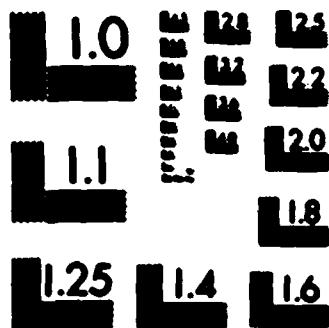


AD-A123 338

193088 MLRS MISSILE NUMBERS BC-129 BC-122 BC-132 ROUND 1/1
NUMBERS V-363/PQ-9. (U) ARMY ELECTRONICS RESEARCH AND
DEVELOPMENT COMMAND WSMR NM ATM. D C KELLER NOV 82
ERADCOM/ASL-DR-1274 F/G 4/2 NL

UNCLASSIFIED

								END						
								FORM						
								DATE						



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

AD A 1 2 3 3 3 8

UNCLASSIFIED

SECURITY CLASSIFICATION OF THIS PAGE (When Data Entered)

REPORT DOCUMENTATION PAGE		READ INSTRUCTIONS BEFORE COMPLETING FORM
1. REPORT NUMBER DR 1274	2. GOVT ACCESSION NO. AD-A12338	3. RECIPIENT'S CATALOG NUMBER
4. TITLE (and Subtitle) 19308B MLRS Missile Numbers BC-129, BC-122, BC-132 Round Numbers V-363/PQ-94, V-364/PQ-95, V-365/PQ-96	5. TYPE OF REPORT & PERIOD COVERED	
	6. PERFORMING ORG. REPORT NUMBER	
7. AUTHOR(s) White Sands Meteorological Team	8. CONTRACT OR GRANT NUMBER(s) DA Task 1F665702D127-02	
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11. CONTROLLING OFFICE NAME AND ADDRESS US Army Electronics Research & Development Cmd Atmospheric Sciences Laboratory White Sands Missile Range, New Mexico 88002	12. REPORT DATE November 1982	
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17. DISTRIBUTION STATEMENT (of the abstract entered in Block 20, if different from Report) Approved for public release; distribution unlimited.		
18. SUPPLEMENTARY NOTES		
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 19308B MLRS, Missile Numbers BC-129, BC-122, BC-132, Round Numbers V-363/PQ-94, V-364/PQ-95, V-365/PQ-96 are presented in tabular form.		

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INTRODUCTION

→ 19333 RLRS, Missile numbers SC-129, SC-132 and SC-133, Round Numbers Y-XL3/P2-31, Y-XL1/P2-35 and Y-XL5/P2-36, were launched from Brillo, White Sands Missile Range (WSMR), New Mexico, at 1737:56, 1747:33 and 1747:35 MST, 15 Nov 52. The scheduled launch times were 1737, 1737:30.5 and 1737:39 MST.

DISCUSSION

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

1. Observations

a. Surface

(1) Standard surface observations to include pressure, temperature ($^{\circ}\text{C}$), relative humidity, dew point ($^{\circ}\text{C}$), density (g/m^3), wind direction and speed, and cloud cover were made at the Brillo Test Site at 1-0 minutes.

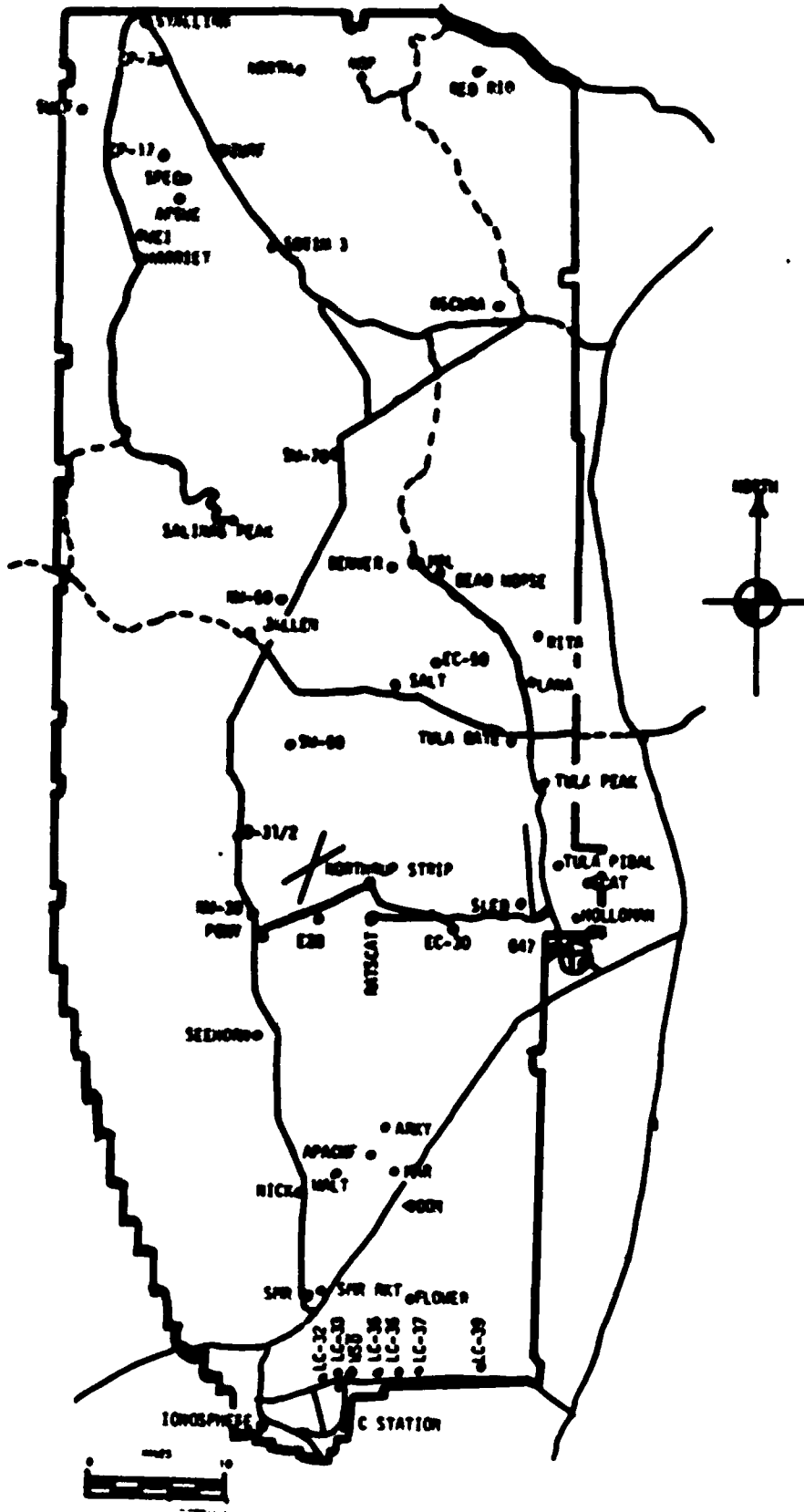
(2) Anemometer data were provided from existing tower-mounted anemometers at Brillo. Monitor of wind speed and direction from one anemometer was also provided in the launch control room.

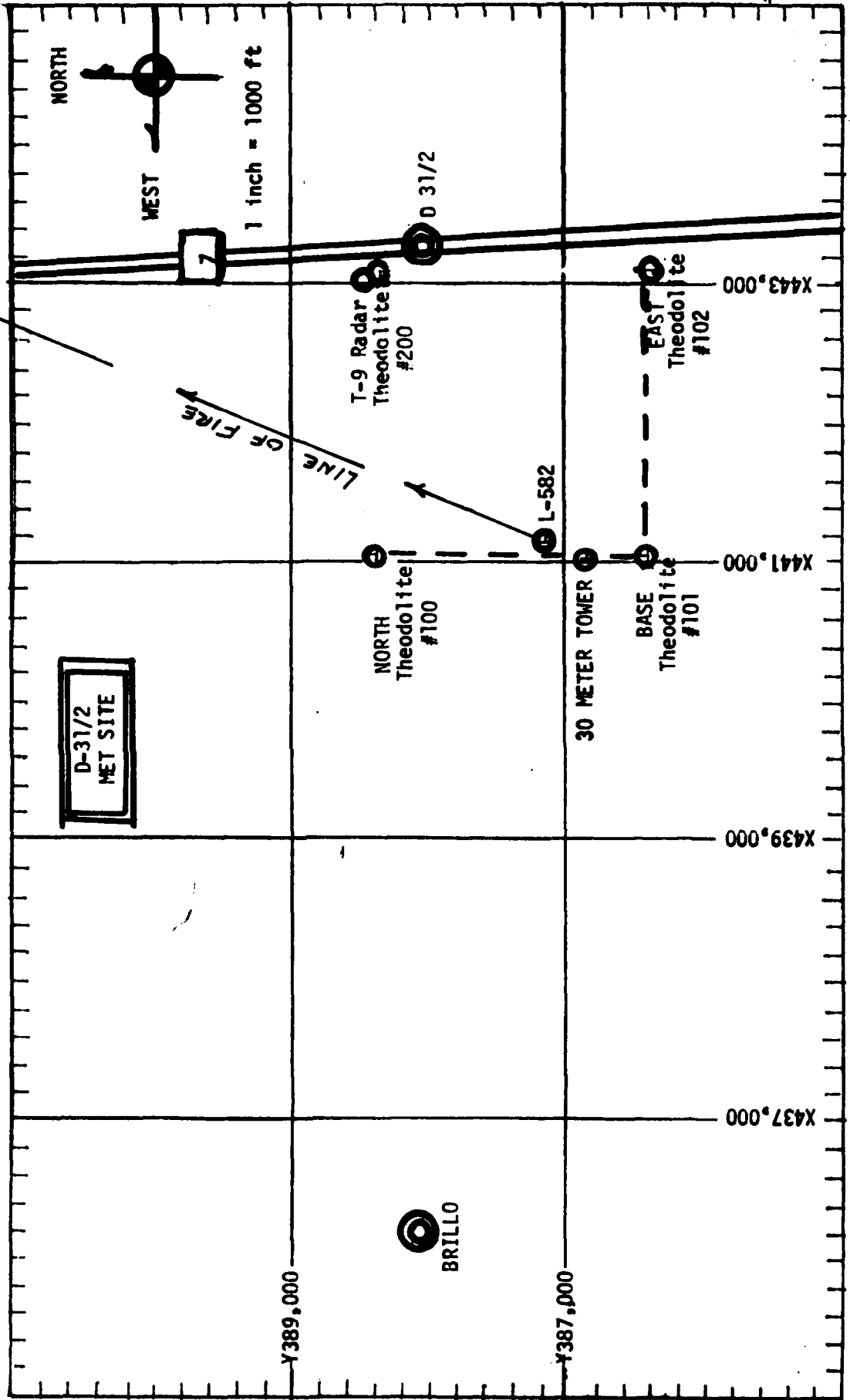
b. Upper Air - Air structure data (rawinsonde) were collected at the following Test Sites.

SITE AND TIME

E-28	0430 MST
W-37	0530 MST
E-23	0730 MST

WSMR METEOROLOGICAL SITES





PROJECT SURFACE OBSERVATION

TABLE 1 STATION BRILLO

DATE 15 DAY 10 MONTH 82 YEAR

X = 441,121.6 Y = 387,103.8 H = 4005.2
441,121.6 387,103.8 4005.2

TIME M S T	PRESSURE mbs	TEMPERATURE OF OC	DEW POINT OF OC	RELATIVE HUMIDITY %	DENSITY gm/m ³	WIND			VISIBIL- ITY
						DIRECTION degs In	SPEED kts	CHARACTER kts	
0735	386.3	1.0	-13.3	33	1124	350	03		40

OBSTRUCTIONS TO VISIBILITY	CLOUDS						REMARKS		
	1st LAYER		2nd LAYER		3rd LAYER				
	AMT	TYPE	HGT	AMT	TYPE	HGT	AMT	TYPE	HGT
	1	AC	100	5	CI	250			

PSYCHROMETRIC COMPUTATION

TIME:	0735
DRY BULB TEMP.	1.0
WET BULB TEMP.	-0.7
WET BULB DEPR.	1.7
DEW POINT	-13.3
RELATIVE HUMID.	33

TABLE 2

Anemometer Data - 30 FT. Level of 30 Meter Tower

X= 441,018.71 Y= 336,349.19 ID= 4,004.80 (BASE)

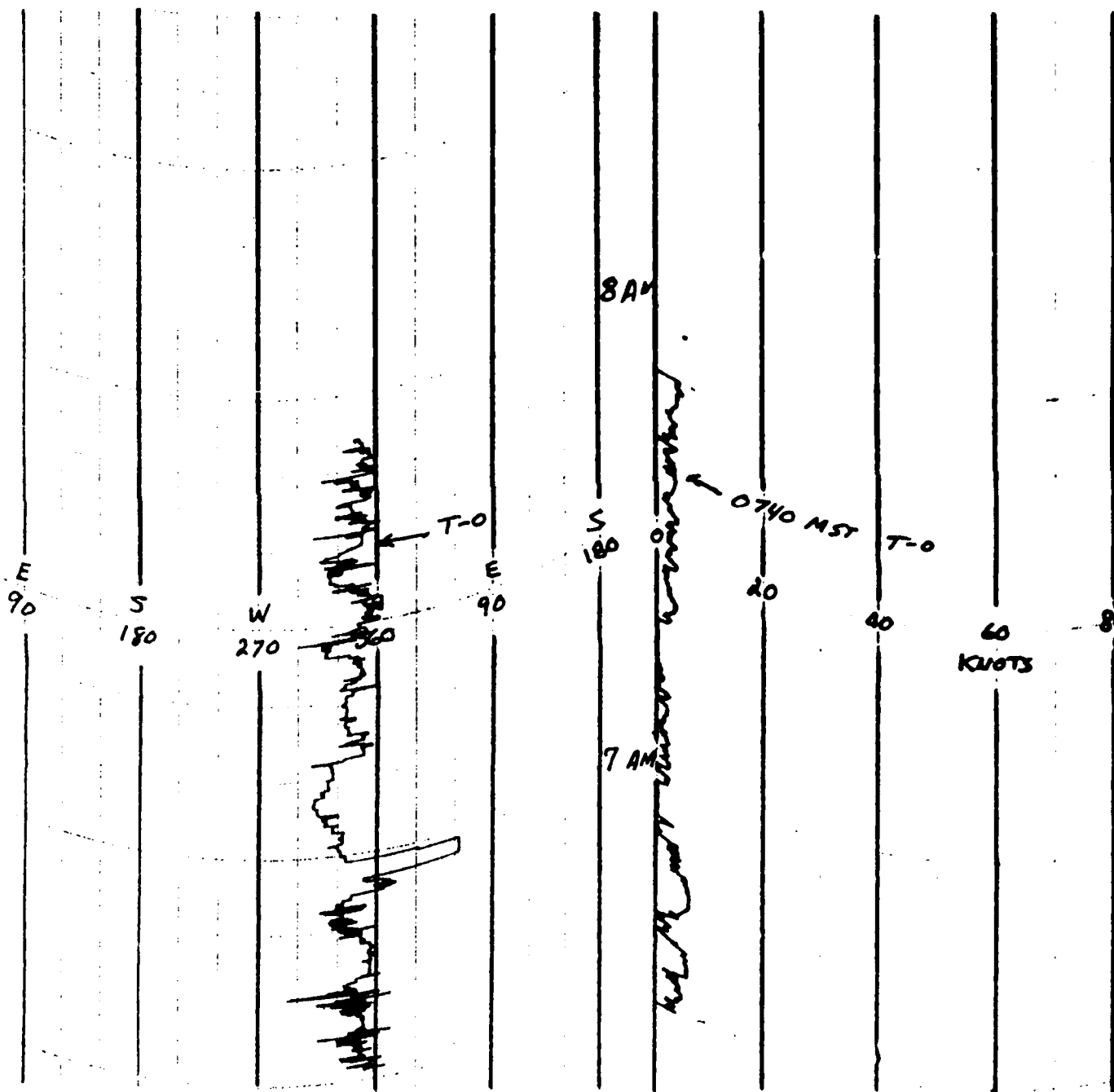


TABLE 3

Approximate position of the ... of the ...

1 - 44,000 ft ... 2 - 4,000 ft ...

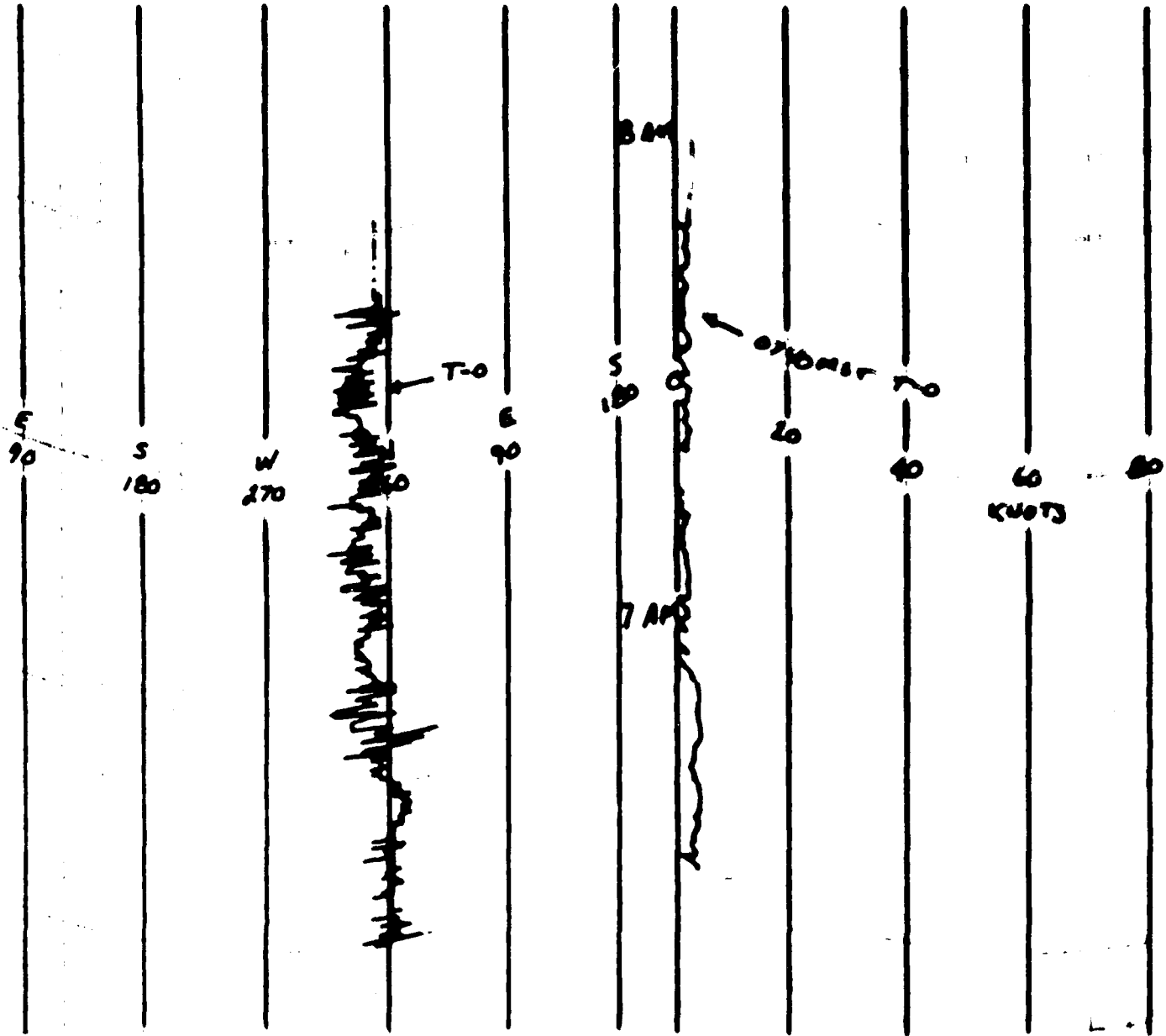
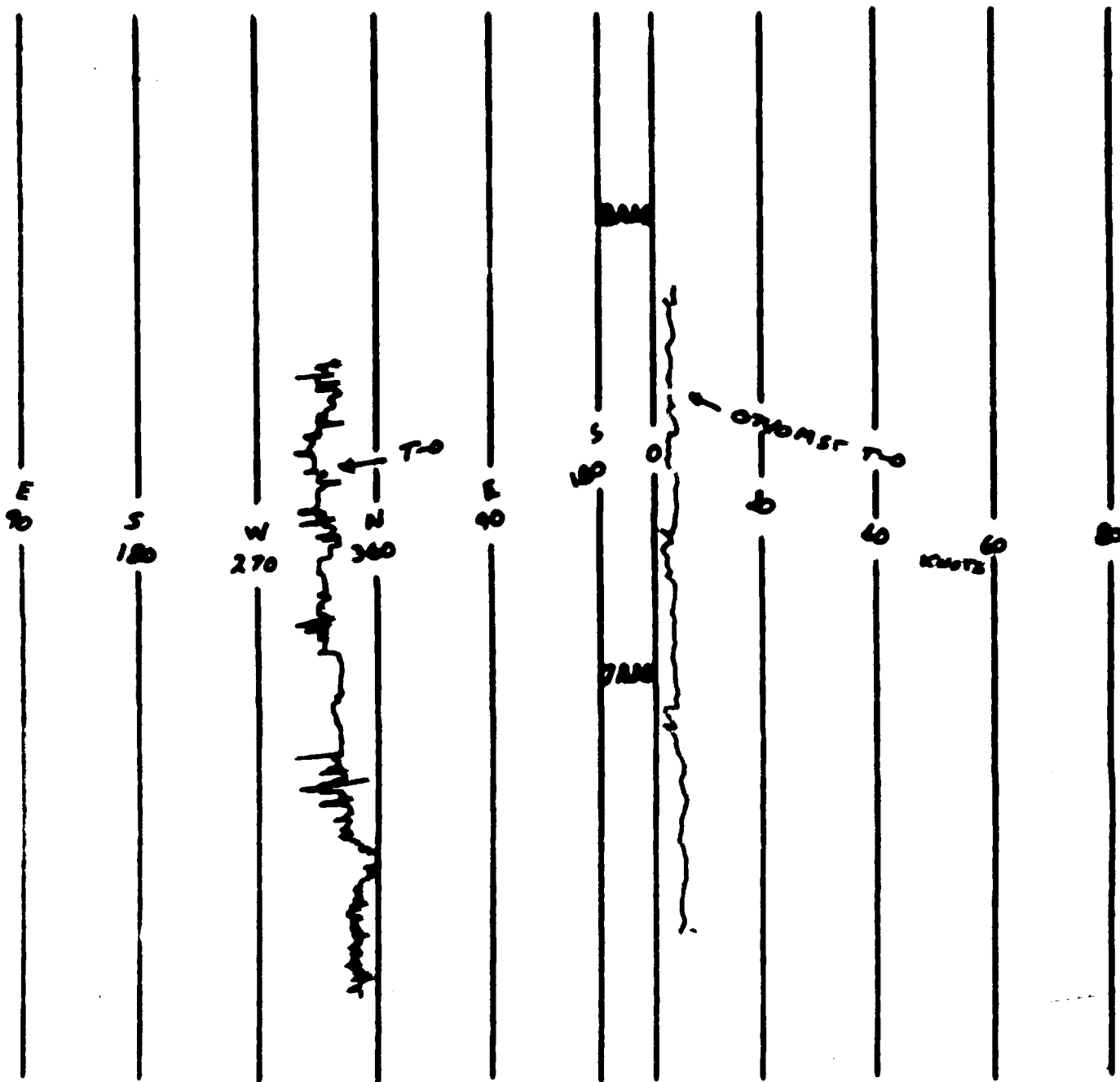


TABLE 4

Anomometer Data - 90 ft level of 30 Meter Tower

A = 441,018.71 B = 321,349.19 C = 4,004.80 (BASE)



AIMING AND T-TIME COMPUTER MET MESSAGES

15 Nov 82

E-28 0430 MST		NW-30 0530 MST		E-28 0730 MST	
METCM1329064		METCM1329065		METCM1329064	
151150119888		151250122886		151450119888	
00000000	27180888	00356001	27640886	00000000	27200888
01335010	27600877	01321012	27730875	01330004	27450877
02297012	27680851	02294012	27600849	02304006	27560850
03293013	27560810	03312013	27570808	03294011	27540809
04397013	27730761	04409013	27800760	04385010	27810761
05417016	27830716	05397020	27840715	05415022	27900716
06412020	27500673	06421023	27490672	06434022	27530673
07432025	27160633	07432028	27120631	07437024	27220673
08453022	26810594	08461023	26780593	08461022	26830694
09454022	26400557	09456026	26440556	09465024	26540557
10472022	26340522	10467026	26310521	10468023	26400522
11479026	26020484	11487029	25960488	11493023	26110490
12490030	25470443	12498035	25410442	12489025	25500443
13485034	24590387	13496040	24570386	13498032	24710387
14494039	23730336	14512050	23710335	14499034	23860336
15516050	22890290	15515056	22840289	15481042	22990291
16517052	22050249	16512061	21940249	16486043	22180250
17506071	21700213	17506086	21730213	17499069	21830214
18512081	21420182	18509094	21390182	18510080	21530183
19504077	21080155	19503095	21030155	19508078	21210156
20503073	21100132	20502083	21050132	20500068	21030133
		21505072	20890112	21510067	20950113
		22512069	20840095	22492055	20880096
		23468048	20880081	23472053	20940082
		24477024	20670069	24518034	21040070
		25500025	21060058	25493033	21100059
		26513027	21320050	26508029	21260051

STATION ALTITUDE 5912.75 FEET AMSL
 15 NOV. 72 0430 HRS MST
 ABERDEEN, MD. 104

SIGNIFICANT LEVEL DATA
 3190290104
 EAST-20/0104BT

GEODETIC COORDINATES
 32-09-27 LAT N
 130-40-51 LONG W

TABLE 6

PRESSURE MILLIBARS HGL FEET	GEOMETRIC ALTITUDE	TEMPERATURE AIR DEWPOINT WINDSPEED, CENTIGRADE	RELATIVE HUMIDITY	
804.3	5912.7	-1.0	7.0	65.0
802.3	5911.3	2.3	9.8	61.0
876.2	5775.8	3.4	7.3	53.0
850.0	5804.5	3.3	0.7	41.0
794.5	7144.7	1.3	-10.2	42.0
753.1	8134.1	0.3	4.6	43.0
747.5	8090.6	5.4	2.2	38.0
740.0	8747.9	5.0	5.2	43.0
713.4	9744.5	4.4	0.0	32.0
700.0	10759.0	3.6	-1.4	27.0
674.4	11250.3	1.4	2.2	77.0
650.4	11404.3	0.4	0.5	74.0
627.3	12534.0	-1.2	-10.3	30.0
620.0	13123.0	-2.0	-15.0	33.0
607.7	13770.5	-4.8	-8.4	73.0
576.4	14404.3	-4.0	-11.0	38.0
571.3	14408.3	-5.2	-10.1	42.0
557.7	16184.8	-9.0	-17.0	51.0
544.6	16704.2	-11.6	-27.0	43.0
543.7	16774.7	-8.8	-31.4	14.0
530.0	17030.6	-8.2	-30.4	14.0
505.0	1852.2	-12.1	-31.5	14.0
467.0	21001.7	-15.0	-34.1	14.0
407.0	24634.5	-24.1	-41.4	14.0
370.0	26734.7	-31.8	-44.7	41.0
304.1	27767.6	-34.5	-45.3	31.0
321.2	27194.5	-37.4	-46.3	62.0
300.0	31070.8	-42.5		
270.0	35037.4	-42.6		
270.3	36117.1	-44.0		
231.1	37003.7	-45.7		
200.0	38722.2	-47.1		
141.4	41104.1	-48.0		
127.0	43072.7	-42.5		
150.0	44435.8	-42.7		
140.0	44125.2	-42.2		
130.5	44164.5	-41.6		
124.7	44100.0	-43.1		
110.0	50152.7	-41.4		
104.3	52446.2	-44.4		

TABLE 7

GEOTYPE	PRESSURE	TEMPERATURE	REL. HUM.	UM/CMIC	SOLLY	WIND	WIND	WIND	WIND
ALTITUDE	MILLIBARS	AIR	PERCENT	WATER	WINDS	DIR.	SPEED	DIR.	VELOCITY
MSL FEET		DEGREES		WATER	DIR.	(MILES)	(MILES)	(MILES)	(MILES)
3012.7	800.5	-1.5	65.0	1137.9	64.0	0.0	0.0	0.0	1.000272
4000.0	800.4	0.3	63.0	1120.0	64.0	10.0	0.0	0.0	1.000271
4500.0	800.3	0.4	62.7	1092.0	64.0	10.0	0.0	0.0	1.000263
5000.0	800.2	0.3	62.3	1072.9	64.0	10.0	0.0	0.0	1.000255
5500.0	800.0	0.0	61.2	1050.0	64.0	10.0	0.0	0.0	1.000250
6000.0	824.2	0.4	61.4	1030.7	64.0	10.0	0.0	0.0	1.000246
6500.0	800.0	1.0	61.7	1019.1	64.0	10.0	0.0	0.0	1.000242
7000.0	790.0	1.4	61.9	1001.9	64.0	10.0	0.0	0.0	1.000237
7500.0	770.1	2.2	62.0	980.4	64.0	10.0	0.0	0.0	1.000234
8000.0	741.6	3.5	64.2	957.5	64.0	10.0	0.0	0.0	1.000230
8500.0	747.5	5.4	67.9	932.5	64.0	10.0	0.0	0.0	1.000233
9000.0	730.7	5.4	66.8	913.4	64.0	10.0	0.0	0.0	1.000229
9500.0	720.1	4.7	60.3	900.7	64.0	10.0	0.0	0.0	1.000222
10000.0	700.0	4.0	59.4	880.1	64.0	10.0	0.0	0.0	1.000211
10500.0	693.7	3.1	60.4	872.4	64.0	10.0	0.0	0.0	1.000211
11000.0	680.0	2.0	74.5	849.6	64.0	10.0	0.0	0.0	1.000214
11500.0	660.1	0.6	75.7	847.7	64.0	10.0	0.0	0.0	1.000213
12000.0	650.4	0.6	68.6	830.0	64.0	10.0	0.0	0.0	1.000217
12500.0	640.1	-1.2	51.2	824.8	64.0	10.0	0.0	0.0	1.000197
13000.0	631.0	-1.8	38.2	809.2	64.0	10.0	0.0	0.0	1.000194
13500.0	617.0	-3.2	51.7	797.7	64.0	10.0	0.0	0.0	1.000191
14000.0	607.2	-4.0	72.3	780.7	64.0	10.0	0.0	0.0	1.000192
14500.0	592.6	-4.9	55.4	772.2	64.0	10.0	0.0	0.0	1.000188
15000.0	584.1	-5.1	63.9	761.2	64.0	10.0	0.0	0.0	1.000179
15500.0	572.0	-7.6	66.0	740.6	64.0	10.0	0.0	0.0	1.000176
16000.0	561.7	-9.1	49.0	740.2	64.0	10.0	0.0	0.0	1.000173
16500.0	550.8	-10.6	37.4	730.5	64.0	10.0	0.0	0.0	1.000168
17000.0	540.0	-8.4	18.0	710.4	64.0	10.0	0.0	0.0	1.000161
17500.0	529.5	-7.1	14.9	690.4	64.0	10.0	0.0	0.0	1.000158
18000.0	519.1	-10.1	16.0	687.4	64.0	10.0	0.0	0.0	1.000150
18500.0	509.0	-11.2	17.0	676.6	64.0	10.0	0.0	0.0	1.000153
19000.0	499.6	-12.2	18.0	664.0	64.0	10.0	0.0	0.0	1.000151
19500.0	489.2	-13.1	14.3	653.1	64.0	10.0	0.0	0.0	1.000148
20000.0	479.5	-14.0	14.5	644.4	64.0	10.0	0.0	0.0	1.000146
20500.0	469.6	-15.0	16.8	633.9	64.0	10.0	0.0	0.0	1.000143
21000.0	460.0	-16.0	19.0	623.0	64.0	10.0	0.0	0.0	1.000141
21500.0	451.3	-17.2	19.0	614.1	64.0	10.0	0.0	0.0	1.000139
22000.0	442.1	-18.6	19.0	604.8	64.0	10.0	0.0	0.0	1.000136
22500.0	433.1	-19.9	19.0	595.7	64.0	10.0	0.0	0.0	1.000134
23000.0	424.3	-21.3	19.0	586.7	64.0	10.0	0.0	0.0	1.000132

STATION ALTITUDE 3912.75 FT. MSL
 15 NOV. 52
 ABBEYFIELD NO. 164

WINDY AIR DATA
 190290104
 EAST-28/CILARY

GEODETIC COORDINATES
 32-09'27" LAT DLG
 136-40'59" LONG DEG

TABLE 7
 Cont'd

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES CENTIGRADE	REL. HUM. PERCENT	DENSITY GM./CUBIC METER	SPEED OF SOUND M/SEC	WIND DIRECTION DEGREES (TN)	WIND SPEED KNOTS	INDEX OF REFRACTION
23500.0	415.7	-22.6	19.0	577.9	616.7	271.7	32.7	1.000130
24000.0	407.2	-23.9	19.0	569.2	615.1	270.7	33.6	1.000128
24500.0	398.0	-25.5	19.1	560.6	613.4	271.0	33.5	1.000126
25000.0	390.6	-26.6	19.5	551.6	611.7	272.7	33.4	1.000124
25500.0	382.4	-28.0	19.9	543.2	610.1	274.2	33.1	1.000122
26000.0	374.5	-29.5	20.3	534.7	608.4	274.9	33.5	1.000120
26500.0	366.5	-30.6	20.7	526.4	606.7	275.0	33.9	1.000118
27000.0	358.0	-32.0	21.6	518.2	605.1	275.5	34.9	1.000116
27500.0	351.1	-33.1	26.5	509.5	603.0	275.6	36.0	1.000114
28000.0	343.6	-34.3	31.8	501.1	602.1	276.4	37.2	1.000112
28500.0	336.2	-35.0	44.5	493.5	600.5	277.5	38.4	1.000111
29000.0	328.0	-37.2	57.2	485.0	599.4	279.0	40.0	1.000109
29500.0	321.7	-38.6	51.8**	477.7	598.7	280.0	41.6	1.000107
30000.0	314.6	-39.8	35.3**	469.7	595.1	282.4	43.8	1.000105
30500.0	307.7	-41.1	18.8**	461.9	593.5	284.4	45.4	1.000103
31000.0	300.0	-42.3	2.3**	454.2	591.9	287.1	47.8	1.000101
31500.0	294.1	-43.6		446.4	590.5	289.5	49.6	1.000099
32000.0	287.5	-44.9		438.7	588.0	291.5	51.5	1.000098
32500.0	280.0	-46.1		431.1	587.0	292.7	53.1	1.000096
33000.0	274.5	-47.4		423.7	585.5	292.4	53.4	1.000094
33500.0	268.3	-48.7		416.4	583.7	292.0	53.6	1.000093
34000.0	262.2	-50.0		409.3	582.0	292.1	52.5	1.000091
34500.0	256.3	-51.2		402.3	580.4	292.1	51.4	1.000090
35000.0	250.4	-52.5		395.4	578.7	291.7	51.1	1.000088
35500.0	244.6	-53.8		388.4	577.0	291.3	51.1	1.000087
36000.0	238.9	-55.1		381.6	575.5	289.5	53.8	1.000085
36500.0	233.5	-55.9		374.0	574.3	288.0	56.6	1.000083
37000.0	227.8	-55.7		364.9	574.4	286.4	61.5	1.000081
37500.0	222.4	-55.6		356.1	574.0	285.0	66.4	1.000079
38000.0	217.2	-55.6		347.7	574.0	284.7	70.5	1.000077
38500.0	212.0	-56.0		340.2	574.1	284.0	74.6	1.000076
39000.0	207.0	-56.5		332.8	573.5	283.6	77.0	1.000074
39500.0	202.1	-56.9		325.6	572.9	283.0	78.7	1.000073
40000.0	197.4	-57.3		318.5	572.4	282.2	79.9	1.000071
40500.0	192.7	-57.6		311.3	572.0	280.6	80.4	1.000069
41000.0	188.1	-57.9		304.4	571.0	280.0	80.9	1.000068
41500.0	183.6	-58.5		297.0	570.0	287.0	80.2	1.000066
42000.0	179.2	-59.3		291.9	569.7	287.5	79.4	1.000065
42500.0	174.9	-60.1		285.9	568.6	287.4	77.6	1.000064
43000.0	170.7	-60.9		280.1	567.0	286.5	75.1	1.000062

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

STATION ALTITUDE 5912.75 FEET MSL
 15 NOV. 52 9436 HRC MSL
 ASCENDING NO. 104

UPPER AIR DATA
 3190290164
 EAST-20/CALIBRY

GEODETIC COORDINATES
 32.69927 LAT DEG
 136.40591 LONG DEG

TABLE 7
 Cont'd

GEOM. TIME	PRESSURE	TEMPERATURE	REL. HUM.	DENSITY	SPEED	WIND DATA	INDEX
ALTITUDE MSL FEET	MILLIBARS	AIR DEGREES CENTIGRADE	PERCENT	GM./CUBIC METER	SOUND KNOTS	DIRECTION DEGREES (TN)	SPEED KNOTS
43500.0	160.6	-61.7		274.4	560.5	285.5	73.6
44000.0	162.6	-62.5		260.8	563.4	284.5	74.7
44500.0	158.6	-62.6		262.4	565.5	285.5	75.8
45000.0	154.8	-62.6		250.1	565.5	282.9	77.4
45500.0	151.0	-62.7		249.9	565.2	282.5	79.1
46000.0	147.3	-62.4		245.0	565.5	282.2	79.8
46500.0	143.8	-62.1		237.3	565.9	282.1	77.0
47000.0	140.3	-62.0		231.4	566.1	282.0	75.8
47500.0	136.9	-61.8		225.0	566.3	282.5	73.9
48000.0	133.6	-61.7		220.0	566.0	283.3	72.1
48500.0	130.3	-62.0		215.0	566.1	284.1	70.4
49000.0	127.2	-62.6		210.4	565.3	283.0	69.7
49500.0	124.1	-62.9		205.6	564.8	285.0	69.0
50000.0	121.1	-62.2		199.9	565.9		
50500.0	118.1	-61.8		194.7	566.4		
51000.0	115.3	-62.4		190.5	565.0		
51500.0	112.5	-63.0		186.4	564.0		
52000.0	109.7	-63.6		182.4	563.4		
52500.0	107.1	-64.2		178.5	563.1		

STATION ALTITUDE 3012.75 FEET MSL
 15 NOV. 62
 ASCENSION NO. 104

MANDATORY LEVELS
 3190290164
 EAST-20/CHELR1

GEODETIC COORDINATES
 32.69027 LAT DEG
 136.40591 LONG DEG

TABLE 8

PRESSURE (PO) POTENTIAL MILLIBARS	TEMPERATURE AIR DEGREES CENTIGRADE	REL. HUM. PERCENT	WIND DATA	
			DIRECTION DEGREES (TN)	SPEED KNOTS
850.0	3.3	41.	165.0	6.5
800.0	1.7	42.	172.0	11.4
750.0	4.8	51.	220.3	15.1
700.0	3.6	67.	230.7	16.0
650.0	-0.8	61.	239.1	25.2
600.0	-4.8	65.	255.9	22.1
550.0	-10.8	36.	250.1	25.0
500.0	-12.1	10.	200.9	29.5
450.0	-17.4	19.	270.9	35.5
400.0	-25.1	19.	271.5	30.1
350.0	-33.3	27.	275.7	40.0
300.0	-42.5		287.4	51.1
250.0	-52.6		291.7	79.3
200.0	-57.1		265.9	77.7
175.0	-60.1		207.5	79.5
150.0	-62.7		202.4	69.3
125.0	-63.0		205.5	

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

STATION ALTITUDE 4010.00 FEET MSL
 15 NOV. 92
 ASCENSION IS. 32

SIGNIFICANT LEVEL DATA
 31902.0032
 HW 30
 TABLE 9

GEODETIC COORDINATES
 32-08497 LAT DEG
 100-49714 LONG DEG

PRESSURE (GEOMETRIC)	TEMPERATURE		REL. HUM. PERCENT
	AIR DEGREES	DEWPOINT CENTIGRADE	
886.3	2.7	-8.3	44.0
876.5	4.4	-8.6	38.0
850.0	2.2	-10.0	38.0
800.5	2.0	-10.5	34.0
753.9	4.1	-7.6	42.0
740.2	5.5	-4.1	50.0
720.4	5.7	-3.4	52.0
715.6	4.7	-5.0	47.0
700.0	3.6	-2.5	65.0
661.7	.0	-4.4	72.0
651.0	-0.4	-10.3	47.0
615.2	-4.0	-6.4	60.0
606.7	-4.3	-12.4	53.0
580.5	-5.7	-16.0	41.0
556.7	-10.3	-22.0	35.0
550.8	-10.1	-24.7	24.0
547.0	-7.9	-30.0	14.0
544.5	-7.0	-30.4	14.0
509.0	-12.4	-33.0	15.0
448.9	-18.0	-37.0	17.0
400.0	-25.3	-43.1	17.0
398.0	-34.1	-42.0	44.0
310.2	-40.6		
306.0	-42.5		
250.0	-53.0		
236.3	-56.0		
230.1	-55.1		
200.0	-56.4		
161.5	-62.0		
150.0	-63.4		
133.5	-62.0		
127.1	-63.2		
123.3	-61.0		
107.0	-65.3		
100.0	-63.1		
80.0	-63.0		
73.6	-66.0		
70.0	-66.2		
64.1	-67.4		
54.5	-59.0		

STATION ALTITUDE 4010.40 FEET ASL
 15 NOV. 62
 ASCENDER NO. 32

SIGNIFICANT LEVEL DATA
 3190220032
 107 30

WEIGHTED COORDINATES
 32.00477 LAT DEG
 106.09714 LONG DEG

TABLE 9
 COND. U
 TEMPERATURE
 AIR DEWPOINT
 DEGREES CENTIGRADE

PRESSURE GEOMETRIC
 ALTITUDE
 MILLIBARS .KEL FEET

REL. HUM.
 WINDSPEED

50.0	67071.4	-50.7
45.6	70030.7	-61.5
41.0	71506.6	-50.9
37.1	74050.5	-53.6
32.4	76661.7	-55.4
30.7	78050.2	-55.1

STATION ALTITUDE 4010.00 FEET ASL
 15 DEGR. 02' N
 106-49 17 W

UPPER AIR DATA
 3190220052
 111 30

GEOLITIC COORDINATES
 32-00-49.7 LAT DEG
 106-49-17.4 LONG DEG

TABLE 10

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES CENTIGRADE	REL. HUM. PERCENT	DENSITY GRAMS PER CUBIC METER	SLT. OF WIND MMS	WIND DIRECTION DEGREES (M)	WIND SPEED MMS	INDEX OF REFRACTION
4010.0	880.3	2.7	44.0	1117.7	047.5	200.0	1.0	1.000205
4500.0	870.2	3.9	38.0	1092.0	048.9	170.2	4.4	1.000259
5000.0	854.0	2.5	30.0	1077.0	047.2	100.0	8.0	1.000294
5500.0	836.0	2.2	34.2	1059.1	040.8	103.3	11.6	1.000250
6000.0	822.4	2.1	34.6	1039.0	040.7	100.3	12.9	1.000245
6500.0	807.6	2.0	34.9	1020.3	040.7	107.5	12.5	1.000241
7000.0	792.0	2.4	39.6	999.8	047.2	103.5	11.0	1.000237
7500.0	777.2	3.2	40.7	976.4	040.1	203.4	10.6	1.000233
8000.0	762.8	3.9	41.7	957.5	049.0	223.0	12.6	1.000230
8500.0	748.6	5.5	50.1	933.8	051.1	249.4	15.6	1.000230
9000.0	734.8	5.6	51.4	916.0	051.3	249.7	18.8	1.000227
9500.0	721.3	5.1	49.1	901.0	050.0	247.1	20.0	1.000222
10000.0	706.0	4.2	55.8	887.2	049.0	243.3	21.0	1.000220
10500.0	694.0	3.1	65.9	873.7	040.4	228.9	21.8	1.000220
11000.0	681.0	1.9	68.3	861.2	047.0	232.8	22.5	1.000210
11500.0	669.1	.7	70.6	840.9	049.5	237.5	22.7	1.000212
12000.0	656.6	-2	57.3	830.4	044.2	240.9	23.3	1.000204
12500.0	644.2	-1.2	54.5	823.0	043.0	243.0	24.3	1.000194
13000.0	631.9	-2.4	65.1	811.4	041.7	243.7	25.4	1.000194
13500.0	620.0	-3.5	75.7	799.3	040.4	240.4	26.6	1.000197
14000.0	608.2	-4.2	57.7	780.6	039.4	231.9	25.6	1.000189
14500.0	596.5	-5.1	45.9	774.4	030.2	235.4	24.5	1.000183
15000.0	585.6	-6.3	40.2	763.0	030.7	230.3	23.9	1.000174
15500.0	573.7	-7.9	34.2	752.0	034.8	237.2	23.7	1.000175
16000.0	562.6	-9.5	36.1	742.7	032.9	237.9	24.6	1.000171
16500.0	551.7	-10.1	29.9	730.2	032.0	239.7	25.0	1.000167
17000.0	540.9	-8.0	14.1	710.4	034.5	242.4	25.1	1.000161
17500.0	530.3	-9.1	14.3	694.4	033.2	243.4	25.5	1.000158
18000.0	520.0	-10.2	14.5	680.7	031.6	243.9	25.7	1.000150
18500.0	509.8	-11.3	14.8	678.1	030.5	244.9	27.0	1.000153
19000.0	499.4	-12.4	15.0	667.7	029.1	247.0	26.3	1.000151
19500.0	489.9	-13.5	15.4	657.0	027.9	243.2	30.1	1.000148
20000.0	480.2	-14.5	15.0	640.6	026.0	241.1	31.9	1.000146
20500.0	470.6	-15.5	16.1	636.3	025.3	240.1	33.7	1.000143
21000.0	461.2	-16.6	16.5	626.1	024.1	240.6	34.3	1.000141
21500.0	452.0	-17.6	16.9	616.2	022.0	241.2	34.8	1.000134
22000.0	442.9	-18.9	17.0	606.6	021.3	240.6	35.0	1.000130
22500.0	433.8	-20.2	17.0	597.3	019.7	249.9	35.1	1.000134
23000.0	425.0	-21.5	17.0	588.1	018.1	248.9	35.2	1.000132
23500.0	416.3	-22.8	17.0	579.1	016.5	247.0	35.5	1.000130

STATION ALTITUDE 4010.00 FT, 1 MSL
 15 NOV. 42
 ASCENSION NO. 32

UPPER AIR DATA
 319222032

HW 30
 TABLE 10
 Cont'd

GEOMETRIC COORDINATES
 32-00497 LAT DEG
 106-49714 LONG DEG

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	AIR TEMPERATURE DEGREES CENTIGRADE	REL. HUM. PERCENT	DENSITY GM/CM ³ METER	SPEED OF SOUND KNOTS	DIRECTION DEGREES (IN)	WIND DATA	INDEX OF REFRACTION
24000.0	407.0	-24.1	17.0	570.3	614.9	270.7	36.2	1.000128
24500.0	399.5	-25.4	17.3	561.6	613.3	270.9	37.0	1.000126
25000.0	391.0	-26.7	21.4	552.7	611.0	277.7	38.1	1.000124
25500.0	382.8	-28.1	25.5	544.1	609.9	274.2	40.3	1.000122
26000.0	374.7	-29.4	29.7	535.5	608.2	280.6	42.7	1.000120
26500.0	366.8	-30.8	33.8	527.2	606.0	281.7	44.3	1.000118
27000.0	359.1	-32.1	37.9	518.9	604.9	282.8	45.7	1.000117
27500.0	351.5	-33.5	42.0	510.6	603.2	284.3	46.3	1.000115
28000.0	344.0	-34.8	39.6**	502.0	601.0	286.1	47.5	1.000113
28500.0	336.5	-36.0	31.2**	494.3	600.0	287.7	49.5	1.000111
29000.0	329.2	-37.2	22.7**	486.1	598.4	289.6	51.6	1.000109
29500.0	322.0	-38.5	14.3**	478.0	596.0	292.5	53.8	1.000107
30000.0	315.0	-39.7	5.9**	470.1	593.2	293.9	55.3	1.000105
30500.0	308.1	-41.0		462.4	593.0	294.2	56.2	1.000103
31000.0	301.3	-42.3		454.0	592.0	294.6	57.0	1.000101
31500.0	294.5	-43.6		447.0	590.2	295.7	57.8	1.000100
32000.0	287.8	-45.1		439.0	588.3	292.9	57.3	1.000098
32500.0	281.2	-46.5		432.3	586.5	287.9	56.4	1.000096
33000.0	274.8	-47.9		425.1	584.7	284.2	56.1	1.000095
33500.0	268.6	-49.4		418.1	582.8	281.1	56.0	1.000093
34000.0	262.4	-50.8		411.2	580.9	281.0	57.0	1.000092
34500.0	256.5	-52.2		404.4	579.1	285.0	59.3	1.000090
35000.0	250.6	-53.6		397.6	577.2	288.1	61.1	1.000089
35500.0	244.8	-54.9		390.7	575.5	288.0	61.6	1.000087
36000.0	239.0	-56.2		383.8	573.8	287.4	62.3	1.000085
36500.0	233.4	-56.0		374.4	574.1	285.7	63.6	1.000083
37000.0	227.9	-55.2		364.2	575.2	284.2	67.5	1.000081
37500.0	222.5	-55.4		350.0	574.9	283.1	76.9	1.000079
38000.0	217.3	-55.6		340.0	574.6	283.4	84.9	1.000078
38500.0	212.1	-55.9		340.1	574.3	284.0	91.6	1.000076
39000.0	207.2	-55.1		332.4	574.0	283.9	94.0	1.000074
39500.0	202.3	-56.3		324.9	573.7	287.2	94.9	1.000072
40000.0	197.5	-56.8		317.9	573.0	287.5	95.5	1.000071
40500.0	192.7	-57.5		311.4	572.1	287.3	96.2	1.000069
41000.0	188.1	-58.2		304.9	571.1	286.9	95.6	1.000068
41500.0	183.6	-59.0		298.0	570.2	286.1	94.7	1.000067
42000.0	179.2	-59.7		292.5	569.2	285.4	93.3	1.000065
42500.0	174.9	-60.4		286.4	568.2	284.6	91.6	1.000064
43000.0	170.7	-61.1		280.3	567.3	284.0	90.7	1.000062
43500.0	166.6	-61.9		274.7	566.3	283.0	90.4	1.000061

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

STATION ALTITUDE 4010.00 FEET MSL
 15 NOV. 52 0530 HRS MST
 A646100 NO. 32

UPPER AIR DATA
 3190220032
 MW 30

GEODETIC COORDINATES
 32.88497 LAT DEG
 106.49714 LONG DEG

TABLE 10

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	AIR TEMPERATURE DEGREES CENTIGRADE	REL. HUM. PERCENT	DENSITY G/M ³ CUBIC METER	SPEED OF SOUND KNOTS	WIND DATA		INDEX OF REFRACTION
						DIRECTION DEGREES (TH)	SPEED KNOTS	
4000.0	162.6	-62.6		269.1	565.3	283.3	90.9	1.000060
4050.0	158.7	-62.9		263.0	564.8	283.2	92.3	1.000059
4100.0	154.8	-63.1		258.8	564.6	283.1	93.5	1.000057
4250.0	151.1	-63.3		250.8	564.3	282.8	93.8	1.000056
4400.0	147.4	-63.2		244.8	564.4	282.4	94.2	1.000054
4550.0	143.8	-63.0		238.4	564.7	281.9	92.6	1.000053
4700.0	140.3	-62.8		232.4	563.0	281.3	90.6	1.000052
4750.0	138.9	-62.6		226.5	563.3	281.3	88.8	1.000050
4800.0	133.6	-62.4		220.8	563.6	281.7	87.2	1.000049
4850.0	130.3	-62.8		213.8	563.8	282.8	85.7	1.000048
4900.0	127.1	-63.2		211.0	564.5	284.8	84.3	1.000047
4950.0	124.1	-62.2		204.8	563.9	288.8	82.5	1.000046
5000.0	121.8	-62.4		200.1	563.5	287.1	79.9	1.000045
5050.0	118.1	-63.1		193.9	564.8	287.3	77.6	1.000044
5100.0	115.2	-63.8		191.7	563.6	283.4	75.7	1.000043
5150.0	112.4	-64.5		187.7	562.7	283.3	74.0	1.000042
5200.0	109.7	-65.2		183.7	561.7	280.4	72.6	1.000041
5250.0	107.0	-65.2		179.2	561.7	277.3	71.4	1.000040
5300.0	104.3	-65.2		174.8	561.8	278.7	69.3	1.000039
5350.0	101.8	-65.1		170.4	561.9	278.8	67.1	1.000038
5400.0	99.3	-65.1		166.2	562.0	278.5	65.2	1.000037
5450.0	96.8	-64.9		162.0	562.2	277.2	63.4	1.000036
5500.0	94.3	-64.8		157.9	562.4	277.7	62.9	1.000035
5550.0	92.2	-64.6		154.0	562.8	278.2	63.0	1.000034
5600.0	89.4	-64.5		150.1	562.8	278.6	62.1	1.000033
5650.0	87.7	-64.3		146.3	563.0	279.2	60.2	1.000033
5700.0	85.3	-64.2		142.6	563.2	279.8	57.2	1.000032
5750.0	83.5	-64.0		139.0	563.3	280.5	51.0	1.000031
5800.0	81.4	-63.9		135.5	563.5	281.4	44.8	1.000030
5850.0	79.4	-64.0		132.3	563.4	280.7	39.8	1.000029
5900.0	77.5	-64.6		129.4	562.5	279.8	35.0	1.000029
5950.0	75.6	-65.3		126.7	561.7	277.6	32.4	1.000028
6000.0	73.7	-66.0		123.9	560.8	274.3	32.1	1.000028
6050.0	71.8	-66.1		121.0	560.6	271.8	32.0	1.000027
6100.0	70.1	-66.2		118.0	560.4	271.3	32.5	1.000026
6150.0	68.4	-66.5		115.3	560.0	270.9	33.0	1.000026
6200.0	66.7	-66.9		112.6	559.5	271.9	32.6	1.000025
6250.0	65.0	-67.2		110.0	559.1	273.0	32.2	1.000024
6300.0	63.5	-68.9		107.2	559.5	274.1	32.4	1.000024
6350.0	61.7	-65.6		103.9	561.3	275.1	32.7	1.000023

STATION ALTITUDE 4010-40 FEET MSL
 15 APR 62
 ASCENDING RW. 32

UPPER AIR DATA
 310220032
 11W 30

GEOMETRIC COORDINATES
 32.88497 LAT DEG
 106.49714 LON ULG

TABLE 10
 CONT'D

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	AIR TEMPERATURE DEGREES CENTIGRADE	REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SOUND SPEED KNOTS	WIND DIRECTION DEGREES (TN)	WIND SPEED KNOTS	INDEX OF REFRACTION
6000.0	60.4	-54.3		100.0	565.0	277.1	33.0	1.000022
6450.0	53.9	-63.0		97.7	564.7	279.7	33.3	1.000022
6900.0	57.5	-61.8		94.8	565.4	282.2	33.4	1.000021
7350.0	50.1	-60.5		91.9	565.1	284.8	33.2	1.000020
7800.0	54.7	-59.2		89.1	569.3	286.9	33.0	1.000020
8250.0	53.4	-59.2		87.0	569.9	287.3	32.3	1.000019
8700.0	52.2	-59.4		85.0	569.6	287.7	31.5	1.000019
9150.0	50.9	-59.6		83.0	569.4	288.2	29.9	1.000018
9600.0	49.7	-59.8		81.1	569.0	288.8	27.8	1.000018
10050.0	48.5	-60.2		79.3	568.5	289.5	26.0	1.000018
10500.0	47.3	-60.6		77.5	567.9	290.4	24.5	1.000017
10950.0	46.2	-61.1		75.9	567.4	291.5	23.1	1.000017
11400.0	45.1	-61.5		74.2	566.8	292.0	22.6	1.000017
11850.0	44.0	-61.8		72.5	567.4	293.5	22.2	1.000016
12300.0	42.9	-60.5		70.3	568.2	293.0	21.7	1.000016
12750.0	41.9	-59.9		68.5	568.9	293.5	21.1	1.000015
13200.0	40.9	-58.7		66.5	570.5	294.1	20.5	1.000015
13650.0	40.0	-57.5		64.6	572.1	294.9	19.6	1.000014
14100.0	39.0	-56.3		62.7	573.7	295.6	18.0	1.000014
14550.0	38.1	-55.1		60.9	575.2	297.0	17.2	1.000014
15000.0	37.2	-53.9		59.1	576.8	298.8	14.8	1.000013
15450.0	36.3	-54.1		57.8	576.6	300.8	12.4	1.000013
15900.0	35.5	-54.4		56.5	576.2	311.7	6.7	1.000013
16350.0	34.7	-54.7		55.3	575.8	18.8	2.6	1.000012
16800.0	33.8	-55.0		54.0	575.4	83.3	7.3	1.000012
17250.0	33.1	-55.3		52.9	575.0	91.1	12.6	1.000012
17700.0	32.3	-55.3		51.8	575.0	88.0	13.2	1.000011
18150.0	31.5	-55.2		50.4	575.1			1.000011
18600.0	30.8	-55.1		49.2	575.3			1.000011

STATION ALTITUDE 4010.40 FEET ASL
 15 NOV. 42 0530 HRS (LST)
 ASCENDING 10. 30

NAVIGATORY LEVELS
 310020052
 NW 30

GEODETIC COORDINATES
 32°00'49"7 LAT DEG
 106°49'14" LONG DEG

TABLE 11

PRESSURE MILLIBARS	POTENTIAL FEET	AIR TEMPERATURE DEGREES CENTIGRADE	DEWPOINT TEMPERATURE DEGREES CENTIGRADE	HUMIDITY PERCENT	WIND DIRECTION DEGREES (TN)	WIND SPEED KNOTS
850.0	5121.	2.2	-10.0	30.	100°2	0.0
800.0	6726.	2.0	-10.4	39.	179°9	11.8
750.0	8444.	5.4	-4.4	49.	229°3	15.2
700.0	10203.	3.6	-2.3	65.	227°5	21.5
650.0	12252.	-0.7	-9.9	50.	242°0	25.8
600.0	14334.	-4.8	-14.0	40.	254°0	24.0
550.0	16455.	-9.6	-25.0	20.	200°1	25.0
500.0	18968.	-12.4	-33.6	15.	207°5	20.3
450.0	21581.	-17.9	-36.9	17.	201°1	34.9
400.0	24429.	-25.3	-43.1	17.	270°0	37.0
350.0	27556.	-33.7	-42.0	43.	204°0	40.4
300.0	31037.	-42.5	-42.5		295°0	57.1
250.0	34980.	-53.0	-53.0		200°1	61.1
200.0	39693.	-56.4	-56.4		207°5	95.2
175.0	42309.	-60.4	-60.4		204°0	74.6
150.0	45522.	-63.4	-63.4		202°7	93.9
125.0	49207.	-62.5	-62.5		205°7	83.4
100.0	53088.	-65.1	-65.1		270°2	65.9
80.0	58164.	-63.8	-63.8		201°1	41.5
70.0	60830.	-66.2	-66.2		271°5	34.5
60.0	63894.	-64.0	-64.0		277°0	55.0
50.0	67620.	-59.7	-59.7		206°0	20.5
40.0	72106.	-57.6	-57.6		294°0	14.8

STATION ALTITUDE 5912.75 FEET MSL
 15 100% 62
 ASCENSION 06. 105
 0730 100% 151

SIGNIFICANT LEVEL DATA
 1100250105
 1651-26/CHECK

GEODETIC COORDINATES
 32-09-27 LAT NCG
 130-00-39 LONG WCG

TABLE 12

PRESSURE OF OBTAINIC MILLIBARS	ALTITUDE MSL FEET	TEMPERATURE AIR DEGREE CELSIUS	TEMPERATURE FENCLER
640.2	5912.7	-1.5	31.0
675.4	4295.0	1.4	34.0
656.0	5075.4	2.2	36.0
617.8	6423.0	1.3	34.0
775.2	7510.1	3.9	39.0
757.1	8148.0	3.0	37.0
747.5	8491.0	6.0	43.0
712.5	9788.5	5.6	42.0
700.0	10255.8	3.8	39.0
674.6	11082.0	1.0	34.0
662.0	11701.4	.6	33.0
652.0	12102.5	.3	32.0
634.1	12707.4	-1.6	31.0
630.5	13027.7	-1.4	30.0
624.5	13767.6	-1.0	30.0
610.1	13765.8	-2.5	28.0
590.2	16109.3	-0.7	30.0
584.7	16724.0	-7.1	19.0
552.1	16881.4	-6.6	20.0
560.0	18060.3	-11.3	12.0
492.4	19324.7	-11.6	14.0
410.2	23054.0	-23.1	10.0
400.0	24461.4	-23.4	10.0
384.0	25119.4	-24.5	9.0
361.5	26424.0	-28.6	5.0
354.0	27293.9	-31.2	4.0
324.8	24057.0	-40.2	0.0
309.0	31127.0	-41.6	0.0
290.2	32173.4	-44.2	0.0
280.7	35107.0	-43.1	0.0
291.9	35907.3	-53.2	0.0
294.7	36444.6	-53.1	0.0
221.6	37600.2	-54.5	0.0
200.0	39921.2	-55.0	0.0
174.0	42202.0	-54.4	0.0
167.8	46147.2	-60.0	0.0
150.0	45767.0	-62.5	0.0
137.0	47147.0	-63.5	0.0
131.0	48440.5	-63.2	0.0
120.3	50754.6	-63.5	0.0

WATER ALTIMETER 5012479 FEET 65L
 15 NOV 62 0730 HRG 501
 AGRICULTURE NO. 105

SIGMA LEAD LEVEL DATA
 11002 20107
 130023/CRUISE

OF PUBLIC COORDINATES
 3250237 URY LEG
 130002371 1001 000

TABLE 12

CONCENTRATION
 AMOUNT OF METAL
 IN GRAIN CONTAINER

PROBABLE GRAIN FINE
 MILLIAMS, MET FEET

REMARKS

105.7	52370.1	-63.7
105.0	53107.9	-65.3
90.7	56501.0	-63.2
75.0	59694.9	-64.2
70.0	61207.0	-62.3
55.0	67722.9	-62.1
50.0	68073.5	-59.7
45.0	70775.0	-50.2
30.5	73072.0	-59.9
35.0	74981.2	-57.0
30.0	75601.0	-55.3
35.3	77101.9	-53.2
30.0	78752.4	-54.0
21.0	85083.2	-53.5
20.0	87303.0	-50.7
15.0	91055.2	-46.5
15.9	92398.5	-47.1
11.1	98226.8	-47.7
10.0	102591.9	-42.9
7.0	110654.1	-38.2
9.1	113401.1	-38.1

GEODETIC COORDINATES
32-09927 LAT DEG
136-40591 LONG DEG

UNDER AIR DATA
3100290105
EAS1720/CHERRY
TABLE 13

STATION ALTITUDE 5912.75 FEET MSL
15 NOV. 62 0730 AIRS POS
ASCENTION NO. 105

M

GEODETIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	AIR TEMPERATURE DEGREES CENTIGRADE	REL. HUM. PERCENT	DENSITY ALTITUDE METERS	SEALED ALTITUDE METERS	WIND DIRECTION DEGREES TRUE	WIND VELOCITY KNOTS	INDEX OF REFRACTION
5912.7	840.2	-1.5	71.0	1137.1	840.0	0.0	0.0	1.000273
4000.0	895.3	-2.7	65.4	1130.2	895.0	104.0	0.5	1.000271
4500.0	860.7	-4.0	45.4	1070.4	860.0	104.0	3.2	1.000261
5000.0	825.9	-5.2	41.6	1077.2	825.0	104.0	6.0	1.000255
5500.0	790.5	-6.4	41.3	1050.0	800.0	104.0	8.7	1.000250
6000.0	755.0	-7.6	41.7	1039.5	800.0	104.0	9.7	1.000248
6500.0	720.5	-8.8	39.4	1025.4	800.0	104.0	10.4	1.000242
7000.0	685.0	-10.0	37.1	997.0	800.0	104.0	9.2	1.000237
7500.0	650.0	-11.2	40.1	974.1	800.0	104.0	8.3	1.000232
8000.0	615.0	-12.4	43.1	955.0	800.0	104.0	8.9	1.000229
8500.0	580.0	-13.6	43.1	930.0	800.0	104.0	8.7	1.000227
9000.0	545.0	-14.8	40.1	914.0	800.0	104.0	8.0	1.000224
9500.0	510.0	-16.0	37.0	897.0	800.0	104.0	7.2	1.000220
10000.0	475.0	-17.2	33.3	883.0	800.0	104.0	6.5	1.000213
10500.0	440.0	-18.4	27.5	872.0	800.0	104.0	5.7	1.000210
11000.0	405.0	-19.6	20.5	860.0	800.0	104.0	5.0	1.000211
11500.0	370.0	-20.8	17.3	848.0	800.0	104.0	4.3	1.000207
12000.0	335.0	-22.0	15.6	836.0	800.0	104.0	3.6	1.000200
12500.0	300.0	-23.2	14.2	820.0	800.0	104.0	2.9	1.000199
13000.0	265.0	-24.4	13.0	808.0	800.0	104.0	2.2	1.000196
13500.0	230.0	-25.6	12.4	796.0	800.0	104.0	1.5	1.000189
14000.0	195.0	-26.8	10.7	783.0	800.0	104.0	0.8	1.000184
14500.0	160.0	-28.0	9.2	772.0	800.0	104.0	0.1	1.000182
15000.0	125.0	-29.2	8.5	761.0	800.0	104.0	0.4	1.000179
15500.0	90.0	-30.4	8.0	751.0	800.0	104.0	0.7	1.000176
16000.0	55.0	-31.6	7.1	740.0	800.0	104.0	1.0	1.000173
16500.0	20.0	-32.8	6.6	730.0	800.0	104.0	1.3	1.000163
17000.0	0.0	-34.0	6.1	700.0	800.0	104.0	1.6	1.000160
17500.0	0.0	-35.2	5.6	687.0	800.0	104.0	1.9	1.000154
18000.0	0.0	-36.4	5.1	674.0	800.0	104.0	2.2	1.000148
18500.0	0.0	-37.6	4.6	661.0	800.0	104.0	2.5	1.000145
19000.0	0.0	-38.8	4.1	648.0	800.0	104.0	2.8	1.000140
19500.0	0.0	-40.0	3.6	635.0	800.0	104.0	3.1	1.000134
20000.0	0.0	-41.2	3.1	622.0	800.0	104.0	3.4	1.000128
20500.0	0.0	-42.4	2.6	609.0	800.0	104.0	3.7	1.000124
21000.0	0.0	-43.6	2.1	596.0	800.0	104.0	4.0	1.000118
21500.0	0.0	-44.8	1.6	583.0	800.0	104.0	4.3	1.000114
22000.0	0.0	-46.0	1.1	570.0	800.0	104.0	4.6	1.000108

STATOIL ALTITUDE 5912.75 FEET
 15 NOV. 52 0736 HRS EST
 ACCELERATION NO. 105

UNITED AIR DATA
 3100290105
 EAST-20/000000

GEOPHYSICAL CORRELATION
 32-09927 CAT 116
 130-40991 CAT 116

TABLE 13
 CONT'D

GEOPHYSICAL ALTITUDE FEET	PRESSURE MILLIBARS	AIR TEMPERATURE DEGREES CELSIUS	DEWPOINT DEGREE CELSIUS	REL. HUMID. PERCENT	GEOPHYSICAL PLATE	DEPTH METERS	DEPTH METERS	DEPTH METERS	DEPTH METERS	DEPTH METERS	DEPTH METERS
23500.0	410.2	-72.2	-91.2	15.8	571.0	617.2	273.5	27.8	1.000130		
24000.0	407.0	-73.3	-91.4	17.0	566.4	615.0	270.2	28.0	1.000128		
24500.0	399.0	-74.0	-90.0	21.1	550.3	615.0	270.7	30.5	1.000125		
25000.0	391.1	-75.5	-86.0	35.1	550.1	615.1	269.4	32.7	1.000124		
25500.0	383.0	-76.0	-85.8	42.2	541.5	611.5	261.7	33.5	1.000122		
26000.0	375.0	-77.0	-87.9	37.2	532.5	610.3	262.2	33.6	1.000120		
26500.0	367.1	-78.0	-90.2	32.2	523.4	609.0	261.0	32.3	1.000118		
27000.0	359.0	-79.0	-93.1	27.0	515.5	607.1	261.2	30.7	1.000116		
27500.0	351.7	-80.8	-95.3	24.6	507.6	605.3	262.4	31.4	1.000114		
28000.0	344.2	-83.2	-96.0	26.0	499.7	603.5	263.2	32.2	1.000112		
28500.0	336.0	-84.0	-96.8	27.4	491.9	601.7	261.7	33.7	1.000110		
29000.0	329.0	-86.0	-97.6	28.8	484.2	599.9	260.2	35.2	1.000108		
29500.0	322.0	-87.4	-98.0	22.0	476.5	598.2	270.3	36.0	1.000106		
30000.0	315.0	-88.7	-95.0	15.0	468.8	596.5	272.9	38.8	1.000104		
30500.0	308.5	-90.0	-90.6	8.0	460.0	594.9	271.0	40.6	1.000103		
31000.0	301.7	-91.3	-72.9	1.0	453.3	593.2	270.5	42.2	1.000101		
31500.0	295.0	-92.5			446.5	591.5	270.4	42.0	1.000099		
32000.0	288.0	-93.8			439.8	589.8	270.4	42.7	1.000098		
32500.0	281.0	-95.1			433.1	588.1	270.5	41.3	1.000096		
33000.0	275.5	-96.5			426.4	586.4	270.7	40.4	1.000094		
33500.0	269.2	-97.0			419.7	584.7	270.5	40.9	1.000093		
34000.0	263.1	-98.6			413.0	583.0	271.5	41.4	1.000091		
34500.0	257.1	-100.6			406.3	581.3	273.5	42.1	1.000090		
35000.0	251.2	-102.0			399.6	579.6	274.4	42.0	1.000088		
35500.0	245.0	-102.8			393.0	577.9	275.1	43.6	1.000086		
36000.0	239.7	-103.2			386.4	576.2	275.0	45.0	1.000085		
36500.0	234.1	-103.2			379.8	574.5	274.2	50.7	1.000083		
37000.0	228.7	-104.3			373.2	572.8	274.2	55.9	1.000081		
37500.0	223.5	-104.3			366.5	571.1	277.0	61.6	1.000079		
38000.0	218.1	-104.7			359.9	569.4	279.2	67.0	1.000077		
38500.0	212.3	-105.0			353.3	567.7	281.5	71.1	1.000076		
39000.0	206.9	-105.4			346.7	566.0	283.0	75.5	1.000074		
39500.0	201.1	-105.7			340.1	564.3	285.5	80.5	1.000072		
40000.0	195.3	-106.1			333.5	562.6	287.0	85.7	1.000071		
40500.0	189.5	-106.7			326.9	560.9	287.7	88.8	1.000069		
41000.0	183.8	-107.2			320.3	559.2	288.1	77.4	1.000068		
41500.0	178.0	-107.0			293.7	557.5	289.7	75.0	1.000066		
42000.0	172.1	-106.8			287.1	555.8	289.0	74.1	1.000065		
42500.0	175.9	-108.0			280.5	554.1	289.1	77.2	1.000064		
43000.0	171.0	-109.1			273.9	552.4	289.0	80.3	1.000062		

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

STATION ALTITUDE 3912.75 FEET MSL
 15 NOV. 62 0730 HRS. 101
 ASCENSION NO. 105

UPPER AIR DATA
 3100290105
 EAST-28/04147
 TABLE 13
 CONT'D

GEODETIC COORDINATES
 32.09927 LAT DEG
 136.40591 LONG DEG

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMP RATE AIR DEGREE CENTIGRADE	REL HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DIRECTION (IN)	WIND SPEED KNOTS	INDEX OF REFRACTION
43500.0	157.5	-59.4		273.1	569.5	204.0	00.7	1.000061
44000.0	155.5	-59.8		267.0	569.1	205.0	79.6	1.000059
44500.0	153.6	-60.3		261.2	568.4	205.4	70.7	1.000058
45000.0	152.8	-61.1		255.9	567.2	205.7	78.3	1.000057
45500.0	152.0	-62.0		250.8	566.1	205.9	77.9	1.000056
46000.0	148.3	-62.7		245.5	565.2	204.6	75.0	1.000055
46500.0	144.7	-63.0		239.9	564.7	203.4	73.0	1.000053
47000.0	141.2	-63.4		234.4	564.5	202.2	70.4	1.000052
47500.0	137.7	-63.2		228.5	564.5	201.1	67.9	1.000051
48000.0	134.4	-62.6		222.4	563.5	200.0	66.0	1.000050
48500.0	131.1	-62.3		216.6	563.7	202.1	66.4	1.000048
49000.0	127.0	-62.6		211.7	563.3	203.0	66.9	1.000047
49500.0	123.8	-63.0		206.9	564.0	203.0	67.9	1.000046
50000.0	121.8	-63.3		202.2	564.3	203.4	69.0	1.000045
50500.0	118.8	-63.5		197.5	564.1	200.4	60.7	1.000044
51000.0	115.9	-63.6		192.7	564.0	200.5	68.2	1.000043
51500.0	113.1	-63.6		188.0	564.0	205.5	60.7	1.000042
52000.0	110.3	-63.6		183.5	563.9	204.0	64.4	1.000041
52500.0	107.7	-63.7		179.0	563.9	202.5	62.4	1.000040
53000.0	105.0	-63.9		174.8	563.0	200.9	60.9	1.000039
53500.0	102.4	-64.6		171.1	562.6	279.5	59.4	1.000038
54000.0	99.9	-65.3		167.5	561.7	278.5	57.0	1.000037
54500.0	97.5	-64.9		163.1	562.5	277.7	56.2	1.000036
55000.0	95.1	-64.4		158.7	562.0	277.5	54.4	1.000035
55500.0	92.8	-64.0		154.5	563.4	277.3	52.5	1.000034
56000.0	90.5	-63.6		150.4	564.0	277.4	50.9	1.000033
56500.0	88.3	-63.2		146.5	564.4	277.7	50.7	1.000033
57000.0	86.1	-63.4		143.1	564.2	278.1	50.4	1.000032
57500.0	84.0	-63.5		139.7	564.0	278.1	49.4	1.000031
58000.0	82.0	-63.7		136.4	563.0	278.0	48.2	1.000030
58500.0	80.0	-63.8		133.1	563.0	277.7	46.4	1.000030
59000.0	78.0	-64.0		130.0	563.4	276.9	43.3	1.000029
59500.0	76.1	-64.2		126.9	563.2	276.0	40.3	1.000028
60000.0	74.3	-63.8		123.0	563.7	275.3	38.9	1.000028
60500.0	72.5	-63.2		120.2	564.5	274.5	37.8	1.000027
61000.0	70.7	-62.6		117.0	565.4	273.9	37.2	1.000026
61500.0	69.0	-62.3		114.0	565.7	273.7	37.2	1.000025
62000.0	67.5	-62.3		111.2	565.7	273.4	37.3	1.000025
62500.0	65.7	-62.3		108.5	565.8	273.5	36.7	1.000024
63000.0	64.1	-62.2		105.9	565.8	273.7	35.7	1.000024

STATION ALTITUDE 3912.75 FEET AMSL
 15 NOV. 62 0735 HRS MST
 ASCENDING NO. 105

UPPER AIR DATA
 310029105
 EAST-20/CULDRY

GEODLTIC COORDINATES
 32.0927 LAT DEG
 136.40591 LONG DEG

TABLE 13
 CONT'D

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES CELSIUS	REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND M/SEC	WIND DATA DIRECTION KNOTS	INDEX OF REFRACTION
03500.0	02.6	-72.2		105.5	565.0	273.9	1.000023
04000.0	01.0	-72.2		100.0	565.0	274.9	1.000022
04500.0	09.0	-72.2		98.4	565.0	270.1	1.000022
05000.0	50.1	-72.2		90.0	565.0	277.3	1.000021
05500.0	50.7	-72.2		95.0	565.0	270.3	1.000021
06000.0	55.3	-72.1		91.4	565.0	279.3	1.000020
06500.0	54.0	-72.1		89.2	565.0	280.2	1.000020
07000.0	52.7	-72.1		87.0	565.0	280.7	1.000019
07500.0	51.4	-71.4		84.0	560.9	281.3	1.000019
08000.0	50.2	-59.9		82.0	560.9	282.1	1.000018
08500.0	49.0	-59.5		79.9	569.5	283.1	1.000018
09000.0	47.0	-59.2		77.9	569.9	284.3	1.000017
09500.0	40.7	-59.9		75.9	570.2	285.8	1.000017
10000.0	43.6	-58.6		74.0	570.0	287.7	1.000016
10500.0	44.5	-58.4		72.2	571.0	289.9	1.000016
11000.0	43.4	-58.3		70.4	571.0	291.4	1.000016
11500.0	42.4	-58.0		68.3	570.0	293.1	1.000015
12000.0	41.8	-58.0		67.3	570.2	293.5	1.000015
12500.0	40.4	-59.2		65.0	569.8	292.5	1.000015
13000.0	39.4	-59.5		64.3	569.4	291.7	1.000014
13500.0	38.5	-59.8		62.9	569.0	292.0	1.000014
14000.0	37.6	-59.1		61.2	570.0	292.9	1.000014
14500.0	30.7	-58.4		59.5	570.9	293.7	1.000013
15000.0	35.8	-57.6		57.9	572.0	293.3	1.000013
15500.0	35.0	-55.7		56.0	574.5	292.4	1.000012
16000.0	34.2	-54.8		54.5	573.7	291.4	1.000012
16500.0	33.4	-54.1		53.0	570.0	290.2	1.000012
17000.0	32.6	-53.4		51.7	577.5	288.0	1.000012
17500.0	31.8	-53.4		50.4	577.6	287.3	1.000011
18000.0	31.1	-53.6		49.3	577.2	287.3	1.000011
18500.0	30.4	-53.9		48.2	570.9	288.1	1.000011
19000.0	29.7	-54.0		47.1	570.7	288.9	1.000010
19500.0	29.0	-53.9		46.0	570.8	290.4	1.000010
20000.0	28.3	-53.9		45.0	570.8	292.1	1.000010
20500.0	27.6	-53.9		43.9	570.9	293.0	1.000010
21000.0	27.0	-53.8		42.9	570.9	294.0	1.000010
21500.0	26.4	-53.8		41.9	577.0	292.2	1.000009
22000.0	25.8	-53.8		40.9	577.0	290.4	1.000009
22500.0	25.2	-53.7		39.9	577.1	288.0	1.000009
23000.0	24.6	-53.7		39.0	577.1	285.5	1.000009

UPPER AIR DATA
 3100290100
 EAST-28/CENTURY
 TABLE 13
 Cont'd

STATION ALTITUDE 3412.75 FEET MSL
 15 DEG. 02'
 10750 HRS. MST

GEODETIC COORDINATES
 32-09-327 LAT DEG
 156-40-591 LONG DEG

GEOMETRIC ALTITUDE
 PRESSURE
 AIR TEMPERATURE
 DRY POINT
 REL. HUM. PERCENT
 DENSITY
 SPEED OF SOUND
 WIND DIRECTION
 WIND SPEED
 INDEX OF REFRACTION

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	AIR TEMPERATURE DEGREES CENTIGRADE	DRY POINT DEGREES CENTIGRADE	REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DIRECTION DEGREES (TN)	WIND SPEED KNOTS	INDEX OF REFRACTION
65000.0	24.0	-53.6			30.1	577.2	282.5	23.9	1.000008
64000.0	23.4	-53.0			37.2	577.2	279.1	24.1	1.000008
63000.0	22.9	-53.6			30.5	577.3	277.5	24.0	1.000008
62000.0	22.4	-53.5			35.5	577.3	277.5	23.4	1.000008
61500.0	21.8	-53.4			34.0	577.5	277.5	22.9	1.000008
61000.0	21.3	-52.7			33.7	576.4	277.5	22.3	1.000008
60500.0	20.8	-52.0			32.0	579.4	277.5	21.4	1.000007
60000.0	20.4	-51.3			32.0	580.5	277.5	20.4	1.000007
59500.0	19.9	-50.6			31.1	581.2	277.5	19.5	1.000007
59000.0	19.4	-50.0			30.4	582.0	276.0	18.9	1.000007
58500.0	19.0	-49.4			29.6	582.7	275.4	18.6	1.000007
58000.0	18.6	-48.9			28.8	583.5	274.0	18.3	1.000006
57500.0	18.2	-48.3			28.1	584.2	272.0	18.1	1.000006
57000.0	17.7	-47.7			27.4	584.9	271.9	19.9	1.000006
56500.0	17.3	-47.1			26.7	585.7	271.5	21.8	1.000006
56000.0	16.8	-46.6			26.0	586.4	270.8	23.6	1.000006
55500.0	16.6	-46.7			25.5	586.2	270.7	25.6	1.000006
55000.0	16.2	-46.9			24.9	586.0	271.1	27.8	1.000006
54500.0	15.8	-47.1			24.4	585.7	271.4	29.9	1.000005
54000.0	15.5	-47.2			23.8	585.7	271.0	32.1	1.000005
53500.0	15.1	-47.2			23.5	585.6	271.7	33.8	1.000005
53000.0	14.8	-47.3			22.8	585.5	271.5	34.9	1.000005
52500.0	14.4	-47.3			22.5	585.5	271.3	36.1	1.000005
52000.0	14.1	-47.3			21.6	585.4	271.1	37.2	1.000005
51500.0	13.8	-47.4			21.5	585.4	270.9	38.3	1.000005
51000.0	13.5	-47.4			20.8	585.3	270.9	39.7	1.000005
50500.0	13.2	-47.5			20.5	585.2	270.8	41.0	1.000005
50000.0	12.9	-47.5			19.9	585.2	270.8	42.4	1.000004
49500.0	12.6	-47.6			19.4	585.1	270.8	43.8	1.000004
49000.0	12.3	-47.6			19.0	585.1	270.8	44.7	1.000004
48500.0	12.0	-47.7			18.6	585.0	270.9	45.4	1.000004
48000.0	11.8	-47.6			18.2	585.1	270.9	46.1	1.000004
47500.0	11.5	-46.9			17.7	585.0	271.0	46.8	1.000004
47000.0	11.2	-46.1			17.3	587.0	271.0	47.4	1.000004
46500.0	11.0	-45.4			16.8	587.4	271.0	47.6	1.000004
46000.0	10.7	-44.7			16.4	588.0	271.0	47.7	1.000004
45500.0	10.5	-44.0			16.0	589.0	270.9	47.9	1.000004
45000.0	10.3	-43.3			15.6	590.7	270.9	48.1	1.000003
44500.0	10.0	-42.5			15.2	591.0	271.0	48.7	1.000003
44000.0	9.8	-42.2			14.8	592.1	271.0	49.4	1.000003

STATIC ALTITUDE 3912.75 FEET MSL
 15 NOV. 82 0730 UTC EST
 ASCENDING NO. 105

UPPER AIR DATA
 3100290100
 EAST-20/CHEMIST

GEODETIC COORDINATES
 32.69927 LAT DEG
 136.40541 LONG DEG

TABLE 13

GEODETIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES CENTIGRADE	REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND MNOTS	WIND DATA		INDEX OF REFRACTION
						DIRECTION DEGREES(TW)	SPEED MNOTS	
103500.0	9.6	-41.9		14.5	592.4	271.0	50.2	1.000003
104000.0	9.4	-41.7		14.1	592.7	271.1	50.9	1.000003
104500.0	9.2	-41.4		13.6	593.1	271.4	51.4	1.000003
105000.0	9.0	-41.1		13.5	593.4	272.0	51.7	1.000003
105500.0	8.8	-40.9		13.2	593.7	272.7	52.0	1.000003
106000.0	8.6	-40.6		12.9	594.1	273.3	52.3	1.000003
106500.0	8.4	-40.4		12.6	594.4	273.9	52.7	1.000003
107000.0	8.2	-40.1		12.3	594.7	274.5	52.2	1.000003
107500.0	8.0	-39.8		12.0	595.1	275.1	51.7	1.000003
108000.0	7.9	-39.6		11.7	595.4	275.0	51.2	1.000003
108500.0	7.7	-39.3		11.5	595.7	276.4	50.8	1.000003
109000.0	7.5	-39.1		11.2	596.1	276.6	50.5	1.000002
109500.0	7.4	-38.8		11.0	596.4	276.6	50.7	1.000002
110000.0	7.2	-38.5		10.7	596.7	276.6	50.8	1.000002
110500.0	7.0	-38.3		10.5	597.0	276.8	51.0	1.000002
111000.0	6.9	-38.2		10.2	597.2	276.8	51.1	1.000002
111500.0	6.7	-38.2		10.0	597.2			1.000002
112000.0	6.6	-38.2		9.8	597.2			1.000002
112500.0	6.5	-38.1		9.6	597.2			1.000002
113000.0	6.3	-38.1		9.4	597.2			1.000002
113500.0	6.2	-38.1		9.2	597.3			1.000002

STATION ALTITUDE 3912-75 FEET MSL
 15 099. 02
 ASCENSION 110. 105

HANDFACTOR LEVELS
 3100290105
 EAST-20/CHEMRY

GEODETIC COORDINATES
 32-09'27" LAT NCG
 136-40'49" LONG WCG

TABLE 14

PRESSURE MILLIBARS	GEOPOTENTIAL FEET	AIR TEMPERATURE DEGREES CENTIGRADE	WET-BULB TEMPERATURE DEGREES CENTIGRADE	RELATIVE HUMIDITY PERCENT	WIND DIRECTION DEGREES (IN)	WIND SPEED KNOTS
650.0	5072.	2.2	-9.7	41.	194.0	0.4
600.0	6675.	1.9	-10.0	41.	170.5	10.1
750.0	8304.	5.5	-8.3	42.	240.0	13.8
700.0	10246.	3.8	-2.0	60.	230.5	22.0
650.0	12207.	0.0	-9.0	51.	245.1	22.9
600.0	14200.	-4.3	-15.4	42.	257.2	22.5
550.0	16233.	-6.8	-20.7	14.	291.9	23.1
500.0	18242.	-11.3	-32.7	15.	270.9	22.8
450.0	21267.	-17.3	-37.0	13.	275.5	24.2
400.0	24222.	-23.0	-40.4	20.	270.5	30.2
350.0	27569.	-32.1	-45.5	25.	202.0	31.5
300.0	31067.	-41.6			270.0	42.3
250.0	35032.	-52.3			274.9	43.0
200.0	39727.	-55.0			200.5	43.5
175.0	42495.	-58.0			285.0	77.7
150.0	45639.	-62.5			235.5	70.9
125.0	49334.	-63.0			234.9	67.0
100.0	53324.	-65.1			270.5	57.9
80.0	58311.	-63.8			277.7	40.5
70.0	61000.	-62.3			273.0	37.2
50.0	64124.	-62.2			275.0	33.3
50.0	67826.	-50.7			282.2	20.5
40.0	72421.	-59.3			292.2	20.2
30.0	78020.	-54.0			200.4	22.9
25.0	82262.	-53.7			203.1	23.7
20.0	86983.	-50.7			277.5	19.8
15.0	93210.	-47.2			271.0	34.1
10.0	102042.	-42.4			271.0	40.0
7.0	110023.	-38.2			270.0	51.0

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

END

FILMED

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