From the papers of Ed Fletcher:

From the papers of the Cuyamaca Water Company, the File #129 labeled "Rebates for Jan-Feb 1916" the following correspondence was removed to the alphabetized correspondence files:

IN-HOUSE:
FAUDE, F.M.
Fletcher to Faude, January 25, 1916
Fletcher to Faude, February 8, 1916
Fletcher to Faude, March 20, 1916
Faude to Fletcher, March 21, 1916
Fletcher to Faude, March 22, 1916
Faude to Fletcher, March 27, 1916
Faude to Fletcher, March 27, 1916 (second note)
Faude to Fletcher, March 31, 1916
Fletcher to Faude, May 2, 1916
Faude to Fletcher, May 8, 1916

RAILROAD COMMISSION OF THE STATE OF CALIFORNIA:
Fletcher to Commission, January 28, 1916
Commission to Fletcher, January 31, 1916
Fletcher to Commission, March 27, 1916
DETRICK, Charles R., Secretary, Railroad Commission:
Detrick to Cuyamaca Water, March 10, 1916
Detrick to Cuyamaca, March 24, 1916
Fletcher to Detrick, April 21, 1916
Detrick to Cuyamaca, April 27, 1916

CUSTOMERS: (All January - May, 1916)
DELACOUR, E.W.S.
GORDON, D.G.
GRAYBIEL, Adelaide
KILPATRICK, William
LIFFREING, Julia
LOOMIS, F.B. (Loomis & Loomis Cleaners)
MARTIN, Ralph W.
MOYER, E.W.
NICHOLS, C.O. (Manager, Bostonia Fruit Growers & Packers Company)
SCOTT, Mrs. G.W.
SPRINGSTEAD, F.A.

ALSO: CORRES ABOUT INFORMAL COMPLAINTS
8104 - FELIX BARRON (FILE # 139)
9017 - H.W. ROWLAND (" # 141)
filed under R.R. COM & DETRICK, CHAS R.

Exhibit No.

CUYAMACA WATER COMPANY

TABULATION SHOWING QUANTITIES OF WATER SOLD TO CITY OF SAN DIEGO DURING YEARS, 1914, 1915 and 1916.

Months.	Quantities Sold in 1914 in hundreds of cubic feet.	Quantities Sold in 1915 in hundreds of cubic ft.	Quantities Sold in 1916 in hundreds of cubic feet
January	0.0	42637.0	0.0
February	0.0	107760.0	174422.9
March	43520.0	83109.0	192757.0
April	74961.3	125458.0	154674.4
May	83301.5	78159.0	160596.4
June	12167.0	63643.8	0.0
July	0.0	0.0	0.0
August	0.0	0.0	0.0
September	0.0	0.0	0.0
October	0.0	0.0	0.0
November	0.0	0.0	0.0
December	15026.0	0.0	0.0
Total	228975.8	500766.8	682450.7

Railroad Commission's Exhibit A on Supplemental Hearing.

CUYAMACA WATER COMPANY

Statement of Operating Expenses and Revenue for years 1914,1915 and first six months of 1916.

EXPENSES	1914		1915		Jan.1 to June 30 1916	
Pumping Expenses						
Superintendence	1,355.00		-----		-----	
Labor	3,259.55		293.90		116.90	
Fuel for Steam	925.25		24.40		-----	
Power purchased	5,770.49		607.56		818.90	
Lubricants	42.06		4.90		-----	
Purification Supplies and Expenses	58.91		272.20		1,186.51	
Miscellaneous " " "	372.76		461.98		793.47	
Repairs to Pumping Equipment	1,613.81		241.93		180.26	
Repairs to Pumping Station Equip.	103.93		20.88		-----	
Repairs to Surface source of supply	163.22		-----		-----	
Repairs to Pumping Buildings etc.	107.21		-----		-----	
Total Pumping Expense		13,570.17		1,927.75		3,096.04
Distribution Expenses						
Patrolling Storage Facilities	5,230.24		436.55		-----	
Meter and Fittings Dept.Exp.& Sup.	312.76		692.91		289.42	
Repairs to Transmission Mains	174.25		7,736.54		4,683.96	
Repairs to Reservoirs etc.	628.72		1,701.95		2,658.51	
Repairs to Distribution Mains	6,893.46		5,049.01		5,353.62	
Repairs to Services	659.16		1,408.71		465.48	
Repairs to Distribution Buildings etc.	51.24		18.37		-----	
Repairs to Miscellaneous Equipment	340.86		81.21		-----	
Total Distribution Expenses		14,300.69		17,125.35		13,450.99
Commercial Expenses						
Collections, Reading Meters,etc.	1,958.23		441.15		120.50	
Promotion of Business-Salaries & Exp.	2,433.87	4,392.10	38.00	479.15	-----	120.50
Forward to page 2		32,262.96		19,532.25		16,667.53

Railroad Commission's Exhibit A on Supplemental Hearing.

		1914		1915		1916
Brought Forward		32,262.96		19,552.25		16,667.53
General Expenses						
Salaries of General Officers	8,400.00		10,393.55		4,623.50	
" " " Clerks	1,896.65		2,485.25		1,421.30	
Office supplies and expenses	2,498.55		2,417.22		1,271.94	
Law Expenses-General	2,151.57		156.25		1,287.58	
Railroad Commission Expenses	8,958.16		17,813.32		2,412.67	
Injuries and Damages	57.50		-------		-------	
Other General Expenses	544.96		1,634.95		909.49	
Insurance	1,453.78		651.59		321.64	
Repairs to Gen. Structures	9.15		448.30		127.52	
" " " Equipment	1,417.72		1,817.63		684.16	
Taxes	1,520.40		2,600.99		1,408.25	
Total General Expenses		28,908.44		40,419.05		14,467.95
DEPRECIATION	-------		41,104.00	41,104.00		
Extraordinary Expenses (Flood Damage)	-------		-------		30,711.42	
Total Extraordinary Repairs						30,711.42
TOTAL OPERATING EXPENSES		61,171.40		101,055.30		61,845.90
R E V E N U E						
Commercial Earnings (Metered)	20,178.17		20,323.09		10,154.44	
Earnings from Irrigation	15,475.08		25,178.78		12,739.52	
Sales to City of San Diego	16,046.24		34,884.64		51,054.14	
Miscellaneous Earnings	599.70		1,369.47		381.46	
Total Revenue		52,299.19		81,755.98		74,329.56

Railroad Commission's Exhibit A on Supplemental Hearing.

R E C A P I T U L A T I O N

	1914	1915	Jan.1 to June 30 1916
REVENUE	$2,299.19	$1,755.98	74,329.56
Expenses from operation	61,171.40	101,055.30	61,846.90
Loss or gain from operation	$8,872.21	$19,299.32	$12,482.66

$ - Credit.

Railroad Commission's Exhibit C on Supplemental Hearing.

CUYAMACA WATER COMPANY

Estimate of Cost and Depreciation of Physical Structures.

By Commission Engineers Modification to Date.

	Reproduction Cost	Annual Depreciation St.Line	Accrued Depreciation	Cost Less Dep.
Appraisal in Testimony	$1,252,332	$44,514	$593,920	$658,412
13 years depreciation			66,771	
Additional Capital (Books)	11,284	565	90	11,194
TOTAL	1,263,616	45,079	660,781	602,835
Flood Destruction				
Pump Plant #4	565	28	56	509
" " Sand Creek	3,825	230	460	3,365
" " Chocolate	7,247	396	792	6,455
Diverting Dam Sundry	750	10	200	550
South Fork Diversion	600	20	500	100
" " Steel Flume	120	4	12	108
Sand Creek Syphon	450	9	27	423
Chocolate Syphon	500	17	33	467
2500 Ft. Main Flume	8,750	500	6,375	2,375
TOTAL DESTROYED	22,807	1,214	8,455	14,352
Flood Repair-Replacement and Addition				
Retreiving and Storing Equip.	2,000			2,000
Diverting Dam Sundry	750	10		750
South Fork Diversion	500	10		500
" " Intake	150	10		150
Sand Creek Syphon	800	16		800
Chocolate "	500	17		500
2500 Ft. Main Flume	8,750	500		8,750
Telephone Line-Betterment	1,000	50		1,000
TOTAL ADDED	14,450	613		14,450
Net Change	8,357	601		98
RESULTING TOTAL	1,255,259	44,478	652,326	602,933

Railroad Commission's Exhibit C on Supplemental Hearing.

CUYAMACA WATER COMPANY

Statement of Eliminations from Company to obtain Net Current Maintenance and Operation Cost.

		1914	1915	1916
Estimated Replacement				
Repairs	Trans. Mains			
	Materials			$500
	Labor	$800		500
	General 10%			100
Repair	Reservoirs			
	Materials	100		500
	Labor	100		500
	General 10%	20		100
Repair	Dist. Mains			
	Materials	400		1,000
	Labor	1,000		500
	General 10%	140		150
Repair	Services and Meters			
	Materials		$300	
	Labor		400	
	General 10%		70	
General on Admitted Capital 5%		8,721	1,794	555
General Officers Salaries			2,206	
Extraordinary				
Railroad Comm. Exp. (Allowed at $2500)		6,258	15,213	1,163
Flood Repair				
	Replacement			13,000
	Repair			17,711
	City Payt. Connection Capital			308
	Temporary			1,000
General on Flood Expense at 5%				1,536
	Total	$15,939	$20,083	$39,123
	Amounts Recorded	61,171	59,951	61,847
	Current Charge	$45,632	$39,868	$22,724

Railroad Commission's Exhibit C on Supplemental Hearing.

CUYAMACA WATER COMPANY

COMPARISON ESTIMATES AND RECORDS
MAINTENANCE AND OPERATION
1915

Accounts	Estimate Company's Engineers	Estimate C Commission's Engineers	Company Books	Eliminating Replacements, etc.
Purification	$ 75	75	272	272
Patrol & Repair Storage	2,410	1,982	2,139	2,139
Meter and Service	1,000	900	2,102	1,352
Repairs to Flume Line	15,500	9,115	7,737	7,737
Repairs to Dist. Mains	4,600	4,500	5,048	5,048
Salaries Officers, etc.	12,120	8,000	13,357	9,357
Misc. Supplies	2,500	1,993	2,417	2,417
Legal Expense	1,200	600	156	156
Damages	50	50	--	--
Insurance	2,900	753	652	652
General Structures	350	350	448	448
General Equipment	1,820	1,760	1,918	1,918
Taxes	2,450	2,450	2,601	2,601
General Engineering	1,000	1,200	1,635	1,635
Pumping Cost	16,850	10,550	1,656	1,656
Usual Expense	64,825	44,278	42,138	37,368
Extraordinary	500	500		
Commission Expense	2,500	1,500	17,813	2,500
	3,000	2,000	17,813	2,500
GRAND TOTAL	67,825	46,278	59,951	39,868

Exhibit #67 proposes $2,500 amortization of Commission Expenses, added to other actual cost is $44,638 - $1,640 less than provided by J. Armstrong, Commission Engineer.

Railroad Commission's Exhibit C on Supplemental Hearing .

CUYAMACA WATER COMPANY

Flood Damage of 1916 and Expenditures,

REPAIRS, REPLACEMENT, ETC.

Company's Account to June 30			$30,711
Reductions:			
Equipment camp tools etc., total $728 Est. 2/3 Value	$486		
Pumps valves etc., Total $403 Est. 3/4	302	788	
Post Expenditure chargeable to Flood			$29923
Estimated Further Expense-Faude		26,320	
Reductions:			
Overestimate Diverting Dam	$1,000		
South Fork Flume Repairs	400		
Probable permanent eliminations			
Pump Plant #4	600		
" " Sand Creek	3,350		
" " Chocolate	6,095		
Telephone Line Repairs	500	11,945	
Probable Further Expense			14375
Total Cost, tentatively accepted			44298
General 5%			2215
Expenditure considered Replacement and Addition			14450
Net Cost of repair and Temporary Investment			$32063
Additional Property Destroyed			14352
TOTAL FLOOD DAMAGE			$46415

Railroad Commission's Exhibit C on Supplemental Hearing.

CUYAMACA WATER COMPANY
PROBABLE AVERAGE ANNUAL EXPENSE
FOR MAINTENANCE & OPERATION

E 2-6-7				
9-10-18	**Pumping Expense**			
	El Monte Plant one year in two	$2500		
	La Mesa Plant #1 one year in four	1400		
	Grossmont and Miles Plants	870	$4770	
E 8-17	**Purification Expense**		750	
	Total Pumping Cost			$5520
	Distribution Expense			
E 19	Patrolling Storage Facilities		1320	
E 20	Meter Repair & Supplies		500	
E 23	Transmission Mains-Repair-etc			
	Foreman	1200		
	Patrolmen	2520		
	Repair & Cleaning	3200		
	Roads, etc.	400		
	Repair Lining	1000	8320	
E 24	Repairs to Reservoirs, etc.		800	
E 25	Distribution Mains		5000	
E 27	Services		700	
E 29-30	Repairs Buildings & Equipment		200	
	Total Distribution Cost			16840
E 31-32	**Commercial Expense**			500
	General Expense			
E 33	Salaries General Officers			
	Manager(or Directors Fee & Exp.	2000		
	Assistant Manager	2400		
	Superintendent	2100	6500	
E 34	General Office Clerks		2600	
E 35	Office Supplies & Expense		2500	
E 36	Law Expense		1000	
E 37	Railroad Commission Expense			
	1912 to Completion of present proceedings.			
	Estimated Total $45,000			
	Chargeable to General Value			
	Further Development $10,000			
	Involved in Sales $25,000			
	Average Recoverance		2000	
E 42	Insurance		800	
E 43	Repair General Structures		350	
E 44	Up Keep General Equipment		1760	
	General Engineering		1200	
			$18710	

Railroad Commission's Exhibit C on Supplemental Hearing.

	Brought Forward		$22860
	Total General	$18710	
	Deduct for overhead Replacements etc.	2000	~~16710~~
	Net General Cost		$16710
	Extraordinary Flood Expense		
	Total Estimate $46,415 Minimum probable period between such disaster 20 years		
	Allowance say		2500
E 50	Taxes		2500
	TOTAL M. & O. EXPENSE		$44670

Statement Showing Value of Cuyamaca Water Company's System, July 1st, 1916, for Rate Fixing Purposes Based upon Commission's Valuation of $483,134 as of June 1st, 1912, Plus Expenditures since that Date, Interest, etc., and Mimms Property Abandoned.

Value of System as of June 1st, 1912 as fixed by R R Commission Decision No. 536 in Application No. 118 ----------		$ 483,134
Since June 1st, 1912 certain structures have been completely replaced. These abandonments necessitate the following deductions:		
Flume ----------	$ 3,688	
Real Estate ----------	16,687	
Telephone Lines ----------	1,170	
Pipe System ----------	6,182	
Total Deductions ----------		27,727
Leaving a Total of ----------		$ 455,407
Since June 1st, 1912 Depreciation has accrued for 4 years. As the revenue has not been sufficient to cover depreciation, no deduction should be made.		
To the above total of $455,407 should be added interest at 8% for 4 years or ----------		145,730
A total of ----------		$ 601,137
Since June 1st, 1912 the Company has expended for the used and useful structures the following amounts:		
June 1st to Dec. 31, 1912 --------	$ 29,185	
Year 1913 ----------	88,104	
" 1914 ----------	164,061	
" 1915 ----------	31,563	
Jan. 1st to June 1st, 1916 -------	11,095	
Total ----------		324,008
Forward ----------		$ 925,145

Brought Forward ----------		$925,145
These structures have depreciated but revenue since June 1st 1910 has been sufficient to cover only maintenance and operation expense and to provide $2908 towards depreciation therefore a deduction should be made of		2,908
Leaving		922,237
Interest at 8% should be added as follows:		
Year 1912 - $ 29,185 for 3 years 9 mos. -	$ 8756	
" 1913 - 88,104 " 3 " ----------	21145	
" 1914 - 164,061 " 2 " ----------	26250	
" 1915 - 31,563 " 1 " ----------	2525	
" 1916 - 11,095 " 3 mos. ---------	222	
A Total of ----------		58,898
Making a Total Value for rate fixing Purposes as of July 1st 1916 ----------		$981,135

DETAILS OF DEDUCTIONS

Flume			Reprod. Cost	Total Deprec.	Reprod. Cost Less Deprec.
Clearing 3 acres		at 8.50	$ 7	$ 2	$ 5
Earth Excav.	1,554 Cu.yds	at .50	777	186	591
Rock "	103 "	at 1.25	129	31	98
Redwood Lumber	274 MBM	at 47.50	13,015)		
R O P "	128 MBM	at 34.50	4,416)	16,378	1,365
Tarring & Caulking	60M.LinFt.	5.20	312)		
Tunnel Lining	41 MBM	at 30.00	1,230	295	935
			19,886	16,892	2,994
Add 23.2% Overhead ----------			4,613	3,919	694
Total for Flume ----------			24,499	20,811	3,688

Real Estate

Valuation of 1912 covered 1675 acres of land at Cuyamaca Reservoir. Only 1074 acres are actually required for which a deduction should be made amounting to ---------- 15,000.00

Valuation of 1912 covered 26.2 acres of land at Murray Hill Reservoir. Only 16.16 acres are actually required. Therefore deduction should be made for 10.04 acres at $150 plus 12% overhead or ---------- 1,686.72

Making a total with overhead of ---------- $16,686.72

Telephone Lines			
Totals with overhead ----------	$ 2,340	$ 1,170	$ 1,170

Pipe System			
15" Riv.Steel Pipe - 1361' at 0.96	$ 1,307	$ 1,206	$ 101
20" " " " - 5306' at 1.27	6,739	3,851	2,888
18" Wood Stave " - 127' at 1.46	185	130	55
20" " " " - 6940' at 1.25	8,675	6,850	1,825
8" " " " - 400' at 0.51	204	179	25
2" Std Pipe - 1682' at 0.19	320	294	26
	17,430	12,510	4,920
Add 2% for Valves & Fittings	348	250	98
	17,778	12,760	5,018
Add 23.2% for overhead	4,124	2,960	1,164
	21,902	15,720	6,182

STATEMENT SHOWING CONSUMPTION OF WATER

CITY OF SAN DIEGO SYSTEM

Month	Within City: Million Gallons	Within City: Average Million Gallons Per day	Outside City: Million Gallons	Outside City: Average Million Gallons Per day	Total: Million Gallons	Total: Average Million Gallons Per day
Year 1913						
January	157.94	5.09	-		157.94	5.09
February	139.24	4.97	7.76	.28	147.00	5.25
March	176.64	5.70	12.55	.40	189.19	6.10
April	219.85	7.33	16.07	.53	235.92	7.86
May	246.99	7.97	20.32	.65	267.31	8.62
June	225.18	7.51	20.22	.64	245.40	8.15
July	259.87	8.39	27.66	.89	287.53	9.28
August	264.34	8.54	30.26	.97	294.60	9.51
September	251.85	8.40	26.52	.88	278.37	9.28
October	246.33	7.95	22.56	.72	268.89	8.67
November	157.78	5.26	13.47	.45	171.25	5.71
December	155.65	5.02	10.25	.33	165.90	5.35
Totals	2,501.66	6.85	207.64	.57	2,709.30	7.42
Year 1914						
January	146.09	4.71	10.25	.33	156.34	5.04
February	140.15	5.01	12.40	.40	152.55	5.41
March	210.75	6.80	9.03	.29	219.78	7.09
April	209.60	6.99	20.67	.68	230.27	7.67
May	243.07	7.84	18.28	.59	261.35	8.43
June	272.51	9.08	26.68	.88	298.99	9.96
July	292.45	9.43	27.12	.87	319.57	10.30
August	291.33	9.40	37.22	1.20	328.55	10.60
September	255.02	8.50	34.59	1.15	289.61	9.65
October	216.59	6.99	31.91	1.03	248.50	8.02
November	191.49	6.38	21.21	.71	212.70	7.09
December	170.38	5.50	15.29	.49	185.67	5.99
Totals	2,639.23	7.23	264.65	.73	2,903.88	7.96

STATEMENT SHOWING CONSUMPTION OF WATER

CITY OF SAN DIEGO SYSTEM

Year 1915

Month	Within City: Million Gallons	Within City: Average Million Gallons per day	Outside City: Million Gallons	Outside City: Average Million Gallons per day	Total: Million Gallons	Total: Average Million Gallons per day
January	175.07	5.65	12.65	0.41	187.72	6.06
February	142.89	5.10	12.82	0.45	155.71	5.55
March	218.00	7.03	17.66	0.57	235.66	7.60
April	211.93	7.06	26.49	0.88	238.42	7.94
May	232.76	7.51	24.88	0.80	257.64	8.31
June	263.59	8.78	38.88	1.30	302.47	10.08
July	320.33	10.33	37.97	1.22	358.30	11.55
August	331.47	10.70	41.09	1.32	372.56	12.02
September	263.12	8.77	33.10	1.10	296.22	9.87
October	267.45	8.63	27.85	0.90	295.30	9.53
November	207.13	6.90	18.32	0.61	225.45	7.51
December	177.49	5.72	14.33	0.46	191.82	6.18
For Year	2,811.23	7.70	306.04	0.84	3,117.27	8.54

Year 1916

Month	Within City: Million Gallons	Within City: Average Million Gallons per day	Outside City: Million Gallons	Outside City: Average Million Gallons per day	Total: Million Gallons	Total: Average Million Gallons per day
January	162.27	5.23	11.31	0.37	173.58	5.60
February	157.94	5.45	12.91	0.45	170.85	5.90
March	246.44	7.95	13.55	0.44	259.99	8.39
April	226.94	7.56	21.79	0.72	248.73	8.28
May	321.63	10.37	18.14	0.59	339.77	10.96

CUYAMACA WATER COMPANY

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E X P E N S E S	1914		1915		Jan.1 to June 30 1916	
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Railroad Commission Expenses	8,958.16		17,813.32	2,412.67
Injuries and Damages	57.50		------	------
Other General Expenses	544.96		1,634.95	909.49
Insurance	1,453.78		651.59	321.64
Repairs to Gen.Structures	9.15		448.30	127.32
" " " Equipment	1,417.72		1,817.63	684.16
Taxes	1,520.40		2,600.99	1,408.25
Total General Expenses		28,908.44	40,419.05	14,467.95
DEPRECIATION	------		41,104.00	
			41,104.00	
Extraordinary Expenses (Flood Damage)---			------	30,711.42
Total Extraordinary Repairs				30,711.42
TOTAL OPERATING EXPENSES		61,171.40	101,055.30	61,846.90
R E V E N U E				
Commercial Earnings (Metered)	20,178.17		20,323.09	10,154.44
Earnings from Irrigation	15,475.08		25,178.78	12,739.52
Sales to City of San Diego	16,046.24		34,884.64	51,054.14
Miscellaneous Earnings	599.70		1,369.47	381.46
Total Revenue		52,299.19	81,755.98	74,329.56

R E C A P I T U L A T I O N

	1914	1915	Jan. 1 to June 30 1916
Revenue	52,299.19	81,755.98	74,329.56
Expenses from operation	61,171.40	101,055.30	61,846.90
Loss or gain Operation	8,872.21#	19,299.32#	12,482.66

= Loss

CUYAMACA WATER COMPANY

COMPARATIVE STATEMENT OF OPERATING EXPENSES AND REVENUE FOR THE FISCAL YEARS 1914-15 AND 1915-16.

	1914-15		1915-16	
PUMPING EXPENSES				
Superintendence	$ 900.00		$ -------	
Labor	2,836.05		197.40	
Fuel for Steam	747.63		-------	
Power purchased	6,037.14		1,130.91	
Lubricants	40.56		-------	
Purification Supplies and Expenses	116.78		1,341.93	
Misc. Supplies & Expenses	340.05		1,138.25	
Repairs to Pumping Equipment	406.26		213.40	
Repairs to Station Aux.Equipt.	100.30		-------	
Repairs to Pumping Sta.Bldgs.,etc.	62.76		-------	
TOTAL PUMPING EXPENSES		11,587.53		4,021.89
DISTRIBUTION EXPENSES				
Patrolling Storage Facilities	$2,751.26		-------	
Meter & Fittings Dept.Supplies & Expenses	486.35		703.51	
Repairs to Transmission Mains	3,895.49		8,535.01	
Repairs to Extraordinary Mains	-------		30,711.42	
Repairs to Reservoirs,Tanks,etc.	1,243.16		3,539.85	
Repairs to Distribution Mains	6,925.64		7,017.23	
Repairs to Services	298.53		1,575.36	
Repairs to Distribution Bldgs.,etc.	66.11		-------	
Repairs to Misc. Equipment	354.02		-------	
TOTAL DISTRIBUTION EXPENSES . . .		16,020.56		52,082.38
COMMERCIAL EXPENSES				
Coll.,Reading Meters, etc.	1,098.70		324.10	
Promotion of Business,Salaries & Expenses	1,650.20		-------	
TOTAL COMMERCIAL EXPENSES		2,748.90		324.10
GENERAL EXPENSES				
Salaries of General Officers	8,100.00		10,017.05	
Salaries of Clerks	2,208.50		2,577.05	
Misc. Off.Supplies & Expenses	2,232.10		2,614.94	
Law Expenses-General	1,193.07		1,287.68	
Railroad Commission Expenses	19,165.47		5,733.02	
Other General Expenses	1,090.13		1,771.77	
Insurance	1,567.01		600.79	
Repairs to General Structures	273.86		309.91	
" " " Equipment	1,409.15		1,689.94	
Taxes	1,945.78		2,823.46	
TOTAL GENERAL EXPENSES		39,185.08		29,425.61
DEPRECIATION	-------	-------	41,104.00	41,104.00
TOTAL OPERATING EXPENSES		$69,542.07		$126,957.98

REVENUE

	1914-15	1915-16
COmmercial Earnings	19,073.09	21,752.32
Irrigation "	20,392.48	25,908.65
Sales to City of San Diego	34,884.64	51,054.14
Miscellaneous	808.93	1,066.20
Total Sales	75,159.14	99,781.31

R E C A P I T U L A T I O N

REvenue	75,159.14	99,781.31
Expenses	69,542.07	126,957.98
	5,617.07	# 27,176.67

Deficit.

CUYAMACA WATER COMPANY

STATEMENT SHOWING MAINTENANCE AND OPERATION EXPENSE,

REVENUE, DEPRECIATION, ETC.

JANUARY 1st to JUNE 30th 1915

Maintenance & Operation Expense	$35624	
Depreciation	20552	
		56176
Revenue		56226
Profit		50

JULY 1st to DECEMBER 31st 1915

Maintenance & Operation Expense	$21091	
Depreciation	20552	
		41643
Revenue		25530
Deficit		16113

JANUARY 1st to JUNE 30th 1916

Maintenance & Operation Expense	$61794	
Depreciation	20552	
		82346
Revenue		74586
Deficit		7760

CUYAMACA WATER COMPANY

STATEMENT SHOWING MAINTENANCE AND OPERATION EXPENSE

YEAR 1915.

	Jan.1st to June 30th	July 1st to Dec. 31st	Total
Pumping Expenses	$ 292	$ 829	$ 1121
Purification of Water	117	165	282
Meters	276	414	690
Flume	4116	3770	7886
La Mesa Ditch	400	71	471
Cuyamaca Reservoir	468	429	897
La Mesa "	331	330	661
Murray Hill "	91	118	209
Other Reservoirs		5	5
Distribution Mains	3346	1674	5020
Services	308	1109	1417
Meter Readings & Collections	216	204	420
Salaries of Officers	5000	5394	10394
" " " Clerks & Stenographers	1330	1157	2487
Office Supplies & Expense	1140	1347	2487
Legal Expense	156		156
Expense of Hearings before Commission	14313	321	14634
Fire Insurance	41		41
Casualty Insurance	320	280	600
Buildings & Grounds	269	182	451
Auto Repairs & Supplies	428	524	952
Stable Expense	467	489	956
Engineering & Stream Measurements	1013	864	1877
Taxes	1186	1415	2601
TOTALS	$ 35624	$ 21,091	$ 56715

CUYAMACA WATER COMPANY

STATEMENT SHOWING CAPITAL AND CONSTRUCTION EXPENSE

YEAR 1915.

	Jan. 1st to June 30th	July 1st to Dec. 31st	Total
El Monte Pumping Plant	5672	90	5762
Other Pumping Plants	+74	1	+ 73
Flume Construction	10291	+ 544	9747
New Pipe Lines	5284	145	5429
New Services	27	68	95
New Meters	183	35	218
Office Equipment	123		123
Tools and Other Equipment	66	7	73
Stable and Garage Equipment	90	683	773
Interest	2064	1345	3409
La Mesa Ditch	3095		3095
Water Rights	2682		2682
Casualty Insurance	230		230
Total used and useful Structures	29733	1830	31563
El Capitan Dam	376	2169	2545
Boulder Creek Dam	1309	465	1774
Total Structures not yet used & useful.	1685	2634	4319
Grand Total All Items	31418	4464	35882

+ Credits.

CUYAMACA WATER COMPANY

STATEMENT SHOWING MAINTENANCE AND OPERATION EXPENSE

JANUARY 1st to JUNE 30th 1916.

Pumping Expense	$ 1910
Purification of Water	1186
Meters	289
Flume	3764
La Mesa Ditch	921
Cuyamaca Reservoir	1196
La Mesa Reservoir	975
Murray Hill Reservoir	14
Eucalyptus Reservoir	179
Other Reservoirs	295
Distribution Mains	5380
Services	464
Meter Readings & Collections	121
Salaries of Officers	4624
Salaries of Clerks & Stenographers	1421
Office Supplies & Expense	1272
Legal Expense	1287
Expense of Hearings before Commission	2412
Fire Insurance	74
Casualty Insurance	248
Buildings & Grounds	70
Auto Repairs & Supplies	551
Stable Expense	134
Taxes	1408
Engineering & Stream Measurements	909
Extraordinary Repairs	30690
Total	61794

CUYAMACA WATER COMPANY

STATEMENT SHOWING CAPITAL AND CONSTRUCTION EXPENSE

JANUARY 1st to JUNE 30th 1916.

El Monte Pumping Plant	+ $	100
Lands		15
New Pipe Lines		221
New Services		66
Office Equipment		15
Tools and Other Equipment		31
Interest		296
Purification System		1858
New South Ford Syphon		5966
New South Fork Flume		2727
Total Used and Useful Structures		11095
El Capitan Dam		5311
Boulder Creek Dam		548
Conejos Reservoir		2892
Total Structures not yet Used and Useful		8751
Grand Total of All Items	$	19846

+ Credit.

CUYAMACA WATER COMPANY

ESTIMATE OF PROPER MAINTENANCE AND OPERATION EXPENSE

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CUYAMACA WATER COMPANY

Comparative Tabulation Showing Maintenance and Operation Expense for Year 1915 and First Six Months of 1916, Company's Estimate of Proper Maintenance and Operation Expense, and Railroad Commission's 1915 Estimate of Proper Maintenance and Operation Expense.

Items	1915 M. &. O. Expense	1st 6 Mo. 1916 M.& O. Expense	Co's. Estimate of Proper M. &O. Expense	RR Com. Est. of Proper M&O Exp.
Pumping Expense	$ 1121	$ 1910	$ 11,666.	$ 10,550
Purification	282	1186	750	75
Meters	690	289	700	
Services	1417	464	1,420	900
Meter Reading & Collections	420	121	360	
Flume	7886	3764	12,825	9,115
La Mesa Ditch	471	921	700	
Reservoirs	1772	2659	2,350	1,982
Distribution Mains	5020	5380	6,000	4,500
Salaries of Officers	10394	4624	12,300	9,993
Salaries of Clerks & Office Expense	4974	2693	5,100	
Legal Expense	156	1287	1,000	600
Expense of Hearings before R.R. Commission	14634	2412	2,500	1,500
Injuries and Damages	0	0	50	50
Fire Insurance	41	74	2,000	
Casualty Insurance	600	248	600	753
Buildings and Grounds	451	70	450	350
Auto Repairs & Supplies	952	551	1,000	1,760
Stable Expense	956	134	600	
Engineering & Stream Meas.	1877	909	1,800	1,200
Taxes	2601	1408	2,800	2,450
Extraordinary Expense	0	30690	1,000	500
	$ 56715	$ 61794	$ 67,971	$ 46,278

DETAILS OF ESTIMATE OF PROPER MAINTENANCE AND OPERATION CHARGES FOR CUYAMACA WATER SYSTEM.

Pumping Expense

THE Cuyamaca System has the following pumping plants:

Plant No. 4 at Diverting Dam.
5 HP Gas Engine and 3½ inch Centrif. pump.
Plant No. 3, or Sand Creek Pumping Plant.
50 HP Gas Engine and 4 inch 3 stage, Centrif. pump.
Plant No. 2, or Chocolate Pumping Plant;
15 HP Gas Engine and 8"x8" Dean Triplex Pump.
Monte Pumping Plant;
200 HP Electric Motor and 8 inch 3 stage, Centrifugal Pump.
La Mesa Pumping Plant No. 1;
150 HP Electric Motor and 7 inch 2 stage, Centrifugal pump.
La Mesa Dam Pumping Plant;
15 HP Gas Engine and 7 inch Centrifugal Pump.
Grossmont Pumping Plant;
10 HP Electric Motor and 6" x 8" Gould Triplex Pump.
Miles Pumping Plant;
10 HP Electric Motor and 5" x 8" Gould Triplex Pump.

Probable Periods of Operation

Plant No. 4

There is little actual operation experience available upon which to base the probable requirements of this plant. It was installed in 1913 and was operated in 1913 and in 1914, but not at all during 1915. It is a fair assumption that this plant will be run 160 hours per operating season and that on an average it will be run during one year out of every two. This makes an average length of run of 80 hours for every year.

Plants No. 3, No. 2 and Monte Plant

C.H.Lee testified at the hearing before the Railroad Commission in February, 1915, that the average yearly requirement of the pumps would be 579 acre feet delivered at the flume. As a practical matter those three pumping

DETAILS OF ESTIMATE OF PROPER MAINTENANCE AND OPERATION CHARGES FOR CUYAMACA WATER SYSTEM (Continued)

Plants No. 3, No. 2 and Monte Plant (COntinued)

plants must be depended upon to supply this quantity of water.

Sand Creek Plant (No. 3) will supply 50 Miners inches or 1 second foot.

Chocolate Plant (No. 2) will supply 10 Miners Inches or 0.2 Second foot.

Monte Plant will supply 200 Miners Inches or 4 second feet.

The total theoretical output for the three plants, per day of 24 hours continuous operation, is therefore 260 Miners Inches or 5.2 second feet. This result, however, cannot be obtained as the actual pumping per day will not exceed an average of 21 hours, owing to necessary shut-downs for repairs, belt-tightening, suction line troubles, etc. This will make the average output per day 228 Miners Inches or 4.56 second feet, and to produce 579 acre feet will require 64 days of pumping plant operation, or 1,344 hours actual running time.

La Mesa Pumping Plant No. 1.

This pumping plant is used for pumping water from La Mesa Reservoir into the high service mains and the plant will be operated during dry years. During the period from 1906 to 1914 inclusive, the years 1906, 1907, 1908 and 1909 furnished an abundance of water. 1910 was a year that averaged neither wet nor dry. The years 1911, 1912, 1913 and 1914 were dry years and this pumping plant was operated during the entire time.

From this it can be assumed that the La Mesa Plant will be operated one year in every two.

La Mesa Dam Pumping Plant.

This pumping plant is used for boosting water from La Mesa Reservoir into the El Cajon Avenue mains. The plant is only run when the water in La Mesa Reservoir falls

DETAILS OF ESTIMATE OF PROPER MAINTENANCE AND OPERATION CHARGES FOR CUYAMACA WATER SYSTEM (Continued).

La Mesa DAM Pumping Plant (Continued)

below the 37 foot level. The operation of this plant and the La Mesa Plant No. 1 are practically identical so far as time is concerned. Accordingly it is assumed that the plant will be run one year in every two.

Grossmont and Miles Pumping Plants

These plants will be operated each month in every year.

Estimated Cost of Operation of Pumping Plant No. 4.

There will be no cost for operators at this plant as the flume walker at the Diverting Dam attends to the running of the plant.
Allow $50 per year for this plant.

Estimated Cost of Operation of Sand Creek Pumping Plant.

This plant will consume about 1/8 gallon of distillate per horse power hour, 6.25 gallons per hour, or an average of 8,400 gallons each year. At $0.09 per gallon delivered, this is $756.
This plant will require 3 men at a total cost of $9.00 per day or $576 each year.
Repairs to engine, pump, belts, suction and discharge and for oil, waste, gaskets, etc., will cost about $3.00 per day or $192 each year.
Total estimated cost each year $1524.
Average estimated output per season 36,278,000 gallons.
Estimated cost per thousand gallons 4.2 cents.

Estimated Cost of Operation of Chocolate Pumping Plant.

This plant will consume about 1/8 gallons of distillate per horse power hour, or 1.88 gallons per hour, or an average of 2,530 gallons each year. At $0.09 per gallon delivered, this will be $228.
The plant will require 3 men at $9.00 or $576 each year.
Cost of oil, waste, gaskets, etc., and of repairs to engine, pump, belts, suction pipe, wells, discharge pipe, etc., will be about $2.50 per day or $160 per year.

DETAILS OF ESTIMATE OF PROPER MAINTENANCE AND OPERATION CHARGES FOR CUYAMACA WATER SYSTEM (Continued)

Estimated Cost of Operation of Chocolate Pumping Plant (Cont'd)

Total Estimated cost of Operation each year $964. Estimated average output per season 7,277,000 gallons. Estimated cost per thousand gallons, 13.2 cents.

Estimated Cost of Operation of Monte Pumping Plant.

THis plant will require 3 men at $12 per day or $768 per season.

The motor will require 200,500 Kilowatt hours which at 2 cents will cost $4,010 per season.

Repairs, oil, waste, etc., will cost not less than $3 per day or $192 per season.

Total estimated cost of operation each year will be $4,970.

Estimated average output per season, 145,112,000 gallons.

Estimated cost per thousand gallons 3.4 cents.

Estimated Cost of Operation of La Mesa Pumping Plant No. 1

THIS plant used electric current in 1914 at a total cost of $4,860.00. This will make an average cost of $2,430 per season.

Attendance can be covered for $100 per season as little is required except oiling and minor adjustments. Repairs, oil, waste, etc., will probably cost $225. Total estimated cost $2,755 per year.

Estimated Cost of Operation of La Mesa Dam Pumping Plant.

This plant will probably be run about 4 months each second year, or an average of 2 months per year. Call this 60 days or 1,200 hours per season.

Attendance will cost $3.50 per day or $210 per year.

Distillate required will be 1/8 gallon per HP hour or 1.88 gallons per hour. This will equal 2,260 gallons per season, which at 9 cents delivered will cost $203.

Repairs, oil, waste, etc., will cost about $2 per day or $120 per year.

Total estimated cost of operation per year is therefore $533.

DETAILS OF ESTIMATE OF PROPER MAINTENANCE AND OPERATION CHARGES FOR CUYAMACA WATER SYSTEM (Continued).

Estimated Cost of Operation of Grossmont & Miles Pumping Plants.

These pumping plants used 10,102 Kilowatt hours of electric current during the year 1915, at a cost of $299.94 - say $300.

Attendance at the two plants will cost $35 per month or $420 per year.

Repairs, oil, waste, etc., will cost about $150 per year.

Total estimated cost of operation is therefore $870 per season.

Summary of Cost of Operation of all Pumping Plants.

Pumping Plant No. 4	$ 50.	per season
" " No. 3	1,524	"
" " No. 2	964	"
Monte Pumping Plant	4,970	"
La Mesa " " No. 1	2,755	"
" Dam Pumping Plant	533	"
Grossmont & Miles Pumping Plants	870	"
Total Estimated Cost per season	$ 11,666	"

Summary of Actual Cost of Maintenance and Operation of Pumping Plants in 1915.

Pumping Plant No. 3	$ 482
" " No. 2	148
Monte Pumping Plant	964
La Mesa Pumping Plant No. 1	147
La Mesa Dam Pumping Plant	0
All Other Pumping Plants	361
Total	$ 2,102

Monte Pumping Plant was operated to a limited extent during 1915.

Pumping Plant No. 2 was operated from July 6th to 17th inclusive or a total of 167 hours, and pumped 4,332,000 gallons.

DETAILS OF PROPER MAINTENANCE AND OPERATION CHARGES FOR CUYAMACA WATER SYSTEM (continued).

Purification Supplies and Expense

Owing to the unsettled prices on "Bluestone" and the installation by the Company of a liquid chlorine plant for the purification of water, it is at this time impossible to make anything more than an estimate of cost of purification in future years.

During the year 1915 the price of bluestone was $0.08 per pound and during 1916 has been about $0.20 per pound. No information is available as to when prices may be expected to drop.

The liquid chlorine plant was installed in March 1915 and was operated two months. It is probable that this plant will be operated at least two months in each year, possibly longer.

It is evident to those in charge of the operation of water systems that throughout the country more serious attention is being given to the problem of keeping the supply of water free from colon bacilli. Recent legislation makes it imperative that every possible method be employed to this end.

In 1914 the cost of all water purification on this system was $69 and in 1915 was $282. During the first six months of 1916 the cost was $1186 of which $171 was for bluestone and $1015 for the operation of the chlorine machine.

Probably the fairest estimate of cost of purification for the next year would be:

Bluestone ----------	$ 350.
Chlorine Machine -------	400
	$ 750.

Repairs to Meters.

Cost in 1915 was $690. Cost for the first six months of 1916 was $289, but considerable necessary work was passed up owing to rush of work during repairs of damage caused by the flood. During the next six months enough work will be done to bring the cost up to the 1915 figure, allow per year $700.

DETAILS OF ESTIMATE OF PROPER MAINTENANCE AND OPERATION CHARGES FOR CUYAMACA WATER SYSTEM (Continued).

Maintenance and Operation of Flume.

Cost in 1915 was $7886, and for the first six months of 1916 was $3764 which is slightly lower in proportion than the 1915 cost. During one month of 1916 the flume walkers were all busy on extraordinary repairs so that this figure of $3764 is really applicable to five months operation. The foregoing costs included nothing for maintenance of roads from Lakeside to the Diverting Dam. During the year 1915 some work should have been done on this road but was passed up owing to lack of funds. While this is a county road, the County spends practically no money on it and this Company must maintain it in order to get in materials for flume repairs. During the floods of January 1916 this road was badly damaged as to be rendered impassable. During the past three months the County, Cuyamaca Water Co., and residents al ng the road have furnished enough money and work to make the road passable during the summer and fall of this year. The first high water will put the road out of commission. A fair allowance per year for road work will be $200. This amount in addition to the $7888 expended during 1915 gives practically $8100 which corresponds closely to the estimate of Superintendent Harritt, which is as follows:

Flume Foreman per year ----------	$ 1,200
Patrolman at Head of Flume ----------	720
3 Patrolmen at $600 per year ----------	1,800
Helpers 900 days at $2.00 ----------	1,800
Repairs to Trestles 30 MBM lumber in place at $60.00 ----------	1,800
Repairs to flume box, 10 MBM lumber in place at $60 ----------	600
Maintenance of Roads ----------	200
Repairs to Telephone Line ----------	100
Repairs to Measuring Boxes ----------	50
Total Per season ----------	$ 8,270

The above estimates include nothing for painting and patching the flume lining. The painting with asphalt should be done once every two years. Some patching will be required every year. The following estimate shows the cost of the two years program:

16,455 squares lining painted every two years with asphalt; will require 25 pounds asphalt per square or 412,000 pounds; 412,000 lbs. asphalt at $0.01 delivered ----------	$ 4120
Labor applying 16,455 sq. at $0.20 ----------	3291
400 squares roofing material for patching at $4 per sq. in place ----------	1600
Total cost for 2 years program --------	$ 9011

DETAILS OF PROPER MAINTENANCE AND OPERATION CHARGES FOR CUYAMACA WATER SYSTEM (Continued)

Maintenance and Operation of Flume (continued)

Cost of Painting and Patching Lining for one Year $4505.

Heretofore this work has not been done owing to lack of funds, but it is vitally important that the lining be patched and painted this year or serious damage will result if a large head of water is run in the flume.

Summary

Allow for all maintenance and operation work except patching and painting ----	$ 8,270
Allow for patching and painting lining-	4,505
Fire Fighting and Prevention ----------	50
Total necessary Flume Maintenance and Operation ----------	$12,825

Maintenance and Operation of La Mesa Ditch

Cost of Maintenance and Operation since June 1st, 1910, has been as follows:

1910 ----------	$ 7.
1911 ----------	18.
1912 ----------	1.
1913 ----------	605.
1914 ----------	817.
1915 ----------	471.
1916 ----------	921.
Total -------	$2,840.

Average per year ---------- $ 406.

The last four years represent actual conditions at the present time and the average cost for these four years is $703. Allow per year ---------- $ 700.

Maintenance and Operation of Cuyamaca Reservoir.

Cost in 1915 was ----------	$ 897
Cost for 1st six months of 1916 -------	1,196
Average per year ----------	1,395.

Cost for first six months of 1916 is not normal, but represents some accumulations of maintenance work which should have been done during previous years. A fair average maintenance and operation allowance per year is ---------- $1,100.

DETAILS OF ESTIMATE OF PROPER MAINTENANCE AND OPERATION CHARGES FOR CUYAMACA WATER SYSTEM (Continued).

Maintenance and Operation of La Mesa Reservoir.

Cost in 1915 was ----------	$ 662.
Cost for 1st six months of 1916 --------	975.
Average per year ----------	1090.

Cost for first six months of 1916 is not normal, but represents some accumulations of maintenance work which should have been done during previous years. Also during a portion of the year, guards were employed at the reservoir.

A fair average maintenance and operation allowance per year is ---------- $ 800.

Maintenance and Operation of Murray Hill Reservoir.

Average maintenance and operation expense for the past three years has been, per year, -------- $ 92.
Considerable work was passed up owing to lack of funds.

A fair average maintenance and operation allowance per year is ---------- $ 150.

Maintenance and Operation of Eucalyptus Reservoir.

Up to January 1st, 1916 the cost of the work of maintenance of this reservoir was included in the cost of repairs to buildings, as most of the work was of this character. During the first six months of 1916 this maintenance cost ---------- $ 179.

A fair average cost of maintenance and operation of the reservoir would be per year ---$ 150.

Maintenance and Operation of Webster Reservoir.

No work required. This reservoir operated and maintained by City of El Cajon.

DETAILS OF ESTIMATE OF PROPER MAINTENANCE AND OPERATION CHARGES FOR CUYAMACA WATER SYSTEM (continued).

Maintenance and Operation of Miles & GRossmont Reservoirs.

Cost in 1915 was $5. Cost for first six months of 1916 was $295, which was above normal owing to accumulations of work which should have been done in previous years.

A fair estimate of average maintenance and operation cost per year is ---------- $ 150.

Summary for All Reservoirs.

Cuyamaca Reservoir ----------	$ 1,100
La Mesa Reservoir ----------	800
Murray Hill Reservoir ----------	150
Eucalyptus Reservoir ----------	150
Miles and Grossmont Reservoirs --------	150
Total for All Reservoirs ---------	$ 2,350

DETAILS OF ESTIMATE OF PROPER MAINTENANCE AND OPERATION CHARGES FOR CUYAMACA WATER SYSTEM (continued).

Maintenance and Operation of Distribution Pipe System

Cost in 1915 was $5020. Cost for first six months of 1916 was $5380, which was higher than normal for many reasons.

Cost since June 1st 1910 has been as follows:

Year 1910 ----------	$ 1,819
1911 ----------	3,510
1912 ----------	4,763
1913 ----------	3,392
1914 ----------	4,504
1915 ----------	5,020
1916 to July 1st --------	5,380
Total cost 6 years ------	$ 28,388
Average cost per year --------	$ 4,731

A fair annual allowance for maintenance and operation of the distribution pipe mains, is ---------- $ 6,000.

Repairs to Services

Cost in 1915 was $1,417. Cost for first six months of 1916 was $464, which was below normal owing to a large amount of work being passed up during repairs to flume.

Allow per year ---------- $ 1,420

Meter Readings and Collections

Cost in 1915 was $420. Cost for first six months of 1916 was $121, which was below normal owing to the fact that the regular meter man was on other work during flume repairs and meter reading was done by anyone and everyone and the proper charges could not be made to this account. A large portion of the cost was charged to pipe repairs.

A fair average cost per year for this work will be ---------- $ 360.

Salaries of General Officers

Allow for President ----------	$ 2,400.
" " Manager ----------	3,600
" " Assistant Manager ------	2,400
" " Superintendent ---------	2,100
" " Secretary ----------	1,800
Total ----------	$ 12,300.

DETAILS OF ESTIMATE OF PROPER MAINTENANCE AND OPERATION CHARGES FOR CUYAMACA WATER SYSTEM (continued).

Salaries of Clerks and Stenographers.

Cost in 1915 was $2487. Cost for first six months of 1916 was $1421. Average per year $2600 which is about a normal amount, so allow ---------- --- $ 2,600.

Office Supplies and Expense

Cost in 1915 was $2487. Cost for first six months of 1916 was $1272. A fair annual allowance for this expense is ---------- $ 2,500.

Legal Expense

Cost since June 1st, 1910 has been as follows:

Year 1910	$	0
1911		30
1912		249
1913		417
1914		642
1915		156
1916		1287
Total	$	2781
Average per year	$	464.

Legal expense for the next year will be fully as great as for the first six months of 1916.
Allow per year ---------- $ 1,000.

Expense of Hearings before R.R. Commission.

For the years 1912, 1913, 1914, 1915 and first six months of 1916 has amounted to $40,186, an average of $8930 per year. It is probable that at least $2500 per year will be required for this cost, so allow. $2,500.

Injuries and Damages

Cost since June 1st, 1910 has been as follows:

Year 1910	$	0
1911		50
1912		39
1913		85
1914		0
1915		0
1916 1st six months		0
	$	174
Average per year	$	29

Allow per year ---------- $ 50.

DETAILS OF ESTIMATE OF PROPER MAINTENANCE AND OPERATION CHARGES FOR CUYAMACA WATER SYSTEM (continued).

Fire Insurance

Fire Insurance, present and proposed, is shown by the following table:

Location & Description	Present Amount	Present Premium Per year	Proposed Amount	Proposed Premium Per year
Cuyamaca Dam				
Buildings and contents	$ 800	$ 3.20	$ 800	$ 3.20
Diverting Dam				
Buildings & contents	0	0	800	6.20
Grossmont				
Buildings & contents	0	0	1250	15.00
Miles Pump Station				
Buildings & contents	0	0	750	7.50
End of Flume				
Buildings & contents	1800	19.55	1800	19.55
La Mesa Dam				
Buildings & contents	300	3.10	1500	14.10
La Mesa Pump Station				
Buildings & contents	0	0	2500	25.00
Monte Pump Station				
Buildings & contents	0	0	3500	35.00
Chocolate Pump Station				
Buildings & contents	0	0	1800	18.00
Sand Creek Pump Station				
Buildings & contents	0	0	2300	23.00
Building & contents on flume	0	0	1200	10.00
Flume - wood structures	0	0	175000	1750.00
Store house & contents				
El Cajon Avenue	0	0	200	2.00
Normal Heights Shops				
Buildings & contents	2000	35.00	2000	35.00
Office Furniture and Fixtures	1500	10.20	2500	17.00
	$ 6400	$ 71.05	$197900	$1980.55

Use per year ---------- $2000.00

Casualty Insurance

Cost in 1915 was $600. Cost for first six months of 1916 was $248.

Allow per year ---------- $ 600.

DETAILS OF ESTIMATE OF PROPER MAINTENANCE AND OPERATION CHARGES FOR CUYAMACA WATER SYSTEM (Continued)

Repairs to Buildings and Grounds.

Cost in 1915 was $451. Cost for first six months of 1916 was $70. which was below normal owing to work being passed up on account of repairs necessitated by flood damage, and for other reasons.

A fair annual allowance is ---------- $ 450.

Auto repairs and Supplies.

Cost in 1915 was $952. Cost for first six months of 1916 was $551.

A fair allowance annually is ---------- $ 1000.

Stable Expense

Cost in 1915 was $956. Cost for first six months of 1916 was $134.

A fair annual allowance is ---------- $ 600.

Taxes

Cost in 1915 was $2601. Cost for first six months of 1916 was $1408.

A fair annual allowance is ---------- $ 2800.

Engineering and Stream Measurements.

Cost in 1915 was $1877. Cost for first six months of 1916 was $909.

A fair annual allowance is ---------- $ 1800.

Extraordinary Repairs

It is extremely difficult to estimate a proper annual allowance to cover the cost of extraordinary repairs.

In the whole history of the San Diego Flume and Cuyamaca Water System, extending over almost 29 years, we have been unable to learn of any serious damage to the system, caused by fire, flood, landslides or other calamity until the floods of January 1916 caused damage to the system aggregating about $57,000, so far as can be determined at this time.

Examination of the rainfall records for a long period of years show that during the season 1883-84 the precipitation at San Diego was 25.97 inches as compared with 12.54 inches t during the season of 1915-16. Records at San Diego, Julian,

DETAILS OF ESTIMATE OF PROPER MAINTENANCE AND OPERATION CHARGES FOR CUYAMACA WATER SYSTEM (continued).

Extraordinary Repairs (continued)

Escondido and Valley Center indicate that the total rainfall during 1883-84 was greater than during 1915-16.

The following tabulation gives the comparative rainfall at Julian by months for these two seasons:

Rainfall Records at Julian

	Rainfall in Inches	
Month	Season 1883-84	Season 1915-16.
July --------	0.00	0.00
August ------	0.00	1.83
September ---	0.00	0.21
October -----	2.75	0.00
November ----	0.00	2.44
December ----	6.00	4.59
January -----	2.25	35.85
February ----	20.63	2.22
March -------	15.63	5.40
April -------	10.63	0.00
May ---------	3.63	0.00
June --------	0.00	0.00
Totals -	61.52	52.54

A comparison of the above records shows that during 1883-84 in February, March and April the total rainfall was 46.89 inches as compared with 43.47 inches in January, February and March of 1915-16. While the rainfall in January of 1916 was much greater than during any month of 1884 the total fainfall during season 1883-84 was 9 inches greater than during 1915-16, and while it is impossible to state whether the damage to the San Diego Flume, if the same had been in operation in 1883-84 would have been as great as as in 1915-16, it is reasonable to suppose owing to extreme saturation of the ground, that serious damage would have occurred.

DETAILS OF ESTIMATE OF PROPER MAINTENANCE AND OPERATION CHARGES FOR CUYAMACA WATER SYSTEM (continued).

Extraordinary Repairs (continued)

Assuming that damage amounting to $57,000 will occur every 33 years, there should be set aside at least $861 each year, (figured on a four percent sinking fund basis), to take care of extraordinary repairs.

The company in 1915 asked that $500 per year be allowed for extraordinary repairs and a similar allowance was made in the Commission's Engineer's estimate of proper maintenance and operation expense.

If $861 be allowed each year that sum should be placed in a sinking fund and compounded annually. This will take care of what might be termed super-extraordinary repairs and to take care of such incidental extraordinary work as may develop. The allowance can reasonably be increased to $1000 per year.

It should be borne in mind that such an allowance should not be regarded as an amortization of this years losses, but is to prepare for future damage.

A detail of the damage caused by floods of January 1916 is presented in another exhibit.

CUYAMACA WATER COMPANY

DUTY OF WATER FOR IRRIGATION UNDER SYSTEM AS A WHOLE

YEAR 1915

CROP	Character of Irrigation	Area Irrigated in Acres: High Service	Low Service	Flume	Total
Olives	Periodical Irrigation	198.5	3.2	152.7	354.4
Deciduous Fruits	" "	55.6	21.7	138.0	215.3
Grapes	" "	0.8	0.0	603.7	604.5
Domestic	(continuous during)	21.0	20.2	37.9	79.1
Citrus	(irrigation season)				
Citrus	"	926.0	195.9	1091.9	2213.8
Vegetables	"	81.7	52.2	71.1	205.0
Alfalfa	"	12.4	0.2	40.0	52.6
		1296.0	293.4	2135.3	3724.7
WATER delivered during year 1915, Thousands of Cubic Feet		53,729.5	11,345.3	71,525.4	136,670.2
Depth of Water applied Acre feet per acre		0.95	0.89	0.77	0.84

Statement Showing Value of Cuyamaca Water Company's System, July 1st, 1916, for Rate Fixing Purposes Based upon Commission's Valuation of $483,134 as of June 1st, 1912, Plus Expenditures since that Date, Interest, etc., and Minus Property Abandoned.

Value of System as of June 1st, 1912 as fixed by R R Commission Decision No. 536 in Application No. 118		$ 483,134
Since June 1st, 1912 certain structures have been completely replaced. These abandonments necessitate the following deductions:		
Flume	$ 3,688	
Real Estate	16,687	
Telephone Lines	1,170	
Pipe System	6,182	
Total Deductions		27,727
Leaving a Total of		$ 455,407
Since June 1st, 1912 Depreciation has accrued for 4 years. As the revenue has not been sufficient to cover depreciation, no deduction should be made.		
To the above total of $455,407 should be added interest at 8% for 4 years or		145,730
A total of		$ 601,137
Since June 1st, 1912 the Company has expended for the used and useful structures the following amounts:		
June 1st to Dec. 31, 1912	$ 29,185	
Year 1913	88,104	
" 1914	164,061	
" 1915	31,563	
Jan. 1st to June 1st, 1916	11,095	
Total		324,008
Forward		$ 925,145

Brought Forward		$925,145
These structures have depreciated but revenue since June 1st 1910 has been sufficient to cover only maintenance and operation expense and to provide $2908 towards depreciation therefore a deduction should be made of		2,908
Leaving		922,237
Interest at 8% should be added as follows:		
Year 1912 - $ 29,185 for 3 years 9 mos. -	$ 8756	
" 1913 - 88,104 " 3 " -	21145	
" 1914 - 164,061 " 2 " -	26250	
" 1915 - 31,563 " 1 " -	2525	
" 1916 - 11,095 " 3 mos. -	222	
A Total of		58,898
Making a Total Value for rate fixing Purposes as of July 1st 1916		$981,135

DETAILS OF DEDUCTIONS

Flume			Reprod. Cost	Total Deprec.	Reprod. Cost Less Deprec.
Clearing 3 acres	at 2.50		$ 7	$ 2	$ 5
Earth Excav.	1,554 Cu.yds	at .50	777	186	591
Rock "	103 "	at 1.25	129	31	98
Redwood Lumber	274 MBM	at 47.50	13,015)		
R O P "	128 MBM	at 34.50	4,416)	16,378	1,365
Tarring & Caulking	60M.LinFt.	5.20	312)		
Tunnel Lining	41 MBM	at 30.00	1,230	295	935
			19,886	16,892	2,994
Add 23.2% Overhead ----------			4,613	3,919	694
Total for Flume ----------			24,499	20,811	3,688

Real Estate

Valuation of 1912 covered 1675 acres of land at Cuyamaca Reservoir. Only 1074 acres are actually required for which a deduction should be made amounting to ----------	15,000.00
Valuation of 1912 covered 26.2 acres of land at Murray Hill Reservoir. Only 16.16 acres are actually required. Therefore deduction should be made for 10.04 acres at $150 plus 12% overhead or ----------	1,686.72
Making a total with overhead of ----------	$16,686.72

Telephone Lines			
Totals with overhead ----------	$ 2,340	$ 1,170	$ 1,170

Pipe System			
15" Riv.Steel Pipe - 1361' at 0.96	$ 1,307	$ 1,206	$ 101
20" " " " - 5306' at 1.27	6,739	3,851	2,888
18" Wood Stave " - 127' at 1.46	185	130	55
20" " " " - 6940' at 1.25	8,675	6,850	1,825
8" " " " - 400' at 0.51	204	179	25
2" Std Pipe - 1682' at 0.19	320	294	26
	17,430	12,510	4,920
Add 2% for Valves & Fittings	348	250	98
	17,778	12,760	5,018
Add 23.2% for overhead	4,124	2,960	1,164
	21,902	15,720	6,182

CUYAMACA WATER COMPANY

DESCRIPTION OF DAMAGE TO CUYAMACA WATER SYSTEM, CAUSED BY FLOODS OF JANUARY, 1916, ALSO AN ESTIMATE OF THE COST OF REPAIRS TO THE SYSTEM.

On January 14th, 1916, there began an extraordinary rainfall in San Diego County which lasted for six days. The following table shows the precipitation in inches for various points on the system:

Day of Month	Cuyamaca	Diverting Dam	El Cajon	La Mesa Dam
14	1.20	0.60	0.41	0.65
15	0.72	1.11	0.60	0555
16	3.35	.79	0.66	2.36
17	6.83	3.80	3.11	2.97
18	5.27	3.30	3.31	0.54
19	1.59	0.53	0.60	0.64

This storm caused damage to the Company's flume which was repaired by January 24th, and while quite extensive, the damage was by no means serious.

On January 24th there began another period of extraordinary rainfall which, coming on ground thoroughly saturated by the previous storm, caused particularly serious landslides, washed out roads, bridges, houses, farms, and left a trail of calamity and desolation. The following shows the precipitation of this last storm at various points:

Day of Month	Cuyamaca	Diverting Dam	El Cajon	La Mesa Dam
Jan. 24	0.23	0.10	0.08	0.12
25	1.63	0.27	0.23	0.26
26	1.53	1.64	1.98	1.56
27	8.54	5.30	4.00	3.32
28	1.30	0.10	?	0.04
29	1.12	0.27	0.24	0.33

Practically everyone is familiar with the damage suffered by the City of San Diego and the Sweetwater Water Co. on their water systems and it is unnecessary to go into the matter. The Cuyamaca System suffered severly but fortunately for the consumers on the system the damage was not so great nor so far reaching as on other water systems. Consumers on the Company's flume were without service for approximately 30 days in all during January and February and by February 20th were being served with sufficient water for all requirements at that time of year.

After the last storm it was with the utmost difficulty that any determination of the amount of damage could be made. On January 29th, Superintendent Harritt returned from an inspection trip which extended as far as Chocolate Creek, and reported that repairs to the flume from South Fork to Eucalyptus would cost at least $15,000. At that time it was impossible to get above Chocolate so no estimate of the damage could be made.

On the same day an order was placed for the lumber for repairs and deliveries commenced on February 1st. At that time great difficulty was experienced in getting materials to the flume, as roads and bridges were washed out. About $600 was expended by the Company in repairing main county roads.

The first step in repairs was to rebuild and reline the flume from Los Coches Trestle to Eucalyptus. The next step was to install a pumping plant at Los Coches Creek and a feeder flume 1950 feet long up Forrester Canyon so that a temporary water supply could be provided for consumers on the flume. While this work was in progress a temporary road was constructed down Chocolate Canyon, so that materials could be hauled in for repairs, as the road up the San Diego River was absolutely impassable.

As the work progressed it became evident that repairs on the flume from the Diverting Dam to South Fork would require so much time that it was decided to build a flume 2600 feet long up South Fork. This was accordingly done and water was turned into the main flume. It then developed that the Chocolate Syphon was leaking so badly that water was shut off and it was necessary to excavate in the creek channel to discover the location of the leak. Water was turned into the main flume on March 13th.

Great difficulty was also experienced in making repairs on the South Fork and Sand Creek Syphons, sheet piling and pumping being required at each place.

Finally repairs were completed to the Diverting Dam and water was turned into the flume on April 8th.

During February, March, April and May the Cuyamaca System supplied a great portion of the water used in the City of San Diego and by its ability to do so averted a general water famine. This remarkably heavy draft on the system was sustained with no interruption of service to consumers, with the exception of a very few irrigation consumers residing on the very high ground near El Cerritos Hill, and with the exception of service to consumers on the flume for 30 days, as heretofore noted, and who were not in any way affected by the supply to the City.

This was a remarkable record for the Cuyamaca System which has often been referred to throughout the county, as a "pile of junk". The entire operation of the system was on the plan of giving service that would be of the greatest benefit to the greatest possible number of people.

In following out this plan the Company succeeded in furnishing a supply of water eminently satisfactory to nearly all consumers. Some kicks of course developed, but those of our consumers who really were inconvenienced the most complained the least.

Attention is called to the fact that the system came through the storm with all dams practically uninjured, and for this the operating force deserves great credit as it was only by the hardest of work that Cuyamaca and La Mesa dams were saved. The policy of taking no chances was carried to extreme limits and results have certainly justified the excess of caution.

There follows a general but detailed description of damage to the various structures on the system:

Cuyamaca Dam and Reservoir.

Spillways scoured out at points. Discharge weir slightly damaged. Outlet channel below tunnel badly scoured and eroded. Gate stand slightly damaged. Roads badly gullied and washed. Kelly Ditch filled with debris and banks broken in places.

Boulder Creek Weir.

Some slight damage by scouring.

Diverting Dam

East end of dam undermined.
One Gate stand broken.
Bridge washed away.
Automatic gage substructure destroyed.
Some damage to scouring gates which has not yet been fully determined owing to high water.
Fence destroyed.
Roads badly washed and gullied.
Water supply pipes damaged.
Storage sheds washed away.
Cable gaging station destroyed.
Water cushion damaged.

Main Flume

Over 100 breaks on the flume caused by landslides. These breaks ranged from slight lateral movement of the flume to breaks 1700 feet long on which the flume box, trestles, etd. were carried down hill or completely destroyed. Much of the flume which remained intact was filled with earth, rock, and other debris.

FLOOD DAMAGE

South Fork Feeder.

Diverting dam entirely washed out.
Wood flume just below dam was washed out.
Steel flume broken, twisted, and washed out in about 20 places.
Trestles destroyed or undermined.

Sand Creek Syphon.

About 100 feet of the 42 inch concrete pipe washed out, which was replaces by steel pipe on concrete piers.
Blow-off valve was broken, causing heavy leaks and necessitating trenching with sheet piling and pumping.
There were numerous breaks and cracks on the line which were patched with concrete collars.
A large flow of water in the creek delayed the work.

South Fork Syphon.

Pipe was badly broken and battered by rocks at creek crossing.
Blow off valve broken necessitating sheet piling and pumping to locate and repair the damage.
A large flow of water in the creek delayed the work.

Chocolate Syphon.

About 150 feet of syphon washed out.
Bridge across creek washed out.
In order to make repairs on this line it was necessary to trench 7 feet below the water line and to use sheet piling and run a pump. A large flow of water in the creek delayed the work.

Pumping Plant No. 4.

Stored in shed at Diverting Dam which was washed away. Plant entirely lost.

Sand Creek Pumping Plant.

Pump house washed away.
Engine and pump undermined, tipped over and covered with silt and sand.
Engine fittings, belt and accessories destroyed.
Large distillate tank destroyed.
Meter destroyed.
Wells and suction pipe covered with about 12 feet of sand. Excavation and sounding with steel rods has failed to locate any of them. Probably destroyed.
Discharge pipe badly broken and bent, partly destroyed.
Tools, etc. lost or destroyed.

FLOOD DAMAGE

Chocolate Pumping Plant.

Main channel of San Diego River now runs right over site of pump house.
Pump pit destroyed.
Pump house washed away.
Engine and pump undermined, tipped over and covered with sand.
Engine fittings, belt and accessories destroyed.
Wells and suction pipe covered with about 12 feet of sand. Excavation and sounding with steel rods has failed to locate any of them. Probably destroyed.
Discharge pipe broken, bent and partly destroyed.
Tools and miscellaneous supplies stored in pump house lost or destroyed.

Monte Pumping Plant.

600 feet of 12 inch suction line destroyed.
100 " " 8 " " " "
280 " " 6 " " " "
Miscellaneous valves & fittings on these suction lines destroyed or broken.
3 cased wells destroyed.
1 large curbed well destroyed.
3 " " wells filled with debris and curbing and covers badly broken or destroyed.
Discharge pipe broken and damaged.
Transmission pipe to flume broken and partly destroyed.
Pump pit flooded and motors and pumps soaked.

Murray Hill Dam and Reservoir.

Some slight damage to spillway.

Eucalyptus Dam & Reservoir.

Portion of dam became water logged and a part of the embankment slid away.

La Mesa Dam and Reservoir.

Pump house damaged by water when blow off gates were opened.

Grossmont Reservoirs and Pipe System

Reservoir No. 3 damaged and broken.
Pipe system suffered small damage.

Distribution Pipe System

Slight damage to pipes at various points.

La Mesa Ditch

The floods caused numerous breaks in the ditch banks and caused considerable filling with debris.
The work of repairs was very costly owing to the saturated condition of the ground which made the use of teams practically impossible.

FLOOD DAMAGE

Below is given a statement of the money actually expended in repair of flood damage to June 30th, 1916.

Month	Labor	Material	TOTAL
January	$	$ 28.	$ 28.
February	7066.	9738.	16804.
March	3931	6022	9953
April	851	892	1743
May	270	503	773
June	572	817	1389
Totals	$12690	$ 18030.	$ 30690.

The following is an estimate of the cost of completing the repairs to the system:

Cuyamaca Reservoir.

Spillways	$ 300.	
Gate Stand	150	
Outlet channel	150	
Discharge weir	50	
Roads,	50	
Kelly Ditch	200	
Total Cuyamaca Reservoir		$ 900.

Boulder Creek Weir

Repairs to broken masonry, etc.	$ 100.

Diverting Dam

Repairs to East wing wall	$ 400.	
Gate stand	150	
Leaks at sluice gates	200	
Bridge	25	
Automatic gage	50	
Fence	100	
Roads	25	
Water supply	25	
Storage sheds and contents	600	
Cable measuring station	200	
Water cushion below dam	2000	
Total Diverting dam		3775.
Carried forward		$ 4775.

FLOOD DAMAGE

Brought FOrward		$ 4775.
Main Flume		
Minor repairs		1500.
South Fork Feeder.		
Diverting Dam	$ 500.	
Wood flume repairs	400	
Minor repairs	100	
Total south Fork Feeder		1000.
Sand Creek Syphon		
Channel protection and minor repairs		500
South Fork Syphon		
Concrete protection for exposed pipe		300
Chocolate Syphon		
Channel protection and minor repairs		500
Pumping Plant No. 4.		
Restoration machinery, supplies, etc.		600.
Sand Creek Pumping Plant		
Cleaning, tallowing & storing engine and pump	$ 250.	
Pump house	300	
Replacing foundations and resetting and repairing engine & pump	500	
Replacing lost parts, belt, distillate tank, meter, tools, etc.	500	
Repairs to discharge pipe	200	
New suction line & fittings	400	
New wells	1500	
Incidentals	350	4000.
Carried Forward		$ 13175.

FLOOD DAMAGE

Brought FOrward ---------- $ 13175.

Chocolate Pumping Plant.

Restore pump house & pump pit ---------	$ 825.	
Cleaning, tallowing and storing engine and pump ----------	250	
Restoring foundations and resetting and repairing engine & pump ------	500	
Replacing lost parts, belt, tools and supplies ----------	1000	
Repairs to discharge pipe ----------	300	
Replace suction line ----------	500	
Replace 4 driven wells ----------	2725	
" concrete well ----------	215	
" steel well ----------	130	
" tembered gallery ----------	400	
Incidentals ----------	500	7345.

Monte Pumping Plant

Repairs to suction lines ----------	1750	
" " valves & fittings ----------	500	
Restore cased wells ----------	400	
" curbed well ----------	350	
Clean out and repair 3 curbed wells ---	350	
Repair discharge pipe ----------	50	
" transmission pipe ----------	200	
Repair motor, pump etc. & reset -------	100	
Minor repairs & incidentals ----------	350	4050.

Los Coches Trestle

Channel protection and minor repairs ---------		300.
Telephone Line Repairs ----------		500.
Murray Hill Dam Minor repairs ----------		50.

Eucalyptus Dam

Filling, riprapping & minor repairs ----------		300.
La Mesa Dam Repair Pump house ----------		50.
Distribution Pipe Lines Minor repairs ----------		275.

La Mesa Ditch

Minor repairs not yet completed ----------		275.
Total Estimated Cost of Completing Repairs	$	26320.

Summary of Cost of All Repairs.

Expended to June 30th, 1916 ----------	$	30690.
Estimated Cost to Complete ----------		26320.
Total ----------	$	57010.

FLOOD DAMAGE

AS a method of refunding the cost of these flood damages there is suggested the plan of taking over the amounts paid in 1916 for water by the City of San Diego, which amounts to $51,000 in round figures and amortizing the balance of approximately $6000.

That the purchase of water from the Cuyamaca Water Co. by the City has been a source of revenue in the past is true, but such a revenue can never be depended upon. It is always certain that the City will buy the water only when in the last extremity.

It is highly improbable that purchases of water will be made during the remainder of 1916 or during 1917 unless the City system is severely damaged.

The following letter is self explanatory:

(COPY)

F.M.Lockwood,
Manager of Operation.

Chas. Holzeman
Chief Clerk.

OPERATING DEPARTMENT

City of San Diego, California.
Main Office City Hall.

July 17, 1916.

Mr. F. M. Faude, Asst. Mgr.,

Cuyamaca Water Company,

San Diego, California.

Dear Sir:

Your letter in regard to the possibility of the City requiring more water from the Cuyamaca Water Company duly received, and I have delayed answering until we had some assurance to give.

I am pleased to state that the water is now in town from Morena, and I do not anticipate the City's having to purchase any more water from the Cuyamaca Company this year.

Thanking you for your many courtesies, I am,

Very truly yours,

(signed) F. M. Lockwood,

Manager of Operation.

FML/L

FLOOD DAMAGE

In the foregoing estimates of cost nothing has been provided for repairs of the road up the San Diego River.

This road has been fixed up so that at this season of the year it can be traveled. The first high water, however, will put it out of commission if it is left in its present condition. The County Commissioner has stated that no more money is available for work on this road and in all probability this Company will have to spend about $1000 in road repairs.

If this money is expended it will bring the total cost of flood damage repairs up to $58,010.

CUYAMACA WATER COMPANY

Estimate of Cost and Depreciation of Physical Structures,

By Commission Engineers Modification to Date.

	Reproduction Cost	Annual Depreciation St. Line	Accrued Deprec.	Cost Less Dep.
Appraisal in Testimony	$1252332	$ 44514	$593920	$658412
15 years depreciation			66771	
Additional Capital (Books)	11284	565	90	11194
TOTAL	1263616	45079	660781	602835
Flood Destruction				
Pump Plant #4	565	28	56	509
" " Sand Creek	3825	230	460	3365
" " Chocolate	7247	396	792	6455
Diverting Dam Sundry	750	10	200	550
South Fork Diversion	600	20	500	100
" " Steel Flume	120	4	12	108
Sand Creek Syphon	450	9	27	423
Chocolate "	500	17	33	467
2500 Ft. Main Flume	8750	500	6375	2375
TOTAL DESTROYED	22807	1214	8455	14352
Flood Repair-Replacement and Addition				
Retreiving and Storing Equip.	2000			2000
Diverting Dam Sundry	750	10		750
South Fork Diversion	500	10		500
" " Intake	150	10		150
Sand Creek Syphon	800	16		800
Chocolate "	500	17		500
2500 Ft. Main Flume	8750	500		8750
Telephone Line-Betterment	1000	50		1000
TOTAL ADDED	$14450	$613		$14450
Net Change	8357	601		98
RESULTING TOTAL	$1,255,259	$44,478	$652,326	$602,933

CUYAMACA WATER COMPANY

Statement of Eliminations from Company to Obtain

Net Current Maintenance and Operation Cost.

Estimated Replacement	1914	1915	1916
Repairs Trans. Mains			
Materials			$500
Labor	$800		500
General 10%			100
Repair Reservoirs			
Materials	100		500
Labor	100		500
General 10%	20		100
Repair Dist. Mains			
Materials	400		1000
Labor	1000		500
General 10%	140		150
Repair Services and Maters.			
Materials		$300	
Labor		400	
General 10%		70	
General on Admitted Capital 5%	8721	1794	555
General Officers Salaries		2206	
Extraordinary			
Railroad Comm. Exp. (Allowed at $2500)	6258	15313	1163
Flood Repair			
Replacement			13000
Repair			17711
City Payt. Connection Capital			308
Temporary			1000
General on Flood Expense at 5%			1536
Total	$15939	$20083	$39123
Amounts Recorded	61171	59951	61847
Current Charge	$43632	$39868	$22724

CUYAMACA WATER COMPANY

COMPARISON ESTIMATES AND RECORDS
MAINTENANCE AND OPERATION

1915

Accounts	Estimate Company's Engineers	Estimate C Commission's Engineers	Company Books	Eliminating Replacements etc.
Purification ----------	$ 75	75	272	272
Patrol & Repair Storage	2,410	1,982	2,139	2,139
Meter and Service -----	1,000	900	2,102	1,332
Repairs to Flume Line--	15,500	9,115	7,737	7,737
Repairs to Dist. Mains-	4,600	4,500	5,048	5,048
Salaries Officers, etc.	12,120	8,000	13,357	9,357
Misc. Supplies --------	2,500	1,993	2,417	2,417
Legal Expense ---------	1,200	600	156	156
Damages ----------	50	50	--	--
Insurance ----------	2,900	753	652	652
General Structures ----	350	350	448	448
General Equipment -----	1,820	1,760	1,918	1,918
Taxes ----------	2,450	2,450	2,601	2,601
General Engineering ---	1,000	1,200	1,635	1,635
Pumping Cost ----------	16,850	10,550	1,656	1,656
Usual Expense ---------	64,825	44,278	42,138	37,368
Extraordinary ---------	500	500		
Commission Expense ----	2,500	1,500	17,813	2,500
	3,000	2,000	17,813	2,500
GRAND TOTAL ----------	67,825	46,278	59,951	39,868

Exhibit #67 proposes $2,500 amortization of Commission Expenses, added to other actual cost is $44,638 - $1,640 less than provided by J. Armstrong, Commission Engineer.

CUYAMACA WATER COMPANY

Flood Damage of 1916 and Expenditures,

REPAIRS, REPLACEMENT ETC.

Company's account to June 30			$30711
Reductions:			
Equipment camp tools etc., total $728 Est. 2/3 Value	$486		
Pumps valves etc., Total $403 Est. 3/4	302	788	
Post Expenditure chargeable to Flood			$29923
Estimated Further Expense-Faude		26320	
Reductions:			
Overestimate Diverting Dam	$1000		
South Fork Flume Repairs	400		
Probable permanent eliminations			
Pump Plant #4	600		
" " Sand Creek	3350		
" " Chocolate	6095		
Telephone Line Repairs	500	11945	
Probable Further Expense			$14375
Total Cost, tentatively accepted			$44298
General 5%			2215
Expenditure considered Replacement and Addition			14450
Net Cost of repair and Temporary Investment			$32063
Additional Property Destroyed			14352
TOTAL FLOOD DAMAGE			$46415

CUYAMACA WATER COMPANY
PROBABLE AVERAGE ANNUAL EXPENSE FOR MAINTENANCE & OPERATION

E 2-6-7 9-10-18	**Pumping Expense**			
	El Monte Plant one year in two	$2500		
	La Mesa Plant #1 one year in four	1400		
	Grossmont and Miles Plants	870	$4770	
E 8-17	**Purification Expense**		750	
	Total Pumping Cost			$5520
	Distribution Expense			
E 19	Patrolling Storage Facilities		1320	
E 20	Meter Repair & Supplies		500	
E 23	Transmission Mains-Repair-etc.			
	Foreman	1200		
	Patrolmen	2520		
	Repair & Cleaning	3200		
	Roads, etc.,	400		
	Repair Lining	1000	8320	
E 24	Repairs to Reservoirs, etc.,		800	
E 25	Distribution Mains		5000	
E 27	Services		700	
E 29-30	Repairs Buildings & Equipment		200	
	Total Distribution Cost			16840
E 31-32	**Commercial Expense**			500
	General Expense			
E 33	Salaries General Officers			
	Manager (or Directors Fee & Exp.)	2000		
	Assistant Manager	2400		
	Superintendent	2100	6500	
E 34	General Office Clerks		2600	
E 35	Office Supplies & Expense		2500	
E 36	Law Expense		1000	
E 37	Railroad Commission Expense			
	1912 to Completion of present proceedings			
	Estimated Total $45,000			
	Chargeable to General Value			
	Further development $10,000			
	Involved in Sales $25,000			
	Average Recoverance		2000	
E 42	Insurance		800	
E 43	Repair General Structures		350	
E 44	Up Keep General Equipment		1760	
	General Engineering		1200	
			$18710	

	Brought Forward		$22860
	Total General	$18710	
	Deduct for overhead Replacements, etc.,	2000	
	Net General Cost		$16710
	Extraordinary Flood Expense		
	Total Estimate $46,415 Minimum probable period between such disaster 20 years		
	Allowance say		2500
E 50	TAXES		2600
	TOTAL M. & O. EXPENSE		$44670

CUYAMACA WATER COMPANY

Estimate of Cost and Depreciation of Physical Structures,

By Commission Engineers Modification to Date.

	Reproduction Cost	Annual Depreciation St. Line	Accrued Deprec.	Cost Less Dep.
Appraisal in Testimony	$1252332	$ 44514	$593920	$658412
15 years depreciation			66771	
Additional Capital (Books)	11284	565	90	11194
TOTAL	1263616	45079	660781	602835
Flood Destruction				
Pump Plant #4	565	28	56	509
" " Sand Creek	3825	230	460	3365
" " Chocolate	7247	396	792	6455
Diverting Dam Sundry	750	10	200	550
South Fork Diversion	600	20	500	100
" " Steel Flume	120	4	12	108
Sand Creek Syphon	450	9	27	423
Chocolate "	500	17	33	467
2500 Ft. Main Flume	8750	500	6375	2375
TOTAL DESTROYED	22807	1214	8455	14352
Flood Repair-Replacement and Addition				
Retreiving and Storing Equip.	2000			2000
Diverting Dam Sundry	750	10		750
South Fork Diversion	500	10		500
" " Intake	150	10		150
Sand Creek Syphon	800	16		800
Chocolate "	500	17		500
2500 Ft. Main Flume	8750	500		8750
Telephone Line-Betterment	1000	50		1000
TOTAL ADDED	$14450	$613		$14450
Net Change	8357	601		98
RESULTING TOTAL	$1,255,259	$44,478	$652,326	$602,933

CUYAMACA WATER COMPANY

Statement of Eliminations from Company to Obtain

Net Current Maintenance and Operation Cost.

	1914	1915	1916
Estimated Replacement			
Repairs Trans. Mains			
Materials			$500
Labor	$800		500
General 10%			100
Repair Reservoirs			
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Damages ----------	50	50	--	--
Insurance ----------	2,900	753	652	652
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	3,000	2,000	17,813	2,500
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E 29-30	Repairs Buildings & Equipment		200	
	Total Distribution Cost			16840
E 31-32	**Commercial Expense**			500
	General Expense			
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	Manager (or Directors Fee & Exp.)	2000		
	Assistant Manager	2400		
	Superintendent	2100	6500	
E 34	General Office Clerks		2600	
E 35	Office Supplies & Expense		2500	
E 36	Law Expense		1000	
E 37	Railroad Commission Expense			
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	Estimated Total $45,000			
	Chargeable to General Value			
	Further development $10,000			
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	Total Estimate $46,415 Minimum probable period between such disaster 20 years		
	Allowance say		2500
E 50	TAXES		2600
	TOTAL M. & O. EXPENSE		$44670

CUYAMACA WATER COMPANY

Duty of Water for Irrigation under System as a Whole.

Crop	Character of Irrigation	Area Irrigated in Acres. High Service	Low Service	Flume	Total
Olives	Periodical Irrigation	198.5	3.2	152.7	354.40
Deciduous	" "	55.62	21.73	138.0	215.35
Grapes	" "	0.78	0	603.7	604.48
Total	" "	254.90	24.95	894.4	1174.25
Domestic	Continuous irrigation during irrigation season	20.96	20.25	37.9	79.11
Citrus	" "	926.03	195.85	1091.9	2213.78
Vegetables	" "	81.69	52.20	71.1	204.99
Alfalfa	" "	12.4	0.20	40.0	52.60
Total	" "	1041.08	268.50	1240.9	2550.48
GRAND TOTAL		1295.98	293.43	2135.3	3734.71
		Total amount of water delivered in full service year - thousand cu.ft.			
		49,205.8	12,244.2	78,532.6	139,980.5
		Depth of water applied - ac.ft.per acre.			
		0.87	0.96	0.85	0.86#

Note: # = Equivalent to 1 Miners Inch to 12.6 acres for 9 Months Irrigation Season.

System	Proportion of supply derived from: Storage %	Stream flow %	Wells %	Storage Reservoirs: Number	Total Capacity Ac. Ft.	Cost of reproduction incl. real estate per ac.ft. of capacity	Transmission System: Natural channel length in miles	Artificial Channel: Type of construction	Length Miles	Capacity Sec.Ft.	Net Safe Yi edge servic: Acre Feet	9-mo. M.I.	L G p
Cuyamaca (Present)	60	33	7	2	12,186	$19.90	12.5	Wooden flume	33.1	22	3471 (a)	320	3
								Steel pipe Line	--	--			
Cuyamaca (Fully devel-) (oped)	100	0	0	5	58,886	19.50	12.5	Wooden flume	33.1	31	7677 (b)	711	6
								Steel pipe line	--	--			
City San Diego (Spreckels sys) (-tem)	100	0	0	3	85,548	19.75	16	Concrete conduit	20±	70-50	6850 (c) (e)	634	6
								Steel pipe line	19.6	--		(a)	(

NOTES:

(a) Morena conduit and Pine Valley Dam and Bonita Pipe line in operation.
(b) Cuyamaca Water Company appraisal by Lane.
(c) Purchase price Southern California M. W. Co. and improvements made and in progress not including Mission Valley Pumping Plant.
(d) Estimated by C. H. Lee.
(e) Water Department annual report for 1913.

CUYAMACA WATER COMPANY

COMPARATIVE COST OF WATER DELIVERED AT EDGE OF SERVICE AREAS FROM CUYAMACA AND CITY OF SAN DIEGO GRAVITY SYSTEMS.

nel apacity Sec.Ft.	Net Safe Yield at edge service area: Acre Feet	9-mo. M.I.	Mil. Gall. per day	Excess winter water which can be delivered at edge service area: Acre Feet	Thousand Gallons	Amount invested in collection and transmission system upon which interest must be paid	ANNUAL COST OF COLLECTION AND TRANSMISSION OF WATE: Interest Computed at 5%: Interest	Depreciation	Maintenance and operation	Total	Cost of net safe yield delivered at edge of service area: Per 9-mo. M.I.	Per 1000 gall.	Interest
22 --	3471(h)	320	3.09	2556	833,000	1,057,827(b)	$52,890	$37,893(b)	$49,679 (j) (b)	$140,462	$3x84 (g)	10.9¢	$84,626
31 --	7677(h)	711	6.85	1415	461,000	3,153,952(d)	156,698	52,041	59,149	267,888	3x76.	10.7¢	252,316
70-50 --	6850 (k) (a)	634 (a)	6.10 (a)	0	0	4,700,000(c)	235,000	36,777(e)	66,169 (f)	337,946	5x32.	15.1¢	376,000

(f) Supplied from actual records for 1914 by H. L. Worthen.
(g) Used net safe yield plus 45 M.I. excess winter water sold City 1914.
(h) Edge of service area taken as point of connection with City at Boundary Street and at Highland Avenue.
(j) Maintenance and operation proportioned on basis of 80% to collection and transmission where could not make direct segregation.
(k) Edge of service area taken at ~~Chollas~~ University Reservoir.

not

PANY

AT EDGE OF SERVICE AREAS
GO GRAVITY SYSTEMS.

ANNUAL COST OF COLLECTION AND TRANSMISSION OF WATER UNDER EACH SYSTEM

	Interest Computed at 5%					Interest computed at 8%					
t	Depreciation	Maintenance and operation	Total	Cost of net safe yield delivered at edge of service area: Per 9-mo. M.I.	Per 1000 gall.	Interest	Depreciation	Maintenance and operation	Total	Cost of net safe yield delivered at edge of service area: Per 9-mo. M.I.	Per 1000 Gall.
	$37,893(b)	$49,679 (j) (b)	$140,462	$3,84 (g)	10.9¢	$84,626	$37,893	$49,679	$172,198	$4,72.(g)	13.4¢
	52,041	59,149	267,888	3,76.	10.7¢	252,316	52,041	59,149	363,506	5,10.	14.5¢
	36,777(e)	66,169 (f)	337,946	5,32.	15.1¢	376,000	36,777	66,169	478,946	7,55.	21.4¢

ords for 1914 by H. L. Worthen.
45 M.I. excess winter water sold City 1914.
ken as point of connection with City at Boundary Street

on proportioned on basis of 80% to collection and trans-
make direct segregation.
ken at ~~Chellas~~ University Reservoir.

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DUTY OF WATER FOR IRRIGAT

Data fro

Tract or Owner	Locality	Service	Crop	Area in Acres	Total Water Delivered to T Thousand Cubic Feet 1909	1910	1911	1912	19
El Cerrito	Near east line East San Diego	Low	Lemons	38.5	834	1264	1202	1267	1
R. E. Ground	Near La Mesa Reservoir	High	Lemons & Oranges	27.4	801	861	773	1061	
J. A. E. Thoustrup	La Mesa	High	Lemons & Oranges	10.7	340	480	380	391	
Lemon Grove M.W.Co.	Lemon Grove	High	Mixed	593.4	21700	26500	19830	20471	114
S. I. Fox	Adjacent to Lankershim Tunnel on east	Flume	Oranges	13.0	471	666	141	339	
Griffing Bancroft	Spring Valley	High	Olives	203.0	5627	#	#	4008	2

Note:- Full Service years as follows:
Low Service - Years 1909 to 1912 inc.
High & Flume Service - Years 1909-1910-1912.
= No Record.

CUYAMACA WATER COMPANY

DUTY OF WATER FOR IRRIGATION ON ISOLATED TRACTS UNDER CUYAMACA SYSTEM

Data from Detail Records of Company.

	Area in Acres	Total Water Delivered to Tract in Thousand Cubic Feet						Depth of Water Applied - ac. ft. per acre							
		1909	1910	1911	1912	1913	1914	1909	1910	1911	1912	1913	1914	Average of full service Years	Average all years
	38.5	834	1264	1202	1267	1120	1189	0.49	0.75	0.71	0.75	0.67	0.71	0.63	0.68
s &	27.4	801	861	773	1061	582	886	0.67	0.72	0.65	0.89	0.49	0.74	0.76	0.69
s &	10.7	340	480	380	391	247	210	0.73	1.03	0.82	0.84	0.53	0.45	0.87	0.73
	593.4	21700	26500	19830	20471	11495	17000	0.84	1.03	0.72	0.79	0.44	0.66	0.89	0.75
s	13.0	471	666	141	339	238	315	0.83	1.18	0.25	0.60	0.42	0.55	0.87	0.64
	203.0	5627	#	#	4008	2904	3283	0.63	-	-	0.45	0.33	0.37	0.54	0.45

CHL-BK
4/8/15

Tract or Owner	Locality	Service	Crop	Area in Acres	Total Water Thous 1909	1910
El Cerrito	Near east line East San Diego	Low	Lemons	38.5	834	1264
R. E. Ground	Near La Mesa Reservoir	High	Lemons & Oranges	27.4	801	861
J. A. E. Thoustrup	La Mesa	High	Lemons & Oranges	10.7	340	480
Lemon Grove M.W.Co.	Lemon Grove	High	Mixed	593.4	21700	26500
S. I. Fox	Adjacent to Lankershim Tunnel on east	Flume	Oranges	13.0	471	666
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	1909	1910	1911	1912	1913	1914	1909	1910	1911	1912	1913	1914	Average of full service Years	Average all years
38.5	834	1264	1202	1267	1120	1189	0.49	0.75	0.71	0.75	0.67	0.71	0.63	0.68
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4/8/15

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MAXIMUM FLOOD DISCHARGES OVER DIVERTING DAM.

Average during 24 hours.
Crest heights may have been considerably larger.

	Second-feet.
1901	
February 4.	219
1902	
Mar 23	176
1905	
February 5	486
March 20	548
1906	
March 12	844
" 16	957
" 27	868
1909	
February 12	406
1910	
January 1	613
1912	
April 13	371

Construction Road

Note, Steep Grade

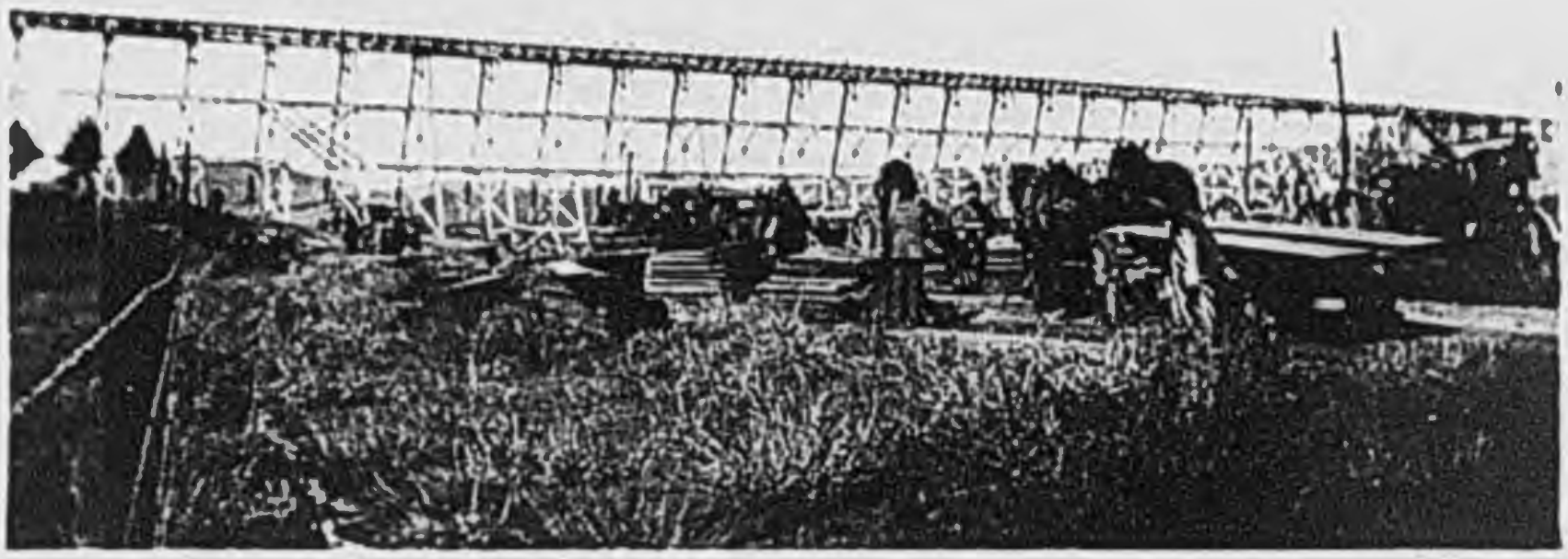
Building Construction

Road

Hauling Material for Flume Repairs

Hauling in Pipe for Repairing Syphons

Note Steep Grade on Construction Road.



Material Yard at Los Coches Trestle

Hauling in Material for Flume Repairs

Diverting Dam.

Flume Has Been Rebuilt Since Flood

Eroston of Material Below Dam

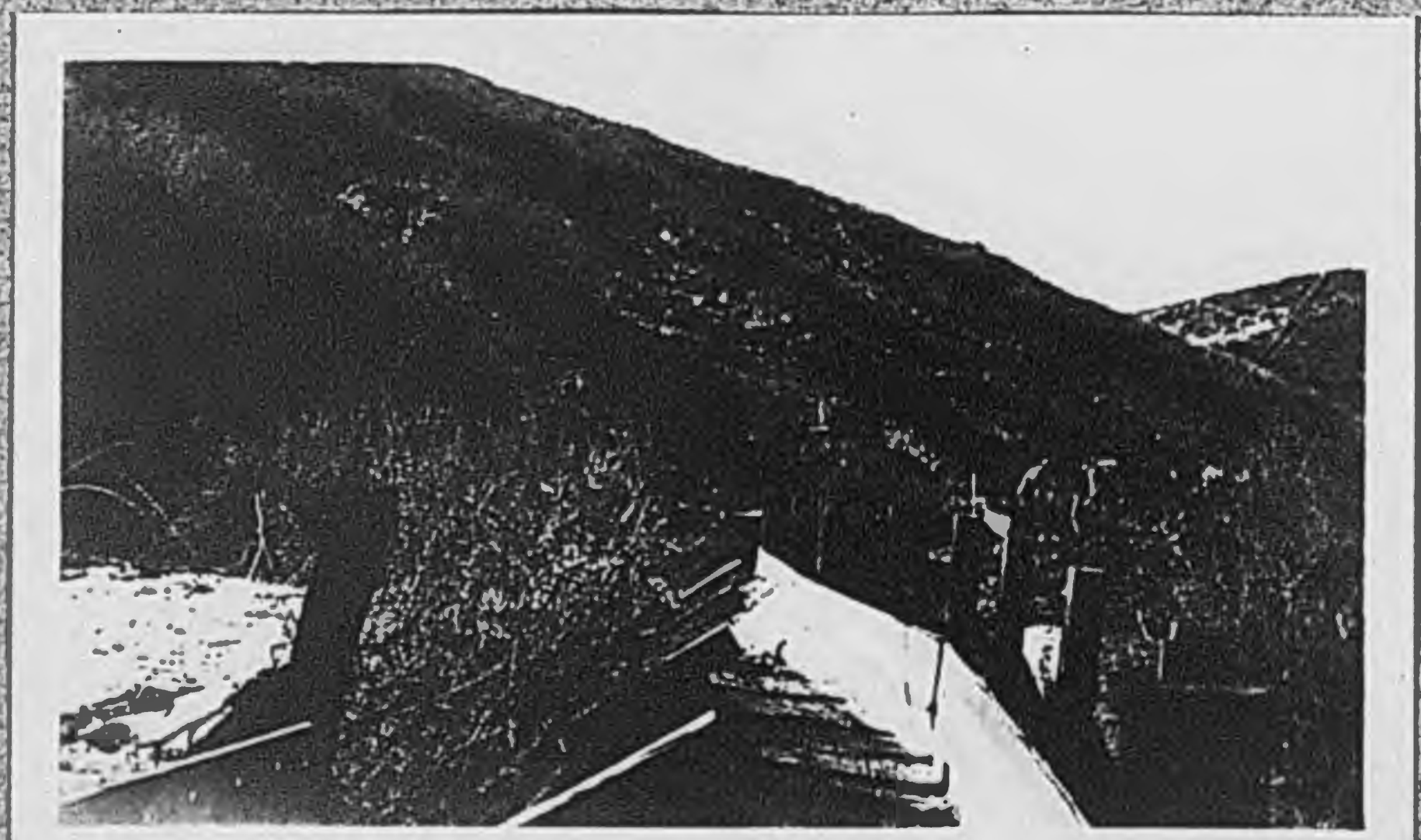
Shows Erosion of Material Below Dam.

and Undermining of East Wing Wall.

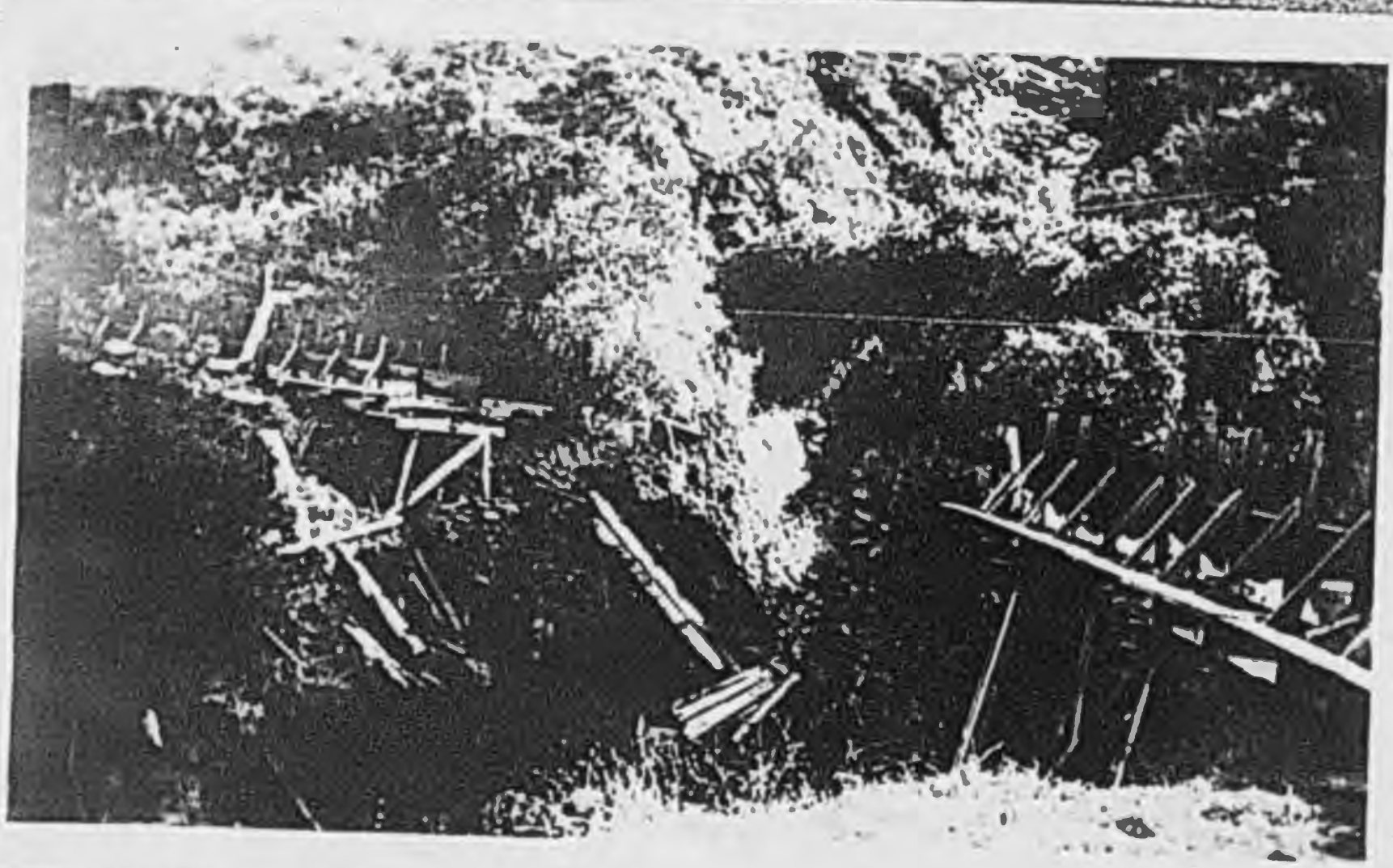
Repairing Main Flume

Clearing Debris off Flume Bench.

Breaks on Main Flume.



Break on Main Flume

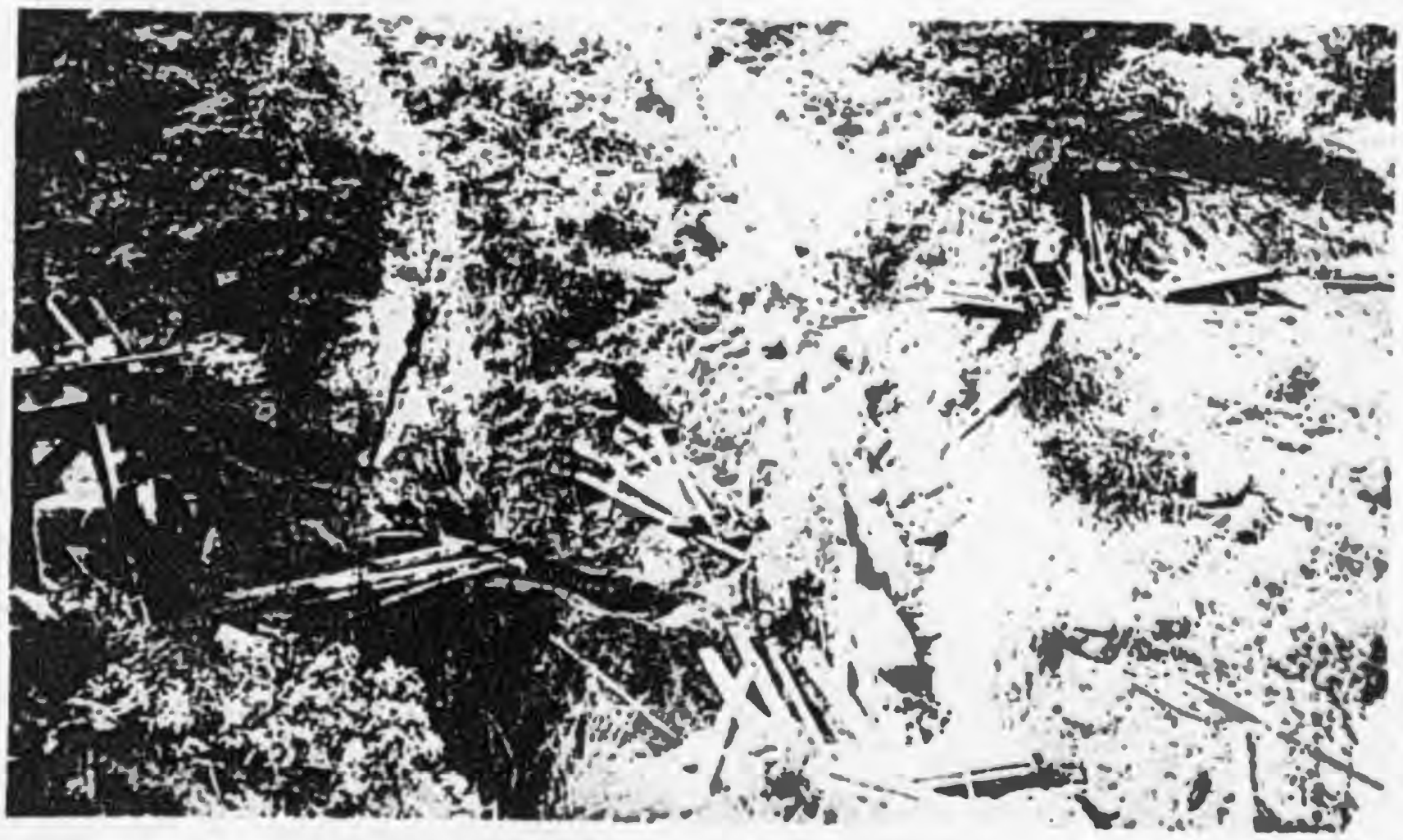


Broken Trestle on Main Flume

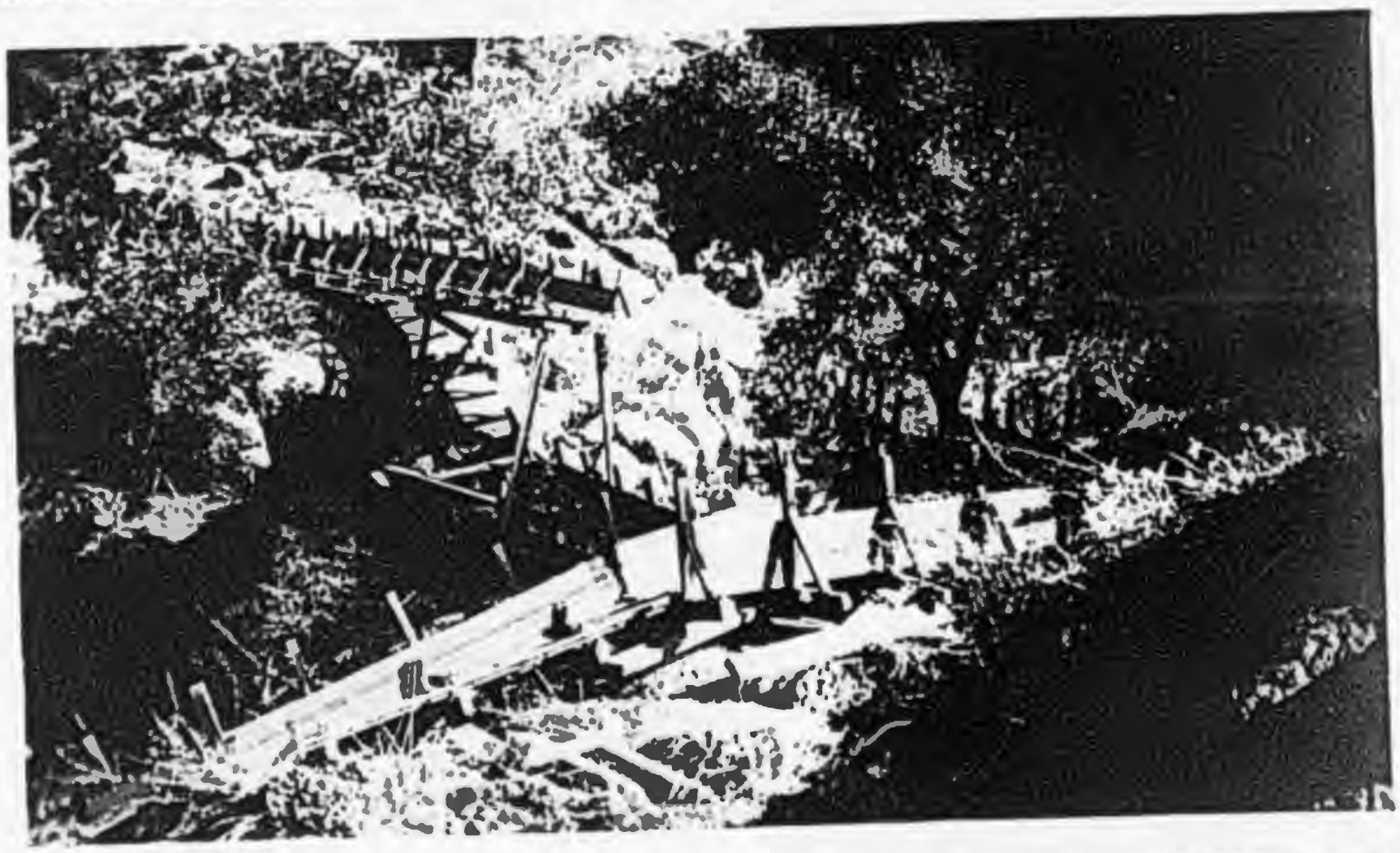
Broken Trestles on Main Flume.

Broken Trestles

on Main Flume.



Broken Trestles on Main Flume



Original Trestle Torn out by Landslide

Broken Trestle on Main Flume.

Junction of Main Flume, South Fork Syphon, and South Fork Feeder after Repairs.

South Fork Feeder

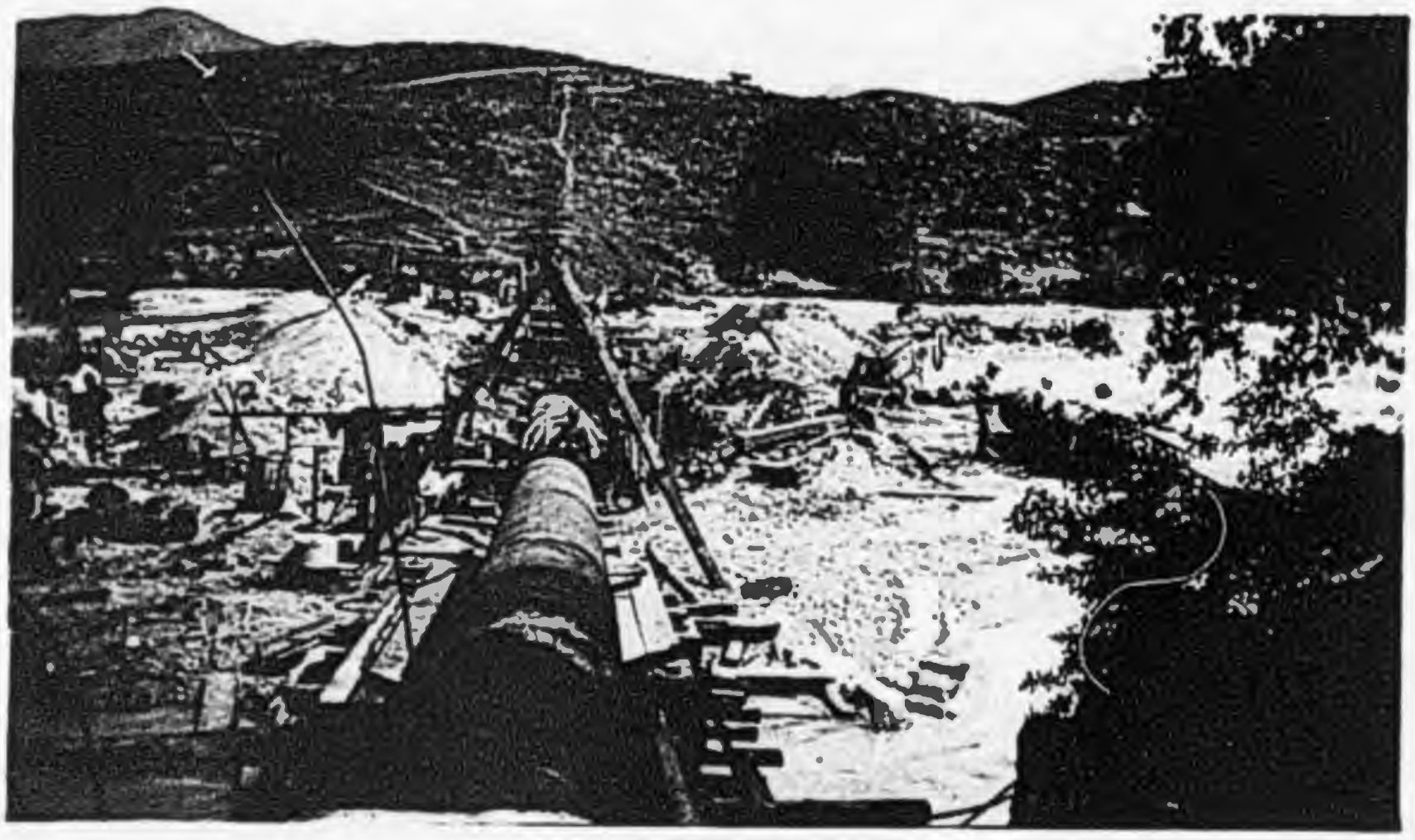
Temporary Repairs just below Diversion.

South Fork Feeder

Showing Damage

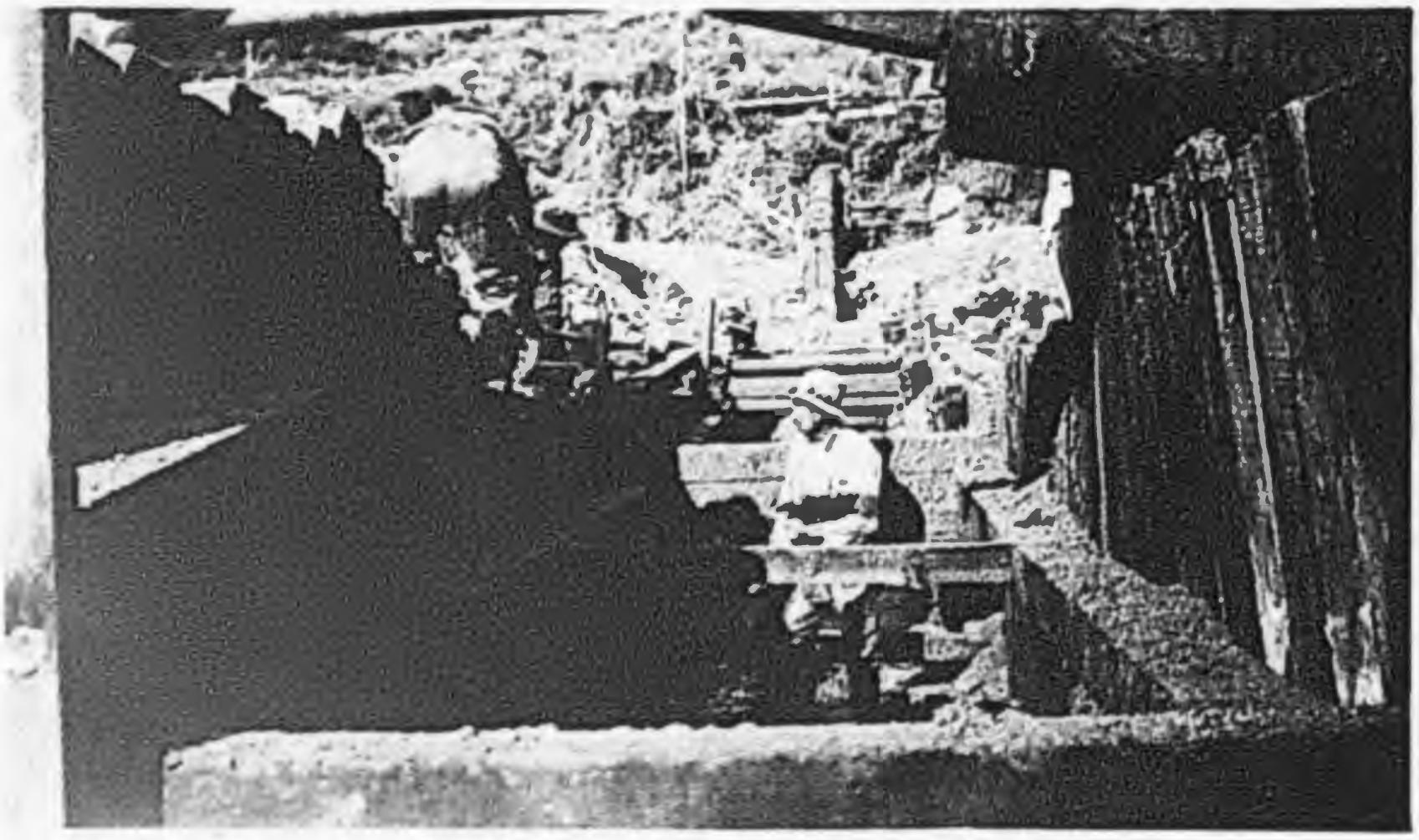
to Flume

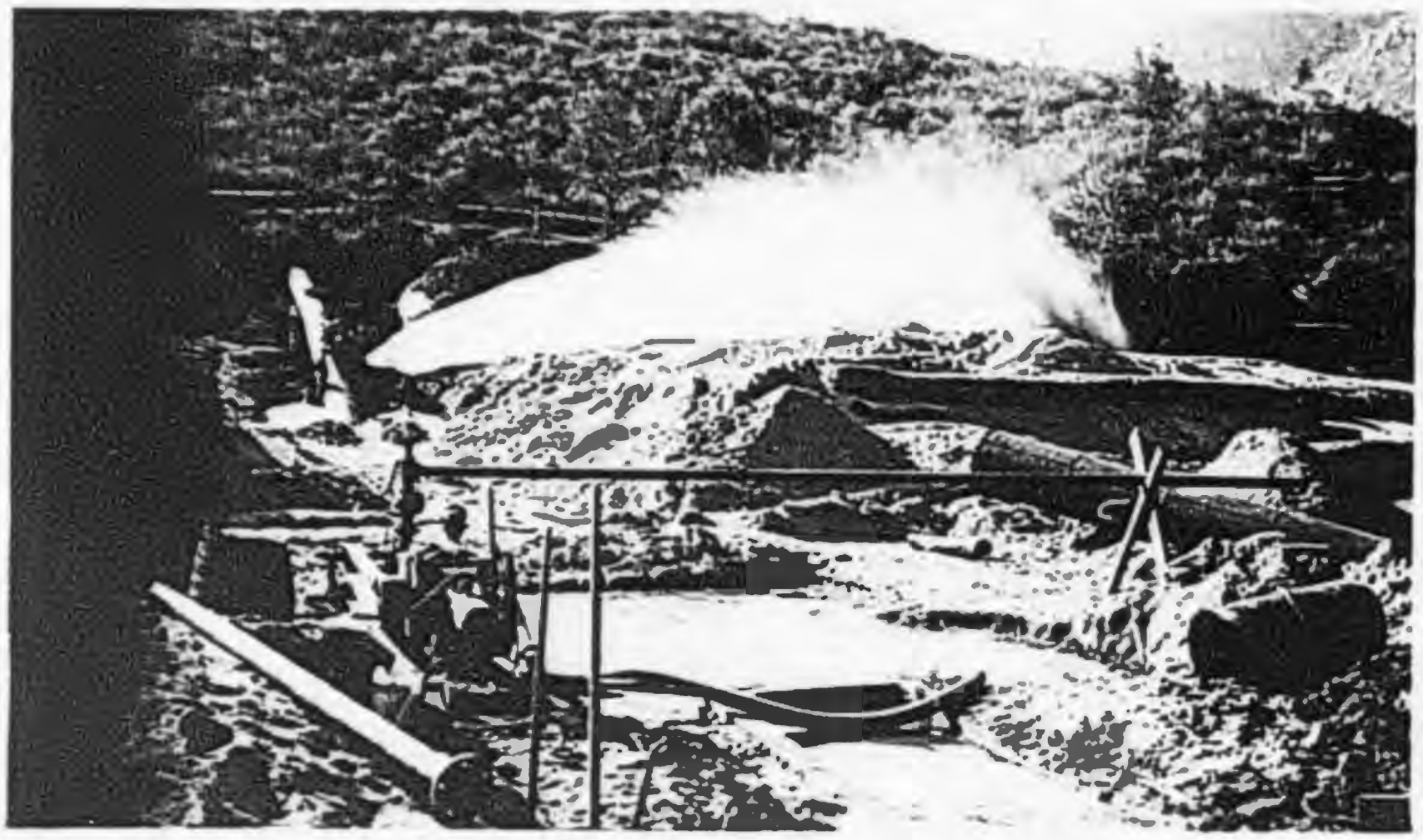
Repairing Sand Creek Syphon.



Repairs to Sand Creek Syphon.

Repairing Chocolate Syphon.



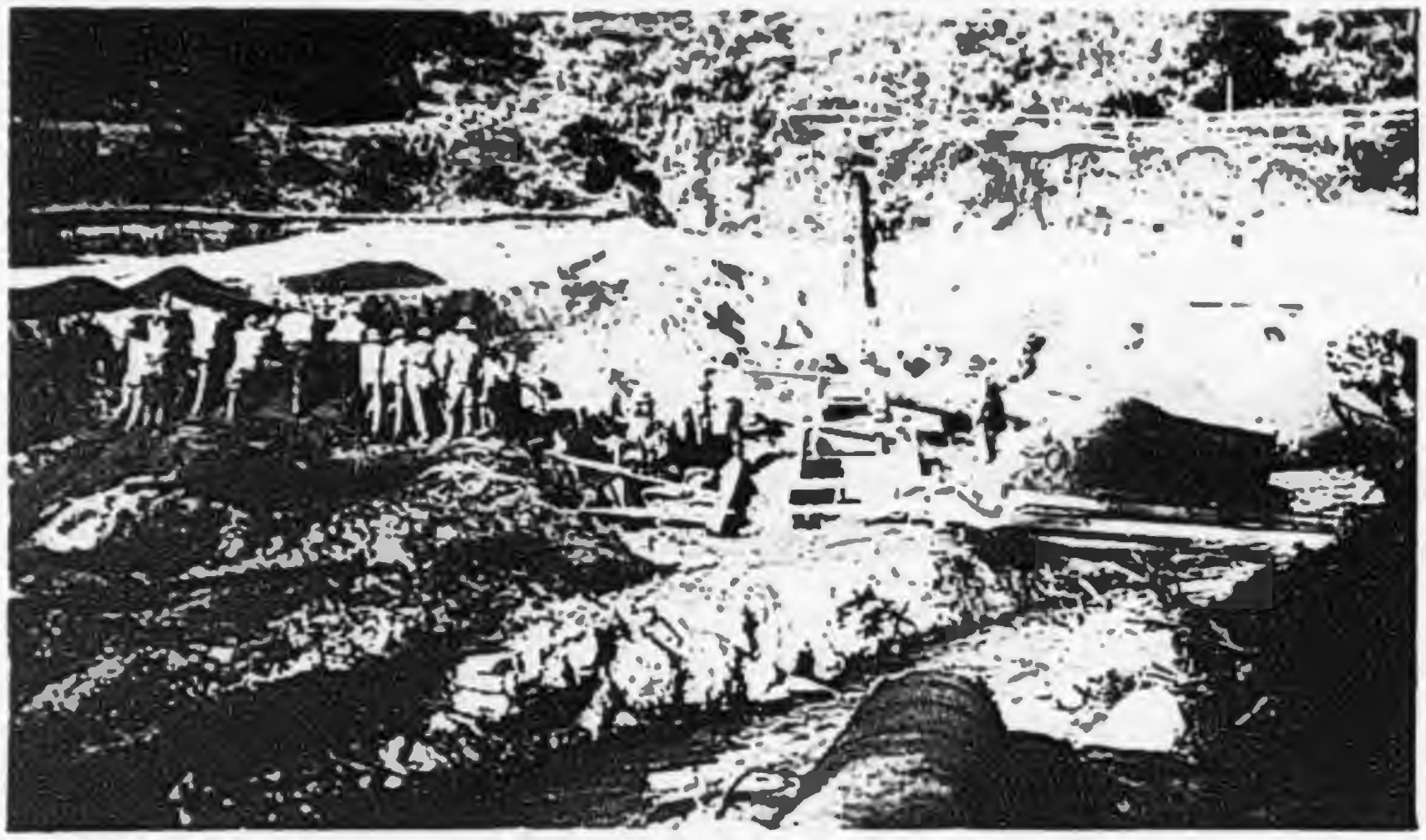


Repairing Chocolate Syphon.

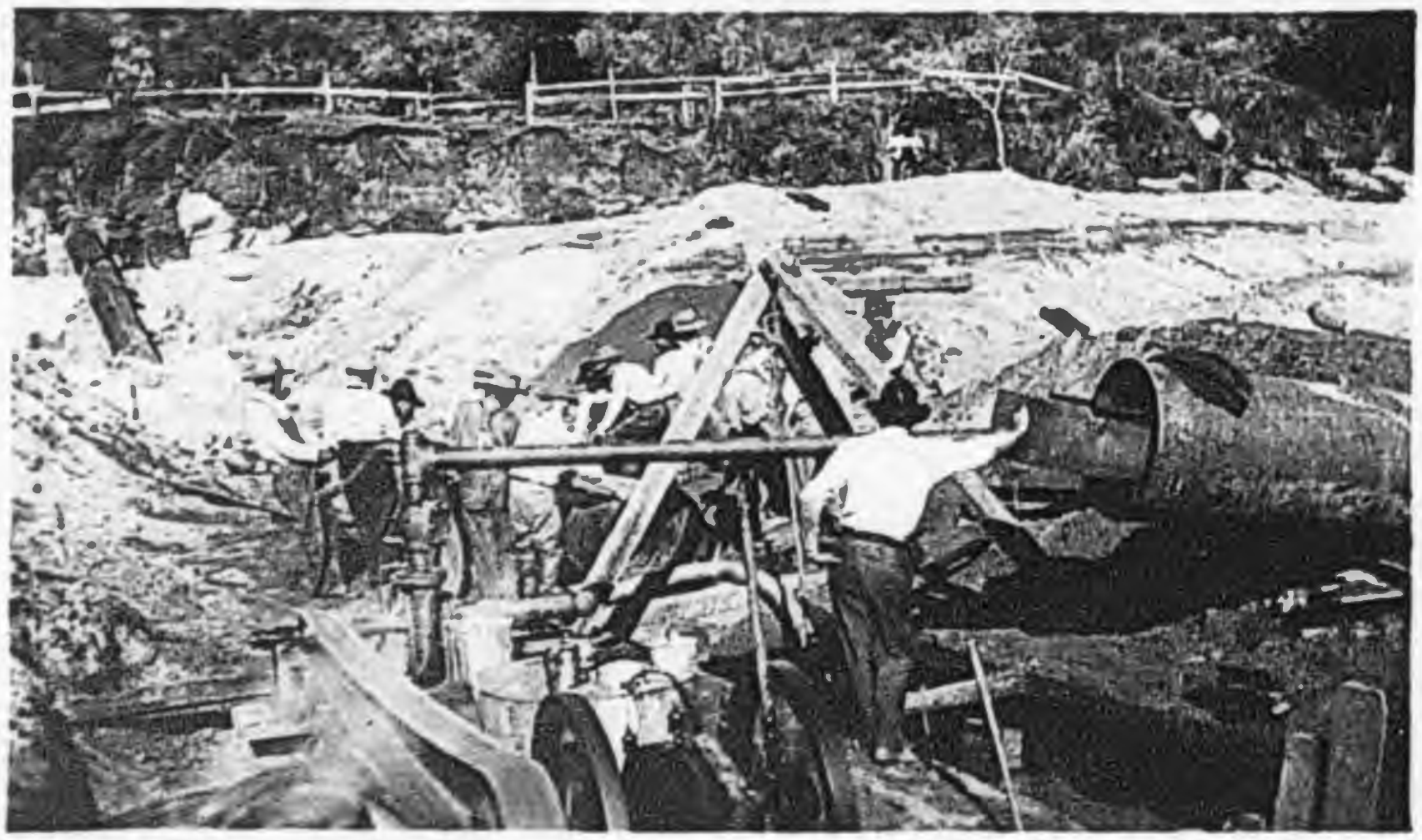
Damage to Chocolate Syphon

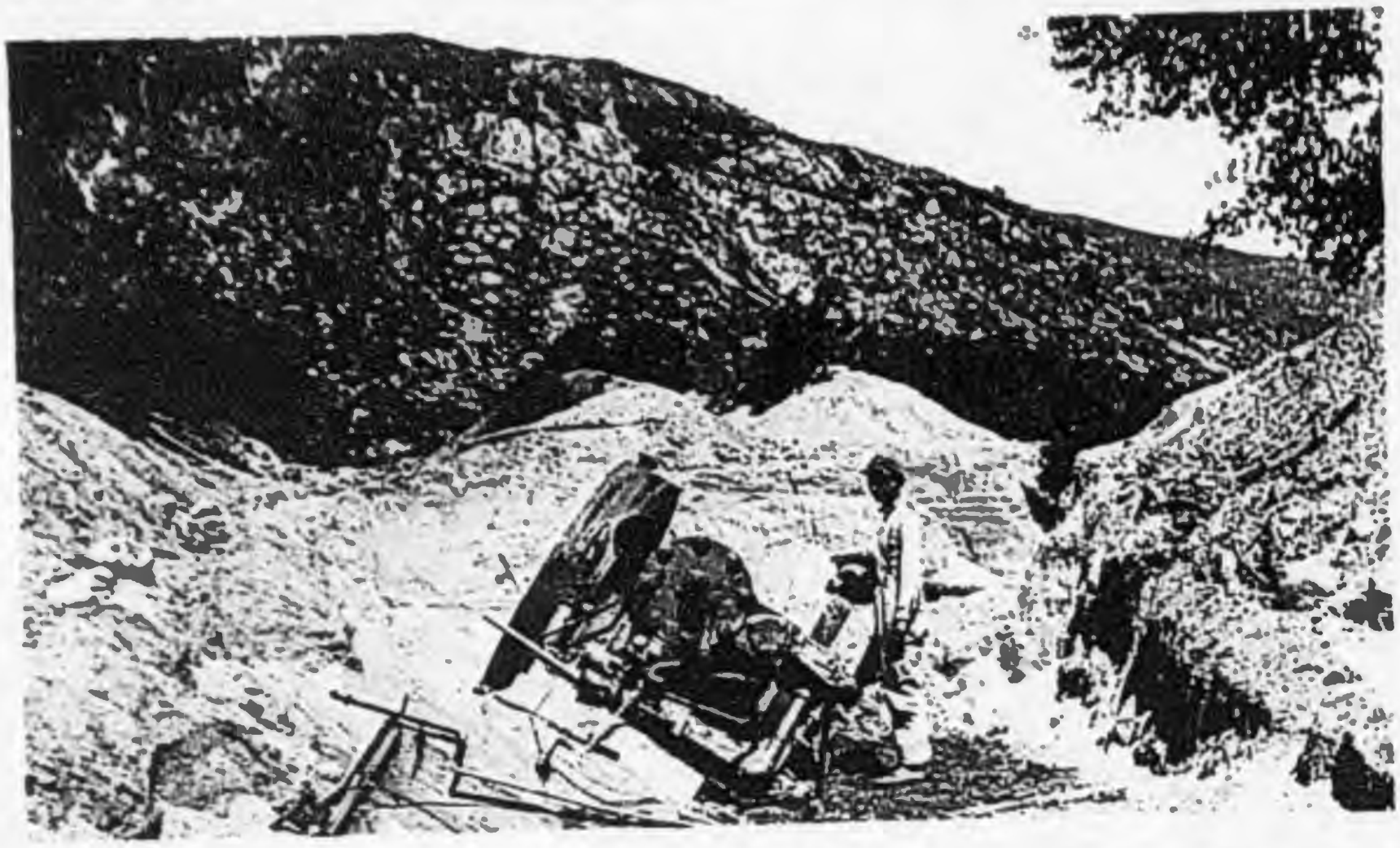
Repairing Chocolate

Syphon.



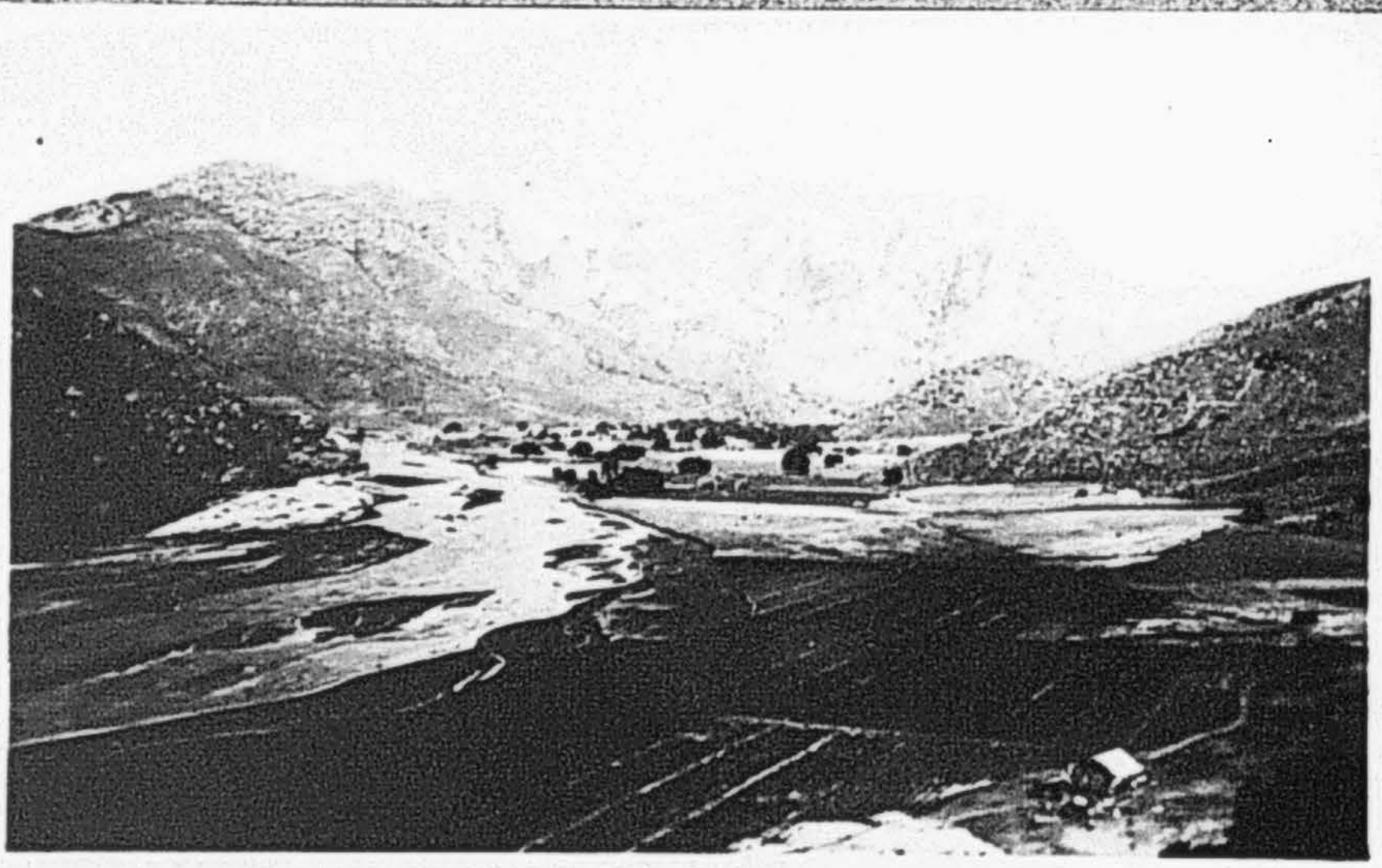
Repairing Chocolate Syphon.





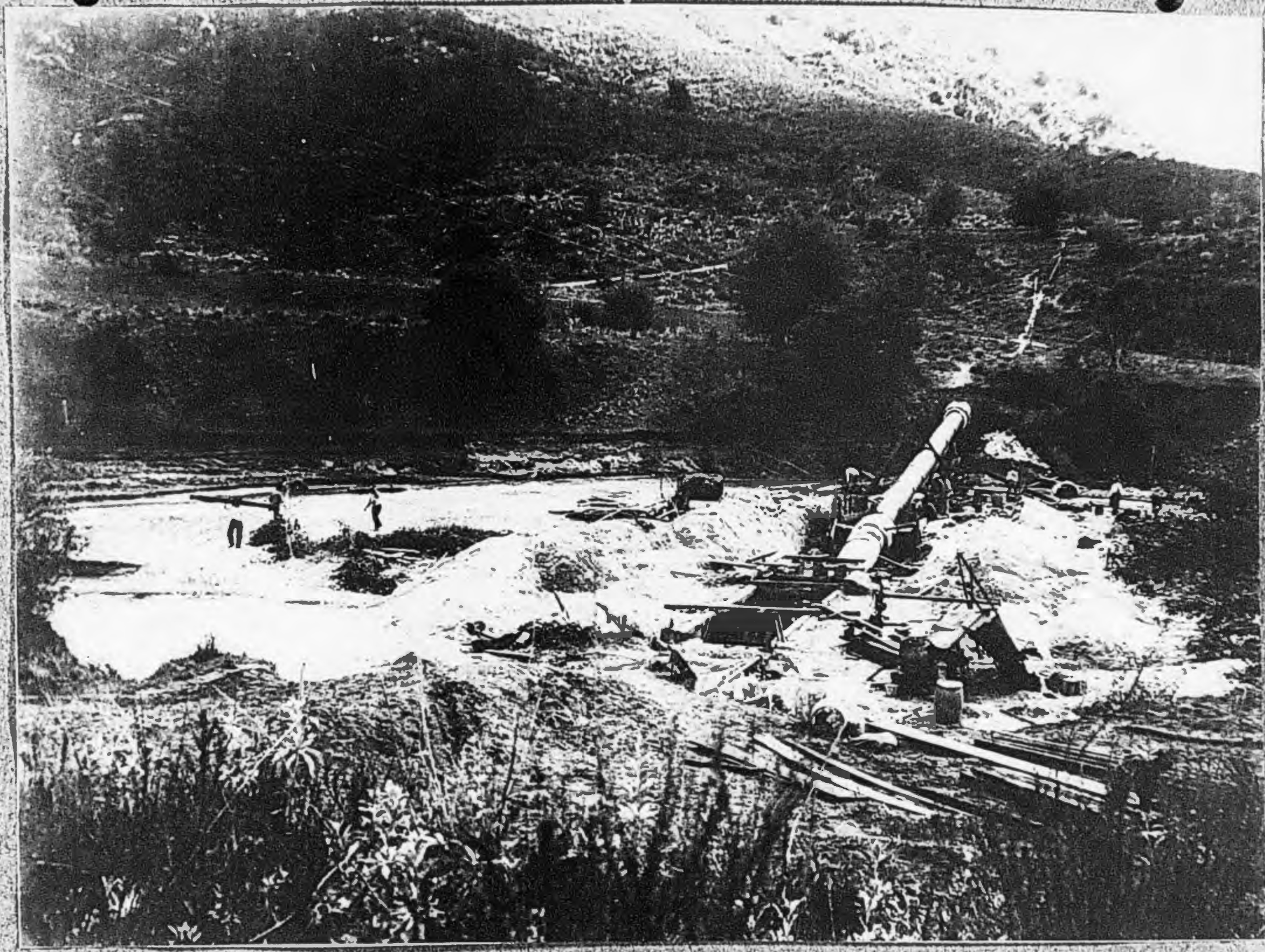
Damage to
Sand Creek
Pumping Plant

Chocolate Pumping Plant after the Flood



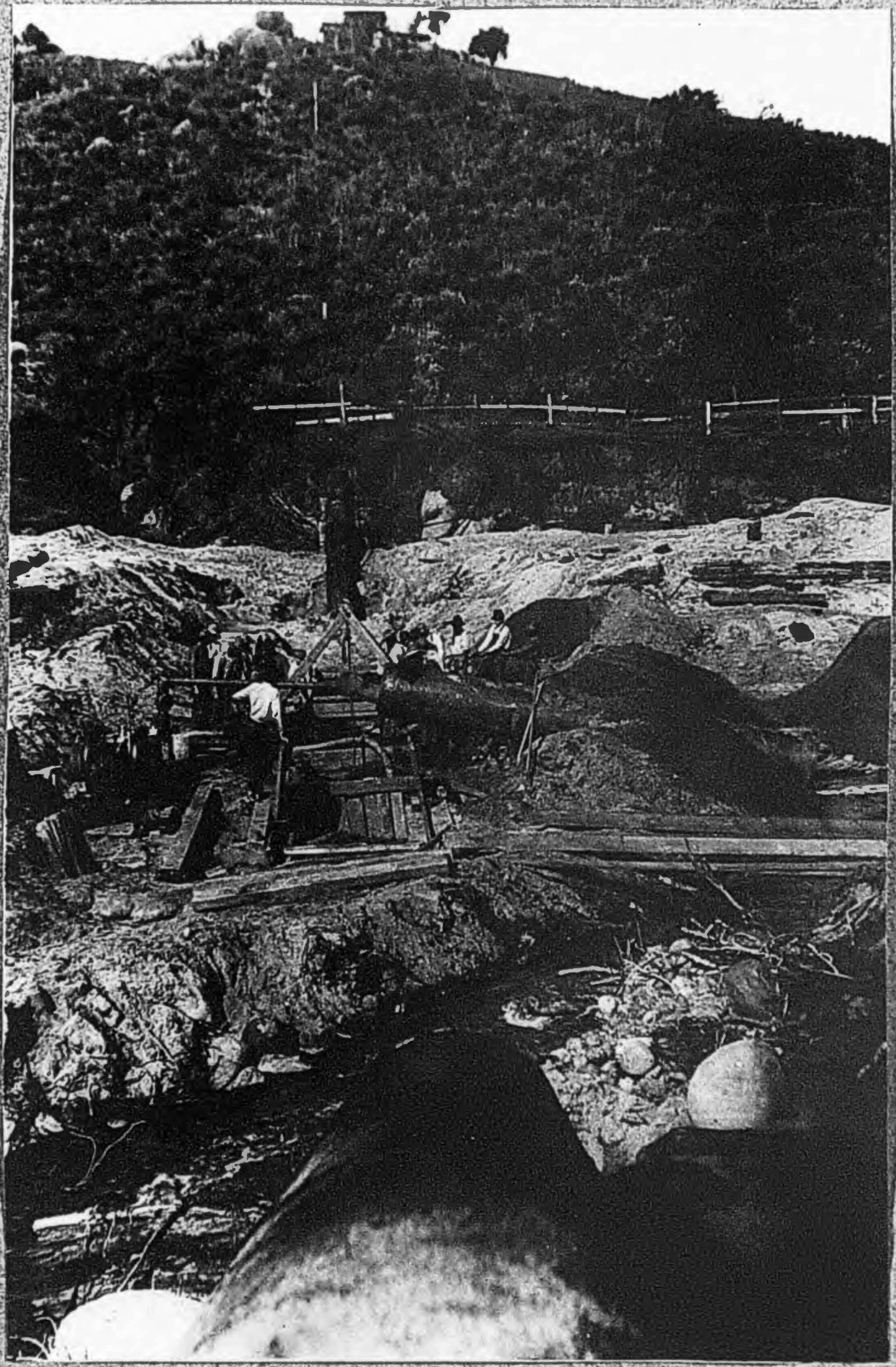
Showing Damage to Lands on El Monte Ranch River has cut off Large Tracts of Bottom Lands

Note:- Scars left by Land Slides

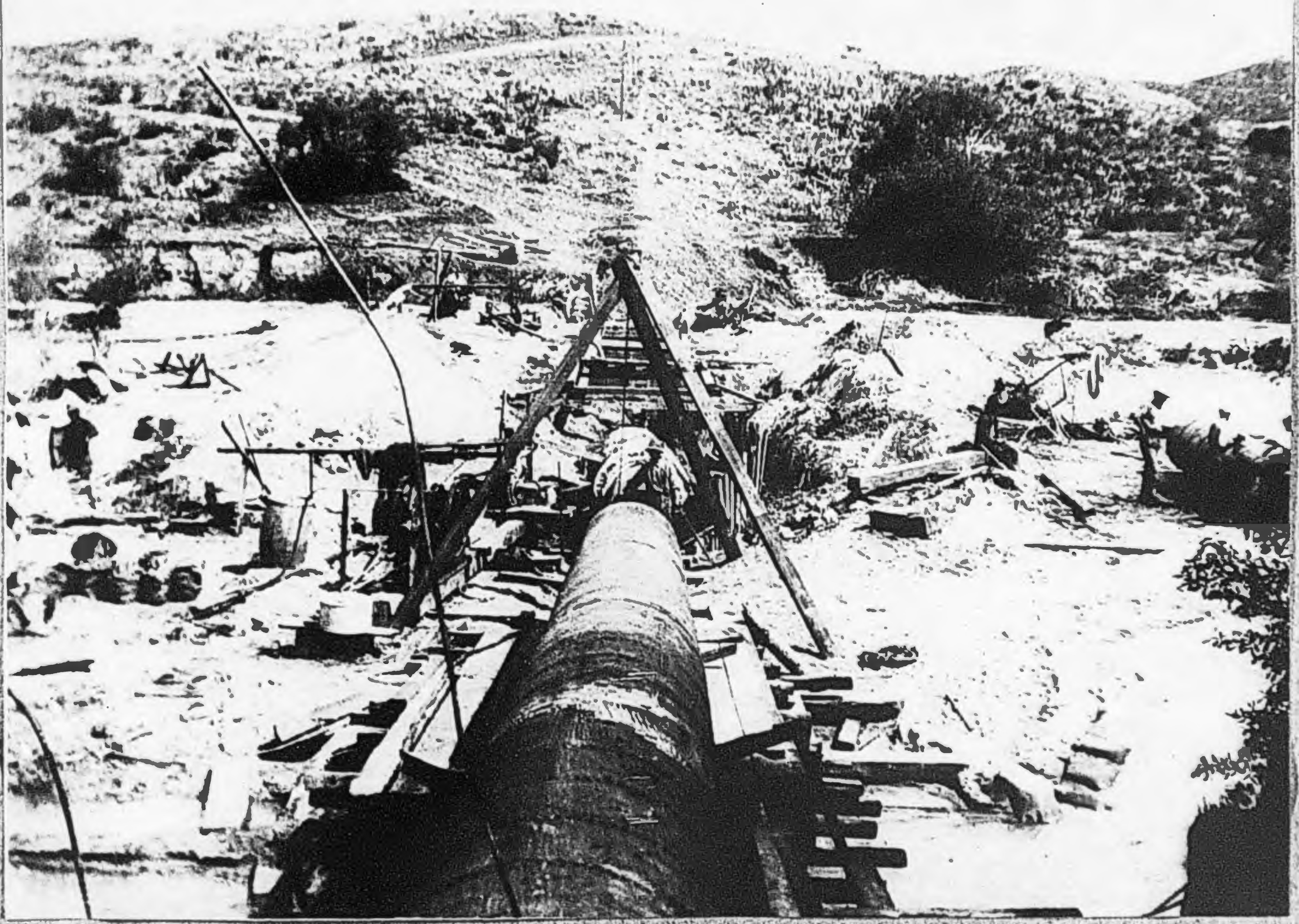


Reparing Sand Creek Syphon - Note Sheet Piling, Gasolene Engine and Pump, also section of Steel Pipe across break in Concrete Pipe.

Repairing Chocolate Syphon. Note Sheet Piling, Pump and Diversion of Creek.



Repairing Chocolate Syphon.



Repairing Sand Creek Syphon.

Ed Fletcher Papers

1870-1955

MSS.81

Box: 58 Folder: 5

Business Records - Water Companies - Cuyamaca Water Company - State Railroad Commission - Exhibit 72: Photographs showing January 1916 flood damage and repair