15226000 SOLOMON GULCH NEAR VALDEZ

LOCATION.--Lat 61°05'02", long 146°18'13", in NE$^1/_4$ SE$^1/_4$ SW$^1/_4$ sec. 16, T. 9 S., R. 6 W. (Valdez A-7 SE quad), Hydrologic Unit 19020201, at bridge crossing at mouth and 3.8 mi southeast across Port Valdez from Valdez.

DRAINAGE AREA.--19.7 mi^2.

PERIOD OF RECORD.--July to December 1948, October 1949 to September 1956, and September 1986 to current year.

GAGE.--Nonrecording gage. Elevation of gage is at sea level. July 9, 1948 to May 21, 1950, nonrecording gage, and May 22, 1950 to September 30, 1956, water-stage recorder at about present site and datum.

REMARKS.-- Records fair. Discharge data represent the flow at mouth which includes Solomon Gulch at top of falls (station 15225997), power plant tailrace (station 15225996), and all fish hatchery diversions. Water for power generation is diverted by a dam at Solomon Lake, 0.8 mi upstream. Water is diverted for the fish hatchery by a 24-in. penstock aeration system, and a 24-in. penstock line from the tailrace weir pool. An unaerated penstock and an 8-in. pipe for warm water supply are upstream. Additional water is diverted to the fish hatchery from Solomon Gulch bypass channel about 750 ft above gage, by means of a 12-in. diameter pipe. The fish hatchery discharges water directly into Port Valdez. Average daily diversion to fish hatchery for 2004 water year was 11.6 ft^3/s. Power generation began January 6, 1982.

COOPERATION.--Records of daily discharge diverted to the fish hatchery are furnished by Valdez Fisheries Development Association. Copper Valley Electric Association provides tables of hourly power output through the turbines and monthly storage values for Solomon Lake.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	511	120	77	63	57	68	e75	90	198	216	228	253
2	412	e120	64	70	75	62	75	107	210	186	240	252
3	825	e125	65	69	79	63	69	100	210	215	243	248
4	454	e125	63	71	79	69	72	101	210	211	238	240
5	392	e123	71	75	73	68	77	114	208	221	239	239
6	318	e101	68	69	69	71	79	124	203	222	242	238
7	295	e101	70	e68	60	71	80	194	202	224	242	245
8	261	e127	87	60	54	86	74	227	212	222	235	248
9	250	e108	87	54	64	88	74	225	212	220	248	249
10	217	e112	69	e64	e66	82	66	233	209	208	249	156
11	206	e122	67	61	e68	69	63	234	209	208	250	117
12	209	e111	68	62	e66	70	72	231	205	220	247	116
13	220	e111	65	66	66	69	77	233	204	210	217	100
14	219	101	67	68	60	62	74	231	209	218	251	92
15	216	96	85	e60	62	76	76	224	215	225	250	90
16	e194	102	88	e64	80	77	81	225	214	238	241	96
17	e199	123	86	79	87	69	75	232	216	232	243	95
18	e199	120	83	76	85	84	70	231	214	231	256	88
19	e199	108	69	70	83	e90	63	230	210	231	260	92
20	e204	90	62	66	69	87	61	133	208	233	211	91
21	e204	81	60	63	e64	81	72	220	214	231	250	87
22	e204	76	e59	80	e60	72	86	206	211	229	246	96
23	e204	76	e60	80	e65	76	90	210	213	226	252	98
24	e205	82	60	66	e68	79	93	227	212	225	255	88
25	e207	100	63	68	80	95	92	218	195	223	255	96
26	e202	105	75	64	76	97	102	198	214	228	254	148
27	e206	87	e81	67	76	83	108	194	215	234	256	196
28	e205	87	e64	65	69	82	105	192	178	238	246	247
29	e164	83	59	79	68	84	95	186	218	233	237	249
30	e214	74	55	80	---	91	89	183	217	239	242	429
31	e134	---	61	58	---	81	---	187	---	236	247	---
TOTAL	8149	3097	2158	2105	2028	2402	2385	5940	6265	6933	7570	5079
MEAN	263	103	69.6	67.9	69.9	77.5	79.5	192	209	224	244	169
MAX	825	127	88	80	87	97	108	234	218	239	260	429
MIN	134	74	55	54	54	62	61	90	178	186	211	87
AC-FT	16160	6140	4280	4180	4020	4760	4730	11780	12430	13750	15020	10070

ADJUSTED FOR CHANGE IN STORAGE IN SOLOMON LAKE

MEAN	190	51.1	19.2	e0.0	e5.3	7.0	11.9	321	409	268	222	263
AC-FT	11660	3040	1180	e0.0	e300	430	710	19730	24330	16450	13620	15670
CFSM	9.63	2.59	0.97	e0.0	e0.27	0.35	0.61	16.29	20.75	13.58	11.24	13.37
IN	11.11	2.90	1.12	e0.0	e0.29	0.41	0.68	18.80	23.18	15.67	12.98	14.93

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1986 - 2004, BY WATER YEAR (WY)#

MEAN	201	109	98.2	92.5	89.1	83.5	75.8	154	186	266	296	323
MAX	435	228	180	138	130	138	132	213	229	410	462	501
(WY)	2003	2003	2003	1995	1987	2003	2003	1993	1990	2001	1993	1989
MIN	97.2	77.1	69.0	63.0	58.9	5.08	26.2	103	145	177	152	152
(WY)	1997	1993	2002	2003	2002	1991	1991	1992	1988	1991	1996	1996

e Estimated

15226000 SOLOMON GULCH NEAR VALDEZ—Continued

SUMMARY STATISTICS	FOR 2003 CALENDAR YEAR		FOR 2004 WATER YEAR		WATER YEARS 1986 - 2004#	
ANNUAL TOTAL	58262		54111			
ANNUAL MEAN	160		148		165	
ANNUAL MEAN	*154		*147		*165	
HIGHEST ANNUAL MEAN					197	1990
LOWEST ANNUAL MEAN					125	1996
HIGHEST DAILY MEAN	825	Oct 3	825	Oct 3	2270	Sep 24 1989
LOWEST DAILY MEAN	50	Jan 20	a54	Jan 9	1.0	Apr 12 1989
ANNUAL SEVEN-DAY MINIMUM	54	Feb 11	62	Dec 19	2.3	Mar 24 1991
ANNUAL RUNOFF (AC-FT)	115600		107300		119800	
ANNUAL RUNOFF (AC-FT)	*111950		*107120		*119500	
ANNUAL RUNOFF (CFSM)	*7.80		*7.47		*8.38	
ANNUAL RUNOFF (IN)	*106.67		*102.07		*113.74	
10 PERCENT EXCEEDS	235		243		279	
50 PERCENT EXCEEDS	127		106		123	
90 PERCENT EXCEEDS	58		64		68	

PRIOR TO CONSTRUCTION OF SOLOMON GULCH HYDROELECTRIC PROJECT

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1948 - 1956, BY WATER YEAR (WY)#

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	124	58.9	18.3	13.3	10.4	8.82	10.9	102	370	385	322	260
MAX	304	131	35.6	20.9	12.2	11.1	18.3	224	544	514	442	574
(WY)	1953	1953	1950	1956	1954	1953	1953	1953	1953	1955	1956	1951
MIN	48.0	21.7	4.00	1.40	3.57	7.19	6.57	36.5	261	277	254	126
(WY)	1951	1951	1949	1951	1951	1951	1950	1955	1951	1950	1950	1955

SUMMARY STATISTICS		WATER YEARS 1948 - 1956#	
ANNUAL MEAN	143		
HIGHEST ANNUAL MEAN	194		1953
LOWEST ANNUAL MEAN	126		1950
HIGHEST DAILY MEAN	1530	Sep 4	1951
LOWEST DAILY MEAN	.50	Dec 31	1950
ANNUAL SEVEN-DAY MINIMUM	1.0	Jan 10	1951
MAXIMUM PEAK FLOW	b2420	Sep 4	1951
MAXIMUM PEAK STAGE	c6.50	Sep 4	1951
INSTANTANEOUS LOW FLOW	d.00	Feb 20	1954
ANNUAL RUNOFF (AC-FT)	103900		
ANNUAL RUNOFF (CFSM)	7.28		
ANNUAL RUNOFF (INCHES)	98.89		
10 PERCENT EXCEEDS	396		
50 PERCENT EXCEEDS	49		
90 PERCENT EXCEEDS	8.0		

\# See Period of Record and Remarks. Values shown on this page are unadjusted for change in storage in Solomon Lake, unless otherwise noted
* Adjusted for change in storage in Solomon Lake
a Jan. 9 and Feb. 8
b From rating curve extended above 620 ft^3/s
c Site and datum then in use
d No flow sometime during period Feb. 20 to Mar. 3, 1954, caused by temporary storage upstream