

TENNESSEE VALLEY AUTHORITY  
**RESERVOIR SEDIMENTATION  
 DATA SUMMARY**

**Douglas**  
 NAME OF RESERVOIR

HYDRAULIC DATA BRANCH  
**20-7b**  
 DATA SHEET NO.

DAM	1. OWNER <b>TVA</b>			2. RIVER <b>French Broad</b>			3. STATE <b>Tennessee</b>			
	4. SEC. TWP. RANGE			5. NEAREST TOWN <b>Sevierville</b>			6. COUNTY <b>Sevier</b>			
	7. STREAM BED ELEV. <b>866</b>			8. TOP OF DAM ELEV. <b>1017</b>			9. SPILLWAY CREST ELEV. <b>1/1002</b>			
RESERVOIR	10. STORAGE ALLOCATION	11. ELEVATION TOP OF POOL	12. SURFACE AREA ACRES	13. STORAGE ACRE- FEET	14. ACCUMULATED ACRE- FEET	15. DATE STORAGE BEGAN				
	a. FLOOD CONTROL		<b>2/</b>	<b>2/</b>	<b>2/</b>	<b>2/19/43</b>				
	b. POWER									
	c. MULTIPLE USE	<b>1002</b>	<b>31,667</b>	<b>1,509,844</b>	<b>1,511,883</b>	16. DATE NORMAL OPER. BEGAN				
	d. INACTIVE	<b>883</b>	<b>411</b>	<b>2,039</b>	<b>2,039</b>	<b>3,21/43.</b>				
17. LENGTH OF RESERVOIR <b>43.1</b> MILES			AV. WIDTH OF RESERVOIR <b>1.14</b> MILES							
WATERSHED	18. TOTAL DRAINAGE AREA <b>4,541</b> SQ. MI.			22. MEAN ANNUAL PRECIPITATION <b>48.7(24)</b> INCHES						
	19. NET SEDIMENT CONTRIBUTING AREA <b>2,854</b> SQ. MI.			23. MEAN ANNUAL RUNOFF <b>20.0(26)</b> INCHES						
	20. LENGTH <b>198</b> MILES		AV. WIDTH <b>23</b> MILES		24. MEAN ANNUAL RUNOFF <b>4,850,700</b> AC.-FT.					
	21. MAX. ELEV. <b>6,684</b>		MIN. ELEV. <b>866</b>		25. CLIMATIC CLASSIFICATION <b>Humid</b>					
SURVEY DATA	26. DATE OF SURVEY	27. PERIOD YEARS	28. ACCL. YEARS	29. TYPE OF SURVEY	30. NO. OF RANGES OR CONTOUR INT.	31. SURFACE AREA ACRES	32. CAPACITY ACRE- FEET	33. C/W RATIO AC.-FT. PER SQ. MI.		
	<b>Feb. 19, 1943</b>	<b>0</b>	<b>0</b>	<b>Range</b>	<b>51</b>	<b>31,667</b>	<b>1,511,883</b>	<b>-</b>		
	<b>Jul. 23, 1949</b>	<b>6.4</b>	<b>6.4</b>	<b>"</b>	<b>51</b>	<b>31,667</b>	<b>1,496,712</b>	<b>-</b>		
	<b>May 7, 1955</b>	<b>5.8</b>	<b>12.2</b>	<b>"</b>	<b>42</b>	<b>31,667</b>	<b>1,500,870</b>	<b>-</b>		
	<b>Jun. 23, 1960</b>	<b>5.1</b>	<b>17.3</b>	<b>"</b>	<b>38</b>	<b>31,667</b>	<b>1,489,978</b>	<b>-</b>		
	<b>(D)</b>									
	26. DATE OF SURVEY	34. PERIOD ANNUAL PRECIPITATION	35. PERIOD WATER INFLOW ACRE- FEET			36. WATER INFL. TO DATE AC-FT.				
			a. MEAN ANNUAL	b. MAX. ANNUAL	c. PERIOD TOTAL	a. MEAN ANNUAL	b. TOTAL TO DATE			
	<b>Jul. 23, 1949</b>		<b>4,800,601</b>	<b>5,447,532</b>	<b>30,723,844</b>	<b>4,800,601</b>	<b>30,723,844</b>			
	<b>May 7, 1955</b>	<b>47.4</b>	<b>4,372,040</b>	<b>5,887,341</b>	<b>25,357,834</b>	<b>4,596,859</b>	<b>56,081,678</b>			
<b>Jun. 23, 1960</b>	<b>51.4</b>	<b>4,917,291</b>	<b>5,835,530</b>	<b>25,078,182</b>	<b>4,691,321</b>	<b>81,159,860</b>				
26. DATE OF SURVEY	37. PERIOD SEDIMENT DEPOSITS ACRE- FEET			38. TOTAL SED. DEPOSITS TO DATE ACRE- FEET.						
	a. PERIOD TOTAL	b. AV. ANNUAL	c. PER SQ. MI.-YEAR	a. TOTAL TO DATE	b. AV. ANNUAL	c. PER SQ. MI.-YEAR				
<b>Jul. 23, 1949</b>	<b>15,170</b>	<b>2,370</b>	<b>0.830</b>	<b>15,170</b>	<b>2,370</b>	<b>0.83</b>				
<b>May 7, 1955</b>	<b>-4,157</b>	<b>-717</b>	<b>-0.251</b>	<b>11,013</b>	<b>903</b>	<b>0.32</b>				
<b>Jun. 23, 1960</b>	<b>10,892</b>	<b>2,136</b>	<b>0.748</b>	<b>21,905</b>	<b>1,266</b>	<b>0.44</b>				
26. DATE OF SURVEY	39. AV. DRY WGT. LBS. PER CU. FT.	40. SED. DEP. TONS PER SQ. MI.-YR.		41. STORAGE LOSS PCT.		42. SED. INFLOW PPM				
		a. PERIOD	b. TOTAL TO DATE	a. AV. ANNUAL	b. TOT. TO DATE	a. PERIOD	b. TOT. TO DATE			
<b>Jul. 23, 1949</b>	<b>55*</b>	<b>994</b>	<b>994</b>	<b>0.16</b>	<b>1.00</b>	<b>435</b>	<b>435</b>			
<b>May 7, 1955</b>	<b>55*</b>	<b>-301</b>	<b>383</b>	<b>0.06</b>	<b>0.73</b>	<b>-144</b>	<b>173</b>			
<b>Jun. 23, 1960</b>	<b>55*</b>	<b>895</b>	<b>527</b>	<b>0.08</b>	<b>1.45</b>	<b>383</b>	<b>238</b>			

1/ Top of Gates.  
 2/ Revised  
 3/ (-) Minus indicates scour.  
 \* Assumed.

ed

26. DATE OF SURVEY	43. DEPTH DESIGNATION RANGE IN FEET ABOVE, AND BELOW, CREST ELEVATION												
	128.7-110	110-100	100-90	90-80	80-70	70-60	60-50	50-40	40-30	30-20	20-10	10-	Top of Gates
PERCENT OF TOTAL SEDIMENT LOCATED WITHIN DEPTH DESIGNATION													
Jul. 23, 1949	4	3	8	13	21	23	14	8	4	2	0	0	
May 7, 1955	8	8	20	34	24	16	14	3/-5	3/-8	3/-4	3/-2	0	0
Jun. 23, 1960	9	9	16	25	22	15	9	2	3/-2	3/-4	3/-1	0	0

26. DATE OF SURVEY	44. REACH DESIGNATION PERCENT OF TOTAL ORIGINAL LENGTH OF RESERVOIR														
	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100	-105	-110	-115	-120	-125
PERCENT OF TOTAL SEDIMENT LOCATED WITHIN REACH DESIGNATION															
Jul. 23, 1949	16	9	4	10	27	20	9	4	0	1					
May 7, 1955	7	6	10	30	30	16	1	0	0	0					
Jun. 23, 1960	12	8	8	25	24	15	8	1	0	3/-1					

45. RANGE IN RESERVOIR OPERATION							
WATER YEAR	MAX. ELEV.	MIN. ELEV.	INFLOW AC.-FT.	WATER YEAR	MAX. ELEV.	MIN. ELEV.	INFLOW AC.-FT.
1944	1,000.78	944.52	3,949,515	1953	974.29	924.46	3,694,658
1945	986.40	947.63	4,573,715	1954	984.41	913.83	3,664,804
1946	993.60	935.12	5,447,532	1955	983.16	916.17	3,653,415
1947	972.62	929.18	4,077,056	1956	995.32	4/883.7	3,845,094
1948	976.85	921.08	4,330,562	1957	991.42	921.42	5,394,549
1949	1,001.79	932.68	6,562,380	1958	999.67	927.05	5,835,530
1950	998.13	931.72	5,887,341	1959	998.93	920.24	4,071,834
1951	994.10	926.84	4,204,488	1960	983.38	924.96	5,735,001
1952	983.31	932.32	4,258,418				

46. ELEVATION-AREA-CAPACITY DATA 2/ (1943)								
ELEVATION	AREA (acres)	CAPACITY (ac-ft)	ELEVATION	AREA (acres)	CAPACITY (ac-ft)	ELEVATION	AREA (acres)	CAPACITY (ac-ft)
873	0	0	930	7,893	162,890	990	26,450	1,163,640
880	220	620	940	10,600	255,091	1,002	31,667	1,511,883
890	856	5,349	950	13,539	375,696			
900	2,318	20,838	960	16,648	526,240			
910	3,696	50,434	970	19,412	706,342			
920	5,541	96,293	980	22,856	917,569			

47. REMARKS AND REFERENCES  
 3/ (-) Minus indicates scour. Treated as negative sediment.  
 4/ Estimated.

48. AGENCY SUPPLYING DATA  
 TENNESSEE VALLEY AUTHORITY  
 HYDRAULIC DATA BRANCH

49. DATE September 1, 1966

RESERVOIR SEDIMENT  
DATA SUMMARY

Douglas  
NAME OF RESERVOIR

20-7, c  
DATA SHEET NO.

DAM	1. OWNER TVA			2. STREAM French Broad			3. STATE Tennessee								
	4. SEC. TWP. RANGE			5. NEAREST POST OFF, Sevierville			6. COUNTY Sevier								
	7. LAT. LONG.			8. TOP OF DAM ELEVATION 1017			9. SPILLWAY CREST ELEV. 1/1002								
RESERVOIR	10. STORAGE ALLOCATION		11. ELEVATION TOP OF POOL		12. ORIGINAL SURFACE AREA ACRES		13. ORIGINAL CAPACITY ACRE-Feet		14. GROSS STORAGE ACRE-Feet		15. DATE STORAGE BEGAN				
	a. FLOOD CONTROL		3/		2/		2/		2/		2/19/43				
	b. MULTIPLE USE		1002		31,667		1,509,844		1,511,883						
	c. POWER														
	d. WATER SUPPLY										16. DATE NORMAL OPER. BEGAN				
	e. IRRIGATION														
	f. CONSERVATION										3/21/43				
g. INACTIVE		883		411		2,039		2,039							
17. LENGTH OF RESERVOIR 43.1 MILES				AV. WIDTH OF RESERVOIR 1.14 MILES											
WATERSHED	18. TOTAL DRAINAGE AREA 4,541 SQ. MI.				22. MEAN ANNUAL PRECIPITATION 49.4(31) INCHES										
	19. NET SEDIMENT CONTRIBUTING AREA 2,854 SQ. MI.				23. MEAN ANNUAL RUNOFF 20.05(33) INCHES										
	20. LENGTH 198 MILES		AV. WIDTH 23 MILES		24. MEAN ANNUAL RUNOFF 4,855,539 AC.-FT.										
	21. MAX. ELEV. 6,684		MIN. ELEV. 866		25. ANNUAL TEMP.; MEAN 58 RANGE 58										
	26. DATE OF SURVEY		27. PERIOD, YEARS		28. ACCL. YEARS		29. TYPE OF SURVEY		30. NO. OF RANGES OR CONTOUR INT.		31. SURFACE AREA ACRES		32. CAPACITY ACRE-Feet		33. C/I. RATIO AC.-FT. PER AC.-FT.
Feb. 19, 1943		0		0		Range		51		31,667		1,511,883		0.312	
Aug. 22, 1967		7.2		24.5		Range		43				1,475,450		0.304	
						(D)									
26. DATE OF SURVEY		34. PERIOD ANNUAL PRECIPITATION		35. PERIOD WATER INFLOW ACRE-Feet			36. WATER INFL. TO DATE AC.-FT.								
				a. MEAN ANNUAL		b. MAX. ANNUAL	c. PERIOD TOTAL		a. MEAN ANNUAL		b. TOTAL TO DATE				
Aug. 22, 1967		52.1		4,860,999		6,365,77	34,999,195		4,741,186		116,159,055				
26. DATE OF SURVEY		37. PERIOD CAPACITY LOSS ACRE-Feet			38. TOTAL SED. DEPOSITS TO DATE ACRE-Feet.										
		a. PERIOD TOTAL		b. AV. ANNUAL	c. PER SQ. MI.-YEAR		a. TOTAL TO DATE		b. AV. ANNUAL		c. PER SQ. MI.-YEAR				
Aug. 22, 1967		14,528		2,018	0.707		36,433		1,487		0.52				
26. DATE OF SURVEY		39. AV. DRY WGT. LBS. PER CU. FT.		40. SED. DEP. TONS PER SQ. MI.-YR.		41. STORAGE LOSS PCT.		42. SED. INFLOW PPM							
				a. TOTAL TO DATE		b. PERIOD	a. AV. AN.		b. TOT. TO DATE	a. PERIOD		b. TOT. TO DATE			
Aug. 22, 1967		55*		623		847	0.10		2.41	366		276			

\*Assumed

26. DATE OF SURVEY	43. DEPTH DESIGNATION RANGE IN FEET BELOW, AND ABOVE, CREST ELEVATION												
	1287-110	10-100	100-90	90-80	80-70	70-60	60-50	50-40	40-30	30-20	20-10	10-Top	
	PERCENT OF TOTAL SEDIMENT LOCATED WITHIN DEPTH DESIGNATION												
Aug. 22, 1967	6	7	13	23	24	17	9	4	-1 4/	-1 4/	-1 4/	0	

26. DATE OF SURVEY	44. REACH DESIGNATION PERCENT OF TOTAL ORIGINAL LENGTH OF RESERVOIR														
	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100	-105	-110	-115	-120	-125
	PERCENT OF TOTAL SEDIMENT LOCATED WITHIN REACH DESIGNATION														
Aug. 22, 1967	9	10	9	26	25	13	8	0	0	0					

45. RANGE IN RESERVOIR OPERATION							
WATER YEAR	MAX. ELEV.	MIN. ELEV.	INFLOW AC.-FT.	WATER YEAR	MAX. ELEV.	MIN. ELEV.	INFLOW AC.-FT.
1961	994.67	925.01	4,610,064				
1962	992.29	929.41	6,365,777				
1963	984.02	921.84	4,341,800				
1964	998.59	925.52	4,258,382				
1965	994.45	928.46	5,786,397				
1966	982.61	920.34	3,751,136				
1967	998.50	925.99	5,513,017				

46. ELEVATION-AREA-CAPACITY DATA								
ELEVATION	AREA	CAPACITY (1943)	ELEVATION	AREA	CAPACITY (1967)	ELEVATION	AREA	CAPACITY
873.3	0	0			0			
880	220	620			218			
900	2,318	20,838			16,682			
920	5,541	96,293			80,325			
940	10,600	255,091			223,166			
960	16,648	526,240			488,798			
980	22,856	917,569			880,755			
1002	31,667	1,511,883			1,475,450			

47. REMARKS AND REFERENCES

1/ Top of gates.

2/ Revised

3/ Power and Flood Control. Normal maximum pool level elevation 1,000. Normal minimum pool level elevation 920.

4/ (-) Minus indicates scour. Treated as negative sediment.

For preceding data, see sheet 20-7a.