

RESERVOIR SEDIMENTATION
DATA SUMMARY

DEVIL'S GATE

70-29

NAME OF RESERVOIR

DATA SHEET NO.

DAM	1. OWNER LACFCD			2. RIVER Arroyo Seco			3. STATE Calif.				
	4. SEC. TWP. 1 N RANGE 12 W			5. NEAREST TOWN Pasadena			6. COUNTY Los Angeles				
	7. STREAM BED ELEV. 970			8. TOP OF DAM ELEV. 1070			9. SPILLWAY CREST ELEV. 1054				
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 1/	1054	160	4601	4601	June 1920					
	b. POWER										
	c. WATER SUPPLY										
	d. IRRIGATION										
	e. CONSERVATION										
f. INACTIVE					June 1920						
17. LENGTH OF RESERVOIR 1.19 2/			MILES			AV. WIDTH OF RESERVOIR 0.183 2/			MILES		
WATERSHED	18. TOTAL DRAINAGE AREA 31.9			SQ. MI.			22. MEAN ANNUAL PRECIPITATION 28.51			INCHES	
	19. NET SEDIMENT CONTRIBUTING AREA 31.9			SQ. MI.			23. MEAN ANNUAL RUNOFF 4.55			INCHES	
	20. LENGTH 8.8		MILES		AV. WIDTH 3.6+		MILES		24. MEAN ANNUAL RUNOFF 7750 (16)		
	AC.-FT.										
	21. MAX. ELEV. 6152			MIN. ELEV. 970			25. CLIMATIC CLASSIFICATION Subhumid				
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.			
	1916			Contour	5'	160	4601	114			
	June 1933	13.0	13.0	"	5'	160	4554	112			
	Sept. 1934	1.2	11.2	"	5'		4127	130			
	Jan. 1935	.3	11.5	"	5'	160	3996	125			
	June 1938	3.5	18.0	"	5'	130	2967	93			
	Jan. 1942	3.6	21.6	"	5'	130	2728	86			
	Jan. 1943	1.0	22.6	"	5'	130	2504	80			
	Fall 1948	5.7	28.3	"	5'	110	2561	80			
	26. DATE OF SURVEY	34. PERIOD ANNUAL PRECIPITATION	35. PERIOD WATER INFLOW ACRE-FEET			36. WATER INFLOW TO DATE AC.-FT.					
			a. MEAN ANNUAL	b. MAX. ANNUAL	c. PERIOD TOTAL	a. MEAN ANNUAL	b. TOTAL TO DATE				
	1916		N.D.	N.D.	N.D.	N.D.	N.D.		N.D.		
	June 1933	25.0	2,940	2,940	2,940	2,450	2,940		2,940		
	Sept. 1934	20.0	2,780	2,780	2,060	3,130	5,000		5,000		
	Jan. 1935	71.0	11,190	25,440	44,440	9,890	49,440		49,440		
June 1938	32.7	11,510	27,010	32,240	9,500	81,680		81,680			
Jan. 1942	32.6	13,170	25,660	12,060	9,380	93,740		93,740			
Jan. 1943	35.8	4,390	25,660	32,870	8,280	126,610		126,610			
Fall 1948	24.7										
26. DATE OF SURVEY	37. PERIOD SEDIMENT DEPOSITS ACRE-FEET			38. TOTAL SED. DEPOSITS TO DATE ACRE-FEET 3/							
	a. PERIOD TOTAL	b. AV. ANNUAL	c. PER SQ. MI.-YR.	a. TOTAL TO DATE	b. AV. ANNUAL	c. PER SQ. MI.-YR.					
1916											
June 1933	47	3.62	0.11	47	3.6	0.11					
Sept. 1934	427	355.83	11.15	474	33.4	1.05					
Jan. 1935	131	436.67	13.69	605	41.7	1.31					
June 1938	1029	294.00	9.22	1634	90.8	2.85					
Jan. 1942	239	66.39	2.08	1873	86.7	2.72					
Jan. 1943	224	224.00	7.02	2097	92.8	2.91					
Fall 1948	Sluicing increased storage capacity			2097	74.1	2.32					
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. TO DATE	a. PERIOD	b. TO DATE				
June 1933				0.08	1.0						
Sept. 1934				0.73	10.3						
Jan. 1935				0.91	13.1						
June 1938				1.97	35.5						
Jan. 1942				1.88	40.7						
Jan. 1943				2.02	45.5						
Fall 1948				1.61 3/	44.4 4/						

26. DATE OF SURVEY	43. DEPTH DESIGNATION RANGE IN FEET ABOVE, AND BELOW, CREST ELEVATION										PERCENT OF TOTAL SEDIMENT LOCATED WITHIN DEPTH DESIGNATION				
	84-80	80-70	70-60	60-50	50-40	40-30	30-20	20-10	-10						
June 1933		5	4				10		81						
Sept. 1934	1	2	9	29	18	17	9	15							
Jan. 1935			2	54	24	12	5		3						
June 1938				1	22	13	18	22	24						
Jan. 1942					20	40	33	6	1						
Jan. 1943					2	28	40	24	6						

26. DATE OF SURVEY	44. REACH DESIGNATION PERCENT OF TOTAL ORIGINAL LENGTH OF RESERVOIR															PERCENT OF TOTAL SEDIMENT LOCATED WITHIN REACH DESIGNATION				
	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					

45. RANGE IN RESERVOIR OPERATION							
WATER YEAR	MAX. ELEV.	MIN. ELEV.	INFLOW AC.-FT.	WATER YEAR	MAX. ELEV.	MIN. ELEV.	INFLOW AC.-FT.
1920-32	N.R.	N.R.	N.R.	1939-40	1032.2	1010.0	1350
1932-33	1025.3	Dry	N.R.	1940-41	1042.6	991.0	27,010
1933-34	1039.5	Dry	2938	1941-42	1025.2	1012.5	689
1934-35	1027.7	Dry	3843	1942-43	1051.0	1009.7	25,660
1935-36	1031.6	1002.4	3457	1943-44	1048.0	984.7	8680
1936-37	1048.9	1003.2	12,030	1944-45	1034.5	984.7	2341
1937-38	1062.6	Dry	25,440	1945-46	1049.2	899.2	2994
1938-39	1029.1	Dry	3044	1946-47	1033.8	1008.0	4045
				1947-48	1019.5	1008.0	260

46. ELEVATION-AREA-CAPACITY DATA								
ELEVATION	AREA	CAPACITY	ELEVATION	AREA	CAPACITY	ELEVATION	AREA	CAPACITY
995		0	1070	209	5353			
1000	0.7	1.7	1072	212	5774			
1010	3	17.8						
1020	22	119						
1030	44	438						
1040	86	1062						
1050	119	2055						
1060	169	3477						

47. REMARKS AND REFERENCES

- 1/ After flood season, reservoir is used for conservation.
- 2/ In fall 1948.
- 3/ Based on summation of deposits listed in Item 37a. Deposition, if any, in years of sluicing is not included in the summation.
- 4/ Based on data in Item 32. Storage is regained by sluicing operations.

48. AGENCY SUPPLYING DATA	49. DATE
LACFCD & Co. of E.	12 March 1951

NR = no record; ND = not determined.

RESERVOIR SEDIMENT
DATA SUMMARY

DEPARTMENT OF THE ARMY
CORPS OF ENGINEERS

DEVIL'S GATE

NAME OF RESERVOIR

70-29a

DATA SHEET NO.

DAM	1. OWNER IACFD			2. STREAM Arroyo Seco			3. STATE California									
	4. SEC. Land TWP Grant RANGE			5. NEAREST P.O. Pasadena			6. COUNTY Los Angeles									
	7. LAT. 34° 11' 07" LONG 118° 10' 30"			8. TOP OF DAM ELEVATION 1070			9. SPILLWAY CREST ELEV. 1054									
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 1/		1054		160		4601		4601		June 1920					
	b. MULTIPLE USE															
	c. POWER															
	d. WATER SUPPLY										June 1920					
	e. IRRIGATION															
	f. CONSERVATION															
	g. INACTIVE															
17. LENGTH OF RESERVOIR 1.19 2/ MILES				AV. WIDTH OF RESERVOIR 0.183 2/ MILES												
18. TOTAL DRAINAGE AREA 31.9 SQ. MI.				22. MEAN ANNUAL PRECIPITATION 28.51 INCHES												
19. NET SEDIMENT CONTRIBUTING AREA 31.9 SQ. MI.				23. MEAN ANNUAL RUNOFF 4.55 INCHES												
20. LENGTH 8.8 MILES		AV. WIDTH 3.6+ MILES		24. MEAN ANNUAL RUNOFF 7750 (16) AC.-FT.												
21. MAX. ELEV. 6152		MIN. ELEV. 970		25. ANNUAL TEMP MEAN 62.2° RANGE 48.8°-75.6°												
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/I RATIO AC.-FT. PER AC.-FT.	
	1916						Contour		5'		160		4601		0.59	
	Jun 1933		13.0		13.0		"		5'		160		4554		.59	
	Sep 1934		1.2		14.2		"		5'		160		4127		.53	
	Jan 1935		.3		14.5		"		5'		160		3996		.52	
	Jun 1938		3.5		18.0		"		5'		130		2967		.38	
	Jan 1942		3.6		21.6		"		5'		130		2728		.35	
	Jan 1943		1.0		22.6		"		5'		130		2504		.32	
	Fall 1948		5.7		28.3		"		5'		140		2561		.33	
	26. DATE OF SURVEY		34. PERIOD ANNUAL PRECIPITATION		35. PERIOD WATER INFLOW, ACRE-FEET		36. WATER INFL. TO DATE, AC.-FT.									
	1916		25.0		ND		ND		ND		ND		ND		ND	
	Jun 1933		20.0		2,940		2,940		2,940		2,450		2,940		2,940	
	Sep 1934		71.0		2,780		2,780		2,060		3,130		5,000		5,000	
	Jan 1935		32.7		11,190		25,440		44,440		9,890		49,440		49,440	
	Jun 1938		32.6		11,510		27,010		32,240		9,500		81,680		81,680	
	Jan 1942		35.8		13,170		25,660		12,060		9,380		93,740		93,740	
	Jan 1943		24.7		4,390		27,060		32,870		8,200		126,610		126,610	
	Fall 1948															
	26. DATE OF SURVEY		37. PERIOD TOTAL		38. TOTAL SED. DEPOSITS TO DATE, ACRE-FEET											
	1916		47		0.11		47		3.6		0.11					
	Jun 1933		427		11.15		474		33.4		1.05					
	Sep 1934		131		13.69		605		41.7		1.31					
	Jan 1935		1029		9.22		1634		90.8		2.85					
	Jun 1938		239		2.08		1873		86.7		2.72					
	Jan 1942		224		7.02		2097		92.8		2.91					
	Jan 1943															
Fall 1948																
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								
Jun 1933				a. PERIOD		b. TOTAL TO DATE		a. AV. ANN.		b. TOT. TO DATE		a. PERIOD		b. TOT. TO DATE		
Sep 1934								0.08		1.0						
Jan 1935								.73		10.3						
Jun 1938								.91		13.1						
Jan 1942								1.97		35.5						
Jan 1943								1.88		40.7						
Fall 1948								2.02		45.5						
								1.61		44.4						

Sluicing increased storage capacity

26. DATE OF SURVEY	43. DEPTH DESIGNATION RANGE IN FEET BELOW, AND ABOVE, CREST ELEVATION														
	84-80	80-70	70-60	60-50	50-40	40-30	30-20	20-10	10-Crest						
	PERCENT OF TOTAL SEDIMENT LOCATED WITHIN DEPTH DESIGNATION														
Jun 1933		5	4				10		81						
Sep 1934	1	2	9	29	18	17	9	15							
Jan 1935			2	54	24	12	5		3						
Jun 1938				1	22	13	18	22	24						
Jan 1942					20	40	33	6	1						
Jan 1943					2	28	40	24	6						
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														
45. RANGE IN RESERVOIR OPERATION															
WATER YEAR	MAX. ELEV.	MIN. ELEV.	INFLOW, AC.-FT.	WATER YEAR	MAX. ELEV.	MIN. ELEV.	INFLOW, AC.-FT.								
1920-32	NR	NR	NR	1939-40	1032.2	1010.0	1350								
1932-33	1025.3	Dry	NR	1940-41	1042.6	991.0	27,010								
1033-34	1039.5	Dry	2938	1941-42	1025.2	1012.5	689								
1934-35	1027.7	Dry	3843	1942-43	1051.0	1009.7	25,660								
1935-36	1031.6	1002.4	3457	1943-44	1048.0	984.7	8680								
1936-37	1048.9	1003.2	12,030	1944-45	1034.5	984.7	2341								
1937-38	1062.6	Dry	25,440	1945-46	1049.2	899.2	2994								
1938-39	1029.1	Dry	3044	1946-47	1033.8	1008.0	4045								
				1947-48	1019.5	1008.0	260								
46. ELEVATION-AREA-CAPACITY DATA															
ELEVATION	AREA	CAPACITY	ELEVATION	AREA	CAPACITY	ELEVATION	AREA	CAPACITY							
995		0	1070	209	5353										
1000	0.7	1.7	1072	212	5774										
1010	3	17.8													
1020	22	119													
1030	44	438													
1040	86	1062													
1050	119	2055													
1060	169	3477													
47. REMARKS AND REFERENCES															
1/ Item 10a - After flood season, reservoir is used for conservation.															
2/ Item 17 - In fall 1948.															
3/ Item 25 - Temperature taken at Pasadena, California															
4/ Item 38 - Based on summation of deposits listed in Item 37a. Deposition, if any, in years of sluicing is not included in the summation.															
5/ Item 41b - Based on data in Item 32. Storage is regained by sluicing operations															
48. AGENCY MAKING SURVEY			LACFCD			50. DATE									
49. AGENCY SUPPLYING DATA			C of E			12 March 1951									

RESERVOIR SEDIMENTATION
DATA SUMMARY

Devils Gate Flood Control Basin

70-29a

NAME OF RESERVOIR

DATA SHEET NO.

DAM	1. OWNER LACFCD			2. RIVER Arroyo Seco			3. STATE California									
	4. SEC. TWP. RANGE			5. NEAREST TOWN Pasadena			6. COUNTY Los Angeles									
	7. STREAM BED ELEV. 970			8. TOP OF DAM ELEV. 1,070			9. SPILLWAY CREST ELEV. 1,054									
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		1,054		160		4,601		4,601 1/		June 1920					
	b. POWER															
	c. WATER SUPPLY															
	d. IRRIGATION										16. DATE NORMAL OPER. BEGAN					
	e. CONSERVATION															
	f. INACTIVE										June 1920					
17. LENGTH OF RESERVOIR 1.19			MILES			AV. WIDTH OF RESERVOIR .183			MILES							
WATERSHED	18. TOTAL DRAINAGE AREA 31.9				SQ. MI.				22. MEAN ANNUAL PRECIPITATION 26.3				INCHES			
	19. NET SEDIMENT CONTRIBUTING AREA 31.7				SQ. MI.				23. MEAN ANNUAL RUNOFF 3.38				INCHES			
	20. LENGTH 8.8				MILES				AV. WIDTH 3.6				MILES			
	24. MEAN ANNUAL RUNOFF 5,800 (.24)				AC.-FT.				25. CLIMATIC CLASSIFICATION Sub-humid							
	21. MAX. ELEV. 6,152				MIN. ELEV. 1,054											
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.	
	Sept. 1955		7.1		35.4		Contour		5'		126		2,709		85	
	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			
	Sept. 1955		20.7		2,070		11,510		14,720		4,000		141,330			
	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.-YR.		a. TOTAL TO DATE		b. AV. ANNUAL		c. PER SQ. MI.-YR.			
	Sept. 1955		129.5		18.2		.58		2,972		83.8		2.64			
	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. TO DATE		a. PERIOD		b. TO DATE			
Sept. 1955						1.82		41.1								

26. DATE OF SURVEY	43. DEPTH DESIGNATION RANGE IN FEET ABOVE, AND BELOW, CREST ELEVATION												
	PERCENT OF TOTAL SEDIMENT LOCATED WITHIN DEPTH DESIGNATION												
Sept. 1955	Sluicing & excavating.												

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															

45. RANGE IN RESERVOIR OPERATION							
WATER YEAR	MAX. ELEV.	MIN. ELEV.	INFLOW AC.-FT.	WATER YEAR	MAX. ELEV.	MIN. ELEV.	INFLOW AC.-FT.
1942-43	1051.0	1009.7	25,660	1950-51	1018.0	Dry	171
1943-44	1048.0	984.7	8,680	1951-52	1040.7	"	11,509
1944-45	1034.5	984.7	2,341	1952-53	1023.1	"	563
1945-46	1049.2	899.2	2,994	1953-54	1030.8	"	1,324
1946-47	1033.8	1008.0	4,045	1954-55	1021.4	"	651
1947-48	1019.5	1008.0	260				
1948-49	1018.5	Dry	185				
1949-50	1020.8	Dry	318				

46. ELEVATION-AREA-CAPACITY DATA (Sep 1955)								
ELEVATION	AREA	CAPACITY	ELEVATION	AREA	CAPACITY	ELEVATION	AREA	CAPACITY
995	.2	.1	1,040	86	1218.3			
1,000	.5	1.3	1,045	102	1680.4			
1,005	2	6.9	1,050	118	2221.4			
1,010	6	24.4	1,055	132	2837.8			
1,015	15	70.9	1,060	157	3547.7			
1,020	28	174.4	1,065	182	4385.5			
1,025	39	335.9	1,070	201	5344.2			

47. REMARKS AND REFERENCES

1/ Item 14 - After flood season, reservoir is used for conservation.

2/ Item 41 b - based upon storage values under Item 32

LACFCD & C OF E

48. AGENCY SUPPLYING DATA

49. DATE Feb. 1957

RESERVOIR SEDIMENT
DATA SUMMARY

DEPARTMENT OF THE ARMY
CORPS OF ENGINEERS

DEVILS GATE FLOOD CONTROL BASIN

NAME OF RESERVOIR

70-29b

DATA SHEET NO.

DAM	1. OWNER LACFCD			2. STREAM Arroyo Seco			3. STATE California																	
	4. SEC. Land TWP. Grant RANGE			5. NEAREST P O Pasadena			6. COUNTY Los Angeles																	
	7. LAT 34° 11' 07" N LONG 118° 09' 34" W			8. TOP OF DAM ELEVATION 1,070			9. SPILLWAY CREST ELEV. 1,054																	
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		1170		160		4,601		1/ 4,601		Jun 20													
	b. MULTIPLE USE																							
	c. POWER																							
	d. WATER SUPPLY										16. DATE NORMAL OPER. BEGAN													
	e. IRRIGATION										Jun 20													
	f. CONSERVATION																							
	g. INACTIVE																							
17. LENGTH OF RESERVOIR			1.19			MILES			AV. WIDTH OF RESERVOIR			.183			MILES									
WATERSHED	18. TOTAL DRAINAGE AREA				31.9				SQ. MI.				22. MEAN ANNUAL PRECIPITATION				23.45				INCHES			
	19. NET SEDIMENT CONTRIBUTING AREA				31.7				SQ. MI.				23. MEAN ANNUAL RUNOFF				3.86				INCHES			
	20. LENGTH		8.8		MILES		AV. WIDTH		3.6		MILES		24. MEAN ANNUAL RUNOFF				6,566 (38)				AC.-FT.			
	21. MAX. ELEV.		6,152		MIN. ELEV.		970		25. ANNUAL TEMP. MEAN				62.2°				RANGE 48.8°-75.6°							
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. CH. RATIO, AC.-FT. PER AC.-FT.									
	Jan 43		1.0		22.6		Contour		5'		130		2,504		.38									
	Fall 48		5.7		28.3		"		5'		140		2,561		.39									
	Jul 52		3.8		32.1		"		5'		130		2,630		.40									
	Sep 55		3.3		35.4		"		5'		126		2,709		.41									
	Dec 59		4.2		39.6		"		5'		134		2,839		.43									
	May 61		1.4		41.0		"		5'		134		2,886		.44									
	May 62		1.0		42.0		"		5'		134		2,749		.42									
	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											
	Jan 43		35.8		12,060		25,660		12,060		9,760		93,760											
Fall 48		24.7		5,770		25,660		32,870		8,280		126,610												
Jul 52		23.6		3,200		11,510		12,100		7,270		138,710												
Sep 55		20.7		2,070		11,510		14,720		6,310		153,430												
Dec 59		20.29		3,310		1,055		13,904		3,920		167,334												
May 61		12.63		1,454		1,035		2,035		3,836		169,369												
May 62		27.60		7,000		7,000		7,000		3,911		176,369												
26. DATE OF SURVEY		37. 3/ 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												
Jan 43		224		224		5.02		2,097		115		2.83												
Fall 48		286		50		1.25		2,383		101		2.82												
July 52		200		75.2		1.86		2,583		97.5		2.44												
Sep 55		129.5		18.2		.58		2,713		83.8		2.64												
Dec 59		84		20.0		.63		2,797		77.2		2.44												
May 61		216		154.3		4.87		3,013		79.8		2.52												
May 62		304		304.0		9.59		3,317		85.1		2.68												
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. ANN.		b. TOT. TO DATE		a. PERIOD		b. TOT. TO DATE										
Jan 43								2.46		45.6														
Fall 48								2.20		44.3														
Jul 52								2.12		42.7														
Sep 55								1.16		41.1														
Dec 59								.97		38.3														
May 61								.91		37.27														
May 62								.96		40.21														

26. DATE OF SURVEY	43. DEPTH DESIGNATION RANGE IN FEET BELOW, AND ABOVE, CREST ELEVATION													
	84-80	80-70	70-60	60-50	50-40	40-30	30-20	20-10	10-Crest					
PERCENT OF TOTAL SEDIMENT LOCATED WITHIN DEPTH DESIGNATION														
Jan 43					2	28	40	24	6					
Fall 48	Sluicing													
Sep 55	Sluicing and excavating.													
Dec 59	Excavation increased storage.													
May 61	Excavation increased storage.				1	6	17	25	25	26				
May 62														
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
PERCENT OF TOTAL SEDIMENT LOCATED WITHIN REACH DESIGNATION														
45. RANGE IN RESERVOIR OPERATION														
WATER YEAR	MAX. ELEV.	MIN. ELEV.	INFLOW, AC.-FT.	WATER YEAR	MAX. ELEV.	MIN. ELEV.	INFLOW, AC.-FT.							
1943-44	1048.0	984.7	8,680	1955-56	1037.0	Dry	2,229							
1944-45	1034.5	984.7	2,341	1956-57	1027.0	"	926							
1945-46	1042.9	989.2	2,994	1957-58	1043.8	"	9,642							
1946-47	1033.8	1008.0	4,045	1958-59	1032.9	"	1,055							
1947-48	1019.5	1008.0	260	1959-60	1027.0	986.0	1,052							
1948-49	1018.5	995.0	185	1960-61	1029.1	986.0	1,035							
1949-50	1020.8	Dry	318											
1950-51	1018.0	"	171											
1951-52	1040.7	"	11,509											
1952-53	1023.1	990.0	563											
1953-54	1030.8	990.0	1,324											
1954-55	1021.4	990.0	651											
46. ELEVATION-AREA-CAPACITY DATA														
ELEVATION	AREA	CAPACITY	ELEVATION	AREA	CAPACITY	ELEVATION	AREA	CAPACITY						
995	.01	0.1	1035	76.8	759.5	1075	223.7	6,571.0						
1000	.1	.5	1040	93.9	1188.0									
1005	.3	1.4	1045	103.6	1683.3									
1010	.7	3.6	1050	120.1	2237.4									
1015	2.1	8.6	1055	139.0	2886.8									
1020	17.3	48.3	1060	161.4	3633.2									
1025	36.4	184.6	1065	186.3	4504.0									
1030	58.3	419.7	1070	207.0	5488.9									
47. REMARKS AND REFERENCES														
1/ Item 14 - After flood season, reservoir is used for conservation.														
2/ Item 25 - Temperature taken at Pasadena, California.														
3/ Item 37 - Sediment removal at various times.														
48. AGENCY MAKING SURVEY LACFCD														
49. AGENCY SUPPLYING DATA C of E														
50. DATE 18 Feb 63														

RESERVOIR SEDIMENT
DATA SUMMARY

DEPARTMENT OF THE ARMY
CORPS OF ENGINEERS

Devils Gate Flood Control Basin
NAME OF RESERVOIR

70-29b

DATA SHEET NO.

DAM	1. OWNER <u>LACFCD</u>			2. STREAM <u>Arroyo Seco</u>			3. STATE <u>Calif</u>									
	4. SEC. <u>TWP</u> <u>RANGE</u>			5. NEAREST P O <u>Pasadena</u>			6. COUNTY <u>Los Angeles</u>									
	7. LAT. <u>"</u> <u>LONG</u>			8. TOP OF DAM ELEVATION <u>1,070</u>			9. SPILLWAY CREST ELEV. <u>1,054</u>									
RESERVOIR	10. STORAGE ALLOCATION		11. ELEVATION TOP OF POOL		12. ORIGINAL SURFACE AREA, ACRES		13. ORIGINAL CAPACITY, ACRE-Feet		14. GROSS STORAGE, 1/ACRE-Feet		15. DATE STORAGE BEGAN					
	a. FLOOD CONTROL		<u>1,054</u>		<u>160</u>		<u>4,601</u>		<u>4,601</u>		<u>Jun 20</u>					
	b. MULTIPLE USE															
	c. POWER															
	d. WATER SUPPLY										16. DATE NOR-MAL OPER. BEGAN					
	e. IRRIGATION															
	f. CONSERVATION										<u>Jun 20</u>					
	g. INACTIVE															
WATERSHED	17. LENGTH OF RESERVOIR <u>1.19</u> MILES				AV. WIDTH OF RESERVOIR <u>.183</u> MILES											
	18. TOTAL DRAINAGE AREA <u>31.9</u> SQ. MI.				22. MEAN ANNUAL PRECIPITATION <u>23.45</u> INCHES											
	19. NET SEDIMENT CONTRIBUTING AREA <u>31.7</u> SQ. MI.				23. MEAN ANNUAL RUNOFF <u>3.86</u> INCHES											
	20. LENGTH <u>8.8</u> MILES		AV. WIDTH <u>3.6</u> MILES		24. MEAN ANNUAL RUNOFF <u>6,566 (38)</u> AC.-FT.											
	21. MAX. ELEV. <u>6,152</u>		MIN. ELEV. <u>1,054</u>		25. ANNUAL TEMP MEAN <u>62.2</u> RANGE <u>48.8°-75.6°</u>											
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/I. RATIO, AC.-FT. PER AC.-FT.	
	Sep 66		4.3		46.3		Contour		5'		134		2,598		.50	
	Nov 69		3.2		49.5		"		5'		121		2,002		.30	
	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			
	Sep 66		20.03		4,522		15,516		19,447		4,229		195,816			
	Nov 69		33.47		21,302		44,819		68,165		5,333		263,981			
	26. DATE OF SURVEY		37. <u>2</u> 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			
	Sep 66		571		133		4.20		3,834		82.8		2.61			
Nov 69		743		232		7.32		4,577		92.5		2.92				
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. ANN.		b. TOT. TO DATE		a. PERIOD		b. TOT. TO DATE		
Sep 66								.94		43.5						
Nov 69								1.14		56.5						

26. DATE OF SURVEY	43. DEPTH DESIGNATION RANGE IN FEET BELOW, AND ABOVE, CREST ELEVATION													
	84-80	80-70	70-60	60-50	50-40	40-30	30-20	20-10	10-Crest					
	PERCENT OF TOTAL SEDIMENT LOCATED WITHIN DEPTH DESIGNATION													
Sep 66 Nov 69	Sluicing and excavating. Sluicing and excavating - 147 acre-feet													

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														

45. RANGE IN RESERVOIR OPERATION.							
WATER YEAR	MAX. ELEV.	MIN. ELEV.	INFLOW, AC.-FT.	WATER YEAR	MAX. ELEV.	MIN. ELEV.	INFLOW, AC.-FT.
1948-49	1018.5	995.0	185	1960-61	1029.1	986.0	1,035
1949-50	1020.8	Dry	318	1961-62	1048.6	985.9	7,014
1950-51	1018.0	Dry	171	1962-63	1035.3	991.9	1,215
1951-52	1040.7	Dry	11,509	1963-64	1029.8	991.8	860
1952-53	1023.1	990.0	563	1964-65	1039.1	991.8	1,721
1953-54	1030.8	990.0	1,324	1965-66	1049.4	986.0	15,516
1954-55	1021.4	990.0	651	1966-67	1052.9	1001.5	16,392
1955-56	1027.0	Dry	2,229	1967-68	1045.1	986.0	6,859
1956-57	1037.0	Dry	926	1968-69	1059.8	989.0	44,819
1957-58	1043.8	Dry	9,642				
1958-59	1032.9	Dry	1,055				
1959-60	1027.0	986.0	1,052				

46. ELEVATION-AREA-CAPACITY DATA								
ELEVATION	AREA	CAPACITY	ELEVATION	AREA	CAPACITY	ELEVATION	AREA	CAPACITY
995	0	0	1030	33.0	224	1065	176	3643
1000	.16	.41	1035	44.5	421	1070	204	4612
1005	.33	1.73	1040	61.6	693	1075	227	5702
1010	.45	3.73	1045	83.1	1065			
1015	1.05	7.31	1050	104	1543			
1020	3.5	18.3	1055	125	2127			
1025	21.0	78.1	1060	148	2821			

47. REMARKS AND REFERENCES

1/ Item 14 - After flood season, reservoir is used for conservation

2/ Item 37 - Sediment removal at various times.

3/ Item 25 - Temperature taken at Pasadena, California.

48. AGENCY MAKING SURVEY LACFCD

49. AGENCY SUPPLYING DATA C of E

50. DATE 11 Feb 71

RESERVOIR SEDIMENT
DATA SUMMARY

DEPARTMENT OF THE ARMY
CORPS OF ENGINEERS

Devils Gate Flood Control Basin

NAME OF RESERVOIR

70-29c

DATA SHEET NO.

DAM	1. OWNER LACFCD			2. STREAM Arroyo Seco			3. STATE California						
	4. SEC. Land TWP Grant RANGE			5. NEAREST P.O. Pasadena			6. COUNTY Los Angeles						
	7. LAT 34° 11 ' 07 " LONG 118° 09 ' 34 "			8. TOP OF DAM ELEVATION 1,070			9. SPILLWAY CREST ELEV. 1,054						
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		1,054		160		4,601		4,601		Jun '20		
	b. MULTIPLE USE												
	c. POWER										16. DATE NORMAL OPER. BEGAN Jun '20		
	d. WATER SUPPLY												
	e. IRRIGATION												
	f. CONSERVATION												
g. INACTIVE													
17. LENGTH OF RESERVOIR 1.19 MILES			AV. WIDTH OF RESERVOIR .183 MILES										
WATERSHED	18. TOTAL DRAINAGE AREA 31.9 SQ. MI.				22. MEAN ANNUAL PRECIPITATION 23.45 INCHES								
	19. NET SEDIMENT CONTRIBUTING AREA 31.7 SQ. MI.				23. MEAN ANNUAL RUNOFF 3.86 INCHES								
	20. LENGTH 8.8 MILES		AV. WIDTH 3.6 MILES		24. MEAN ANNUAL RUNOFF 6,566(38) AC-F.T.								
	21. MAX. ELEV. 6,152		MIN. ELEV. 970		25. ANNUAL TEMP. MEAN 62.2° RANGE 48.8°-75.6°								
	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-F.T. PER AC-F.T.
Sep 66		4.3	46.3	Contour		5'		134		2,598		.40	
Nov 69		3.2	49.5	"		5'		121		2,002		.30	
Dec 71		2.08	51.58	"		5'		124		1,928		.29	
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			
Sep 66		20.03		4,522	15,516	19,447		4,229		195,816			
Nov 69		33.47		21,302	44,819	68,165		5,333		263,981			
Dec 71		19.58		2,863	3,010	5,954		5,233		269,935			
26. DATE OF SURVEY		37. 2/ 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					
Sep 66		571	123	4.20	3,834		82.8	2.61					
Nov 69		743	232	7.32	4,577		92.5	2.92					
Dec 71		74	35.6	1.12	4,651		90.2	2.85					
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. ANN.	b. TOT. TO DATE	a. PERIOD		b. TOT. TO DATE			
Sep 66						.94	43.5						
Nov 69						1.14	56.5						
Dec 71						1.13	58.1						

26. DATE OF SURVEY	43. DEPTH DESIGNATION RANGE IN FEET BELOW, AND ABOVE, CREST ELEVATION														
	84-80	80-70	70-60	60-50	50-40	40-30	30-20	20-10	10-Crest						
	PERCENT OF TOTAL SEDIMENT LOCATED WITHIN DEPTH DESIGNATION														
Sep 66 Nov 69 Dec 71	Sluicing and excavation. Sluicing and excavating - 147 acre-feet														
			+2	+7	-4	+60	+66	-31							
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														
45. RANGE IN RESERVOIR OPERATION															
WATER YEAR	MAX. ELEV.	MIN. ELEV.	INFLOW, AC.-FT.	WATER YEAR	MAX. ELEV.	MIN. ELEV.	INFLOW, AC.-FT.								
1948-49	1018.5	995.0	185	1960-61	1029.1	986.0	1,035								
1949-50	1020.8	Dry	318	1961-62	1048.6	985.9	7,014								
1950-51	1018.0	Dry	171	1962-63	1035.3	991.9	1,215								
1951-52	1040.7	Dry	11,509	1963-64	1029.8	991.8	860								
1952-53	1023.1	990.0	563	1964-65	1039.1	991.8	1,721								
1953-54	1030.8	990.0	1,324	1965-66	1049.4	986.0	15,516								
1954-55	1021.4	990.0	651	1966-67	1052.9	1001.5	16,392								
1955-56	1027.0	Dry	2,229	1967-68	1045.1	986.0	6,859								
1956-57	1037.0	Dry	926	1968-69	1059.8	989.0	44,819								
1957-58	1043.8	Dry	9,642	1969-70	1040.0	995.0	2,109								
1958-59	1032.9	Dry	1,055	1970-71	1046.9	995.0	3,010								
1959-60	1027.0	986.0	1,052												
46. ELEVATION-AREA-CAPACITY DATA															
ELEVATION	AREA	CAPACITY	ELEVATION	AREA	CAPACITY	ELEVATION	AREA	CAPACITY							
1014	0	0	1045	87.1	970										
1015	1.01	.63	1050	109	1458										
1020	4.58	12.2	1055	127	2057										
1025	22.7	74.5	1060	159	2784										
1030	28.7	209	1065	184	3645										
1035	34.0	362	1070	198	4601										
1040	62.3	590	1075	228	5656										
47. REMARKS AND REFERENCES															
1 Item 14 - After flood season, reservoir is used for conservation.															
2 Item 37 - Sediment removal at various times.															
3 Item 25 - Temperature taken at Pasadena, California.															
48. AGENCY MAKING SURVEY LACFCD															
49. AGENCY SUPPLYING DATA C of E															
50. DATE 12 Feb 73															