361.0	8.4	42.1	921.0	660.9	114.3	5.2	1.000236
4700.0	360.0	7.6	42.8	908.9	659.5	116.1	5.6	1.000231
4800.0	359.0	6.8	43.4	896.3	658.1	119.0	7.0	1.000227
4900.0	358.0	6.0	44.0	884.0	656.7	121.8	8.5	1.000223
5000.0	357.0	5.2	44.6	871.9	655.3	117.4	9.2	1.000219
5100.0	356.0	4.4	45.2	859.8	654.3	112.3	9.0	1.000214
5200.0	355.0	3.6	40.7	845.3	653.4	104.5	8.6	1.000209
5300.0	354.0	2.8	42.7	833.9	651.7	93.0	7.6	1.000205
5400.0	353.0	2.0	44.8	822.7	650.0	91.0	7.1	1.000202
5500.0	352.0	1.2	46.8	811.7	648.4	89.2	6.6	1.000199
5600.0	351.0	0.4	48.6	800.8	646.7	86.0	5.6	1.000195
5700.0	350.0	-0.4	50.0	790.1	645.0	87.5	4.3	1.000192
5800.0	349.0	-1.2	48.6	779.4	643.3	131.4	2.5	1.000188
5900.0	348.0	-2.0	49.6	768.7	641.6	100.4	4.3	1.000182
6000.0	347.0	-2.8	32.2	757.7	640.1	197.6	0.6	1.000177
6100.0	346.0	-3.6	21.7	744.9	639.3	201.5	11.5	1.000171
6200.0	345.0	-4.4	13.0	733.0	638.1	203.9	13.5	1.000167
6300.0	344.0	-5.2	17.0	722.8	636.6	207.4	14.1	1.000165
6400.0	343.0	-6.0	17.3	709.7	635.2	212.0	14.3	1.000162
6500.0	342.0	-6.8	17.1	698.0	635.3	214.0	15.7	1.000159
6600.0	341.0	-7.6	17.4	687.4	633.9	210.5	17.3	1.000150
6700.0	340.0	-8.4	17.7	676.9	632.6	215.2	19.5	1.000154
6800.0	339.0	-9.2	17.3	666.6	631.2	214.4	21.5	1.000151
6900.0	338.0	-10.0	16.0	656.6	629.6	215.1	21.4	1.000149
7000.0	337.0	-10.8	16.5	646.0	628.0	215.0	21.1	1.000146
7100.0	336.0	-11.6	16.0	637.1	626.3	210.5	20.4	1.000144
7200.0	335.0	-12.4	16.0	627.0	624.6	210.5	20.4	1.000142
7300.0	334.0	-13.2	15.3	616.2	622.9	217.4	21.6	1.000139
7400.0	333.0	-14.0	15.0	609.0	621.3	218.0	23.1	1.000137
7500.0	332.0	-14.8	12.9	600.0	619.0	220.1	24.4	1.000135
7600.0	331.0	-15.6	26.1	591.1	617.3	220.4	25.4	1.000133

STATION ALTITUDE 3930.00 FEET MSL
28 APR 61 0900 HRS MDT
ACCUSSION NO. 207

UPPER AIR DATA
1100020297
WHITE SANDS
TABLE 7 CONT

GEODETIC COORDINATES
32.40043 LAT DEG
106.37033 LONG DEG

GEOMETRIC ALTITUDE FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES CENTIGRADE	REL. HUM. PERCENT	DENSITY GRAMS PER CUBIC METER	SPEED OF SOUND KNOTS	DIRECTION DEGREES (TD)	WIND SPEED KNOTS	INDEX OF REFRACTION
2500.0	910.5	-23.0	20.4	582.4	616.2	219.3	26.1	1.000131
2600.0	909.6	-24.4	20.7	573.8	614.5	217.4	26.7	1.000129
2700.0	908.6	-25.7	20.0	565.3	612.8	214.5	27.4	1.000127
2800.0	907.2	-27.1	21.2	556.6	611.1	211.4	27.8	1.000125
2900.0	904.9	-28.5	21.4	547.9	609.4	207.6	27.8	1.000123
3000.0	903.3	-29.8	21.6	539.4	607.7	208.1	27.5	1.000121
3100.0	900.9	-31.2	21.6	531.1	606.0	206.7	26.8	1.000119
3200.0	898.1	-32.4	21.9	522.8	604.4	211.9	26.7	1.000117
3300.0	895.4	-33.2	21.7	513.0	603.5	220.0	27.3	1.000115
3400.0	892.8	-33.9	21.4	503.6	602.6	228.2	29.5	1.000113
3500.0	890.4	-34.7	21.1	494.3	601.0	235.2	32.6	1.000111
3600.0	888.1	-35.7	18.5**	485.7	600.3	237.4	36.2	1.000109
3700.0	885.8	-36.9	14.4**	477.4	598.9	238.0	40.0	1.000107
3800.0	883.8	-38.0	10.2**	469.3	597.4			1.000105
3900.0	889.9	-39.2	6.1**	461.4	595.9			1.000103
3930.0	890.1	-40.4	1.9**	453.6	594.4			1.000101

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

STATION ALTITUDE 3980.00 FEET MSL
28 APR. 61
ASCENSION NO. 219 Q900 HRS MDT

MAINTENANCE LEVELS
1100020297
WHITE SANDS
TABLE 8

GEODETIC COORDINATES
32.40043 LAT DEG
106.37033 LONG DEG

PRESSURE GEOPOTENTIAL		TEMPERATURE		REL. HUM. PERCENT	WIND DATA	
MILLIBARS	FEET	AIR DEGREES	DEWPOINT CENTIGRADE		DIRECTION DEGREES (TN)	SPEED KNOTS
850.0	4929.	18.5	6.4	45.	212.2	1.2
800.0	5631.	16.9	3.4	40.	156.7	1.7
750.0	6423.	12.7	.4	43.	115.9	5.7
700.0	7309.	6.3	-2.9	45.	114.3	9.6
650.0	8305.	3.6	-6.7	46.	89.9	6.8
600.0	9416.	-2.1	-13.4	42.	182.6	3.7
550.0	10666.	-6.4	-26.9	18.	209.6	14.2
500.0	12002.	-11.0	-30.6	18.	214.0	21.4
450.0	13711.	-16.1	-35.3	19.	217.7	22.4
400.0	15554.	-26.0	-41.7	21.	214.0	27.5
350.0	17673.	-33.5	-48.0	22.	223.4	27.9
300.0	20172.	-40.9				

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

GEODETIC COORDINATES
32.40175 LAT DEG
106.31232 LONG DEG

SIGNIFICANT LEVEL DATA
J19010705J
LC-37

TABLE 9

STATION ALTITUDE 9951.32 FEET MSL
28 APR. 61 1023 HRS EDT
ACQUISITION NO. 53

MEASURED GEODETIC ALTITUDE MILLIMETERS	TEMPERATURE AIR DEGREES CENTIGRADE	REL. HUM. PERCENT
677.4	26.4	34.0
686.6	26.5	35.0
690.0	26.5	39.0
695.7	18.1	43.0
628.4	19.3	57.0
500.0	1.6	42.0
726.4	-2.7	26.0
600.0	-9.4	34.0
10334.7	-10.9	24.0
646.6	-21.2	18.0
686.6	-21.8	17.0
15025.7	-25.5	17.0
578.2	-29.4	17.0
561.0	-30.0	17.0
520.0	-31.2	18.0
512.6	-35.6	20.0
560.6	-41.6	20.0
457.0	-40.2	20.0
450.0	-43.5	20.0
460.0	-49.5	20.0
557.2		
244.0		
334.6		
322.0		
316.1		
300.0		
31269.2		

STATION ALTITUDE 4051.37 FEET MSL
28 APR 61 1023 HRS MDT
ASCENSION I.O.

UPPER AIR DATA
1100100055
LC-37

GEODETIC COORDINATES
32.40175 LAT UEG
106.51232 LONG UEG

TABLE 10

GEODETIC ALTITUDE 650 FEET	PRESSURE MILLIBARS	AIR TEMPERATURE DEGREES CELSIUS	REL. HUM. PERCENT	DENSITY GM/CM ³	SPEED OF SOUND KNOTS	DIRECTION DEGREES (TD)	WIND DATA SPEED KNOTS	INDEX OF REFRACTION
4051.4	677.4	24.4	34.0	1022.6	673.5	0.0	0.0	1.000272
4500.0	663.7	22.2	35.7	1014.7	679.9	292.7	0.2	1.000268
5000.0	646.7	20.4	39.2	1003.1	686.8	292.7	0.5	1.000265
5500.0	633.8	18.7	42.0	991.2	690.9	292.7	0.7	1.000261
6000.0	619.1	17.5	41.0	976.0	695.4	292.4	1.0	1.000255
6500.0	604.6	16.6	37.9	964.3	694.2	208.9	0.9	1.000247
7000.0	591.3	15.4	37.7	951.0	692.0	237.2	0.6	1.000242
7500.0	576.1	14.2	38.6	936.1	691.3	104.3	1.4	1.000238
8000.0	562.1	12.9	39.5	925.4	689.9	140.9	2.7	1.000233
8500.0	548.5	11.7	40.5	912.9	688.4	140.3	4.2	1.000229
9000.0	535.0	10.4	41.4	900.6	686.9	135.1	5.6	1.000225
9500.0	521.8	9.5	39.2	887.4	685.8	126.4	7.2	1.000220
10000.0	508.7	9.3	31.3	872.4	685.3	123.7	8.3	1.000212
10500.0	495.7	8.7	26.6	858.6	684.5	119.2	8.7	1.000206
11000.0	482.9	7.4	28.5	846.8	683.0	113.5	8.5	1.000203
11500.0	470.4	6.6	30.4	835.1	681.5	106.3	8.2	1.000200
12000.0	458.0	4.7	32.3	823.7	679.9	102.0	7.9	1.000197
12500.0	445.9	3.4	33.9	812.4	678.4	100.0	7.5	1.000194
13000.0	433.8	2.0	31.9	801.3	676.7	101.7	6.9	1.000190
13500.0	421.1	0.6	30.0	790.3	675.0	125.2	5.7	1.000186
14000.0	408.1	-0.4	28.0	779.5	673.5	134.0	5.7	1.000182
14500.0	395.7	-2.1	26.1	768.9	671.6	181.7	6.7	1.000178
15000.0	383.4	-3.5	24.1	758.4	669.9	200.4	8.6	1.000175
15500.0	370.2	-4.3	23.3	746.2	668.9	200.1	11.9	1.000172
16000.0	356.2	-4.6	19.3	732.8	668.6	196.7	15.5	1.000168
16500.0	343.3	-5.4	17.8	720.9	667.0	192.5	17.0	1.000164
17000.0	330.6	-6.5	17.6	709.8	666.3	188.4	18.1	1.000162
17500.0	318.1	-7.5	17.3	698.9	665.0	180.0	17.3	1.000159
18000.0	305.8	-8.6	17.1	688.2	663.8	189.0	16.2	1.000156
18500.0	293.7	-9.5	17.0	677.2	662.0	192.3	16.9	1.000154
19000.0	282.6	-10.7	17.0	666.9	661.3	194.9	17.7	1.000151
19500.0	271.7	-12.6	17.2	657.0	659.7	197.3	17.6	1.000149
20000.0	260.7	-13.3	17.4	647.3	658.1	199.5	17.8	1.000146
20500.0	249.4	-14.7	17.6	637.8	656.4	201.3	18.5	1.000144
21000.0	238.0	-16.0	17.6	628.4	654.8	204.3	19.4	1.000142
21500.0	226.6	-16.8	18.0	617.8	653.9	203.1	20.4	1.000139
22000.0	215.5	-17.6	18.3	609.2	652.3	209.9	21.7	1.000137
22500.0	204.4	-19.4	18.6	599.1	650.0	213.9	23.1	1.000135
23000.0	193.6	-20.4	13.9	590.3	648.3	210.1	24.2	1.000133
23500.0	183.0	-22.3	19.3	581.6	647.1	209.1	25.5	1.000131

STATION ALTITUDE 4051.37 FEET MSL
 23 APR 61 1023 HRS MDT
 ASCENDING TO.

UPPER AIR DATA
 1160130055
 LC-37

TABLE 10 CONT

GEODETIC COORDINATES
 32.40175 LAT DEG
 106.31252 LONG DEG

GEODETIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREE CELSIUS	RELATIVE HUMIDITY PERCENT	DENSITY GM/CM ³	SPEED OF SOUND METER NOTES	WIND DATA DIRECTION DEGREES (TD) SPEED KNOTS	INDEX OF REFRACTION
24000.0	612.3	-23.7	19.5	573.0	615.3	207.0	1.000129
24500.0	401.9	-25.2	19.9	564.6	613.5	200.7	1.000127
25000.0	390.6	-26.6	20.0	559.0	611.3	200.3	1.000125
25500.0	385.3	-28.0	20.0	547.4	610.0	204.0	1.000123
26000.0	377.2	-29.4	20.0	539.0	608.3	202.0	1.000121
26500.0	369.2	-30.8	20.0	530.7	606.5	203.5	1.000119
27000.0	361.5	-32.2	20.0	522.6	604.7	203.5	1.000117
27500.0	350.3	-33.1	20.0	513.3	603.7	212.0	1.000115
28000.0	340.2	-33.2	20.0	502.0	603.5	221.0	1.000112
28500.0	330.8	-34.0	20.0	493.5	602.5	229.3	1.000110
29000.0	321.5	-35.4	14.6**	485.7	600.8	226.9	1.000108
29500.0	324.4	-37.1	2.5**	478.0	598.6	220.1	1.000107
30000.0	317.3	-37.0		468.9	596.2		1.000104
30500.0	310.0	-36.2		460.3	597.1		1.000103
31000.0	303.6	-39.1		452.2	595.6		1.000101

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

STATION ALTITUDE 9251.37 FEET MSL
28 APR. 61 1023 HRS MDT
ASCENSION I.O. 53

MANDATORY LEVELS
1180180050
10-37

GEODETIC COORDINATES
32.40175 LAT DEG
106.31232 LONG DEG

TABLE 11

PRESSURE EQUIPOTENTIAL		TEMPERATURE		REL. HUM. PERCENT	WIND DATA	
WALL DATA	FEET	AIR DEGREES CELSIUS	TEMPOTIAL DEGREE		DIRECTION DEGREES (TN)	SPEED KNOTS
852.0	6652.	20.6	6.1	39.	292.7	.5
865.0	6586.	16.2	1.6	37.	260.5	.9
750.0	5403.	11.8	-1.2	40.	140.0	4.0
700.0	4625.	9.1	-9.4	20.	120.7	0.5
650.0	3819.	3.6	-10.7	34.	101.2	7.6
600.0	3016.	-2.0	-18.7	20.	178.7	0.5
550.0	2211.	-5.0	-26.4	13.	190.9	17.4
500.0	1407.	-11.0	-31.2	17.	195.5	17.7
450.0	2177.	-17.3	-35.8	18.	209.2	21.0
400.0	24577.	-25.5	-41.8	20.	206.0	23.4
350.0	27609.	-33.1	48.3	20.	217.0	24.6
300.0	31207.	-39.8				

GEODETIC COORDINATES
32.40043 LAT DEG
100.37033 LON DEG

SIGNIFICANT LEVEL DATA

1100020296

DATE 5/10/05

TABLE 12

STATION ALTITUDE 5499.2 FEET WGL

1100 HRS ADT

WGL 151.0 FEET

STATION ALTITUDE FEET WGL	TEMPERATURE DEGREES CENTIGRADE	REL. HUM. PERCENT
5499.2	25.0	36.0
5499.2	21.2	36.0
5499.2	15.2	45.0
5499.2	11.2	38.0
5499.2	9.4	41.0
5499.2	-3.2	25.0
5499.2	-5.5	25.0
5499.2	-10.9	17.0
5499.2	-18.2	17.0
5499.2	-26.1	18.0
5499.2	-34.1	19.0
5499.2	-35.3	22.0
5499.2	-38.2	20.0
5499.2	-40.7	

GEODETIC COORDINATES
32.40043 LAT DEG
106.37033 LONG DEG

UPPER AIR DATA
1130020298
WHITE SANDS

TABLE 13

STATION ALTITUDE 3900.00 FEET ASL
OR WIND AT 1100 HRS MDT
PRECIPITATION NO. 0.08

GEODETIC ALTITUDE ASL FEET	PRESSURE MILLIBARS	AIR TEMPERATURE DEGREES CENTIGRADE	REL. HUM. PERCENT	DENSITY GRAMS PER CUBIC METER	SPEED OF SOUND METERS PER SECOND	DIRECTION DEGREES (TR)	WIND SPEED KNOTS	INDEX OF REFRACTION
3900.0	874.0	25.0	35.0	1022.0	674.3	60.0	4.1	1.000276
4000.0	870.7	25.0	35.0	1021.8	674.3	79.8	4.1	1.000276
4500.0	860.4	23.0	36.0	1011.3	671.9	60.0	3.3	1.000263
5000.0	845.5	21.0	36.3	1000.7	669.5	51.4	2.7	1.000263
5500.0	835.5	19.3	39.2	988.0	667.6	27.9	2.4	1.000259
6000.0	818.9	17.7	42.1	977.1	665.7	3.0	2.6	1.000256
6500.0	804.5	16.0	44.9	965.6	663.7	340.3	3.1	1.000252
7000.0	790.2	15.4	39.0	950.7	662.9	357.5	2.2	1.000244
7500.0	770.1	14.5	39.5	937.0	661.8	24.3	1.4	1.000238
8000.0	762.1	13.4	39.4	923.9	660.4	120.1	2.1	1.000234
8500.0	743.5	12.2	40.2	911.0	659.1	130.0	4.6	1.000230
9000.0	730.9	11.1	40.5	898.2	657.0	135.5	6.6	1.000225
9500.0	721.7	10.5	34.7	884.4	650.9	132.8	8.3	1.000218
10000.0	700.6	9.8	28.9	870.7	650.0	124.0	8.7	1.000211
10500.0	690.7	8.9	25.0	857.8	654.8	116.7	9.0	1.000205
11000.0	681.7	7.6	25.0	840.0	653.2	110.7	0.7	1.000201
11500.0	670.7	6.2	25.0	834.5	651.6	104.9	8.3	1.000197
12000.0	657.6	4.8	25.0	823.1	649.9	93.5	7.6	1.000194
12500.0	645.3	3.4	25.0	811.9	648.3	90.2	6.8	1.000191
13000.0	635.3	2.1	25.0	800.6	646.6	90.0	5.9	1.000187
13500.0	621.0	.7	25.0	789.9	645.0	114.0	4.6	1.000184
14000.0	613.0	-1.7	25.0	779.2	643.3	101.0	5.1	1.000181
14500.0	600.5	-2.1	25.0	769.7	641.7	150.9	8.0	1.000178
15000.0	587.5	-3.3	24.6	757.9	640.2	201.1	11.9	1.000175
15500.0	570.2	-4.1	22.0	745.5	639.3	199.8	15.2	1.000171
16000.0	555.2	-5.8	19.5	733.3	638.4	193.7	17.7	1.000168
16500.0	544.4	-5.5	17.0	721.3	637.5	203.3	18.2	1.000164
17000.0	543.0	-6.6	17.0	710.1	636.2	205.0	18.1	1.000162
17500.0	535.1	-7.6	17.0	699.0	635.0	205.0	17.3	1.000159
18000.0	524.3	-8.6	17.0	688.1	633.8	202.0	16.9	1.000156
18500.0	512.0	-9.6	17.0	677.3	632.0	197.8	16.6	1.000154
19000.0	501.7	-10.6	17.0	666.0	631.3	195.9	17.1	1.000151
19500.0	492.7	-11.9	17.1	656.0	629.0	194.4	17.7	1.000149
20000.0	485.0	-13.2	17.3	647.0	628.2	193.9	18.6	1.000146
20500.0	475.0	-14.5	17.5	637.4	626.0	197.4	19.4	1.000144
21000.0	465.0	-15.5	17.7	628.0	625.0	190.9	19.4	1.000142
21500.0	455.7	-17.2	17.9	618.7	623.4	200.0	20.1	1.000139
22000.0	445.7	-18.5	18.0	609.5	621.7	200.0	21.1	1.000137
22500.0	435.5	-20.0	18.2	600.5	620.0	202.0	22.1	1.000135
23000.0	427.0	-21.4	18.4	591.6	618.2	203.2	23.1	1.000133

