

RESTRICTED DATA

ATOMIC ENERGY ACT OF 1946
SPECIFIC RESTRICTED DATA NO. [redacted] CHANGE REQUIRED

This [redacted]
Copy No. 2 of 2 Copies, Series [redacted]

37

H-1 LB-2 p62

CONSOLIDATED CLOUD TOP DATA

(All heights are in thousands of feet MSL)

U. S. Weather Bureau,
Washington 25, D. C.
10-25-55
W.B. S.P.-LQ

126452

RG 326 US ATOMIC ENERGY
COMMISSION

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CLASSIFICATION CANCELLED
REMARKS AUTHORITY OF DOE/OC

Class 10/3/83
Carl Wilson 3/4/86

Series and Shot Number	Maximum cloud height observed associated with period of initial rapid rise	Other cloud heights observed at or subsequent to time of stabilisation	Absolute cloud height observed	Time, in minutes after burst time	Method of observation	Source of data	Remarks
TRAPOT 1	21.5		21.5	8.0	Photo. EG&G		Fpo (Final point of observation) One camera and cloud drift correction used. Cloud still rising.
<i>18 Feb 55</i>	18.1		18.3	4.0	Theod. Proj 9.4		
			17.5	5.0	" "		Fpo. Cloud still rising.
<i>1.2</i>			18.0	15.0	Aircraft		Some peaks to 20,000' observed.
2	24.2		24.2	8.0	Photo. EG&G		Two cameras in good agreement. Cloud drift corrections used.
<i>22 Feb 55</i>		22.8		20.0	" "		Fpo. Cloud leveling off. Cameras not in such good agreement.
	24.7		24.7	4.5	Theod. Proj 9.4		
		23.6		9.5	" "		Fpo. Cloud top leveling off.
<i>2.5</i>		24.9		10.0	Aircraft		
	24.0		24.0	20.0	" "		
3	30.3		30.3	8.5	Photo. EG&G		Two cameras in good agreement and cloud drift correction used.
<i>1 May 55</i>		27.7		3.0	" "		Fpo. Cloud top rising slowly after sinking to 26,000' at 18 mins.
	30.4		30.4	9.0	Theod. Proj 9.4		Agrees well with photo data.
		28.2		12.0	" "		Fpo. Cloud top sinking slowly.
<i>7</i>		30.0		8.0	Aircraft		
	27.0		27.0	49.0	" "		

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	45.0	45.0	10.0 Photo. EG&G	Cloud drift correction used but two cameras not in good agreement. Fpo. Cloud top leveling off.
7 Mar 55	44.6	43.0	21.0 " "	
		47.0	6.5 Theod. Proj 9.4	
		47.0	10.0 " "	Fpo. Data doubtful due to drift and increase in size of mushroom.
	43	40.5	30.0 Airoft "	
		41.0	100.0 " "	
<hr/>				
5	37.0		14.0 Photo. EG&G	Two cameras in fair agreement. Cloud drift correction used. Fpo. Cloud top leveled off. Agrees well with photo.
12 Mar 55		37.5	30.0 " "	
	37.5	37.5	14.0 Theod. Proj 9.4	
		39.6	19.5 " "	Fpo. Height doubtful. Cloud top still rising.
	3.6		37.0 Airoft "	Sole observation.
		36.0		
<hr/>				
6	40.0	40.0	13.5 Photo. EG&G	Cloud drift correction used and two cameras in fair agreement. Fpo. Cloud top leveling off. Fpo. Cloud still rising. Very doubtful due to drift toward observer. Agrees with photo data.
22 Mar 55		39.0	24.0 " "	
		54.3	15.0 Theod. Proj 9.4	
	8.4		15.0 Airoft "	
		40.0	13.0 Airoft "	
		38.4	18.0 " "	
		39.2	47.0 " "	
<hr/>				
7			Photo. EG&G	No data taken for this shot.
23 Mar 55	11.6	11.6	5.5 Theod. Proj 9.4	
		9.2	11.5 " "	Fpo. Cloud top sinking slowly. Agrees well with theodolite data.
	1.2	12.0	10.0 Airoft "	
	Est	10.5	12.0 " "	
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8	32.1		10.0 Photo. EG&G	Cloud drift correction used and two cameras in fair agreement. Fpo. Cloud top rising after sinking to 31,200' at 17 mins. Disagreement with photo data is opposite to the usual sense, perhaps due to wind shear. Fpo. Cloud top fluctuating at about 30,000'.
29 Mar 55		32.8	26.0 " "	
0455 PST	30.4	30.4	9.0 Theod. Proj 9.4	
		29.8	15.0 " "	
	15.5		10.0 Airoft "	
		31.2	17.0 " "	
		30.7	30.0 " "	
		29.0		
<hr/>				
9			Photo. EG&G	None, due to overexposure of film. Fpo. Cloud top still rising. Does not agree with theodolite.
29 Mar 55	31.7	31.7	10.0 Theod. Proj 9.4	
		27.5	10.0 Airoft "	
		31.5	17.0 " "	
		28.7	24.0 " "	

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6 Apr 55	710	55.0	55.0	4.3	Photo. EG&G	Fpo. One camera observation. Cloud leveled and dissipating. Data for edge of torous ring, perhaps doubtful. Does not agree with photo data. Aircraft well below estimated height.
			54.8	7.0	Theod. Proj 9.4	
			52.1-	4.0	" "	
			60.0- 65.0	8.0	Airoft "	
	3.2					
	NA					
9 Apr 55	11	15.2	15.2	6.0	Photo. EG&G	Cloud drift correction used and two cameras in fair agreement. Fpo. Cloud top leveled off. Agrees well with photo data. Fpo. This point doubtful. Cloud top apparently leveled at 15,500'. Agrees well with photo and theodolite data.
			15.1	13.0	" "	
		15.5		6.5	Theod. Proj 9.4	
			15.7	8.0	" "	
			14.6	9.0	" "	
			15.2	12.0	Airoft "	
			15.0 15.0	15.0 30.0	" "	
	1.5					
15 Apr 55	12	40.2	40.2	8.0	Photo. EG&G	Cloud drift corrections used and four camera films in good agreement. Fpo. Cloud top leveled off. Fpo. Cloud top rising slowly after sinking to 41,000' at 9 mins. Agrees well with theodolite data.
			39.5	14.0	" "	
		41.2		8.0	Theod. Proj 9.4	
			41.5	11.0	" "	
			41.5- 41.7 41.7	11.0 23.0	Airoft "	
			42.8	32.0	" "	
	24					
5 May 55	13	43.0	43.0	9.5	Photo. EG&G	Cloud drift correction used and two cameras in good agreement. Fpo. Cloud top leveling off. Fpo. Cloud top still rising steadily. Data doubtful after 5 mins
			42.0	30.0	" "	
			51.0	14.0	Theod. Proj 9.4	
			40.5	15.0	Airoft "	
	30					
15 May 55	14	35.8	35.8	5.0	Photo. EG&G	Cloud drift correction used and two camera s in good agreement. Cloud top steady for 4 mins after sinking to 34,600' at 7 mins. Fpo. Cloud top sinking slowly. Data inconsistent with Photo data after 3 mins. Fpo. Cloud top leveling off. Data very doubtful.
			35.0	9.0	" "	
			34.0	16.5	" "	
		39.9		5.5	Theod. Proj 9.4	
			40.9	12.5	" "	
	29		37.2	15.0	Airoft "	

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12 Apr 53	35.0	35.0	32.7	NYO-4802-AEC	Two cameras in fair agreement. Fpo. Cloud top remaining level. Taken from unidentified graphs. Fpo. Banger CP smoothed data. Fpo. Cloud top sinking gradually. Fpo. Cloud top still rising. CP smoothed data. Source references, UKP-50 Proj 6.12, ARDC C-36417
	37.0	36.5	35.0	7.0 Photo. EG&G	
	34.2	32.8	37.0	10.0 " "	
	37.3		37.0	11.0 Unk Unk	
			34.2	12.0 " "	
			37.3	7.0 Theod. Newgarden	
25			36.0	R-265-AEC	Source reference, WT-705 Source, Col. Fackler's aircraft rpts.
			32.0-	Theod. EM-1378-AEC	
			36.0	Aircraft Newgarden	
			37.3		
25 Apr 53	45.0	45.0	45.0	6.0 Photo. EG&G	Based on only one camera. Fpo. Cloud top level 8 thru 10 min. Taken from unidentified graphs -- Fpo. Cloud top still rising. Fpo. Smoothed data. Cloud top still rising. Source references, UKP-50 proj 6.12, ARDC C-36417
	44.0		44.0	10.0 " "	
	45.5		44.0	10.0 Unk Unk	
			45.5	14.0 Theod. Newgarden	
			45.0	R-265-AEC	
51.5		43.0	42.0-	Theod. EM-1378-AEC	Source reference, WT-705
			45.0	Aircraft Newgarden	
			45.0	" "	
			43.2	NYO-4802-AEC	
8 May 53	42.0	42.5	42.0	8.0 Photo. EG&G	Based on only one camera. Fpo. Cloud top leveled off. Taken from unidentified graphs. Fpo. " " " " Fpo. Smoothed data from intersection of Mercury and #93 Highway. Cloud top leveling off. Fpo. Smoothed data from base camp. Cloud top leveling off. Source references, UKP-50 Proj 6.12, ARDC C-36417
	42.5	42.0	42.5	10.0 " "	
	43.0		42.5	12.0 Unk Unk	
	40.5		43.0	13.0 " "	
			43.0	13.0 Theod. Newgarden	
			40.5	13.0 " "	
26.5			42.0	R-265-AEC	Source reference, WT-705
			36.0-	Theod. EM-1378-AEC	
			42.0	Aircraft Newgarden	
			40.5	NYO-4802-AEC	
			40.5		
19 May 53	42.5	42.4	42.5	11.0 Unk Unk	Taken from unidentified graphs. Fpo. Cloud top leveling off. Smoothed data. Fpo. " " " " cloud top sinking steadily. Source references, UKP-50 Proj 6.12, ARDC C-36417
	41.8	40.8	41.8	12.0 " "	
			41.8	9.0 Theod. Newgarden	
			42.0	11.0 " "	
			42.0	R-265-AEC	
COPIED/DOE LANL RC		35.0	41.0-	Theod. EM-1378-AEC	Source reference, WT-705
			42.5	Aircraft Newgarden	
			44.0	" "	
			44.2	NYO-4802-AEC	

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3	41.9	41.9	7.0 Airoft WT-552	
22 Apr 52	39.0		" WT-568	
	40.0		" Newgarden	
		42.0	" Grossman	
		42.5	R-265-AEC	Source reference, WT-514
31		42.0	Photo. RM-1378-AEC	Source references, R-265-AEC, WT-552
	43.0	43.0	7.0 " R-265-AEC EGG (Graph p.21)	Fpo. Top leveled off.
4	43.5	43.5	9.5 Theod. WT-552	
1 May 52	42.0		15.0 " "	Fpo. Cloud top sinking and leveling off.
		42.5	Airoft WT-568	
20		39.0	R-265-AEC	Source reference, WT-514
		40.0	Photo RM-1378-AEC	Source references, R-265-AEC, WT-552
	41.0	41.0	7.0 " R-265-AEC EGG (Graph p.20)	Fpo. Top leveling off.
5	33.2		8.0 Theod. WT-552	Initial rapid rise was slowed down temporarily at 25-26,000'. Fpo. Cloud top leveled off.
7 May 52	34.0	34.0	15.0 " "	
		32.0	Airoft WT-568	
		31.4	R-265-AEC	Source references, AFSWP-501, WT-564
13		26.0	Theod. RM-1378-AEC	Source reference, WT-552. This is a different interpretation of one and the same data.
6	41.2	41.2	7.5 Theod. WT-552	
25 May 52	40.0		10.0 " "	Fpo. Cloud top sinking and leveling off.
		39.5	Airoft WT-568	
		39.5	R-265-AEC	Source references, AFSWP-501, WT-564
12		41.0	Theod. RM-1378-AEC	Source reference, WT-552
7	36.9	36.9	6.0 Theod. WT-552	
19 Jun 52	35.8		10.0 " "	Fpo. Cloud top leveled off.
		40.0	Airoft WT-568	
		41.5	R-265-AEC	Source references, AFSWP-501, WT-564
17		36.0	Theod. RM-1378-AEC	Source reference, WT-552
8	40.0	40.0	10.0 Theod. WT-552	Fpo. Cloud top still rising steadily.
5 Jun 52		41.0	Airoft WT-568	
		37.0	R-265-AEC	Source references, AFSWP-501, WT-564
18	COPIED/DOE LANL RG	35.0-	Theod. RM-1378-AEC	Source reference, WT-552
		40.0		

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Station	Time	Altitude	Observation	Notes
BUSTER	1	8.0	6.0 Theod. WT-308	Details uncertain
22 Oct 51		10.0		Cloud height variable presumably due to orographic effects.
		8.4	80.0 Airoft WT-422	Aircraft operating at 7,500'.
		8.0	R-265-AEC	Source references, AFSWP-501, WT-412, WT-308
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	2	23.0	8.0 Photo. EGG WT-417	Fpo. Cloud top still rising slowly. Single camera and cloud drift correction used.
28 Oct 51		31.7	15.0 Theod. WT-308	
		29.0	7.0 Photo. R-265-AEC-EGG	(Graph, p. 18) Fpo. Cloud top still rising slowly.
		31.7	R-265-AEC	Source references, AFSWP-501, WT-412, WT-308
		25.0	50.0 Airoft WT-422	Aircraft at 24,500'.
		20.0-		
		25.0	Photo. EM-1378-AEC	Source reference, R-265-AEC. Different xxxxxxxx interpretation of one and the same source.
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	3	40.0	9.0 Photo. EGG WT-417	Fpo. Cloud top still rising slowly. Single camera & drift corrections used.
10 Oct 51		41.0	12.0 * WT-308	* Best estimate based on theodolite and aircraft observation
		43.0	7.0 Photo. R-265-AEC EGG	(Graph, p. 18) Fpo. Cloud top leveling off slowly.
		32.0	Airoft WT-422	Maximum of aircraft 29,000'.
		41.0	R-265-AEC	Source references, AFSWP-501, WT-412, WT-308
		40.0	Photo. EM-1378-AEC	Source reference, R-265-AEC
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	4	37.0	7.5 Photo. R-265-AEC EGG	(Graph, p. 19) Fpo. Cloud top still rising.
1 Nov 51		40.0	8.0 Photo. EGG WT-417	Fpo. Cloud top still rising. Single camera and cloud drift corrections used.
		46.0	Theod. WT-308	
		41.0	110.0 Airoft WT-422	Aircraft at 41,000'.
		46.0	R-265-AEC	Source references, AFSWP-501, WT-412, WT-308
		32.0	Photo. EM-1378-AEC	Source reference, R-265-AEC. Different xxxxxxxx interpretation of one and the same source.
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	5	49.5	8.0 Photo. R-265-AEC-EGG	(Graph p. 19) Fpo. Cloud top still rising slowly.
5 Nov 51		49.5	9.0 Photo. EGG WT-417	Fpo. Cloud top leveled off. Lower limit of probable height of top 46,000'.
		50.0	12.0 Theod. WT-308	Nellis AFB Data.

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5 (cont'd)	42.0 50.0 45.0	130.0 Aircraft WT-422 R-265-AEC Photo. RM-2578-AEC	Aircraft at 40,000'. Source references, AFSWP-501, WT-412, WT-308. Source reference, R-265-AEC Apparently a special inter- pretation of the same source.
JANGLE 1-S 19 Nov 51	16.0 12.0 15.0 15.0	5.0 Photo. EGG WT-417 9.0 " " " 5.0 Theod. WT-308 R-265-AEC	Fpo. Cloud top sinking slowly. Source references, WT-308, AFSWP final draft of report on Operation Jangle-Aug 1, 1952. Source references, R-265-AEC, WT-308
1 2 2	15.0	RM-1378-AEC	
2-U 29 Nov 51	11.5 10.3 10.3	5.0 Photo. EGG WT-417 9.0 " " " 4.5 Theod. WT-308 R-265-AEC	Fpo. Cloud top rising steadily. Small cloud projection to 10,500' at 6.5 mins. Source references, WT-308, AFSWP final draft of report on Operation Jangle- Aug 1, 1952.
1.19			
GREENHOUSE 1 7 Apr 51	56.0 52.0- 55-0 56.0	R-265-AEC Photo. RM-1378-AEC Theod. AFSWP-501	Source reference, AFSWP-501 " " , Greenhouse Annex 4.1, Part II-1951
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2 20 Apr 51	40.0 42.0 43.5 40.0	R-265-AEC 7.0 Photo. R-265-AEC 9.5 " " " RM-2578-AEC	Source reference, AFSWP-501 (Graphs, p. 17) Cloud top apparently leveling off. Fpo. Data doubtful. ^{Source ref. Greenhouse Annex 4.1, Part II} Source references, R-265-AEC, Greenhouse Annex 4.1, Part II-1951
47.2			
3 8 May 51	57.0 56.0 60.0 57.0	R-265-AEC 6.0 Photo. R-265-AEC 8.0 " " " RM-1378-AEC	Source reference, AFSWP-501 (Graphs, p. 17) ^{Source ref. Greenhouse Annex 4.1, Part II} Fpo. Data doubtful Source references, R-265-AEC, Greenhouse Annex 4.1, Part II-1951
257.2			
4 24 May 51	40.0 35.0- 40.0	R-265-AEC Theod. RM-1378-AEC	Source reference, AFSWP-501 Source reference, Greenhouse Annex 4.1, Part II-1951

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RANGER 1 27 Jan 51 1.27	16.0	4.0 Theod. Kent & Holzman	Fpo. Cloud top leveled off.
	17.0	R-265-AEC	Source references, AFSWP-501, WT-202
	17.0	Theod. EM-1378-AEC	Source references, WT-202, WB report on Operation Ranger.
	17.0	Aircraft WT-202	Aircraft 1000' above cloud.
2 28 Jan 51 1.48	35.0	5.0 Theod. Kent & Holzman	Fpo.
	35.0	R-265-AEC	Source references, AFSWP-501, WT-202
	35.0	Theod. EM-1378-AEC	Source references, WT-202, USWB report on Operation Ranger.
	34.0-35.0	Aircraft WT-202	Aircraft at 18-20,000'.
3 1 Feb 51 1.0	12.5	Theod. Kent & Holzman	No details available.
	12.0	R-265-AEC	Source references, AFSWP-501, WT-202
	12.0	Theod. EM-1378-AEC	Source references, WT-202, USWB report on Operation Ranger.
4 2 Feb 51 1.8	28.0	Theod. Kent & Holzman	No details available.
	36.0	R-265-AEC	Source references, AFSWP-501, WT-202
	36.0	Theod. EM-1378-AEC	Source references, WT-202, USWB report on Operation Ranger.
5 6 Feb 51 2.2	42.0	Theod. Kent & Holzman	No details available.
	42.0	R-265-AEC	Source references, AFSWP-501, WT-202
	42.0	Theod. EM-1378-AEC	Source references, WT-202, USWB report on Operation Ranger.
	43.0	Aircraft WT-202	Aircraft at 18-20,000'.

** Note - The USWB report on Operation Ranger, referred to by EM-1378-AEC, specifically states that cloud heights were determined by aircraft and not by theodolite as implied by EM-1378-AEC.

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40.0

R-265-AEC

Source references, SC-2850(TR),
Reines' private communication,
H.D. Smyth.

16 Jul 45

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Search-~~RM-1378-AEC~~
light

Source reference, LA-531

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