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begin hydrologic studies

15-12-315

The estimates are for the months of August ~~and~~ September - the season of greatest rainfall potential. For the snowmelt season, multiply the estimates by 70 percent.

The estimates take into account numerous considerations including several methods of modifying PMP estimates made previously for other Alaska drainages, and PMP estimates from the Western United States for areas with similar terrain.

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15-12-316

Temperatures and Dew Points for Snowmelt

A. During PMP Storm

1. Dew point for PMP centered on June 15 = 56°F (assume maximum 1-day PMP in middle of 3-day storm).
2. For PMP placement prior to June 15 subtract 0.8°F for each 3-day period prior to June 15 (e.g. the PMP dew point for June 12 will be 55.2°F). This -0.8°F per 3-days may be applied to obtain the maximum 1-day dew point during the PMP back to as early as May 15.
3. For first day of PMP storm, subtract 1°F from criteria of 2; for 3rd day of PMP storm subtract 2°F.
4. Add 2°F to each of the three daily dew points to get daily temperatures for the 3-day PMP period.

B. Temperatures and Dew Points Prior to 3-Day PMP Storm (High dew point case)

Adjustment to temperature and dew point on
day of max PMP

<u>Day prior to PMP</u>	<u>Temperature (°F)</u>	<u>Dew point (°F)</u>
1st	-2	-2
2d	-1	-4
3rd	0	-4
4th	+1	-5

C. Temperatures, Dew Points Prior to 3-day PMP
(High temperature case)

Adjustment of temperature and dew point on
day of maximum PMP

<u>Day prior to PMP</u>	<u>Temperature (°F)</u>	<u>Dew point (°F)</u>
1st	+1	-12
2d	+2	- 9
3rd	+4	- 7
4th	+7	- 6

Elevation Adjustment

For the 3 days of PMP and for the high dew point ^{case}, apply a -3°F per 1000 ft to the temperatures and dew points. The basic criteria are considered applicable to 1000 mb or zero elevation.

For the high temperature criteria apply a -4°F per 1000 ft increase in elevation.

Half-day Values

If half-day values are desired for temperatures and dew points, the following rules should be followed:

1. For the high-temperature sequence, apply an 18°F spread for temperatures and a 6°F spread for dew point. For example, for a mean daily dew point of 50°F , the half-day values would be 47°F and 53°F .
2. For the high dew point case, apply a 12°F spread for temperature and a 4°F spread for dew point.

3. In no case, however, should a 12-hr dew point be used that exceeds the 1-day value for that date. For example, the value not to be exceeded for June 15 is 56°F, for June 3 (four 3-day periods before June 15) is 52.8°F.

Wind Criteria for Snowmelt

Since two sets of criteria (one emphasizing high temperature and the other high dew point sequences) are given for snowmelt prior to PMP, two sets of wind criteria are also necessary since the pre-PMP synoptic situation favoring high temperatures differs from the criteria favoring high dew points. The recommended winds, tables 2 and 3, are given by elevation bands. In the high dew-point case, table 2, (where synoptic conditions^{exist} favoring maritime influences prior to PMP), the same wind for 4-days prior to PMP is appropriate.

All of the winds presented in tables 2 and 3 have been adjusted for applicability over a snow surface. Although a seasonal variation in the high dew point wind criteria is realistic for the present tentative criteria, they are considered applicable to May and June.

Snowmelt Winds During the PMP

Wind criteria for the 3-day PMP are the same for both the high temperature and high dew point sequences. They are shown in table 4.

15-12-320

Snow Pack Available for Melt

Some work was done in determining the mean and maximum October-April precipitation of record for the available precipitation stations. These stations and other data are tabulated in table 5. The drainages and available stations are shown in figure 1.

Table 5 also shows the years of record available for October-April precipitation, as well as a column labeled "synthetic October-April precipitation." This gives the sum of the greatest October, greatest November, etc., to the greatest April precipitation total from the available record. These synthetic October-April precipitation values and the means are plotted on figure 1.

Approximately 9 years of snow course data are available for 14 locations in and surrounding the Susitna drainage. From these records, the greatest water equivalents were plotted on a map. These varied from a low of 6 inches at Oshetka Lake (elevation 2950 ft) to an extreme of 94.5 inches at Gulkana Glacier, station C (elevation 6360 ft). A smooth plot of all maxima against elevation gave a method of determining depths at other elevations. Figure 2 shows resulting smooth water equivalents based on smoothed elevation contours and this relation.

Some additional guidance could be obtained from mean annual precipitation maps. One such map available to us is in NOAA Technical Memorandum NWS AR-10, "Mean Monthly and Annual Precipitation, Alaska." The mean annual of this report covering the Susitna drainage is shown in figure 3.

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15-12-04

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Calculations

SUBJECT:

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BY _____ DATE _____

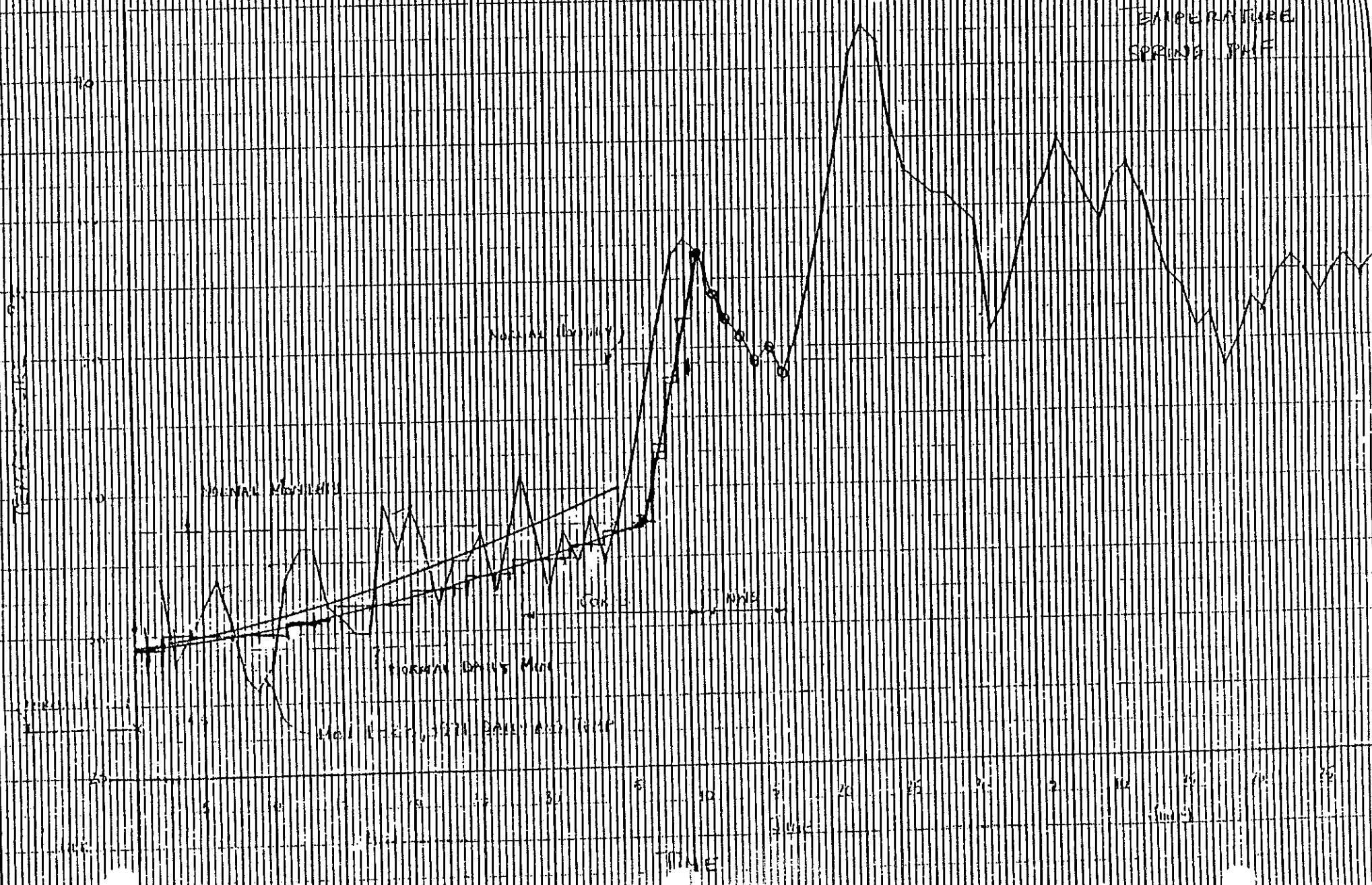
APP _____ DATE _____

TABLE 1

Sub basin	D. A.	% SCA	START SC (ins) (200) June 5	+ DAYS OF MAY MELT. June 9 (2000).	
10	221	100	99	100	
20	694	80	36	25	
80	312	80	15	49	
180	477	79	14	37	June 10
210	44	100	99	100	
220	232	<u>85</u>	27	53	
280	307	72	13	36	
330	48	13	10	2	
340	1047	93	12	85	
380	735	93	26	71	
480	1045	73	25.5	40	
580	628	60	21	31	
680	345	56	21.5	29	

Station 3810 Summit

FIGURE 1
SUBTNA HEP
TEMPERATURE
SPRING PALE





Calculations

SUBJECT:

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FILE NUMBER _____
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BY _____ DATE _____
APP _____ DATE _____

Runs

To evaluate the sensitivity I proposed to amend the May temperatures to that shown in Figure 1. This will probably result in less snowmelt during May and hence leave more snow in lower elevations to melt during the critical temp rise and during the PMP storm. In addition I propose to delay the critical rise by two days as shown in Figure 1. Essentially snowmelt should be delayed until there is a drop in peak discharge (effectively the snowmelt peak component occurring after the rain component).



Calculations

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In some cases, notably in the lower reaches of the basins the snow cover has been depleted to at least 60% of the available area. In all 1274 sq. miles or 21 % of the basin is snow free before the critical snowmelt period.

In the Corps report they noted that they obtained the maximum peak discharge with the latest of three temporal sequences. I interpret this as meaning that the hydrographs yields the maximum runoff when snowmelt is delayed as long as possible.

An inspection of the spring PMF hydrograph shows two distinct peaks. The indication is obviously that snowmelt has either occurred too early or that late elevations (at which melt can occur given the temperature sequences recommended by BUE) are depleted of snow cover.

The sensitivity of the SOARE program to alterations in the timing of the critical temperature sequences is being evaluated. Only the latest temp sequence known available



Calculations

SUBJECT:

CASTIDA H.P.

PMP

TEMPERATURE

SEQUENCE

JOB NUMBER P5700-03.05.002

FILE NUMBER

SHEET

OF

BY DC

DATE 23 Jan 82

APP

DATE

PMP SPRING FLOOD. SENSITIVITY RUNS.

(1) TEMPERATURE SEQUENCE

temperature sequence used by Corps given in Figure 1.

Summit station used as representative of basin.

Corps deviated from recommendation of NWS by taking a temperature lapse rate of 3.3°F per 1000' elevation rise; the recommended lapse rate was $4^{\circ}/1000'$.

Temperature sequence for May used in Spring PMP was actual temperature sequence for May 1971. This temperature sequence may have produced too much ripening and melt of available snow cover before critical temperature rise prior to PMP storm. The % of basins snow covered just before the temperature rise assumed and at time of maximum melt (June 9) is given in Table 1.

(2) RATIONALE

The Corp may have over estimated the temperatures in May resulting in too much runoff prior to the critical snowmelt period preceding the Spring PMP storm centered on June 15.

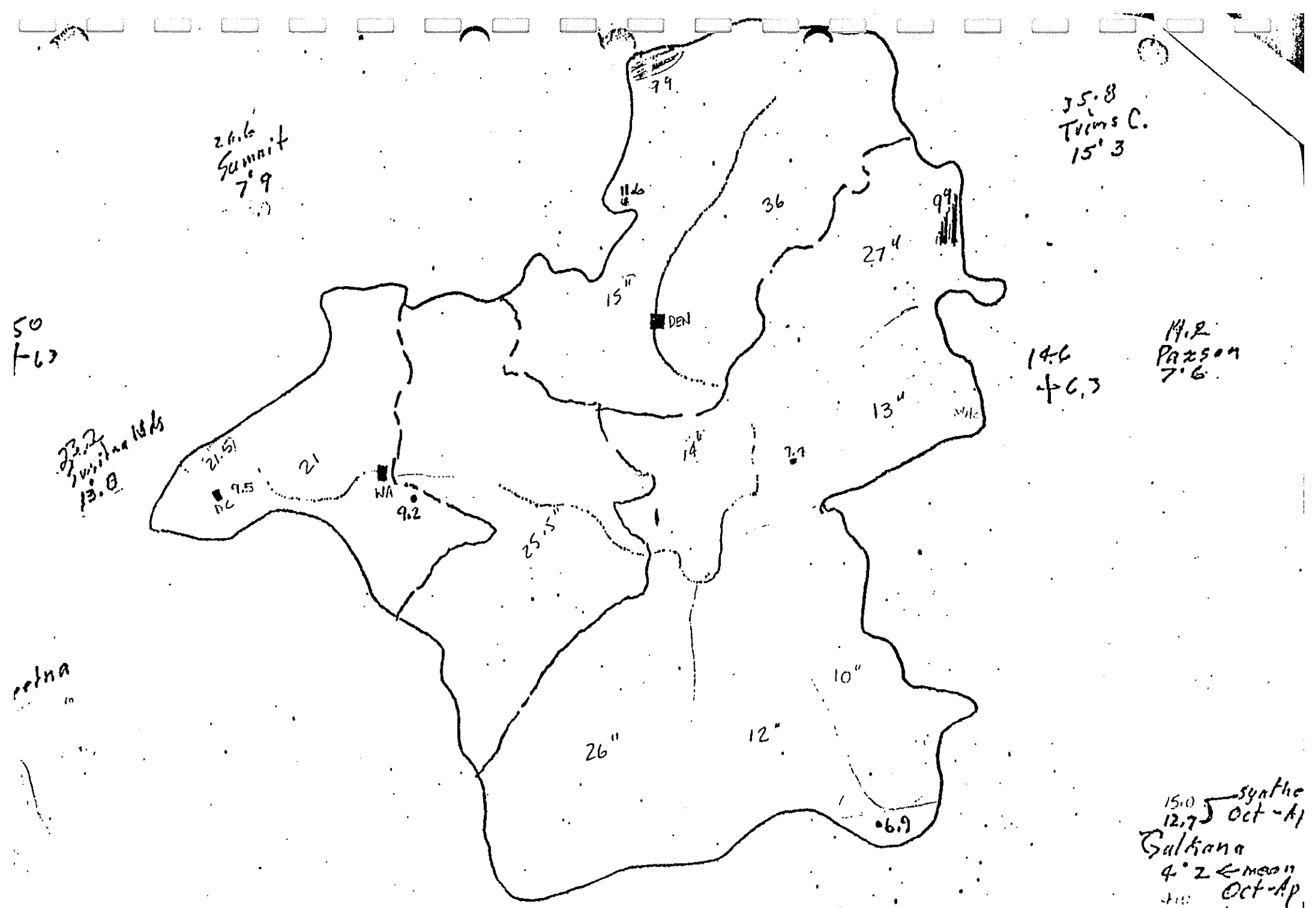


Figure 1.--Drainage outlines and October-April precipitation in inches.
 (Upper values = synthetic October-April precipitation;
 Lower = mean October-April precipitation.)

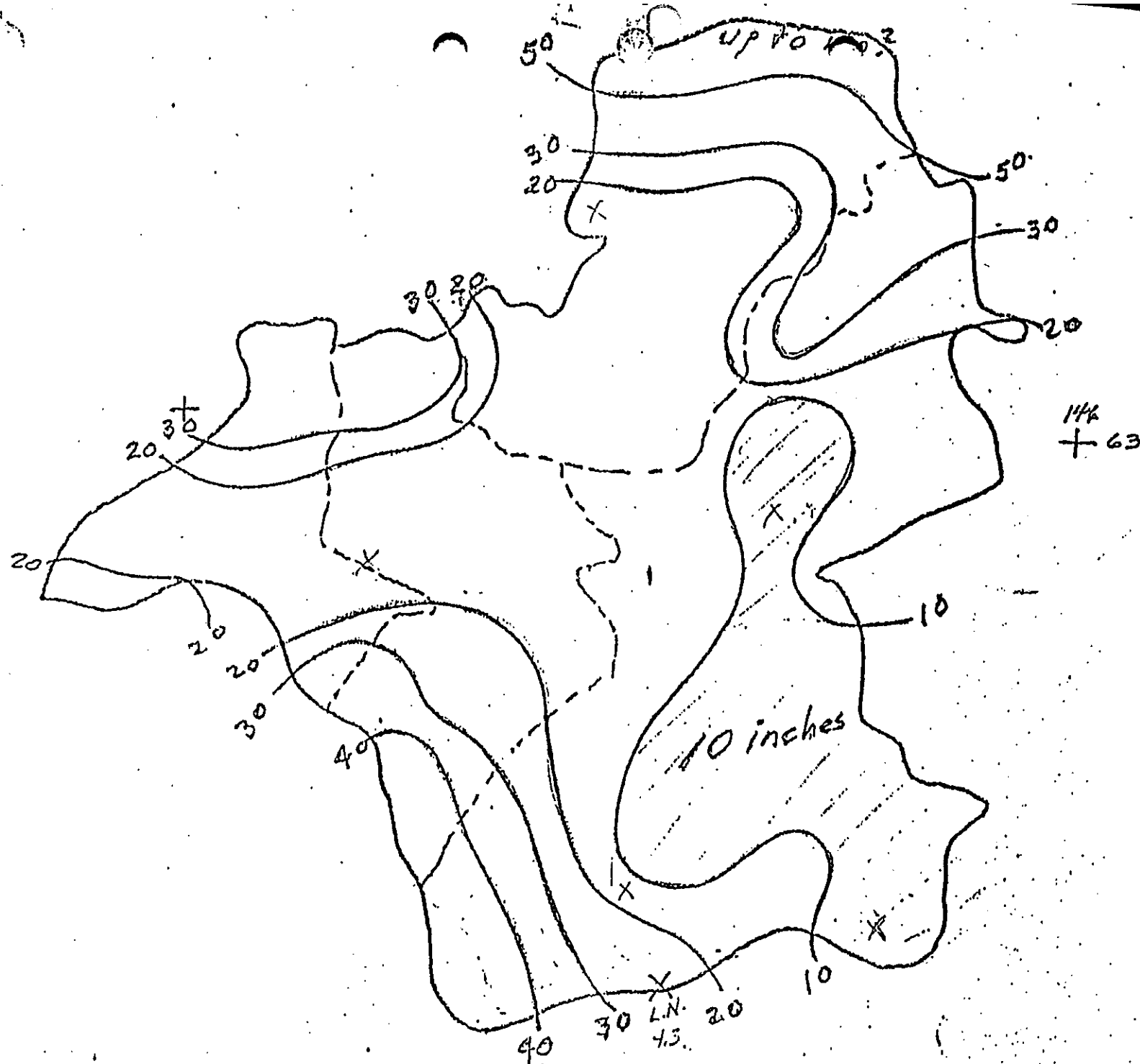


Figure 2.--Minimum water equivalents of snow pack in inches (based on gross smoothing



Calculations

SUBJECT: _____

JOB NUMBER _____

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BY _____ DATE _____

APP _____ DATE _____

TABLE 2.

BASIN	D.A. mi ²	START SNOWPACK ins.
10		99
20		36
80		15
180		14
210		99
220		27
280		13
330		10
340		12
380		26
480		25.5
580		21
680		21.5



Calculations

SUBJECT:

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FILE NUMBER _____
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BY _____ DATE _____
APP _____ DATE _____

The corps assumed a distribution of snow on ground clear from an examination of maximum values of precipitation at stations in and around the Switua Basin. From this they drew a map showing what they believed to be the minimum amount of moisture available for a PMF event^{Figure 1}. This minimum equalled the maximum October through April monthly maxima. Little guidance was obtained from the NWS on amounts ^{of snowfall} that could be obtained in a PMF situation. Actual values used for each subbasin are given in Table 2.

Runs

- PMP
- (a) no arguments against the NWS values can be finalized at this time
- (b) Snow course data for all the now available stations has been requested from ERM with the intention of reviewing the snow course derived water equivalent map. However a run which at least divides the amount of snow on in critical subbasins (eg. the ground) could be made easily to access the sensitivity



Calculations

SUBJECT: Susitna HEP.
PMP PRECIPITATION

JOB NUMBER 25700.03.05.002

FILE NUMBER

SHEET OF

BY DC DATE 26

APP DATE

SSARR Sensitivity Runs

(1) Precipitation.

(a) PMP storm.

The Corps used the storm recommended by the NWS. This storm was centered on June 15 and represented 0.7 times the summer PMP storm. The 12-hour storm is given in Table 1

TABLE 1. SPRING PMP (ins).

Hour	1st Day	2nd Day	3rd Day
0-6	.18	.42	.10
6-12	.35	.84	.21
12-18	.78	1.89	.47
18-24	.27	.63	.16
Totals	1.58	3.78	.94

- 6.2 ins.

(b) Snow on ground.

The derivation of snow fall amounts prior to the start of simulation is somewhat more complicated due to the lack

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15-12-330

PMF Studies - Task 03.05.02

Review of Corps model of Probable maximum flood.

(1) Meteorological Data and Watershed Characteristics(a) Precipitation.

(i) Spring PMF. Initial snowpack water content appears to be that given in Figure 2 of National Weather Service Memo from J.T. Riedel (no date). Figure 2 is also given as Plate 13 in Corps 1975 report.

PMP is 0.7 times PMP_A^{as} recommended by NWS.

No antecedent storm was used.

Comments: PMP storm has been assumed to occur 5 days after a peak resulting from the onset of warm temperatures and subsequent snowmelt ^[see Plate 16]. Therefore I am uncertain as to consequences of having PMP storm during this warming trend.

(ii) Summer PMF. Initial snowpack at start of melt (6 May) was not the maximised snowpack used in Spring PMF determination. Uncertain as to origin of values used but suspect they are record from 1971.

PMP and antecedent_A^{storm} used_A^{are} equal to NWS recommended storms

Comments: Corp used storm conditions recommended by NWS, but would require some investigation into the consequences of having substantially more snow on ground in May than what has been assumed.

(b) Temperature

(i) Spring PMF Temperature sequence used to trigger the maximum snowmelt runoff is not clear ^{w.r.t.} ~~as to~~ its derivation; especially the selection of the lowest temperature sequence or critical sequence.

Comments: Temperature ~~sequence~~ ^{and} sequence before _A during PMP requires further investigation.

(ii) Summer PMF Temperature values used in Summer PMF derivation appear to be 1971 values and are not considered critical.

(c) Initial Basin Conditions

For each watershed in the model division of the entire basin values of SMI, BII, %AR, SCA and other watershed characteristics were generally equal. The Corp reports that errors in initial conditions are generally negated after several weeks in the model. Consequently Summer PMF is not seriously effected by initial conditions; Spring PMF may be.

A review of initial conditions for Spring PMF reveals that all watersheds had 100% snow cover and an initial SMI ranging from 6 to 9 ins except for Lake Louise watershed which had an initial SMI of 20 ins.

SMI values for summer PMF were initially lower than those assumed for spring PMF, but all watersheds were assumed to be 100% snow covered in early May.

(d) Watershed characteristics

I have tabulated the input of watershed characteristics such as SMI vs Runoff %, to enable a comparison to be made between conditions assumed in each watershed and to aid in determining what values are assumed. Watershed characteristics are inputted to the model by using Tables, each table carrying an ID number. Therefore for each watershed there is a Table for each of the necessary input parameters. To facilitate these investigations I have plotted each watershed characteristic table to produce a family of curves showing the range of values used throughout the entire basin. Watershed characteristics are identical for both Summer & Spring PMF models (except for SMI and hydromet stations).

Comments: A table has been prepared showing watershed characteristics and initial conditions used for each watershed in the model to determine Summer PMF. Plots of watershed characteristics are also ready.

(2) Reconstitution Studies.

- (i) Error in reported values for reconstitution of 1967 and Aug 1971 floods contained in 1975 report. Values should be.

Period	Flood Event	Gold Creek ^{Max.} Average Daily Flow (cfs)		% Error
		Observed	Calculated	
1964 (20 May - 3 Aug)	Snowmelt	85,500	80,300 - 5,200	-6.5
1967 (1 Aug - 30 Aug)	Rain	76,000	78,500 + 2,500	+3.3
1971 (6 May - 30 Aug)	Snowmelt	66,300	53,300 - 13,000	-19.6
	Rain	77,700	73,500 - 4,200	-5.4
1972 (2 May - 5 July)	Snowmelt	70,700	60,900 - 9,800	-13.9

- (ii) Observations made on reconstitution hydrographs.

It can be seen from above, the model consistently underestimates snowmelt floods. Rain floods appear to be model reasonably, but two floods may not be enough to say accurately.

To further evaluate the modelling I briefly looked at the reconstitution of floods at the other locations where observed floods ~~were~~ are recorded. This investigation showed that rainfall floods were reasonably well modelled throughout the basin but snowmelt floods were not as well modelled. It was also apparent that snowmelt floods were consistently higher for upper watersheds of the model but at Gold Creek all snowmelt floods were underestimated. The combined effect appears to indicate a major deficiency in modelling snowmelt runoff in the reach between Vee Dam and Gold Creek.

A constant melt rate of 0.32 ins was assumed for the watersheds contributing below Vee Dam collection point. This contribution represents the runoff from 35% of the drainage area at Devil Canyon dam site. I believe melt rates should possibly be higher towards later stages of the melt season and a little lower in earlier stages. However cannot at this time make recommendation as to values to be used as would require actual spring PMF computer run (see section 3, b).

Melt rates for watersheds above Vee Dam site could possibly be lowered.

Further investigation into the snow depletion curve (which directly effects snowmelt runoff amounts) is required; possibly changing SDC to the theoretical curve given in SnowHydro and used in SSAR manual examples.

(3) Computer Usage.

(a) Present Status. Four data files are presently stored on tape. As far as I can ascertain from a cursory inspection of the files for Summer and Spring PMF models these files are simply duplicated, that is, two summer and two spring files. However, the only way to check this ^{for certain} is to run the program. I recommend we remove two of the files from the system as we can reload via Cardreader.

One output run is available for the Summer PMF.

(b) Planned Runs

- (i) Run existing Corp data for Spring PMF to evaluation to be made.
- (ii) Delete ~~SSPRNG~~ and SSUMMER from system.
- (iii) Change parameters of snowmelt in lower reach to see if snowmelt flood can be better modelled.
- (iv) Change timing of PMP to coincide with temperature rise sequence.
- (v) Other runs when identified.

The objective of these two studies with regard to the Susitna drainages is to attempt a better evaluation of topographic effects, and to make a better evaluation of snow pack available for melt.

Study of additional storms could give some important conclusions and guidance on how moisture is brought up the Cook Inlet to the Talkeetna Mountains and how these mountains effect the moisture.

Snowmelt criteria in this quick study is limited to 7 days. Considerably more work needs to be done to extend this to a longer period. Then we would need to emphasize compatability of a large snow cover and high temperatures. More known periods of high snowmelt runoff need to be studied to determine the synoptic values of the meteorological parameters.

Also on this figure is shown the mean runoff for three portions of the Susitna River drainage based on the years of record shown. No adjustment has been made for evapotranspiration or any other losses. This indicates that the actual mean annual precipitation is probably greater than that given by NWS AR-10.

Conclusion. Time hasn't allowed checks, evaluation, and comparison of the several types of data summarized here. It appears the "synthetic October-April precipitation" generally is less than the maximum depths over the drainages based on snow course measurements. These depths, or figure 2, would be considered the least that could be available for melt in the spring.

Further Studies

The variation of precipitation with terrain features in Alaska is important but yet mostly unknown and unstudied. More effort should be placed on attempts to develop mean annual or mean seasonal precipitation maps, at least for the region of the Susitna River. Some 10 years of data at about a dozen or so snow courses could be used in this attempt, as well as stream runoff values.

Some work has been done toward estimating maximum depth-area-duration values in the August 1967 storm; an important input to the present estimates. Attempts should be made to carry out a complete Part I and Part II for this storm, although data are sparse and emphasizing the use of streamflow as a data source.

Table 3

Snowmelt winds preceding PMP for Susitna Basins
for high temperature sequence

<u>Elevation (ft)</u>	<u>Daily wind speed (mph)</u> <u>Day prior to 3-day PMP</u>			
	<u>1st</u>	<u>2nd</u>	<u>3rd</u>	<u>4th</u>
sfc	10	13	4	4
1000	10	13	4	4
2000	11	14	5	5
3000	12	16	5	5
4000	13	16	6	6
5000	13	17	6	6
6000	14	18	6	6
7000	15	20	6	6
8000	16	20	7	7
9000	16	20	7	7
10,000	17	21	7	7

Table 4

Winds during 3-day PMP

<u>Elevation (ft)</u>	<u>Wind speed (mph)</u>		
	<u>Day of</u> <u>maximum PMP</u>	<u>Day of 2nd</u> <u>highest PMP</u>	<u>Day of 3rd</u> <u>highest PMP</u>
sfc	12	9	8
1000	14	10	9
2000	19	14	12
3000	29	21	18
4000	42	31	27
5000	56	42	36
6000	58	44	38
7000	62	46	40
8000	64	48	41
9000	68	51	44
10,000	70	52	45

15-12-325

Table 1

General level of PMP estimates for 4
Susitna River drainages

<u>Drainage Number</u>	<u>Area (sq mi)</u>	<u>72-hr PMP (in.)</u>
1	1260	9-12
2	4140	7.5-10.5
3	5180	7-9
4	5810	7-9

For 24-hr PMP, multiply 72-hr value by 0.60.

For 6-hr PMP, multiply 72-hr value by 0.30.

PMP for intermediate durations may be obtained from a plotted smooth curve through the origin and the 3 values specified.

Table 2

Snowmelt Winds preceding PMP for Susitna Basins
for high dew point sequence

<u>Elevation (ft)</u>	<u>Daily Wind speed* (mph)</u>
sfc	8
1000	9
2000	12
3000	13
4000	25
5000	34
6000	36
7000	37
8000	39
9000	40
10,000	42

*For each of the 4 days preceding the 3-day PMP.

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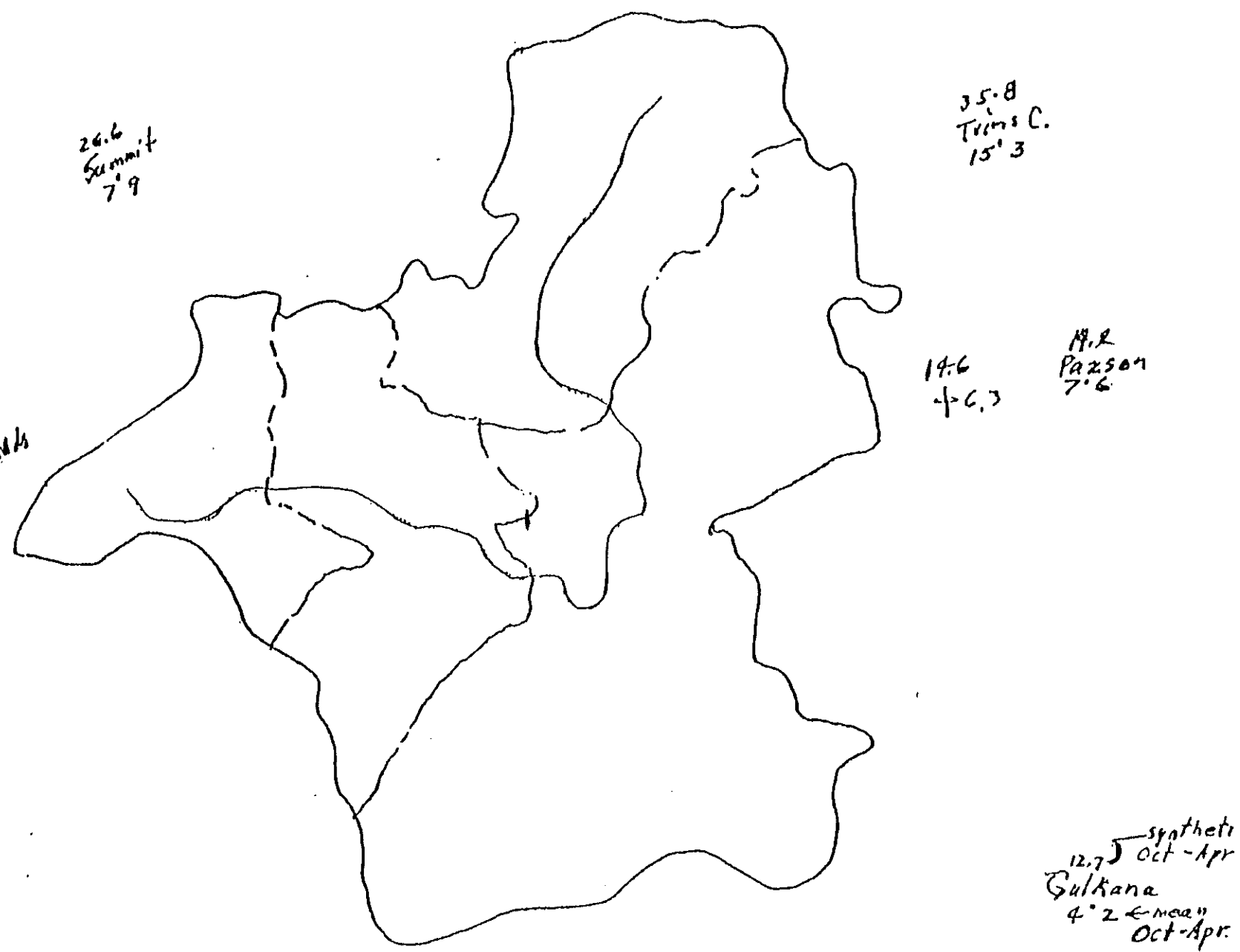


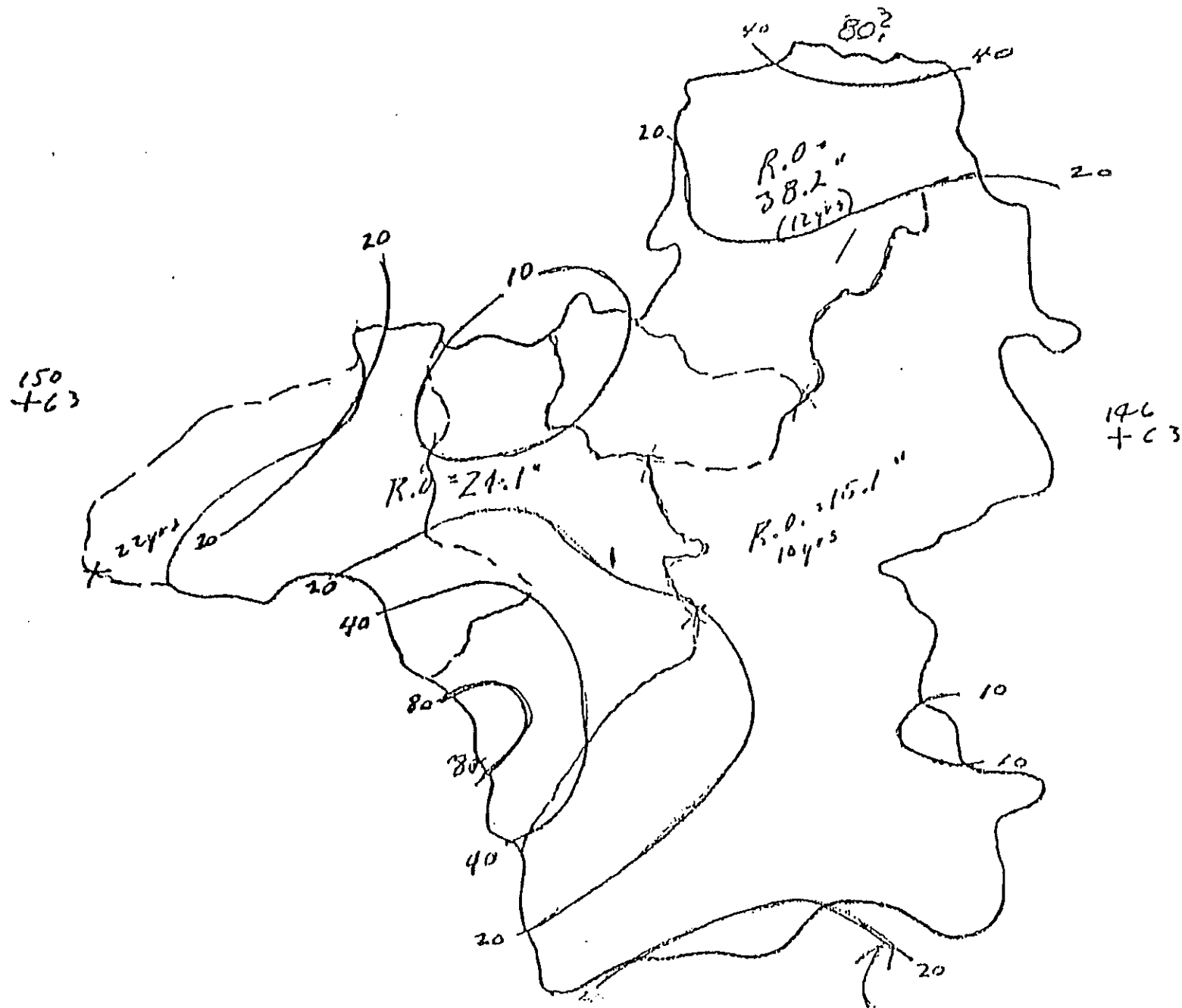
Figure 1.--Drainage outlines and October-April precipitation in inches.
(Upper values = synthetic October-April precipitation;
Lower = mean October-April precipitation.)

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Table 5

Stations with Precipitation Records in and surrounding the
Susitna Drainage

<u>Station</u>	<u>Elevation</u> (ft.)	<u>Yrs of record for</u> <u>complete Oct.-Apr.</u> <u>precipitation</u>	<u>Maximum</u> <u>obs. Oct-</u> <u>Apr. prec.</u> (in.)	<u>Yr of</u> <u>Maximum</u>	<u>Mean Number</u> <u>of months for</u> <u>synthetic Oct.-</u> <u>Apr. season</u>	<u>Synthetic</u> <u>Oct.-Apr.</u> <u>precip.</u> (in.)	<u>Mean</u> <u>Oct.-Apr.</u> <u>Precip.</u> (in.)
Susitna Meadows	750	4	17.18	70-71	4	23.18	13.77
Gulkana	1572	18	6.77	56-57	18	12.68	4.19
Paxson	2697	2	8.42	43-44	6	14.25	7.64
Trims Camp	2408	3	23.26	59-60	5	35.82	15.3
Summit	2401	19	14.09	51-52	20	26.59	7.93
Talkeetna	345	35	21.17	29-30	37	40.59	12.26
Sheep Mountain	2316	13	11.91	59-60	12	18.42	4.78



mean annual from AR-10

Figure 3.--Mean annual precipitation and stream runoff (in inches).

15-12-329

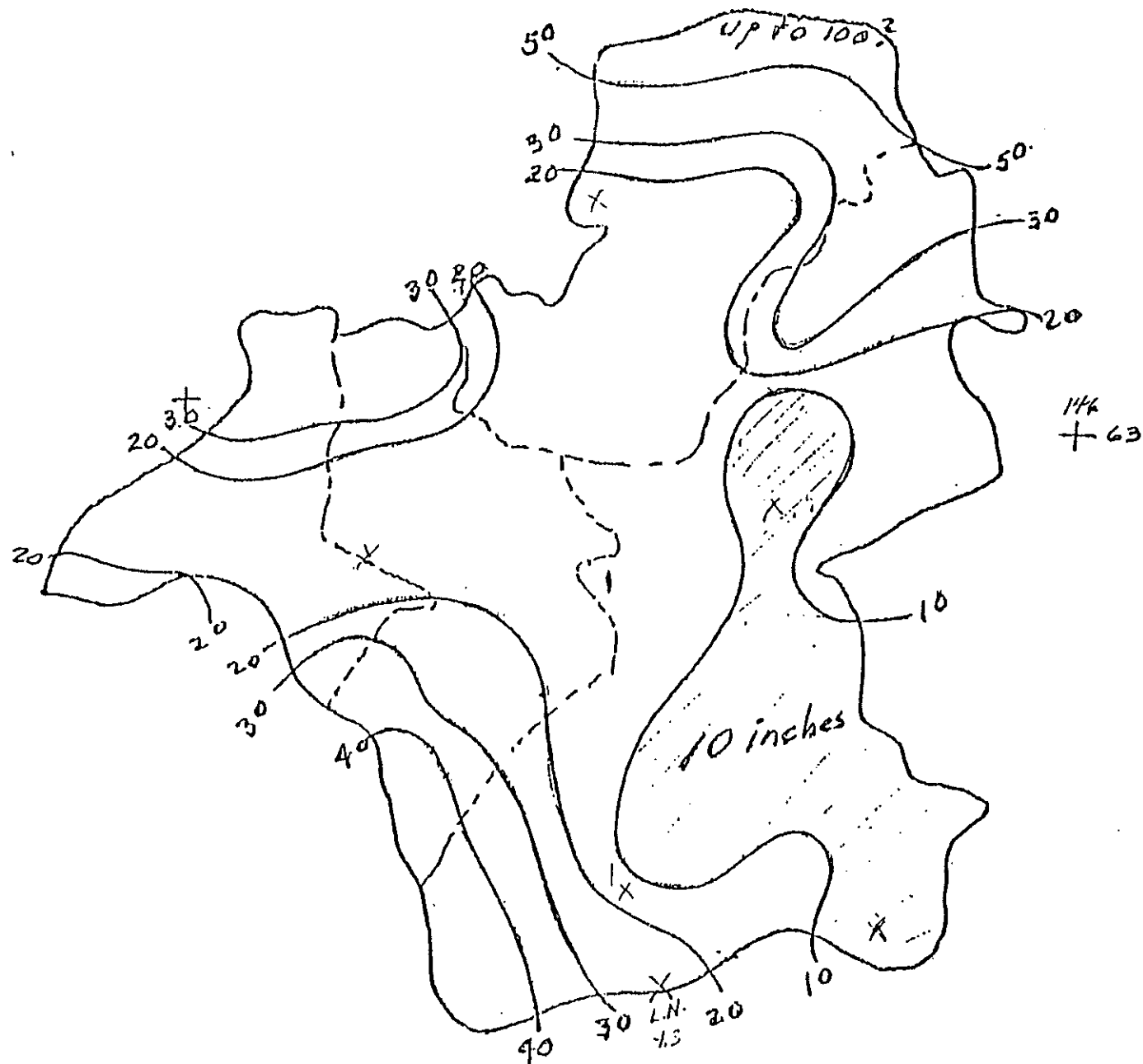


Figure 2.--Minimum water equivalents of snow pack in inches (based on gross smoothing of maximum snow course measurements.)

15-12-322

	Susitna Gl. ID = 10	Susitna Above gauge ID = 20	Local Above Denali ID = 80	Susitna Local Above Maclean ID = 180	Maclean Gl. ID = 210	No. 2 above Below Gl. ID = 220	Maclean Above Susitna ID = 280	Lt Louise + Susitna Lk. ID = 330	Tyone R.B. ID = 340	Susitna & goose Local ID = 380	Wakana & Deadwater Loc ID = 480	Tsusena & Devel Local ID = 580	Portage C. J. U. G. ID = 680
Drainage Area (sq. mls)	221	694	312	477	44.0	232	307	48	1047	735	1045	628	345
No. Surface Routing Phases	4	4	4	4	3	4	4	3	8	3	4	4	4
Surface Time of Storage (hrs)	6.0	8.0	3.0	3.0	6.0	5.0	3.0	15.0	10.0	3.0	8.0	8.0	8.0
No. Sub-surface Routing Phases	4	4	4	4	3	4	4	1	8	4	4	4	4
Sub-surface time of Storage (hrs)	12.0	20.0	8.0	8.0	12.0	20.0	8.0	0.0	48.0	8.0	15.0	15.0	15.0
No. Baseflow Routing Phases	4	5	5	5	3	5	5	1	8	4	5	5	5
Base Flow Time of Storage (hrs)	24.0	156.0	156.0	156.0	24.0	156.0	156.0	0.0	200.0	96.0	156.0	156.0	156.0
Baseflow Infiltration Index Time of Storage for Rising Q (hrs)	100.0	100.0	100.0	100.0	100.0	75.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Table No. for PPT vs KE	5001	5001	5001	5001	5001	5001	5001	5001	5001	5001	5001	5001	5001
Table No. for Snow Depletion	6004	6006	6006	6006	6004	6006	6006	6006	6006	6006	6006	6006	6006
Table No. for Month vs ETI	4009	4008	4008	4008	4006	4008	4008	4008	4010	4008	4008	4008	4008
Table No. for SMI vs Runoff %	1015	1018	1018	1018	1015	1018	1018	1022	1021	1018	1020	1020	1020
Table No. for BII vs % Runoff to Base flow	2017	2011	2009	2009	2017	2012	2009	2009	2009	2009	2009	2009	2009
Maximum BII	10.00	10.00	9.00	9.00	10.0	10.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0
Table No. for Surface - Sub-surface Total vs surface component	3009	3008	3008	3008	3009	3003	3008	3008	3008	3008	3008	3008	3008
Table No. for % seasonal snowmelt runoff vs snowmelt rate	7011	7005	7010	7010	7009	7005	7010	7010	7010	7010	7005	7005	7005
Rain Freeze Temp (°F)	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0

15-12-348

22 Sept 80

	Susitno Gl ID=10	Susitno Above Dugr ID=20	Local Above Dugr ID=80	Susitno Local Above Maclaren ID=180	Maclaren Gl. ID=210	Maclaren bel Gl. Above gauge ID=220	Maclaren Above Susitno ID=280	Lk Louise f Susitno Lk ID=330	Tyone f ID=340	Oshtemo f goose Local ID=380	Watons f beadman Loc ID=480	Tsuevo f Devil ID=580	Portage f Cold Cr L ID=6
HYDROMET STATIONS CB04													
DATA CODE (precipitation)	3	3	3	3	3	3	3	3	3	3	3	3	3
Station No.	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
Weight %	132	132	55	64	97	97	64	64	64	111	139	106	88
DATA CODE (Temperature)	4	4	4	4	4	4	4	4	4	4	4	4	4
Station No.	1480	8811	8811	8811	1480	8811	8811	8811	8811	8811	8811	8811	8811
Weight %	100	100	100	100	100	100	100	100	100	100	100	100	100
DATA CODE (Precipitation)	3	3	3	3	3	3	3	3	3	3	3	3	3
Station No.	1480	1480	9139	9139	1480	1480	9139	9139	9139	9139	9139	9139	9139
Weight %	115	110	90	90	100	100	90	90	90	90	125	125	125
ie:	141060571	141060571	141060571	141060571									
MI	4.00	2.00	2.00	2.00	4.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
BIF	.03	.03	.03	.03	.03	.03	.03	.03	.03	.03	.03	.03	.03
CA	100.0	100.0	100.0	100.0	100	100	100	100	100	100	100	100	100
MELTR	.1000	.0100	default to 0.10 0.0000	0.0000	.1000	.0100	0.0000	0.0000	0.0000	0.0000	0.0000	-0.0000	0.0000
N-AR	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
ML-AR	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Seasonal Snowmelt Runoff.	99.00	12.00	8.7	6.7	99.00	19.5	6.7	3.6	3.6	6.9	7.4	7.4	7.4
Watershed Elevation vs % Area Below	2800 0.0 3000 4.5 4000 17.7 5000 35.9 6000 61.1 7000 84.8 8000 96.1 9000 99.8	2440 0 3000 27.7 4000 53.2 5000 81.3 6000 92.8 7000 97.1 8000 98.4 9000 98.9 10000 99.8	2370 0 3000 35.9 4000 74.4 5000 97.1 6000 99.7 7000 99.9 8000 99.9 9000 99.9 10000 99.9	2350 0 3000 35.0 4000 82.0 5000 96.4 6000 96.5 7000 96.5 8000 99.8 9000 99.9 10000 99.9	3150 0 3000 10.9 4000 24.1 5000 50.5 6000 80.1 7000 94.9 8000 98.6 9000 99.8 10000 99.9	2866 0 3000 8.2 4000 50.5 5000 80.1 6000 94.9 7000 98.6 8000 99.8 9000 99.9 10000 99.9	2350 0 3000 49.8 4000 96.7 5000 96.8 6000 99.9 7000 99.9 8000 99.9 9000 99.9 10000 99.9	2361 0 3000 99.9 4000 99.9 5000 99.9 6000 99.9 7000 99.9 8000 99.9 9000 99.9 10000 99.9	2100 0 3000 68.7 4000 95.2 5000 99.8 6000 99.9 7000 99.9 8000 99.9 9000 99.9 10000 99.9	1910 0 2000 2.0 3000 15.6 4000 49.1 5000 78.4 6000 96.0 7000 99.8 8000 99.9 9000 99.9 10000 99.9	1450 0 2000 3.0 3000 27.7 4000 68.3 5000 91.1 6000 98.9 7000 98.9 8000 99.9 9000 99.9 10000 99.9	910 0 1000 2.0 2000 8.4 3000 44.1 4000 79.5 5000 96.2 6000 99.8 7000 99.9 8000 99.9 9000 99.9 10000 99.9	677 0 1000 3.2 2000 26.1 3000 51.0 4000 80.9 5000 97.1 6000 99.8 7000 99.9 8000 99.9 9000 99.9 10000 99.9

89700023.

PS700.14.03.314

11-12-51



Calculations

SUBJECT:

JOB NUMBER _____

FILE NUMBER _____

SHEET _____ OF _____

BY R. STOLL DATE 3 Mar 81

APP D DATE 7 Mar 81

TABLE I Summary of PMF Sensitivity Studies

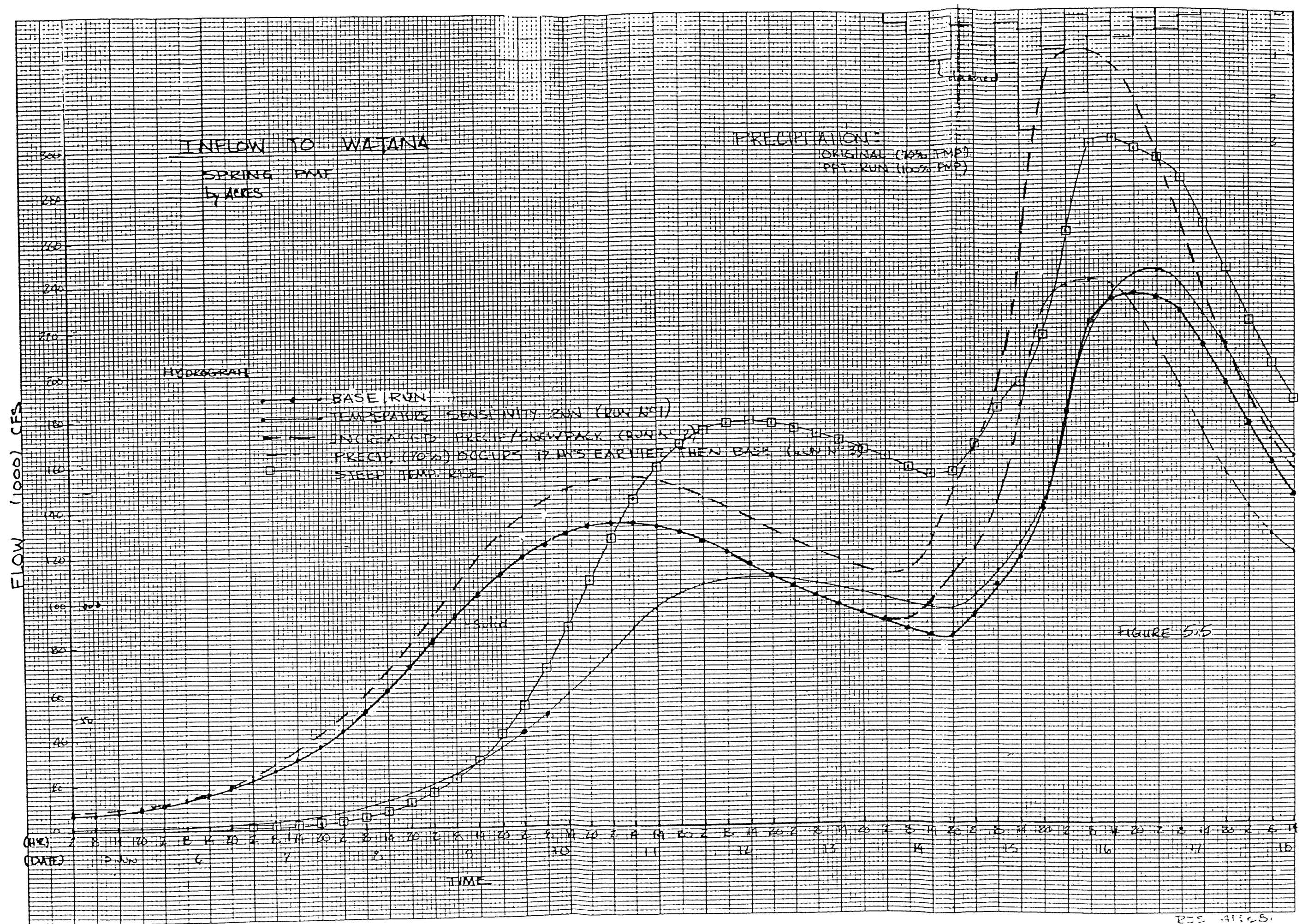
Discharge cfs.

RUN DESCRIPTION*	WATANA		DEVIL CANYON		GOLD CREEK
	INFLOW	OUTFLOW	INFLOW	OUTFLOW	
COE, 1975 ESTIMATE (BASE RUN)	233,000	192,000	226,000	222,000	236,000
TEMPERATURE SENSITIVITY RUN.	242,000	193,000	233,000	229,000	243,000
STORM TIMING SENSITIVITY	239,000	194,000	229,000	224,000	229,000
PRECIPITATION/SNOW PACK SENSITIVITY	242,000	250,000	302,000	290,000	253,000
INCREASED TEMPERATURE GRADIENT SENSITIVITY	302,000	243,000	282,000	275,000	289,000
COMBINED CASE SENSITIVITY	430,000	270,000	330,000	322,000	348,000
COE SNOW PACK SENSITIVITY	254,000	232,000	272,000	262,000	277,000

* detailed discussion of sensitivity studies given in Subtask 3.05(ii) - Probable Maximum Flood: Closeout Report

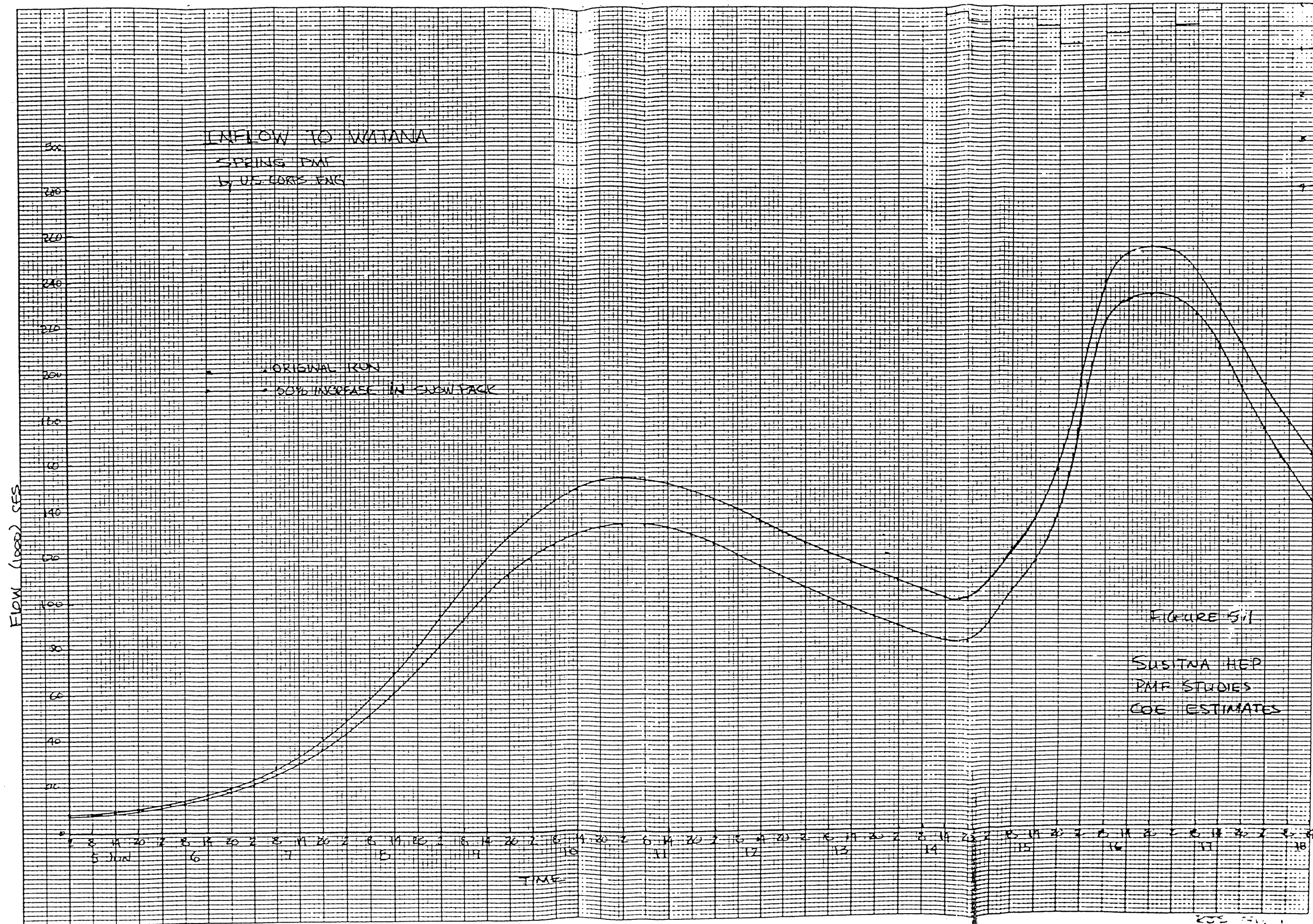
16 1320

K.E. 10 X 10 TO 1/4 IN. 7 X 10 INCHES
KEUFFEL & ESSER MADE IN U.S.A.



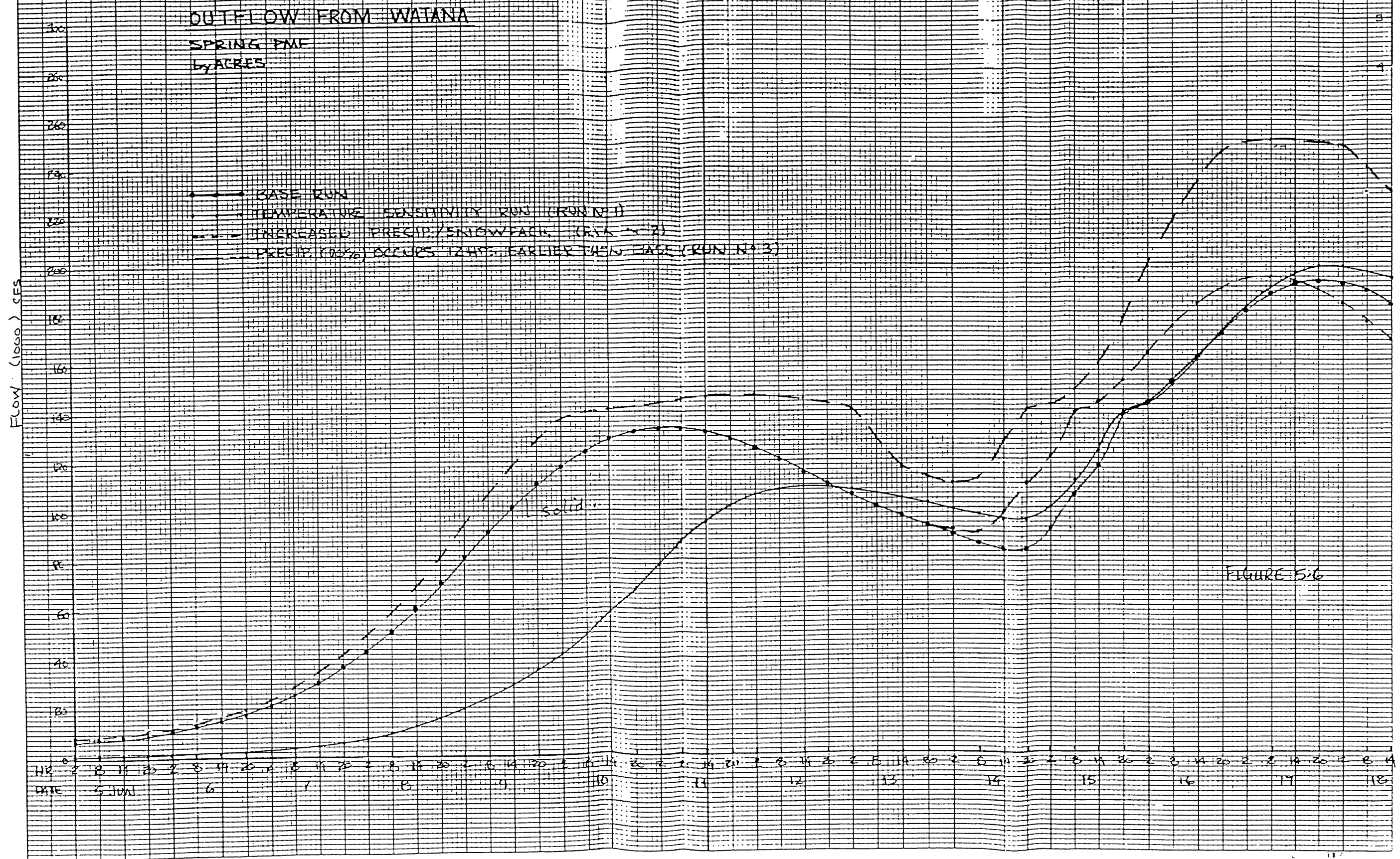
16 1320

K-E 10 X 10 TO 1/4 IN.
KEUFFEL & ESSER
MADE IN U.S.A.



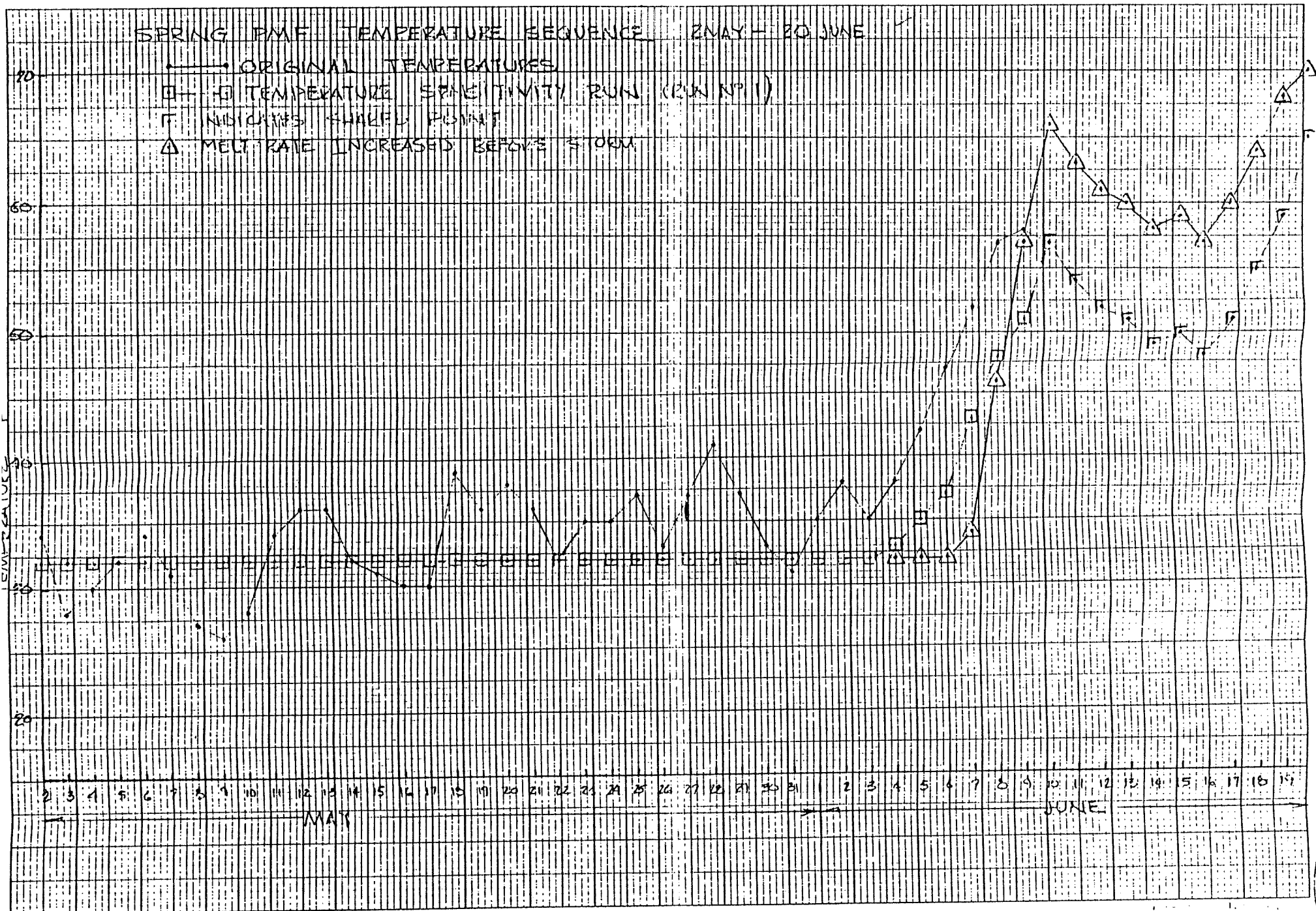
16 1320

K&E 10 X 10 TO 1/4 IN
KEUFFEL & ESSER
7 X 10 INCHES
400 M USA



SPRING PMF TEMPERATURE SEQUENCE 2 MAY - 20 JUNE

- ORIGINAL TEMPERATURES
- — □ TEMPERATURE SENSITIVITY RUN (RUN NO. 1)
- F INDICATES SHAPE POINT
- △ MELT RATE INCREASED BEFORE STORM



5.4



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ENGINEERS
GEOLOGISTS
PLANNERS
SURVEYORS

June 19, 1981

R&M No. 052302

Project Manager
Susitna Hydroelectric Project
Acres American Incorporated
Liberty Bank Building
Main @ Court
Buffalo, New York 14202

Attention: Mr. Dave Crawford

Re: Probable Maximum Flood, Climate Data Retrieval

Dear Dave:

The peak flood of 1980 for the Susitna River occurred on July 29. Enclosed as requested are climate data for this period at all NOAA stations in the Susitna Basin and from 4 of the project weather stations installed last year. Two of the weather stations, Kosina Creek and Tyone River, were not installed until August 1980 and therefore there is no data for these areas. Of the four stations included 3 were started up in July 1980.

Station	Installation Data
Watana	3-13-80
Devil Canyon	7-17-80
Denali	7-18-80
Susitna Glacier	7-20-80

Also enclosed is a summary of summer 1980 peak discharges. Good luck with your program. Please call if you need any additional information.

Very truly yours,

R&M CONSULTANTS, INC.

Robert F. Butera
Robert F. Butera
Staff Engineer

RFB/kaee

Enclosures

Revised

PPT
Temp - stations
July

MONTHLY MAXIMUM DEW POINT TEMPERATURES
ANCHORAGE, ALASKA
1950 - 1981
FROM N.W.S.

<u>Month</u>	<u>Year</u>	<u>24-Hour Average</u>	<u>12-Hour Average</u>
May	1974	45	48
June	1969	54	56
July	1979	57	59
August	1977	59	62
September	1979	54	55

43C

HOUR	WIND				TEMPERATURE				WIND				TEMPERATURE				WIND				TEMPERATURE								
	Dir	Spd	Dir	Spd	Air	Surf	Wt	Wt	Dir	Spd	Dir	Spd	Air	Surf	Wt	Wt	Dir	Spd	Dir	Spd	Air	Surf	Wt	Wt					
02	10	10	10	10	56	56	52	87	20	3	7	200	20	57	54	51	80	05	3	10	100	20	57	54	55	83	00	0	
05	10	10	10	10	57	54	52	83	15	6	10	200	90	58	51	48	77	00	0	10	100	20	56	58	54	83	00	0	
08	10	10	10	10	56	54	55	90	04	8	10	200	90	58	54	47	60	00	0	10	110	80	56	58	54	90	01	0	
11	10	10	10	10	63	57	53	70	03	8	10	80	30	60	55	51	72	00	0	10	270	60	59	62	58	68	28	10	
14	10	10	10	10	58	57	53	57	03	8	10	50	20	60	55	51	72	01	4	9	290	60	60	61	56	63	16	13	
17	10	10	10	10	60	57	48	47	20	10	10	100	60	62	57	54	75	03	3	10	130	60	64	58	58	70	17	20	
20	10	10	10	10	55	56	48	56	18	7	10	100	60	60	58	56	87	23	3	10	75	60	64	58	58	75	17	18	
23	10	10	10	10	61	56	48	65	15	13	10	80	20	58	58	55	90	20	3	10	75	20	63	58	55	75	15	12	
02	10	10	10	10	62	60	58	87	13	8	10	33	20	58	53	50	80	18	4	8	80	20	54	52	51	80	17	4	
05	10	10	10	10	61	60	58	83	17	8	10	33	39	58	53	51	88	00	0	8	80	20	54	52	50	88	17	4	
08	10	10	10	10	59	58	57	83	21	10	10	37	39	58	54	51	78	00	0	8	80	20	58	54	50	75	18	8	
11	10	10	10	10	59	58	57	83	26	13	10	150	39	58	54	50	72	31	8	8	80	20	62	55	50	89	03	8	
14	10	10	10	10	60	57	55	84	24	5	10	28	35	60	54	48	67	28	8	10	230	60	67	57	48	53	03	7	
17	10	10	10	10	61	58	53	75	24	6	10	290	80	61	55	50	67	19	8	10	80	60	67	57	51	63	20	7	
20	10	10	10	10	59	54	50	72	24	7	13	110	60	58	55	52	51	28	4	10	60	60	59	56	55	90	23	5	
23	10	10	10	10	57	53	50	78	24	4	10	110	20	53	51	50	50	20	0	10	60	20	58	54	55	90	21	4	
02	10	10	10	10	58	58	54	87	32	3	10	80	20	57	55	54	80	34	5	10	70	20	56	59	55	86	00	0	
05	10	10	10	10	56	55	54	83	14	4	10	80	60	57	54	52	83	28	8	9	100	60	56	59	55	86	36	3	
08	10	10	10	10	59	55	52	78	08	4	10	50	60	60	57	54	81	30	9	9	100	60	61	58	55	81	05	5	
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14	10	10	10	10	61	57	54	78	28	7	10	80	60	68	58	51	59	17	13	10	70	60	62	57	53	73	25	8	
17	10	10	10	10	61	56	53	75	23	5	10	75	60	63	57	53	70	19	10	10	85	35	62	58	58	81	20	2	
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02	10	10	10	10	58	57	56	83	02	5	10	75	60	60	53	52	49	75	14	12	7	70	20	51	50	48	83	22	4
05	10	10	10	10	59	55	55	86	10	3	9	90	60	57	53	51	88	00	0	8	80	20	54	50	48	87	06	4	
08	7	7	7	7	62	58	56	81	30	10	9	80	60	67	58	50	55	17	9	10	180	60	61	55	50	87	06	4	
11	7	7	7	7	68	58	50	55	15	18	8	100	90	67	58	50	55	17	9	10	180	60	61	54	48	85	04	4	
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17	8	8	8	8	65	54	48	46	18	18	10	200	80	67	57	48	53	16	8	10	70	20	58	56	54	75	28	8	
20	8	8	8	8	62	54	48	56	15	15	10	200	80	61	54	48	63	18	10	10	70	20	58	56	54	80	20	8	
23	10	10	10	10	59	53	48	67	18	15	3	90	60	58	50	48	63	18	10	12	60	20	57	56	58	96	03	0	
02	10	10	10	10	56	58	54	100	03	6	10	130	20	62	61	60	93	24	9	10	47	7	54	54	53	90	16	4	
05	10	10	10	10	59	56	54	96	02	4	10	80	35	61	60	58	93	31	4	7	40	35	55	54	54	96	00	0	
08	10	10	10	10	58	58	57	93	01	5	10	60	60	65	62	60	84	28	8	5	70	60	61	58	55	81	24	3	
11	7	7	7	7	66	61	58	78	00	0	10	24	15	61	58	58	90	27	11	0	60	80	69	58	52	85	35	5	
14	8	8	8	8	74	65	59	60	15	14	10	7	4	58	57	57	96	22	10	10	60	60	61	56	53	75	28	8	
17	9	9	9	9	71	64	58	68	17	4	10	7	4	58	57	57	96	24	7	10	70	60	61	56	53	75	28	8	
20	8	8	8	8	68	62	60	81	15	3	10	22	10	66	59	58	96	17	7	10	60	60	61	56	53	75	28	8	
23	10	10	10	10	63	61	60	90	08	8	10	28	7	59	54	54	96	12	7	7	55	20	59	54	52	83	00	0	
02	9	9	9	9	53	52	51	83	00	0	10	90	10	60	56	56	57	93	20	0	10	80	20	64	60	57	78	18	13
05	9	9	9	9	54	53	53	86	02	3	10	90	10	60	57	54	96	08	5	10	80	20	63	58	57	81	11	4	
08	10	10	10	10	58	55	53	84	09	8	10	80	6	60	56	56	96	05	8	9	80	80	65	61	58	78	18	13	
11	8	8	8	8	68	58	52	58	39	5	10	80	60	60	58	58	93	25	8	9	23	60	67	62	59	78	28	8	
14	10	10	10	10	69	61	55	81	31	4	10	55	60	65	61	58	81	24	5	10	230	60	67	61	57	70	31	7	
17	10	10	10	10	65	62	58	73	27	3	8	100	60	70	64	60	71	01	1	9	48	60	68	61	58	81	22	6	
20	10	10	10	10	61	58	57	67	28	5	10	100	20	64	60	57	78	14	14	5	90	80	61	58	58	50	60	0	
23	10	10	10	10	60	58	58	83	00	0	10	55	20	62	61	60	83	20	3	5	90	20	58	57	57	96	00	0	
02	9	9	9	9	59	58	57	83	01	3	0	90	20	59	56	56	96	00	0	0	90	20	58	56	53	90	03	4	
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08	10	10	10	10	61	58	58	90	20	5	3	90	60	60	57	54	81	09	7	0	90	90	65	60	52	73	03	4	
11	9	9	9	9	63	60	58	84	20	8	0	90	60	70	64	60	77	00	7	4	90	90	68	65	58	64	53	5	
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17	9	9	9	9	63	61	58	87	20	8	0	90	60	78	69	63	64	30	6	8	90	90	68	68	61	53	09	5	
20	10	10	10	10	68	66	58	87	23	7	0	90	60	88	59	54	87	10	5	0	90	90	70	68	61	53	09	5	
23	10	10	10	10	58	57	57	96	00	0	0	90	60	60	59	59	93	20	0	0	90	90	71	61	52	53	16	14	
02	0	0	0	0	59	58	58	100	22	6	10	18	35	57	54	52	83	20	4	10	18	20	59	56	51	75	18	13	
05	7	7	7	7	57	57	57	100	24	3	10	18	35	57	54	52	83	20	4	10	18	20	58	56	53	81	18	10	
08	10	10	10	10	58	58	58	100	22	4	10	7	7	57	55	53	87	31	4	10	14	8	60	58	53	64	24	4	
11	6	6	6	6	58	57	57																						

NOTES

CEILING
LARGE, 100-100-100, 100-100-100

WEATHER

0	FORWARD
1	THUNDERSTORM
2	SQUALL
3	RAIN
4	RAIN SHOWERS
5	FREZZING RAIN
6	DRIZZLE
7	FREZZING DRIZZLE
8	SNOW
9	SNOW PELLETS
10	ICE CRYSTALS
11	SNOW SHOWERS
12	SNOW GRAINS
13	ICE PELLETS
14	HAIR
15	FOG
16	ICE FOG
17	CLOUD
18	BLOWING DUST
19	BLOWING SAND
20	BLOWING
21	BLOWING SPRAY
22	SMOKE
23	HAZE
24	DUST

MIND

DIRECTIONS ARE THOSE FROM WHICH THE WIND BLOWS. INDICATED IN TENS OF DEGREES FROM TRUE NORTH: 1.E., 09 FOR EAST. 18 FOR SOUTH. 27 FOR WEST. ENTRY OF 00 IN THE DIRECTION COLUMN INDICATES CALM.

SPEED IS EXPRESSED IN KNOTS.
MULTIPLY BY 1.15 TO CONVERT
TO MILES PER HOUR.

U.S. DEPARTMENT OF COMMERCE
NATIONAL CLIMATIC CENTER
FEDERAL BUILDING
ASHEVILLE, N.C. 28801

200 FORM OP-001 (REV. 1-1-78)

TEAR & MONIE
77 DE

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ENGINEERS
GEOLOGISTS
PLANNERS
SURVEYORS

June 5, 1981

R&M No. 052302

Project Manager
Susitna Hydroelectric Project
Acres American Incorporated
Liberty Bank Building
Main @ Court
Buffalo, New York 14202

Attention: Mr. Dave Crawford

Re: PMF Climate Data

Dear Dave:

As per our letter on April 3, 1981, concerning the retrieval of PMF climate data, we are enclosing the following information:

- (a) Streamflow data for the Susitna River at Gold Creek for the five maximum peaks of record for the spring event (May-July) and the summer event (August-September).
- (b) Antecedent precipitation data (before and during) for the corresponding spring and summer events listed above, from the eight National Weather Service climate stations listed in the April 3rd letter.
- (c) The monthly maximum 12-hour persisting dewpoint temperature at Anchorage for May through September.

Definition of the maximum rising rate of temperatures for each of the eight National Weather Service has been started. However, we have inadequate data to send you at this time. To expedite setting up the SSARR model, I am sending two reports by the National Weather Service on the probable maximum precipitation for the Bradley Lake Basin on the Kenai Peninsula, approximately 220 miles to the south of Devil Canyon. There is information on temperatures before, during and after the probable maximum storm on Page 11 and Figure 6 of "Study of Probable Maximum Precipitation for Bradley Lake Basin, Alaska". These reports were reviewed by the National Weather Service in 1979 for the U.S. Army, Corps of Engineer, and found to be still appropriate for the Kenai Peninsula. While the storm was derived for a coastal regime, the temperature data may be usable as initial values in your study. Meanwhile, we will continue to retrieve the temperature data.

Also enclosed are copies of several papers from my files which may assist you in setting up the SSARR model. Included are research reports on runoff, heat balance during the snowmelt season, evaporation, solar radiation and transposition of hydrologic data for Alaska.

If there are any questions, please feel free to call me.

Very truly yours,

R&M CONSULTANTS, INC.

Stephen Bredthauer

Stephen Bredthauer, P.E.
Senior Civil Engineer

SB/kap

15-12-362

APR 1966

See Reference Notes Following Slides Index

15-12-363

DAILY PRECIPITATION

Continued

ALASKA
JUNE 1966

Station	Total	Day of Month																														
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
DEISTOL BAY 06																																
ALCHAMER																																
BRIDGES LAKE																																
CAPE NEWMAN																																
BILLINGHAM																																
ILLIUMAS PAB																																
INTRICATE BAY																																
ELMO SALMON W/ AP																																
PORT ALBION																																
PORT HEIDER																																
WEST CENTRAL 07																																
ALASKA PAB																																
BETHEL W/ AIRPORT																																
CAPE SCHWAB																																
HOLT CROSS																																
MOSES POINT PAB																																
HOME W/ AIRPORT																																
NORTHEAST CAPE																																
MURKIN																																
UNALASKA PAB																																
WALLES AIRPORT																																
INTERIOR BASIN 08																																
ALLANBY																																
BETHLEHEM PAB AIRPORT																																
BIG DELTA PAB																																
CANYON VILLAGE																																
CENTRAL NO 2																																
CHALKYITSE																																
CHEHA HOT SPRINGS																																
CIRCLE HOT SPRINGS																																
CLEAR AIRPORT																																
CLEAR WATER																																
COLLEEN RIVER																																
COLLEGE PAB OBSV																																
EISENBERG FIELD																																
FAIRBANKS W/ AIRPORT																																
FAREWELL PAB																																
PORT MUDON																																
SALINA																																
SILVER CREEK																																
HUGHES																																
LAKE RINCHUMING PAB																																
LIVERMOR																																
RANDOLPH LAKE																																
RANLEY HOT SPRINGS																																
MC GRATH W/ AIRPORT																																
MC CINDLEY PARK																																
NEHAMA PAB																																
NORTHWAY PAB AP																																
RAUPART NO 2																																
SUMMIT PAB																																
TANANA PAB																																
THE CRACKING HOUSE																																
TCA																																
TYNE CAMP																																
UNIVERSITY EXP STATION																																
VENETIE																																
WILD LAKE NO 2																																
ARCTIC DRAINAGE 09																																
BARRON W/ AIRPORT																																
BARTER ISLAND W/ AP																																
ROBBER																																
ROTTENBURG W/ AIRPORT																																
WAINWRIGHT																																

EVAPORATION AND WIND

Station	Total	Day of Month																														
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
COOK INLET 09																																
MATANUSKA AGR EXP STA																																
INTERIOR BASIN 08																																
CANYON VILLAGE																																
CENTRAL NO 2																																
RAUPART NO 2																																
UNIVERSITY EXP STATION																																
VENETIE																																

MATANUSKA AGR EXP STA - PAN PAINTED INSIDE WITH ALUMINUM PAINT.
UNIVERSITY EXP STATION - PAN PAINTED INSIDE AND OUTSIDE WITH ALUMINUM PAINT.

DAILY PRECIPITATION

ALASKA
JUNE 1972

Station	Total	Day of Month																														
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
SOUTHEASTERN																																
ANCHORAGE	2.16	.27	.09	.17	.07	.92	.24	.10	.10	.03		.17	.29		.02	.14				.01				.22	.23	.10	.03	.36	.01			
ANCHORAGE WSD AP	1.99	.27	.09	.17	.07	.92	.24	.10	.10	.03		.17	.29		.02	.14				.01				.22	.23	.10	.03	.36	.01			
ANNEA CREEK	1.23	.11	.10	.11	.11	.11	.11	.11	.11	.11		.11	.11	.11	.11	.11																
BARRETT	1.92	.23	.20	.12	.21	.35	.21	.34	.02	.11		.10	.10	.10	.10	.10								.40	.27	.30	.40	.72				
BEAVER FALLS	0.40	.37	.05	.90	.32	.70	.36	.11	.30			.20	.02	.00		.10	.10				.01			.21	.24	.30	.40	.72	1.37	.13		
CAPE MICHIGON	3.34	.10	.19	.23	.32	.07		.00				.10	.10	.03																		
CAPE SPENCER	3.39	.11	.08	.73	.10	.29		.27				.10	.10	.03																		
COTMAN COVE	5.19	.38	.20	.32	.10	.30	.10	.30	.10			.10	.10	.03										.13	.26		.29	.70	.12	.36	.02	
ELDER ROCK	1.29	.23		.03	.11	.11	.31	.21	.32			.10	.10	.03																		
FIVE FINGER LIGHT STA	2.34	.21	.00	.00	.10	.04	.17		.10			.10	.10	.03																		
GLACIER BAY	1.00	.17	.16	.11	.16	.30	.37	.03	.11			.01				.27	.07		.10													
GOOSE CREEK																																
GUSTAVUS																																
HALES TERMINAL	.00	.04				.10	.10	.04		.02	.01																					
HOUMA																																
JUNEAU NO 2	3.37	.07		.09	.00	.22	.32	.10	.02	.00						.10	.10	.03														
JUNEAU WSD AP	3.37	.07		.09	.00	.22	.32	.10	.02	.00						.10	.10	.03														
JUNEAU 9th	3.37	.07		.09	.00	.22	.32	.10	.02	.00						.10	.10	.03														
KETCHIKAN	0.10	.05	.70	.90	1.17	.05	.31	.29	.02			.42	.10	.09		.29	.13															
LANGER LINGER	.47		.01	.02	.09		.20									.10	.10	.03														
LITTLE PORT WALTER	0.00	.93	.29	1.27	1.32	1.42	.37	.00				.07	.10	.23	.00	.23	.00															
PELICAN	1.38	.17	.73	.22	.03	.10	.02	.10				.24	.10	.23	.00	.12	.00															
PELICAN	0.00	.36	.05	.72	.33	.03	.23	.36	.20	.02		.46	.10	.23	.00	.12	.00															
PETERSBURG	3.10			.37	.09	.00	.30	.10				.03				.27	.09	.04														
POINT RETREAT LIGHT STA	3.10			.37	.09	.00	.30	.10				.03				.27	.09	.04														
SITKA PMA AP	1.09	.02	.06	.30	.15	.00						.13	.00	.12		.13	.02															
SITKA MAGNETIC OBSV	3.34	.10	.04	.20	.33	.03	.27					.27	.11			.20		.04	.01	.02												
SITKA NO 2	1.00					.01	.02	.00	.11			.00	.00			.32	.31															
TENAKEE SPRINGS	2.38	.00	.00	.00	.01	.21	.00	.11				.00	.00			.32	.31															
WAGGELL	0.12	.25	.10	.32	.39	.47	.25	.39	.03			.30	.12	.03	.01	.11	.03	.10		.01	.01											
SOUTH COAST																																
CAPE HINCHINBROOK	1.72	.27	.12	.21	.19									.21	.11		.14	.23	.13													
CAPE ST ELIAS	0.94																															
CHICKIN	0.94																															
COOPER LAKE PROJECT	1.18	.02	.10	.03	.03	.02	.00	.04						.02		1.00	1.00	.01	.00													
COOPER LAKE	3.01	.04	.02	.02	.13	.12	.01					.31	.02	.11		.37	.17	.01														
CORCORAN RIVER	0.00											.11	.03	.14	.03	.33	.33		.04	.23	.13	.12										
KODIAK BAY	0.00											.32	.70	.10	.03	.20	.21	.11	.10		.04	.23	.13	.12								
KODIAK HAS	2.12		.29		.02	.23	.01					.12	.10	.00		.10	.10			.13												
LARSEN BAY																																
MAC LEOD HARBOR	13.27	.30	2.30	2.29	1.33	.00					.11	.10		.00		.04	.32	2.12	.02		.10			.19	.23	.01	.07	.93	.11	.29	.02	
MAC LEOD PASS	.00																															
SEWARD	2.72	.05	.05	.23	.10	.03	.00					.03	.00	.09		.00	.22	.00		.00	.23	.00		.20	.20	.10	.13	.03		.08	.70	.01
SITKAN	3.01	.01	.02	.01							.01	1.30	.01	.03	.00	.09	.00	.22	.00	.00	.23	.00		.20	.20	.10	.13	.03		.08	.70	.01
SITKAN	3.01	.01	.02	.01									.03	.02	.02	.09	.00	.22	.00	.00	.23	.00		.20	.20	.10	.13	.03		.08	.70	.01
VALDEZ	2.78	.01	.02	.01										.03	.02	.09	.00	.22	.00	.00	.23	.00		.20	.20	.10	.13	.03		.08	.70	.01
YAKUTAT WSD AP	0.34	.10	.06	.01	.04	.20	.01	.03	.03			.04	.02			.09	.04	.19	.13	.05	.01	.09		.14	.11							
SOUTHEASTERN ISLANDS																																
BAR	3.02	.15			.02		.30	.00	.00			.13	.02	.00	.04	.14	.34			.03			.32	.10	.10	.10	.17	.07				
BYU	.00																															
CAPE SAPICHER	.00																															
COLD BAY WSD AP	2.70	.09			.10	.04	.01	.10	.17	.12	.04					.10	.05	.37	.03	.37	.28			.23	.04	.23	.22	.01	.00		.02	
ST PAUL ISLAND WSD AP	1.00	.03			.10			.03	.14	.01	.05	.06	.10	.00		.00	.10							.02	.13	.01	.00	.07	.00		.01	
SHENNA WSD AP	2.34	.23			.02		.07		.01	.20	.32	.37	.09	.01		.01								.01		.04	.02					
COOPER RIVER																																
CHISANA	1.00	.01				.20		.23								.22																
COOPER CENTER	.72					.00										.10		.03														
ERNESTINE	1.00	.05				.20		.03				.04	.02	.01	.02	.31																
GADSDEN LAKE	1.71					.20		.03								.10		.03														
GLENN HALL	1.00	.05				.20		.03								.10		.03														
GULFVIEW	1.37					.20		.03								.10		.03														
MC CARTHY	1.13	.01	.09	.02	.02							.10	.03			.10	.03															
OLD EDEGTON	1.77	.01	.09	.02	.02							.10	.03			.10	.03															
PARSON LAKE	2.00	.25				.0																										

Station	Elev ft	Day of Month																															
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
WILKINS TERMINAL	1.83																																
WILKINS 1 N	1.83																																
WILKINS 2 N	1.83																																
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WILKINS 65 N	1.83																																

ALASKA WEST OF LONGITUDE 141°

109

15292000 Susitna River at Gold Creek

LOCATION.--Lat 62°46'04", long 149°41'28", in NW 1/4 sec. 20, T. 31 N., R. 2 W., near left bank under Alaska Railroad bridge, 0.1 mile downstream from Gold Creek, 0.9 mile north of Gold Creek railroad station, and 2.0 miles downstream from Indian River.

DRAINAGE AREA.--6,160 sq mi, approximately.

PERIOD OF RECORD.--August 1949 to current year.

GAGE.--Water-stage recorder. Datum of gage is 676.50 ft above mean sea level. Prior to June 6, 1957, nonrecording gage at same site and datum. June 7, 1957 to June 2, 1964, water-stage recorder at site 0.3 mile upstream at same datum.

AVERAGE DISCHARGE.--23 years, 9,843 cfs (21.65 inches per year, 7,131,000 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 82,600 cfs June 17 (gage height, 16.04 ft); minimum daily, 1,600 cfs Apr. 17-24.

Period of record: Maximum discharge, 90,700 cfs June 7, 1964 (gage height, 16.58 ft); maximum gage height observed, 24.48 ft May 10, 1954 (ice jam); minimum discharge not determined.

REMARKS.--Records good except those for the period of no gage-height record, which are poor.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1971 TO SEPTEMBER 1972

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	8,190	3,600	2,800	2,400	2,200	1,900	1,700	2,500	62,500	26,900	19,000	12,600
2	8,220	3,600	2,600	2,400	2,200	1,900	1,700	3,000	48,400	26,500	19,900	12,500
3	8,280	3,400	2,600	2,400	2,200	1,900	1,700	3,600	34,800	25,800	20,000	13,000
4	8,160	3,400	2,600	2,400	2,200	1,900	1,700	4,600	25,200	24,100	19,300	13,900
5	7,560	3,400	2,600	2,400	2,200	1,900	1,700	5,800	21,500	24,000	19,700	14,900
6	6,930	3,400	2,600	2,400	2,200	1,900	1,700	9,000	20,600	24,800	22,100	13,900
7	6,870	3,200	2,600	2,200	2,000	1,900	1,700	13,000	20,400	25,500	26,400	12,300
8	7,200	3,200	2,600	2,200	2,000	1,900	1,700	19,000	22,700	26,400	26,300	11,800
9	7,530	3,200	2,600	2,200	2,000	1,900	1,700	25,000	26,100	26,200	21,500	11,800
10	7,530	3,200	2,600	2,200	2,000	1,800	1,700	26,000	26,400	26,200	18,900	14,000
11	7,380	3,200	2,600	2,200	2,000	1,800	1,700	24,000	27,300	23,800	17,200	14,000
12	6,900	3,200	2,600	2,200	2,000	1,800	1,700	21,000	33,800	23,700	17,000	16,600
13	6,480	3,200	2,600	2,200	2,000	1,800	1,700	20,000	38,700	25,000	18,500	21,400
14	5,550	3,200	2,600	2,200	2,000	1,800	1,700	19,000	51,900	26,200	19,700	26,400
15	5,050	3,000	2,600	2,200	2,000	1,800	1,700	18,000	62,300	27,200	20,000	22,000
16	5,300	3,000	2,600	2,200	2,000	1,800	1,700	18,000	63,800	25,500	20,500	19,000
17	5,600	3,000	2,400	2,200	2,000	1,800	1,600	19,000	70,700	25,000	21,800	17,000
18	5,520	3,000	2,400	2,200	2,000	1,800	1,600	20,000	48,600	22,000	22,000	15,000
19	5,200	3,000	2,400	2,200	2,000	1,800	1,600	21,000	38,200	20,500	21,500	13,000
20	5,200	3,000	2,400	2,200	2,000	1,800	1,600	22,000	30,900	19,400	22,100	11,000
21	5,000	3,000	2,400	2,200	2,000	1,800	1,600	24,000	27,000	18,600	22,200	9,500
22	4,800	3,000	2,400	2,200	2,000	1,800	1,600	25,000	25,300	18,500	20,400	8,500
23	4,600	2,800	2,400	2,200	2,000	1,800	1,600	27,000	25,700	17,500	19,800	7,500
24	4,400	2,800	2,400	2,200	2,000	1,800	1,600	30,000	26,400	17,400	19,500	8,500
25	4,400	2,800	2,400	2,200	2,000	1,800	1,700	30,000	26,300	18,300	18,700	6,000
26	4,200	2,800	2,400	2,200	1,900	1,800	1,700	30,200	25,100	18,500	16,200	5,500
27	4,000	2,800	2,400	2,200	1,900	1,800	1,800	32,400	24,100	18,900	14,400	5,500
28	4,000	2,800	2,400	2,200	1,900	1,800	1,900	35,700	25,300	19,900	13,800	6,000
29	3,800	2,800	2,400	2,200	1,900	1,800	2,000	36,300	26,100	22,700	13,600	5,500
30	3,800	2,800	2,400	2,200	1,700	1,700	2,200	38,900	26,800	21,400	13,000	5,500
31	3,600		2,400	2,200		1,700		55,500		19,400	12,900	
TOTAL	181,250	92,800	77,800	69,400	58,800	56,500	51,300	678,500	1,032.9M	705,800	597,900	372,100
MEAN	5,847	3,093	2,510	2,239	2,028	1,823	1,710	21,890	34,430	22,770	19,290	12,400
MAX	8,280	3,600	2,800	2,400	2,200	1,900	2,200	55,500	70,700	27,200	26,400	26,400
MIN	3,600	2,800	2,400	2,200	1,900	1,700	1,600	2,500	20,400	17,400	12,900	5,500
CFSM	.95	.50	.41	.36	.33	.30	.28	3.55	5.59	3.70	3.13	2.01
IN.	1.09	.56	.47	.42	.36	.34	.31	4.10	6.24	4.26	3.61	2.25
AC-FT	359,500	184,100	154,300	137,700	116,600	112,100	101,800	1,346M	2,049M	1,400M	1,186M	738,100
CAL YR 1971	TOTAL 3,756,320	MEAN 10,290	MAX 77,700	MIN 950	CFSM 1.67	IN 22.68	AC-FT 7,451,000					
WTR YR 1972	TOTAL 3,975,050	MEAN 10,860	MAX 70,700	MIN 1,600	CFSM 1.76	IN 24.01	AC-FT 7,885,000					

NOTE.--No gage-height record Oct. 18 to May 23.
M.--Expressed in thousands.

15-12-367

SOUTH-CENTRAL ALASKA

267

15291000 SUSITNA RIVER AT GOLD CREEK

LOCATION.--Lat 62°34'04", long 149°11'25", in NW 1/4 sec. 20, T.31 N., R.2 W., Matanuska-Susitna Borough, near left bank under Alaska Railroad bridge, 0.1 mile downstream from Gold Creek, 9.9 mile north of Gold Creek railroad station, and 1.0 miles downstream from Indian River.

DRAINAGE AREA.--4,160 sq mi, approximately.

PERIOD OF RECORD.--August 1949 to September 1970.

GAGE.--Water-stage recorder. Datum of gage is 674.50 ft above mean sea level. Prior to June 6, 1957, nonrecorded gage at present site and datum. June 6, 1957, to June 1, 1964, water-stage recorder at site 0.3 mile upstream at present datum.

AVERAGE DISCHARGE.--21 years, 9,775 cfs (21.55 inches per year, 1,082,000 acre-ft per year).

EXTREMES.--Maximums and minimums (discharge in cubic feet per second, gage height in feet) for the water years 1966-70 are contained in the following table:

EXTREMES					Minimum daily		Discharge
1966-70 are contained in the following table:							
			Maximum	Discharge	G.M.	Date	
Water year	Date					1 to Mar. 31, 1966	1,300
1966	June 6, 1966			61,600	14.66	Feb.	1,100
1967	Aug. 15, 1967			30,100	315.23	Apr. 1-20, 1967	1,800
1968	May 22, 1968			41,300	112.75	Apr. 6-15, 1968	750
1969	May 25, 1969			28,100	11.17	Jan. 14 to Feb. 15, 1969	750
1970	June 30, 1970			33,400	11.80	Feb. 11 to Mar. 13, 1970	
Data backwatered from ice.							

a Maximum gage height for year, 20.78 ft May 16, 1967, backwater from ice.
b Maximum gage height for year, 14.98 ft May 16, 1969, backwater from ice.

Period of record: Maximum discharge, 20,700 cfs June 7, 1964 (gage height 16.58 ft); maximum gage height observed, 21.48 ft May 10, 1954 (ice jam); minimum daily discharge, 400 cfs Feb. 16-20, 1950.

REMARKS.--Records good except those for periods of no gage-height record and those for winter periods, which are poor. Water-quality records for the water year 1967 are published in reports of the Geological Survey.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1965 TO SEPTEMBER 1966

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	14200	2760	1800	1400	1300	1300	1500	3400	20400	21300	27700	14000
2	17100	2700	1800	1400	1300	1300	1500	3400	23400	19000	25700	15400
3	14400	2600	1750	1400	1300	1300	1500	3400	28500	19500	31000	14700
4	14400	2500	1700	1400	1300	1300	1500	3400	40400	19500	32500	13700
5	14400	2450	1700	1400	1300	1300	1500	3400	55100	17300	29600	12800
6	17400	2400	1700	1400	1300	1300	1500	3400	54400	16800	24700	11700
7	16800	2300	1700	1400	1300	1300	1500	3400	54400	17400	21500	11100
8	16200	2250	1700	1400	1300	1300	1500	3400	51500	14800	20700	10800
9	9100	2200	1700	1400	1300	1300	1500	3400	43500	16400	21800	10000
10	8420	2150	1700	1400	1300	1300	1500	3400	38900	16200	21300	9340
11	4750	2100	1700	1400	1300	1300	1500	5000	39300	17700	21400	3940
12	8100	2050	1650	1400	1300	1300	1500	5200	37500	19500	21400	11300
13	7600	2000	1650	1400	1300	1300	1500	5400	38700	19000	19700	14900
14	4100	2000	1650	1400	1300	1300	1500	6000	33500	18500	17700	17300
15	5900	2000	1650	1400	1300	1300	1500	6400	24000	17100	16400	15400
16	4100	2000	1600	1400	1300	1300	2050	7100	25000	17200	16600	14000
17	3800	2000	1600	1400	1300	1300	2050	7700	24000	17800	20400	13000
18	3400	1950	1600	1400	1300	1300	2050	8400	27600	18900	19700	12700
19	3500	1900	1600	1400	1300	1300	2050	9000	34400	20600	20900	11700
20	3400	1900	1600	1400	1300	1300	2050	9800	32900	21100	22700	11600
21	3300	1900	1600	1400	1300	1300	2050	11100	29300	18400	24100	11000
22	3300	1900	1600	1400	1300	1300	2050	12400	26400	18100	22400	11400
23	3300	1900	1550	1400	1300	1300	2050	13400	24500	18200	21000	10400
24	3300	1900	1550	1400	1300	1300	2050	14700	24500	18400	23300	9500
25	3300	1900	1550	1400	1300	1300	2050	14400	26400	18800	25400	9060
26	3250	1900	1550	1400	1300	1300	2050	14700	24100	18900	22700	8700
27	3200	1850	1550	1400	1300	1300	2050	14400	23400	18300	20100	8600
28	3100	1850	1550	1400	1300	1300	2050	21400	23200	18200	17900	8700
29	3050	1800	1550	1400	1300	1300	2050	23700	21800	31800	17400	8750
30	2950	1800	1550	1400	1300	1300	2050	27400	21900	27300	17200	8160
31	2900	1800	1550	1400	1300	1300	2050	20700	20700	24600	16800	---
TOTAL	223300	62950	50570	43400	36400	40300	53200	299000	68600	614000	574000	352000
MEAN	7235	2030	1631	1400	1300	1300	1775	9665	32953	19844	21825	11743
MAX	14200	2760	1800	1400	1300	1300	2050	23700	58400	31000	32500	17300
MIN	2900	1800	1550	1400	1300	1300	1400	3400	20400	16200	16400	8160
ACFT	643060	124400	100300	86000	72700	79800	105400	593100	1461000	1271000	1342000	899400

CAL TO 1949 TOTAL 3731000 MEAN 10274 MAX 34000 MIN 1300 ACFT 7402000
BY TO 1949 TOTAL 3442830 MEAN 9432 MAX 50400 MIN 1300 ACFT 6829000

NOTE.--NO GAGE-HEIGHT RECORD DEC. 23 TO MAY 10.

15-12-360

15-2920. Susitna River at Gold Creek--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1965 TO SEPTEMBER 1966

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	9,210								69,300	31,200	18,600	14,000
2	9,240								63,400	27,200	17,400	13,000
3	8,640								68,000	26,900	21,500	11,700
4	8,640								64,500	23,600	21,300	10,300
5	9,000								75,000	22,400	21,600	11,000
6	8,330							900	78,800	22,300	21,200	14,100
7	9,200								65,900	22,500	19,700	10,100
8	8,640	2,400	1,700	1,100	1,300	770	710		81,000	21,200	17,400	9,200
9	8,640								72,000	24,100	17,300	8,900
10	8,640								64,100	23,300	16,800	9,100
11	8,640								57,100	26,500	16,400	9,200
12	8,640								51,000	31,900	16,600	9,310
13	8,640								46,500	24,400	15,300	9,170
14	8,640								46,500	29,400	16,400	9,450
15	8,640								64,600	27,000	15,200	9,620
16	8,640							1,400	64,400	25,100	13,900	10,000
17	8,640								61,200	24,500	14,200	10,400
18	8,640								61,900	26,400	15,900	10,400
19	8,640								64,100	25,100	14,500	9,240
20	9,700								53,600	23,100	15,700	8,720
21	5,400								65,100	21,500	16,200	8,040
22	5,400								36,100	19,700	16,500	8,130
23	5,400	1,900	1,300	1,000	930	860	780	4,000	32,400	19,100	16,900	8,750
24	5,100							4,180	29,600	17,300	15,900	8,010
25	4,700							4,460	28,400	16,000	13,000	8,250
26	4,300							4,750	33,600	14,400	16,200	8,130
27	4,000							5,250	31,100	15,500	16,200	7,400
28	3,800							5,600	30,800	16,100	12,900	7,860
29	3,500							11,400	30,800	21,200	12,000	7,440
30	3,200							37,100	33,200	19,200	12,000	7,500
31	3,100							30,600		19,100	13,900	
TOTAL	199,940	67,500	46,500	32,500	48,020	22,110	22,150	131,520	1,317,300	711,300	509,500	287,120
MEAN	6,448	2,177	1,497	1,048	1,501	713	703	4,243	50,560	22,750	16,440	9,271
MAX	9,710							37,100	65,900	33,200	21,600	16,100
MIN	3,100								28,400	14,400	12,000	7,440
AC-PT	378,500	133,900	91,800	64,000	55,980	43,650	44,130	264,800	3,010,000	1,411,000	1,011,000	549,500

CM. YR 1965: TOTAL 4,000,000 MEAN 10,000 MAX 99,000 MIN - AC-PT 7,930,000
 NAT YR 1966: TOTAL 3,577,000 MEAN 9,774 MAX 85,900 MIN - AC-PT 7,000,000

N. Expressed in thousands.

Note.--No gage-height record Oct. 12 to May 22 except for occasional days.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	7,950	2,790							34,400	30,700	24,200	9,400
2	7,770	2,640							29,300	34,400	23,000	9,400
3	7,420	2,800						2,200	23,700	30,800	22,900	9,180
4	6,750	2,650							22,300	30,400	21,900	9,280
5	6,660	2,900							22,300	28,400	19,700	11,300
6	7,650	2,900							17,200	27,400	17,500	21,500
7	9,340	2,650	1,370						16,600	30,400	16,400	26,900
8	9,640	2,600					1,180	4,540	22,700	25,400	16,700	30,100
9	9,640	2,700							29,000	27,400	18,300	26,500
10	9,650	2,800							28,400	27,500	22,400	23,600
11	8,620	2,900							7,000	23,300	29,100	23,200
12	7,460	2,800							8,000	21,600	31,600	21,000
13	7,530	2,700							8,400	24,900	37,700	17,700
14	7,280	2,650							8,400	23,700	35,400	16,400
15	6,900	2,700							9,000	22,000	31,700	16,300
16	6,510	2,800		960	860	900			9,200	20,000	29,600	16,700
17	6,150	4,900							9,400	18,300	28,900	33,600
18	5,380	3,100							10,000	20,400	26,900	32,400
19	4,820	3,100							11,000	19,700	26,800	27,700
20	4,600	3,500							11,300	19,200	25,000	23,100
21	4,600	3,300	1,110						13,800	25,100	28,800	21,300
22	4,820	3,100							16,000	30,000	29,900	19,400
23	4,640	3,000							17,700	24,300	27,200	13,900
24	4,600	2,900							16,600	30,000	25,200	16,400
25	4,240	2,600							19,200	29,100	23,500	16,800
26	4,280	2,700							23,600	29,200	23,000	16,400
27	4,200	2,400							28,500	32,800	22,500	12,700
28	4,150	2,400							29,400	39,900	21,400	11,900
29	4,100	2,400							36,100	38,900	21,200	10,400
30	3,360	1,700							37,900	31,200	20,700	10,000
31	3,000								37,400		21,700	10,000
TOTAL	175,010	85,970	37,530	29,760	20,580	27,900	40,600	402,600	771,600	888,100	654,600	580,560
MEAN	5,645	2,774	1,211	960	660	900	1,246	12,990	25,720	27,840	21,120	18,350
MAX	9,640	3,500						37,900	39,900	37,700	33,600	30,100
MIN	3,000	1,700							16,600	20,700	10,000	9,280
AC-PT	384,400	164,600	74,400	59,030	47,760	59,340	80,930	798,500	1,530,000	1,712,000	1,278,000	1,151,000

CM. YR 1966: TOTAL 3,580,250 MEAN 9,782 MAX 85,900 MIN - AC-PT 7,101,000
 NAT YR 1967: TOTAL 3,711,510 MEAN 10,170 MAX 39,900 MIN - AC-PT 7,342,000

N. Expressed in thousands.

Note.--No gage-height record Nov. 30 to Jan. 11.

15-12-369

DAILY PRECIPITATION

ALA
JUNE 1

Station	Total	Day of Month																														
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	
SOUTHEASTERN 01																																
ANGOSH	1.47	T	.29	.21	T	.03		.29						.03	.03		T	.24	T				.20	.13	.04	.03				.08		
ANNETTE NB AIRPORT	1.02	.30	.14	.02	.31	.01					T	T		.01	.01		T	.08		.02	.18	.26	1.20	.04	.20			T		.04	.10	
ANNEA CREEK	1.05		.04	.02			.04		.01						.07			T	.17	.20	.04	.24	.12		.70	.02				.04	.10	
AURE BAY	1.05		.28	.52		.17	.20								.04	.04	.04	.04	.27	.19	.02	.11	.21	.04	.35		.12	T		.08	.12	
BARRON	1.00		.14		.29	.30									.30							1.00	.30	.04	1.00	.04						
BEAVER FALLS	1.19		.31	.37	.02	.21	T								.19	.10	T		.04	T	.09	.11	.24	.00	.31	1.28	.32	T		.21	.07	
CAPE CECILION	1.03	.02	.02	.02	.20						.01				.04	.02		.00	.30	.23	.28	.02	.12	.12	.04	.30				.02	.04	
CAPE SPENCER	1.20		.28	.07	.03	.21		.08	.02	.09	.06	.03			.11			.15	.30	.23	.28	.02	.12	.12	.04	.30				.05	.14	.15
CLYDE ROCK	1.03		.33	.24		.07									.10			T	.20	T	T	T	.30	.05	.23	.05	.03			.10	.12	
FIVE FINGER LIGHT STA	1.34	.30	.29	T	.19	T	.10								.05	.15	T															
GUANO ISLAND	2.22	.18	.19	.04	.24													.20	.08	T	.30	.14	.37	.31	.04	.07				T	T	
GUSTAVUS FAN	1.11		.07	.20	T	.22	T					.03	.04		.21	.04		.40	.30	.01	T	.10	T		.35	.02			T	T	.20	.12
HAINES TERMINAL	.34			.20											.03	.03		.40	.30	.01	T	.10	T		.35	.02						
HOLLIS	1.85		.14	.34		.23	.02								.25	.04		.03	.29	.20	.20	.20	.18		.11	.30	.10				.04	.07
JUNEAU	1.85		.14	.34		.23	.02								.25	.04		.03	.29	.20	.20	.20	.18		.11	.30	.10				.04	.07
JUNEAU NB AIRPORT	1.37	T	.05	.19	T	.27	T	T			T	T			.05	.20	T		.04	.04	.01	.08	.10	.04	T	.14	.32	T		.02	.01	.10
KETCHIKAN	1.37	T	.05	.19	T	.27	T	T			T	T			.05	.20	T		.04	.04	.01	.08	.10	.04	T	.14	.32	T		.02	.01	.10
LINGULIN ROCK LIGHT STA	1.30	.00	.39		.03						.07	T			.10	.00		.03	.10	.00	.04	.04	.04	.04	.04	.04					.10	.03
LINGER LONGER	1.00		.02	.34		.03									.09			.03	.10	.00	.04	.04	.04	.04	.04	.04					.10	.03
LITTLE PORT WALTER	1.00		.02	.34		.03									.09			.03	.10	.00	.04	.04	.04	.04	.04	.04					.10	.03
PETERSBURG	1.00		.01	.35	T	.11	.11								.03	.73	.01	T	.34	.22	.23	.20	.28	.20	.22	.05	.04		.19	.14	.10	
POINT PETRET LIGHT STA	1.02		.02	.12	T	.18									.18	.12		T	.34	.22	.23	.20	.28	.20	.22	.05	.04		.19	.14	.10	
PORT ALEXANDER	1.00		.02	.12	T	.18									.18	.12		T	.34	.22	.23	.20	.28	.20	.22	.05	.04		.19	.14	.10	
SITKA FAN	1.04	T	.14	.04	.07		T			T					.10			T	.34	.22	.23	.20	.28	.20	.22	.05	.04		.19	.14	.10	
SITKA MAGNETIC	1.04	T	.14	.04	.07		T			T					.10			T	.34	.22	.23	.20	.28	.20	.22	.05	.04		.19	.14	.10	
SKAGWAY	1.04	T	.14	.04	.07		T			T					.10			T	.34	.22	.23	.20	.28	.20	.22	.05	.04		.19	.14	.10	
THREE POINT LIGHT STA	1.74	T	.02	.05	.07	.22									.13	.38			.25	.05	.05	.05	.05	.16	.00	.40	.01		.02	.02	.10	.12
WANGELL	1.04		.71	.37	T	.05	.04					.03	.03		.04	.22	.05		.18	.18	.42	.40	.37	.32	.25				.02	.02	.10	.12
SOUTH COAST 02																																
ALITKA BAY	1.00				T					T		.00	.25			.18	.00	T	T		.20	.08		.04		.20	.10	.40		.14	.10	.20
CAPE HINCHINBROOK	1.02			.30	.10	.11						.00	.25			.18	.00	T	T		.20	.08		.04		.20	.10	.40		.14	.10	.20
CAPE ST ELIAS	1.30		.04		.22	.03						.00	.25			.18	.00	T	T		.20	.08		.04		.20	.10	.40		.14	.10	.20
COOPER LAKE PROJECT	1.33											.00	.25			.18	.00	T	T		.20	.08		.04		.20	.10	.40		.14	.10	.20
CORODVA	1.33											.00	.25			.18	.00	T	T		.20	.08		.04		.20	.10	.40		.14	.10	.20
CORODVA NB AIRPORT	1.30	T	.17	.01	.15						.11	.32	.13		.11	T		T	.19	.04	.02	.21	.01	T	.30	.34		.04	.12	.20	.10	
KARLUK LAKE NO 2	1.00										.11	.32	.13		.11	T		T	.19	.04	.02	.21	.01	T	.30	.34		.04	.12	.20	.10	
KARLUK RIVER	1.00										.11	.32	.13		.11	T		T	.19	.04	.02	.21	.01	T	.30	.34		.04	.12	.20	.10	
LIYOTI BAY	1.00										.11	.32	.13		.11	T		T	.19	.04	.02	.21	.01	T	.30	.34		.04	.12	.20	.10	
LIYOTI BAY	1.00										.11	.32	.13		.11	T		T	.19	.04	.02	.21	.01	T	.30	.34		.04	.12	.20	.10	
LIYOTI BAY	1.00										.11	.32	.13		.11	T		T	.19	.04	.02	.21	.01	T	.30	.34		.04	.12	.20	.10	
LIYOTI BAY	1.00										.11	.32	.13		.11	T		T	.19	.04	.02	.21	.01	T	.30	.34		.04	.12	.20	.10	
LIYOTI BAY	1.00										.11	.32	.13		.11	T		T	.19	.04	.02	.21	.01	T	.30	.34		.04	.12	.20	.10	
LIYOTI BAY	1.00										.11	.32	.13		.11	T		T	.19	.04	.02	.21	.01	T	.30	.34		.04	.12	.20	.10	
LIYOTI BAY	1.00										.11	.32	.13		.11	T		T	.19	.04	.02	.21	.01	T	.30	.34		.04	.12	.20	.10	
LIYOTI BAY	1.00										.11	.32	.13		.11	T		T	.19	.04	.02	.21	.01	T	.30	.34		.04	.12	.20	.10	
LIYOTI BAY	1.00										.11	.32	.13		.11	T		T	.19	.04	.02	.21	.01	T	.30	.34		.04	.12	.20	.10	
LIYOTI BAY	1.00										.11	.32	.13		.11	T		T	.19	.04	.02	.21	.01	T	.30	.34		.04	.12	.20	.10	
LIYOTI BAY	1.00										.11	.32	.13		.11	T		T	.19	.04	.02	.21	.01	T	.30	.34		.04	.12	.20	.10	
LIYOTI BAY	1.00										.11	.32	.13		.11	T		T	.19	.04	.02	.21	.01	T	.30	.34		.04	.12	.20	.10	
LIYOTI BAY	1.00										.11	.32	.13		.11	T		T	.19	.04	.02	.21	.01	T	.30	.34		.04	.12	.20	.10	
LIYOTI BAY	1.00										.11	.32	.13		.11	T		T	.19	.04	.02	.21	.01	T	.30	.34		.04	.12	.20	.10	
LIYOTI BAY	1.00										.11	.32	.13		.11	T		T	.19	.04	.02	.21	.01	T	.30	.34		.04	.12	.20	.10	
LIYOTI BAY	1.00										.11	.32	.13		.11	T		T	.19	.04	.02	.21	.01	T	.30	.34		.04	.12	.20	.10	
LIYOTI BAY	1.00										.11	.32	.13		.11	T		T	.19	.04	.02	.21	.01	T	.30	.34		.04	.12	.20	.10	
LIYOTI BAY	1.00																															

ALASKA
JUNE 1 1964

Continued

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75-12-371

15-2920. Susitna River at Gold Creek—Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1961 TO SEPTEMBER 1962

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	11,300								38,400	32,700	27,100	26,000
2	11,400								36,100	28,200	28,500	22,000
3	12,500								32,000	25,000	30,600	29,600
4	12,400								31,700	24,100		31,000
5	11,100								31,000	25,900		26,000
6	9,900								28,700	27,200		21,000
7									27,500	27,200		19,000
8								4,500	29,800	27,400		17,000
9									31,100	28,000		15,000
10									36,600	26,200		15,000
11									44,700	24,900		14,400
12									50,400	25,400		16,000
13									55,800	28,300		17,000
14									73,000	25,600		14,000
15									79,900	23,000		12,400
16		2,700	2,100	1,900	1,500	1,400	1,700		72,800	21,700		12,500
17									65,900	20,900	23,000	12,400
18									54,800	22,600		11,900
19	4,600								46,700	21,500		11,100
20									42,400	23,000		11,400
21									44,700	27,200		12,100
22								18,000	51,800	30,500		12,800
23									43,800	28,200		12,100
24									35,700	25,200		11,900
25									31,100	27,400		12,800
26									30,000	29,900		13,400
27									31,900	26,000		13,000
28									38,000	23,700		12,000
29									44,000	21,400		11,200
30									34,800	24,600		10,700
31									34,000	25,200		
TOTAL	183,400	81,000	65,100	58,900	42,000	43,400	51,000	390,300	11,298,200	801,500	730,200	476,700
MEAN	5,916	2,600	2,100	1,900	1,350	1,400	1,700	12,590	43,270	25,850	23,350	15,400
MAX	12,500							36,000	79,900	32,700		31,000
MIN									27,500	20,900		10,700
AC-FT	363,400	164,700	129,100	114,800	83,310	84,240	101,200	774,100	2,575M	1,590M	1,444M	945,500

CAL YR 1961: TOTAL 3,840,200 MEAN 10,560 MAX 34,000 MIN - AC-FT 7,437,000
 CAL YR 1962: TOTAL 4,221,700 MEAN 11,570 MAX 79,900 MIN - AC-FT 8,374,000

M Expressed in thousands.

Note.—No gage-height record Oct. 7 to May 29, Aug. 4 to Sept. 14 except for occasional days.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1962 TO SEPTEMBER 1963

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	10,100									29,000	26,000	16,100
2	9,800									31,000	10,000	15,600
3	9,500									30,000	15,000	15,600
4	9,200									30,000	32,000	15,500
5	8,800									30,000	31,000	15,100
6	8,310									33,000	30,000	14,900
7	8,170									35,000	28,000	14,800
8	7,870									37,800	25,000	14,500
9	7,500							3,400		38,000	21,000	14,400
10	7,000									40,000	20,000	14,300
11	6,700									42,000	21,000	14,100
12	6,400									44,000	21,000	13,800
13	6,000									41,000	20,000	13,100
14	6,700									39,000	20,000	12,700
15	6,600									37,000	21,700	12,000
16	6,200	2,800	2,000	1,600	1,500	1,000	830		26,000	43,000	22,600	11,600
17	6,100									47,000	22,400	11,400
18	6,000									49,000	24,600	10,900
19	5,900									32,000	25,400	10,600
20	5,600									30,000	24,000	10,500
21	5,700									29,000	22,300	10,400
22	5,600									28,000	21,400	10,200
23	5,600									30,000	23,300	9,790
24	5,300									38,000	23,000	9,620
25	5,500									39,000	21,400	9,340
26	5,400									35,000	22,800	9,420
27	5,400									31,000	23,100	9,520
28	5,100									27,000	21,700	9,320
29	5,100									24,000	19,300	9,430
30	4,600									24,000	17,300	9,830
31	4,600									23,400	14,500	
TOTAL	208,420	84,000	62,000	49,600	42,000	31,000	24,900	399,800	780,000	11,064,400	733,900	369,550
MEAN	6,723	2,600	2,000	1,600	1,350	1,000	830	19,030	26,000	34,400	23,470	12,320
MAX	10,100							43,000		49,000	35,000	16,100
MIN	4,600									23,400	14,500	9,340
AC-FT	413,400	164,400	123,000	98,380	83,310	61,490	49,390	1,170M	1,547M	2,115M	1,444M	733,000

CAL YR 1962: TOTAL 4,221,700 MEAN 11,630 MAX 79,900 MIN - AC-FT 8,423,000
 CAL YR 1963: TOTAL 4,041,570 MEAN 11,070 MAX 49,000 MIN - AC-FT 8,016,000

M Expressed in thousands.

Note.—No gage-height record Oct. 25 to Aug. 14 except for occasional days.

DAILY PRECIPITATION

Continued

Station	Total	Day of Month																														
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
INTERIOR BASIN																																
ALLARTSET	0.00	0.00	0.00	0.00					0.00													0.22				0.15					0.00	
BETTES PAB AD	0.07																					0.00				0.01						
BIG DELTA PAB	0.00			0.00	0.00	0.00	0.00	0.00	0.00					0.00	0.00	0.00																
CIRCLE CITY	0.00			0.00	0.00	0.00	0.00	0.00	0.00				0.00		0.00	0.00																
CIRCLE HOT SPRINGS	0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00												0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	
COLLEGE HAD ODS	0.00				0.00	0.00	0.00	0.00	0.00													0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	
ELLISON FIELD	0.00																					0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
FAIRBANKS WAD AD	0.00																					0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
FAIRWELL PAB	0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00					0.00	0.00	0.00						0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	
FORT YUKON PAB	0.00																					0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
HUGHES	0.00																					0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
LAKE WACHUMINA PAB	0.00																					0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MALEY HOT SPRINGS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00					0.00	0.00	0.00						0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MC GRATH WAD AD	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00					0.00	0.00	0.00						0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MC TIMLEY PAB	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00					0.00	0.00	0.00						0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
NORTHWAY PAB AD	0.00																					0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
SUMMIT PAB	0.00																					0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TANACROSS	0.00																					0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TANARA PAB	0.00																					0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOLE	0.00	0.00	0.00																			0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TRONS CAMP	0.00																					0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
WHEELSLEY LAY STA	0.00																					0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
ARCTIC DRAINAGE																																
BARROW WAD AD	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00													0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
BARTER ISLAND WAD AD	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00													0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
CAMP LISBURNE	0.00																					0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
CAMP THOMPSON	0.00																					0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
COTUIER WAD AD	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00													0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
WAINWRIGHT	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00													0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

SUPPLEMENTAL DATA

Station	Wind direction		Wind speed m. p. h.				Relative humidity averages - percent					Number of days with precipitation										Percent of possible sunshine	Average sky cover sunrise to sunset
	Prevailing	Percent of time from prevailing	Average	Fastest mile	Direction of fastest mile	Date of fastest mile	7:00 A.M. 150th M.T.	8:00 A.M. 150th M.T.	2:00 P.M. 150th M.T.	8:00 P.M. 150th M.T.	Trace	01-09	10-49	50-89	100-100	200 and over	Total						
ANCHORAGE WB AIRPORT	SSE	16	5.8	→17	SSE	23+	83	75	66	71	6	6	4	1	1	0	18	41	8.0				
ANNETTE WB AIRPORT	SSE	17	7.1	→21	SE	6+	86	77	71	80	3	5	8	2	0	1	19	-	8.4				
BARROW WB AIRPORT	NNE	11	10.8	→29	E	1	90	89	84	85	12	7	0	0	0	0	19	-	8.2				
BARTER ISLAND WB AIRPORT	ENE	19	10.5	→38	W	5	90	88	87	87	11	5	0	0	0	0	16	-	6.3				
BETHEL WB AIRPORT	NW	23	13.5	→29	SW	1	91	85	66	69	7	8	3	0	0	0	18	-	7.6				
COLD BAY WB AIRPORT	WNW	31	16.4	→43	SSE	8	92	90	78	85	17	5	0	0	0	0	22	-	8.5				
CORDOVA WB AIRPORT	ESE	12	6.1	→18	SW	9	94	82	79	88	6	6	8	2	3	0	25	-	9.0				
FAIRBANKS WB AIRPORT	SW	12	7.4	→23	NE	22+	80	60	42	50	6	3	2	1	1	0	13	-	7.1				
JUNEAU WB AIRPORT	ESE	17	7.4	→28	ESE	5	88	80	74	81	6	7	9	3	0	0	25	14	9.1				
KING SALMON WB AIRPORT	SW	18	11.6	→28	S	9	91	81	59	71	6	6	8	0	0	0	20	-	8.0				
KOTZEBUE WB AIRPORT	WNW	35	10.2	→23	WNW	21	91	89	86	86	5	9	3	0	0	0	17	-	7.9				
MC GRATH WB AIRPORT	WNW	11	6.6	→23	SW	7+	78	66	54	57	8	6	5	0	0	0	19	-	7.7				
NOME WB AIRPORT	WSW	17	12.2	→32	NW	24	90	86	80	83	7	7	2	0	0	0	16	52	6.9				
ST PAUL ISLAND WB AIRPORT	S	18	14.2	→35	NW	22	98	97	88	91	6	12	3	0	0	0	21	-	8.6				
SHEMYA WB AIRPORT	WSW	13	16.2	→47	WSW	7	98	98	95	95	12	10	2	2	1	0	27	-	9.5				
YAKUTAT WB AIRPORT	SE	11	7.3	→26	SE	5	95	82	79	88	5	5	6	2	1	3	22	-	8.3				

→ FASTEST OBSERVED ONE MINUTE WIND SPEED. THIS OBSERVATION WAS MADE AT 10:00 A.M. ON 10/10/54.

DAILY PRECIPITATION

46555
JUN 1997

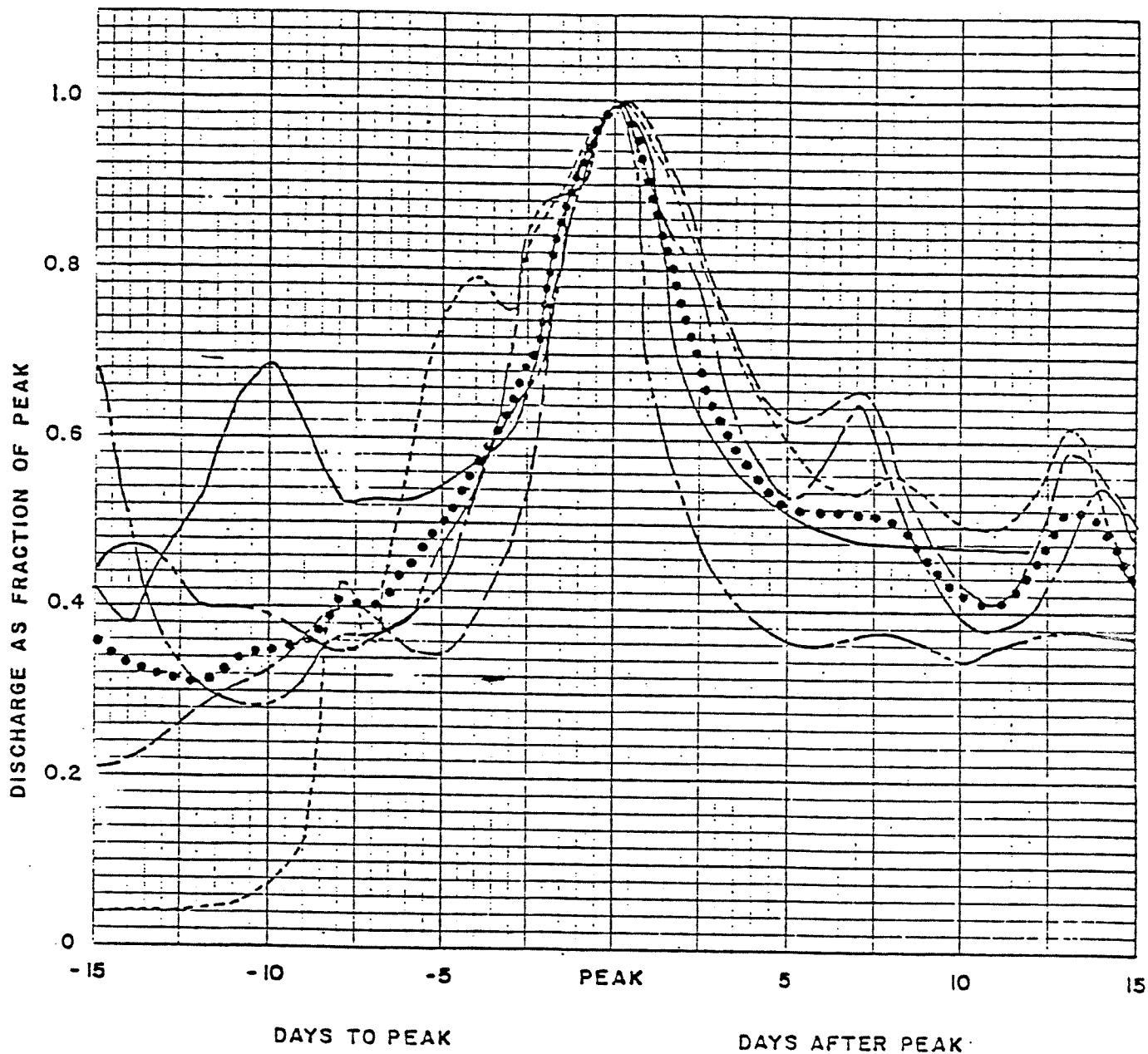
[illegible]

Susitna R. @ Gold Cr.

June - 15 - 1962

79,900 c.f.s peak

15-12-374



SUSITNA RIVER AT GOLD CREEK

LEGEND

	Date	Peak Discharge (cfs)
.....	Median Curve	
————	June 23, 1961	54,000
————	June 15, 1962	79,900
-----	June 7, 1964	85,900
-----	June 6, 1966	58,400
-----	June 17, 1972	70,700

	ALASKA POWER AUTHORITY
	SUSITNA HYDROELECTRIC PROJECT
	FLOOD STUDIES
DIMENSIONLESS HYDROGRAPHS	
MAY - JULY 1961-1972	
	MARCH 1981
R&M CONSULTANTS, INC.	

2920. Susitna River at Gold Creek

Location.--Lat 62°46'15", long 149°41'20", on right bank 0.2 mile upstream from Gold Creek, 0.3 mile upstream from Alaska Railroad bridge, 1 mile north of Gold Creek railroad station, and 1.7 miles downstream from Indian River.

Drainage area.--6,160 sq mi, approximately (includes that of Gold Creek).

Records available.--Discharge: August 1949 to September 1959.

Chemical analyses: May 1951 to October 1952, October to November 1953, June to September 1955, June 1956, January to September 1957.

Water temperatures: June to September 1957.

Sediment records: April to September 1952 and June to September 1957 (daily); May 1953 to August 1956 (periodic, summer months only).

Gage.--Water-stage recorder. Datum of gage is 676.50 ft above mean sea level. Prior to June 6, 1957, wire-weight gage at site 0.3 mile downstream at same datum.

Average discharge.--10 years, 9,856 cfs (7,135,000 acre-ft per year).

Extremes.--Maximum discharge during year, 62,300 cfs Aug. 25 (gage height, 15.42 ft); minimum not determined.

1949-59: Maximum discharge, that of Aug. 25, 1959; maximum gage height observed, 24.48 ft May 10, 1954 (ice jam), site then in use; minimum discharge not determined. Flood in May 1919 reached a stage of 19.2 ft, result of ice jam, from information by Bureau of Reclamation.

Remarks.--Records poor. Large diurnal fluctuation caused by glacier melt at source.

Discharge, in cubic feet per second, water year October 1958 to September 1959

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	5,900								18,100	30,200	25,400	41,000
2	8,200								19,600	27,600	25,000	38,000
3	5,600								22,400	27,400	24,000	35,000
4	6,400								27,800	23,800	24,000	32,000
5	6,000								28,000	23,000	22,000	27,400
6	5,800							3,400	28,000	26,000	19,700	24,500
7	5,240								27,000	26,600	18,600	22,600
8	3,100	2,600	1,100	(*)	1,400		1,000		26,000	25,000	16,700	21,300
9	3,200								23,000	23,900	17,000	19,800
10	8,400			1,500					20,000	21,300	17,600	18,700
11									19,000	19,200	18,800	15,100
12									18,300	24,300	20,200	11,900
13		(*)							18,100	32,000	21,100	11,200
14									19,200	31,000	22,400	12,700
15									20,400	29,000	23,300	12,400
16	5,300					980			15,000	21,400	27,200	25,000
17									22,000	22,200	28,000	26,000
18									37,000	23,000	30,500	29,000
19									39,600	23,000	29,000	38,000
20									34,900	22,000	25,000	41,400
21									29,100	23,000	24,000	40,000
22									26,000	24,000	25,000	31,000
23		1,700	1,900	1,400	1,200		1,500		23,000	25,000	21,000	40,000
24									25,000	27,000	22,000	59,700
25									27,000	27,600	22,200	59,100
26	3,500								27,400	25,000	22,000	51,200
27									23,200	23,500	21,000	45,000
28									23,200	23,700	20,600	43,000
29									27,600	25,400	21,400	46,000
30									24,200	29,300	21,600	37,000
31									20,400	25,800	39,000	---
Total	149,140	54,500	46,900	44,900	36,600	30,380	37,500	495,600	699,700	775,000	966,600	507,710
Mean	4,811	2,150	1,513	1,448	1,307	980	1,250	15,990	23,320	25,000	31,180	16,920
Ac-ft	295,600	127,900	93,020	89,060	72,600	60,260	74,380	983,000	1,338	1,537	1,917	1,007
Calendar year 1958: Max	47,600								Mean	8,890	Ac-ft	6,436,000
Water year 1958-59: Max	59,700								Mean	10,560	Ac-ft	7,645,000

* Discharge measurement made on this day.

† Expressed in thousands.

Note.--No gage-height record Oct. 1-6, 8-10, Oct. 17 to May 18, except occasional readings (stage-discharge relation affected by ice during most of periods), May 23-25, June 5-11, 18-24, July 13-15, 17-24, 26, 27, Aug. 2, 3, 9, 16-19, 21-23, Aug. 27 to Sept. 2. Discharge estimated on basis of 10 discharge measurements, weather records, and records for station near Denali, Matanuska River at Palmer, Chulitna River near Talkeetna, and Menana River near Nealy.

Location
tar

Drainage

Records

Gage

Extremes

Remarks

wnl

Day
1
2
3
4
5
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11
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26
27
28
29
30
31

Total
Mean
Ac-ft

Calendar

Water year

Peak discharge

38,600 c

(14.7 ft)

* Discharge

and No gage

and record

Note.--

Jan. 9 to

records for

15-12-376

15292000 SUSITNA RIVER AT GOLD CREEK--CONTINUED

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	6490	1600	1500	1500	1400	1200	1100	1700	2700	2500	2700	10700
2	7140	1600	1500	1500	1400	1200	1100	1800	2600	21700	30000	24300
3	7230	1600	1500	1500	1400	1200	1100	1900	24300	18000	28000	21000
4	7080	1600	1500	1500	1400	1200	1100	2000	24000	20500	25000	21000
5	7530	1600	1500	1500	1400	1200	1100	2200	24200	20300	24000	20000
6	6000	1600	1500	1500	1400	1200	1100	2500	31700	21000	23000	20700
7	6400	1600	1500	1500	1400	1200	1100	2700	27100	21500	21000	20000
8	5420	1600	1500	1500	1400	1200	1100	3000	22000	22100	21000	25000
9	5250	1600	1500	1500	1400	1200	1100	4000	24000	23700	23000	21000
10	4650	1600	1500	1500	1400	1200	1100	5000	32000	22000	20000	19000
11	3000	1600	1500	1500	1400	1200	1100	6000	30000	21100	12700	17400
12	4520	1600	1500	1500	1400	1200	1100	7000	27200	20500	33000	14500
13	4950	1600	1500	1500	1400	1200	1100	11000	25300	20100	40200	15000
14	4100	1600	1500	1500	1400	1200	1100	15000	27000	20000	40000	14000
15	4850	1600	1500	1500	1400	1200	1100	14000	34000	21200	70000	14300
16	4200	1600	1500	1500	1400	1200	1100	23000	32000	21300	62000	13000
17	3000	1600	1500	1500	1400	1200	1100	22000	29000	20000	72000	13000
18	3300	1600	1500	1500	1400	1200	1100	17000	28000	22200	45000	12500
19	3000	1600	1500	1500	1400	1200	1100	14000	25000	25600	37000	12000
20	3000	1600	1500	1500	1400	1200	1100	15000	29100	46200	32000	12000
21	2000	1600	1500	1500	1400	1200	1300	18000	29000	50000	70000	11000
22	2700	1600	1500	1500	1400	1200	1300	21000	29000	52000	20700	11200
23	2600	1600	1500	1500	1400	1200	1300	24000	27300	34000	20000	10000
24	2500	1600	1500	1500	1400	1200	1300	24000	25000	30000	20000	10000
25	2400	1600	1500	1500	1400	1200	1300	30000	25700	30000	20000	9700
26	2300	1600	1500	1500	1400	1200	1300	29000	29000	35000	22100	9300
27	2200	1600	1500	1500	1400	1200	1300	28000	29000	32000	21300	8700
28	2100	1600	1500	1500	1400	1200	1300	28000	30000	32000	21300	8700
29	2000	1600	1500	1500	1400	1200	1300	31700	31200	27000	20000	8000
30	1900	1600	1500	1500	1400	1200	1300	30000	32700	24000	19100	7400
31	1800	1600	1500	1500	1400	1200	1300	29000	34000	24000	18000	7000
TOTAL	129050	40000	40500	40500	39700	37200	35000	479000	885000	810000	1011300	500000
MEAN	4162	1290	1300	1300	1280	1200	1130	15130	28800	26000	32220	15447
MAX	7530	1600	1500	1500	1400	1200	1100	31700	34000	50000	70000	24300
MIN	1800	1600	1500	1500	1400	1200	1100	29000	24000	24000	18000	7000
AC-FT	250000	95210	92230	92230	77750	73700	60420	951000	1750000	1400000	2000000	1000000
CAL YR 1966 TOTAL	3329500	MEAN	9121	MAX	50400	MIN	1300	AC-FT	8000000			
YR 1967 TOTAL	4094070	MEAN	11210	MAX	70000	MIN	1100	AC-FT	8122000			

NOTE.--NO GAGE-HEIGHT RECORD NOV. 20 TO APR. 7.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1967 TO SEPTEMBER 1968

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4010	2000	2100	2000	1900	1900	1900	2700	26000	27000	21700	11900
2	7600	2000	2100	2000	1900	1900	1900	2700	25200	20700	21400	11500
3	7200	2000	2100	2000	1900	1900	1900	2700	23000	20000	21000	11100
4	7050	2000	2100	2000	1900	1900	1900	2700	24000	20000	20000	10700
5	6330	2000	2100	2000	1900	1900	1900	2400	26000	20000	19000	10200
6	5900	2000	2100	2000	1900	1900	1900	2500	26000	27000	19000	10000
7	5700	2000	2100	2000	1900	1900	1900	2500	27000	24700	19000	11400
8	5700	2000	2100	2000	1900	1900	1900	2500	24000	24000	20000	13000
9	5750	2000	2100	2000	1900	1900	1900	2700	27000	27000	21200	13200
10	5700	2000	2100	2000	1900	1900	1900	2500	30000	25000	21200	12000
11	5600	2000	2100	2000	1900	1900	1900	2400	34000	25700	20100	12100
12	5750	2000	2100	2000	1900	1900	1900	4000	30100	28700	19000	11500
13	5600	2000	2100	2000	1900	1900	1900	5700	30100	27000	17000	10700
14	5500	2000	2100	2000	1900	1900	1900	7000	39500	26300	17000	9000
15	5300	2000	2100	2000	1900	1900	1900	8000	34500	30100	17000	9000
16	4020	2000	2100	2000	1900	1900	1900	12000	34000	29200	14000	8070
17	4720	2000	2100	2000	1900	1900	1900	15000	30000	28000	14000	7900
18	4300	2000	2100	2000	1900	1900	1900	18000	35000	24000	13000	7000
19	4220	2000	2100	2000	1900	1900	1900	25000	37000	23000	14200	7700
20	3900	2000	2100	2000	1900	1900	1900	31000	38000	23000	14700	6700
21	3000	2200	2000	2000	1900	1900	1900	30000	38000	23000	15200	6000
22	3700	2200	2000	2000	1900	1900	1900	30000	38000	24300	15000	5100
23	3600	2200	2000	2000	1900	1900	1900	35000	34000	23000	14000	5000
24	3500	2200	2000	2000	1900	1900	1900	32000	32000	24000	15000	5000
25	3400	2200	2000	2000	1900	1900	1900	32100	25100	25000	15000	5000
26	3300	2200	2000	1900	1900	1900	1900	29000	24100	24000	15200	5000
27	3200	2200	2000	1900	1900	1900	1900	24100	27000	26000	14000	5000
28	3100	2200	2000	1900	1900	1900	1900	21000	30000	27000	13000	5000
29	3100	2200	2000	1900	1900	1900	1900	21000	29000	26000	13000	5000
30	3000	2200	2000	1900	1900	1900	1900	22000	27000	22000	13100	5000
31	2900	2200	2000	1900	1900	1900	1900	27000	27000	21000	12000	5000
TOTAL	151000	70000	63700	61000	55100	50900	57300	501500	940500	810100	537200	244000
MEAN	4800	2260	2050	1930	1700	1600	1810	16177	31550	24422	17107	7615
MAX	7600	2000	2100	2000	1900	1900	1900	37000	39000	32000	21000	13000
MIN	2900	2200	2000	1900	1900	1900	1900	27000	23000	21000	12000	5000
AC-FT	301300	140000	126300	121000	109700	110000	113700	900700	1777000	1620000	1000000	420000
CAL YR 1967 TOTAL	4157520	MEAN	11300	MAX	70000	MIN	1100	AC-FT	8200000			
YR 1968 TOTAL	3582670	MEAN	9700	MAX	39700	MIN	1000	AC-FT	7100000			

NOTE.--NO GAGE-HEIGHT RECORD NOV. 30 TO JAN. 21.

15-12-377

15292000 Susitna River at Gold Creek

LOCATION.--Lat 62°46'04", long 149°41'28", in NW 1/4 sec. 20, T. 31 N., R. 2 W., near left bank under Alaska Railroad bridge, 0.1 mile downstream from Gold Creek, 0.9 mile north of Gold Creek railroad station, and 2.0 miles downstream from Indian River.

DRAINAGE AREA.--6,160 sq mi, approximately.

PERIOD OF RECORD.--August 1949 to current year.

GAGE.--Water-stage recorder. Datum of gage is 676.50 ft above mean sea level. Prior to June 6, 1957, nonrecording gage at same site and datum. June 7, 1957 to June 2, 1964, water-stage recorder at site 0.3 mile upstream at same datum.

AVERAGE DISCHARGE.--22 years, 9,797 cfs (7,098,000 acre-ft per year).

EXPERIENCES.--Current year: Maximum discharge, 37,400 cfs Aug. 10 (gage height, 16.36 ft); minimum daily discharge, 950 cfs Mar. 1 to Apr. 5.

Period of record: Maximum discharge, 90,700 cfs June 7, 1964 (gage height, 16.58 ft); maximum gage height observed, 24.48 ft May 10, 1954 (ice jam); minimum discharge not determined.

REMARKS.--Records good except those for the period of no gage-height record.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	7,620	4,000	2,600	1,800	1,100	950	950	1,400	10,000	38,300	21,900	17,400
2	9,000	4,000	2,600	1,800	1,100	950	950	1,500	10,000	27,800	26,400	22,800
3	7,500	4,000	2,600	1,700	1,100	950	950	1,500	10,000	22,700	30,500	27,000
4	6,500	4,000	2,600	1,700	1,100	950	950	1,600	12,000	21,200	26,500	26,700
5	6,000	4,000	2,600	1,700	1,100	950	950	1,600	16,000	20,700	23,100	24,100
6	6,000	3,800	2,600	1,700	1,100	950	1,000	1,700	22,000	20,300	22,700	22,100
7	6,500	3,800	2,600	1,600	1,100	950	1,000	1,700	30,000	20,500	27,100	19,900
8	6,500	3,800	2,600	1,600	1,100	950	1,000	1,800	34,000	21,000	35,700	17,400
9	6,000	3,800	2,400	1,600	1,100	950	1,000	1,900	36,000	20,700	51,000	16,900
10	6,000	3,800	2,400	1,600	1,100	950	1,000	2,000	50,000	22,100	77,700	16,800
11	6,000	3,600	2,400	1,500	1,000	950	1,000	2,000	59,000	22,400	75,900	16,200
12	5,500	3,600	2,400	1,500	1,000	950	1,000	2,200	66,300	24,000	64,600	14,400
13	5,500	3,600	2,400	1,500	1,000	950	1,000	2,200	51,700	29,600	51,100	13,200
14	5,500	3,600	2,400	1,500	1,000	950	1,000	2,400	41,000	34,500	46,500	12,600
15	5,000	3,400	2,400	1,500	1,000	950	1,000	2,600	34,000	36,700	38,400	12,000
16	5,000	3,400	2,400	1,400	1,000	950	1,100	2,800	28,300	36,100	30,800	11,700
17	4,800	3,400	2,400	1,400	1,000	950	1,100	3,000	24,900	33,600	26,000	11,300
18	4,800	3,200	2,200	1,400	1,000	950	1,100	3,200	24,800	27,800	22,600	10,900
19	4,800	3,200	2,200	1,400	1,000	950	1,100	3,400	24,300	23,600	20,900	10,300
20	4,600	3,200	2,200	1,300	1,000	950	1,100	3,600	25,800	21,300	24,700	10,400
21	4,400	3,000	2,200	1,300	1,000	950	1,100	3,800	29,800	21,800	31,600	11,100
22	4,200	3,000	2,200	1,300	1,000	950	1,200	4,400	34,400	21,700	27,700	11,500
23	4,200	3,000	2,000	1,300	1,000	950	1,200	4,800	36,600	18,700	22,900	11,800
24	4,000	3,000	2,000	1,200	1,000	950	1,200	5,500	41,600	16,000	21,400	11,100
25	4,000	3,000	2,000	1,200	1,000	950	1,200	6,000	42,000	14,500	22,300	17,300
26	4,000	2,800	2,000	1,200	1,000	950	1,200	6,500	39,300	17,000	22,700	9,520
27	4,000	2,800	2,000	1,200	1,000	950	1,200	7,000	38,200	21,400	22,300	9,060
28	4,000	2,800	2,000	1,200	1,000	950	1,300	7,500	37,800	21,400	21,300	8,470
29	4,000	2,800	1,900	1,200	-----	950	1,300	8,000	36,400	22,500	18,900	8,160
30	4,000	2,800	1,900	1,200	-----	950	1,300	9,000	41,800	21,400	17,000	8,160
31	4,000	-----	1,800	1,200	-----	950	-----	9,500	-----	21,300	16,700	-----
TOTAL	163,920	102,200	71,000	44,700	29,000	29,450	32,450	116,100	988,000	742,400	989,100	433,270
MEAN	5,288	3,407	2,290	1,442	1,034	950	1,082	3,745	32,930	23,950	31,910	14,440
MAX	9,000	4,000	2,600	1,800	1,100	950	1,300	9,500	66,300	38,300	77,700	27,000
MIN	4,000	2,800	1,800	1,200	1,000	950	950	1,400	10,200	14,500	15,700	9,150
AC-FT	325,100	202,700	140,800	88,660	57,520	58,410	64,360	230,300	1,960M	1,473M	1,962M	859,400

CAL YR 1970 TOTAL 2,947,860 MEAN 8,076 MAX 31,600 MIN 750 AC-FT 5,847,000
WTR YR 1971 TOTAL 3,741,590 MEAN 10,250 MAX 77,700 MIN 950 AC-FT 7,421,000

NOTE.--No gage-height record Oct. 2 to June 9.

M.--Expressed in thousands.

15-12-378

2920. Susitna River at Gold Creek

Location.--Lat 62°46'15", long 149°41'20", on right bank 0.2 mile upstream from Gold Creek, 0.3 mile upstream from Alaska Railroad bridge, 1 mile north of Gold Creek railroad station, and 1.7 miles downstream from Indian River.

Drainage area.--6,160 sq mi, approximately (includes that of Gold Creek).

Records available.--Discharge: August 1949 to September 1958.

Chemical analyses: May 1951 to October 1952, October to November 1953, June to September 1955, June 1956, January to September 1957.

Water temperatures: June to September 1957.

Sediment records: April to September 1952 and June to September 1957 (daily); May 1953 to August 1956 (periodic, summer months only).

Gage.--Water-stage recorder. Datum of gage is 676.50 ft above mean sea level. Prior to June 6, 1957, wire-weight gage at site 0.3 mile downstream at same datum.

Average discharge.--9 years, 9,778 cfs (7,079,000 acre-ft per year).

Extremes.--Maximum discharge during year, 49,600 cfs Aug. 3 (gage height, 14.74 ft); maximum gage height, 14.91 ft Dec. 21 (ice jam); minimum discharge not determined.

1949-58: Maximum discharge observed, 58,100 cfs Aug. 26, 1955 (gage height, 14.20 ft), site then in use; maximum gage height observed, 24.48 ft May 10, 1954 (ice jam), site then in use; minimum discharge not determined.

Flood in May 1919 reached a stage of 19.2 ft, result of ice jam, from information by Bureau of Reclamation.

Remarks.--Records poor. Large diurnal fluctuation caused by glacier melt at source.

Discharge, in cubic feet per second, water year October 1957 to September 1958

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	12,600	5,300	4,000	2,300	1,400		1,100	3,420			36,800	
2	10,600	5,200	4,100	2,400	1,400		1,100	4,040			42,900	
3	10,400	5,100	4,200	2,400	1,400		1,200	4,170			47,850	
4	10,000	5,000	4,300	2,500	1,400		1,200	5,110			47,100	
5	9,500	4,900	4,400	2,500	1,400		1,200	5,150			36,000	
6	9,600	4,800	4,400	2,500	1,300		1,300	5,500				
7	9,430	4,600	4,400	2,500	1,300		1,300	6,100			29,100	
8	9,870	4,400	4,300	2,400	1,500	1,200	1,400	7,010			28,600	
9	9,740	4,270	4,200	2,200	1,400		1,400	7,250			27,000	48,500
10	9,610	4,360	4,100	2,100	1,400		1,300	9,080	28,000		225,000	
11	9,340	4,320	4,000	2,000	1,300		1,300	9,430			227,000	
12	8,580	4,230	3,800	1,900	1,300		1,300	10,600			223,000	
13	7,770	3,910	3,700	1,800	1,300		1,300	10,400		22,000	21,900	
14	6,840	3,720	3,500	1,800	1,300		1,400	12,000			21,200	
15	6,610	3,740	3,400	1,800	1,300		1,400	11,200			221,000	
16	6,740	3,740	3,280	1,800	1,300		1,400	11,000			220,000	
17	6,900	3,930	3,110	1,800	1,300		1,500	10,500			219,000	
18	7,220	3,820	3,000	1,900	1,200		1,500	10,000			218,000	
19	7,540	3,680	2,900	1,900	1,200		1,500	12,000			218,000	
20	7,610	3,520	2,700	2,000	1,200		1,500	13,800	19,000		218,000	
21	7,990	3,280	2,600	2,000	1,200		1,400	17,000			218,000	
22	8,380	3,090	2,500	1,900	1,200		1,400	23,000			217,000	
23	9,000	2,900	2,400	1,800	1,200		1,400	25,000			216,000	
24	8,600	2,900	2,300	1,700	1,200	1,100	1,500	23,000			215,000	46,600
25	7,400	2,900	2,300	1,700	1,200		1,700	23,000			214,000	
26	8,600	3,000	2,200	1,600	1,200		1,900	22,000	22,000	21,000	213,000	
27	6,200	3,200	2,200	1,600	1,200		2,100	18,000		21,000	213,000	
28	6,000	3,400	2,200	1,500	1,200		2,360	17,000		21,000	212,000	
29	6,200	3,600	2,200	1,500	1,200		2,620	17,000		21,000	212,000	
30	5,800	3,800	2,200	1,500	1,200		3,020	20,400		21,000	211,000	
31	5,400	---	2,300	1,500	1,200		---	25,000	---	32,400	211,000	---
Total	254,570	118,610	101,170	60,900	58,600	35,600	48,000	399,770	771,000	709,200	698,800	225,500
Mean	8,212	3,954	3,264	1,965	1,907	1,148	1,533	12,900	25,700	22,280	22,540	7,550
Ac-ft	504,900	235,300	200,700	120,800	72,600	70,610	91,240	792,900	1,529,000	1,407,000	1,386,000	449,300
Calendar year 1957: Max	40,600											
Water year 1957-58: Max	47,600											
Calendar year 1957: Min	---											
Water year 1957-58: Min	---											
Mean	10,760											
Ac-ft	7,789,000											
Mean	9,476											
Ac-ft	5,860,000											

* Discharge measurement made on this day.

† Expressed in thousands.

‡ No gage-height records; discharge estimated on basis of 4 discharge measurements, weather records, and records for station near Denali, Matanuska River at Palmer, Nenana River near Kealy, and Chulitna River near Talkeetna.

Note.—Stage-discharge relation affected by ice Oct. 1 to May 10 (no gage-height record Oct. 4-6, Oct. 24 to Nov. 7, Nov. 23 to Dec. 15, Jan. 18-28, Mar. 1 to Apr. 1; discharge estimated on basis of 5 discharge measurements, weather records, and records for station near Denali, Matanuska River at Palmer, and Nenana River near Kealy).

Susitna River at Gold Creek--Continued

Discharge, in cubic feet per second, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1									17,400	39,000	22,000	23,300
2									18,700	39,000	21,000	22,500
3									18,500	37,000	20,000	22,600
4									17,900	34,000	19,000	20,900
5									18,700	32,000	19,000	19,300
6									19,700	30,300	17,400	18,700
7		8,500							20,700	28,000	17,100	16,600
8									22,800	26,500	18,300	16,800
9			3,000	2,200	2,000	1,400			26,200	28,000	20,600	17,200
10								4,500	30,600	31,000	25,600	16,000
11									37,100	32,000	28,400	15,300
12									35,500	31,600	27,700	14,800
13									33,400	28,100	26,400	14,400
14									32,800	22,700	24,000	13,900
15									31,500	24,200	22,300	13,600
16							1,100	1,200	31,100	24,200	20,700	13,700
17									33,700	23,200	15,400	13,600
18									25,900	21,100	13,500	13,100
19								9,800	25,500	21,000	14,100	12,600
20								11,600	26,900	20,400	16,200	11,600
21									12,900	27,500	20,200	18,900
22									14,100	27,500	21,000	10,100
23									16,800	33,700	23,300	24,100
24									19,500	32,900	25,200	33,500
25									13,000	32,900	27,600	54,300
26									17,400	32,000	29,600	55,900
27									17,500	31,000	29,200	50,700
28									17,600	32,900	28,600	42,000
29									17,600	36,000	27,300	35,200
30									17,600	38,000	26,000	28,800
31									17,600	38,000	23,000	23,500
Total	166,460	82,800	63,400	55,600	39,200	34,100	36,000	288,900	895,800	854,300	798,300	428,650
Mean	5,370	2,760	2,045	1,794	1,400	1,100	1,200	9,319	29,860	27,560	25,750	14,290
Ac-ft	330,200	164,200	125,500	110,300	77,750	67,640	71,400	573,000	81,777	81,694	71,583	850,200
Calendar year 1954:	Max -	Min -	Mean	9,762	Ac-ft	7,068,000						
Water year 1954-55:	Max	56,900	Min	10,250	Ac-ft	7,624,000						

* Discharge measurement made on this day.

† Expressed in thousands.

Note.--No gage-height record Oct. 1 to May 18 except occasional readings, June 26, 27, June 29 to July 5, July 9-11, July 30 to Aug. 5; discharge estimated on basis of 5 discharge measurements, weather records, and records for Nenana River near Kealy and Matanuska River at Palmer. Stage-discharge relation affected by ice from about Nov. 1 to May 18.

Discharge, in cubic feet per second, water year October 1955 to September 1956

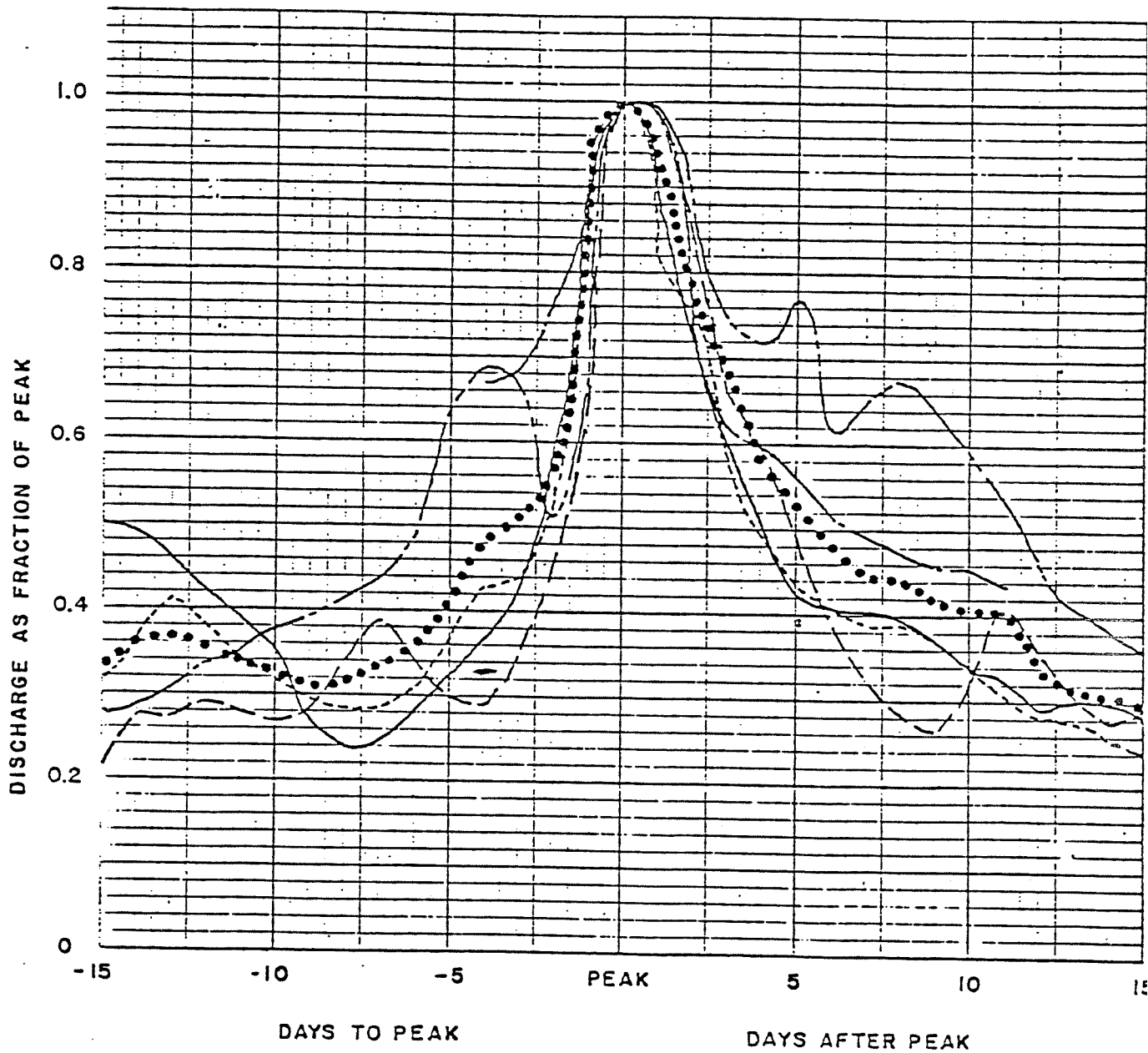
Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	8,340							1,500	20,100	27,400		
2	8,600							21,800	20,100	28,400		
3	7,840							2,800	22,800	28,900		
4	7,120							4,000	24,200	29,400		
5	6,610							5,800	25,600	29,900		
6												
7												
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Total	153,470	57,000	40,300	30,380	28,150	29,140	28,500	547,600	81,000.3	963,800	760,500	550,000
Mean	4,951	1,900	1,300	980	870	940	950	17,650	33,340	31,090	24,530	16,330
Ac-ft	304,400	113,100	79,950	60,260	55,900	57,600	56,530	81,086	81,984	81,912	61,508	61,091
Calendar year 1955:	Max	56,900	Min	Mean	10,090	Ac-ft	7,302,000					
Water year 1955-56:	Max	51,500	Min	Mean	11,450	Ac-ft	8,309,000					

* Discharge measurement made on this day.

† Expressed in thousands.

Note.--No gage-height record Oct. 27, 29, Oct. 31 to May 1, May 3-5, except occasional gage readings (stage-discharge relation affected by ice during entire period), July 9-24, July 26 to Aug. 8, Aug. 9-20, Aug. 22 to Sept. 30; discharge estimated on basis of 8 discharge measurements, weather records, and records for Nenana River near Kealy and Matanuska River at Palmer.

15-12-380



SUSITNA RIVER AT GOLD CREEK

LEGEND

	Date	Peak Discharge (cfs)
.....	Median Curve	
————	Aug 26, 1955	56,900
— · — · —	Aug 3, 1958	47,800
— · — · —	Aug 24, 1959	59,700
— · — · —	Aug 15, 1967	76,000
— · — · —	Aug 10, 1971	77,700

APR 1981	ALASKA POWER AUTHORITY	
	SUSITNA HYDROELECTRIC PROJECT	
FLOOD STUDIES		
DIMENSIONLESS HYDROGRAPH		
AUG - OCT 1955-12-31		
R&M	MARCH 1981	
R&M CONSULTANTS INC.		

DAILY PRECIPITATION

Continued

ALASKA
JUNE 1961

Station	Total	Day of Month																															
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
INTERIOR BASIN																																	
ALLAKSET																																	
ANAKTUVUK PASS	1.95	.06																															
BETTES FA A P	1.71																																
BIG DELTA FA A	0.98	.02	.20																														
CIRCLE HOT SPRINGS	2.11	.19	.02																														
COLLEGE MAG OBS	.89		.34																														
FAULE	2.27	.12																															
ELLISON FIELD	.96	.01	.01																														
FAIRBANKS WB AP	1.06	.02	.38																														
FAREWELL FA A	4.00																																
PORT YUKON FA A	.81		.01	.02																													
HUGHES	1.35																																
LAKE WINDMILL FA A	2.06			.08	.04																												
WALLEY HOT SPRINGS	.97			.33																													
MC GRATH WB AP	1.89	.18			.06																												
MC KINLEY PARK	2.89																																
NORTHWAY FA A P	2.88	.30			.04																												
SUMMIT FA A	2.31																																
TANACROSS																																	
TANANA FA A	1.39		.20	.41	.03																												
THE GRACIOUS HOUSE	2.17			.05	.05																												
TRIMBLE CAMP	1.74		.01	.33	.02																												
WAINWRIGHT	1.56	.03	.02	.00																													
ARCTIC DRAINAGE																																	
BARROW WB AP	1.18	.08																															
BARTER ISLAND WB AP	.80		.01	.04	.01																												
CAPE LISBURNE	1.26																																
KOTZEBUE WB AP	.83																																
WAINWRIGHT	.35																																

SUPPLEMENTAL DATA

Station	Wind direction		Wind speed m. p. h.				Relative humidity average - percent					Number of days with precipitation						Percent of possible sunshine	Average sky cover scale to nearest tenth
	Prevailing	Percent of time from prevailing	Average	Fastest mile	Direction of fastest mile	Date of fastest mile	2:00 A.M. 150TH M.T.	8:00 A.M. 150TH M.T.	2:00 P.M. 150TH M.T.	8:00 P.M. 150TH M.T.	Trace	01-09	10-49	50-99	100-199	200 and over	Total		
ANCHORAGE WB AIRPORT	SSE	25	7.2	→18	SSE	7	75	67	55	63	9	4	4	0	0	0	17	48	7.9
ANNETTE WB AIRPORT	SSE	21	9.0	→25	SE	4	82	74	69	80	7	4	10	3	0	0	24	-	9.1
BARROW WB AIRPORT	E	35	12.0	→35	SW	18	95	89	85	90	16	4	0	0	0	0	20	-	8.2
BARTER ISLAND WB AIRPORT	ENE	43	11.0	→28	E	10	89	84	83	87	14	5	3	0	0	0	23	-	8.6
BETHEL WB AIRPORT	NW	17	13.6	→32	SSE	30	91	88	71	75	9	8	4	0	0	0	21	-	8.7
COLD BAY WB AIRPORT	VNW	29	14.2	→44	SSE	30	89	85	74	82	19	6	0	0	0	0	25	-	9.3
CORDOVA WB AIRPORT	E	14	5.8	→16	W	25	94	79	75	83	5	5	11	1	3	0	25	-	8.5
FAIRBANKS WB AIRPORT	SW	15	6.9	→21	ENE	4	80	63	47	53	9	6	2	0	0	0	17	-	7.6
JUNEAU WB AIRPORT	ESE	28	9.7	→30	ESE	1	88	77	84	79	8	5	11	1	0	0	25	34	9.2
KING SALMON WB AIRPORT	SW	19	8.0	→25	S	30	93	86	67	79	13	10	3	1	0	0	27	-	9.5
KOTZEBUE WB AIRPORT	VNW	28	13.2	→32	VNW	13	92	88	85	84	8	8	0	1	0	0	17	-	7.9
MC GRATH WB AIRPORT	SSW	12	6.9	→20	SSW	30	84	77	55	60	13	5	6	0	0	0	24	-	8.7
NOME WB AIRPORT	SE	11	11.8	→30	ESE	30	88	86	81	80	5	7	7	1	0	0	20	30	8.0
ST PAUL ISLAND WB AIRPORT	-	-	-	-	-	-	95	92	88	91	10	8	3	1	0	0	22	-	9.3
SHEMTA WB AIRPORT	SW	14	14.9	→41	S	18	98	98	95	95	14	8	4	0	1	0	27	-	9.9
TAKUTAT WB AIRPORT	ESE	13	8.7	→26	SE	1	95	81	75	86	4	4	12	2	1	0	23	-	8.7

→ FASTEST OBSERVED ONE MINUTE WIND SPEED. THIS STATION IS NOT EQUIPPED WITH AUTOMATIC RECORDING WIND INSTRUMENTS.

MONTHLY EXTREMES

Highest Temperature 89° on the 18th at Summit FA A.

Lowest Temperature 20° on the 6th at Wainwright.

Greatest Total Precipitation 20.08 inches at Little Port Walter.

Least Total Precipitation 0.08 inch at Barrow Weather Bureau Airport.

Greatest One-day Precipitation 4.52 inches on the 28th at Attu.

Greatest Total Snowfall 0.9 inch at Sparrevohns.

Deepest Snow on Ground 7 inches on the 1st at Wainwright.

△△△△△

THE UNIVERSITY OF CHICAGO PRESS

June - 23 - 1961 54,000 c.f.s. peak

15-12-383

Month	JULY	AUG.	SEPT.
1.000	11.000	11.000	11.000
1.100	11.000	11.000	11.000
1.200	11.000	11.000	11.000
1.300	11.000	11.000	11.000
1.400	11.000	11.000	11.000
1.500	11.000	11.000	11.000
1.600	11.000	11.000	11.000
1.700	11.000	11.000	11.000
1.800	11.000	11.000	11.000
1.900	11.000	11.000	11.000
2.000	11.000	11.000	11.000
2.100	11.000	11.000	11.000
2.200	11.000	11.000	11.000
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9.900	11.000	11.000	11.000
10.000	11.000	11.000	11.000

Location.--Lat 62°46'10", long 149°41'30", on left bridge pier of Alaska Railroad bridge, 0.1 mile downstream from Gold Creek, 0.3 mile north of Gold Creek railroad station, and 2.0 miles downstream from Indian River.

Drainage area.--6,160 sq mi. approximately.

Records available.--August 1949 to September 1951.

Gage.--Water-stage recorder. Datum of gage is 775.50 ft above mean sea level. Prior to June 6, 1957, wire-weight gage at same site and datum. June 7, 1957, to June 2, 1964, at site 0.3 mile upstream at same datum.

Average discharge.--16 years, 10,100 cfs (7,312,000 acre-ft per year).

Extremes.--Maximum and minimum discharges for the water years 1961-65 are contained in the following table:

Water year	Maximum			Minimum		
	Date	Discharge (cfs)	Gage height (feet)	Date	Discharge (cfs)	Gage height (feet)
1961	June 23, 1961	54,000	15.30	-	-	-
1962	June 15, 1962	80,000	15.30	-	-	-
1963	July 18, 1963	48,000	15.30	-	-	-
1964	June 7, 1964	20,700	15.30	-	-	-
1965	June 28, 1965	41,000	15.30	-	-	-

1949-55: Maximum discharge, 90,700 cfs June 7, 1964 (gage height, 16.58 ft); maximum gage height observed, 24.48 ft May 10, 1954 (ice jam); minimum discharge not determined. Flood in May 1919 reached a stage of 19.2 ft, result of ice jam, from information by Bureau of Reclamation.

Remarks.--Records fair except those for periods of no gage-height record and those for winter periods, which are poor. Large diurnal fluctuation at times caused by glacier melt at the source. Records of suspended-sediment loads for the water year 1962 are published in reports of the Geological Survey.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1960 TO SEPTEMBER 1961												
DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	14,500								17,000			13,500
2	13,000								17,000			13,100
3	12,000								15,000			12,800
4	12,000								15,000			12,500
5	11,000								15,000			12,100
6	11,500							9,000		23,000		
7	11,000								18,500			11,900
8	10,000	3,300	2,900	2,400	1,800	1,500	2,500		24,500			12,300
9	10,000								22,000			12,000
10	9,500								20,000		26,000	11,900
11	9,100								25,000			11,900
12	8,700								25,000			11,900
13	8,200								25,000			11,900
14	7,800								25,000			11,900
15	7,500								25,000			11,900
16	7,100								25,000			11,900
17	6,700							22,000	28,000			11,900
18	6,400								29,000			11,900
19	6,100								29,000			11,900
20	5,900								30,000			11,900
21	5,600								31,000		17,000	13,600
22	5,300								33,000		17,000	13,200
23	5,100									25,000	17,000	13,000
24	4,900	2,700	2,500	2,500	1,700	2,100	2,800	18,000	42,000		19,000	14,000
25	4,700							18,000	34,000		20,000	13,100
26	4,500							17,700	34,000		22,000	13,000
27	4,300							16,200	33,000	30,300	24,800	16,200
28	4,200							23,000	36,000	28,000	24,700	15,500
29	4,100							29,000	32,000	25,000	20,300	15,600
30	4,000							29,000	29,200	25,000	17,000	12,600
31	3,800							21,500	27,500	23,000	15,900	11,900
								19,300	27,000	26,500	16,800	11,500
								18,700	26,000	25,000	16,100	11,500
								16,000		24,000	13,800	
TOTAL	241,000	90,000	83,500	78,000	64,100	56,100	79,500	538,200	883,600	781,600	485,200	601,200
MAX	14,500	3,000	2,900	2,452	1,754	1,610	2,850	17,300	29,450	24,570	22,100	13,570
MIN	3,800	-	-	-	-	-	-	-	15,000	-	-	16,200
AVERAGE	479,200	178,500	185,000	130,700	97,300	111,300	137,700	1,068,000	1,793,000	1,511,000	1,035,000	745,600
WY 1960: TOTAL	3,604,700											
WY 1961: TOTAL	3,945,000											
WY 1962: TOTAL	3,945,000											
WY 1963: TOTAL	3,945,000											
WY 1964: TOTAL	3,945,000											
WY 1965: TOTAL	3,945,000											
WY 1966: TOTAL	3,945,000											
WY 1967: TOTAL	3,945,000											
WY 1968: TOTAL	3,945,000											
WY 1969: TOTAL	3,945,000											
WY 1970: TOTAL	3,945,000											
WY 1971: TOTAL	3,945,000											
WY 1972: TOTAL	3,945,000											
WY 1973: TOTAL	3,945,000											
WY 1974: TOTAL	3,945,000											
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WY 1976: TOTAL	3,945,000											
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WY 2012: TOTAL	3,945,000											
WY 2013: TOTAL	3,945,000											
WY 2014: TOTAL	3,945,000											
WY 2015: TOTAL	3,945,000											
WY 2016: TOTAL	3,945,000											
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WY 2018: TOTAL	3,945,000											
WY 2019: TOTAL	3,945,000											
WY 2020: TOTAL	3,945,000											
WY 2021: TOTAL	3,945,000											
WY 2022: TOTAL	3,945,000											
WY 2023: TOTAL	3,945,000											
WY 2024: TOTAL	3,945,000											
WY 2025: TOTAL	3,945,000											
WY 2026: TOTAL	3,945,000											
WY 2027: TOTAL	3,945,000											
WY 2028: TOTAL	3,945,000											
WY 2029: TOTAL	3,945,000											
WY 2030: TOTAL	3,945,000											
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WY 2069: TOTAL	3,945,000											
WY 2070: TOTAL	3,945,000											
WY 2071: TOTAL	3,945,000											
WY 2072: TOTAL	3,945,000											
WY 2073: TOTAL	3,945,000											
WY 2074: TOTAL	3,945,000											
WY 2075: TOTAL												

8640
8641

Table 3—Continued

[illegible]

Susitna R. @ Gold Cr.

Aug - 26 - 1955 56,900 c.f.s. peak

15-12-385

DAILY PRECIPITATION

Continued

ALBANY
August 1971

Station	Type	Day of Month																														
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
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Some comments on common values of γ and β are:

15-12-386

4.490.4
4.490.7 107

- 143 -

Aug. 10 - 1971 77,700 c.f.s. peak

15-12-387

060508
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Day of Month

- 345 -

15-12-387

AL 2548
August 1948

See page 100's notes concerning Bureau letter

15-12-309

06-08
07-09

06-08
07-09

See references above following Section 1000

- 118 -

15-12-390

44522
JUL 7 1988

Station	Time	Day of month																														
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
PETERSBURG	4:20																															
POINT RETREAT LIGHT STA	5:35																															
PORT ALEXANDER	11:00																															
SITKA CAA	8:10																															
SITKA MAGNETIC	7:00																															
SEAGAY																																
WRANGELL	3:05																															
PACIFIC COAST																																
BEAR COVE	1:00																															
CAPE HINCHINWOOD	20:20																															
CAPE ST ELIAS	25:00																															
CORDOVA	4:00																															
CORDOVA WB AP	10:10																															
CORDOVA	3:00																															
HOMER CAA	2:00																															
HOMER S MO	4:10																															
INTRICE	10:10																															
KARLUK RIVER	2:00																															
KASLOF	3:00																															
KENAI CAA	3:00																															
KETOI BAY	8:00																															
KODIAK	8:00																															
LARSEN BAY	1:00																															
LATOCHE	10:00																															
MIDDLETON ISLAND CAA	4:00																															
SEWARD	10:00			</																												

15-12-391

4.43E2
AUGUST 1969

See reference using following Station Index.

Aug. 24-1959 59,300 c.f.s. peak

15-12-392

ALALA

0-UCMPS? 1791

CONT'D 1

[illegible]

ALALA

Stations	Wind direction		Wind speed		Relative humidity averages						Number of days with precipitation						Percent of possible sunshine	Average sky cover	Average number of hours of sun
	Prevailing	Percent of time from prevailing	Average	Fastest mile	Direction of fastest mile	Date of fastest mile	2:00 A.M. 1501h M.T.	4:00 A.M. 1501h M.T.	2:00 P.M. 1501h M.T.	4:00 P.M. 1501h M.T.	Trace	01-09	10-49	50-89	100-199	200 and over			
ANCHORAGE VS AIRPORT	S	13	6.6	→28	S	18	34	77	66	78	8	9	4	2	0	0	23	40	5.2
AKNETTE VS AIRPORT	SSE	17	9.1	→31	SSE	5	90	80	71	84	5	3	8	3	2	1	22	-	7.9
BARROW VS AIRPORT	E	27	12.9	→31	NE	23	95	93	88	92	14	1	5	0	0	0	20	-	8.7
BARTER ISLAND VS AIRPORT	E	30	12.7	→32	E	13	95	93	88	91	7	5	5	1	0	0	18	-	8.5
BETHEL VS AIRPORT	SSW	17	14.1	→36	SSW	26	89	88	64	73	6	4	5	5	0	0	20	-	7.7
COLD BAY VS AIRPORT	N	16	19.9	→51	SE	24	92	92	82	89	14	10	5	1	0	0	30	-	9.4
CORDOVA VS AIRPORT	ESE	9	3.6	→23	ESE	31	90	82	72	86	3	11	7	2	0	1	24	-	8.5
FAIRBANKS VS AIRPORT	E	13	8.3	→24	SW	19	90	76	55	69	5	7	5	0	0	0	17	-	7.7
JUNEAU VS AIRPORT	ESE	24	10.4	→38	ESE	6	92	86	73	84	3	5	13	3	0	0	24	25	8.4
KING SALMON VS AIRPORT	SW	22	12.2	→39	ESE	12	94	90	71	82	9	7	8	0	0	0	24	-	8.1
KOTZEBUE VS AIRPORT	N	13	11.0	→35	ESE	26	88	87	78	81	4	10	2	1	0	0	17	-	8.2
MC GRATH VS AIRPORT	SSW	7	5.5	→17	SW	23	86	78	55	64	5	4	7	2	0	0	18	-	7.9
NOME VS AIRPORT	SW	13	10.8	→30	NW	28	86	83	72	76	8	4	4	1	0	0	17	59	8.2
ST PAUL ISLAND VS AIRPORT	E	-	-	-	-	-	96	95	89	94	9	10	5	3	1	0	28	-	9.0
YAKUTAT VS AIRPORT	E	15	7.8	→29	ESE	31	94	84	76	91	5	2	12	2	2	0	23	-	8.4

→ FASTEST OBSERVED ONE MINUTE WIND SPEED THIS STATION IS NOT CHANGING

→ FASTEST OBSERVED ONE MINUTE WIND SPEED. THIS STATION IS NOT EQUIPPED WITH AUTOMATIC RECORDING WIND INSTRUMENTS.

15-12-393

ALASKA WEST OF LONGITUDE 141°

109

15292000 Susitna River at Gold Creek

LOCATION.--Lat 62°46'04", long 149°41'28", in NW¼ sec.20, T.31 N., R.2 W., near left bank under Alaska Railroad bridge, 0.1 mile downstream from Gold Creek, 0.9 mile north of Gold Creek railroad station, and 2.0 miles downstream from Indian River.

DRAINAGE AREA.--6,160 sq mi, approximately.

PERIOD OF RECORD.--August 1949 to current year.

GAGE.--Water-stage recorder. Datum of gage is 676.50 ft above mean sea level. Prior to June 6, 1957, nonrecording gage at same site and datum. June 7, 1957 to June 2, 1964, water-stage recorder at site 0.3 mile upstream at same datum.

AVERAGE DISCHARGE.--23 years, 9,843 cfs (21.65 inches per year, 7,131,000 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 82,600 cfs June 17 (gage height, 16.04 ft); minimum daily, 1,600 cfs Apr. 17-24.
Period of record: Maximum discharge, 90,700 cfs June 7, 1964 (gage height, 16.58 ft); maximum gage height observed, 24.48 ft May 10, 1954 (ice jam); minimum discharge not determined.

REMARKS.--Records good except those for the period of no gage-height record, which are poor.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1971 TO SEPTEMBER 1972

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	8,190	3,600	2,800	2,400	2,200	1,900	1,700	2,500	62,500	26,900	19,000	12,600
2	8,220	3,600	2,600	2,400	2,200	1,900	1,700	3,000	48,400	26,500	19,900	12,500
3	8,280	3,400	2,600	2,400	2,200	1,900	1,700	3,600	34,800	25,800	20,000	13,000
4	8,160	3,400	2,600	2,400	2,200	1,900	1,700	4,600	25,200	24,100	19,300	13,900
5	7,560	3,400	2,600	2,400	2,200	1,900	1,700	5,800	21,500	24,000	19,700	14,900
6	6,930	3,400	2,600	2,400	2,200	1,900	1,700	9,000	20,600	24,800	22,100	13,900
7	6,870	3,200	2,600	2,200	2,000	1,900	1,700	13,000	20,400	25,500	26,400	12,300
8	7,200	3,200	2,600	2,200	2,000	1,900	1,700	19,000	22,700	26,400	26,300	11,800
9	7,530	3,200	2,600	2,200	2,000	1,900	1,700	25,000	26,100	26,200	21,500	11,800
10	7,530	3,200	2,600	2,200	2,000	1,800	1,700	26,000	26,400	26,200	18,900	14,000
11	7,380	3,200	2,600	2,200	2,000	1,800	1,700	24,000	27,300	23,800	17,200	14,000
12	6,900	3,200	2,600	2,200	2,000	1,800	1,700	21,000	33,800	23,700	17,000	16,600
13	6,480	3,200	2,600	2,200	2,000	1,800	1,700	20,000	38,700	25,000	18,500	21,400
14	5,550	3,200	2,600	2,200	2,000	1,800	1,700	19,000	51,900	26,200	19,700	26,400
15	5,050	3,000	2,600	2,200	2,000	1,800	1,700	18,000	62,300	27,200	20,000	22,000
16	5,300	3,000	2,600	2,200	2,000	1,800	1,700	18,000	63,800	25,500	20,500	19,000
17	5,600	3,000	2,400	2,200	2,000	1,800	1,600	19,000	70,700	25,000	21,800	17,000
18	5,520	3,000	2,400	2,200	2,000	1,800	1,600	20,000	48,600	22,000	22,000	15,000
19	5,200	3,000	2,400	2,200	2,000	1,800	1,600	21,000	38,200	20,500	21,500	13,000
20	5,200	3,000	2,400	2,200	2,000	1,800	1,600	22,000	30,900	19,400	22,100	11,000
21	5,000	3,000	2,400	2,200	2,000	1,800	1,600	24,000	27,000	18,600	22,200	9,500
22	4,800	3,000	2,400	2,200	2,000	1,800	1,600	25,000	25,300	18,500	20,400	8,500
23	4,600	2,800	2,400	2,200	2,000	1,800	1,600	27,000	25,700	17,500	19,800	7,500
24	4,400	2,800	2,400	2,200	2,000	1,800	1,600	30,000	26,400	17,400	19,500	6,500
25	4,400	2,800	2,400	2,200	2,000	1,800	1,700	30,000	26,300	18,300	18,700	6,000
26	4,200	2,800	2,400	2,200	1,900	1,800	1,700	30,200	25,100	18,500	16,200	5,500
27	4,000	2,800	2,400	2,200	1,900	1,800	1,800	32,400	24,100	18,900	14,400	5,500
28	4,000	2,800	2,400	2,200	1,900	1,800	1,900	35,700	25,300	19,900	13,600	6,000
29	3,800	2,800	2,400	2,200	1,900	1,800	2,000	36,300	26,100	22,700	13,600	5,500
30	3,800	2,800	2,400	2,200	---	1,700	2,200	38,900	26,800	21,400	13,000	5,500
31	3,600	---	2,400	2,200	---	1,700	---	55,500	---	19,400	12,900	---
TOTAL	181,250	92,800	77,800	69,400	58,800	56,500	51,300	678,500	1,032.9M	705,800	597,900	372,100
MEAN	5,847	3,093	2,510	2,239	2,028	1,823	1,710	21,890	34,430	22,770	19,290	12,400
MAX	8,280	3,600	2,800	2,400	2,200	1,900	2,200	55,500	70,700	27,200	26,400	26,400
MIN	3,600	2,800	2,400	2,200	1,900	1,700	1,600	2,500	20,400	17,400	12,900	5,500
CFSM	.95	.50	.41	.36	.33	.30	.28	3.55	5.59	3.70	3.13	2.01
IN.	1.09	.56	.47	.42	.36	.34	.31	4.10	6.24	4.26	3.61	2.25
AC-FT	359,500	184,100	154,300	137,700	116,600	112,100	101,800	1,346M	2,049M	1,400M	1,186M	738,100

CAL YR 1971 TOTAL 3,756,320 MEAN 10,290 MAX 77,700 MIN 950 CFSM 1.67 IN 22.68 AC-FT 7,451,000
WTR YR 1972 TOTAL 3,975,050 MEAN 10,860 MAX 70,700 MIN 1,600 CFSM 1.76 IN 24.01 AC-FT 7,885,000

NOTE.--No gage-height record Oct. 18 to May 23.
M.--Expressed in thousands.

15-12-394

15-12-395

DAILY PRECIPITATION

ALASKA
JUNE 1972

Station	Total	Day of Month																														ALASKA	1977
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
SOUTHEASTERN																																	
ANCHORAGE WSD AP	2.14	.07	.09	.17	.07	.32	.24	.10	.18	.03																							
ANNIE CREEK	4.95	.18	.07	.09	1.12	.88	.18	.12																									
BAILEY BAY	5.23	.11	1.08	.23	.35	.21	.1	.38																									
BEAVER FALLS	4.92	.05	.26	.17	.01	.35	.21	.04	.02	.11																							
CAPE NICOSIA	6.00	.37	.05	.78	.32	.78	.54	.11	.04																								
CAPE SPENCER	3.34	.10	.19	.23	.32	.07		.00																									
COFFMAN COVE	3.99	.11	.08	.75	.19	.29	.1	.07																									
EDWARD ROCK	5.19	.34	.28	.22	.35	.34	.10	.39	.18																								
FIVE FINGER LIGHT STA	1.19	.23	.7	.55	.11	.11	.31	.01	.02																								
GLACIER BAY	2.34	.21	.08	.08	.16	.08	.17	.18																									
GODSE COVE	2.48	.17	.14	.11	.14	.30	.37	.03	.11																								
GUSTAVUS																																	
HALES TERMINAL																																	
HOONAH	.82	.04																															
JUNEAU AD 2	5.39	.07	.7	.05	.05	.72	.32	.10	.02	.40																							
JUNEAU WSD AP	1.98	.03	.02	.09	.01	.25	.11	.7	.13																								
JUNEAU 9 MW	4.39	.7	.07	.25	.15	.42	.19	.7	.10																								
KARE	2.54	.10	.10		.09	.15	.10	.90	.20	.10																							
KETCHIKAN	8.10	.85	.70	.98	1.17	.95	.31	.29	.02	.7																							
LINGER LONGER	.47	.7	.01	.02	.05		.10	.7	.05																								
LITTLE PORT WALTER	8.09	.93	.29	1.27	1.52	1.42	.37	.88	.7	.05																							
PETERSBURG	3.58	.17	.75	.22	.43	.19	.02	.7	.20																								
POINT AETREAT LIGHT STA	8.90	.38	.43	.70	.53	.83	.28	.34	.28	.02																							
SITKA PAL AP	3.10			.37	.09	.44	.35	.10																									
SITKA MAGNETIC OBSV	2.09	.02	.04	.38	.15	.09	.7	.7																									
SLEIGHT NO. 2	3.50	.10	.04	.28	.35	.43	.27	.7	.7																								
TENAFEE SPRINGS	2.98		.04	.06	.04	.01	.21	.08	.11	.05																							
WANGELL	5.12	.23	.16	.32	.39	.47	.28	.39	.03																								
SOUTH COAST																																	
CAPE HINCHINBROOK	2.72		.27	.13	.21	.19																											
CAPE ST ELIAS	8.94																																
CHIGNIK	1.18	.02	.10	.05	.03	.02	.01	.04																									
COPPER LAKE PROJECT																																	
CODDVA-KLAN																																	
CODDVA PAL AP	3.01	.04	.82	.02	.13	.12	.01																										
BARUK RIVER	4.48		.82	.05	.11	.17	.14																										
KITOTI BAY	2.12		.29		.02	.23	.04																										
KODIAK WAS																																	
LARSEN BAY																																	
MAC LEDD HARBOR	15.27		.38	2.91	2.29	1.95	.60																										
HOUSE PASS	.85																																
SIWARD	2.72		.93	.25	.18	.05	.09																										
SITKINAK	3.82	.01	.02	.01																													
VALDEZ	2.78	.01	.20	.26		.16																											
YAKUTAT WSD AP	4.34	.16	.80	.81	.06	.28	.01	.03	.03																								
SOUTHWESTERN ISLANDS																																	
ADAK	3.02				.02	.7	.32	.40	.08	.7																							
ATTU	.04	.15					.23	.03	.7	.09																							
CAPE SARICHER	.00																																
COLD BAY WSD AP	2.91	.09	.7		.19	.04	.01	.7	.46	.17																							
ST PAUL ISLAND WSD AP	1.80	.03	.7		.10	.7	.85	.34	.7	.7																							
SHENYA WSD AP	2.39	.23			.02	.7	.97	.7	.01	.29																							
COPPER RIVER																																	
CHISANA	1.42	.01					.20	.23																									
COPPER CENTER	.73																																
ELUTINA LAKE	1.09	.05	.7				.88																										
ELUTINE	1.71																																
ELUTINA I N	1.44	.05					.28	.7	.05																								
ELUTINA WSD	1.57						.33	.7	.09																								
ELUTINA WSD	1.57						.33	.7	.09																								
ELUTINA WSD	1.57						.33	.7	.09																								
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ELUTINA WSD	1.57						.33	.7	.09																								
ELUTINA WSD	1.57						.33	.7	.09																								

SOUTH-CENTRAL ALASKA

267

1529000 SUSITNA RIVER AT GOLD CREEK

LOCATION.--Lat 62°46'04", long 149°41'25", in NW 1/4 sec. 23, T. 31 N., R. 2 W., Natanushka-Susitna Borough, near left bank under Alaska Railroad bridge, 0.1 mile downstream from Gold Creek, 0.9 mile north of Gold Creek railroad station, and 2.0 miles downstream from Indian River.

DRAINAGE AREA.--4,160 sq mi, approximately.

PERIOD OF RECORD.--August 1949 to September 1970.

GAGE.--Water-stage recorder. Datum of gage is 674.50 ft above mean sea level. Prior to June 6, 1957, nonrecording gage at present site and datum. June 6, 1957, to June 2, 1964, water-stage recorder at site 0.3 mile upstream at present datum.

AVERAGE DISCHARGE.--21 years, 9,775 cfs (21.55 inches per year, 7,082,000 acre-ft per year).

EXTREMES.--Maximums and minimums (discharge in cubic feet per second, gage height in feet) for the water years 1966-70 are contained in the following table:

Water yr	Date	Maximum	Discharge	G.M.	Date	Minimum daily	Discharge
1966	June 6, 1966	83,600	14.66		Feb. 1 to Mar. 31, 1966		1,300
1967	Aug. 15, 1967	80,200	15.23		Apr. 1-20, 1967		1,100
1968	May 22, 1968	41,800	11.75		Apr. 6-15, 1968		1,800
1969	May 25, 1969	28,400	11.17		Jan. 14 to Feb. 15, 1969		700
1970	June 30, 1970	33,400	11.10		Feb. 11 to Mar. 15, 1970		750

a Maximum gage height for year, 20.78 ft May 16, 1967, backwater from ice.

b Maximum gage height for year, 14.08 ft May 16, 1968, backwater from ice.

Period of record: Maximum discharge, 90,700 cfs June 7, 1964 (gage height 16.58 ft); maximum gage height observed, 24.48 ft May 10, 1954 (ice jam); minimum daily discharge, 600 cfs Feb. 16-20, 1950.

REMARKS.--Records good except those for periods of no gage-height record and those for winter periods, which are poor. Water-quality records for the water year 1967 are published in reports of the Geological Survey.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1949 TO SEPTEMBER 1964

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	14200	2750	1800	1400	1300	1300	1500	3400	20400	21300	27700	14000
2	17100	2700	1800	1400	1300	1300	1500	3400	23400	19900	25700	15400
3	14400	2600	1750	1400	1300	1300	1500	3400	28500	19500	31000	14700
4	15400	2500	1740	1400	1300	1300	1500	3400	40400	19500	33500	13700
5	14400	2450	1700	1400	1300	1300	1500	3400	55100	17300	27600	12800
6	19900	2400	1700	1400	1300	1300	1500	3400	54400	16400	24700	11700
7	10600	2300	1700	1400	1300	1300	1500	3400	56400	17400	21500	11100
8	10200	2250	1700	1400	1300	1300	1500	3400	51500	16400	20700	10400
9	9100	2200	1700	1400	1300	1300	1500	3400	43500	16400	21000	10000
10	8420	2150	1700	1400	1300	1300	1500	3400	38900	16200	21300	9340
11	8750	2100	1700	1400	1300	1300	1500	5000	36300	17700	21400	8940
12	8100	2050	1650	1400	1300	1300	1500	5200	37500	19500	21400	11300
13	7440	2000	1650	1400	1300	1300	1500	5400	38700	19400	19700	14400
14	6300	2000	1650	1400	1300	1300	1500	6000	33500	18500	17700	17300
15	5400	2000	1650	1400	1300	1300	1500	6400	29000	17100	16400	15400
16	4100	2000	1600	1400	1300	1300	2050	7100	25000	17200	16600	14000
17	3400	2000	1600	1400	1300	1300	2050	7700	24000	17800	20400	13400
18	3400	1950	1600	1400	1300	1300	2050	8400	27600	18900	19700	12700
19	3500	1900	1600	1400	1300	1300	2050	9000	34400	20600	20900	11700
20	3400	1900	1600	1400	1300	1300	2050	9400	32900	20100	22700	11600
21	3300	1900	1600	1400	1300	1300	2050	11100	29300	19400	24100	11700
22	3300	1900	1600	1400	1300	1300	2050	12500	26900	19100	22400	11400
23	3300	1900	1570	1400	1300	1300	2050	13400	26500	18200	21000	10400
24	3300	1900	1570	1400	1300	1300	2050	14700	29500	18800	23300	9590
25	3300	1900	1530	1400	1300	1300	2050	14800	26400	18900	25400	9060
26	3250	1900	1570	1400	1300	1300	2050	14200	24100	18900	22700	8780
27	3200	1850	1530	1400	1300	1300	2050	14400	23400	24300	20100	8640
28	3100	1850	1530	1400	1300	1300	2050	14400	23200	30200	17900	8780
29	3050	1800	1530	1400	1300	1300	2050	23700	21800	31800	17400	8750
30	2950	1800	1570	1400	1300	1300	2050	27900	21900	27300	17200	8160
31	2800	1530	1400	1400	1300	1300	2050	20700	24600	24600	16800	---
TOTAL	223360	62950	50570	43400	36400	40300	53750	299000	988400	415800	874400	352600
MEAN	7205	2000	1631	1400	1300	1300	1775	9445	32953	13844	21825	11743
MAX	14200	2750	1800	1400	1300	1300	2050	23700	54400	31800	33500	17300
MIN	2800	1800	1530	1400	1300	1300	1500	3400	20400	16200	16400	8140
AC-FT	443060	124000	100300	86000	72700	79940	105400	593100	1961000	1271000	1342000	699400

CAL TO 1964 TOTAL 3731860 MEAN 10274 MAX 39900 MIN 1300 AC-FT 7402000
WTR TO 1966 TOTAL 3442830 MEAN 9432 MAX 58400 MIN 1300 AC-FT 6829000

NOTE.--NO GAGE-HEIGHT RECORD DEC. 23 TO MAY 10.

15-12-397

DAILY PRECIPITATION

ALASKA
JUNE 1966

Station	Total	Day of Month																															
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
SOUTHWESTERN 81																																	
ANGON	1,650	T								.25	.10						.21	.36	.34	.33		.03											
ANNETTE W. AIRPORT	2,228		T	T	T						.02	T	.02	T			.18	.18	.65	.14	.02	.01	.20	.04	T		.02	.60	T	.15	T	.03	
ANNEA CHIEF	1,287									.01	.02	.08					.01	.08	.61	.31	.01	.21											.09
AUSA BAY	2,337									.03	.35	.05	.11	.03			.08	.01	.01	.71	T	.03											.04
BEAVER FALLS	4,224									.18	.18	.30	1.08	.02			.15	.06	.35	.28	.38	.18	.11	T	.16		.13	.50	.09	T		.20	
CAPE DECISION	1,644									.14	.13						.49	.23	.10				T										
CAPE SPENCER	1,224	.07									.05						.12	.23	.33		.11		.02	T				.18		.01	.19		
ELDER ROCK	1,804											.03	.01	T			.11	.33			.01	.02	.08	T				.11					
FIVE FINGER LIGHT STA	2,106									.25	.25	.18	.05				.19	.23	.49			.02	.08	T				.25					
GLACIER BAY	.04	.01			.05					.18	.03	.02	.04				.13	.23	.25	.09	T		.09				.18	.05	.04	.13	T		
GUARD ISLAND	1,877									.28	.13	.03	.06				.16	.16	.22	.22	.16	.06		.09	.03		.25	.01	.87	.02			
GUSTAVUS FAA	1,111	T								.19	.02	.02	.13				.07	.17	.11	.13													
HAINES TERMINAL	.250										.07						.13	.16				.15							.27				
JUNEAU NO 2	1,006																.03	.07	.30														
JUNEAU W. AIRPORT	1,774	T				T					.02	.06	.02				.15	.29	.12	.36	T	.03					T		.27	.24			
JUNEAU W. 4th	2,337									.38	.02	.05	.05				.03	.34		.75		.01											
KETCHIKAN	5,468									.33	.26	.16	.87				.20	.16	1.67	.49	.26	.30	.08					.09					.03
LINCOLN ROCK LIGHT STA	1,844									.03	.82						.17	.16	.26	.02			.18					.03		.24			.07
LINGER LONGER	1,220																.42	.04	.17		.34								.02		.01	.19	
LITTLE PORT WALTER	4,132									.90	.16	.88	.13				.48	.35	.26	.32	.01	.02						.19	.02	.01	.19		
PETERSBURG	3,357				T	T				.44	.17	.11	.34	T			.21	.22	.27	.26	.23	.01		.21				.13	.17	.20	.58	.02	
POINT RETREAT LIGHT STA	1,137									.17	.08						.15	.38	.14	.26	T								.12				.07
SITKA FAA	2,777	T			T					.03	.12	.03	.05				1.70	.04	.14	.13	T	.83						.17		.11	.17	.01	
SITKA MAGNETIC	1,111									.04	T	.07	.03				.16	.08	.32	T			T	T	T				.01		.16	.01	.18
SEAGWAY NO. 2	.08																.18			.19	.31								.01	.87			.02
SHETTSBACH PROJECT																																	
THAIBRON COVE																																	
TREE POINT LIGHT STA	2,220									.34	.19	T	.10	.10			.27	.17	.14	.23	.40	.18	.19										
UNAKWELL	2,688						.01			.04	.07	T	.12															.22	.05	.83			
SOUTH COAST 82																																	
CAPE MICHIMINGBROOK	2,117	.25	T					.25	.03	.10	.10	.02	T		.28	T		.27	.85	.18		T	T										
CAPE ST. ELIAS	1,350	.15	T			T	T			.11	.02		.01	.01	.02			.18															
COOPER LAKE PROJECT	1,844	.10	.14									.03	T	.03	T			.13	.01	.09	.22	.49	T						.25	.13	.14		
CORDOVA ISLAND																																	
CORDOVA FAA AP	2,115	.12			.03	.11	T	.01	.07	.07	T	.34	.06	.03	.41			.30	.24	.13	.11	.02	T										
KARLUK LAKE NO 2	.76	.18	.07	.04	.01							.01	.04	.01	.01																		
KITOI BAY	3,224	.21	.26		.05	T		.14	.78	.32	.10	.01	.29	.72	.02	.39	.02	.21	.02			.12	.03	.09								.10	
KODIAK W. AS	1,350	.17	T	.05	.05	.04	.01	1.14	.84	2.31	1.00	.23	.94	.30	T	.03	T											.20	.32	.67			
LARSEN BAY																																	
OLSEN BAY																																	
SEWARD	.62	T	.04		.02	T		.15	.02		.04	T	.10	.09		.04	.08	.01		T	.05	T											
SITKINAK	1,102	.31	.07	.07	.01		.04	.20	.06	.02		.04	.01	.20	.02		.06																
VALDEZ AIRPORT	2,023										.04																						
WHITTIER		.22								.10	.11	.21	.27	.23	.58	.15		.28				.09							.32	.33			.10
YAKATAGA FAA	1,118	.08								.01	T	.17	T				.04	.34	.06		.02								.02	T			
YAKUTAG W. AIRPORT	1,844	.15	T		T	.01		T	T	.03	.11	.15	.03	T		.02	.33	.12	.03	.13	.37								.01	.15			
SOUTHWESTERN ISLANDS 83																																	
ADAK	1,334	.07	T	.03	T	T	.04	T	.32	.05	.20		T	.01	.04	.31	.01		.03	.01	T	.03	T	T	T	T	T						
ATTU	2,118	.09		.09	.10	.03	.02	.20	.48	.04					T	.01	.01	.01	.67	.03	.14	.20											
CAPE BARTCHER LIGHT STA																																	
COLD BAY W. AS	.76	.01	T		T			.04	T	T	T				.03	.06	T	.03	.12	.03	.04	.01	T	T	.01	T	.31	.24	T	T		.13	
ST. PAUL ISLAND W. AS	.13	T	.05	.02	T		.01	.01	T	T					.03	T	.04	.06	.07	.06		T	T	T	.01	T	.01	T	.01	T	T		
SMENYA W. AS	.97	.03	.05	.07	.05	T	.15	.20	.07	.01	T	T	.01	T	T	.01	T	.12	.03	.03	.10	.01	T	T					.01	T	T		
UNAK																																	
COPPER RIVER 84																																	
CHITINA																																	
COPPER VALLEY SCHOOL	2,117	.13	T	.02	.24	.43											.25	.08	.36														
EKLUTNA LAKE	1,445																.25	.05															
EUREKA	2,449	.16	T	.10	.07	.12	.13										.13	.12	.14	.33									.10	.10	.05	.10	
GLENNHALL REAR	2,118	.11	T	.16	.07	T	.12					.28	.01	.01				.14	.04	.35	.01	.05	.44	T		.01			.01	.39	.0		
GLENNHALL FRONT	2,118	.11	T	.16	.07	T	.12					.28	.01	.01				.14	.04	.35	.01	.05	.44	T		.01			.01	.39	.0		
GLENNHALL REAR	2,118	.11	T	.16	.07	T	.12					.28	.01	.01				.14	.04	.35	.01	.05	.44	T		.01			.01	.39	.0		
GLENNHALL FRONT	2,118	.11	T	.16																													

DAILY PRECIPITATION

ALASKA
JUNE 1966

Continued

Station	Total	Day of Month																														
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
BRISTOL BAY 86																																
ALEXANDER	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BROOKS LAKE	.84	-	.21	-	-	-	-	-	-	-	-	-	-	.17	.06	T	-	-	.01	.07	T	.03	.10	-	-	-	-	.09	.11	.01	-	-
CAPE HEIDEN	.81	T	-	T	-	-	-	-	-	-	-	-	.19	.02	.11	.06	.13	.13	-	.07	T	T	T	.16	.01	T	.01	T	.01	.01	-	-
BILLINGHAM	1.03	-	.11	.13	-	.17	-	-	.16	T	-	.13	.10	.02	.03	.06	.03	-	.06	.02	.07	.06	.11	.09	.11	.09	T	.07	.03	-	-	-
ILIANA FFA	.69	.06	.03	T	-	-	-	.16	T	-	.06	T	T	T	T	T	.12	.19	-	T	T	T	.07	-	-	-	-	T	T	-	-	-
INTRICATE BAY	.65	.12	.01	T	-	.02	-	-	.01	T	-	.01	T	-	-	-	.23	.06	-	.02	T	-	-	-	-	-	-	.15	-	-	-	-
KING SALMON NB AD	.90	.20	.06	T	T	-	T	T	T	T	T	.20	.01	.06	.11	T	.09	.06	.06	T	T	-	-	-	-	T	.09	T	T	.01	T	-
PORT ALSORTH	.67	.07	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
PORT HEIDEN	.10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	.10	T	-	-	T	-	-	-	-	-	-	-	-	-	-	-
WEST CENTRAL 87																																
ANAK FFA	.63	.03	.06	T	.01	T	.01	T	.06	.01	.03	T	T	.15	-	-	-	-	.02	.01	T	-	-	-	-	-	.22	-	T	T	-	-
BETHEL NB AIRPORT	.94	.03	T	T	T	.03	T	.36	.23	.02	.16	.09	-	-	-	-	-	-	-	-	T	T	T	-	-	-	-	T	T	T	-	-
CAPE ROMANOFF	.63	.14	-	T	-	T	T	.06	T	T	T	T	.03	.26	T	T	T	.02	T	T	T	T	T	T	T	T	T	.04	T	T	.02	T
HOLY CROSS	.94	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MOSES POINT FFA	.94	-	.06	-	T	T	T	-	-	-	-	-	.01	.03	.02	-	T	-	-	-	T	-	-	-	-	-	.29	.67	T	T	.01	.01
NOME NB AIRPORT	.71	T	.09	T	T	-	-	T	T	T	-	-	.01	.13	.01	T	-	-	-	-	T	T	T	T	T	T	.02	T	-	.29	.14	.02
NORTHEAST CAPE	.39	T	T	-	.02	-	T	T	-	-	-	-	-	.16	.10	T	T	-	-	-	T	T	T	T	T	T	T	.31	.12	.01	.02	T
MURIVAK	.71	-	-	-	-	.06	-	-	-	-	-	-	.06	.20	-	.33	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	.03
UNALASKET FFA	.90	-	.12	T	T	-	-	.09	T	-	-	-	.09	.06	.17	T	T	T	T	T	T	T	T	T	T	T	T	.03	.31	.01	T	.03
WALLES AIRPORT	.63	.12	-	-	.02	-	T	-	-	-	-	-	.02	-	-	-	-	-	-	-	-	-	-	-	-	-	.02	.31	.10	.13	T	-
INTERIOR BASIN 88																																
ALLAKRET	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BETHEL FFA AIRPORT	1.37	-	T	T	-	.13	-	.64	.21	.03	.01	T	.77	.07	.15	.26	T	T	.09	.94	T	T	.03	T	.01	T	T	.67	T	T	T	-
BIG DELTA FFA	2.35	-	.06	T	-	-	-	T	-	.07	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CANYON VILLAGE	.71	-	-	-	-	-	-	-	-	.07	-	-	.06	.13	T	.06	.07	T	.06	.07	T	-	-	-	-	.12	.28	T	-	-	-	-
CENTRAL NO 2	1.91	.01	-	-	-	-	-	-	-	-	-	-	.15	.06	.36	.36	-	-	.09	.34	.23	-	-	.09	-	-	-	-	-	-	-	-
CHALKYITSIK	3.00	-	-	-	-	-	-	-	-	-	-	-	.06	.76	T	T	1.71	.19	.03	-	-	-	-	-	-	T	.08	.13	.12	-	-	-
CHENA HOT SPRINGS	1.11	-	-	-	-	-	-	-	-	-	-	-	.03	.05	-	-	-	-	.01	-	-	-	-	.08	-	-	.28	.01	-	-	-	-
CIRCLE HOT SPRINGS	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CLEAR AIRPORT	1.15	-	.03	-	-	.01	-	-	-	-	-	-	.13	.10	-	-	-	-	.49	.08	-	-	-	-	-	-	-	.05	.08	-	-	-
CLEAR WATER	2.93	-	-	-	-	-	-	-	-	-	-	-	.10	.75	.06	.20	-	.15	.06	.17	-	.11	.10	.02	-	-	.40	-	-	-	-	-
COLLEEN RIVER	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	.30	-	-	-	-	-	-	-	-	-	-	-	-	-
COLLEGE MAG OBSV	1.16	-	-	-	-	-	-	-	-	-	-	-	.03	.02	-	-	-	-	.30	-	-	-	-	-	-	-	-	.03	.02	-	-	.02
EIELSON FIELD	1.29	T	.04	T	T	T	T	T	T	.12	.04	.01	T	.03	T	.16	.33	T	.37	.06	T	T	T	T	T	T	T	.06	.01	-	-	-
FAIRBANKS NB AIRPORT	.19	-	T	-	-	-	-	-	-	.02	T	.03	T	-	-	-	-	T	.38	T	T	.01	T	-	-	-	-	.06	-	-	-	.01
FAREWELL FFA	2.73	.18	T	.01	-	-	-	-	-	T	.10	.09	T	.06	T	.60	.27	T	T	.11	.13	.18	.29	-	.13	.09	-	.02	.10	-	-	-
PORT YUKON	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
GALENA	.74	.13	T	.07	.06	.05	T	.08	.02	T	T	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	.33	.02	-	-	-	-
GILMORE CREEK	1.35	.06	.09	-	-	-	-	-	.17	.03	.03	-	.05	-	-	-	.30	.10	.17	-	-	-	-	-	-	-	.04	.35	T	-	-	-
HUGHES	1.08	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
LAKE MINCHUMINA FFA	.08	.02	T	.02	-	.06	T	.08	.12	.11	.17	T	.03	T	.05	.07	T	.06	.11	.03	T	-	-	-	-	-	.27	-	T	-	-	-
LIVENGOOD	.62	-	-	-	-	-	-	-	-	-	-	-	.09	-	-	.21	.16	.35	.27	.03	.17	-	-	-	.06	.03	-	.15	.19	-	-	-
MANKOMEN LAKE	3.14	T	.23	T	T	-	T	.08	T	.35	.03	.03	.06	-	-	-	-	-	-	-	T	.20	T	-	-	-	.15	.19	-	-	-	-
MC GRATH NB AIRPORT	.40	.02	.01	T	.16	T	.01	T	.36	.04	.04	.03	.06	.06	.06	.06	.06	.06	.06	.06	.06	.06	.06	.06	.06	.06	.06	.06	.06	.06	.06	.06
MC KINLEY PARK	2.36	-	-	-	-	-	-	-	-	-	-	-	.07	.08	.07	.13	.08	-	.95	.01	T	.09	-	-	-	-	.38	.26	-	-	-	-
NERANA FFA	.98	T	T	T	-	-	-	T	T	T	.17	.26	T	-	-	T	.03	.19	.06	.07	.34	T	.03	T	-	-	.30	.01	T	-	-	-
NORTHWAY FFA NB AD	1.31	-	-	.04	-	-	-	-	-	-	.15	.20	T	.05	.15	.35	.32	.34	T	-	-	-	.02	-	-	-	.02	.01	T	-	-	-
RAHPART NO 2	.67	.01	T	-	-	-	-	-	-	-	.13	.25	T	.09	.35	.09	.35	.32	T	T	T	T	T	T	T	T	.10	.06	-	-	-	-
SUMMIT FFA	1.04	-	-	-	-	-	-	-	-	-	.10	.01	.26	.06	.33	-	-	-	-	-	-	-	-	-	-	-	.01	.02	-	-	-	-
TANANA FFA	2.73	.02	.06	T	.16	T	.01	T	.36	.04	.04	.03	.06	.06	.06	.06	.06	.06	.06	.06	.06	.06	.06	.06	.06	.06	.06	.06	.06	.06	.06	.06
THE GRACIOUS HOUSE	2.73	.02	.06	T	.16	T	.01	T	.36	.04	.04	.03	.06	.06	.06	.06	.06	.06	.06	.06	.06	.06	.06	.06	.06	.06	.06	.06	.06	.06	.06	.06
TOG	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TOG CAMP	5.72	.07	.07	-	-	-	-	-	-	-	-	-	.07	T	T	-	-	.37	.04	.32	.36	.07	.14	.07	.26	-	.07	.26	-	-	-	-
UNIVERSITY EXP STATION	1.32	-	-	-	-	-	-	-	-	-	-	-	.03	.51	.04	-	.02	-	-	-	.01	.02	-	-	-	-	.01	.02	-	-	-	-
VENETIE	.16	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
WILD LAKE NO 2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ARCTIC DRAINAGE 89																																
BARROW NB AIRPORT	.37	-	-	-	-	-	-	-	-	-	-	-	.17	.26	T	T	T	.03	.19	.06	.07	.34	T	.03	T	-	.30	.01	T	-	-	-
BAXTER ISLAND NB AD	.72	-	-	-	-	-	-	-	-	-	-	-	.15	.20	T	.05	.15	.35	.32	.34	T	-	-	-	-	-	.02	.01	T	-	-	-
COBUE	.81	.01	.06	-	-	-	-	-	-	-	-	-	.13	.25	T	.09	.35	.09	.35	.32	T	T	T	T	T	T	.10	.06	-	-	-	-
KOTZIEBUE NB AIRPORT	.18	.01	-	-	-	-	-	-	-	-	-	-	.10	.01	.26	.06	.33	-	-	-	-	-	-	-	-	-	-	.06	-	-	-	-
WAINWRIGHT	2.73	.02	.06	T	.16	T	.01	T	.36	.04	.04	.03	.06	.06	.06	.06	.06	.06	.06	.06	.06	.06	.06	.06	.06	.06	.06	.06	.06	.06	.06	.06

EVAPORATION AND WIND

Station		Day Of Month																															Total or Avg.		
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31			
COOK INLET	05																																		
HATANUSKA AGR EXP STA	EVAP	10	09	17	11	15	21	08	18	18	18	07	08	15	21	18	12	16	11	13	17	07	-	-	14	05	-	35	19	13	09	4,088			
	WIND	20	17	47	34	51	-	71	48	35	46	28	28	57	67	48	33	37	62	35	34	48	33	4	-	-	-	-	-	-	-	11808			
INTERIOR BASIN	08																																		
CANYON VILLAGE	EVAP	-	-	-	-	23	23	26	27	19	23	28	25	17	10	19	14	19	02	18	23	24	19	20	24	12	07	14	18	21	24	5,768			
	WIND	-	-	-	-	15	29	47	28	28	18	17	22	32	19	19	23	35	13	23	33	13	18	24	46	45	24	15	7	13	22	7228			
	MAX	-	-	-	-	78	79	80	84	83	87	87	80	82	81	83	85	84	76	85	81	84	82	81	79	76	86	79	83	83	82	80			
	MIN	-	-	-	-	50	56	51	52	53	59	64	57	61	60	58	60	57	59	56	49	49	59	60	56	54	49	47	54	57	57	55	53		
CENTRAL NO 2	EVAP	-	-	-	-	-	-	-	07	12	24	19	18	07	06	23	09	14	05	09	14	18	15	12	17	22	21	02	13	19	14	4,208			
	WIND	-	-	-	-	-	-	-	-	-	-	-	-	-	-	81	77	69	77	81	74	73	75	81	82	76	76	74	77	68	73	82	73	-	
	MAX	-	-	-	-	-	-	-	-	-	-	-	-	-	-	64	64	62	63	55	59	62	58	58	57	61	60	62	62	55	56	58	67	61	-
	MIN	-	-	-	-	-	-	-	-	-	-	-	-	-	-	66	65	-	-	70	67	75	73	71	74	72	77	86	54	65	73	55	72	76	-
RAHPART NO 2	EVAP	-	-	-	-	-	-	-	-	-	-	-	-	-	-	11	18	17	19	17	20	10	12	20	23	22	10	10	10	29	12	-	-		
	WIND	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8	27	14	26	20	32	37	18	5	25	25	34	46	44	7	5	11	13	-	
	MAX	-	-	-	-	-	-	-	-	-	-	-	-	-	-	66	65	-	-	70	67	75	73	71	74	72	77	86	54	65	73	55	72	76	-
	MIN	-	-	-	-	-	-	-	-	-	-	-	-	-	-	80	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
UNIVERSITY EXP STATION	EVAP	20	23	14	21	22	18	28	27	11	24	19	18	09	13	20	21	15	16	23	15	17	19	21	25	21	08	14	17	19	17	5,55			
	WIND	51	50	29	37	39	38	42	35	42	39	34	26	18	21	22	29	29	43	38	19	10	24	24	35	10	23	17	35	28	19	144			
	MAX	75	73	76	13	80	85	86	86	80	85	85	82	75	83	79	82	77	74	81	77	80	79	83	81	77	86	74	84	83	86	74	90		
	MIN	43	47	54	49	52	51	53	54	54	52	56	58	60	52	56	51	53	57	53	59	53	54	56	58	58	51	51	46	52	58	53	4		
VENETIE	EVAP	09	03	15	06	-	13	11	-	18	06	04	09	06	01	06	-	54	04	16	11	08	16	-	-	24	10	-	-	60	15	3,548			
	WIND	41	65	29	32	13	35	44	12	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
	MAX	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
	MIN	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		

ALASKA WEST OF LONGITUDE 141°

241

15-2920. Susitna River at Gold Creek--Continued

1764
1965

FEBRU 1962

	JULY	AUG.	SEPT.
1	32,700	27,100	26,000
2	28,200	28,500	22,000
3	25,000	30,600	29,000
4	24,100		31,000
5	23,900		26,000
6			
7	27,200		21,000
8	27,200		19,000
9	27,400		17,000
10	28,000		15,000
11	28,200		15,000
12			
13	24,900		14,400
14	25,400		16,000
15	28,300		17,000
16	25,600		14,000
17	23,000		12,800
18			
19	21,700		12,500
20	20,900	23,000	12,400
21	22,600		11,900
22	23,500		11,300
23	23,000		11,400
24			
25	27,200		12,100
26	30,900		12,800
27	28,200		12,100
28	25,200		11,700
29	27,800		12,800
30			
31	1,900		13,400
32			13,000
33	23,700		12,000
34	23,400		11,200
35	24,600		10,700
36	25,200		
37			
38	801,500	730,200	478,700
39	25,850	23,550	15,880
40	32,700		31,000
41	20,900		10,700
42	1,590M	1,448M	945,500

DO
DO

Signal days.

FEBRU 1963

	JULY	AUG.	SEPT.
1	29,000	26,000	16,100
2	31,000	30,000	15,800
3	30,000	35,000	15,400
4	30,000	32,000	15,500
5	30,000	31,000	15,100
6			
7	33,000	30,000	14,900
8	35,000	28,000	14,800
9	37,800	29,000	14,500
10	36,000	21,000	14,400
11	40,000	20,000	14,300
12	42,000	21,000	14,300
13	44,000	21,000	13,800
14	40,000	20,000	13,100
15	40,000	20,000	12,700
16	37,000	21,700	12,000
17			
18	43,000	22,600	11,600
19	47,000	22,600	11,400
20	49,000	24,600	10,900
21	32,000	25,900	10,800
22	30,000	24,000	10,300
23			
24	29,000	22,300	10,400
25	28,000	21,400	10,200
26	30,000	23,300	9,700
27	38,000	23,000	9,800
28	39,000	21,600	9,300
29			
30	35,000	22,800	9,420
31	31,000	23,100	9,570
32	27,000	21,700	9,570
33	24,000	19,300	9,830
34	24,000	17,300	9,830
35	23,400	16,500	
36			
37	1,066,4M	733,900	369,550
38	34,400	23,470	12,370
39	49,000	35,000	16,100
40	23,400	16,500	9,100
41	2,115M	1,456M	733,000

DO
DO

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1963 TO SEPTEMBER 1964

DAY	UCL	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	9,510											
2	9,240											
3	8,840											
4	8,840											
5	8,450											
6	8,350											
7	9,000											
8	8,840											
9	8,840											
10	8,840											
11	8,040											
12	8,000											
13	8,000											
14	8,020											
15	8,400											
16	8,400											
17	8,400											
18	8,200											
19	8,000											
20	5,700											
21	5,400											
22	5,200											
23	5,400											
24	5,100											
25	4,700											
26	4,300											
27	4,000											
28	3,600											
29	3,500											
30	3,000											
31	3,100											
TOTAL	199,920	67,500	40,200	32,500	26,020	22,110	22,350	133,520	1,517,3M	711,300	509,500	287,120
MEAN	6,449	2,250	1,494	1,048	966	713	745	4,307	50,580	22,950	16,440	9,271
MAX	9,510							27,100	85,900	33,200	21,600	16,100
MIN	3,100								28,400	14,800	12,000	7,440
AC-FT	398,500	135,900	91,830	64,440	55,580	43,850	44,330	264,800	3,010M	1,411M	1,011M	569,500

CAL YR 1963: TOTAL 4,000,870 MEAN 10,980 MAX 49,000 MIN - AC-FT 7,936,000

MAY YR 1964: TOTAL 3,577,440 MEAN 9,774 MAX 45,900 MIN - AC-FT 7,046,000

X Expressed in thousands.

Note.--No gage-height record Oct. 12 to May 22 except for occasional days.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1964 TO SEPTEMBER 1965

DAY	UCL	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	7,950	4,790										
2	7,770	2,640										
3	7,620	2,800										
4	6,750	2,850										
5	6,660	2,900										
6	7,650	2,900										
7	9,340	2,850										
8	9,420	2,800										
9	9,480	2,700										
10	9,450	2,800										
11	8,420	2,900										
12	7,840	2,800										
13	7,530	2,700										
14	7,380	2,650										
15	6,900	2,700										
16	6,510	2,800										
17	6,150	2,900										
18	5,580	3,100										
19	4,820	3,300										
20	4,800	3,500										
21	4,600	3,300										
22	4,820	3,100										
23	4,640	3,000										
24	4,800	2,900										
25	4,240	2,800										
26	4,280	2,700										
27	4,200	2,400										
28	4,150	2,490										
29	3,380	2,000										
30	3,380	1,700										
31	3,000											
TOTAL	195,030	83,970	37,530	29,760	24,280	27,900	40,800	402,400	771,400	863,100	634,600	580,960
MEAN	6,291	2,799	1,211	960	860	900	1,360	12,990	25,720	27,840	21,120	19,350
MAX	9,420	3,500						37,900	39,900	37,000	33,600	30,100
MIN	3,000	1,700							18,400	20,700	10,000	9,280
AC-FT	388,800	166,400	74,440	59,030	47,760	55,340	80,930	798,500	1,530M	1,712M	1,298M	1,151M

CAL YR 1964: TOTAL 3,580,250 MEAN 9,782 MAX 45,900 MIN - AC-FT 7,101,000

MAY YR 1965: TOTAL 3,711,510 MEAN 10,170 MAX 39,900 MIN - AC-FT 7,362,000

X Expressed in thousands.

Note.--No gage-height record Nov. 30 to Jan. 11.

15-12-400

DAILY PRECIPITATION

ALASKA
JUNE 1964

Station	Total	Day of Month																															
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
SOUTHEASTERN 01																																	
ANCOON	1.67	T	.29	.21	T	.03		.23						.03	.03		T	.24	T		.20	.13	.04	.03						.08	.07		
ANNETTE NB AIRPORT	3.62	.30	.14	.02	.31	.01				T	T			.31	.01		T	.08	.17	.20	.04	.12	.20	.04	.20				T		.08	.07	
ANNER CREEK	3.05		.04	.02			.05		.01					.17	.07		T	.04	.27	.19	.02	.11	.21	.04	.55	.12	T			.04	.24		
AUK BAY	4.05		.28	.52		.17	.04	T				T		.05	.54	.04															.04	.22	
BARANOF	3.04		.26	.16	.28	.50								.30								1.00	.50	.94	1.00	.08							
BEAVER FALLS	5.19		.31	.37	.02	.21	T							.15	.10	T		.04	T	.04	.11	.24	1.00	.51	1.28	.52	T		.01	.07			
CAPE DECISION	1.93	.02	.02	.02	.24					.01				.04	.02			.09	.09	.09	.28	T	.08	.76	.20					.32	.04		
CAPE SPENCER	3.20		.28	.47	.03	.23		.08	.02	.05	.04	.05		.11				.15	.30	.23	.28	.02	.12	.12		.03	.30		.14	.15			
ELDER ROCK	2.63		.35	.29		.07								.10				.12	.07		.27				.05	.15	.06		.05	.45	.40		
FIVE FINGER LIGHT STA	2.34	.50	.19	T	.15	T	.10							.03	.15	T		T	.20	T	T	T	.30	.05	.23	.05				.10	.12		
GUARD ISLAND	2.27	.18	.19	.04	.24									.24	.08	T	.30	.14	.37	.31	.04			.39	.02			T	T				
HUSTAVUS FFA	3.11		.07	.09	T	.22	T					.03	.04		.21	.04			.44	.34	.01	T	.10	T		.31	.04			T	.20	.12	
HAINES TERMINAL	.34													.03	.03																		
HOLLIS																																	
JANEAU	3.85		.16	.54		.23	.02					.01			.25	.04		.03	.29	.20	.20	.24	.10		.11	.30	.10			.44	.47		
JUNEAU NB AIRPORT	3.37		.45	.15	T	.27	T	T			T	T		.05	.20	T		.04	.44	.01	.08	.10	.04	T	.14	.32	T		.02	.41	.19		
KETCHIKAN	3.37	T	.04	.29	.04	.71								.71	.09	T		.15	.08	T		1.03	1.04	.93	.04					.10	.05		
LINCOLN ROCK LIGHT STA	3.50	.40	.39		.03						.07			.14	.49			.03		.01	.38	.04	.42	.48	.28								
LINGER LONGER	.44			.34										.04	.04	.01		.24	.05	.02	.27	.01	1.38	.90	.93	.01	.02						
LITTLE PORT WALTER	5.04	.02	.23	.19	.74	.22	.14							.54	.05	.01		.24	.05	.02	.27	.01	1.38	.90	.93	.01	.02						
PETERSBURG	4.84		.01	.33	T	.11	.11							.83	.73	.41		T	.34	.22	.23	.28	.28	.20	.22	.05	.04		.19	.14	.10		
POINT RETREAT LIGHT STA	2.63		.02	.12	T	.18												.18	.12			T			.44	T							
PORT ALEXANDER																																	
SITKA FFA	2.84	T	.49	.04	.07		T		.07		T	T						.34	T	.12	.08	T	.08	.04	.07	T				.19	.75	.32	
SITKA MAGNETIC	2.94	T	.33	.19		.08	T	.04			T	T			.17	T		.05	.23	T	.15	.04	.05	.05	.04	.04	T		.13	.44	.43		
SKAGWAY																																	
TREE POINT LIGHT STA	3.74	T	.42	.05	.07	.22								.13	.08			.15	.05	.05	.05	.08	.16	.90	.44	.41			.02				
WRANGELL	4.04		.71	.37	T	.03	.04				.03	.03		.04	.22	.05		.18	.18	.42	.44	.37	.32	.23			.01		.09	.10	.12		
SOUTH COAST 02																																	
ALITKA BAY	.44				T			T									T	T								.15			.14	T	.20		
CAPE WINCHINBROOK	3.62			.30	.19	.11				.40	.23			.18	.04		T	T		.20		.40	.54	.04		.20	.10	.48	.30	.40	1.60		
CAPE ST. ELIAS	5.34		.04		.22	.05				.67								T	T		.20		.40	.54	.04		.20	.10	.48	.30	.40	1.60	
COOPER LAKE PROJECT	1.34		T	T						.05	.14	T						T	T		.20		.40	.54	.04		.20	.10	.48	.30	.40	1.60	
CORDOVA										.05	.14	T								.12	.15	.01	.05			.04	.04	.21	.32	.24	.41	.45	
CORDOVA NB AIRPORT	7.30		T	.17	.01	.15		T	.32	.13				.11	T		T	.19	.48	.02	.21	.01	T	.30	.34	.34			.04	.42	2.04		
CARLUK LAKE NO 2	4.45			.05	T				.11						T		.10	.02	.02	.03													
KARLUK RIVER																																	
KITOI BAY																																	
KOOTIAH BAS	4.44			.15	.33	.14		.22	.11		T	.11	1.01	.16	.07		.93	.08	.02	T									.11	.04	.14		
LARSEN BAY	.91		.02	T	.01			.89						.01	T		.11	.01	.01	.23	T					.01	.01			.01	.01		
SEWARD	2.04		.03		.03			.21	.04					.01	T		.15	.04	.29	.01					.01	.24		.14	.37	.47			
SITKA NB	2.02			.13				.10	.02		.04						.05		.01	.04					.02	.07		.30	.48	.40			
UGAKTIC BAY																																	
VALDEZ AIRPORT	4.44		.12	.02	.04	.02			.29	.30	.04			.21						.74	T	T	T	T	.30	.43	.35	T	.05	.35	.41		
WHITTIER																																	
YAKUTAG FFA	6.47		.04	.25		.46				.34	.25			.03				.02	.45	.55	.01	T				.12	.24	.34	.04	T	1.01	2.04	
YAKUTAG NB AIRPORT	6.05		.05	.12	.02	.24		T	.16	.10	T			.19	.08	T	.03	.07	.48	1.28	.32	.04				.12	.24	.34	.04	T	1.01	2.04	
SOUTHEASTERN ISLANDS 03																																	
ADAK	2.50	.03		.04	.12	T	T	.14	T	.01	T	T	T	T	T	T	T	T	T	T	T	T	T	1.41	.01	T	T	.04	.54	.03	.09		
ATTU																																	
CAPE SARICHEF LIGHT STA	.12	.01		T	T					.01									.04			.01	T	T									
COLD BAY NB AP	1.45		T	.05				T	T	.04	.14	.29	T	T	T		T	.04	.11		.01	T	T	.05	T	.11	T	.04	T	.05			
ST PAUL ISLAND NB AP	.04		T					T	T	.01	.01	.09					T	T		T	T	T	T	.21	T	.27	.04	T	.02	.03			
SIENNA NB AP	2.02	T	T	T	T	T	T	T	T	T	T	T	.02	.01	.01	T	.02	T	T	T	T	T	.01	.05	.74	.41	.03	T	T	.03	T	.43	.09
UNAK	4.13							.07	.22	.15	.04	.04		.18		.02	.01	1.03	.02						.41	.02		.03	T	1.13	.14		
COPPER RIVER 04																																	
CHITINA	1.31					T	.18																.04		.45	.08	.07	.34	.05			.19	
COPPER VALLEY SCHOOL	1.04	.04	T	.05			.04			.08	.04	.03		.02	.03					.15	T		.05	.08	.20	.22	.05	.02	T	T			
ELUTINA LAKE	1.51			.05						.25										.23	.34						.52					.18	
EUREKA	3.97	T		.10	.04	.10	.52		T	T				.04	.20	.91	.10		.02	.07	.02	.16	.02	.05	.44	.16	.24	.02	.87	.02			
GULKANA FFA	2.02			.18	.17	T	T		.20	.21	T			.02	.02			.22		T	.22				.16	.02	.15	.10	T	.02	.04		
KEENEY LAKE	.31																																
NAVY CREEK	2.34			.11	T	.25	T																										

DAILY PRECIPITATION

ALASKA
JUNE 1966

Continued

Station	Total	Day of Month																														
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
BRISTOL BAY 06																																
ALASKA																																
BRIDGES LAKE																																
CAPE NEWTOWN																																
DILLINGHAM																																
ILLIAMA FAS																																
INTRICATE BAY																																
ELIAS SALMON RD AP																																
LAKE NEREA																																
PORT ALSWORTH																																
PORT HEIDEN																																
SPARREYVON																																
WEST CENTRAL 07																																
ANIAL FAS																																
BETHEL 48 AIRPORT																																
CAPE RICHMOND																																
HOLY CROSS																																
MOSES POINT FAS																																
HOME 48 AIRPORT																																
NORTHEAST CAPE																																
PLAINING																																
PLATINUM																																
TELLER																																
UNALASKA FAS																																
WALES AIRPORT																																
INTERIOR BASIN 08																																
ALLAKAKET																																
ARCTIC VILLAGE																																
BETHEL 48 AIRPORT																																
ELI DELTA FAS																																
CANYON VILLAGE																																
CENTRAL NO 2																																
CHALYTSIS																																
CHINA HOT SPRINGS																																
CIRCLE CITY																																
CIRCLE HOT SPRINGS																																
COLLEEN RIVER																																
COLLIER MAG COBY																																
EAGLE																																
ELIELSON FIELD																																
FAIRBANKS 48 AIRPORT																																
FAREWELL FAS																																
PORT TILCOM AP																																
GALENA																																
GILMORE CREEK																																
HUGHES																																
LAKE CHANDALAR																																
LAKE MITCHELL FAS																																
LIVERMOR																																
HANLEY HOT SPRINGS																																
MC GRATH 48 AIRPORT																																
MC KINLEY PARK																																
NORTHWAY FAS AP																																
RA-PART NO 2																																
SUMMIT FAS																																
TANACROSS																																
TANANA FAS																																
TOK																																

15-17-409

15-2920. Susitna River at Gold Creek—Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1961 TO SEPTEMBER 1962

DAY	UCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	11,100								38,400	32,700	27,100	28,000
2	11,400								34,100	28,200	28,500	22,000
3	14,500								32,000	25,000	30,400	27,000
4	14,200								31,700	24,100		11,000
5	11,100								31,000	25,900		26,000
6	9,900								28,700	27,200		21,000
7									27,500	27,200		19,000
8									29,800	27,400		17,000
9								4,500	31,300	28,000		15,000
10									34,400	26,200		15,000
11									44,700	24,900		14,400
12									50,400	25,400		16,000
13									55,800	28,300		17,000
14									73,000	25,400		14,000
15									79,900	23,000		12,800
16		2,700	2,100	1,900	1,500	1,400	1,700		72,800	21,700	23,000	12,500
17									65,900	20,900		12,400
18									54,800	22,400		11,900
19	4,600								48,700	23,500		11,300
20									42,400	23,000		11,400
21									44,200	27,200		12,100
22									51,800	30,500		12,800
23								18,000	43,800	28,200		12,100
24									35,700	25,200		11,900
25									31,100	27,800		12,600
26									30,000	28,900		13,400
27									31,900	26,000		13,000
28									38,000	23,700		12,000
29									44,000	23,400		11,700
30									38,200	24,600		10,700
31									34,000	25,200		
TOTAL	163,400	81,000	65,100	58,900	42,000	43,400	51,000	390,300	1,298,200	401,500	730,200	476,700
MEAN	5,916	2,700	2,100	1,900	1,500	1,400	1,700	12,590	43,270	25,850	23,550	15,490
MAX	14,500							36,000	79,900	32,700	31,000	31,000
MIN									27,500	20,900		10,700
AC-FT	343,800	160,700	129,100	116,800	89,310	86,080	101,200	774,100	2,575M	1,590M	1,448M	965,500

CAL YR 1961: TOTAL 3,880,200 MEAN 10,580 MAX 54,000 MIN - AC-FT 7,857,000
 MAY YR 1962: TOTAL 4,221,700 MEAN 11,570 MAX 79,900 MIN - AC-FT 8,374,000

M Expressed in thousands.

Note.--No gage-height record Oct. 7 to May 29, Aug. 4 to Sept. 14 except for occasional days.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1962 TO SEPTEMBER 1963

DAY	UCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	10,100									29,000	26,000	16,100
2	9,830									31,000	30,000	15,600
3	9,560									30,000	35,000	15,600
4	9,200									30,000	32,000	15,500
5	8,880									30,000	31,000	15,100
6	8,310									33,000	30,000	14,900
7	8,170									35,000	28,000	14,800
8	7,870									37,800	25,000	14,500
9	7,500									38,000	21,000	14,600
10	7,000									40,000	20,000	14,300
11	6,700									42,000	21,000	14,300
12	6,400									44,000	21,000	13,800
13	6,000									41,000	20,000	13,100
14	6,700									39,000	20,000	12,700
15	6,800									37,000	21,700	12,000
16	6,200	2,800	2,000	1,600	1,500	1,000	830		28,000	43,000	22,400	11,800
17	6,100									47,000	22,400	11,400
18	6,000									49,000	24,400	10,900
19	5,900									32,000	25,900	10,800
20	5,800									30,000	24,000	10,500
21	5,700									29,000	22,300	10,400
22	5,600									28,000	21,400	10,200
23	5,600									30,000	23,300	9,790
24	5,500									36,000	23,000	9,600
25	5,300									39,000	21,600	9,340
26	5,400									35,000	22,400	9,420
27	5,400									31,000	23,100	9,520
28	5,400									27,000	21,700	9,520
29	5,100									24,000	19,300	9,230
30	4,800									26,000	17,300	9,230
31	4,800									23,600	16,500	
TOTAL	208,420	84,000	62,000	49,600	42,000	31,000	24,900	589,400	780,000	1,066,400	733,900	369,550
MEAN	6,723	2,800	2,000	1,600	1,500	1,000	830	19,030	24,000	34,400	23,670	12,320
MAX	10,100							45,000		49,000	35,000	16,100
MIN	4,800									23,600	16,500	9,340
AC-FT	413,400	166,400	123,000	98,380	83,310	61,490	49,390	1,170M	1,547M	2,115M	1,456M	733,000

CAL YR 1962: TOTAL 4,266,620 MEAN 11,630 MAX 79,900 MIN - AC-FT 8,423,000
 MAY YR 1963: TOTAL 4,041,570 MEAN 11,070 MAX 49,000 MIN - AC-FT 8,016,000

M Expressed in thousands.

Note.--No gage-height record Oct. 25 to Aug. 14 except for occasional days.

DAY	UCT.
1	9,310
2	9,260
3	9,660
4	9,660
5	9,660
6	9,330
7	9,200
8	9,840
9	9,660
10	9,780
11	8,360
12	8,400
13	8,000
14	8,020
15	8,000
16	8,600
17	8,600
18	8,200
19	8,000
20	5,700
21	5,400
22	5,200
23	5,000
24	5,100
25	4,700
26	4,300
27	4,000
28	3,400
29	3,500
30	3,200
31	3,100
TOTAL	199,920
MEAN	6,448
MAX	9,660
MIN	3,100
AC-FT	396,500

CAL YR 1963: TOTAL 1,199,920
 MAY YR 1964: TOTAL 1,199,920

M Expressed in thousands.

Note.--No gage-height record Oct. 25 to Aug. 14 except for occasional days.

DAY	UCT.
1	7,950
2	7,710
3	1,620
4	6,750
5	6,660
6	7,450
7	9,160
8	9,400
9	9,660
10	9,450
11	8,420
12	7,800
13	7,530
14	7,380
15	6,900
16	6,510
17	6,150
18	5,580
19	4,420
20	4,600
21	4,600
22	4,820
23	4,600
24	4,800
25	4,240
26	4,280
27	4,200
28	4,150
29	4,100
30	3,380
31	3,000
TOTAL	195,030
MEAN	6,291
MAX	9,660
MIN	3,000
AC-FT	386,400

CAL YR 1964: TOTAL 1,195,030
 MAY YR 1965: TOTAL 1,195,030

M Expressed in thousands.

Note.--No gage-height record Oct. 25 to Aug. 14 except for occasional days.

DAILY PRECIPITATION

ALASKA
JUNE 1962

Station	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Day of Month	
SOUTHEAST																																	
ANGCON	2.92	.02				.09	.16	.38	.06	.11	T		.06	.06	.03	.02	T	.06	.39	T					.02	.17	.23				.00	.16	T
ANNETTE WB AP	7.06	.18			.11	T	3.79	.20	.15	.18		.22	.17	1.10	1.45	.37		.17	.05				.03	.12	.38	.62		.05	.32	.17			
ANNEA CREEK	10.95	.04	.05		.78	.61	.81	1.20	.15	.18			.17	1.10	1.45	.37		.17	.05				.03	.12	.38	.62		.05	.32	.17			
BARADOF	5.70				.32	.35	.32	.94	.03	.04	.04		.07	.07	.07	.11	.05	.06						.19	.38	.15			.12	.05	T		
BEAVER FALLS	7.06	.07			.12	.26	1.78	.16	.02	.03			.07	.07	.07	.02	.12						.01	.13	.20	.17	.30	T	.18	.04	.06		
CAPE DECISION	6.60		T		.05	1.98	2.30	.66	.37		T	.02	1.63	.26	.23			.05							.19	.38	.15			.12	.05	T	
CAPE SPENCER	8.99		.02		.05	.21	.34	.41	.06	.18	.19		.76	.05	.06			.02	.22					.03	.01	.41	.25		.05	.08	.67		
CLIPPOCK	4.21	.01	.02		.05	.21	.34	.41	.06	.18	.19		.76	.05	.06			.02	.22					.03	.01	.41	.25		.05	.08	.67		
FIVE FINGER LGT STA	4.24	.21		.01	.08	T	.34	.76	.04	.06	.08	.01	.64	.03		.13	.03	.06					.03	T	.33	.30	T	.02	.37	.62	.90		
GUARD ISLAND	4.08	.03	.04	T	.07	.06	.29	.31	.02	.04			1.18	.12	.63			.02					.03	T	.33	.30	T	.02	.37	.62	.90		
GUSTAVUS FFA	7.53	.03			.55		1.04	.37	.23	.10	.01	T	.26	.18	.10	.06	.10	.01	.04					.16	.02	.41	T	.28	.04	.06	.78		
HAINES TERMINAL	10.70	.15		.10	.48	1.01	3.75	.05	.18	.13	.04	T	.95	.10	.26		.16	.80	.18					.09	.17	.10	.10	.22		.03	.68	.30	
HOLLIS	3.63			.18	.42	.15	.53	.31	.20		.16		.27	.22										.18	.02	.41	T	.28	.04	.06	.78		
JUNEAU WB AP	13.72	.15		.10	.48	1.01	3.75	.05	.18	.13	.04	T	.95	.10	.26		.16	.80	.18					.09	.17	.10	.10	.22		.03	.68	.30	
LESTER LONGER	6.85	.16	.03	.03	.17	.22	.96	.94	.25	.03	T		.86	.02	.08	.05	.07	.02	.04	.01				.11	.05	.47	.43	T	1.36	.37	.61		
LITTLE PUNT WALTER	4.58	.12	.02		.03	.38	.86	.51	.20	.04	.01		.90	.28	.06	.06	.02	.17	.09					.06	.03	.14	.42		.23	.27	.55		
PETERSBURG	9.09		.03	.19	.09	.18	.64	.39	.60	.27	.18	.05	.02	.19	.31	.22		.13	.15	T				.07	.16	T	1.10	.03		.37	T		
POINT RETREAT LIGHT STA	6.03	.03	.08	.12	.04	.20	.59	.47	.39	.29	.03	T		.10	1.73	.24	.17	T		.21	T			.11	.06	.05	.37	.02		.08	.35	.09	
PORT ALEXANDER	7.52	.11			.42	.16	1.31	.13	.13	.02	.04	.02		.18			.38	.26	.06					.18	.51				.17	.07	.35		
SITKA FFA	5.89	.15	.01		.42	.16	1.30	1.30	.30	.17	.14	T		.06	.56	.02		.03	.10	.01			.03	.05	.66	.09			.36	.25	.16		
SITKA MAGNETIC																																	
SEAGWAY																																	
TREE POINT LIGHT STA	7.52	.11			.42	.16	1.31	.13	.13	.02	.04	.02		.18			.38	.26	.06					.18	.51				.17	.07	.35		
VRANGELL	5.89	.15	.01		.42	.16	1.30	1.30	.30	.17	.14	T		.06	.56	.02		.03	.10	.01			.03	.05	.66	.09			.36	.25	.16		
SOUTH COAST																																	
CAPE HINCHINPOOK	5.28	.10	T	T			1.17	1.23					.22	1.05	.28								.19	T	.51				.70	T	T		
CAPE ST ELIAS	10.89	.02	.01	.27	.06	1.25	.76	.17				.03	1.07	2.16									1.83	1.87	.24	T		.68	.69	T	T		
COOPER LAKE PROJECT	3.99				.60	.03	.60	T					.02	.61	.09	T								.07	.06	.03		.85	.65	.05	1.05		
CONDOWA	10.64	.13	.04	.07	.05	3.62	1.30	.65	.01				.07	.15	.67	T	.08	.01		T	T			1.02	.20	.11		.68	.37	.04	.02	T	
CONDOWA WB AP	7.61	.16	.03	.64	.45	1.15	1.15	.76					.80	.25	.15					T	T							.10					
EIOTIS BAY	1.90				.30		.10						.09	.37	T	.05				T	T												
EGODIA NAS	1.44	T	T	T	.37	.06	.14		.15	.03			.09	.37	T	.05				T	T												
LATZ BAY	1.85	.16	.10		.62	.07	.05	.18	.24	.60	.01		.16	.03	.01					.01	.02	.01		.22	.01			.27	.12	.09			
SEWARD	2.84	.20	.33	.02	.04	.22	.03	T					.23	.33																			
SHEARWATER BAY	1.51				.17	.16	.60		.19				.23	.33																			
SITILAK	1.79	.22			.31	.24	.07	.21	.20	.02	.26		.26	.26																			
UGARIE BAY	.63	.02		.01	.10	.12	.03		.12				.11	.10																			
VALDEZ	3.55	.06	.01	.01	.35	.17	.13						.08	1.35	.75									.03	.26	.01		.21	.14	.31	.30		
WHITTIER	10.35	.20	.67		.21	.15	2.61	.29	.01				.08	1.35	.75									.30	.29	.28		1.37	.34	.16			
YAKUTAG FFA	6.61		.02	.08	1.06	1.60	.39	.01					.08	1.12	.31	T	T							.63	.63	.05		.27	.27	.12			
YAKUTAG WB AP	13.88		.03	.09	2.87	1.39	.66	.12	T	T	T	T	3.55	.28	.15	.15								.17	2.74	.07	.02	.63	T	.77	.01		
SOUTHWESTERN ISLANDS																																	
ADAK	6.07	T	.20	.26	T		.44	.34	.24	.10			.05	.20	T	.20	.30	.18					.05	.03	.03	T	.21	.07	.38	.67	.01		
ATTU	3.96	.60	T		.02	.01	T	.02	.38		T		.05	.20	T	.20	.30	.18						.05	.03	.03	T	.21	.07	.38	.67	.01	
CAPE SARICHEF LGT STA	.12	T	T	T	.01	T	.01	T	.03	T		.01	.05	T	.02	T							T	T	T	T	T	T	T	T	T		
COLD BAY WB AP	.93	T	.01	.01	.04	T	.07	.31	.03	.07		.04	.02	.01	.01	T							T	T	T	T	T	T	T	T	T		
ST PAUL ISLAND WB AP	2.75	T	.03	.01	T	.08	.95	.05	.01			T	1.02	.02	T	.11	.59	.03	T	T	T		T	.01	.04	T	.16	.06	T	.13	.93		
UNALASKA	1.66			.15	.06		.16	.02	.23																								
COPPER RIVER																																	
ELUTNA LAKE	7.17	.20	.14			.10	.11						.03	.33	.05								.09					.32	.19	.50	.09		
ELUTNA	1.81	.02	.15	.09		.03	.22						.28	.06	.10								.02	.97	.08	.03	T	.02	.20	2.08	.61	.03	
GULKANA FFA	6.07		.28		T	.02							.74	.24	.23								.74	.24	.23		T	.27	1.29	.20	T		
COOK INLET																																	
ANCHORAGE WB AP	3.40	.05	.12	.04	.03	T	T	.02	T	T			1.62	.32	.02													.21	.36	.29	.32		
DEVILS CLUB	2.87		.19	.14	.01	.33	.10	T					.25	.34	.16									.18	.07	T		.50	.57	.28	.05	T	
ELUTNA PROJECT	3.68	T	.10	.10	.04	T	T	.68					.67	.43	.40	.01							.03	.34	T	.01		.29	.29	.69	.01		
ELWENDORF AP BASE	3.12	T	.10	T	.02	T	T	T					1.31	.38	.02	T												.22	.25	.22	.40	T	
GIRDWOOD	2.27	T	.11	.06	.05	.23	.03	.01					.91	.46	.12									.18	.04	T		.22	.25	.22	.40	T	
HOWER FFA	2.67	.04	.07	.10	.03	T	.02	.05		.04			.12	.45	.09	T												.22	.25	.22	.40	T	
HOWER S RV	5.26	.03	.03	.27	.02	.11	T						.91	.46	.12													.22	.25	.22	.40	T	
EASTLOP	1.94	.05	.05	.14	.10	T							.91	.46	.12													.22	.25	.22	.40	T	
EFNAI FFA	2.37	.10	.09	.07	.11	T	.09	T				.02																					

DAILY PRECIPITATION

Continued

Station	Total	Day of Month																																
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31		
INTERIOR BASIN																																		
ALLAKAKET	0.66																																	
BETTES FFA AP	0.07	0.08	0.05	0.06																														
BIG DELTA FFA	0.07																																	
CIRCLE CITY	0.07																																	
CIRCLE HOT SPRINGS	0.07																																	
COLLEGE MAG OBS	0.07																																	
ELSON FIELD	0.07																																	
FAIRBANKS WB AP	0.07																																	
FAIRFELL FFA	0.07																																	
PORT YUKON FFA	0.07																																	
HUGHES	0.07																																	
LAKE MINCHUMINA FFA	0.07																																	
MINCHUMINA FFA	0.07																																	
MC GRATH WB AP	0.07																																	
MC KINLEY FFA	0.07																																	
NORTHWAY FFA AP	0.07																																	
SCHMIT FFA	0.07																																	
TANACROSS	0.07																																	
TANANA FFA	0.07																																	
TOC	0.07																																	
TRIMBLE FFA	0.07																																	
UNIVERSITY EXP STA	0.07																																	
ARCTIC DRAINAGE																																		
BARROW WB AP	0.07																																	
BARTER ISLAND WB AP	0.07																																	
CAPE LISBURN	0.07																																	
CAPE THOMPSON	0.07																																	
KOTIKINE WB AP	0.07																																	
WAINWRIGHT	0.07																																	

SUPPLEMENTAL DATA

Station	Wind direction		Wind speed m. p. h.				Relative humidity average - percent				Number of days with precipitation										Percent of possible sunshine	Average sky cover	sunrise to sunset
	Prevailing	Percent of time from prevailing	Average	Fastest mile	Direction of fastest mile	Date of fastest mile	2100 A.M. 150th M.T.	0100 A.M. 150th M.T.	2100 P.M. 150th M.T.	0100 P.M. 150th M.T.	Trace	01-09	10-49	50-99	100-100	200 and over	Total						
ANCHORAGE WB AIRPORT	SSE	16	5.8	++17	SSE	23+	83	75	66	71	6	6	4	1	1	0	18	41	8.0				
ANNETTE WB AIRPORT	SSE	17	7.1	++21	SE	6+	86	77	71	80	3	5	8	2	0	1	19	-	8.4				
BARROW WB AIRPORT	NNE	11	10.8	++29	E	1	90	89	84	85	12	7	0	0	0	0	19	-	8.2				
BARTER ISLAND WB AIRPORT	ENE	19	10.5	++38	N	5	90	88	87	87	11	5	0	0	0	0	16	-	8.3				
BETHEL WB AIRPORT	NW	23	13.5	++29	SW	1	91	85	66	69	7	8	3	0	0	0	18	-	7.6				
COLD BAY WB AIRPORT	WNW	31	16.4	++43	SSE	8	92	90	78	85	17	5	0	0	0	0	22	-	8.5				
CORDOVA WB AIRPORT	ESE	12	6.1	++18	SW	9	94	82	79	88	6	6	8	2	3	0	25	-	9.0				
FAIRBANKS WB AIRPORT	SW	12	7.4	++23	NE	22+	80	60	42	50	6	3	2	1	1	0	13	-	7.1				
JUNEAU WB AIRPORT	ESE	17	7.4	++28	ESE	5	88	80	74	81	6	7	9	3	0	0	25	14	9.1				
KING SALMON WB AIRPORT	SW	18	11.6	++28	S	9	91	81	59	71	6	6	8	0	0	0	20	-	8.0				
KOTZEBUE WB AIRPORT	WNW	35	10.2	++23	WNW	21	91	89	86	86	5	9	3	0	0	0	17	-	7.9				
MC GRATH WB AIRPORT	NNE	11	6.6	++23	SW	7+	78	66	54	57	8	6	5	0	0	0	19	-	7.7				
NOME WB AIRPORT	WSW	17	12.2	++32	NW	24	90	86	80	83	7	7	2	0	0	0	16	52	6.9				
ST PAUL ISLAND WB AIRPORT	S	18	14.2	++35	NW	22	98	97	88	91	6	12	3	0	0	0	21	-	8.6				
SHEMYA WB AIRPORT	WSW	13	16.2	++47	WSW	7	98	98	95	95	12	10	2	2	1	0	27	-	9.5				
YAKUTAT WB AIRPORT	SE	11	7.3	++26	SE	5	95	82	79	88	5	5	6	2	1	3	22	-	8.9				
++ FASTEST OBSERVED ONE MINUTE WIND SPEED. THIS STATION IS NOT COLLOCATED WITH ANY OTHER STATION.																							

++ FASTEST OBSERVED ONE MINUTE WIND SPEED. THIS STATION IS NOT EQUIPPED WITH AUTOMATIC RECORDING WIND INSTRUMENTS.

EVAPORATION AND WIND

Station		Day of month																															Total	Avg
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31		
MATAMUSKA AGR EXP STA (A)	EVAP	.12	.11	.11	.10	.09	.15	.09	.15	.21	.09	.16	.05	.04	.07	.08	.24	.27	.06	.35	.16	.15	.12	.21	.18	*	*	.25	.13	*	.35			
	WIND	51	55	55	48	36	49	23	45	62	36	26	20	42	48	20	48	54	23	44	36	20	18	31	24	11	14	20	11	*	21		4.09	
UNIVERSITY EXP STA (B)	EVAP	.23	.16	.13	.06	.11	.16	.17	.13	.25	.24	.25	.23	.23	.14	.18	.22	.29	.25	.23	.36	.14	.13	.17	.16	.11	.14	.07	.13	.16	.27			
	WIND	53	45	38	28	36	40	40	36	47	45	34	35	47	31	31	34	26	32	23	45	59	43	38	30	20	34	14	29	35	44	5.50		
	MAX	68	65	62	60	63	70	68	74	78	79	83	80	76	71	76	83	84	84	84	82	78	69	67	72	72	71	68	72	76	75	73.6	1096	
	MIN	48	46	41	47	42	43	51	44	45	50	56	54	58	57	53	53	60	49	57	58	54	49	47	43	52	53	51	54	51	54	50.7		
MAXIMUM AND MINIMUM IN ABOVE TABLE REFER TO EXTREMES OF 24 HOURS PERIOD																																		

MAXIMUM AND MINIMUM IN ABOVE TABLE REFER TO EXTREMES OF TEMPERATURE OF WATER IN PAN AS RECORDED DURING THE 24 HOURS ENDING AT THE TIME OF OBSERVATION.
(A) PAN PAINTED INSIDE WITH ALUMINUM PAINT.
(B) PAN PAINTED INSIDE AND OUTSIDE WITH ALUMINUM PAINT.

15-12-405

15-2920. Sistrina River at Gold Creek

Location.--Lat 62°46'10", long 149°41'30", on left bridge pier of Alaska Railroad bridge, 0.1 mile downstream from Gold Creek, 0.9 mile north of Gold Creek railroad station, and 2.0 miles downstream from Indian River.

Drainage area.--6,160 sq mi, approximately.

Records available.--August 1949 to September 1965.

Gage.--Water-stage recorder. Datum of gage is 78.50 ft above mean sea level. Prior to June 6, 1957, wire-weight gage at same site and datum. June 7, 1957, to June 2, 1964, at site 0.3 mile upstream at same datum.

Average discharge.--16 years, 10,100 cfs (7,312,000 acre-ft per year).

Extremes.--Maximum and minimum discharges for the water years 1961-65 are contained in the following table:

Water year	Maximum			Minimum		
	Date	Discharge (cfs)	Gage height (feet)	Date	Discharge (cfs)	Gage height (feet)
1961	June 23, 1961	a 54,000	-	-	-	-
1962	June 15, 1962	80,600	b 19.30	-	-	-
1963	July 18, 1963	a 49,000	-	-	-	-
1964	June 7, 1964	29,700	16.53	-	-	-
1965	June 28, 1965	43,600	17.35	-	-	-

a Maximum daily.

b From floodmarks.

1949-65: Maximum discharge, 90,700 cfs June 7, 1964 (gage height, 16.58 ft); maximum gage height observed, 24.48 ft May 10, 1954 (ice jam); minimum discharge not determined. Flood in May 1919 reached a stage of 19.2 ft, result of ice jam, from information by Bureau of Reclamation.

Remarks.--Records fair except those for periods of no gage-height record and those for winter periods, which are poor. Large diurnal fluctuation at times caused by glacier melt at the source. Records of suspended-sediment loads for the water year 1962 are published in reports of the Geological Survey.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1960 TO SEPTEMBER 1961

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	14,500								17,000			13,100
2	13,000								17,000			13,100
3	12,400								16,400			12,800
4	12,400								15,400			12,500
5	11,900								15,000			12,100
6	11,500							9,000	16,500	23,000		11,900
7	11,000								24,500			12,300
8	10,400	3,300	2,900	2,400	1,800	1,500	2,500		22,400		26,000	12,300
9	10,000								20,600			12,000
10	9,500								23,400			11,900
11	9,100								29,000			14,800
12	8,700								29,000			15,100
13	8,200								37,500			15,700
14	7,800								33,000			14,800
15	7,500								28,000			14,200
16	7,100								29,000			17,000
17	6,700								30,000			13,200
18	6,400								31,000			13,000
19	6,100								33,000			13,600
20	5,900								42,000			19,000
21	5,600							18,000	52,000			13,100
22	5,300							17,700	54,000			22,000
23	5,100							18,200	50,000			15,600
24	4,900	2,700	2,500	2,500	1,700	2,100	2,800	23,400	36,000	30,300	24,800	14,200
25	4,700							29,400	32,000	25,000	20,300	13,600
26	4,500							25,400	29,200	25,000	17,400	12,400
27	4,300							21,500	27,500	25,000	15,900	11,900
28	4,200							19,300	27,000	26,500	14,800	11,500
29	4,100							18,700	26,000	25,000	14,100	11,500
30	4,000							14,400		24,000	13,800	
31	3,800											
TOTAL	241,400	70,000	83,500	76,000	49,100	54,100	79,500	534,200	883,600	761,800	685,200	601,200
MEAN	7,796	3,000	2,696	2,452	1,754	1,810	2,650	17,360	29,450	24,570	22,100	19,370
MAX	14,500	-	-	-	-	-	-	-	54,000	-	-	14,200
MIN	3,800	-	-	-	-	-	-	-	13,000	-	13,800	11,500
AC-PT	479,200	176,500	185,600	150,700	97,390	111,300	157,700	1,068,400	1,753,400	1,511,400	1,359,400	745,800

CAL. YR 1960: TOTAL 3,404,700 MEAN 9,699 MAX 40,100 MIN - AC-PT 7,150,000
 MAY YR 1961: TOTAL 3,945,800 MEAN 10,810 MAX 54,000 MIN - AC-PT 7,826,000

Y Expressed in thousands.

Note.--No gage-height record Oct. 17 to May 22, June 11 to Aug. 23 except for occasional days.

15-12-406

4400
1944

See reference under History of Science India

15-12-407

DAILY PRECIPITATION

Continued

1961

Station	Total	Day of Month																																		
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31				
INTERIOR BASIN																																				
ALLAKAFT																																				
ANNETTOWN PASS	1.55	.06																																		
BETTES FFA AP	1.71																																			
BIG DELTA FFA	4.92	.02	.20																																	
CIRCLE HOT SPRINGS	2.11	.19	.02																																	
COLLEGE MAG OBS	.85																																			
EAGLE	2.27	.12																																		
EITELSON FIELD	.96	.01	.01	.01	.01																															
FAIRBANKS WB AP	.86	.02																																		
FAIRHILL FFA	4.40																																			
FOOT TUCON FFA	.81		.01	.02																																
HUGHES	1.35																																			
LAKE HINCHUMINA FFA	2.06																																			
MALEY HOT SPRINGS	.97																																			
MC GRATH WB AP	1.89																																			
MC LINDLEY PASS	2.89																																			
NORTHWAY FFA AP	2.88	.34																																		
SUMMIT FFA	2.51																																			
TANACROSS																																				
TANANA FFA	1.39		.20	.41	.03																															
THE GRACIOUS HOUSE	2.13			.03	.03																															
TOY	2.21																																			
TRIPS CAMP	1.56	.01	.33	.02																																
UNIDENTIFIED EXP SIX																																				
ARCTIC DRAINAGE																																				
BARROW WB AP	1.76	.08																																		
BARTER ISLAND WB AP	.80		.01	.04	.01																															
CAPE LISBURN	1.26																																			
KOTZEBUE WB AP	1.83																																			
WAINWRIGHT	.38																																			

SUPPLEMENTAL DATA

Station	Wind direction		Wind speed m. p. h.				Relative humidity average - percent				Number of days with precipitation						Percent of possible sunshine	Average sky cover sunrise to sunset	
	Prevailing	Percent of time from prevailing	Average	Fastest mile	Direction of fastest mile	Date of fastest mile	2:00 A.M. 150TH M.T.	8:00 A.M. 150TH M.T.	2:00 P.M. 150TH M.T.	8:00 P.M. 150TH M.T.	Trace	01-09	10-49	50-99	100-100	200 and over			Total
ANCHORAGE WB AIRPORT	SSE	25	7.2	18	SSE	7	75	67	55	63	9	4	4	0	0	0	17	48	7.9
ANNETTE WB AIRPORT	SSE	21	9.0	25	SE	4	82	74	69	80	7	4	10	3	0	0	24	-	9.1
BARROW WB AIRPORT	E	35	12.0	35	SW	18	95	89	85	90	16	4	0	0	0	0	20	-	8.2
BARTER ISLAND WB AIRPORT	ENE	43	11.0	28	E	10	89	84	85	87	14	5	3	0	0	0	22	-	8.6
BETHEL WB AIRPORT	SW	17	13.6	32	SSE	30	91	88	71	75	9	8	4	0	0	0	21	-	8.7
COLD BAY WB AIRPORT	VNW	29	14.2	44	SSE	30	89	85	74	82	19	6	0	0	0	0	25	-	9.3
CORDOVA WB AIRPORT	E	14	5.6	16	W	25	94	79	75	83	5	5	11	1	3	0	25	-	8.5
FAIRBANKS WB AIRPORT	SW	15	6.9	21	ENE	4	80	63	47	53	9	6	2	0	0	0	17	-	7.6
JUNEAU WB AIRPORT	ESE	28	9.7	30	ESE	1	88	77	64	79	8	8	11	1	0	0	25	34	9.2
KING SALMON WB AIRPORT	SW	19	8.0	25	S	30	93	86	67	79	13	10	3	1	0	0	27	-	9.5
KOTZEBUE WB AIRPORT	VNW	28	13.2	32	VNW	13	92	88	85	84	8	8	0	1	0	0	17	-	7.9
MC GRATH WB AIRPORT	SSW	12	6.9	20	SSW	30	84	77	55	60	13	5	6	0	0	0	24	-	8.7
NOME WB AIRPORT	SE	11	11.6	30	ESE	30	88	86	81	80	5	7	7	1	0	0	20	30	8.0
ST PAUL ISLAND WB AIRPORT	-	-	-	-	-	-	95	92	86	91	10	8	3	1	0	0	22	-	9.3
SHENYA WB AIRPORT	SW	14	14.9	41	S	16	98	98	95	95	14	8	4	0	1	0	27	-	9.9
YAKUTAT WB AIRPORT	ESE	13	8.7	26	SE	1	95	81	75	86	4	4	12	2	1	0	23	-	8.7

.. FASTEST OBSERVED ONE MINUTE WIND SPEED. THIS STATION IS NOT EQUIPPED WITH AUTOMATIC RECORDING WIND INSTRUMENTS.

MONTHLY EXTREMES

Highest Temperature 89° on the 18th at Summit FFA.

Lowest Temperature 20° on the 6th at Wainwright.

Greatest Total Precipitation 20.08 inches at Little Port Valter.

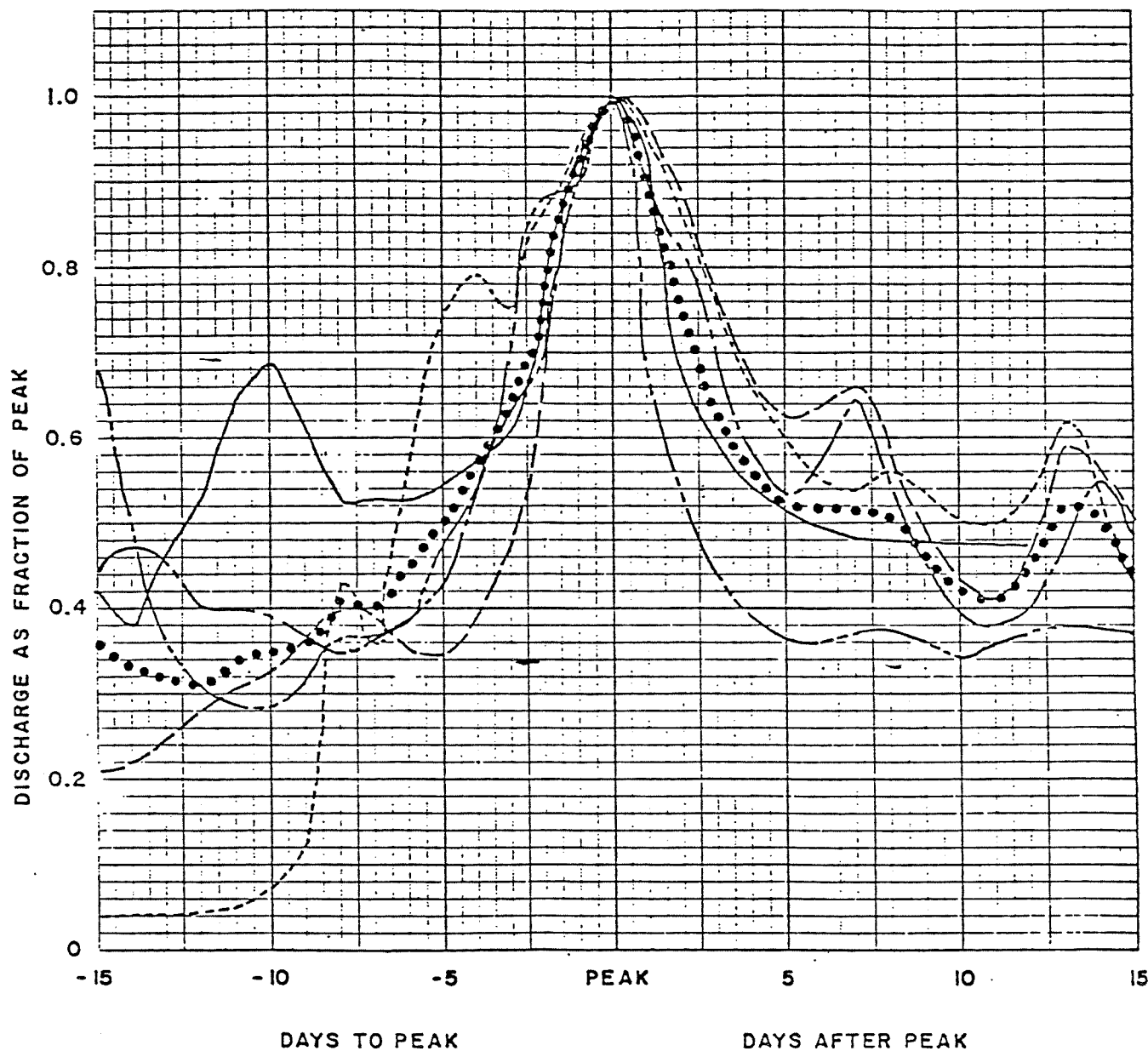
Least Total Precipitation 0.08 inch at Barrow Weather Bureau Airport.

Greatest One-day Precipitation 4.52 inches on the 28th at Attu.

Greatest Total Snowfall 0.9 inch at Sparrevohns.

Deepest Snow on Ground 7 inches on the 1st at Wainwright.

15-12-2408



SUSITNA RIVER AT GOLD CREEK

LEGEND

	Date	Peak Discharge (cfs)
.....	Median Curve	
————	June 23, 1961	54,000
— · — · —	June 15, 1962	79,900
-----	June 7, 1964	85,900
- - - - -	June 6, 1966	58,400
-----	June 17, 1972	70,700

	ALASKA POWER AUTHORITY SUSITNA HYDROELECTRIC PROJECT	
	FLOOD STUDIES DIMENSIONLESS HYDROGRAPHS MAY - JULY 15-12-409	
 R&M CONSULTANTS, INC. ENGINEERS GEOLOGISTS PLANNERS SURVEYORS	MARCH 1981	2

ALASKA WEST OF LONGITUDE 141°

101

15292000 Susitna River at Gold Creek

LOCATION.--Lat 62°46'04", long 149°41'28", in NW 1/4 sec. 20, T. 31 N., R. 2 W., near left bank under Alaska Railroad bridge, 0.1 mile downstream from Gold Creek, 0.9 mile north of Gold Creek railroad station, and 2.0 miles downstream from Indian River.

DRAINAGE AREA.--6,160 sq mi, approximately.

PERIOD OF RECORD.--August 1949 to current year.

GAGE.--Water-stage recorder. Datum of gage is 676.50 ft above mean sea level. Prior to June 6, 1957, nonrecording gage at same site and datum. June 7, 1957 to June 2, 1964, water-stage recorder at site 0.3 mile upstream at same datum.

AVERAGE DISCHARGE.--22 years, 9,797 cfs (7,098,000 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 87,400 cfs Aug. 10 (gage height, 16.36 ft); minimum daily discharge, 950 cfs Mar. 1 to Apr. 5.

Period of record: Maximum discharge, 90,700 cfs June 7, 1964 (gage height, 16.58 ft); maximum gage height observed, 24.48 ft May 10, 1954 (ice jam); minimum discharge not determined.

REMARKS.--Records good except those for the period of no gage-height record.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	7,620	4,000	2,600	1,800	1,100	950	950	1,400	10,000	38,300	21,900	17,400
2	9,000	4,000	2,600	1,800	1,100	950	950	1,500	10,000	27,800	26,400	22,800
3	7,500	4,000	2,600	1,700	1,100	950	950	1,500	10,000	22,700	30,500	27,000
4	6,500	4,000	2,600	1,700	1,100	950	950	1,600	12,000	21,300	26,500	26,700
5	6,000	4,000	2,600	1,700	1,100	950	950	1,600	16,000	20,700	23,100	24,100
6	6,000	3,800	2,600	1,700	1,100	950	1,000	1,700	22,000	20,300	22,700	22,100
7	6,500	3,800	2,600	1,600	1,100	950	1,000	1,700	30,000	20,500	27,100	19,900
8	6,500	3,800	2,600	1,600	1,100	950	1,000	1,800	34,000	21,000	35,700	17,400
9	6,000	3,800	2,400	1,600	1,100	950	1,000	1,900	36,000	20,700	51,000	16,900
10	6,000	3,800	2,400	1,600	1,100	950	1,000	2,000	50,000	22,100	77,700	16,800
11	6,000	3,600	2,400	1,500	1,000	950	1,000	2,000	59,000	22,400	75,900	16,200
12	5,500	3,600	2,400	1,500	1,000	950	1,000	2,200	66,300	24,000	64,600	14,400
13	5,500	3,600	2,400	1,500	1,000	950	1,000	2,200	51,700	29,600	51,100	13,200
14	5,500	3,600	2,400	1,500	1,000	950	1,000	2,400	41,000	34,500	46,500	12,600
15	5,000	3,400	2,400	1,500	1,000	950	1,000	2,600	34,000	36,700	38,400	12,000
16	5,000	3,400	2,400	1,400	1,000	950	1,100	2,800	28,300	36,100	30,800	11,700
17	4,800	3,400	2,400	1,400	1,000	950	1,100	3,000	24,900	33,600	26,000	11,300
18	4,800	3,200	2,200	1,400	1,000	950	1,100	3,200	24,800	27,800	22,600	10,900
19	4,800	3,200	2,200	1,400	1,000	950	1,100	3,400	24,300	23,600	20,900	10,300
20	4,600	3,200	2,200	1,300	1,000	950	1,100	3,600	25,800	21,300	24,700	10,400
21	4,400	3,000	2,200	1,300	1,000	950	1,100	3,800	25,800	21,800	31,800	11,100
22	4,200	3,000	2,200	1,300	1,000	950	1,200	4,400	34,400	21,700	27,700	11,500
23	4,200	3,000	2,000	1,300	1,000	950	1,200	4,800	36,600	18,700	22,900	11,800
24	4,000	3,000	2,000	1,200	1,000	950	1,200	5,500	41,600	16,000	21,400	11,100
25	4,000	3,000	2,000	1,200	1,000	950	1,200	6,000	42,000	14,500	22,300	10,300
26	4,000	2,800	2,000	1,200	1,000	950	1,200	6,500	39,300	17,000	22,700	9,520
27	4,000	2,800	2,000	1,200	1,000	950	1,200	7,000	39,200	21,400	22,300	9,060
28	4,000	2,800	2,000	1,200	1,000	950	1,300	7,500	37,800	21,400	21,300	8,470
29	4,000	2,800	1,900	1,200	-----	950	1,300	8,000	36,400	22,500	18,900	8,160
30	4,000	2,800	1,900	1,200	-----	950	1,300	9,000	41,800	21,400	17,000	8,160
31	4,000	-----	1,800	1,200	-----	950	-----	9,500	-----	21,300	16,700	-----
TOTAL	163,920	102,200	71,000	44,700	29,000	29,450	32,450	116,100	988,000	742,400	989,100	433,270
MEAN	5,288	3,407	2,290	1,442	1,036	950	1,082	3,745	32,930	23,950	31,910	14,440
MAX	9,000	4,000	2,600	1,800	1,100	950	1,300	9,500	66,300	38,300	77,700	27,000
MIN	4,000	2,800	1,800	1,200	1,000	950	950	1,400	10,000	14,500	16,700	9,160
AC-FT	325,100	202,700	140,800	88,660	57,520	58,410	64,360	230,300	1,960M	1,473M	1,962M	859,400

CAL YR 1970 TOTAL 2,947,860 MEAN 8,076 MAX 31,600 MIN 750 AC-FT 5,847,000
 WTR YR 1971 TOTAL 3,741,590 MEAN 10,250 MAX 77,700 MIN 950 AC-FT 7,421,000

NOTE.--No gage-height record Oct. 2 to June 9.

M.--Expressed in thousands.

15-12-410

DAILY PRECIPITATION

8.28-4
8.2.37 1971

Continued

		Day of Month																														
Station	Total	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
COLLIERIA R @	5.20	.02	.03		.01	.03					.01		.02								.01			.01				.01	.02	.03	.03	
SOUTH FORK	5.20	.02	.03		.01	.03					.01		.02								.01			.01				.01	.02	.03	.03	
SUMMIT NICK SITE	5.20	.02	.03		.01	.03					.01		.02								.01			.01				.01	.02	.03	.03	
SUSITNA R. @	5.20	.02	.03		.01	.03					.01		.02								.01			.01				.01	.02	.03	.03	
TILKLEYA WCD	5.20	.02	.03		.01	.03					.01		.02								.01			.01				.01	.02	.03	.03	
TRAPERS CREEK CAMP	5.20	.02	.03		.01	.03					.01		.02								.01			.01				.01	.02	.03	.03	
WASILLA 3 S	5.20	.02	.03		.01	.03					.01		.02								.01			.01				.01	.02	.03	.03	
WASILLA 2 NE	5.20	.02	.03		.01	.03					.01		.02								.01			.01				.01	.02	.03	.03	
WATERS CROSSING	5.20	.02	.03		.01	.03					.01		.02								.01			.01				.01	.02	.03	.03	
BRISTOL BAY	5.20	.02	.03		.01	.03					.01		.02								.01			.01				.01	.02	.03	.03	
BRIDGES LAKE	5.20	.02	.03		.01	.03					.01		.02								.01			.01				.01	.02	.03	.03	
BRIDGES RIVER	5.20	.02	.03		.01	.03					.01		.02								.01			.01				.01	.02	.03	.03	
CAPE NEVADIAN	5.20	.02	.03		.01	.03					.01		.02								.01			.01				.01	.02	.03	.03	
ILLIAMA WCD	5.20	.02	.03		.01	.03					.01		.02								.01			.01				.01	.02	.03	.03	
INTRACAPE BAY	5.20	.02	.03		.01	.03					.01		.02								.01			.01				.01	.02	.03	.03	
KING SALMON WCD	5.20	.02	.03		.01	.03					.01		.02								.01			.01				.01	.02	.03	.03	
PORT ALGONQUIN	5.20	.02	.03		.01	.03					.01		.02								.01			.01				.01	.02	.03	.03	
PORT HIDDEN	5.20	.02	.03		.01	.03					.01		.02								.01			.01				.01	.02	.03	.03	
SPARRAVEN	5.20	.02	.03		.01	.03					.01		.02								.01			.01				.01	.02	.03	.03	
WEST CENTRAL	5.20	.02	.03		.01	.03					.01		.02								.01			.01				.01	.02	.03	.03	
ANIAN PAA AIRPORT	5.20	.02	.03		.01	.03					.01		.02								.01			.01				.01	.02	.03	.03	
BEYTES WCD	5.20	.02	.03		.01	.03					.01		.02								.01			.01				.01	.02	.03	.03	
CUT F ROANOK	5.20	.02	.03		.01	.03					.01		.02								.01			.01				.01	.02	.03	.03	
CROOKED CREEK	5.20	.02	.03		.01	.03					.01		.02								.01			.01				.01	.02	.03	.03	
GRAYLING	5.20	.02	.03		.01	.03					.01		.02								.01			.01				.01	.02	.03	.03	
HOLY CROSS	5.20	.02	.03		.01	.03					.01		.02								.01			.01				.01	.02	.03	.03	
NOHE WCD	5.20	.02	.03		.01	.03					.01		.02								.01			.01				.01	.02	.03	.03	
NOVYAK	5.20	.02	.03		.01	.03					.01		.02								.01			.01				.01	.02	.03	.03	
RUSSIAN MISSION	5.20	.02	.03		.01	.03					.01		.02								.01			.01				.01	.02	.03	.03	
ST. PARS	5.20	.02	.03		.01	.03					.01		.02								.01			.01				.01	.02	.03	.03	
TIN CITY	5.20	.02	.03		.01	.03					.01		.02								.01			.01				.01	.02	.03	.03	
UNAKLEET WCD	5.20	.02	.03		.01	.03					.01		.02								.01			.01				.01	.02	.03	.03	
WALLES	5.20	.02	.03		.01	.03					.01		.02								.01			.01				.01	.02	.03	.03	
INTERIOR BASIN	5.20	.02	.03		.01	.03					.01		.02								.01			.01				.01	.02	.03	.03	
ALLAGANET	5.20	.02	.03		.01	.03					.01		.02								.01			.01				.01	.02	.03	.03	
ANAKTJUK PASS	5.20	.02	.03		.01	.03					.01		.02								.01			.01				.01	.02	.03	.03	
ARCTIC VILLAGE	5.20	.02	.03		.01	.03					.01		.02								.01			.01				.01	.02	.03	.03	
BEYTES WCD	5.20	.02	.03		.01	.03					.01		.02								.01			.01				.01	.02	.03	.03	
BITO DELTA WCD	5.20	.02	.03		.01	.03					.01		.02								.01			.01				.01	.02	.03	.03	
CENTRAL RD 2	5.20	.02	.03		.01	.03					.01		.02								.01			.01				.01	.02	.03	.03	
CHALKY VILLAGE	5.20	.02	.03		.01	.03					.01		.02								.01			.01				.01	.02	.03	.03	
CHANG HOT SPRINGS	5.20	.02	.03		.01	.03					.01		.02								.01			.01				.01	.02	.03	.03	
CIRCLE HOT SPRINGS	5.20	.02	.03		.01	.03					.01		.02								.01			.01				.01	.02	.03	.03	
CLEAR AIRPORT	5.20	.02	.03		.01	.03					.01		.02								.01			.01				.01	.02	.03	.03	
CLEAR WATER	5.20	.02	.03		.01	.03					.01		.02								.01			.01				.01	.02	.03	.03	
COLORADO CAMP	5.20	.02	.03		.01	.03					.01		.02								.01			.01				.01	.02	.03	.03	
COLORADO WCD	5.20	.02	.03		.01	.03					.01		.02								.01			.01				.01	.02	.03	.03	
DISTRICT CAMP	5.20	.02	.03		.01	.03					.01		.02								.01			.01				.01	.02	.03	.03	
DOT LAKE	5.20	.02	.03		.01	.03					.01		.02								.01			.01				.01	.02	.03	.03	
EISENBERG FIELD	5.20	.02	.03		.01	.03					.01		.02								.01			.01				.01	.02	.03	.03	
EISENBERG VISITORS CEN.	5.20	.02	.03		.01	.03					.01		.02								.01			.01				.01	.02	.03	.03	
FAIRBANKS WCD	5.20	.02	.03		.01	.03					.01		.02								.01			.01				.01	.02	.03	.03	
FAIRBANKS WCD	5.20	.02	.03		.01	.03					.01		.02								.01			.01				.01	.02	.03	.03	
FIVE MILE CAMP	5.20	.02	.03		.01	.03					.01		.02								.01			.01				.01	.02	.03	.03	
PORT YUMON	5.20	.02	.03		.01	.03					.01		.02								.01			.01				.01	.02	.03	.03	
CALPANA	5.20	.02	.03		.01	.03					.01		.02								.01			.01				.01	.02	.03	.03	
GILMORE CREEK	5.20	.02	.03		.01	.03					.01		.02							</												

DAILY PRECIPITATION

Continued

Station	Total	Day of Month																																
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31		
SOUTHWESTERN 01																																		
ANCON	8.57	.24	.30	.29	.22	-	-	T	-	-	-	-	-	.02	.30	.19	T	-	.63	2.30	-	.13	-	.16	.30	.31	.41	.18	.09	T	.37	.09	.06	
ANNETTE WSO	10.11	-	.15	.40	T	-	.09	.11	T	.07	-	-	-	.02	.02	.30	.19	T	-	.63	2.30	-	.13	-	.16	.30	.31	.41	.18	.09	T	.37	.09	.06
ANNIE CREEK	7.44	1.43	.40	.01	.01	.01	1.40	.05	-	.01	.24	.02	-	.05	.84	.22	.12	.03	.07	.71	1.32	.20	.67	.89	.72	.29	1.03	T	.30	T	.09	.06		
ARNEY BAY	15.14	.71	.77	.40	.24	.35	.08	-	-	-	-	-	-	.01	.13	.31	.13	.18	.01	.24	.72	.16	.59	.18	.27	.13	.96	.01	.14	.29	.26	-		
BEAVER FALLS	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
CAPE DECISION	6.12	.13	.12	.12	.14	.04	.36	-	-	-	-	-	-	.02	.04	.17	.12	.07	.79	.77	.52	.64	.19	.28	.37	.41	.17	.37	.23	.04	.04			
CAPE SPENCER	6.72	.08	.02	.05	-	1.38	.08	-	-	.24	T	-	-	.02	.04	.17	.12	.07	.79	.77	.52	.64	.19	.28	.37	.41	.17	.37	.23	.04	.04			
COPPER COVE	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
ELKED ROCK	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
FIVE FINGER LIGHT STA	6.17	.02	.29	.32	.01	-	.38	-	-	-	-	-	-	.03	.10	.01	.10	-	.33	.29	.19	.11	.21	.21	.21	.21	.21	.21	.21	.21	.21	.21		
GLACIER BAY	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
GUSTAVUS	5.93	T	1.00	.22	-	.08	-	.11	-	.08	T	-	-	.04	.01	.17	.13	T	.13	.01	.41	.21	.26	.76	1.07	-	.31	.01	-	.17	.09	.09		
MAINE TERMINAL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
JUNEAU WSO 2	6.22	1.11	.41	-	-	1.22	.13	.02	-	.03	-	-	-	.10	.33	.30	.22	T	.03	.75	.45	.19	.56	.42	.68	.25	.85	-	-	-	-	-		
JUNEAU WSO	6.89	.16	.63	.39	T	.05	.79	.29	T	.01	T	-	-	.04	.48	.85	T	-	.01	.30	.11	.13	.10	.21	.18	.19	.29	-	-	-	-	-		
JUNEAU WSO	6.93	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
KECHIKAN	11.00	.11	1.19	.21	.67	T	1.10	-	-	-	-	-	.23	.79	.94	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
LONGER LONGER	3.00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
LITTLE PORT WALTER	25.47	.27	.81	.09	-	.04	-	.12	-	-	-	-	-	.05	.05	-	-	-	.43	.62	.53	.10	1.44	.38	1.81	.18	.11	.32	.33	.03	.11	.22		
MELICAN	6.97	.18	-	-	-	.04	-	.12	-	-	-	-	-	.05	.05	-	-	-	.43	.62	.53	.10	1.44	.38	1.81	.18	.11	.32	.33	.03	.11	.22		
PETERSBURG	9.33	T	1.20	.37	.12	.02	.62	.09	.01	-	-	-	.02	.19	.30	.32	.10	.12	.10	.12	.10	.12	.10	.12	.10	.12	.10	.12	.10	.12	.10	.12		
POINT WREATH LIGHT STA	6.02	1.17	.22	-	.15	.82	-	-	-	-	-	-	-	.05	.05	.18	.04	.40	1.38	.68	.52	.81	.56	.96	.34	.20	.05	.05	.05	.05	.05			
SITKA FFA AIRPORT	3.02	.16	1.00	T	.01	.15	.82	-	-	-	-	-	-	.05	.05	.18	.04	.40	1.38	.68	.52	.81	.56	.96	.34	.20	.05	.05	.05	.05	.05	.05		
SITKA MAGNETIC	4.63	.05	.40	.43	T	.24	.04	T	T	-	-	-	-	.05	.05	.18	.04	.40	1.38	.68	.52	.81	.56	.96	.34	.20	.05	.05	.05	.05	.05	.05		
SWANSEA WSO 2	2.98	.70	.30	-	-	.93	-	-	-	-	-	-	-	.04	.04	.04	.17	T	.04	.17	T	.04	.17	T	.04	.17	T	.04	.17	T	.04	.17		
TENAFEE SPRINGS	4.25	T	1.02	.08	-	.02	.33	-	.01	.02	-	-	-	.03	.03	.18	.08	T	.11	.38	.02	.15	.26	.35	.25	.41	.16	.04	.01	.11	.01	.01		
WRENCHELL	7.22	.82	.16	.23	-	.02	.33	-	.01	.02	-	-	-	.03	.03	.18	.08	T	.11	.38	.02	.15	.26	.35	.25	.41	.16	.04	.01	.11	.01	.01		
SOUTH COAST 02																																		
CAPE WINCHESTER	11.04	.84	.05	-	.30	.25	.30	.80	.30	.60	T	-	-	.75	.20	.30	T	.80	.10	.85	T	-	.97	.23	-	-	-	-	-	-	-	-		
CAPE ST ELIAS	11.22	.32	.92	-	.09	.25	.08	.24	.07	.03	.04	.02	1.12	.62	.06	-	-	.02	.11	.53	.20	-	.80	.36	.01	T	.05	.18	1.72	1.82	.08	.08		
CHICKEN	7.34	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
COPPER LAKE PROJECT	3.52	.16	.16	-	.17	.53	.29	.47	.13	.08	.05	-	-	.05	.09	.22	.11	.30	.10	.07	.41	.09	.23	-	-	-	-	-	-	-	-	-		
CORODVA-KELAN	12.23	2.78	.78	T	.07	.30	.12	.68	.14	.04	T	T	-	.98	.17	.18	.10	.27	.01	.58	.05	-	1.17	.23	.03	.09	T	2.05	3.03	.48	.78			
CORODVA FFA AP	10.69	2.85	.76	-	.08	.45	.11	1.32	.14	.09	-	-	.15	1.16	.13	.29	.01	.05	.82	.37	T	-	.84	.01	.01	-	.85	T	.33	1.21	.35			
ELKED RIVER	4.21	.04	T	-	.02	T	-	-	-	-	-	-	-	.04	.43	.08	.01	.03	T	.04	.17	T	.04	.17	T	.04	.17	T	.04	.17	T	.04		
KETCHIKAN WSO	4.88	.04	-	-	-	-	-	-	-	-	-	-	-	.04	.43	.08	.01	.03	T	.04	.17	T	.04	.17	T	.04	.17	T	.04	.17	T	.04		
LARSEN BAY	-	-	-	-	-	-	-	-	-	-	-	-	-	.04	.43	.08	.01	.03	T	.04	.17	T	.04	.17	T	.04	.17	T	.04	.17	T	.04		
MOOSE PASS	3.40	-	-	-	.15	.40	-	.78	-	.18	-	-	-	-	-	-	.15	.10	T	-	-	.15	.15	.15	.15	-	.05	.15	.78	-	-			
OLD HARBOR	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
SEWARD	3.72	.32	.19	-	.26	.40	-	.08	-	-	-	-	-	.15	T	-	-	-	-	-	-	.15	.15	.15	.15	-	.05	.15	.78	-	-			
SITKINAK	3.86	.05	.40	.43	T	.24	.04	T	T	-	-	-	-	.05	.05	.18	.04	.40	1.38	.68	.52	.81	.56	.96	.34	.20	.05	.05	.05	.05	.05	.05		
WHITTIER	10.32	1.05	.31	-	.61	1.12	.20	1.01	.64	.03	.29	T	-	.01	.01	.30	.04	.43	.08	.01	.03	T	.04	.17	T	.04	.17	T	.04	.17	T	.04		
YAKUTAT WSO	6.34	T	.09	-	T	.35	T	.09	.04	T	T	T	-	.18	.84	.26	.03	.20	.03	1.16	.16	-	.66	.32	.20	.11	.83	.02	.13	.88	.16			
SOUTHWESTERN ISLANDS 03																																		
ADAK	2.29	T	T	.04	T	T	.19	.25	T	T	T	T	.05	.02	.83	.03	.44	.03	.40	.09	T	T	.01	.51	.08	T	T	.62	T	.09	.09			
ATTU	1.88	.10	.23	T	T	.18	.08	.04	-	.07	.08	-	.05	.08	.11	.43	.03	.04	.40	.09	T	T	.01	.51	.08	T	T	.62	T	.09	.09			
CAPE SARICHER	6.12	.10	.23	T	T	.18	.08	.04	-	.07	.08	-	.05	.08	.11	.43	.03	.04	.40	.09	T	T	.01	.51	.08	T	T	.62	T	.09	.09			
COLD BAY WSO	2.78	.03	T	T	.01	.06	.06	.06	.06	.06	.06	.15	T	.01	.01	.30	.04	.43	.08	.01	.03	T	.04	.17	T	.04	.17	T	.04	.17	T	.04		
ST PAUL ISLAND WSO	2.78	.03	T	T	.01	.06	.06	.06	.06	.06	.06	.15	T	.01	.01	.30	.04	.43	.08	.01	.03	T	.04	.17	T	.04	.17	T	.04	.17	T	.04		
SHIRYA WSO	3.94	T	.02	.02	.01	T	.07	.02	T	T	.01	.01	.16	.07	T	.03	.23	.42	.01	1.75	.33	.01	T	T	T	T	T	.01	.01	.21	.64			
COPPER RIVER	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
CHISANA	1.37	T</																																

15292000 SUSITNA RIVER AT GOLD CREEK--CONTINUED

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	6490	1600	1500	1500	1400	1200	1100	1700	2700	2400	2700	10700
2	7140	1600	1500	1500	1400	1200	1100	1400	2600	21700	20000	24300
3	7230	1600	1500	1500	1400	1200	1100	1400	24300	18000	24000	11400
4	7080	1600	1500	1500	1400	1200	1100	2000	2400	20500	25000	31800
5	7530	1600	1500	1500	1400	1200	1100	2200	28200	20300	24200	10900
6	6400	1600	1500	1500	1400	1200	1100	2400	31700	21600	23000	10700
7	6400	1600	1500	1500	1400	1200	1100	2900	27100	21500	21800	20600
8	5220	1600	1500	1500	1400	1200	1100	3000	22900	22100	21400	21900
9	5250	1600	1500	1500	1400	1200	1100	4500	24000	23700	23000	19400
10	4650	1600	1500	1500	1400	1200	1100	5600	37800	27800	28000	19400
11	3060	1600	1500	1500	1400	1200	1100	6800	34000	21100	32700	17400
12	4520	1600	1500	1500	1400	1200	1100	8000	39200	20500	33000	14500
13	4950	1600	1500	1500	1400	1200	1100	11000	35300	20100	40700	15400
14	4180	1600	1500	1500	1400	1200	1100	15000	37000	20000	44000	14400
15	4850	1600	1500	1500	1400	1200	1100	14000	34200	21200	78000	14300
16	4200	1600	1500	1500	1400	1200	1100	23000	37400	21300	67400	13000
17	3600	1600	1500	1500	1400	1200	1100	22000	29000	27500	57500	13700
18	3300	1600	1500	1500	1400	1200	1100	17000	28000	27200	45000	12500
19	3000	1600	1500	1500	1400	1200	1100	14000	24500	25600	37200	12400
20	3000	1600	1500	1500	1400	1200	1100	15000	29100	46200	37600	12400
21	2800	1600	1500	1500	1400	1200	1300	14000	29800	40000	30000	11800
22	2700	1600	1500	1500	1400	1200	1300	21000	24600	47000	29700	11200
23	2400	1600	1500	1500	1400	1200	1300	24000	21300	36400	29000	10400
24	2500	1600	1500	1500	1400	1200	1300	26000	25400	30000	27000	10100
25	2400	1600	1500	1500	1400	1200	1300	30700	25700	30000	28700	9700
26	2300	1600	1500	1500	1400	1200	1300	29000	24600	37400	23600	9400
27	2200	1600	1500	1500	1400	1200	1300	28000	29900	35400	22100	9300
28	2100	1600	1500	1500	1400	1200	1300	28000	30000	37000	21300	9200
29	2000	1600	1500	1500	1400	1200	1300	31700	31200	27600	20000	8800
30	1900	1600	1500	1500	1400	1200	1300	30000	24700	24000	19100	8400
31	1800	---	1500	1500	---	1200	---	29000	---	24600	18900	---
TOTAL	129050	40000	46500	46500	38700	37200	35000	479000	885400	870000	1011300	506020
MEAN	4162	1600	1500	1500	1400	1200	1100	15400	28513	24000	32622	16000
MAX	7530	1600	1500	1500	1400	1200	1300	31700	39000	50000	70000	44000
MIN	1800	1600	1500	1500	1400	1200	1100	1700	22000	14000	19000	8400
AC-FT	256000	95210	92230	92230	77750	73700	64470	951000	1750000	1440000	2000000	1000000
CAL YR 1966 TOTAL	3329500	MEAN	9121	MAX	58400	MIN	1300	AC-FT	6000000			
WTR YR 1967 TOTAL	4094870	MEAN	11218	MAX	76000	MIN	1100	AC-FT	8122000			

NOTE.--NO GAGE-HEIGHT RECORD NOV. 20 TO APR. 7.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1967 TO SEPTEMBER 1968

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4010	2800	2100	2000	1900	1900	1900	2700	26600	27000	21700	11900
2	7680	2800	2100	2000	1900	1900	1900	2700	25200	30700	21400	11900
3	7290	2700	2100	2000	1900	1900	1900	2700	23000	32000	21800	11100
4	7050	2700	2100	2000	1900	1900	1900	2700	24000	32000	20900	10700
5	6330	2600	2100	2000	1900	1900	1900	2600	26600	30000	19500	10200
6	5900	2600	2100	2000	1900	1900	1900	2500	26600	27600	19200	10600
7	5700	2500	2100	2000	1900	1900	1900	2500	27400	26700	19300	11900
8	5780	2400	2100	2000	1900	1900	1900	2400	26400	26800	20500	13000
9	5750	2300	2100	2000	1900	1900	1900	2700	24000	27000	21200	13200
10	5700	2300	2100	2000	1900	1900	1900	2400	33600	25800	21200	12400
11	5680	2300	2100	2000	1900	1900	1900	3400	34200	25700	20100	12100
12	5750	2300	2100	2000	1900	1900	1900	4400	34100	24700	18200	11500
13	5680	2300	2100	2000	1900	1900	1900	5200	34100	27400	17800	10700
14	5580	2300	2100	2000	1900	1900	1900	7000	39500	26300	17900	9800
15	5300	2300	2100	2000	1900	1900	1900	9400	34500	30100	18400	9000
16	4920	2300	2100	2000	1900	1900	1900	12000	34000	29200	18000	8470
17	4720	2300	2100	2000	1900	1900	1900	15000	30000	26000	14500	7940
18	4360	2300	2000	2000	1900	1900	1900	18000	35400	24800	13000	7460
19	4220	2300	2000	2000	1900	1900	1900	25000	37800	23400	14200	7300
20	3900	2200	2000	2000	1900	1900	1900	31000	38800	23600	14700	6700
21	3900	2200	2000	2000	1900	1900	1900	36000	36600	23900	15200	6420
22	3700	2200	2000	2000	1900	1900	1900	39700	38600	24300	15900	6100
23	3600	2200	2000	2000	1900	1900	1900	35700	36200	24300	14000	5920
24	3500	2200	2000	2000	1900	1900	1900	32000	32000	28100	15600	5620
25	3400	2200	2000	2000	1900	1900	1900	32100	25100	25000	15000	5420
26	3300	2200	2000	1900	1900	1900	1900	29000	24100	24200	15200	5400
27	3200	2200	2000	1900	1900	1900	1900	2100	27000	26000	14600	5400
28	3100	2200	2000	1900	1900	1900	1900	29100	30800	27500	13000	5400
29	3100	2200	2000	1900	1900	1900	1900	29000	29300	26000	13000	5400
30	3000	2200	2000	1900	---	1900	2200	27000	26400	27300	13100	5420
31	2900	---	2000	1900	---	1900	---	27500	---	21400	12400	---
TOTAL	151900	70600	63700	61400	55100	58000	57300	501500	444500	419100	537200	244470
MEAN	4900	2253	2054	1980	1900	1900	1910	16177	3155	24622	17147	7600
MAX	7680	2800	2100	2000	1900	1900	1900	39700	39500	37000	21800	13400
MIN	2600	2200	2000	1900	1900	1900	1900	2700	23000	21400	12000	5400
AC-FT	301300	140000	126300	121800	109700	116000	113700	904700	1477000	1624000	1040000	474000
CAL YR 1967 TOTAL	4157520	MEAN	11395	MAX	76000	MIN	1100	AC-FT	8240000			
WTR YR 1968 TOTAL	3582670	MEAN	9749	MAX	39700	MIN	1000	AC-FT	7100000			

NOTE.--NO GAGE-HEIGHT RECORD NOV. 30 TO JAN. 11.

15-12-413

568544
568544 1007

Day of Month

See references on following pages under

August 15, 1967 76,000 c.f.s. peak

15-12-414

AL 8548
Aug 57 1961

Small reference notes following Section 1.2.

- 144 -

15-12-415

2920. Susitna River at Gold Creek

Location.--Lat 62°46'15", long 149°41'20", on right bank 0.2 mile upstream from Gold Creek, 0.3 mile upstream from Alaska Railroad bridge, 1 mile north of Gold Creek railroad station, and 1.7 miles downstream from Indian River.

Drainage area.--6,160 sq mi, approximately (includes that of Gold Creek).

Records available.--Discharge: August 1949 to September 1959.

Chemical analyses: May 1951 to October 1952, October to November 1953, June to September 1955, June 1956, January to September 1957.

Water temperatures: June to September 1957.

Sediment records: April to September 1952 and June to September 1957 (daily); May 1953 to August 1956 (periodic, summer months only).

Gage.--Water-stage recorder. Datum of gage is 676.50 ft above mean sea level. Prior to June 6, 1957, wire-weight gage at site 0.3 mile downstream at same datum.

Average discharge.--10 years, 9,856 cfs (7,135,000 acre-ft per year).

Extremes.--Maximum discharge during year, 62,300 cfs Aug. 25 (gage height, 15.42 ft); minimum not determined.

1949-59: Maximum discharge, that of Aug. 25, 1959; maximum gage height observed, 24.48 ft May 10, 1954 (ice jam), site then in use; minimum discharge not determined.

Flood in May 1919 reached a stage of 19.2 ft, result of ice jam, from information by Bureau of Reclamation.

Remarks.--Records poor. Large diurnal fluctuation caused by glacier melt at source.

Discharge, in cubic feet per second, water year October 1958 to September 1959

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	5,900								18,100	30,200	25,400	41,000
2	6,200								19,600	27,800	25,000	36,000
3	6,600								22,400	27,400	24,000	*35,000
4	6,400								27,800	25,800	24,000	32,000
5	6,000								28,000	23,000	22,000	27,400
6	5,600							3,400				
7	*5,240								28,000	26,000	19,700	24,600
8	5,100	2,600	1,100	(*)	1,400		1,000		27,000	26,600	18,600	22,600
9	5,200			1,500					26,000	25,000	*16,700	21,300
10	6,400								23,000	23,900	17,000	19,800
11									20,000	21,300	17,600	16,700
12									19,000	19,900	18,800	15,100
13		(*)							18,000	24,300	20,200	13,900
14								7,400	18,100	32,000	21,100	13,200
15									19,200	31,000	22,400	12,700
16	5,300					980			20,400	29,000	23,300	12,400
17									15,000	21,400	*27,200	25,000
18									22,000	22,200	28,000	26,000
19									37,000	23,000	30,000	29,000
20						(*)			39,600	23,000	29,000	38,000
21									34,500	22,000	25,000	41,400
22									29,100	23,000	24,000	40,000
23		1,700	1,900	1,400	1,200		1,500		*26,000	24,000	23,000	31,000
24									23,000	25,000	21,000	40,000
25									25,000	27,000	22,000	59,700
26	3,500								27,000	*27,600	22,200	59,100
27									27,400	25,000	22,000	51,200
28									23,200	23,500	21,000	45,000
29									23,200	23,700	20,600	43,000
30									27,600	25,400	21,400	46,000
31									24,200	29,300	23,600	37,000
									20,400	25,800	39,000	
Total	149,140	64,500	46,900	44,900	36,600	30,380	37,500	495,600	699,700	775,000	966,600	507,710
Mean	4,811	2,150	1,513	1,448	1,357	980	1,250	15,990	23,320	25,000	31,180	16,920
Ac-ft	295,800	127,900	93,020	89,060	72,600	60,260	74,380	933,000	1,388	1,537	1,917	1,007
Calendar year 1958: Max	47,800							Mean 8,890	Ac-ft 6,436,000			
Water year 1958-59: Max	59,700							Mean 10,560	Ac-ft 7,645,000			

* Discharge measurement made on this day.

† Expressed in thousands.

Note.--No gage-height record Oct. 1-6, 8-10, Oct. 17 to May 18, except occasional readings (stage-discharge relation affected by ice during most of periods), May 23-25, June 5-11, 18-24, July 13-15, 17-24, 26, 27, Aug. 2, 3, 9, 16-19, 21-23, Aug. 27 to Sept. 2. Discharge estimated on basis of 10 discharge measurements, weather records, and records for station near Denali, Matanuska River at Palmer, Chulitna River near Talkeetna, and Menana River near Healy.

Location.--Lat 62°46'15", long 149°41'20", on right bank 0.2 mile upstream from Gold Creek, 0.3 mile upstream from Alaska Railroad bridge, 1 mile north of Gold Creek railroad station, and 1.7 miles downstream from Indian River.

Drainage area.--6,160 sq mi, approximately (includes that of Gold Creek).

Records available.--Discharge: August 1949 to September 1959.

Gage.--Water-stage recorder. Datum of gage is 676.50 ft above mean sea level. Prior to June 6, 1957, wire-weight gage at site 0.3 mile downstream at same datum.

Extremes.--Maximum discharge during year, 62,300 cfs Aug. 25 (gage height, 15.42 ft); minimum not determined.

1949-59: Maximum discharge, that of Aug. 25, 1959; maximum gage height observed, 24.48 ft May 10, 1954 (ice jam), site then in use; minimum discharge not determined.

Flood in May 1919 reached a stage of 19.2 ft, result of ice jam, from information by Bureau of Reclamation.

Remarks.--Records poor. Large diurnal fluctuation caused by glacier melt at source.

Day	Oct.
1	45,400
2	45,800
3	45,200
4	45,000
5	45,600
6	45,200
7	45,000
8	45,000
9	4,760
10	4,780
11	4,590
12	4,310
13	4,180
14	4,290
15	4,360
16	4,330
17	4,730
18	3,900
19	3,510
20	3,170
21	3,380
22	2,940
23	2,910
24	2,580
25	3,120
26	3,170
27	3,300
28	3,400
29	3,510
30	3,540
31	3,540

Total 130,120 56
Mean 4,197 1
Ac-ft 258,100 11

Calendar year 1958
Water year 1958

Peak discharge (58,800 cfs) (15 ft) (14.7 ft).

* Discharge measurement made on this day.

Note.--No gage-height record Oct. 1-6, 8-10, Oct. 17 to May 18, except occasional readings (stage-discharge relation affected by ice during most of periods), May 23-25, June 5-11, 18-24, July 13-15, 17-24, 26, 27, Aug. 2, 3, 9, 16-19, 21-23, Aug. 27 to Sept. 2. Discharge estimated on basis of 10 discharge measurements, weather records, and records for station near Denali, Matanuska River at Palmer, Chulitna River near Talkeetna, and Menana River near Healy.

15-12-476

DAILY PRECIPITATION

A-5364
AUGUST 1959

Station	Total	Day of month																																
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31		
SOUTHEASTERN																																		
ANGON	3.00	.05	.03	T	.05	.09	.24	.12	.06	.01				.31	.12	.10	.26		.08	T	T	.37		.39	.26	.01			.01	.07	.30			
ANNETTE WB AP	10.57	T	.02	.80	T	.36	.10	.28						3.13	.50	1.00	.77		T	.06	.01	.08	T	.11	.07	T			1.03	.04	.10			
ANNIS CREEK	13.61	.08	.20	T	.77	.36	3.02	1.50	.86	.35		T		.91	1.08	.03	T		.06	.03	.28	.33		.23	.30				1.35	.18	.02			
BEAVER FALLS	6.59	.15	.09			.19	.27	.29						.40	.39	.00	1.10		.05		.02	.16	.10		.10				.98	.25	.05			
CAPE DECISION	5.70	.08	.00	.10		1.05	.83	.25	.08					.77	.17	.07	.05		.09	.21	.07	.57	.03		.06				.02	.21	.05			
CAPE SPENCER	6.57	.15	T	T	.08	.03	.37	.51	.37	.31			T	.37	.16	.07	.05		.22	.07	T	.56		.28	.39			T	1.12	.16	.00			
ELDORADO	3.27				.10	.33	.61	.32	.33					.59	.10	.10						.11		.25	.73				.53		.15			
FIVE FINGER LGT STA	6.90	.15	.04		.13	.35	.09	.13	.13					.66	.24	.25	.50		.06		.27	.30	.04	.25	.73				.46	.09	.11			
GUARD ISLAND	6.14		.31	.10		.07	.05							.65	.15	.07	.07					.13		.19	.37				.37		.10			
GUSTAVUS FAA	4.99	.07			.07	.20	1.07	.47	.06					.75	.13	.11			.09	.18	.29	.11	.01	.20	.26			.71	.16	.11	.10			
HAINES TERMINAL	1.59	.06		.01	.09	.11	.39	.02	.06					.06	.31	.09	T	T	T		.01	.01		.01	.18				.12	T	.10			
HOLLIS	3.91	.07	.35	.28		.01	.26	.20	.01	T				.57	.11	.27	.35		T	.01	.01	.33	T	.02	T				1.36	.17	.56			
JUNEAU	9.54	.01	.02		.29	.19	1.92	.61	.08	.27				.58	.07	.25	.01		.07	.07	.31	.12		.26	.02				.67	.07	.00			
JUNEAU WB AP	5.79	.03	T	.12	.36	.15	.72	.45	.29	.11				.90	.04	.13	T		.01	.20	.10	.04	T	.20	.16			.12	.67	.08	.49			
KETCHIKAN	11.47	.05	.23	.97	T	.44	.10	.27	T	T				.72	2.80	1.75	1.16	.02	T	.11	T	.35	.14	.25	.46	.38			.95	.33	.01			
LINCOLN ROCK LIGHT STA	7.01		.37	.10		.13	.10	.06	.02	.02				1.66	.31	.75	.27		.11	.08	.52	.04	.01	.27	1.10	.04			.37	.05	.10			
LITTLE PORT WALTER	16.31	.06	.00	.27	.01	2.79	3.76	.13	.08	.01				3.16	1.21	1.63	.18		.01	.01	.05	.16		.16	.08				1.65	.08	.10			
PETERSBURG	8.74	.34	.28	.04	.05	.61	2.01	.59	.31	.08				.67	.03	.06	.22		.09	.01	.07	.39	.02	.15	.93	.07			.67	.05	.27			
POINT RETREAT LIGHT STA	8.74				.20	.50	1.95	.00	.29					.78	.02	.18			.06	.03			.29						2.90	.34	.23			
PORT ALEXANDER	10.72	.17	.36	.18		1.18	.67	.08	.06					2.88	.92	.90			.42	.21	.67	.75	.11	T					.23	1.10	.35			
SITKA FAA	10.01	.11	.21		.12	1.51	1.95	.32	.37	T				.60	.31	.06	T		.22	.21	.67	.75	.11	T					.23	.88	.07			
SITKA MAGNETIC	7.45	.16	.09	.12	.08	.09	2.27	.77	.62	.19				.06	.06	.11			.08	.63	1.15	1.06	.05	.11	.60	.04			.67	.05	.21			
SEAGWAY																																		
TREE POINT LIGHT STA	6.58		.15	1.19		.08	.09	.06						.38	.68	.06	.77													.60	.17			
VRANGELL	7.59	.10	.36	.03	.04	.20	.59	.23	.17	.04	T			.93	.06	.37	.27	T	T		.05	.05	.08	.62	.06	.19	.76	.04	T	.66	1.26	.31		
SOUTH COAST																																		
CAPE MICHIMAROO	6.99				.14	.20		.19						1.55	.15	.81			.12	.55	T	.68	.03	.89	.33	.04		.14	.22	.02		1.45		
COOPER LAKE PROJECT	1.40				.26	.16		.06						.02					T		.01	.15	.63	.09	T		.04	.01	T	.03	.22			
CORCOVA WB AP	1.02	.02		.01	.04	.29		.01	T	T				.01	.01	.01	.02	.03	T	.36	.25	.90	.07	.02	.83	.24		.02	.10	.31	2.29			
KARLUK RIVER	1.61	.35	T																.05	.16	.05	.05		.02	.13	T		.02	.02	T	.05	.19	.36	
KODIAK BAS	3.27	.66	.10		.37	.15								.23	1.50	.16	T												.14	T		.06	.06	
LATOGUE	4.95				.05	.03								.74	1.36	.09	T		.17													.78		
LAY BAY	2.64	.28	.10		.05	.03								.24	.13	.00			.07	.15		.15	.02	.10	.08	.10	.08			.14	T	.39		
SEWARD	1.83	.23			.29	.09	T							.04	.23				.07	T		.29	.03	.11	.08	T	.03	T	T			.03		
SHEARWATER BAY	5.90	.25	.23		.45	.64								.44	2.60	.15	.02		.07	.02		.02	.07	.01	T		T	T		.09		1.03		
VALDEZ	3.62				.31	.26		.30						.67	.30	T			.67	.30	T		.10	.30	.16	T	T	T			.03	.13		
WHITTIER	8.27			.29	.90									.99	.07	.06			.05	.15	.80	.18								.05	2.12			
YAKATAGA FAA	7.90				.43	.15	.01	.01						.09	.01				.08	.10	.24	.08	.64	.13	.49	T	.05	.06		.04	.02	1.00		
YAKUTAT WB AP	7.04	T			.16	T	.98	1.62	T					.15	.58	.01	T		T		.10	.28	.24	.23	.13	.29	.21	.03		.48	.02	.12	1.75	
SOUTHWESTERN ISLANDS																																		
ADAK	4.64		.06	T	.01	T	.13	.04	.94	.09	.29	.01	T	T	T	.16		.18	.12	.04	T	.06	.15	1.09	.30	.10	.05	T	T	.38	.02	.02		
CAPE SARICHEP LGT STA	1.52	.30	.02	T	T	T	T	T	.02					.70	.34	T			.10	.10		.06	.01	.10	T	T	T	T	T	.02	T	.16		
COLD BAY WB AP	2.23	.58	.04	.02	T	T	T	T	.01					.17	.03	.22	.02		.19	.04	.03	T					T	T	T	T	.02	T		
ST GEORGE ISLAND	4.24													.22																				
ST PAUL ISLAND WB AP	5.10	.07	T	T	T	.13	.01	T						.12	.01	.02	.01	.08	.03	.11	.06	.31	.01	.96	.58	.90	1.19	.07	T	T	.01	T		
SHERTA RW	2.75	T	T	.01	.08	.06	.07	.03	.01	.05				.07	T	.12		.04	T	.04	.12	.02	.42	.33	.39	.01	.03	T				.03		
COPPER RIVER																																		
CHITINA	.52				T																													
ELUTNA LAKE	2.70																																	
EUREKA	3.38	.01	.05	.10		.50	.25	.01	.34	T																								
COCKANA FAA	1.57				.25	T	.13																											
STEELE MOUNTAIN	2.55			.27	.41	.08																												
SLARA	4.60				1.13																													
COOK INLET																																		
ANCHORAGE WB AP	3.11	.06	T		.23	T								.01	.17	T			.44	.23	.27	.11	.06	.07	T		.06	T	.29	.17	.56			
ANCHORAGE LGT STA	2.74	.08	T		.23	T								.01	.17	T			.44	.23	.27	.11	.06	.07	T		.06	T	.29					

DAILY PRECIPITATION

CONTINUED

ALASKA
AUGUST 1999

Station	Total	Day of month																															
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
INTERIOR BASIN																																	
ANATYUK PASS	1.91			.02						.04							.02	.14	.03	.10	.15	.04	.02	.04	.09	.01	T	.04		.13	.02	.01	
BETTES FFA AP	1.23																T	T	.01	.04	.01	.02	.14	.05			.23	T	.23	.19			
BIE DELTA FFA	1.72	.02	.14				.04		.03	.05							T		.07	.07					.29		.12	.22	.25	.25			
CIRCLE HOT SPRINGS	1.27	.11	T		T	T				.05									.11	T						T		.04	.24	.04	T		
COLLIE MAG DRS	2.14			.04					.08								.03	.04	.14	.28	.02	.09		.37	.02	T	.05	.21	.39	.39			
EAGLE	.09			.14							.10									.14				.11	.04	.08							
ELLISON FIELD	1.44	T	.01				.02										T		.09	.12	T		.01	.10	.09		.04	.25	.43	.10			
FAIRBANKS WB AP	1.81		.01				.03										T		.02	.09	.14	.04	.01	.11	T	T	.26	.25	.34	.04	T		
FAREWELL FFA	9.03									T	T						T		.02	.04	.02	.04	T	.28	.33	1.01	.47	.09	.27	.21	.04	.27	
FORT YUKON FFA	.34	.02		.02						T	T								.21	.14							.05	.03	.01				
GALENA	2.30	.01								T	T						.04		.01	.35	.05					.04	.20	.25	.10	.04	.14		
HUGHES	5.84																		.03	1.40	.27	T	.89	1.20	.24	.12	.04						
LADD AIR FORCE BASE	1.52		T	T			.03										T		.03	.04	.27	T	.02	.34	T		.13	.14	.32	.04	T		
LAKE KINCHIKINA FFA	3.05			T						.01									.34	.04	.04	.22	T	.24	.03	.29	T	.41	.01	.04	.03	.55	
MANLEY HOT SPRINGS	2.24									T									.12	1.00	.13	T	T	.05			.44				T		
MC GRATH WB AP	3.20						T		T	T							T	.03		.35	.15	.02		.70	.09	.72	.04	.38	.18	.28	T	.14	
MC EINHART PAVE	7.97	T		.05	T		.18		T	T							.19		.31	.11	T	T	.07	.75	.23		.37	.39	.15	.10	.02		
MONTANA FFA	2.53																		.04	.04	.04	.04	.04	.04	.04	.04	.04	.04	.04	.04	.04	.04	
NORTHWAY FFA AP	3.40	.12	.07	.03	T	.03	.01		T	T							T	.14		.09		.05	.17		.11	.04	.05		.08	.07			
SUNNIT FFA	3.44	T		.14					T	T							T		.03	.04	.35	.17	.13	.12	.52	.08	.07		.04	.24	.01	.04	
TANANA FFA	3.74								T	T									.12	.13	1.15	.04	.37	.01	.37	.01		.04	.22	.10	.09	.07	
THE GRACIOUS HOUSE	3.57	T		.04					T	T							T		.12	.13	1.15	.04	.37	.01	.37	.01		.04	.22	.10	.09	.07	
TRIN CAMP	3.43	.03	.01	.13	T		.01	.02		.02	T						.01	.07	.14	.02	T	.04	.02	T	.03	.79	.04	.20	.01	.04	.43	.02	.17
WILLOW LAKES STA	1.44	.03	.03	.03															.07	T	.33	.14	.14	.17	T	.52	T		T	.20			
ARCTIC DRAINAGE																																	
BARROW WB AP	1.14		T		T				.27	.42	.02	T					T	T	T	T		T	T	T	.11	T	T		.21	.17	T		
BARTER ISLAND WB AP	1.44		.01	.14	.14	T			.37	.34	.14	T					T	T	T	T		T	T	.05	.04	.05		.01	.13	T			
CAPE LISBURNE	1.89						T	T			.01	T					.03	T	T	T		.01		.34	.38	T	T	.17	.01	.11	.57	.11	
KOTZEBUE WB AP	1.90						T	.09			T						T	.03						.02	.70	.04	.01		.09	.09	T	.14	.21

SUPPLEMENTAL DATA

Station	Wind direction		Wind speed m. p. h.				Relative humidity averages percent				Number of days with precipitation							Percent of possible sunshine	Average sky cover	Sunrise to sunset
	Prevailing	Percent of time from prevailing	Average	Fastest mile	Direction of fastest mile	Date of fastest mile	2:00 A.M. 150th M.T.	8:00 A.M. 150th M.T.	2:00 P.M. 150th M.T.	8:00 P.M. 150th M.T.	Trace	01-09	10-49	50-99	100-199	200 and over	Total			
ANCHORAGE WB AIRPORT	S	13	6.6	→28	S	18	84	77	66	78	8	9	4	2	0	0	23	40	8.2	
ANNETTE WB AIRPORT	SSE	17	9.1	→31	SSE	5	90	80	71	84	5	3	8	3	2	1	22	-	7.9	
BARROW WB AIRPORT	E	27	12.9	31	NE	23+	95	93	88	92	14	1	5	0	0	0	20	-	8.7	
BARTER ISLAND WB AIRPORT	E	30	12.7	→32	E	13	95	93	88	91	7	5	5	1	0	0	18	-	8.5	
BETHEL WB AIRPORT	SSW	17	14.1	→36	SSW	26+	89	88	64	73	6	4	5	3	0	0	20	-	7.7	
COLD BAY WB AIRPORT	W	16	19.9	→51	SE	24	92	92	82	89	14	10	5	1	0	0	30	-	9.4	
CORDOVA WB AIRPORT	ESE	9	3.6	→23	ESE	31	90	82	72	86	3	11	7	2	0	1	24	-	8.5	
FAIRBANKS WB AIRPORT	N	13	6.3	→24	SW	19	90	76	55	69	5	7	5	0	0	0	17	-	7.7	
JUNEAU WB AIRPORT	ESE	24	10.4	→38	ESE	6	92	86	73	84	3	5	13	3	0	0	24	25	8.4	
KING SALMON WB AIRPORT	SW	22	12.2	→39	ESE	12	94	90	71	82	9	7	8	0	0	0	24	-	8.3	
KOTZEBUE WB AIRPORT	W	13	11.0	→35	ESE	26	88	87	78	81	4	10	2	1	0	0	17	-	8.2	
MC GRATH WB AIRPORT	SSW	7	5.5	→17	SW	23+	86	78	55	64	5	4	7	2	0	0	18	-	7.9	
ROME WB AIRPORT	SW	13	10.8	→30	NW	28+	86	83	72	76	8	4	4	1	0	0	17	59	8.2	
ST PAUL ISLAND WB AIRPORT	-	-	-	-	-	-	96	95	89	94	9	10	5	3	1	0	28	-	9.0	
YAKUTAT WB AIRPORT	E	15	7.8	→29	ESE	31	94	84	76	91	5	2	12	2	2	0	23	-	8.4	

→ FASTEST OBSERVED ONE MINUTE WIND SPEED. THIS STATION IS NOT EQUIPPED WITH AUTOMATIC RECORDING WIND INSTRUMENTS.

15-12-418

2920. Susitna River at Gold Creek

Location.--Lat 62°46'15", long 149°41'20", on right bank 0.2 mile upstream from Gold Creek, 0.3 mile upstream from Alaska Railroad bridge, 1 mile north of Gold Creek railroad station, and 1.7 miles downstream from Indian River.

Drainage area.--6,160 sq mi, approximately (includes that of Gold Creek).

Records available.--Discharge: August 1949 to September 1958.

Chemical analyses: May 1951 to October 1952, October to November 1953, June to September 1955, June 1956, January to September 1957.

Water temperatures: June to September 1957.

Sediment records: April to September 1952 and June to September 1957 (daily); May 1953 to August 1956 (periodic, summer months only).

Gage.--Water-stage recorder. Datum of gage is 676.50 ft above mean sea level. Prior to June 6, 1957, wire-weight gage at site 0.3 mile downstream at same datum.

Average discharge.--9 years, 9,778 cfs (7,079,000 acre-ft per year).

Extremes.--Maximum discharge during year, 49,600 cfs Aug. 3 (gage height, 14.74 ft); maximum gage height, 14.91 ft Dec. 21 (ice jam); minimum discharge not determined.

1949-58: Maximum discharge observed, 58,100 cfs Aug. 26, 1955 (gage height, 14.20 ft), site then in use; maximum gage height observed, 24.48 ft May 10, 1954 (ice jam), site then in use; minimum discharge not determined.

Flood in May 1919 reached a stage of 19.2 ft, result of ice jam, from information by Bureau of Reclamation.

Remarks.--Records poor. Large diurnal fluctuation caused by glacier melt at source.

Discharge, in cubic feet per second, water year October 1957 to September 1958

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	12,600	5,300	4,000	2,300	1,400		1,100	3,420			36,800	
2	10,800	5,200	4,100	2,400	1,400		1,100	4,040			42,900	
3	10,400	5,100	4,200	2,400	1,400		1,200	4,170			47,800	
4	10,000	5,000	4,300	2,500	1,400		1,200	5,110			47,100	
5	9,500	4,900	4,400	2,500	1,400		1,200	5,550			36,000	
6	9,500	4,800	4,400	2,500	1,500		1,300	5,500			29,100	
7	9,430	4,600	4,400	2,500	1,500		1,300	6,100			28,600	
8	9,870	4,400	4,300	2,400	1,500	1,200	1,400	7,010			27,000	
9	9,740	4,270	4,200	2,200	1,400		1,400	7,760			25,000	
10	9,610	4,360	4,100	2,100	1,400		1,300	9,080	28,000		24,000	
11	9,340	4,320	4,000	2,000	1,300		1,300	9,430			23,000	
12	8,880	4,230	3,800	1,900	1,300		1,300	10,800		22,000	22,000	
13	7,770	3,910	3,700	1,800	1,300		1,300	10,400			21,900	
14	6,840	3,720	3,500	1,800	1,300		1,400	12,000			21,200	
15	6,610	3,740	3,400	1,800	1,300		1,400	11,200			21,000	
16	6,740	3,740	3,260	1,800	1,300		1,400	11,000			20,000	
17	6,900	3,930	3,110	1,800	1,300		1,500	10,500			19,000	
18	7,220	3,820	3,000	1,900	1,200		1,500	10,000			18,000	
19	7,540	3,680	2,900	1,900	1,200		1,500	12,000			18,000	
20	7,610	3,520	2,700	2,000	1,200		1,500	13,800	19,000		18,000	
21	7,990	3,280	2,600	2,000	1,200		1,400	17,000			18,000	
22	8,380	3,090	2,500	1,900	1,200		1,400	23,000			17,000	
23	9,000	2,900	2,400	1,800	1,200		1,400	25,000			16,000	
24	8,600	2,900	2,300	1,700	1,200	1,100	1,500	23,000			15,000	
25	7,400	2,900	2,300	1,700	1,200		1,700	23,000		21,000	14,000	
26	6,500	3,000	2,200	1,600	1,200		1,900	22,000	22,000		13,000	
27	6,200	3,200	2,200	1,600	1,200		2,100	19,000		19,000	13,000	
28	6,000	3,400	2,200	1,500	1,200		2,360	17,000		24,000	12,400	
29	6,200	3,600	2,200	1,500			2,620	17,000		23,000	12,000	
30	5,800	3,800	2,200	1,500			3,020	20,400		31,800	11,000	
31	5,400		2,300	1,500				25,000		32,400	11,000	
Total	254,570	118,610	101,170	60,900	36,600	35,600	46,000	399,770	771,000	709,200	698,800	226,500
Mean	8,212	3,954	3,264	1,955	1,307	1,148	1,533	12,900	25,700	22,880	22,540	7,550
Ac-ft	504,900	235,300	200,700	120,800	72,600	70,610	91,240	792,900	1,529	1,407	1,386	449,300
Calendar year 1957: Max	40,600											
Water year 1957-58: Max	47,800											
Calendar year 1957: Min	-											
Water year 1957-58: Min	-											
Calendar year 1957: Mean	10,760											
Water year 1957-58: Mean	9,476											
Calendar year 1957: Ac-ft	7,789,000											
Water year 1957-58: Ac-ft	6,860,000											

* Discharge measurement made on this day.

† Expressed in thousands.

‡ No gage-height record; discharge estimated on basis of 4 discharge measurements, weather records, and records for station near Denali, Matanuska River at Palmer, Nenana River near Healy, and Chulitna River near Talkeetna.

Note.--Stage-discharge relation affected by ice Oct. 1 to May 10 (no gage-height record Oct. 4-6, Oct. 24 to Nov. 7, Nov. 23 to Dec. 15, Jan. 18-28, Mar. 1 to Apr. 1; discharge estimated on basis of 5 discharge measurements, weather records, and records for station near Denali, Matanuska River at Palmer, and Nenana River near Healy).

Location.--
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Drainage ar

Records av

Gage.--Wat

Extremes.--

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Day Oct.

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† Result

‡ Expres

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Nenana Riv

DAILY PRECIPITATION

CONTINUED

ALASKA
DIVISION OF
METEOROLOGY

Station	Total	Day of month																															
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
PETERSBURG	8.71	.39	.09	.10	.28	1.01	.34	.37	.26	.05	.10	.08	.08	.04	.70	1.00	.14	.29	.19	.17	.31	.17	.13	.04	.01	.01	.01	.01	.01	.01	.01	.01	
POINT BREWSTER LIGHT STA	6.63	.03	.13	.13	1.07	1.15	.01	.22	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01	
PORT ALEXANDER	18.41	.38	.10	.13	3.82	.38	2.85	.60	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01	
SITKA CAA	8.29	.04	.36	.07	.44	.17	.58	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01	
SITKA MAGNETIC	8.09	.21	.17	.07	.21	.24	.29	.49	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01	
STRAYWAY	6.70	.13	.10	.10	.38	.33	.34	.38	.13	.13	.03	.04	.04	.04	.07	1.17	.40	.16	.07	.32	.09	.16	.16	.16	.16	.16	.16	.16	.16	.16	.16	.16	
WRENGELL																																	
PACIFIC COAST																																	
BEAR COVE	-	.09	T	.06	.49	.28	T	.09	.05	.05	1.29	.11	1.32	.34	T	T	T	.11	.55	.01	1.33	.37	2.67	6.17	2.27	.07	T	T	T	T	T	T	
COROVUA	30.10	.18	2.89	.00	2.40	1.05	.14	T	1.80	.05	.05	1.40	.11	1.32	.34	T	T	.11	.55	.01	1.33	.37	2.67	6.17	2.27	.07	T	T	T	T	T	T	
COROVUA WB AP	11.05	.29	1.18	1.18	.18	.27	.01	T	.29	.48	.01	.12	.74	.20	.67	.08	T	.09	.04	.13	.64	T	1.15	2.17	1.20	.83	T	T	T	T	T	T	
GRODWOOD	2.91	.33	.61	.23	T	.12	T	.05	T	.35	.03	.01	.05	.22	.07	T	T	.16	.02	T	T	.05	.12	.74	.08	.01	T	T	T	T	T	T	
HOMER CAA	2.89	.02	.23	.93	.12	T	.05	T	.13	.01	1.01	.05	T	.07	.01	.11	.06	T	.08	.02	T	.05	.12	.74	.08	.01	T	T	T	T	T	T	
HOMER 3 WB	3.24	.03	.34	.39	.25	T	.05	T	.13	.01	1.01	.05	T	.07	.01	.11	.06	T	.08	.02	T	.05	.12	.74	.08	.01	T	T	T	T	T	T	
INTSEIN	16.48	.35	.04	.30	.68	.10	T	.44	.15	1.30	1.30	1.05	.22	.12	.08	.08	.08	.08	.08	.08	.08	1.67	1.60	.20	.79	.14	.14	.14	.14	.14	.14	.14	
KARLUK RIVER	2.60	.03	.14	.26	.19	.01	.06	.11	.11	.13	.31	.11	.06	.01	.08	.08	.08	.08	.08	.08	.08	.08	.08	.08	.08	.08	.08	.08	.08	.08	.08	.08	
KASLOO	2.53	.21	.04	.13	.24	.10	.02	.35	T	.44	T	.20	.21	.20	.20	.20	.20	.20	.20	.20	.20	.20	.20	.20	.20	.20	.20	.20	.20	.20	.20	.20	
KENAI CAA	3.61	.30	.36	.16	.01	.01	.08	.19	.12	.75	T	.04	T	T	T	T	T	.36	.74	.01	.01	.87	.64	.14	.57	.07	T	T	T	T	T	T	
KIDDI BAY	5.95	.38	.14	.48	.15	.30	.04	.18	.04	.10	T	1.20	T	T	T	T	.36	.74	.01	.01	.87	.64	.14	.57	.07	T	T	T	T	T	T	T	
KODIAK NAS	5.44	.11	T	.82	.09	T	.25	.01	.09	.03	1.16	.26	.01	.30	.08	.01	.30	.08	.01	.30	.08	.01	.30	.08	.01	.30	.08	.01	.30	.08	.01	.30	.08
LAKESIDE	19.32	.09	1.39	1.25	.63	.14	.63	.14	.63	.14	.63	.14	.63	.14	.63	.14	.63	.14	.63	.14	.63	.14	.63	.14	.63	.14	.63	.14	.63	.14	.63	.14	.63
LETOUCHER	4.49	T	.59	.85	.27	.18	.04	.31	.01	.02	.03	.27	.42	T	T	T	.07	.38	T	.08	.51	.27	.67	1.31	.88	.09	T	T	T	T	T	T	
MIDDLETON ISLAND CAA	6.22	.02	.41	.22	.05	.19	.13	.04	T	.14	.15	.11	.37	.82	.49	.09	.34	T	.08	.51	.27	.67	1.31	.88	.09	T	T	T	T	T	T	T	
SEWARD	6.78	.05	.20	.23	.05	.08	T	.14	.15	.11	.37	.82	.49	.09	.34	T	.08	.51	.27	.67	1.31	.88	.09	T	T	T	T	T	T	T	T	T	
SHEPHERD BAY	3.39	.08	.16	.04	.13	.35	.08	T	.14	.15	.11	.37	.82	.49	.09	.34	T	.08	.51	.27	.67	1.31	.88	.09	T	T	T	T	T	T	T	T	
STERLING	6.82	.04	1.66	1.18	.13	.12	.15	.10	.25	.15	.10	.37	T	.64	.07	.18	.86	.10	.10	.18	.25	.32	.63	.43	.43	.43	.43	.43	.43	.43	.43	.43	
WALDEE	21.94	.13	2.00	.90	1.30	.85	.11	.85	1.00	.95	1.30	1.98	1.01	.44	1.44	.12	.12	.32	.30	7.00	.37	2.00	.87	.34	.34	.34	.34	.34	.34	.34	.34	.34	
WHITTIER	10.39	T	.28	.48	.48	1.16	.01	T	.05	.14	T	.07	.45	.65	.23	T	.44	1.79	.37	.09	1.59	1.20	.23	.20	.07	.07	.07	.07	.07	.07	.07	.07	
YAKATAGA CAA	9.74	.05	T	.58	1.76	1.12	.24	.63	.28	.19	.10	.39	.90	.73	.11	T	.84	.24	T	.04	.12	.67	.38	.01	.08	T	T	T	T	T	T	T	
YAKUTAT WB AP																																	
SOUTHWESTERN ISLANDS																																	
ADAK	1.37	.41	.09	.04	.08	T	T	.07	.40	.11	T	T	T	T	T	T	T	T	.07	.16	.08	.04	T	T	T	T	.03	T	T	T	T	T	
CAPE SARICHEP LGT STA	4.91	.80	.30	.04	.15	T	T	.30	T	1.40	T	T	T	T	T	T	T	T	T	.30	1.70	T	T	T	T	T	T	T	T	T	T	T	
COLD BAY WB AP	5.39	1.99	.21	.14	.02	T	.07	.06	.05	.02	.03	T	.08	.09	.18	.40	.01	.34	.37	.04	.57	.35	.04	.13	.08	.01	T	T	T	T	T	T	
ST GEORGE ISLAND	3.72	.18	.04	.14	.32	T	.03	.11	.04	.03	.11	.32	.18	.04	.03	.11	.32	.18	.04	.03	.11	.32	.18	.04	.03	.11	.32	.18	.04	.03	.11	.32	.18
ST PAUL ISLAND WB AP	5.42	.12	.01	.48	.01	T	.03	.20	.03	.05	.18	.15	T	T	T	T	.03	T	.02	.17	.13	.31	.04	.17	.09	T	T	T	T	T	T	T	
SHENYA HOU	1.39	.01	.01	T	T	T	T	.04	.04	T	T	T	T	T	T	T	.10	.13	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01
SOUTHERN VALLEYS																																	
ANCHORAGE WB AP	1.87	.21	.45	.04	.28	.20	.01	.05	.01	.23	T	T	.07	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	
ANCHORAGE E LSL	2.81	.25	.41	.14	.11	.18	.03	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01	
ANIKAE CAA	7.20	.22	.03	.11	.11	.18	.03	.01	.36	T	.78	.02	.14	.36	.15	.01	.48	.20	T	.07	.04	.11	.23	.11	T	T	T	T	T	T	T	T	
BETHEL WB AP	3.39	.07	.08	.03	.07	.05	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01	
BROOKS LAKE	5.01	T	.60	T	.18	.65	.05	.01	.03	.21	.03	.82	.32	.23	.02	.02	.02	.02	.02	.02	.02	.02	.02	.02	.02	.02	.02	.02	.02	.02	.02	.02	.02
CASWELL	4.92	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	
CHITINA	1.15	.28	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	
ELLUTNA LAKE	1.09	.34	.06	.05	.04	.04	.04	.04	.04	.04	.04	.04	.04	.04	.04	.04	.04	.04	.04	.04	.04	.04	.04	.04	.04	.04	.04	.04	.04	.04	.04	.04	
ELLUTNA PROJECT	1.04	.15	.23	.27	T	.01	.23	.15	.11	.04	.02	.12	.02	.12	.02	.12	.02	.12	.02	.12	.02	.12	.02	.12	.02	.12	.02	.12	.02	.12	.02	.12	.02
ELLENHOF AF BASE	2.18	.35	.63	.02	T	.23	.05	.01	.04	.27	.01	.12	T	T	T	T	.01	.02	.01	.02	.01	.02	.01	.02	.01	.02	.01	.02	.01	.02	.01	.02	.01
EUREKA LODGE	1.07	.07	.07	.07	.07	.07	.07	.07	.07	.07	.07	.07	.07	.07	.07	.07	.07	.07	.07	.07	.07	.07	.07	.07	.07	.07	.07	.07	.07	.07	.07	.07	.07
FAIRWELL CAA	4.39	.09	.89	.01	.08	.52	.33	.22</																									

ALASKA
JULY 1998

ALASKA
JULY 1998

See references atop following Station Index

15-12-421

ALASKA WEST OF LONGITUDE 141°

127

Susitna River at Gold Creek--Continued

Discharge, in cubic feet per second, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1									17,400	19,000	22,000	23,500
2									18,700	19,000	21,000	22,500
3									16,500	37,000	20,000	22,500
4									17,500	34,000	19,000	20,900
5									18,700	32,000	18,000	19,500
6									19,700	*30,500	17,400	18,700
7	6,500								20,700	28,000	17,100	16,600
8									22,800	26,500	18,800	16,800
9		3,000	2,200	2,000	1,400			4,500	26,200	28,000	20,800	17,200
10									30,600	31,000	25,800	16,000
11									37,100	32,000	*28,400	15,300
12									35,500	31,600	27,700	14,800
13									33,400	28,100	26,400	14,400
14	*5,660								32,800	22,700	24,000	13,900
15									31,500	24,200	22,500	13,600
16						1,100	1,200		31,100	24,200	20,700	13,700
17									33,700	23,200	15,400	13,600
18									35,900	21,100	13,600	13,100
19		*2,500						9,600	16,500	21,000	14,100	12,600
20								11,600	16,900	20,400	16,200	11,600
21									12,800	17,500	20,200	18,900
22									14,100	37,500	21,000	21,300
23	4,600				1,400				16,800	33,700	23,500	24,100
24									19,500	32,900	25,200	33,600
25		2,500	1,900	1,600	(*)			(*)	15,000	32,900	27,600	54,500
26									17,400	32,000	29,600	56,900
27									17,500	31,000	29,200	53,700
28									17,600	32,900	28,600	42,000
29									17,600	36,000	27,300	35,200
30									17,600	38,000	26,000	28,800
31									17,600	23,000	23,800	8,600
Total	166,460	82,800	63,400	55,600	39,200	34,100	36,000	288,900	895,800	854,300	794,300	428,650
Mean	5,370	2,760	2,045	1,794	1,400	1,100	1,200	9,319	29,860	27,560	25,750	14,290
Ac-ft	350,200	164,200	125,800	110,500	77,750	67,640	71,400	573,000	1,777	1,694	1,583	850,200
Calendar year 1954:	Max	6,500	Min	1,400	Mean	10,260	Ac-ft	7,058,000	* Expressed in thousands.			
Water year 1954-55:	Max	56,900	Min	1,400	Mean	10,260	Ac-ft	7,424,000				

* Discharge measurement made on this day.

Note.--No gage-height record Oct. 1 to May 16 except occasional readings, June 26, 27, June 29 to July 5, July 9-11, July 30 to Aug. 5; discharge estimated on basis of 5 discharge measurements, weather records, and records for Nenana River near Healy and Matanuska River at Palmer. Stage-discharge relation affected by ice from about Nov. 1 to May 18.

Discharge, in cubic feet per second, water year October 1955 to September 1956

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	8,340							1,500	20,100	27,400		
2	8,600							1,800	20,100	28,400		
3	7,840							2,600	22,600	28,900		
4	7,120							4,000	24,200	29,400	31,000	
5	6,610							5,800	25,600	29,900		16,000
6									28,800	27,200	29,800	
7									30,000	33,800	29,800	*30,600
8									31,000	49,100	29,800	30,800
9									32,000	51,500		
10									33,000	49,100		
11									33,000	46,400		
12									34,000	44,800		
13									35,000	43,600		
14									36,000	42,800		
15									37,000	39,800		
16									38,000	38,300	32,000	
17									39,000	35,700		
18									40,000	34,000		
19									41,000	33,200		
20									42,000	31,600		
21									43,000	30,800		
22									44,000	29,700		
23									45,000	28,800		
24									46,000	28,000		
25									47,000	27,500		
26									48,000	26,900		
27									49,000	26,300		
28									50,000	25,700		
29									51,000	25,100		
30									52,000	24,500		
31									53,000	23,900		
Total	153,470	57,000	40,300	30,360	28,130	29,140	28,500	547,600	1,000,300	983,800	760,500	550,000
Mean	4,951	1,800	1,300	980	900	940	950	17,660	33,340	31,090	24,530	18,350
Ac-ft	304,400	113,100	79,930	60,260	55,800	57,800	56,530	1,086	1,984	1,912	1,508	1,091
Calendar year 1955:	Max	56,900	Min	1,400	Mean	10,090	Ac-ft	7,302,000	* Expressed in thousands.			
Water year 1955-56:	Max	51,500	Min	1,400	Mean	11,450	Ac-ft	8,309,000				

* Discharge measurement made on this day.

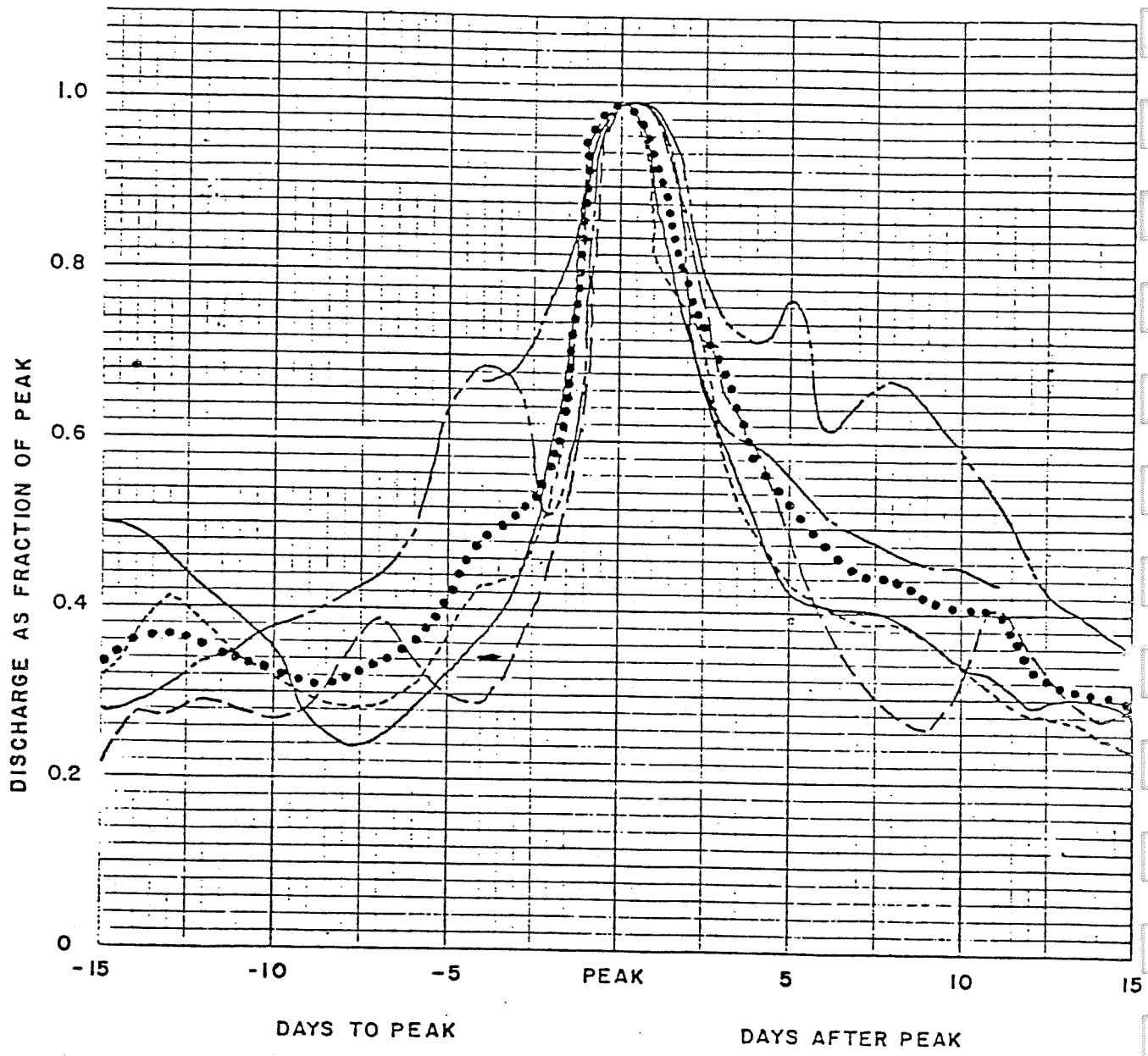
b Stage-discharge relation affected by ice.
Note.--No gage-height record Oct. 27, 29, Oct. 31 to May 1, May 3-5, except occasional gage readings (stage-discharge relation affected by ice during entire period), July 9-24, July 26 to Aug. 6, Aug. 9-20, Aug. 22 to Sept. 30; discharge estimated on basis of 6 discharge measurements, weather records, and records for Nenana River near Healy and Matanuska River at Palmer.

15-12-422

ALL INFORMATION CONTAINED
HEREIN IS UNCLASSIFIED
DATE 05-17-1991 BY 60322 UCBAW

See reference above following station index.

15-12-423



SUSITNA RIVER AT GOLD CREEK

LEGEND

	Date	Peak Discharge (cfs)
.....	Median Curve	
————	Aug 26, 1955	56,900
— · — · —	Aug 3, 1958	47,800
— · — · —	Aug 24, 1959	59,700
— · — · —	Aug 15, 1967	76,000
— · — · —	Aug 10, 1971	77,700

APR 1981

ALASKA POWER AUTHORITY
SUSITNA HYDROELECTRIC PROJECT

FLOOD STUDIES

DIMENSIONLESS HYDROGRAPHY

AUG - OCT 15-12-42

R&M

R&M CONSULTANTS, INC.

ENGINEERS GEOLOGISTS PLANNING SURVEYORS

MARCH 1981

MONTHLY MAXIMUM DEW POINT TEMPERATURES
ANCHORAGE, ALASKA
1950 - 1981
FROM N.W.S.

<u>Month</u>	<u>Year</u>	<u>24-Hour Average</u>	<u>12-Hour Average</u>
May	1974	45	48
June	1969	54	56
July	1979	57	59
August	1977	59	62
September	1979	54	55

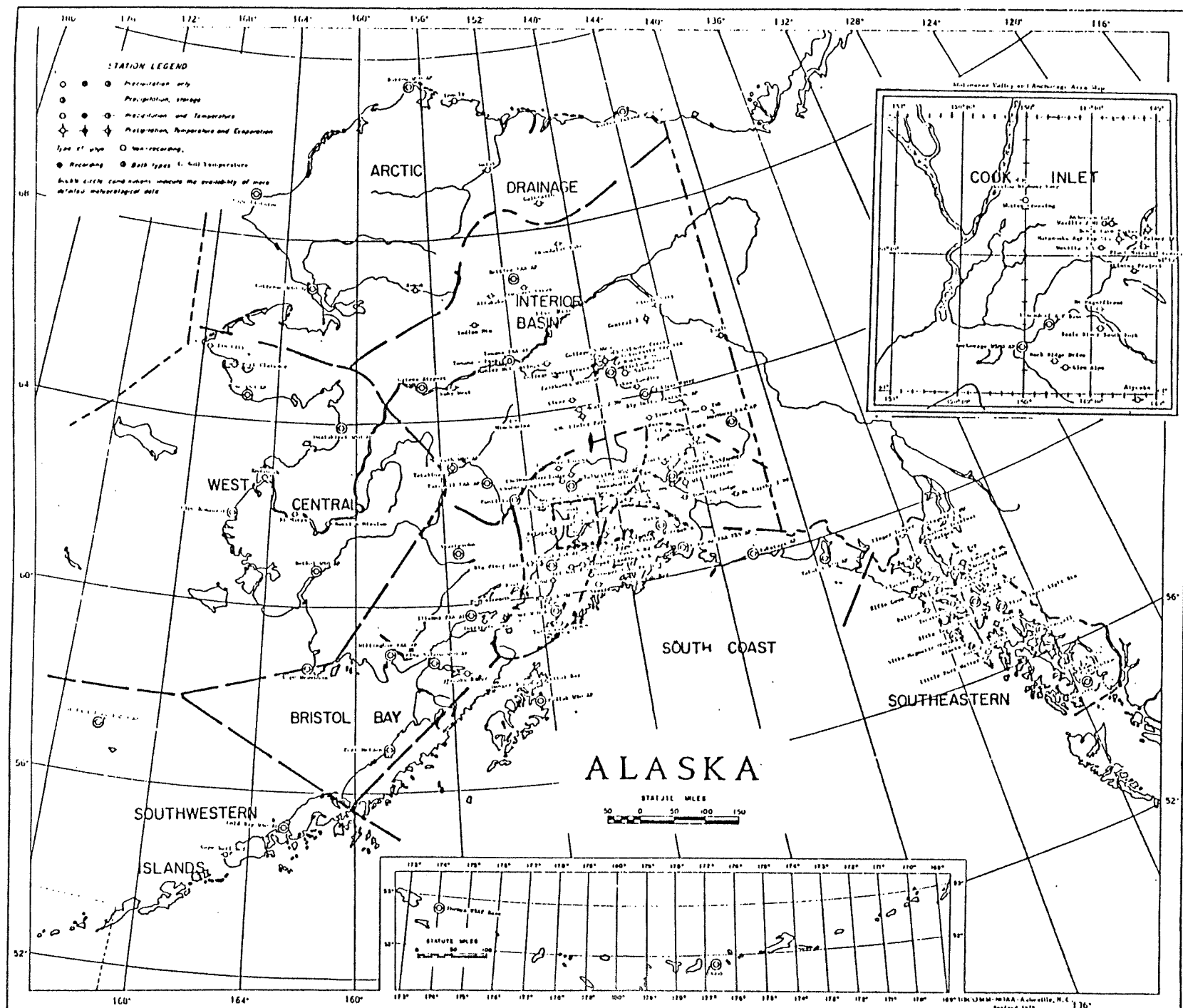
15-12-425

TABLE 1

SUMMER 1980 PEAK DISCHARGES

Gold Creek			Watana Damsite			Susitna River nr. Cantwell (Vee Canyon)		
Mean Daily Discharge (cfs)	Instantaneous Discharge (cfs)	Estimated Time of Peak (hr)	Mean Daily Discharge (cfs)	Instantaneous Discharge (cfs)	Estimated Time of Peak (hr)	Mean Daily Discharge (cfs)	Instantaneous Discharge (cfs)	Estimated Time of Peak (hr)
38,400	39,500	1030	30,600	31,300	0615	23,800	24,000	18
49,700	52,000	0430	35,900	37,000	0600	27,900	28,500	08
28,000	30,500	0500	24,200	25,300	1220	17,400	18,000	16

15-12-456



U.S. DEPARTMENT OF COMMERCE
NATIONAL CLIMATIC CENTER
FEDERAL BUILDING
ASHEVILLE, N.C. 28801

POSTAGE AND FEES PAID
U. S. DEPARTMENT OF COMMERCE
COM 210



THIRD CLASS
BULK RATE

CD-50-PD

-8203

R & M CONSULTANTS INC
P O BOX 6087
ANCHORAGE, AK

99503

15-12-428

STATION INDEX

ALASKA
JULY 1980

STATION	INDEX NO.	DIVISION	DIVISION	DRAINAGE	LATITUDE	LONGITUDE	ELEVATION	OBSERVATION TIME AND TABLES				OBSERVER
								TEMP.	PRECIP.	EVAP.	SPECIAL NOTE(S)	
TOK	9313	08	INTERIOR BSN		63 21	143 02	1620	5P	5P		H	GEORGE JACOBS
TONSINA LODGE	9385	04	COPPER RIVER		61 39	145 11	1500	9A	9A		H	MRS ORLA BRUSS
TRI-NAL ACRES	9421	05	COOK INLET		60 33	150 32	325	6P	6P		H	NELSON C ESHLEMAN
TUTKA BAY LAGOON	9460	05	COOK INLET		59 26	151 25	20	9A	9A		H	AK DEPT FISH & GAME
UMIAT	9539	09	ARCTIC DRAIN		59 22	152 08	266	9P	9P		H	UMIAT ENTERPRISES INC
UNALAKLEET WSO AP	9564	07	WEST CENTRAL		53 53	160 48	15	2P	2P		H	NATL WEATHER SERVICE
UNIVERSITY EXP STATION	9641	08	INTERIOR BSN		54 51	147 52	475	5P	5P	SP	H	GENE S DINKEL
VALDEZ WSO	9686	02	SOUTH COAST		61 08	146 21	23	MID	MID		H	NATL WEATHER SERVICE
WALES	9739	07	WEST CENTRAL		55 37	168 03	9	2P	2P		H	WEATHER OBSERVER USNF
WASILLA 3 S	9759	05	COOK INLET		61 32	149 26	50	5P	5P		H	HAROLD DINKEL
WASILLA 2 NE	9765	05	COOK INLET		61 37	149 24	500	6P	6P		H	KEITH POPPERT
WHITE'S CROSSING	9790	05	COOK INLET		61 42	150 00	270	4P	4P		H	MRS NATALIE NORRIS
WILLOW HIGHWAY CAMP	9864	05	COOK INLET		61 46	150 03	230	7A	7A		H	STATE HIGHWAY DEPT
WORTMAN'S	9911	02	SOUTH COAST		61 07	145 49	600	6P	6P		H	JIM SHEPARD
WRANGELL	9919	01	SOUTHEASTERN		55 28	132 23	37	4P	4P		H	AVIATION WEATHER OBS
YAKATAGA AP	9930	02	SOUTH COAST		62 05	142 30	27	2P	2P		H	ANNA MAE PLUMLEE
YAKUTAT WSO AP	9941	02	SOUTH COAST		59 31	139 40	28	MID	MID		HJ	NATL WEATHER SERVICE
CLOSED STATIONS												
FAREWELL FAA AP	2988	08	INTERIOR BSN		62 31	153 53	1499	2P	2P		H	CLOSED 02/01/78
MOOSE PASS 6 NW	5895	02	SOUTH COAST		61 32	149 31	659	7P	7P		H	CLOSED 02/01/80
RUBY WEST	8044	09	INTERIOR BSN		61 45	155 29	200	8A	8A		H	CLOSED 03/01/77
NEW STATIONS												
TAHNETA PASS	8945	05	COOK INLET		61 49	147 33	2620	9P	9P		H	DONNA HOLLAND

SEE REFERENCE NOTES FOLLOWING STATION INDEX

15-12-429

REFERENCE NOTES

Additional information regarding the climate of Alaska may be obtained by writing to the National Oceanic and Atmospheric Administration, National Climatology at 632 Sixth Avenue, Anchorage, Alaska 99501 or to any Weather Service Office near you.

DIMENSIONAL UNITS: Unless otherwise indicated, dimensional units used in this bulletin are: Temperature in °F, precipitation and evaporation in inches, wind movement in miles. Monthly degree day totals are the sums of the negative departures of average daily temperatures from 65°F. In "Supplemental Data" table directions entered in figures are tens of degrees. Resultant wind is the vector sum of wind directions and speeds divided by the number of observations.

OBSERVATION TIME: Data in the "Monthly Extremes", "Daily Precipitation" table, "Daily Temperature" table, and "Evaporation and Wind" table, and snowfall in the "Snowfall and Snow on Ground" table, when published, are for the 24 hours ending at time of observation. The Station Index shows observation time local standard time. Snow on ground in the "Snowfall and Snow on Ground" table is at observation time for all except National Weather Service Offices, FAA stations. For Weather Service Offices and FAA stations snow on ground values are at 8:00 a.m. All Weather Service Offices and FAA stations' times are 150th Meridian Time.

EVAPORATION is measured in the standard Weather Service-type pan of 4-foot diameter unless otherwise noted below in the "Evaporation and Wind" table. Max and Min values in the "Evaporation and Wind" table are extremes of temperature of water in pan as recorded during 24 hours ending at time of observation. Wind is the total wind movement in miles over the evaporation pan as determined by a continuous anemometer recorder located 6-8 inches above the pan.

WATER EQUIVALENT values published in the "Snowfall and Snow on Ground" table are the water equivalent of snow, sleet, or ice on the ground. Samples obtained from different points for successive observations; consequently, occasional drifting and other causes of local variability in the snowpack may result in apparent inconsistencies in the record.

SNOWFALL: Entries of snowfall in the "Monthly Summarized Data" table, the "Snowfall and Snow on Ground" table, and in the "Seasonal Snowfall" table, include snow and sleet. Entries of snow on ground include snow, sleet, and ice.

NORMALS for all stations are climatological standard normals based on the period 1941-1970.

DIVISIONS, as used in this publication, became effective with data for September 1956.

STATION NAMES: Figures and letters following the station name, such as 12 SSW, indicate distance in miles and directions from the post office.

SEASONAL TABLES: Monthly and seasonal snowfall and heating degree days for the 12 months ending with the preceding June data will be carried in the issue of this bulletin.

DAILY SOIL TEMPERATURES TABLE:	SOIL TYPE	SOIL COVER	DEGREE OF SLOPE
Palmer LAS	Silt loam		02

LATE REPORTS AND CORRECTIONS will be carried only in the June and December issues of this bulletin.

FREEZE-UP AND BREAK-UP information under the heading "Miscellaneous Data" appears in the June issue of this bulletin.

INTERPOLATED VALUES for monthly precipitation totals may be found in the annual issue of this publication.

IN THE DATA TABLES THE SYMBOLS AND LETTERS WHEN USED INDICATE THE FOLLOWING:

- No record in the "Supplemental Data" table, "Daily Precipitation" table, "Evaporation and Wind" table, "Snowfall and Snow on Ground" table, "Soil Temperatures" table.
- + No record in the "Monthly Summarized Data" table and the "Daily Temperature" table is indicated by no entry.
- ++ And also on an earlier date or dates.
- * Highest observed one minute windspeed. This station is not equipped with an instrument to measure fastest mile data.
- * Amount included in following measurement, time distribution unknown.
- // Cage is equipped with a windshield.
- ! Extreme occurred at station with incomplete data which may have been exceeded.
- 6 Precipitation is measured at 6-hourly intervals.
- 3 Adjusted to a full month.
- D Water equivalent of snowfall wholly or partly estimated, using a ratio of 1 inch water equivalent to every 10 inches of new snowfall.
- M One or more days of record missing; if average value is entered, less than 10 days record is missing. See "Daily Temperature" table for details.
- R Amounts from recording gage. (These amounts are essentially accurate but may vary slightly from the amounts to be published later in the "Precipitation Data".)
- T Trace, an amount too small to measure.
- V Includes total for previous month.

IN THE STATION INDEX THE SYMBOLS AND LETTERS WHEN USED INDICATE THE FOLLOWING:

- G "Soil Temperature" table.
- M "Snowfall and Snow on Ground" table. Omission of data in any month indicates no snowfall and/or snow on ground in that month.
- J "Supplemental Data" table.
- ! Thermometers are generally exposed in a shelter located a few feet above sod-covered ground; however, this reference indicates that thermometers are exposed in a shelter located on the roof of a building.

Stations appearing in the tables with no data were either missing or received too late to be included in this issue.

General weather conditions in the U.S. for each month are described in the CLIMATOLOGICAL DATA NATIONAL SUMMARY and STORM DATA.

Information concerning the history of changes in locations, elevations, exposure, etc., of substations through 1955 may be found in the public "Substation History" for this State, price 35 cents. Similar information for regular National Weather Service Offices may be found in the latest issue of Local Climatological Data, price 30 cents. Note minimum charge and ordering instructions below.

Subscription Price: \$5.85 per year for each section including annual summary; \$13.00 foreign; 45c single copy; \$1.00 foreign; 45c annual summary; 5c foreign. There is a minimum charge of \$3.00 for each order of shelf-stocked issues of publications. Make checks payable to Department of Commerce, NOAA; send payments and orders to: National Climatic Center, Federal Building, Asheville, N.C. 28801. ATTN: Publications

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STATION INDEX

ALASKA
JULY 1980

STATION	INDEX NO.	DIVISION	DIVISION	DRAINAGE	LATITUDE	LONGITUDE	ELEVATION	OBSERVATION TIME AND TABLES				OBSERVER
								TEMP.	PRECIP.	EVAP.	SPECIAL USE NOTES	
ADAK	0026	03	SW ISLANDS		51 53	176 39	17	MID	MID		H	OFFICER IN CHARGE WX OB
ALLAKAKET	0230	08	INTERIOR BSN		66 34	152 40	600	8A	8A		H	SIMON NED
ALYESKA	0243	05	COOK INLET		60 58	149 08	250	8A	8A		H	ALYESKA LODGE
AMCHITKA	0252	03	SW ISLANDS		51 24	179 16	200	12M	12M		H	ALEUTIAN NAT WLDLF REF
ANCHORAGE WSMO AP	R 0280	05	COOK INLET		61 10	150 01	114	MID	MID		HJ	NATL WEATHER SERVICE
ANDERSON LAKE	0302	05	COOK INLET		61 37	149 20	495	8A	8A		H	JACK L BUSH
ANGOOK	0310	01	SOUTHEASTERN		57 30	134 35	15	5P	5P		H	GORDON V OLSON
ANNETTE WSO AP	R 0352	01	SOUTHEASTERN		55 02	131 34	110	MID	MID		HJ	NATL WEATHER SERVICE
ANNEX CREEK	0363	01	SOUTHEASTERN		58 19	134 06	24	4P	4P		H	GEORGE CONVERSE-ANNEX C
ATTU	0452	03	SW ISLANDS		52 50	173 11E	70	5P	5P		H	USCG COMMANDING OFFICER
AUKE BAY	0464	01	SOUTHEASTERN		58 23	134 38	42	5P	5P		H	NATL MAR FISHERIES SERV
BARROW WSO AP	R 0546	09	ARCTIC DRAIN		71 18	156 47	31	MID	MID		HJ	NATL WEATHER SERVICE
BARTER ISLAND WSO AP	R 0558	09	ARCTIC DRAIN		70 08	143 38	39	MID	MID		HJ	NATL WEATHER SERVICE
BEAVER FALLS	0657	01	SOUTHEASTERN		55 23	131 28	35	12M	12M		H	KETCHIKAN UTILITIES
BELUGA	0685	05	COOK INLET		61 11	151 02	75	3P	3P		H	L E MC KAY
BEN'S FARM MARKET	0707	05	COOK INLET		61 34	149 08	150	6P	6P		H	BEN VANDERWEELE
BETHEL WSO AP	R 0754	07	WEST CENTRAL		60 47	161 48	125	MID	MID		HJ	NATL WEATHER SERVICE
BETTLES FAA AP	0761	08	INTERIOR BSN		66 55	151 31	644	MID	MID		H	FAA
BIG DELTA FAA/AMOS AP	0770	08	INTERIOR BSN		64 00	145 44	1268	8P	8P		H	FAA
BIG RIVER LAKE	0788	05	COOK INLET		60 49	152 18	40	8P	8P		H	DENNIS BRAHNM
BROOKS RIVER	1017	06	BRISTOL BAY		58 33	155 47	43	5P	5P		H	NATIONAL PARK SERVICE
CANNERY CREEK	1240	02	SOUTH COAST		61 01	147 31	6	5P	5P		H	WX OBSVR-CANNERY CREEK
CAPE LISBURN	1312	09	ARCTIC DRAIN		68 52	166 07	45	MID	MID		H	CAPE LISBURN AFS
CAPE NEWENHAM	1314	06	BRISTOL BAY		58 38	162 04	475	MID	MID		H	CAPE NEWENHAM AFS
CAPE ROMANZOF	1318	07	WEST CENTRAL		61 47	166 03	434	2A	2A		H	WX OBS-C ROMANZOF AFS
CAPE SARICHEF	1325	03	SW ISLANDS		54 36	164 56	175	4P	4P		H	U S FISH AND WILDLIFE
CENTRAL 2	1466	08	INTERIOR BSN		65 34	144 49	960	12M	12M	12M	H	MIKE & JEANETTE CORDER
CHANDALAR LAKE	1492	08	INTERIOR BSN		67 30	148 30	1840	4P	4P		H	ROBERT R AKEMANN
CHULITNA HIGHWAY CAMP	1900	05	COOK INLET		62 24	150 15	500	5P	5P		H	ERNIE SIMMONS
CHULITNA RIVER LODGE	1926	05	COOK INLET		62 53	149 50	1250	8P	8P		H	STEPHEN HANSON
CIRCLE CITY	1977	08	INTERIOR BSN		65 50	144 04	598	8A	8A		H	GORDAN K MAC DONALD
CLEAR	2005	08	INTERIOR BSN		64 18	149 11	580	7P	7P		H	HAROLD J STEFFEN
CLEAR WATER	2019	08	INTERIOR BSN		64 03	145 31	1100	7P	7P		H	MRS LORETTA NISTLER
COLD BAY WSO AP	R 2102	03	SW ISLANDS		55 12	162 43	96	MID	MID		HJ	NATL WEATHER SERVICE
COLLEGE OBSERVATORY	2107	08	INTERIOR BSN		64 52	147 50	621	8A	8A		H	WX OBSVR-NOAA/ERL
COLLEGE 5 NW	2112	08	INTERIOR BSN		64 56	147 50	950	8A	8A		H	DENNIS TRABANT
COOPER LAKE PROJECT	2144	02	SOUTH COAST		60 23	149 40	445	3P	3P		H	CHUGACH ELECTRIC ASSN
COOPER LANDING 6 W	2149	05	COOK INLET		60 29	149 58	375	8A	8A		H	MRS BETTY FULLER
COPPER CENTER	2156	04	COPPER RIVER		61 58	145 19	1000	5P	5P		H	MRS KATHRINE GODDARD
COROONA FAA FSS AP	R 2177	02	SOUTH COAST		60 30	145 30	41	MID	MID		HJ	FAA-PERSONNEL-CHIEF
DANGER BAY	2300	02	SOUTH COAST		58 08	152 33	45	5P	5P		H	INACTIVE 7/31/79
DILLINGHAM FAA AP	2457	06	BRISTOL BAY		59 03	158 31	86	8P	MID		HJ	FAA
EAGLE	2607	08	INTERIOR BSN		64 47	141 12	850	7A	7A		H	JOHN A BORG
EAGLE RIVER SOUTH FORK	2648	05	COOK INLET		61 14	149 26	2140	7A	7A		H	PETE OSTDIK
EDGEWIRE LAKES	2665	05	COOK INLET		62 32	150 17	760	5P	5P		H	DAVID P JOHNSTON
EIELSON FIELD	2707	08	INTERIOR BSN		64 40	147 06	547	MID	MID		H	EIELSON AFB
EKLUTNA PROJECT	2730	05	COOK INLET		61 28	149 10	38	4P	4P		H	ALASKA POWER ADM
ELFIN COVE	2785	01	SOUTHEASTERN		58 12	136 40	20	5P	5P		H	AVIATION WEATHER OBS
ELMENDORF A F BASE	2820	05	COOK INLET		61 15	149 48	192	MID	MID		H	ELMENDORF AFB
EMMONAK	2825	07	WEST CENTRAL		62 46	164 31	10	7P	7P		H	ELIZABETH M CARDEN
FAIRBANKS WSO AP	R 2968	08	INTERIOR BSN		64 49	147 52	436	MID	MID		HJ	NATL WEATHER SERVICE
FAREWELL FAA AP	2988	08	INTERIOR BSN		62 31	153 53	1499	2P	2P		H	CLOSED 02/01/78
FIVE FINGER LIGHT STA	3072	01	SOUTHEASTERN		57 16	133 37	30	1P	1P		H	OFF IN CHARGE FFL
FIVE MILE CAMP	3082	08	INTERIOR BSN		65 56	149 50	500	2P	2P		H	WX OBS-FIVE MILE CAMP
FUNTER BAY	3198	01	SOUTHEASTERN		58 15	134 54	20	5P	5P		H	MR & MRS JAMES DOYLE
GALBRAITH	3210	09	ARCTIC DRAIN		68 29	149 29	2666	2P	2P		H	WX OBSVR-GALBRAITH
GALENA AIRPORT	3215	08	INTERIOR BSN		64 44	156 56	120	MID	MID		H	U S AF GALENA
GILMORE CREEK	3275	08	INTERIOR BSN		64 59	147 31	959	9A	9A		H	GUARD PER-NESS CDA STM
GLACIER BAY	3294	01	SOUTHEASTERN		58 27	135 53	50	5P	5P		H	NATIONAL PARK SERVICE
GLEN ALPS	3299	05	COOK INLET		61 06	149 41	2260	7A	7A		H	EDMUND SCHUSTER
GLENNALLEN KCAM	3304	04	COPPER RIVER		62 07	145 32	1456	5P	5P		H	DAVE BUCKANAN
GULKANA FSS/AMOS	3465	04	COPPER RIVER		62 09	145 27	1570	6A	6A		H	NATL WEATHER SERVICE
GUSTAVUS	3475	01	SOUTHEASTERN		58 25	135 44	17	5P	5P		H	GLACIER BAY AIRWAYS INC
HAINES	3490	01	SOUTHEASTERN		59 14	135 26	31	4P	4P		H	AVIATION WEATHER OBS
HAINES TERMINAL	3500	01	SOUTHEASTERN		59 16	135 27	175	3P	3P		H	USARL WEATHER OBSVR
HEALY 2 NW	3585	08	INTERIOR BSN		63 53	149 01	1490	8P	8P		H	WILLIAM H JONES
HOMER WSO AP	3665	05	COOK INLET		59 38	151 30	63	MID	MID		H	NATL WEATHER SERVICE
HOMER 8 NW	3672	05	COOK INLET		59 45	151 39	1000	6P	6P		H	ALLAN B CRAWFORD
HOONAH	3695	01	SOUTHEASTERN		58 07	135 27	20	5P	5P		H	MARLENE JOHNSON

SEE REFERENCE NOTES FOLLOWING STATION INDEX

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STATION INDEX

ALASKA
JULY 1980

STATION	INDEX NO.	DIVISION	DIVISION	DRAINAGE	LATITUDE	LONGITUDE	ELEVATION	OBSERVATION TIME AND TABLES				OBSERVER
								TEMP.	PRECIP.	EVAP.	SPECIAL USE NOTES	
HOPE	3720	02	SOUTH COAST		60 55	149 38	150	3P	3P		H	MRS PAULINE KOWALKE
ILIAMNA FAA AP	3905	06	BRISTOL BAY		59 45	154 55	186	8P	8P		H	FAA
INDIAN MOUNTAIN	3910	06	INTERIOR BSN		65 59	153 41	1220	MID	MID		H	INDIAN MOUNTAIN AFS
INTRICATE BAY	3933	06	BRISTOL BAY		59 34	154 28	170	5P	5P		H	ART POPE
JUNEAU 2	4094	01	SOUTHEASTERN		58 18	134 24	25	9A	9A		H	WSFO JUNEAU FORECASTERS
JUNEAU FAA AP	4100	01	SOUTHEASTERN		58 22	134 35	12	MID	MID		HJ	FAA FSS PERSONNEL
JUNEAU 9 NW	4110	01	SOUTHEASTERN		58 25	134 32	120	5P	5P		H	U S FOREST SERVICE
KASLOF 3 NW	4425	05	COOK INLET		60 22	151 23	70	6A	6A		H	PAUL ESTLE
KENAI FAA AP	4546	05	COOK INLET		60 34	151 15	86	MID	MID		H	FAA
KETCHIKAN	4590	01	SOUTHEASTERN		55 21	131 39	80	11A	11A		H	SECURITY POLICE
KING SALMON WSO AP	4766	06	BRISTOL BAY		58 41	156 39	49	MID	MID		HJ	NATL WEATHER SERVICE
KITOI BAY	4812	02	SOUTH COAST		58 11	152 21	15	4P	4P		H	AK DEPT OF FISH & GAME
KODIAK WSO AP	4988	02	SOUTH COAST		57 45	152 30	111	MID	MID		H	NATL WEATHER SERVICE
KOTZEBUE WSO AP	5076	09	ARCTIC DRAIN		66 52	162 38	10	MID	MID		HJ	NATL WEATHER SERVICE
LINGER LONGER	5506	01	SOUTHEASTERN		59 26	136 17	700	8A	8A		H	INACTIVE 05/31/80
LITTLE PORT WALTER	5519	01	SOUTHEASTERN		56 23	134 39	14	5P	5P		H	JAMES HENDRICKS
LONELY	5544	09	ARCTIC DRAIN		70 55	153 15	10	MID	MID		H	CAMP LONELY HUSKY OPNS
LONG LAKE	5549	01	SOUTHEASTERN		58 11	133 53	980				S	ALASKA POWER ADM
MANKOMEN LAKE	5607	04	COPPER RIVER		62 59	144 29	3025	8A	8A		H	JAMES N KRUCKEBURG
MANLEY HOT SPRINGS	5644	08	INTERIOR BSN		65 00	150 39	275	6P	6P		H	AVIATION WEATHER OBS
MATANUSKA AGR EXP STA	5733	05	COOK INLET		61 34	149 16	150	5P	5P	5P	H	DR CURTIS H DEARBORN
MC CARTHY 1 NE	5754	04	COPPER RIVER		61 26	142 54	1540	2P	2P		H	LESTER HEGLAND
MC GRATH WSO AP	5769	08	INTERIOR BSN		62 58	155 37	344	6P	6P	6P	HJ	WSO PERSONNEL
MC KINLEY PARK	5778	08	INTERIOR BSN		63 43	148 58	2070	8A	8A	8A	H	NATIONAL PARK SERVICE
MINCHUMINA	5881	08	INTERIOR BSN		63 54	152 16	700	6P	6P		H	FRANCES M HOLMES
MOOSE PASS 6 NW	5895	02	SOUTH COAST		60 32	149 31	659	7P	7P		H	CLOSED 02/01/80
NELCHINA HWY CAMP	6270	04	COPPER RIVER		61 59	146 52	2485	7A	7A		H	DAVID BEAUBOIN
NOME WSO AP	6496	07	WEST CENTRAL		64 30	165 26	13	MID	MID		HJ	NATL WEATHER SERVICE
NORTH POLE	6581	08	INTERIOR BSN		64 45	147 20	475	9P	9P		H	RADIO STATION KJNP
NORTHWAY FAA AP	6586	08	INTERIOR BSN		64 58	141 56	1713	MID	MID		H	FAA
OLD EDGERTON	6777	04	COPPER RIVER		61 48	144 59	1320	10A	10A	10A	H	MICHAEL J SWISHER
PALMER IAS	6870	05	COOK INLET		61 36	149 06	225	9A	9A	9A	GH	DON POLLOCK INST ARG SC
PAXSON	7097	04	COPPER RIVER		63 02	145 30	2700	8P	8P		H	KRISTY HOWK
PAXSON LAKE	7105	04	COPPER RIVER		62 57	145 30	2750	8A	8A		H	INACTIVE 8/31/79
PELICAN	7141	01	SOUTHEASTERN		57 57	136 14	7	9A	9A		H	ELIZABETH CLAUSON
PLANT MATERIAL CENTER	7352	05	COOK INLET		61 32	149 05	67	4P	4P		H	PAT MULLIGAN
PORT ALEXANDER	7557	01	SOUTHEASTERN		56 15	134 39	20	8A	8A		H	PAM & ED DOUGHERTY
PORT ALSWORTH	7570	06	BRISTOL BAY		60 12	154 18	260	6P	6P		H	GLEN ALSWORTH
PORT CHATHAM	7640	05	COOK INLET		59 13	151 45	10	8A	8A		H	NANCY TORSER
PORT CLARENCE	7669	07	WEST CENTRAL		65 15	166 52	12	1P	1P		H	COMMANDING OFFICER
PORT HEIDEN	7700	06	BRISTOL BAY		56 57	158 37	92	10P	10P		H	FRANK C JENSEN
PROSPECT CREEK	7778	08	INTERIOR BSN		66 49	150 39	1105	2P	2P		H	WX OBS-PROSPECT CREEK
PUNTILLA	7783	05	COOK INLET		62 06	152 45	1832	5P	5P		H	AVIATION WEATHER OBS
RIKA'S LANDING	7989	08	INTERIOR BSN		64 09	145 51	1268	5P	5P		H	CAROL HARING
ROCK RIDGE DRIVE	8025	05	COOK INLET		61 07	149 45	840	6P	6P		H	RICHARD G DREW
RUBY WEST	8044	08	INTERIOR BSN		64 45	155 29	200	8A	8A		H	CLOSED 03/01/77
RUSSIAN MISSION	8054	07	WEST CENTRAL		61 47	161 19	50	8A	8A		H	NICK ASKOAK
ST MARYS	8105	07	WEST CENTRAL		62 04	163 11	25	5P	5P		H	ST MARYS MISSION HOME
ST PAUL ISLAND WSO AP	8118	03	SW ISLANDS		57 09	170 13	22	MID	MID		HJ	NATL WEATHER SERVICE
SALCHA	8140	08	INTERIOR BSN		64 27	146 55	675	6P	6P		H	RICHARD S ROBERTS
SAND POINT	8183	03	SW ISLANDS		55 19	160 31	22	3P	3P		H	SHARON M HAKALA
SEWARD	8371	02	SOUTH COAST		60 07	149 27	35	2A	2A		H	AVIATION WEATHER OBS
SHEMYA USAF BASE	8419	03	SW ISLANDS		52 43	174 06E	122	MID	MID		HJ	SHEMYA AFB
SITKA JAPONSKI FAA AP	8494	01	SOUTHEASTERN		57 04	135 21	15	MID	MID		H	FAA
SITKA MAGNETIC OBSY	8503	01	SOUTHEASTERN		57 03	135 20	67	4P	4P		H	WILLIS E OSBAKKEN
SITKINAK	8512	02	SOUTH COAST		56 33	154 08	55	8A	8A		H	MR & MRS PAT GUAIGG
SKAGWAY 1 NW	8532	01	SOUTHEASTERN		59 28	135 19	570	5P	5P		H	MRS ALVIN GORDON
SKWENTNA	8536	05	COOK INLET		61 58	151 12	153	8P	8P		H	AVIATION WEATHER OBS
SLANA	8547	04	COPPER RIVER		62 42	143 59	2200	3P	3P		H	THELMA SCHRANK
SNOWSHOE LAKE	8594	04	COPPER RIVER		62 02	146 40	2410	8P	8P		H	PATTI BILLMAN
SOURDOUGH 1 N	8625	04	COPPER RIVER		62 32	145 31	1960	6A	6A		H	MRS CECILIA CHMIELOWSKI
SPARREVOHN	8666	06	BRISTOL BAY		61 06	155 33	1580	MID	MID		H	RCA-SPARREVOHN
SUTTON 2 E	8915	02	SOUTH COAST		61 43	148 53	550	2P	2P		H	RODNEY L JOHNSON
TAHNETA PASS	8945	05	COOK INLET		61 49	147 33	2620	9P	9P		H	DONNA HALLAND
TALKEETNA WSO AP	8976	05	COOK INLET		62 18	150 06	345	8P	8P		H	NATL WEATHER SERVICE
TANANA FAA AP	9014	08	INTERIOR BSN		65 10	152 06	232	8P	8P		H	FAA
TATALINA	9035	08	INTERIOR BSN		62 54	155 58	964	MID	MID		H	JOHN PADOVAN
TENAKEE SPRINGS	9121	01	SOUTHEASTERN		57 47	135 14	20	2P	2P		H	JONI GATES
TIN CITY	9249	07	WEST CENTRAL		65 34	167 55	269	MID	MID		H	TIN CITY AFS

SEE REFERENCE NOTES FOLLOWING STATION INDEX

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EVAPORATION AND WIND

ALASKA
JULY 1980

STATION		DAY OF MONTH																															TOTAL OR AVG.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
COPPER RIVER 04	EVAP	.15	.15	.24	.12	.15	.14	.10	.12	.20	.16	.21	.24	.05	.14	.13	.10	.14	.12	.08	.08	.14	.15	.17	.33	.18	.08	.12	.06	.03	.09	.05	4.12
	WIND	12	6	40	13	9	53	22	21	24	12	54	44	19	4	6	12	10	2	2	2	4	11	9	16	15	15	55	30	23	5	7	562
	MAX	81	70	85	73	80	85	73	76	84	83	71	67	64	81	86	81	83	65	71	76	84	84	87	91	88	73	75	77	68	68	71	77.6
	MIN	57	54	60	60	59	61	59	58	57	61	59	58	59	60	65	64	60	50	57	58	61	60	62	63	64	59	58	55	56	59	59	59.0
COOK INLET 05	EVAP	.07	.11	.14	.10	.18	.08	.07	.06	.10	.10	.04	.11	8	.06	-	.04	.04	.11	.18	.15	.18	.15	.17	.18	-	.20	.12	.07	.08	.04	.11	3.278
	WIND	18	18	44	27	28	74	24	32	28	81	97	18	17	20	23	13	15	22	18	24	22	19	21	27	15	43	18	27	16	19	889	
	MAX	72	81	69	81	64	75	64	71	72	65	61	62	70	76	65	67	77	83	84	85	83	83	86	72	64	74	60	73	61	75	71	72.7
	MIN	52	53	54	54	57	55	58	54	56	55	51	52	55	55	48	56	54	54	58	60	59	59	59	61	59	57	58	54	55	53	53	55.7
PALMER IAS	EVAP	.07	.15	.18	.06	.16	.08	.10	.06	.15	.12	.05	.23	.01	.08	.12	.12	.07	.15	.17	.17	.19	.16	.14	.19	.07	.19	.00	.20	.01	.11	3.48	
	WIND	12	15	24	15	22	66	29	15	28	20	73	81	77	20	21	24	10	17	17	15	17	21	23	21	32	12	71	17	31	14	13	801
	MAX	54	70	75	64	76	85	68	64	75	62	59	60	62	81	65	68	74	80	81	85	85	85	86	71	65	72	62	80	63	77	72.2	
	MIN	50	50	51	52	53	51	52	55	55	55	49	44	51	53	57	53	53	53	56	54	58	60	61	61	59	56	57	55	57	55	54	54.3
INTERIOR BASIN 08	EVAP	.15	.22	.14	.05	-	.24	.06	.04	-	.09	.03	.15	.04	.03	-	-	.28	.14	.12	.23	.13	.14	-	.25	.16	.05	-	.13	.10	-	-	-
	WIND	3	16	15	18	8	28	12	14	8	6	1	2	5	10	-	-	35	24	18	16	9	5	8	27	14	19	8	33	8	-	-	7888
	MAX	74	79	79	69	-	75	71	70	-	65	69	74	67	66	-	-	73	72	72	71	73	73	-	74	70	63	-	65	65	-	-	70.8
	MIN	61	58	57	54	-	52	60	57	-	54	54	60	58	55	-	-	50	51	52	54	52	55	-	53	57	50	-	49	51	-	-	54.5
MC GRATH WSO AP	EVAP	.13	.12	.09	.01	-	-	.15	.01	.03	.05	.01	.01	.13	.06	.01	.05	.10	.15	.16	.12	.19	.22	.20	.23	.13	.09	.16	.06	.09	.05	.11	3.228
	WIND	16	30	47	19	-	30	8	10	12	5	32	5	15	7	5	3	4	4	13	10	9	33	26	9	29	34	69	23	7	8	11	5518
	MAX	80	55	56	65	-	65	74	70	65	65	61	69	77	72	61	71	76	81	81	82	84	81	82	79	71	67	58	44	66	70	72	70.6
	MIN	51	52	48	51	-	57	54	57	55	55	53	54	52	53	55	55	57	60	60	60	63	58	62	49	46	52	52	54	57	56	55.0	
MC KINLEY PARK	EVAP	.03	.17	.17	.09	.07	.06	.08	.04	.09	.08	.12	.20	-	.03	.06	.07	.07	.02	.14	.14	.15	.15	.12	.14	.02	.07	.08	.04	.01	.10	.07	2.928
	WIND	8	20	23	12	6	20	10	15	8	9	32	31	10	8	6	11	4	2	15	17	14	10	11	9	5	15	8	14	3	15	12	381
	MAX	59	76	76	63	64	62	66	72	67	64	67	66	65	67	68	72	67	68	76	78	78	78	76	77	71	65	64	60	61	62	65	68.4
	MIN	56	57	58	56	52	60	64	58	58	60	61	59	61	62	59	62	56	55	55	56	56	57	58	58	61	54	58	55	53	53	50	57.3
UNIVERSITY EXP STATION	EVAP	.14	.11	.20	.14	.23	.19	.03	.13	.14	.14	-	.06	8	.27	.09	.26	.09	.14	.09	.33	.14	.22	.14	.33	.17	.12	.00	.03	.06	.26	.17	4.678
	WIND	41	42	47	53	54	41	14	38	35	34	87	-	35	56	36	46	40	48	49	46	37	48	38	42	68	61	29	32	32	62	59	13998
	MAX	75	76	75	70	80	81	77	73	77	80	82	71	73	71	78	77	81	79	77	78	81	80	81	77	87	68	63	66	68	68	75.4	
	MIN	56	57	58	56	52	60	64	58	58	60	61	59	61	62	59	62	56	55	55	56	56	57	58	58	61	54	58	55	53	53	50	57.3

SEE REFERENCE NOTES FOLLOWING STATION INDEX

15-12-433

SNOWFALL AND SNOW ON GROUND

ALASKA
JULY 1980

STATION		DAY OF MONTH																														
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
WEST CENTRAL 07	HALES																															
	SNOWFALL SN ON GND																															
ARCTIC DRAINAGE 09	BARROW WSO AP																															
	SNOWFALL SN ON GND WTR EQUIV																															
BARTER ISLAND WSO AP																																
	SNOWFALL SN ON GND WTR EQUIV																															
UMIAT																																
	SNOWFALL SN ON GND WTR EQUIV																															

SEE REFERENCE NOTES FOLLOWING STATION INDEX

MONTHLY AND SEASONAL HEATING DEGREE DAYS

SEASON OF 1979 - 1980

ALASKA

STATION	JULY	AUG	SEPT	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUNE	TOTAL	NORMALS JULY-JUNE
INTERIOR BASIN 08														
ALLAKAKET		382		1188	1521	2808		2024	1891	1274	575	318		
BETTLES FAA AP	194	218	655	1154	1435	2721	2472	1742	1751	1221	521	279	14363	15925
BIG DELTA FAA/AMOS AP	118	146	492	925	1216	2360	2267	1335	1347	775	380	218	11579	13698
CENTRAL 2	119	198	702	1134	1524	2510	2532	1967	1822	1226	528	246	14508	
CHANDALAR LAKE		434	907	1303	1799		2600	1968	2049	1402	687	387		
CIRCLE CITY	118	127	683	1120	1521	2499	2693	2063	1939	1363	568	207	14901	
CLEAR		152		1070				1473	1423	949	465	259		
CLEAR WATER	159	252	577	1014	1370	2431	2447	1483	1511	849	473	266	12832	
COLLEGE OBSERVATORY	142	153	550	1000	1239	2279	2358	1441	1439	872	435	258	12225	
COLLEGE 5 NW	158	146	517	957	1184	2162	2241	1365	1372	852	403	265	11622	
EAGLE	152	211	606	1014	1295	2456	2630		1686	1014	487	207		
EIELSON FIELD	156	148	550	991	1334	2401	2401	1458	1461	902	453	229	12484	
FAIRBANKS WSO AP	124	143	548	1004	1336	2335	2312	1415	1475	868	436	248	12244	14345
FIVE MILE CAMP	182	286	771	1127	1640	2654	2824	1865	1784	1193	537	269	15132	
GALENA AIRPORT	199	205	577	956	1260	2430	2428	1684	1588	1016	498	353	13194	
GILMORE CREEK	244	267	660	1088	1389	2356	2347	1489	1457	928	531	327	13083	
HEALY 2 NW	247	200		912	1136	2275	2117	1287	1414	985	502	341		
INDIAN MOUNTAIN	229	244	712	1096	1394	2414	2346	1587	1649	1144	541	328	13684	
MANLEY HOT SPRINGS	179	163	609	1026	1349	2429	2521	1591	1560	1030	481	278	13216	
MC GRATH WSO AP	221	242	555	958	1299	2473	2434	1539	1499	923	533	391	13067	14487
MC KINLEY PARK	325	313	656	1028	1253	2220	2128	1437	1476	1032	682	441	12991	13873
MINCHUMINA		211	579		1435	2351		1574	1610	1012	528	310		
NORTH POLE	149	209	618	1054	1423	2482	2288	1497	1482	905	492	251	12855	
NORTHWAY FAA AP	190	228	633	1138	1705	2644	2655	1930	1646	890	537	253	14449	15634
PROSPECT CREEK	257	297	743	1180	1441	2639	2523	1695	1713	1203	549	361	14601	
RIKA'S LANDING	124	192	564	980	1264	2464	2243	1455	1443	870	482	268	12349	
SALCHA	135	151	529	997	1258	2319	2393	1426	1412	887	465	267	12239	
TANANA FAA AP	176	217	656	1068	1396	2554	2534	1683	1652	1101	501	290	13838	15116
TATALINA	218	276	569	971	1243	2234	2190	1436	1357	869	536	412	12311	
TOK		269	676	1157	1579	2549	2624	1832	1567	994	624			
TRIMS CAMP	303	270		909										
UNIVERSITY EXP STATION	141	144	553	1000	1346	2330	2377	1443	1383	882	445			13797
ARCTIC DRAINAGE 09														
BARROW WSO AP	676	579	851	1419	1660	2391	2450	2186	2380	2065	1480	835	18972	20265
BARTER ISLAND WSO AP	688	675	912	1342	1591	2463	2500	2168	2438	2038	1473	858	19146	19994
CAPE LISBURN	503	413	762	1293	1493	2225	2214	1946	2023	1877	1281	738	16768	
GALBRAITH	395	443	1021	1581	1716	2558	2424	2017		1759	1028	548		
KOBUK	290	255	647	1119	1309	2539								
KOTZEBUE WSO AP	332	282	685	1168	1400	2372	2207	1674	1679	1464	812	520	14595	16039
LONELY	608	669	932		1738	2577	2637	2280	2484	2077	1484	870		
UMIAT	218	275	834	1509	1694	2700	2603	2267	2408	2074	1330	367	18279	

SEE REFERENCE NOTES FOLLOWING STATION INDEX

DAILY SOIL TEMPERATURES

ALASKA
JULY 1980

STATION	DEPTH	TIME	DAY OF MONTH																															AVERAGE
			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
PALMER IAS	(1N)																																	
(GRASS)	2 BAM	49	50	50	55	56	55	57	53	56	56	57	55	55	56	58	58	57	55	52	58	59	57	58	58	56	56	57	57	56	55	56	55.6	
	4 BAM	50	51	53	55	56	56	57	54	56	56	57	55	55	57	59	58	57	56	55	57	59	57	58	58	58	57	58	57	57	56	57	56.2	
	8 BAM	50	51	53	54	55	55	57	54	56	57	57	55	56	57	58	58	57	58	58	58	58	57	58	58	58	57	58	57	56	57	56	56.3	
	20 BAM	52	50	52	51	50	50	51	50	52	53	54	52	53	54	55	56	54	54	53	53	53	55	54	54	54	55	54	55	53	54	54	53.0	
(FALLOW)	40 BAM	40	42	42	43	43	43	43	44	46	46	46	45	45	46	47	47	48	47	47	47	46	47	47	47	46	46	47	47	45	45	46	45.4	
	2 BAM	52	52	54	56	57	55	56	56	57	58	53	55	55	57	59	57	56	56	58	60	61	61	61	60	60	59	58	59	58	59	58	57.2	
	4 BAM	53	52	55	56	57	55	56	56	56	57	54	54	55	56	56	57	57	56	59	60	60	60	60	58	58	57	57	58	56	57	57	56.6	
	8 BAM	53	53	55	55	57	55	56	56	56	57	56	55	55	56	60	58	57	57	58	60	61	60	60	58	58	57	57	58	57	58	57	57.0	
	20 BAM	50	50	51	51	51	52	52	53	54	54	54	53	53	53	54	55	54	54	55	56	56	57	57	57	57	56	56	57	56	56	56	54.2	
	40 BAM	41	41	42	42	43	43	44	44	45	45	46	46	46	46	46	46	47	47	47	47	47	48	48	48	47	47	47	47	48	48	49	49	45.8

SEE REFERENCE NOTES FOLLOWING STATION INDEX

MONTHLY AND SEASONAL HEATING DEGREE DAYS

SEASON OF 1979 - 1980

ALASKA

STATION	JULY	AUG	SEPT	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUNE	TOTAL	NORMALS JULY-JUNE
SOUTHEASTERN 01														
ANGOOD		134	336	546	726	1052	1244	816	846	640	497	277		
ANNETTE WSO AP	176	137	280	490	652	854	1050	698	819	612	454	252	6474	7053
ANNEX CREEK	349	329	468	625	844	1162	1476	926	979	736	515	334	8743	9187
AUKE BAY	211	145	366	557	810	1131	1365	880	941	678	441	259	7784	
BEAVER FALLS	164	111	283	515	743	924	1093	799	849	642	457	206	6786	
BIORKA	244	225	277	513	700									
ELFIN COVE	286	242	332	534	722	1050	1191	804	893	687	581	446	7768	
FIVE FINGER LIGHT STA		251	443	561			1232	756	842	627	505			
FUNTER BAY								828	896	665	502	291		
GLACIER BAY	310	286	433	597	819	1145	1303	888	952	726	550	377	8386	
GUSTAVUS			445	619	858		1386			680	438	301		
HAINES	248	162	401	618	847	1269	1470	867	941	661	437	231	8152	
HAINES TERMINAL	241	196	362	575	825	1178	1441	871	961	683	461	260	8054	
HOONAH	219	172	388	572	788	1072	1277	886	900	673	474	281	7702	
JUNEAU 2	254	180	388	576	771	1100	1323	856	919	663	454	246	7730	8106
JUNEAU FAA AP	251	205	415	609	830	1187	1404	895	949	678	477	278	8178	9007
JUNEAU 9 NW	408											427		
KAKE	250	171												
KETCHIKAN	171	113	281	489	689	877	1080	761	843	638	447	219	6608	6885
LINGER LONGER	226	244	481	771	1044	1519	1734	1131	1152	811	565			
LITTLE PORT WALTER	288	234	361	532	719	955	1090	787	867	694	548	299	7364	8069
PELICAN	294	232	383	559	779	1100	1239	848	903	712	586	417	8052	
PORT ALEXANDER				702	926	1060	1239	736	844	666	545	325		
SITKA JAPONSKI FAA AP	209	164	255	466	619	959	1033	693	806	619	501	351	6675	
SITKA MAGNETIC OBSY	248	197	289	500	684	1010	1106	748	844	634	537	361	7158	8132
SKAGWAY 1 NW	236	177	373	577	854	1261	1493	892	978	650	426	240	8157	
TENAKEE SPRINGS	212	153	355	577	804	1131	1243	926	837	697	529	282	7746	
WRANGELL	212	172	287	490	719	949	1199	739	836	577	407	174	6761	8010
SOUTH COAST 02														
CANNERY CREEK	281	298		710		1538	1516	1034	1031	825	738	452		
COOPER LAKE PROJECT	200	227	418	700	874	1510	1484	1027	1097	778	630	400	9365	
CORDOVA FAA FSS AP	285	320	418	670	861	1372	1381	893	972	726	607	329	8824	9765
HOPE	173	228	422	778	1023	1749	1699	1105	1131	804	602	395	10108	
KITOI BAY	229	267	408	668	877	1320	1214	947	981	801	685	419	8816	
KODIAK WSO AP	200	236	357	597	785	1177	1090	877	879	720	611	361	7890	
MOOSE PASS 6 NW	247	303	528	837	1071	1969	1865							
SEWARD		273	391	681	829	1410	1297	934	1009	772	668	404		9242
SITKINAK						1197	1156	944	955	812	691	517		
SUTTON 2 E	221	273	452	809	1070	1818	1654	1071	1179	767	614	366	10294	
VALDEZ WSO	287	326	449	724	948	1397	1353	1016	1032	762	617	405	9316	10545
WORTHMAN'S	285	292	474								660	420		
YAKATAGA AP	295	308	387	583	823	1177	1251	849	913	726	636	440	8388	
YAKUTAT WSO AP	284	308	420	609	800	1160	1249	844	916	698	598	398	8284	9533
SOUTHWESTERN ISLANDS 03														
ADAK	459	401	458	681	840	924			912	905	762	560		
AMCHITKA				750	881	949	1035	1021	1002	957	837	684		
ATTU			475	677	880	973	971	966	910	894	746	558		
CAPE SARICHEF							1074	1073	944	914	790	608		
COLD BAY WSO AP	387	400	474	712	893	1179	1279	1143	964	876	726	569	9602	9865
ST PAUL ISLAND WSO AP	497	444	501	667	843	1030	1165	1190	1030	1016	823	608	9814	11119
SAND POINT												541		
SHENYA USAF BASE	576	478	535	757	925	1011	1051	1075	1013	940	803	761	9925	9735
COPPER RIVER 04														
COPPER CENTER							2229							
GAKONA 1 N	161													
GLENNALLEN KCAM	217	252	532	966	1246	2332	2229	1455	1410	992	614	321	12456	
GULKANA FSS/AMOS	215	218	540	944	1220	2307	2164	1412	1397	849	577	302	12145	13938
MANKOWEN LAKE	357	361	632	1003	1343	2204	2147	1469	1592	1126	825	529	13588	
MC CARTHY 1 NE	228	271	531	895	1244	2179	2149	1361	1330	863	609	334	11994	

SEE REFERENCE NOTES FOLLOWING STATION INDEX

75-12-437

MONTHLY AND SEASONAL HEATING DEGREE DAYS

SEASON OF 1979 - 1980

ALASKA

STATION	JULY	AUG	SEPT	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUNE	TOTAL	NORMAL JULY-JUNE
NELCHINA HWY CAMP	302	375	704	1125	1484	2376	2140	1498	1598	1049	776	471	13898	
OLD EDGERTON	208	230	550	924	1198	2239	2162	1432	1394	857	606	314	12114	
PAXSON	339	394	653	1061	1358	2280	2130	1469	1602	1050	753	449	13538	
PAXSON LAKE	297	328												
SLANA	194	285	564	998	1391		2015	1417	1321	868	586	327		
SNOWSHOE LAKE	290	318	631	1087	1480	2357	2223	1582	1586	1052	739	449	13794	
SOURDOUGH 1 N	267	344	617	1089	1362	2382	2346	1542	1487	950	707	432	13525	
TONSINA LODGE	214	252	605	1015	1312	2279	2181	1514	1461	899	652	354	12738	
* * *														
COOK INLET 05														
ALYESKA	203	256	398		932	1594	1586	1037	1130	811	656			
ANCHORAGE WSO AP	138	184	384	735	937	1704	1568	1083	1164	764	592	347	9600	10911
ANDERSON LAKE	206	242	438	747	995	1781	1654		1194	716	575	347		
BELUGA	201	264	416	717	980	1772	1611	1117	1150	761	593	352	9934	
BEN'S FARM MARKET	170	217	401	748	969	1884	1674	1058	1149	733	550	296	9849	
BIG RIVER LAKE	183	261	372	733	979	1656	1656	1080	1132	779	641	343	9815	
CHULITNA HIGHWAY CAMP	178	230	450	803	1102	1820	1669	1076	1183	783	584	320	10198	
CHULITNA RIVER LODGE	178	241	512	900	1185	1870	1765	1232	1363	945	696	426	11313	
COOPER LANDING 6 W	205	246	450	741	995		1731	1102	1118	764	624	373		
EAGLE RIVER SOUTH FORK	379	336	512	848	1028	1740	1604	1067	1273	906	731	502	10926	
EDGEMIRE LAKES	124	205	450	835	1141	1851	1727	1089	1215	803	585	314	10339	
EKLUTNA PROJECT	190	250	458	804	968	1880	1764	1119	1201	726	545	297	10202	
ELMENDORF A F BASE	237	256	452	786	966	1761	1641	1136	1200	776	622	386	10219	10905
GLEN ALPS	381	342	569	859	1039	1645	1583	1089	1246	918	803	539	11013	
HOMER WSO AP	302	316	422	692	861	1432	1426	966	1014	768	638	446	9285	10364
HOMER 8 NW	313	287	440	832		1536	1504	1034	1105	855	739	487		
KASLOF 3 NW	350	377	529		1004	1771	1756	1184	1227	820	691	491		
KENAI FAA AP	252	282	426	731	983	1759	1685	1128	1190	746	585	407	10174	
MATANUSKA AGR EXP STA	202	227	420	756	960	1826	1624	1050	1115	707	553	333	9773	10849
PALMER IAS	192	219	412	760	964	1735	1691	1069	1155	725	566	322	9810	
PLANT MATERIAL CENTER	181	240	464	839	1046	2014	1931	1101	1192	842	601	287	10739	
PORT CHATHAM										730				
PUNTILLA	282	399	653	1013	1375	2104	1900	1406	1479	1071	824	536	13042	
ROCK RIDGE DRIVE	220	268	467	800	1009	1777	1746	1075	1188	812	644	391	10397	
SKWENTNA	193		459	805	1157		1894	1233	1295	823	600	348		
TAHNETA PASS	334	391	637	1063	1366	2094	1897	1376	1514	1043	778	480	12973	
TALKEETNA WSO AP	152	216	470	852	1131	1949	1790	1177	1273	816	597	334	10757	
TRI-NAL ACRES	221	310	474	789	1054	1902	1784	1155	1204	835	661	432	10821	11708
TUTKA BAY LAGOON				774	900	1439				835				
WASILLA 3 S	134	191	393	758	906	1774	1598	1005	1055	702	533	290	9339	
WASILLA 2 NE	198	242	445	782	1000	1842	1634	1065	1152	733	581	379	10053	
WHITE'S CROSSING	170	220	505	906	1110	2095	2081	1304	1356	871	649	385	11652	
WILLOW HIGHWAY CAMP				873	1162		1985	1265	1351	806				
* * *														
BRISTOL BAY 06														
BROOKS RIVER	239	270	487	750								397		
CAPE NEWENHAM	404	365	467	733	935	1569	1610	1237	1185	973	788	660	10926	
DILLINGHAM FAA AP	255	321	467	805	1063	1808	1632	1297	1224	871	706	517	10966	
ILIAMNA FAA AP	200	260	421	739	965	1803	1768	1233	1169	837	654	409	10458	
INTRICATE BAY	212	284	430	744	978	1791	1915	1273	1181	847	651	391	10697	
KING SALMON WSO AP	214	274	441	788	1063	1872	1733	1276	1157	852	716	479	10865	11582
PORT ALSWORTH	189	252	447	740	981	1903	1906	1226	1192	792	587	367	10582	
PORT HEIDEN	321	260	432	698	898	1477	1476	1224		887	703	525		
SPARREVOHN	308	325	570	914	1141	1990	1809	1324	1307	913	703	504	11808	
* * *														
WEST CENTRAL 07														
BETHEL WSO AP	345	361	600	952	1186	2073	2007	1532	1382	1029	682	552	12701	13203
CAPE ROMANZOF	504	422	604	888	1114		1695	1495	1323	1235	846	706		
EMMONAK	326	350	600	945	1200	2156	2099	1649	1402	1263				
NOME WSO AP	435	360	606	935	1207	2134	1990	1501	1459	1229	668	631	13155	14325
PORT CLARENCE												681		
RUSSIAN MISSION	371	360	623	974	1256	2319	2232				711	567		
ST MARYS	363	332	564	929	1196	2123	2023	1511	1339	1020	631	559	12590	
TIN CITY	593	502	769	1085	1328	2133	2110	1777	1879	1736	1106	788	15806	
UNALAKLEET WSO AP				911			2225	1509		1012				14027
WALES		467	749	1038	1306	2098	2101	1757	1905	1732	1123	773		

SEE REFERENCE NOTES FOLLOWING STATION INDEX

DAILY TEMPERATURES

ALASKA
JULY 1980

STATION		DAY OF MONTH																															AVERAGE	
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31		
NOME WSO AP	MAX	66	54	49	52	56	52	65	58	56	64	65	53	50	51	51	57	64	71	67	65	70	70	70	68	55	54	54	60	67	66	69	60.3	
	MIN	45	49	44	42	51	44	44	48	44	47	46	44	47	47	45	43	44	43	50	47	49	54	49	49	49	49	47	49	50	54	47.2		
PORT CLARENCE	MAX	55	53	50	40	54	56	57			62	56	56		52	51	50	54	56	54	64	62	68	71	68	63	66	62	61	65	63	58.1		
	MIN	48	48	40	36	38	40	42			45	55	52		50	43	43	46	49	46	52	55	58	59	46	43	45	40	45	52		47.1		
RUSSIAN MISSION	MAX	71	61	49	53	60	56	56	56	59	55	58	65	72	56	52	60	68	74	77	81	77	80	79	78	79	69	57	52	55	60	64	64.2	
	MIN	49	45	43	44	45	44	45	44	39	45	46	48	40	45	45	38	41	51	53	50	45	51	53	50	46	50	45	46	49	51	50	46.3	
ST MARTS	MAX	71	61	52	58	55	58	54	58	61	66	63	66	68	54	52	61	73	77	79	79	77	79	83	74	77	64	57	57	61	68	68	65.5	
	MIN	49	45	41	47	48	46	42	44	54	44	45	42	45	46	42	41	43	49	52	46	44	49	46	47	47	50	47	42	45	49	48	46.0	
TIN CITY	MAX	57	54	45	45	55	51	54	48	47	45	52	48	44	45	49	49	51	57	51	56	58	61	65	53	49	48	49	46	52	49	47	51.0	
	MIN	45	45	40	40	40	40	41	42	41	41	41	42	42	42	40	40	43	42	44	47	45	48	47	45	44	46	39	37	44	43	40	42.5	
UNALAKLEET WSO AP	MAX	71	71	60	56			60	65	59	65	60			57	54	59	60	66														64.3	
	MIN	46	50	46	46			46	47	43	42	42			49	47	42	42	49														46.7	
WALES	MAX	54	59	50	51	51	55	48	48	47	47	49	53	48	47	49	50	53	50	53	61	58	60	62	61	52	52	50	45	51	52	47	52.0	
	MIN	44	43	44	42	40	45	42	41	42	45	39	44	45	44	45	44	45	40	46	46	43	43	50	47	45	30	33	34	42	42	41	42.5	
INTERIOR BASIN	OB																																	
ALLAKAKET	MAX	80	76	79	65	62	74	73	73	72	67	70	69	70	64	70	70	73	79	79	80	78	79	75	82	75	66	64	61	59	66	67	71.5	
	MIN	54	54	49	47	49	53	54	53	51	44	40	49	43	49	48	43	46	44	42	44	48	49	44	47	52	44	48	45	42	34	39	46.5	
BETTLES FAA AP	MAX	79	80	67	60	73	73	72	69	62	72	69	65	65	65	72	77	78	78	80	77	79	78	81	76	68	64	60	57	65	62	67	70.4	
	MIN	58	56	51	50	49	58	55	55	53	49	49	51	47	44	48	55	52	52	51	55	53	53	52	57	50	48	49	46	43	43	45	50.9	
BIG DELTA FAA/AMOS AP	MAX	74	77	72	66	80	76	66	64	67	73	74	74	66	68	72	66	71	75	77	73	77	77	80	76	71	66	67	64	66	60	63	70.9	
	MIN	52	53	55	50	45	63	58	54	51	53	60	59	55	53	53	54	54	53	44	56	46	54	49	55	53	50	50	48	41	51	47	52.2	
CENTRAL 2	MAX	76	84	84	70		77	74	69		69	72	78	67	68			72	73	74	74	74			80	82	68		66	65		73.6		
	MIN	48	48	52	49	40		55	52		50	49	52	51	51			45	47	59	51	37			49	43	55	46	48	42		48.7		
CHANDALAR LAKE	MAX	75	73	73	70	69	72	73	65	67	67	68	63	64	67	60	72	74	75	71	71	73	73	72	72	70	62	60	56	52	54	52	67.3	
	MIN	54	39	51	44	35	50	51	53	49	37	42	50	36	46	36	48	38	38	40	35	47	38	51	47	38	32	47	42	34	34	40	42.6	
CIRCLE CITY	MAX	77	80	85	83	76	80	80	76	60	68	72	76	68	70	71	78		73	75	75	72			75	84	86	82				74.6		
	MIN	36	48	58	54	48	57	57	55	55	54	50	54	53	51	52	46		43	47	41				42	43	57	47				49.8		
CLEAR	MAX	75	76	71	66	77	75	74	68	67	72	73	72	69	68	69	68	74	76	77	77	78	80	81	80							71.8		
	MIN	53	56	51	49	44	63	53	52	49	51	58	57	53	52	45	51	53	50	51	50	53	55	55								50.9		
CLEAR WATER	MAX	76	77	67	67	80	79	70	66	70	78	76	75	70	69	75	80	74	77	76	75	79	80	81	79	70	67	67	65	69	64	67	72.6	
	MIN	50	52	52	50	37	60	55	52	48	50	56	54	52	46	45	52	43	40	37	50	36	36	37	39	42	48	45	46	31	47	47	46.3	
COLLEGE OBSERVATORY	MAX	65	76	80	68	67	80	79	65	64	70	73	80	66	69	66	75	72	80	81	77	80	81	82	83	81	68	65	58	63	67	68	72.5	
	MIN	51	49	50	50	49	57	55	50	49	51	52	58	53	53	51	52	49	45	48	49	51	49	53	50	53	50	53	47	45	43	41	50.3	
COLLEGE 5 NM	MAX	63	71	77	65	62	78	77	64	60	69	69	77	65	67	64	73	73	78	79	79	78	78	82	82	81	65	64	56	61	66	66	70.6	
	MIN	51	50	49	47	45	58	55	51	48	50	53	57	52	52	52	53	52	50	51	50	51	53	55	54	55	46	52	46	47	42	42	50.6	
EAGLE	MAX	66	78	82	75	66	77	78	73	60	70	69	73	67	70	71	75	70	72	74	73				75	73	78	82	72	69	69	68	57	71.6
	MIN	46	42	47	54	44	50	53	48	46	53	48	46	55	52	44	47	43	42	45	42	42				40	44	41	51	38	46	48	46.9	
EIELSON FIELD	MAX	76	79	66	66	81	77	65	65	68	73	81	71	67	65	74	70	76	79	78	78	79	80	82	80	71	65	58	63	69	64	64	72.0	
	MIN	56	52	54	52	49	59	55	54	50	55	59	59	57	55	47	55	51	49	49	49	49	53	52	55	53	53	50	49	49	48	43	52.5	
FAIRBANKS WSO AP	MAX	74	78	66	66	80	76	65	62	76	71	77	66	70	63	72	69	76	78	76	77	79	79	81	80	67	63	55	61	67	67	61	70.6	
	MIN	54	51	49	49	47	57	54	52	51	52	54	56	54	54	50	54	50	51	51	53	53	51	53	54	51	49	50	48	46	47	42	51.2	
FIVE MILE CAMP	MAX	83	79	78	66	74	76	70	67	63	69	72	71	71	71	70	73	77	81	75	74	76	81	79	80	78	65	68	64	62	57	60	71.9	
	MIN	52	44	46	40	36	60	59	50	48	61	51	52	43	41	40	50	41	43	41	44	46	42	52	50	51	46	53	43	40	42	42	46.5	
GALENA AIRPORT	MAX	72	6																															

DAILY TEMPERATURES

ALASKA
JULY 1980

STATION		DAY OF MONTH																															AVERAGE
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
UNIVERSITY EXP STATION	MAX MIN	74 48	78 47	74 45	66 49	80 42	78 53	73 53	68 48	70 47	73 50	80 50	79 51	70 51	65 52	74 59	72 51	78 46	79 45	79 44	79 44	80 46	82 47	82 47	81 47	72 47	64 48	58 50	63 45	68 43	68 43	63 37	73.2 47.6
ARCTIC DRAINAGE 09																																	
BARROW WSO AP	MAX MIN	44 34	41 34	42 34	41 33	39 33	36 30	36 29	36 30	39 32	42 32	38 34	35 33	35 32	35 30	37 33	43 34	48 35	45 34	40 32	37 31	43 33	39 33	46 35	54 35	36 32	35 30	36 28	33 28	34 28	37 29	41 30	39.5 31.9
BARTER ISLAND WSO AP	MAX MIN	41 36	46 37	43 37	43 37	41 35	36 32	37 32	38 32	42 34	41 37	41 36	40 35	38 35	37 35	40 34	39 34	39 35	40 36	40 35	37 33	36 32	39 30	40 34	45 33	52 33	40 33	39 33	36 31	37 34	38 35	36 34	39.9 34.2
CAPE LISBURNE	MAX MIN	38 35	51 35	58 44	57 43	50 41	51 41	42 39	47 39	49 39	57 41	54 43	43 38	40 37	40 37	48 38	56 43	56 44	54 47	60 46	55 50	55 50	51 42	49 43	63 43	46 40	52 46	48 37	42 35	42 36	45 37	43 38	49.7 40.9
GALBRAITH	MAX MIN																																
KOTZEBUE WSO AP	MAX MIN	69 45	64 53	61 50	59 48	61 51	65 55	58 50	57 49	57 49	66 52	60 52	54 50	53 47	56 50	62 53	62 54	63 55	66 55	65 57	62 57	58 55	57 52	59 51	60 53	54 47	56 51	57 50	60 49	59 45	63 49	61 49	60.1 51.1
LDNELY	MAX MIN	40 34	41 35	40 35	47 34	37 34	35 32	38 31	35 31	35 32	39 35	35 34	35 34	35 33	35 32	35 32	38 32	40 34	41 33	38 32	35 32	38 31	41 31	52 35	55 38	49 35	38 34	35 29	34 28	32 27	37 30	35 29	38.7 32.5
UMIAT	MAX MIN	74 49	81 53	81 57	67 50	70 51	63 43	56 35	54 30	60 31	67 33	64 47	66 42	59 46	51 36	55 37	61 37	66 32	67 34	60 34	63 31	60 38	62 33	62 36	67 42	63 34	49 33	48 33	44 29	44 28	45 27	44 35	60.4 38.1
SEE REFERENCE NOTES FOLLOWING STATION LOGS																																	

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DAILY TEMPERATURES

ALASKA
JULY 1980

STATION		DAY OF MONTH																															AVERAGE	
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31		
WORTHMAN'S		MAX MIN	68 43	72 36	63 47	71 39	72 39	58 48	60 47	63 47	58 46	64 39	56 47	56 43	67 47	70 45	63 50	61 48	64 46	64 42	71 38	71 41	68 50	75 41	71 44	63 52	62 51	60 49	57 48	55 47	55 46	63 46	63 47	64.0 45.1
YAKATAGA AP		MAX MIN	57 40	59 39	60 44	62 45	62 42	60 52	56 52	59 50	60 48	61 45	57 51	57 51	59 53	58 52	58 51	58 51	58 49	63 50	63 45	63 45	65 47	67 55	60 52	59 49	57 49	57 51	58 50	58 52	57 51	57 52	59.5 49.0	
YAKUTAT WSO AP		MAX MIN	60 41	61 44	62 50	62 41	62 45	58 52	59 52	61 50	60 46	62 52	59 54	58 54	60 52	61 53	59 55	62 53	61 51	68 40	65 51	66 54	69 50	61 53	60 52	61 42	61 54	62 52	61 52	60 52	56 53	56 53	61.0 49.9	
SOUTHWESTERN ISLANDS 03																																		
ADAK		MAX MIN	54 42	54 41	59 48	53 44	51 41	50 40	52 40	59 41	52 43	47 44	51 44	55 42	57 41	57 44	57 44	55 47	55 45	54 46	56 43	54 47	54 46	51 46	55 46	55 45	66 49	68 56	67 54	61 49	57 48	59 47	63 47	56.1 45.2
AMCHITKA		MAX MIN	48 40	50 36	46 40		47 36	52 37	50 37	39 39	37 37	40 40	39 39	41 41	43 43	40 41	42 42	42 40	40 40	48 48	44 44	45 45	43 43	41 41	46 46	49 49	48 48	48 48	47 47	46 46	43 43	41.9		
ATTU		MAX MIN	57 44	56 43	54 40	56 41	58 41	56 43	64 55	64 56	62 43	64 42	65 44	57 44	49 36	49 33	52 40	59 50	57 52	57 46	57 46	59 44	58 43	52 42	64 43	59 40	53 43	54 45	54 38	56 46	55 45	50 42	50 44	58.5 45.2
CAPE SARICHEF		MAX MIN	53 42	55 43	65 43	65 51	52 43	49 42	45 41	45 40	56 43	60 42	52 48	57 45	47 40	46 40	47 40	52 43	52 45	49 44	52 43	64 42	59 40	53 43	54 45	54 40	53 38	56 46	55 46	50 45	50 42	53.1 43.1		
COLD BAY WSO AP		MAX MIN	58 44	56 44	63 43	53 44	53 46	53 46	51 45	53 48	53 46	59 48	59 49	51 48	48 45	53 45	58 46	64 47	58 46	61 43	63 50	62 48	67 50	51 50	63 51	66 56	59 49	68 47	58 50	63 54	50 48	58 48	53 48	58.2 47.5
ST PAUL ISLAND WSO AP		MAX MIN	50 44	50 44	53 43	51 44	51 44	49 44	56 44	49 43	51 42	50 42	50 42	50 41	51 44	51 44	48 42	55 41	51 43	60 43	60 32	54 33	54 43	56 43	60 40	51 40	51 46	53 46	51 47	52 45	51 45	55 46	52.2 42.8	
SAND POINT		MAX MIN	54 42	57 44	60 42	55 46	57 47	57 43	53 44	57 45	53 46	54 48	54 49	58 48	58 45	59 41	56 47	54 46	53 43	53 43	64 44	64 44	66 48	64 49	66 49	68 50	68 45	66 49	66 53	64 51	64 49	59.4 46.4		
SHENYA USAF BASE		MAX MIN	46 37	42 37	50 36	47 40	46 40	48 41	48 40	48 43	48 42	49 43	49 44	50 45	48 44	47 42	48 43	50 40	50 45	49 44	48 45	50 45	51 47	50 45	51 47	56 47	53 48	52 50	55 51	54 48	48 48	49 48	49.6 44.2	
COPPER RIVER 04																																		
COPPER CENTER		MAX MIN	65 44	78 34	76 53				78 42	80 39	71 42	72 43	66 52				72 41	76 45	73 51	73 42	73 44													
GLENWALLEN KCAM		MAX MIN	63 42	79 28	72 47	72 47	77 33	70 44	67 49	70 42	68 36	68 38	63 52	53 52	68 45	73 44	69 48	65 45	63 42	70 46	73 48	77 40	77 35	79 37	81 45	78 43	68 48	65 52	65 54	61 48	69 36	60 47	66 46	69.6 43.6
GULKANA FSS/AMOS		MAX MIN	50 41	74 34	61 52	69 48	76 42	66 53	67 49	67 46	67 44	67 44	56 51	52 51	65 47	70 50	69 51	63 49	63 47	68 47	73 50	75 41	74 39	76 47	79 53	75 51	60 49	67 50	61 51	60 47	63 46	61 47	65 47	67.4 47.2
HANKOWEN LAKE		MAX MIN																																
MC CARTHY 1 NE		MAX MIN	64 37	77 39	77 45	71 39	78 36	76 46	62 43	69 41	68 40	58 41	68 44	57 44	66 44	71 45	70 45	67 45	65 43	61 45	72 37	78 39	78 38	79 38	79 44	77 39	77 47	74 47	59 43	54 45	60 41	56 44	63 42	69.1 42.1
MELCHINA HWT CAMP		MAX MIN		59 39	67 36	67 43			65 44	62 43	57 41	61 40	67 37	64 44	61 41	69 49	63 43	63 45	46 46	65 45	67 36	72 36	71 34	74 39	76 41				69 43	58 34	57 40	60 42	64.9 41.0	
OLD EDGERTON		MAX MIN	64 41	65 38	75 50	64 49	70 35	77 50	65 48	65 44	69 43	68 40	67 49	62 49	64 49	72 50	74 48	68 48	68 47	67 38	75 40	75 35	77 40	79 49	80 48	76 45	65 46	62 49	64 46	60 44	61 43	59 43	68.5 48.5	
PAXSON		MAX MIN	66 35	69 42	61 43	63 43	72 38	66 41	60 43	63 40	63 35					64 40	64 44	61 48	59 48	55 47	68 42	70 36	69 41	75 41	73 44	76 44	77 36	63 44	63 44	53 42	52 43	56 43	59 44	64.3 41.9
SLANA		MAX MIN																																
SNOWSHOE LAKE		MAX MIN	62 40	72 35	59 42	68 42	74 35	70 40	69 42	67 41	59 42	65 41	72 36	68 45	62 41	68 47	69 42	63 42	53 46	66 46	68 36	75 38					72 50	63 50	68 47	62 45	61 43	62 42	66.2 41.3	
SOURDOUGH 1 N		MAX MIN	57 35	63 31	71 45	57 44	69 41	75 50	64 47	64 42	65 35	65 32	66 40	63 48	64 48	63 49	68 42	69 44	59 46	58 44	68 40	72 44	73 37	72 36	75 40	79 36	74 40	58 45	62 46	57 42	58 32	59 33	55 41	65.2 41.1
TONGSINA LODGE		MAX MIN	65 41	60 32	75 48	65 47	71 35	78 51	65 45	65 41	71 33	67 40	68 43	65 49	69 46	70 50	74 47	73 47	68 37	66 38	65 40	70 36	74 42	75 39	79 39	78 47	79 44	66 49	64 43	62 47	67 34	61 46	62 46	68.9 42.9
COOK INLET 05																																		
ALYESKA		MAX MIN																																
ANCHORAGE WSMO AP		MAX MIN	59 47	62 42	57 47	64 44	62 47	61 52	58 50	59 51	59 47	59 48	64 52	61 53	62 48	68 46	60 52	62 52	67 51	69 53	69 50	75 54	68 54	65 49	74 53	61 49	60 45	70 56	61 55	55 55	51 49	54 54	63.4 50.6	
ANDERSON LAKE		MAX MIN		63 41	69 43	57 43	70 45	64 50	67 51	60 51	63 47	63 43	59 47	62 51	57 50	61 45	72 47	58 50	61 50	65 45														
BELUGA		MAX MIN	58 41	61 41	60 47	62 42	64 45	61 52	59 48	62 48	60 48	60 48	59 48	61 48	61 48	66 50	67 52	59 48	66 45	66 45	67 49	74 49	75 47	69 49	73 49	74 54	68 54	68 52	68 52	61 50	62 51	72 55	65 48	68.0 48.4
BEW'S FARM MARKET		MAX MIN	63 48	69 42	62 48	68 44	68 48	68 55	64 52	63 47	63 49	61 48	64 49	60 49	64 50	73 49	61 51	63 48	69 44	74 47	78 45	74 47	78 49	74 49	75 51	60 51	70 51	59 50	68 51	65 50	69 47	67 51	67.0 49.0	
BIG RIVER LAKE		MAX MIN	60 47	57 49	57 45	65 52	55 50		61 46	60 48	61 47	56 46	59 49	58 52	66 51	71 48	61 50	59 47	67 46	71 46	74 50	79 51	72 52	73 52	77 52	64 55	60 53	69 52	57 46	61 51	58 50	72 47	64.2 49.3	
CHULITNA HIGHWAY CAMP		MAX MIN	67 45	67 47	65 45	65 46	65 45	65 45	60 52	65 48	62 46	60 45	55 45	67 43	66 45	69 52	60 52	68 51	75 50	79 49	81 48	78 45	76 50	80 47	75 44	65 45	67 50	64 55	67 44	63 51	63 47	67 49	67.5 48.6	
CHULITNA RIVER LODGE		MAX MIN	56 43	66 47	55 45	62 46	58 47	60 45	64 45	64 45	63 45	60 46	54 45	60 43	64 48	63 49	73 49	62 48	63 49	73 49	76 49	77 51	78 51	80 44	82 45	68 50	57 44	60 44	60 48	55 44	61 48	55 48	69 44	64.5 47.0
COOPER LANDING & M		MAX																																

DAILY TEMPERATURES

ALASKA
JULY 1980

STATION	DAY OF MONTH																															AVERAGE	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31		
EDGEMIRE LAKES	MAX MIN	63 45	69 45	67 44	71 43	70 46	64 45	64 46	65 49	67 49	65 49	62 48	59 49	66 52	74 52	67 51	64 50	63 51	60 47	84 47	85 47	85 46	86 48	88 47	84 52	69 52	68 52	59 51	65 47	61 47	76 47	70 49	70.3 48.3
EKLUTNA PROJECT	MAX MIN	61 46	69 37	70 46	68 46	70 41	66 51	66 52	62 50	60 48	61 46	70 51	67 51	62 46	71 45	74 49	60 48	66 47	72 39	73 46	79 43	80 47	75 45	80 50	80 50	64 49	70 52	69 49	65 49	65 46	70 45	71 49	68.9 46.9
ELMENDORF A F BASE	MAX MIN	56 46	58 42	53 47	63 47	61 47	59 51	56 50	56 50	57 48	56 51	64 51	58 51	60 49	66 46	56 51	58 52	62 50	67 46	66 51	73 50	67 55	69 52	73 52	59 53	58 55	67 54	63 53	62 53	54 49	64 46	61 53	61.4 49.9
GLEN ALPS	MAX MIN	46 39	52 39	59 39	50 40	60 43	58 47	54 44	55 44	50 42	51 42	53 47	55 46	52 42	57 42	63 43	49 44	54 45	57 42	63 43	66 47	70 50	64 45	65 45	70 50	57 48	56 49	63 51	53 45	60 46	50 40	60 46	57.2 44.5
HOMER WSO AP	MAX MIN	60 39	56 29	55 39	60 46	62 51	54 49	61 47	57 49	58 44	59 43	60 53	59 49	58 45	57 44	56 45	59 43	62 48	63 44	61 43	67 48	63 49	56 47	59 47	62 47	64 48	66 51	59 51	60 49	55 49	56 48	57 46	59.4 46.7
HOMER B NW	MAX MIN	57 38	55 37	53 43	64 37	63 51	53 46	59 44	57 42	57 45	54 44	59 49	57 49	62 40	58 49	59 44	60 45	63 43	67 44	66 42	73 49	64 47	66 47	71 52	67 47	61 47	69 50	58 50	58 49	54 48	60 47	62 48	60.8 45.5
KASILOF 3 NW	MAX MIN	54 41	57 44	63 43	56 40	60 44	58 49	53 46	56 47	53 47	59 47	55 51	57 47	58 48	60 38	56 44	62 45	62 35	63 46	60 47	67 48	61 50	58 38	62 51	61 47	59 46	59 46	53 46	58 50	63 46	55 45	61 45	58.8 44.9
KENAI FAA AP	MAX MIN	62 46	53 45	54 43	65 40	60 50	55 50	58 49	54 50	59 48	55 46	58 51	60 50	60 48	65 43	54 50	62 50	68 49	68 44	61 50	78 46	61 53	60 52	68 47	61 52	68 53	58 51	56 51	63 52	65 49	62 51	62 49	60.8 48.8
KATANUSKA AGR EXP STA	MAX MIN	63 47	68 42	60 47	68 47	67 48	67 54	61 53	62 49	62 48	60 45	59 50	59 52	64 48	72 47	60 50	62 50	69 44	71 45	73 46	74 49	73 48	77 49	77 52	65 52	71 52	67 50	60 51	68 47	65 49	65 50	66 49	66.2 49.0
PALMER IAS	MAX MIN	58 47	62 42	68 47	59 49	67 57	67 53	64 52	64 46	64 48	62 47	65 48	65 51	62 50	72 48	52 60	63 50	68 46	71 44	74 47	78 48	75 50	73 50	77 51	64 51	60 51	68 55	50 49	66 50	66 49	58 48	68 51	65.5 48.8
PLANT MATERIAL CENTER	MAX MIN				70 52	67 47	70 50	68 45	61 44	64 44	62 44	66 51	65 48	66 47	73 44	73 48	62 48	68 44	72 54	74 48	79 57	76 57	76 51	80 52	77 52	65 50	71 52	68 50	70 50	65 50	74 50	72 51	69.8 49.1
PORT CHATHAM	MAX MIN																																
PUNTILLA	MAX MIN	52 42	50 39	50 34	62 48	52 48	56 48	59 35	58 39	59 44	52 42	53 42	53 45	66 47	63 41	60 45	52 46	60 42	71 36	77 40	76 40	75 41	76 44	79 44	72 51	63 51	64 53	60 40	53 40	64 46	68 32	68 39	61.8 42.4
ROCK RIDGE DRIVE	MAX MIN	59 45	65 45	57 46	67 44	68 43	61 50	59 49	59 47	59 45	68 46	64 52	58 50	64 46	72 42	67 47	63 48	66 36	71 40	71 44	77 46	75 47	72 45	77 48	70 54	59 57	70 53	65 50	67 51	65 43	67 50	65 48	66.0 47.3
SKWENTNA	MAX MIN	62 41	62 47	56 48	68 44	63 43	63 52	62 47	65 48	62 48	58 46	57 49	59 47	70 48	62 45	61 50	65 47	74 48	83 51	84 46	83 47												66.9 47.7
TAMNETA PASS	MAX MIN	61 39	68 42	55 40	64 42	70 38	61 44	62 42	60 38	57 44	58 40	66 45	61 46	70 46	58 44	56 35	63 44	66 38	40 40														62.0 42.7
TALKEETNA WSO AP	MAX MIN	61 42	69 45	57 49	66 50	61 43	64 52	62 53	63 48	61 47	60 46	56 50	60 49	65 53	71 54	61 53	64 51	66 54	76 50	81 51	83 51	75 51	77 55	81 55	69 55	70 55	69 55	57 49	66 52	59 49	73 50	67 48	66.5 50.4
TRI-NAL ACRES	MAX MIN	58 43	60 35	55 42	67 34	64 46	57 50	57 46	59 43	59 42	58 44	62 49	59 52	65 45	70 40	64 50	60 43	64 41	60 40	64 45	59 50	71 40	79 45	76 50	72 40	75 45	69 49	65 50	64 45	63 48	64 46	64 48	64.5 44.7
TUTKA BAY LAGOON	MAX MIN																																
WASILLA 3 S	MAX MIN	66 49	68 40	63 47	69 48	69 42	68 52	64 48	62 49	63 48	62 42	66 50	67 50	67 51	68 50	64 52	65 50	72 42	73 42	78 47	75 50	72 46	78 50	75 56	61 51	73 50	65 48	69 52	68 48	70 52	68 52	68 52	68.3 48.8
WASILLA 2 NE	MAX MIN	64 43	70 35	61 43	68 45	67 40	67 48	62 49	65 47	63 45	61 39	64 45	61 49	68 47	74 40	62 47	72 47	72 47	74 41	77 42	75 41	71 43	72 42	77 45	77 48	63 51	70 49	67 49	68 47	65 44	70 47	67.5 44.9	
WHITE'S CROSSING	MAX MIN	54 44	59 34	67 45	58 43	64 38	60 50	53 46	61 45	62 46	61 45	57 47	59 50	63 48	63 44	70 49	57 48	60 49	64 47	70 50	74 44	79 52	71 47	73 52	64 52	64 52	66 52	55 49	63 46	55 46	66 45	63.6 47.2	
WILLOW HIGHWAY CAMP	MAX MIN	56 45	62 39																														
BRISTOL BAY 06																																	
BROOKS RIVER	MAX MIN	71 48	55 47	52 44	64 41	62 53	56 45	62 37	60 44	60 46	62 45	61 55	56 48	65 47	57 43	55 45	70 36	70 40	63 50	70 39	74 49	78 46	78 46	80 51	78 54	73 53	66 52	59 49	58 49	57 50	56 47	64.6 46.6	
CAPE MEWENHAM	MAX MIN	48 43	44 43	53 43	52 46	48 43	46 41	45 42	45 41	48 42	52 42	53 46	53 49	50 42	46 41	51 44	56 43	63 52	58 43	66 51	69 60	73 54	65 57	70 64	64 56	59 50	59 50	50 46	51 45	54 48	50 47	50 47	54.6 47.1
DILLINGHAM FAA AP	MAX MIN	51 46	49 44	58 44	60 45	53 49	53 43	50 44	50 44	52 42	53 43	58 49	56 51	69 44	51 42	61 44	66 47	69 46	69 47	81 55	74 53	75 48	71 55	78 55	71 52	67 52	60 55	56 49	63 49	59 49	62 50	61.8 48.1	
ILIADNA FAA AP	MAX MIN	60 47	55 46	51 44	62 47	62 49	56 46	60 47	59 46	58 46	59 49	58 50	56 50	65 48	61 44	57 46	61 48	67 45	73 46	74 46	71 43	72 42	75 45	77 48	71 53	63 50	55 49	57 49	59 47	61 44	63.5 48.6		
INTRICATE BAY	MAX MIN	57 41	55 44	53 41	70 47	64 51	57 44	63 50	56 47	61 43	62 48	60 43	59 48	61 43	62 41	63 46	69 48	68 38	68 44	73 45	77 48	78 44	75 45	79 49	71 42	70 47	77 46	71 48	62 47	58 48	57 49	59 43	64.9 46.2
KING SALMON WSO AP	MAX MIN	55 48	51 45	52 44	66 43	63 46	45 45	55 44	53 45																								

TOTAL SNOWFALL AND NUMBER OF DAYS WITH ONE INCH OR MORE ON GROUND

SEASON OF 1979 - 1980

ALASKA

STATION		JULY	AUG	SEPT	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUNE	TOTAL	TOTAL PRECIPITATION
CAPE LISBURNE	SNOWFALL 1 IN ON GD	T		2.0 3	1.3 13	7.9 30	1.9 31	2.1 31	1.9 29	2.6 31	.9 30	.4 19	T	21.0 217	
GALBRAITH	SNOWFALL 1 IN ON GD			4.0 3	9.5 26	8.0 30	- 31	28.0 31	3.0 29	2.4 31	T 30	T 4	T	- 215	
KOBUK	SNOWFALL 1 IN ON GD			T	2.0 13	19.0 30	6.0 31	-	-	-	-	-	-	-	
KOTZEBUE WSO AP	SNOWFALL 1 IN ON GD			T	4.0 15	15.0 30	4.4 31	7.2 31	3.8 29	6.0 31	3.3 30	13	T	43.7 210	
LONELY	SNOWFALL 1 IN ON GD		T	.9	-	6.2 30	1.5 31	1.0 31	T 29	T 31	T 30	T 31	T 11	-	
UMIAT	SNOWFALL 1 IN ON GD	T		.8	13.2 30	11.6 30	- 31	T 31	1.9 29	4.5 31	T 30	.3 29	T	- 241	

SEE REFERENCE NOTES FOLLOWING STATION INDEX

15-12-443

DAILY TEMPERATURES

ALASKA
JULY 1980

STATION		DAY OF MONTH																															AVERAGE	
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31		
SOUTHEASTERN 01																																		
ANGOOK	MAX MIN																																	
ANNETTE WSO AP	MAX MIN	56 50	57 50	68 50	67 52	60 52	58 53	63 52	57 53	60 52	68 54	73 53	71 54	58 53	58 52	64 51	66 54	56 52	59 52	57 55	57 54	60 55	61 55	60 55	61 54	58 53	59 53	61 53	61 55	64 54	56 52	57 53	56 52	60.9 52.8
ANNEX CREEK	MAX MIN	61 47	55 45	65 43	68 45	68 47	66 52	55 49	56 46		61 46	63 45	59 50	56 46	59 45	57 50	53 46	58 46	60 42	61 47	55 46	60 45	60 47	59 47	58 45	59 46	60 46	57 46	56 50	54 47	55 48	56 46	59.0 47.0	
AUKE BAY	MAX MIN	58 48	63 49	69 46	68 49	70 49	69 53	60 50	61 51	64 51	64 51	63 50	59 50	57 46	62 45	63 51	57 44	61 44	66 44	66 51	58 44	65 51	64 52	60 52	62 51	62 51	62 51	61 51	61 52	55 44	55 49	59 50	62.1 50.3	
BEAVER FALLS	MAX MIN	68 52	57 50	60 49	70 54	66 52	61 52	63 52	61 55	66 52	71 50	75 55	68 55	59 52	60 51	62 51	65 48	62 51	63 48	59 55	60 56	60 56	61 56	63 54	60 52	58 54	60 53	61 55	61 53	57 52	58 53	58 55	62.5 52.7	
ELFIN COVE	MAX MIN	52 46	61 48	59 46	59 51	55 51	55 50	55 48	57 48	57 49	59 52	59 53	58 53	54 48	58 46	57 51	62 53	62 50	62 52	62 50	57 50	64 52	63 55	57 52	64 51	65 53	63 54	59 52	60 50	57 51	56 52	58.9 50.6		
FIVE FINGER LIGHT STA	MAX MIN	51 50	55 50	59 52	62 46	60 48	60 48	60 48	60 49	60 50	59 50	59 50	59 50	56 52	57 51	57 51	57 50	60 50	56 53	57 52	59 49	60 49	60 49	58 46	58 46	58 47	59 49	56 44	56 49	57 50	57 52	58.1 50.4		
FUNTER BAY	MAX MIN	55 47	61 49	64 44	66 55	64 53	63 54	57 51	60 51	60 53	62 54	61 55	62 53	59 53	60 54	61 54	58 54	63 51	67 45	62 54	58 54	65 54	63 54	61 51	65 51	65 52	61 53	61 52	60 53	58 51	57 52	61.2 52.0		
GLACIER BAY	MAX MIN	51 41	62 45	65 42	65 42	63 45	62 48	59 47	60 49	63 48	65 48	61 49	58 49	57 49	63 46	59 49	62 49	62 46	65 46	62 49	65 48	58 49	60 50	66 51	62 52	65 49	68 49	64 51	60 52	54 51	66 50	59 51	58 48	61.4 48.2
GUSTAVUS	MAX MIN	54 43	66 44	70 48	70 50	67 48	64 45	60 42	62 44	64 45	69 42	70 50	63 52	58 42	65 44	60 40	58 43	62 47	67 45	67 43	71 45	71 48	64 42	64 48	66 48	66 48	64 43	61 47	60 42				64.4 45.5	
HAINES	MAX MIN	60 46	61 48	70 46	72 45	74 46	70 48	69 50	64 51	67 51	65 54	64 52	64 51	63 53	61 50	63 51	60 52	64 50	67 48	67 52	67 51	70 51	62 48	64 51	63 48	64 45	64 52	63 53	63 51	63 52	64 51	58 49	65.0 49.6	
HAINES TERMINAL	MAX MIN	62 50	61 50	67 50	68 49	68 47	65 55	62 54	61 50	63 50	64 52	65 51	63 53	60 52	62 52	62 52	62 52	64 46	65 51	65 53	65 50	67 53	60 53	62 53	64 49	62 50	62 53	59 54	59 53	58 52	58 52	62.7 51.3		
HOONAH	MAX MIN	56 48	60 50	66 50	67 51	67 51	67 53	57 49	60 53	62 55	64 52	63 55	63 53	62 51	61 53					61 52	61 50	58 52	63 53	63 53	60 53	62 53	62 50	61 54	59 50	59 51	59 51	61.7 51.6		
JUNEAU 2	MAX MIN	64 48	57 49	62 46	72 50	73 53	73 53	56 51	59 51	60 52	61 51	65 48	60 52	60 51	58 50	61 51	56 50	55 49	62 44	67 51	59 51	59 50	67 53	63 52	57 52	68 52	60 53	63 51	62 51	56 51	56 52	57 51	61.9 50.5	
JUNEAU FAA AP	MAX MIN	57 47	62 47	71 43	72 46	72 48	58 51	59 50	60 49	69 50	65 45	64 42	62 50	57 52	61 50	58 50	55 46	65 41	68 41	60 50	59 51	69 51	66 50	57 45	65 52	62 50	61 51	54 52	55 52	55 53	59 53	61.8 49.4		
JUNEAU 9 NM	MAX MIN																																	
KETCHIKAN	MAX MIN																																	
LITTLE PORT WALTER	MAX MIN	58 47	58 48	64 45	68 47	68 47	63 52	56 50	56 46	63 46	65 50	64 48	67 47	60 48	61 50	63 44	66 54	58 51	56 51	55 52	56 52	58 52	58 52	58 52	58 51	63 52	65 51	67 52	59 52	58 51	59 52	60.9 49.6		
PELICAN	MAX MIN	55 45	54 45	63 42	63 43	60 48	61 51	58 49	58 50	59 50	62 49	58 52	58 51	61 46	57 50	58 46	55 49	58 49	55 45	66 50	60 53	72 52	70 49	61 46	67 48	65 51	58 49	60 52	59 51	57 50	62 50	55 50	60.2 48.9	
PORT ALEXANDER	MAX MIN	61 47	50 48	60 44		68 44	68 48	57 50	55 50		67 45	65 47	65 53	65 50	63 44	59 44	65 50	61 51	56 51	55 52	55 51	56 51	57 51	61 51	59 51	57 50	61 49	62 53	57 50	56 51	54 51	59.7 49.5		
SITKA JAPONSKI FAA AP	MAX MIN	54 47	62 48	67 49	63 49	60 53	55 51	55 51	63 51	61 52	62 51	60 55	62 52	56 52	64 51	60 50	56 48	60 50	65 48	57 53	59 53	69 55	60 53	65 53	65 53	62 53	62 53	57 53	59 53	55 53	59 52	60.5 52.0		
SITKA MAGNETIC OBST	MAX MIN	54 45	64 44	69 42	66 42	63 48	56 50	55 49	58 49	61 50	65 48	63 54	61 54	57 53	62 49	61 47	59 51	60 49	65 43	59 43	58 52	71 53	63 52	59 54	67 50	63 53	62 51	63 50	57 51	58 51	59 52	61.2 49.6		
SEAGWAY 1 NM	MAX MIN	60 48	61 50	69 54	71 51	69 52	68 56	60 54	63 51	60 52	65 53	64 51	64 55	62 53	62 53	61 52	66 53	65 48	65 52	65 51	66 52	65 51	66 52	66 53	61 50	62 53	60 54	60 53	57 50	57 51	57 52	63.0 52.1		
TENAKEE SPRINGS	MAX MIN	73 48	74 47	73 48	74 49	73 48	70 48	69 47	60 46	62 46	66 46	69 47	58 49	60 49	59 49	59 53	59 49	65 48	66 49	61 49	61 50	57 49	61 50	61 52	58 49	58 50	58 51	62 51	62 51	62 45	54 45	63.1 48.6		
WARRELL	MAX MIN	63 48	63 52	70 50	73 53	70 55		64 54	66 53	66 55	68 51	66 57	66 57	64 53	60 53	61 53	61 54	65 52	65 57	61 57	62 57	62 57	61 57	61 57	61 54	61 55	64 54	64 54	62 56	58 55	59 56	63.6 54.2		
SOUTH COAST 02																																		
CANNERY CREEK	MAX MIN	61 40	66 41	58 48	66 40	61 43	55 43	54 46	58 46	59 46	58 44	54 45	54 47	64 47	66 46	63 48	59 46	60 46	64 42	67 45	70 47	68 51	70 47	65 50	58 52	57 49	56 49	56 49	58 52	55 46	63 47	60 48	60.7 46.4	
COOPER LAKE PROJECT	MAX MIN		63 41			71 45	59 45	59 47	58 47	57 46			57 45	61 48	73 45	73 46	62 46	63 47	70 42			74 45	73 47	75 47	72 52			66 46	61 50	64 47	64 49	65.6 47.2		
CORODVA FAA FSS AP	MAX MIN	67 43	71 42	62 44	75 41	70 45	59 54	59 52	63 44	60 44	65 40	58 51	60 54	72 49	65 49	62 53	66 53	64 53	68 43	71 49	72 48	67 49	75 48	66 49	64 54	64 52	60 52	58 52	58 52	688				

TOTAL SNOWFALL AND NUMBER OF DAYS WITH ONE INCH OR MORE ON GROUND

SEASON OF 1979 - 1980

ALASKA

STATION		JULY	AUG	SEPT	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUNE	TOTAL	TOTAL PRECIPITATION
ILIAMNA FAA AP	SNOWFALL 1 IN ON GD				T	11.4 11	17.3 29	18.4 31	15.2 29	7.8 31	6.0 3			76.1 134	
INTRICATE BAY	SNOWFALL 1 IN ON GD					19.2 10	12.8 23	19.0 31	24.0 13	9.0 20	T 2			84.0 99	
KING SALMON WSO AP	SNOWFALL 1 IN ON GD				T	8.5 13	9.7 29	11.5 14	11.1 16	9.0 15	T	.8		50.6 87	
PORT ALSWORTH	SNOWFALL 1 IN ON GD				1.5 5	24.3 15	19.0 31	16.5 31	- 24	13.0 18	2.0			- 124	
PORT WEIDEN	SNOWFALL 1 IN ON GD				1.8 6	9.0 14	5.7 28	7.7 17	11.1 17	-	T	T		-	
SPARREVOHN	SNOWFALL 1 IN ON GD			.1	3.7 3	- 24	14.2 31	11.7 31	6.8 29	17.0 31	1.9 11	1.5	T	- 160	
* * *															
WEST CENTRAL	07														
BETHEL WSO AP	SNOWFALL 1 IN ON GD				1.7 2	10.3 13	12.7 31	6.0 31	7.1 29	12.6 31	2.1 9	.4		52.9 146	
CAPE ROMANZOF	SNOWFALL 1 IN ON GD			T	3.8 11	10.6 23	- 31	6.2 31	9.3 29	10.1 31	2.8 30	4.6 26	T	- 212	
EMMONAK	SNOWFALL 1 IN ON GD				2.0 3	- 20	15.0 31	12.5 31	10.7 29	14.0 31	1.5 30	.5		-	
NOME WSO AP	SNOWFALL 1 IN ON GD			T	3.2	24.1 20	9.6 31	16.3 31	10.2 29	8.1 31	5.0 27	1.4		77.9 169	
PORT CLARENCE	SNOWFALL 1 IN ON GD	-	-	-	-	-	-	-	-	-	-	-	-	-	
RUSSIAN MISSION	SNOWFALL 1 IN ON GD				1.1 1	24.5 -	12.0 -	18.0 -	6.7 -	13.5 -	T			75.8 -	
ST MARYS	SNOWFALL 1 IN ON GD			T	3.0 2	17.7 19	12.1 31	18.3 31	5.9 29	11.3 31	3.1 30	T 3		71.4 176	
TIN CITY	SNOWFALL 1 IN ON GD			2.0	10.9 10	42.6 24	4.4 31	10.8 31	4.3 29	12.5 31	3.4 30	.3 17	.1	91.3 203	
UNALAKLEET WSO AP	SNOWFALL 1 IN ON GD	-	-	-	-	-	-	31	29	31	-	-	-	-	
HALES	SNOWFALL 1 IN ON GD	-		T	-	-	5 23	13.0 31	9.0 29	5.0 31	1.0 30	.6 31	-	-	
* * *															
INTERIOR BASIN	08														
ALLAKAKET	SNOWFALL 1 IN ON GD			-	-	-	30	31	-	-	-	-	-	-	
BETTLES FAA AP	SNOWFALL 1 IN ON GD			8.0 7	15.0 14	36.3 30	13.0 31	8.7 31	11.0 29	4.2 31	6.1 30	6		102.3 209	
BIG DELTA FAA/AMOS AP	SNOWFALL 1 IN ON GD			T	1.6 8	5.9 19	5.9 31	6.5 31	7.0 29	1.6 31	T 5			28.5 154	
CENTRAL 2	SNOWFALL 1 IN ON GD				3.3 8	12.4 30	4.1 31	6.9 31	6.8 29	2.0 31	7.2 30	T 1		42.7 191	
CHANDALAR LAKE	SNOWFALL 1 IN ON GD			5.4 9	11.3 25	7.9 30	- 31	4.2 31	9.7 29	.1 31	1.9 30	.5 7		- 223	
CIRCLE CITY	SNOWFALL 1 IN ON GD				2.6 8	12.9 30	5.4 31	7.4 31	7.4 29	1.5 31	7.1 30	T 4		44.3 194	
CLEAR	SNOWFALL 1 IN ON GD				2.1 -	6.9 -	9.6 31	-	1.5 29	.6 31	1.2 17	T		-	
CLEAR WATER	SNOWFALL 1 IN ON GD			.3	1.9 7	7.5 19	16.0 31	12.6 31	8.9 29	3.2 31	.4 6			50.8 154	

SEE REFERENCE NOTES FOLLOWING STATION INDEX

75-12-445

TOTAL SNOWFALL AND NUMBER OF DAYS WITH ONE INCH OR MORE ON GROUND

SEASON OF 1979 - 1980

ALASKA

STATION		JULY	AUG	SEPT	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUNE	TOTAL	TOTAL PRECIPITATION
COLLEGE OBSERVATORY	SNOWFALL 1 IN ON GD				5.7 11	9.4 30	8.9 31	8.5 31	2.6 29	3.7 31	.3 14			39.1 177	
COLLEGE 5 NW	SNOWFALL 1 IN ON GD				4.7 9	7.8 30	8.7 31	8.4 31	2.1 29	4.2 31	.4	T		36.3 161	
EAGLE	SNOWFALL 1 IN ON GD				1.0 4	14.5 18	21.0 30	14.0 31	-	4.0 31	6.5 30			-	
EIELSON FIELD	SNOWFALL 1 IN ON GD			T	5.0 8	7.6 19	7.5 31	12.4 31	2.2 29	2.2 31	T	T		36.9 149	
FAIRBANKS WSO AP	SNOWFALL 1 IN ON GD			T	6.5 11	4.4 30	11.0 31	10.8 31	4.4 29	3.2 31	.8 11			41.1 174	
FIVE MILE CAMP	SNOWFALL 1 IN ON GD			.3	11.8 18	7.7 30	3.8 31	-	2.1 29	2.4 31	2.9 30	.5 8		-	
GALENA AIRPORT	SNOWFALL 1 IN ON GD			T	6.1 15	17.5 27	10.5 31	13.6 31	9.2 29	4.4 31	1.0 29			62.3 193	
GILMORE CREEK	SNOWFALL 1 IN ON GD				6.0 7	-	13.0 -	11.0 31	2.0 29	4.0 -	T	T		-	
HEALY 2 NW	SNOWFALL 1 IN ON GD				2.1 1	9.9 18	7.3 30	15.2 31	3.3 29	2.5 -	3.0 15	T		43.3 -	
INDIAN MOUNTAIN	SNOWFALL 1 IN ON GD			8.8 6	16.8 20	36.3 30	18.9 31	14.2 31	9.1 29	10.6 31	7.1 30	.2 8		122.0 216	
MANLEY HOT SPRINGS	SNOWFALL 1 IN ON GD				3.2 8	9.8 30	7.4 31	16.3 31	2.7 29	2.8 31	1.3 27			43.5 197	
MC GRATH WSO AP	SNOWFALL 1 IN ON GD			T	4.1 10	24.3 23	19.9 31	22.2 31	2.2 29	4.7 31	T	T		77.4 180	
MC KINLEY PARK	SNOWFALL 1 IN ON GD			2.5 1	T 6	26.0 27	6.6 31	20.9 31	8.0 29	.9 31	6.3 27	T	7.0 2	78.2 185	
MINCHUMINA	SNOWFALL 1 IN ON GD			T	-	-	9.7 31	-	1.2 29	1.8 -	.6 27	T		-	
NORTH POLE	SNOWFALL 1 IN ON GD				5.4 13	5.7 30	7.2 31	10.8 31	1.6 29	1.1 31	T 17			31.8 182	
NORTHWAY FAA AP	SNOWFALL 1 IN ON GD			T	1.1 4	2.1 30	5.4 31	4.5 31	4.4 29	2.0 31	4.9 22			24.4 178	
PROSPECT CREEK	SNOWFALL 1 IN ON GD			1.2	27.2 20	23.9 30	8.5 31	6.4 31	8.1 29	2.0 31	4.0 30			81.3 209	
RIKA'S LANDING	SNOWFALL 1 IN ON GD			2.0 1	2.8 11	7.5 19	10.0 31	8.8 31	5.0 29	1.5 31	T	.2		37.8 153	
SALCHA	SNOWFALL 1 IN ON GD			.8	6.6 9	9.2 30	14.0 31	12.9 31	3.4 29	3.1 31	T 24			50.0 185	
TANANA FAA AP	SNOWFALL 1 IN ON GD				1.6 11	10.6 30	7.0 31	8.5 31	8.0 29	3.4 31	T 27			39.1 190	
TATALINA	SNOWFALL 1 IN ON GD			T	3.9 3	32.2 24	17.6 31	19.2 31	3.2 29	7.8 31	1.2 30	T 3		85.1 182	
TOK	SNOWFALL 1 IN ON GD			1.2	2.2 13	3.0 30	5.4 31	8.0 31		1.0 31	27			20.8 192	
TRIMS CAMP	SNOWFALL 1 IN ON GD		-	-	-	24.5 30	-	-	-	-	-	-	-	-	
UNIVERSITY EXP STATION	SNOWFALL 1 IN ON GD				6.1 9	4.5 30	8.0 31	8.5 31	2.7 29	2.8 31	.8 4			33.4 165	
ARCTIC DRAINAGE 09															
BARROW WSO AP	SNOWFALL 1 IN ON GD	.5	T	2.1 7	4.4 26	2.1 30	2.1 31	2.8 31	2.8 29	.4 31	1.1 30	.1 31	T 4	18.4 250	
BARTER ISLAND WSO AP	SNOWFALL 1 IN ON GD	T		1.4 1	18.6 24	9.1 30	3.0 31	2.9 31	3.1 29	3.2 31	1.2 30	1.2 31	T 10	43.7 248	

SEE REFERENCE NOTES FOLLOWING STATION INDEX

15-12-446

TOTAL SNOWFALL AND NUMBER OF DAYS WITH ONE INCH OR MORE ON GROUND

SEASON OF 1979 - 1980

ALASKA

STATION		JULY	AUG	SEPT	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUNE	TOTAL	TOTAL PRECIPITATION
COPPER RIVER 04															
COPPER CENTER	SNOWFALL 1 IN ON GD				- 9	- 30	7.8 31	10.0 31	2.0 29	5.0 31	T 17	T		- 178	
GAKONA 1 N	SNOWFALL 1 IN ON GD		-	-	-	-	-	-	-	-	-	-	-	-	
GLENNALLEN KCAM	SNOWFALL 1 IN ON GD				5.3 -	6.5 23	14.8 31	12.8 31	6.5 29	7.7 31	.2 23			53.8 -	
GULKANA FSS/AMOS	SNOWFALL 1 IN ON GD				4.7 7	5.1 13	16.5 31	10.9 31	4.7 29	10.8 31	T 11	T		52.7 153	
MANKOMEN LAKE	SNOWFALL 1 IN ON GD				2.5 4	10.0 25	6.0 31	13.0 31	2.0 29	5.5 31	7.0 30	3.0 9	1.0	50.0 190	
MC CARTHY 1 NE	SNOWFALL 1 IN ON GD				1.0 -	15.2 12	20.3 31	25.1 31	- 29	5.9 31	1.8 30			- 165	
NELCHINA HWY CAMP	SNOWFALL 1 IN ON GD			T	9.2 9	19.8 30	9.6 31	14.1 31	14.6 29	4.9 31	6.0 30	.4 8		78.6 199	
OLD EDGERTON	SNOWFALL 1 IN ON GD				10.4 9	15.2 27	17.1 31	3.8 31	7.2 29	5.7 31	.4 24			59.8 182	
PAXSON	SNOWFALL 1 IN ON GD				5.2 9	12.4 30	21.4 31	22.5 31	6.6 29	11.6 31	1.5 29	.9 10	1.0	83.1 200	
PAXSON LAKE	SNOWFALL 1 IN ON GD		-	-	-	-	-	-	-	-	-	-	-	-	
SLANA	SNOWFALL 1 IN ON GD				2.0 1	11.1 18	-	- 31	T 29	1.3 31	2.0 13			-	
SNOWSHOE LAKE	SNOWFALL 1 IN ON GD				10.3 9	23.7 30	9.8 31	12.3 31	18.5 29	6.7 -	3.7 30	.1 10		85.1 -	
SOURDOUGH 1 N	SNOWFALL 1 IN ON GD		T	T	8.7 8	6.7 24	9.6 31	12.0 31	11.2 29	4.6 31	.9 30	T 2	T	53.7 186	
TONSINA LODGE	SNOWFALL 1 IN ON GD				15.0 9	21.0 30	25.6 31	9.0 31	21.5 29	6.0 31	T 30	11		96.1 202	
COOK INLET 05															
ALYESKA	SNOWFALL 1 IN ON GD				- 15	42.0 15	73.5 31	31.0 31	40.0 29	19.0 31	4.5 30	2		-	
ANCHORAGE WSMO AP	SNOWFALL 1 IN ON GD				4.3 2	13.7 14	16.0 29	12.0 31	18.7 29	3.4 21	.8			68.9 126	
ANDERSON LAKE	SNOWFALL 1 IN ON GD				3.0 -	13.1 16	18.7 29	9.0 31	-	- 31	1.0 1			-	
BELUGA	SNOWFALL 1 IN ON GD				1.0 -	16.0 14	10.8 31	16.0 31	13.0 29	7.0 -	22			63.8 -	
BEN'S FARM MARKET	SNOWFALL 1 IN ON GD				.7 1	- 13	21.1 26	13.8 31	3.0 5	4.3 5				- 81	
BIG RIVER LAKE	SNOWFALL 1 IN ON GD				2.1 3	33.7 20	- 31	32.6 31	42.0 29	23.6 31	3.9 27			- 172	
CHULITNA HIGHWAY CAMP	SNOWFALL 1 IN ON GD				8.0 5	54.0 30	34.0 31	36.0 31	12.0 29	14.0 31	2.0 30	T 3		160.0 190	
CHULITNA RIVER LODGE	SNOWFALL 1 IN ON GD				24.7 7	- 30	23.5 31	55.0 31	24.2 29	20.4 31	6.0 30	T 19		- 208	
COOPER LANDING 6 W	SNOWFALL 1 IN ON GD				T	- 14	-	5.0 31	11.0 29	5.5 31	T 1			-	
EAGLE RIVER SOUTH FORK	SNOWFALL 1 IN ON GD				5.1	24.0 19	28.5 31	19.5 31	22.6 29	6.0 31	5.0 14	3.2 1		113.9 156	

SEE REFERENCE NOTES FOLLOWING STATION INDEX

15-12-447

TOTAL SNOWFALL AND NUMBER OF DAYS WITH ONE INCH OR MORE ON GROUND

SEASON OF 1979 - 1980

A: ASKA

STATION		JULY	AUG	SEPT	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUNE	TOTAL	TOTAL PRECIPITATION
EDGEHIRE LAKES	SNOWFALL 1 IN ON GD				8.1 5	39.7 30	34.3 31	28.3 31	15.5 29	16.2 31	4.0 30	16		146.1 203	
EKLUTNA PROJECT	SNOWFALL 1 IN ON GD				.1	10.7 14	30.4 30	12.2 31	6.0 29	6.2 31	11			65.6 146	
ELMENDORF A F BASE	SNOWFALL 1 IN ON GD				2.1 2	12.9 17	25.8 31	10.3 31	12.6 29	4.0 31	7			67.7 148	
GLEN ALPS	SNOWFALL 1 IN ON GD				9.0	47.0 27	38.0 31	39.0 31	38.0 -	18.0 -	10.0 -	2.0		201.0 -	
HOMER WSO AP	SNOWFALL 1 IN ON GD				1.2	18.8 9	54.7 27	13.1 31	21.1 16	3.1 3	T			112.0 86	
HOMER 8 NW	SNOWFALL 1 IN ON GD				11.0 9	23.0 12	46.3 31	34.2 31	37.5 29	27.5 31	21.0 30	12		200.5 185	
KASILOF 3 NW	SNOWFALL 1 IN ON GD				-	11.0 16	9.4 31	12.2 31	19.5 29	4.1 31	T 21			-	
KENAI FAA AP	SNOWFALL 1 IN ON GD				T	15.0 12	9.2 31	16.3 31	10.5 29	4.1 31	T 12			55.1 146	
MATANUSKA AGR EXP STA	SNOWFALL 1 IN ON GD				4.4 3	12.1 11	30.0 22	14.8 -	2.0 2	5.0 14				68.3 -	
PALMER IAS	SNOWFALL 1 IN ON GD				1.5 2	9.6 6	18.6 29	15.5 31	7.1 29	7.1 28				59.4 125	
PLANT MATERIAL CENTER	SNOWFALL 1 IN ON GD				1.5 5	14.0 8	34.3 27	18.0 27	2.4 3	-				-	
PORT CHATHAM	SNOWFALL 1 IN ON GD	-	-	-	-	-	-	-	-	-	T			-	
PUNTILLA	SNOWFALL 1 IN ON GD				5.1 8	45.1 30	7.3 31	31.7 31	18.4 29	6.2 31	9.1 30	T 28	T	122.9 218	
ROCK RIDGE DRIVE	SNOWFALL 1 IN ON GD				3.2 6	26.3 17	36.2 31	16.9 31	22.0 29	13.4 31	5.1 14			129.6 159	
SKWENTNA	SNOWFALL 1 IN ON GD				1.9	36.1 20	-	-	18.7 29	17.9 31	.5			-	
TAMNETA PASS	SNOWFALL 1 IN ON GD			T	9.7 8	39.3 30	10.1 31	-	18.1 29	5.7 31	1.8 -	T 18		-	
TALKEETNA WSO AP	SNOWFALL 1 IN ON GD				5.9 4	25.2 27	23.3 31	23.2 31	15.9 29	10.5 31	2.9 21			106.9 174	
TRI-NAL ACRES	SNOWFALL 1 IN ON GD				2.4 2	13.7 12	8.0 31	5.2 31	8.0 29	3.7 27	T			41.0 133	
TUTKA BAY LAGOON	SNOWFALL 1 IN ON GD				5.0	16.0 -	46.6 31	-	-	5.8 31	-			-	
WASILLA 3 S	SNOWFALL 1 IN ON GD				2.5	8.0 12	23.2 30	11.2 31	1.7 10	-	T 13			96	
WASILLA 2 NE	SNOWFALL 1 IN ON GD				3.2 2	14.1 9	24.3 30	12.9 31	4.8 29	8.5 31	1.5 2			69.3 134	
WHITE'S CROSSING	SNOWFALL 1 IN ON GD				4.5 2	15.5 18	17.4 31	20.0 31	4.6 29	5.6 31	1.5 13			69.1 155	
WILLOW HIGHWAY CAMP	SNOWFALL 1 IN ON GD				3.0 2	15.0 18	-	14.0 31	16.5 29	5.0 31	1.3 12			-	
* * *															
BRISTOL BAY	06														
BROOKS RIVER	SNOWFALL 1 IN ON GD				-	-	-	-	-	-	-	-	-	-	
CAPE NEWENHAM	SNOWFALL 1 IN ON GD			T	T	17.6 14	15.1 31	27.1 31	8.4 29	10.7 31	5.4 30	.1 5		84.4 171	
DILLINGHAM FAA AP	SNOWFALL 1 IN ON GD				T	9.0 14	14.0 31	13.0 31	21.8 29	10.4 31	2.5 19	T		70.7 155	

SEE REFERENCE NOTES FOLLOWING STATION INDEX

15-12-44

TOTAL SNOWFALL AND NUMBER OF DAYS WITH ONE INCH OR MORE ON GROUND

SEASON OF 1979 - 1980

ALASKA

STATION		JULY	AUG	SEPT	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUNE	TOTAL	TOTAL PRECIPITATION
SOUTHEASTERN 01															
ANGOON	SNOWFALL 1 IN ON GD						32.2 22	25.1 31	1.2 22	.4				58.9 75	
ANNETTE WSO AP	SNOWFALL 1 IN ON GD					.4	13.1 5	25.6 11	3.6 2	5.4	T	T		48.1 18	
ANNEX CREEK	SNOWFALL 1 IN ON GD					5.0 6	79.2 26	81.8 31	27.3 29	22.1 31	22			215.4 145	
AUKE BAY	SNOWFALL 1 IN ON GD					3.2 5	43.6 26	39.6 31	4.3 29	1.8 10	T	T		92.5 101	
BEAVER FALLS	SNOWFALL 1 IN ON GD					T	7.5 12	41.0 21	2.0 18	2.0	T			52.5	
BIORKA	SNOWFALL 1 IN ON GD					.1	-	-	-	-	-	-	-	-	
ELFIN COVE	SNOWFALL 1 IN ON GD					.5	59.3 25	67.7 31	6.8 29	19.3 16	1.2	T		154.8 101	
FIVE FINGER LIGHT STA	SNOWFALL 1 IN ON GD						-	7.5 24	2.0 2					-	
FUNTER BAY	SNOWFALL 1 IN ON GD	-	-	-	-	-	-	-	-	4.2 6				-	
GLACIER BAY	SNOWFALL 1 IN ON GD						45.2 24	44.0 31	11.5 29	1.8 31	5 24			103.0 139	
GUSTAVUS	SNOWFALL 1 IN ON GD					-	-	28.8 31	-	-	T	T		-	
HAINES	SNOWFALL 1 IN ON GD					2.6	54.5 24	43.6 31	8.9 14	10.1 6				119.7 75	
HAINES TERMINAL	SNOWFALL 1 IN ON GD					.5	-	25	23	11.0 5	1.0 1			62	
HOONAH	SNOWFALL 1 IN ON GD					T	34.8 25	48.0 31	5.2 20	T				86.0 76	
JUNEAU 2	SNOWFALL 1 IN ON GD					.2	28.0 25	34.7 23	4.6 3	6.3 3	T			73.8 54	
JUNEAU FAA AP	SNOWFALL 1 IN ON GD					1.6 4	48.4 25	41.6 25	4.1 3	2.4 2	T			98.1 59	
JUNEAU 9 NW	SNOWFALL 1 IN ON GD					-	-	-	-	-	-	-	-	-	
KAKE	SNOWFALL 1 IN ON GD					-	-	-	-	-	-	-	-	-	
KETCHIKAN	SNOWFALL 1 IN ON GD						10.3 6	-	3.0 4					-	
LINGER LONGER	SNOWFALL 1 IN ON GD				T	19.0 14	57.0 31	34.7 31	14.7 29	7.9 31	7.5 28	T		140.8 164	
LITTLE PORT WALTER	SNOWFALL 1 IN ON GD						26.6 22	60.7 31	11.4 26	20.2 12				118.9 91	
PELICAN	SNOWFALL 1 IN ON GD					1.7	42.3 25	56.9 31	5.0 29	26.4 31	2.2 19			134.5 135	
PORT ALEXANDER	SNOWFALL 1 IN ON GD					T	23.8 16	34.7 26	3.4 7	7.6 6	.8			70.3 55	
SITKA JAPONSKI FAA AP	SNOWFALL 1 IN ON GD					.4	21.2 17	18.3 20	.3	2.5 1	.6	T		43.3 38	
SITKA MAGNETIC OBSY	SNOWFALL 1 IN ON GD					T	25.1 20	28.7 31	1.1 8	2.5 1	.8	T		58.2 60	
SKAGWAY 1 NW	SNOWFALL 1 IN ON GD					3.0 1	-	11.0 31	-	4.0 4	1.0 1			-	

SEE REFERENCE NOTES FOLLOWING STATION INDEX

75-12-449

TOTAL SNOWFALL AND NUMBER OF DAYS WITH ONE INCH OR MORE ON GROUND

SEASON OF 1979 - 1980

ALASKA

STATION		JULY	AUG	SEPT	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUNE	TOTAL	TOTAL PRECIPITATION
TENAKEE SPRINGS	SNOWFALL 1 IN ON GD					.5	32.0 25	35.8 31	1.2 24	T				69.5 80	
WRANGELL	SNOWFALL 1 IN ON GD						13.8 13	24.1 27	4.5 5					42.4 45	
* * *															
SOUTH COAST	02														
CANNERY CREEK	SNOWFALL 1 IN ON GD					-	-	26.3 31	-	26.1 31	4.0 30	31		-	
COOPER LAKE PROJECT	SNOWFALL 1 IN ON GD					52.0 13	61.5 31	10.5 31	32.5 29	7.3 31	T 7			163.8 142	
CORDOVA FAA FSS AP	SNOWFALL 1 IN ON GD					12.0 5	42.6 28	27.7 31	9.4 29	20.1 31	1.4 3			113.2 127	
HOPE	SNOWFALL 1 IN ON GD				T	-	57.0 31	19.0 31	29.0 29	5.0 31	-	9		-	
KITOI BAY	SNOWFALL 1 IN ON GD				T	6.7 12	24.3 30	16.8 28	11.6 14	1.7 8	T			61.1 92	
KODIAK WSO AP	SNOWFALL 1 IN ON GD				T	9.7 9	4.7 8	15.3 12	13.4 11	7.1 2	1.0	T		51.2 42	
MOOSE PASS 6 NW	SNOWFALL 1 IN ON GD					-	-	3.9 -	-	-	-	-	-	-	
SEWARD	SNOWFALL 1 IN ON GD				T	-	37.3 15	12.3 31	20.7 12	2.3 2	4.9 3			72	
SITKINAK	SNOWFALL 1 IN ON GD	-	-	-	-	-	10.0 16	2.5 10	-	3.5 3	-	2		-	
SUTTON 2 E	SNOWFALL 1 IN ON GD				4.9 6	14.2 18	22.3 31	23.3 31	12.1 29	8.6 31	T 4			85.4 150	
VALDEZ WSO	SNOWFALL 1 IN ON GD				T	31.8 14	105.5 31	37.3 31	86.5 29	36.4 31	3.9 28			301.4 164	
WORTHMAN'S	SNOWFALL 1 IN ON GD				-	-	-	-	-	-	-	9		-	
YAKATAGA AP	SNOWFALL 1 IN ON GD				T	2.5 2	26.5 21	37.5 29	-	6.0 7	T			-	
YAKUTAT WSO AP	SNOWFALL 1 IN ON GD				T	4.6 2	48.3 22	33.5 31	12.9 9	28.1 16	1.7	T		129.1 80	
* * *															
SOUTHWESTERN ISLANDS	03														
ADAK	SNOWFALL 1 IN ON GD				T	21.0 12	20.6 9	-	-	43.7 14	16.8 9	2.2	T	-	
AMCHITKA	SNOWFALL 1 IN ON GD	-	-	-	-	13.8 13	4.7 8	6.6 12	13.0 25	9.1 6	-	15	1.0	-	
ATTU	SNOWFALL 1 IN ON GD				T	25.1 10	16.0 10	27.7 24	14.9 26	23.0 31	12.2 30	T 14		118.9	
CAPE SARICHEF	SNOWFALL 1 IN ON GD	-	-	-	-	-	14.0 -	8.6 12	6.6 5	-	2.0 8	1		-	
COLD BAY WSO AP	SNOWFALL 1 IN ON GD				T	.3	15.2 15	10.5 16	14.1 22	11.1 12	23.7 16	13.6 8	1.1	89.6 89	
ST PAUL ISLAND WSO AP	SNOWFALL 1 IN ON GD				T	T	14.6 14	8.7 14	8.5 19	5.0 9	12.1 22	9.6 26	1.7 4	60.2 108	
SAND POINT	SNOWFALL 1 IN ON GD	-	-	-	-	-	-	-	-	-	-	-	-	-	
SHEMYA USAF BASE	SNOWFALL 1 IN ON GD				T	1.0	13.4 8	20.9 15	17.0 14	15.1 25	10.7 23	5.7 10	.2	84.0 95	

SEE REFERENCE NOTES FOLLOWING STATION INDEX

15-12-450

ALASKA
MAY 1962SEE REFERENCE NOTES FOLLOWING STATION INDEX

15-12-451

ALASKA
MAY 1950SEE REFERENCE NOTES FOLLOWING STATION INDEX

MONTHLY SUMMARIZED STATION AND DIVISIONAL DATA

ALASKA
JULY 1980

		TEMPERATURE														PRECIPITATION																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																				
STATION		AVERAGE MAXIMUM	AVERAGE MINIMUM	AVERAGE	DEPARTURE FROM NORMAL	HIGHEST	DATE	LOWEST	DATE	HEATING DEGREE DAYS	COOLING DEGREE DAYS	NO. OF DAYS						TOTAL	DEPARTURE FROM NORMAL	GREATEST DAY	DATE	SNOW, SLEET			NO. OF DAYS																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																											
												MAX.		MIN.								TOTAL	MAX. DEPTH ON GROUND	DATE	1.00 OR MORE	1.00 OR MORE																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																										
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MONTHLY SUMMARIZED STATION AND DIVISIONAL DATA

ALASKA
JULY 1980

STATION	TEMPERATURE														PRECIPITATION																				
	AVERAGE MAXIMUM	AVERAGE MINIMUM	AVERAGE	DEPARTURE FROM NORMAL	HIGHEST	DATE	LOWEST	DATE	HEATING DEGREE DAYS	COOLING DEGREE DAYS	NO. OF DAYS										TOTAL	DEPARTURE FROM NORMAL	GREATEST DAY DATE	DATE	SNOW, SLEET			NO. OF DAYS							
											MAX.	MIN.	12-11	11-10	10-9	9-8	8-7	7-6	6-5	5-4					4-3	3-2	2-1	1-0	0	TOTAL	MAX. DEPTH ON GROUND	DATE	1.00 OR MORE	.50 OR MORE	.10 OR MORE
FIVE MILE CAMP	71.9	46.5	59.2		83	1	36	5	179	7	21	0	0	0	0	0	0	0	0	0	0	.54		.25	19	.0	0	1	0	0					
GALENA AIRPORT	66.6	51.9	59.3		80	18	45	30	174	3	10	0	0	0	0	0	0	0	0	0	0	1.03		.35	11	.0	0	3	0	0					
GILMORE CREEK	70.7	45.5	58.1		82	24	35	30	205	0	16	0	0	0	0	0	0	0	0	0	0	3.08		.75	14	.0	0	11	2	0					
HEALY 2 NW	68.3M	46.3M	57.3M		80	23	35	31	232	0	16	0	0	0	0	0	0	0	0	0	0	1.35		.54	28	.0	0	5	1	0					
INDIAN MOUNTAIN	69.2M	50.4M	59.8M		83	18			161	9	16	0	0	0	0	0	0	0	0	0	0	2.01		.45	27	.0	0	7	0	0					
MANLEY HOT SPRINGS	72.2	46.2	59.2		83	23	34	31*	171	0	19	0	0	0	0	0	0	0	0	0	0	2.49		1.62	27	.0	0	5	1	1					
MC GRATH WSO AP	65.4	49.0	57.2	- 1.0	84	23	45	3	242	9	10	0	0	0	0	0	0	0	0	0	0	2.96	-.68	.65	11	.0	0	11	1	0					
MC KINLEY PARK	65.6	43.6	54.6	.0	78	24	31	31	309	0	9	0	1	0	0	0	0	0	0	0	0	2.31	-.64	.67	17	.0	0	6	1	0					
MINCUMMINA	71.0M	51.5M	61.3M		83	23			134	24		0	0	0	0	0	0	0	0	0	0	2.59				.0	0	3	0	0					
NORTH POLE	74.1M	44.3M	59.2M		84	23	36	30	176	1		0	0	0	0	0	0	0	0	0	0	.49		.13	28	.0	0	3	0	0					
NORTHWAY FAA AP	68.7	47.2	58.0	- .5	79	24	39	22	212	0	15	0	0	0	0	0	0	0	0	0	0	3.22	-.69	.98	16	.0	0	9	2	0					
PROSPECT CREEK	68.4	46.9	57.7		78	19	35	30	222	0	14	0	0	0	0	0	0	0	0	0	0	2.75		1.00	9	.0	0	5	2	1					
RIKA'S LANDING	72.4	46.7M	59.6M		81	23*	37	29	163	4	20	0	0	0	0	0	0	0	0	0	0	2.29		.50	25	.0	0	7	1	0					
SALCHA	72.5	48.7	60.6		82	22	41	31	136	7	19	0	0	0	0	0	0	0	0	0	0	1.65		.36	28*	.0	0	6	0	0					
TANANA FAA AP	70.5	49.6	60.1	1.4	82	23*	34	31	155	7	14	0	0	0	0	0	0	0	0	0	0	2.48	-.38	.97	27	.0	0	9	1	0					
TATALINA	64.1	51.4	57.8		84	21	44	3	249	36	8	0	0	0	0	0	0	0	0	0	0	2.74		.44	11	.0	0	11	0	0					
TOK	71.1	44.2	57.7		81	24*	31	24	222	0	21	0	0	0	0	0	0	0	0	0	0	3.35	1.04	.61	16	.0	0	10	1	0					
UNIVERSITY EXP STATION	73.2	47.6	60.4	.2	82	23*	37	31	137	3	22	0	0	0	0	0	0	0	0	0	0	3.35	1.04	.61	16	.0	0	10	1	0					
DIVISION			59.4	1.2																		2.04	-.28		.0										
ARCTIC DRAINAGE 09																																			
BARROW WSO AP //R	39.5	31.9	35.7	- 3.0	54	24	28	29*	902	0	0	0	16	0	0	0	0	0	0	0	0	.77	-.11	.39	12	1	0	2	0	0					
BARTER ISLAND WSO AP R	39.9	34.2	37.1	- 2.9	52	25	30	22	860	0	0	0	6	0	0	0	0	0	0	0	0	1.03	-.09	.35	14	1	0	4	0	0					
CAPE LISBURNE	49.7	40.9	45.3		63	24	35	28*	603	0	0	0	0	0	0	0	0	0	0	0	0	2.14		1.36	27	.0	0	3	1	1					
GALBRAITH																																			
KOTZEBUE WSO AP //R	60.1	51.1	55.6	2.7	69	1	45	29*	284	0	0	0	0	0	0	0	0	0	0	0	0	1.52	-.03	.34	8	.0	0	4	0	0					
LONELY	38.7	32.5	35.6		55	24	27	29	903	0	0	1	16	0	0	0	0	0	0	0	0	.46		.20	24	1	0	2	0	0					
UMIAT //R	60.4	38.1	49.3		81	3*	27	30	487	6	4	0	7	0	0	0	0	0	0	0	0	1.34		.60	14	.0	0	4	1	0					
DIVISION			43.1	- 2.7																		1.21	-.20		T										

SEE REFERENCE NOTES FOLLOWING STATION INDEX

Climatological Data



ALASKA

TEMPERATURE AND PRECIPITATION EXTREMES

HIGHEST TEMPERATURE:	EDGEMIRE LAKES	88	DATE 23
LOWEST TEMPERATURE:	2 STATIONS	27	DATE 30+
GREATEST TOTAL PRECIPITATION:	PORT ALEXANDER	13.29	
LEAST TOTAL PRECIPITATION:	LONELY	.46	
GREATEST 1 DAY PRECIPITATION:	PORT ALEXANDER	5.17	DATE 31
GREATEST TOTAL SNOWFALL:	WALES	.4	

SUPPLEMENTAL DATA

	WIND (SPEED - M.P.H.)						RELATIVE HUMIDITY AVERAGES - PERCENT				NUMBER OF DAYS WITH PRECIPITATION							PERCENT OF POSSIBLE SUNSHINE AVERAGE (HOURS)	SUN COVER SUNRISE TO SUNSET
	RESULTANT DIRECTION	RESULTANT SPEED	AVERAGE	FASTEST MILE	DIRECTION OF FASTEST MILE	DATE OF FASTEST MILE	STANDARD OF TIME 150TH MERIDIAN				TRACE	.01-.09	.10-.49	.50-.99	1.00-1.99	2.00 AND OVER	TOTAL		
							02	08	14	20									
ANCHORAGE WSMO AP	23	1.8	7.1	40 %	SE	11	83	76	66	73	7	5	8	0	0	0	20	37	7.8
ANNETTE WSO AP	15	4.1	7.2	36 %	SE	30	92	84	79	87	8	6	7	1	3	0	25	-	9.3
BARROW WSO AP	7	10.4	13.2	36 %	W	25	86	82	77	82	10	6	2	0	0	0	18	-	8.6
BARTER ISLAND WSO AP	8	12.5	15.1	33 %	NW	25	96	95	91	94	14	7	4	0	0	0	25	-	9.4
BETHEL WSO AP	21	4.5	12.5	46 %	S	05	97	90	73	78	3	7	6	3	0	0	19	-	7.5
BETTLES FAA AP	23	1.3	4.9	-	-	-	86	72	47	61	4	6	7	0	0	0	17	-	-
BIG DELTA FAA/AMOS AP	-	-	-	-	-	-	-	60	45	59	5	8	4	0	0	0	17	-	-
COLD BAY WSO AP	23	6.0	17.0	44++	14	10+	96	92	80	90	9	11	6	1	0	0	27	-	9.1
FAIRBANKS WSFO AP	27	2.1	7.6	28++	36	19	78	67	54	58	3	13	2	1	0	0	19	-	7.4
GULKANA FSS/AMOS	-	-	-	-	-	-	-	68	50	65	9	9	4	2	0	0	24	-	-
HOMER WSO AP	24	3.9	6.8	18++	22	28+	94	-	-	-	6	4	2	2	1	0	15	-	6.8
JUNEAU WSO AP	8	4.0	7.3	-	-	-	91	86	78	86	1	11	9	4	1	0	26	-	-
KING SALMON WSO AP	20	6.1	9.0	41 %	S	10	91	86	67	78	4	11	10	1	0	0	26	-	9.3
KODIAK WSO AP	6	1.1	7.6	33 %	NW	29	90	84	75	82	8	9	4	0	0	0	21	-	8.0
KOTZEBUE WSO AP	28	4.4	12.4	37 %	E	05	99	85	81	80	6	8	4	0	0	0	18	-	7.5
MC GRATH WSO AP	21	1.9	5.7	32	S	27	88	84	65	72	4	8	10	1	0	0	23	-	8.3
NOME WSO AP	24	2.9	8.6	26++	25	12+	80	75	73	73	2	8	4	2	0	0	16	38	6.9
ST PAUL ISLAND WSO AP	-	-	-	38 %	W	28	95	95	85	93	9	11	4	0	0	0	23	-	9.2
TALKEETNA WSO AP	-	-	-	22++	17	27	-	84	66	77	5	6	10	1	1	0	23	-	-
UNALAKLEET WSO AP	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
VALDEZ WSO	22	2.6	3.8	25 %	SW	14+	94	85	73	86	5	5	6	3	3	0	22	-	8.3
YAKUTAT WSO AP	13	2.0	6.5	32 %	SE	30	94	86	79	86	3	7	8	1	1	0	25	-	8.7
% PEAK GUST																			

% PEAK GUST

I CERTIFY THAT THIS IS AN OFFICIAL PUBLICATION OF THE NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION AND IS COMPILED FROM RECORDS ON FILE AT THE NATIONAL CLIMATIC CENTER, ASHEVILLE, NORTH CAROLINA 28801.

David B. Mitchell

DIRECTOR
NATIONAL CLIMATIC CENTER

noaa

NATIONAL OCEANIC AND
ATMOSPHERIC ADMINISTRATION

ENVIRONMENTAL DATA AND
INFORMATION SERVICE

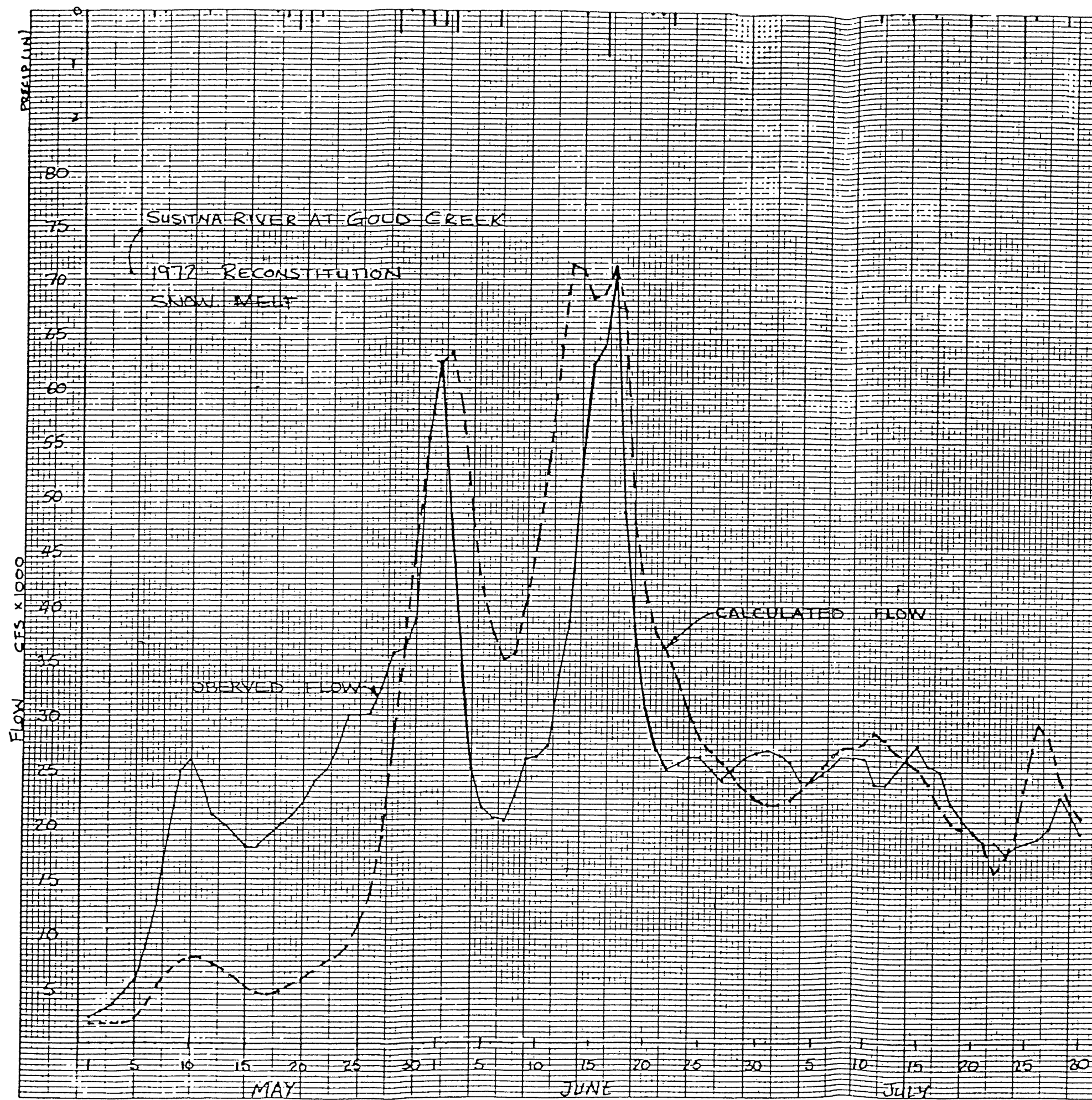
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ASHEVILLE, N.C.

15-12-455

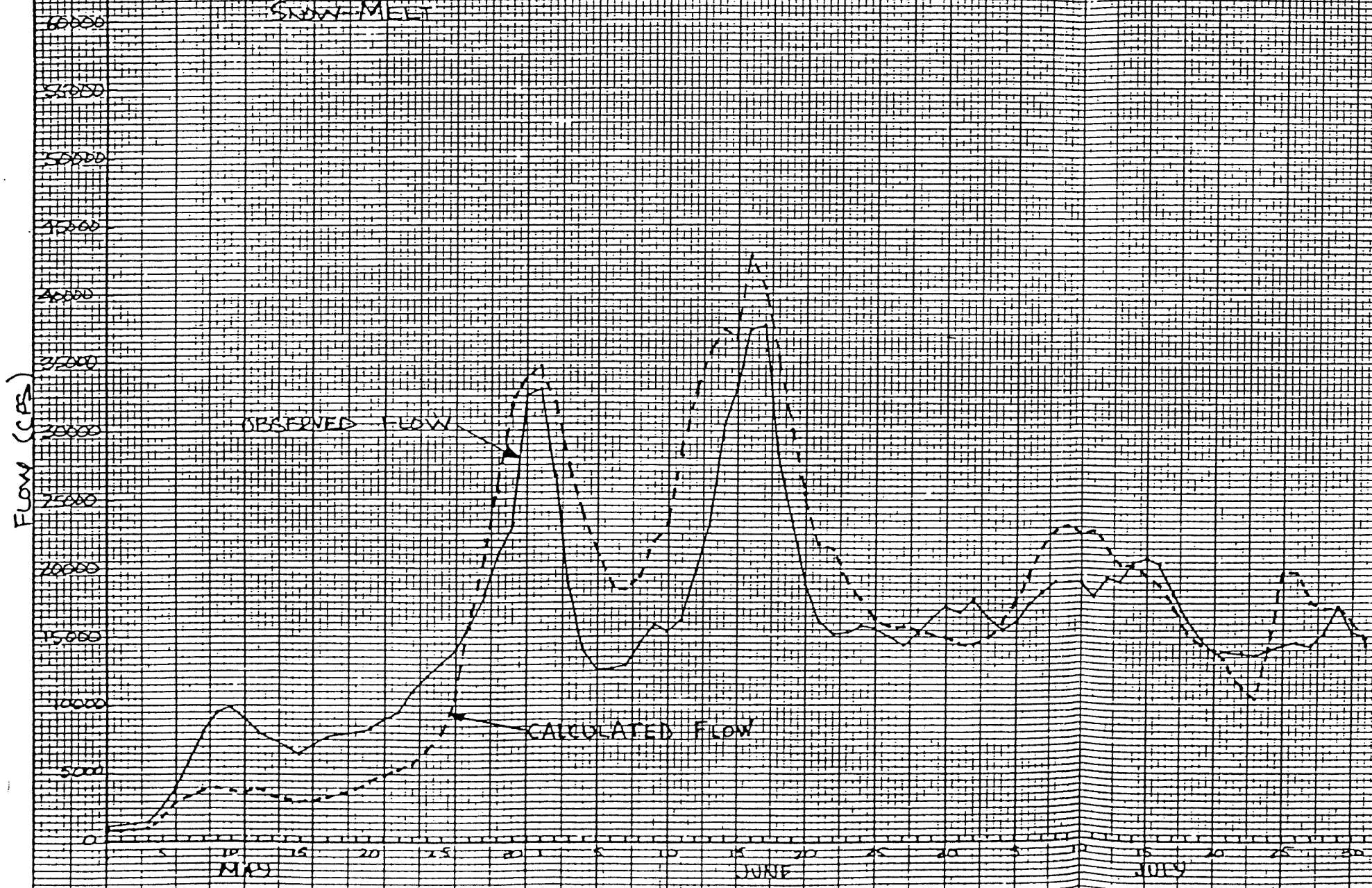
ALASKA
MAY 1980

SEE REFERENCE NOTES FOLLOWING STATION INDEX

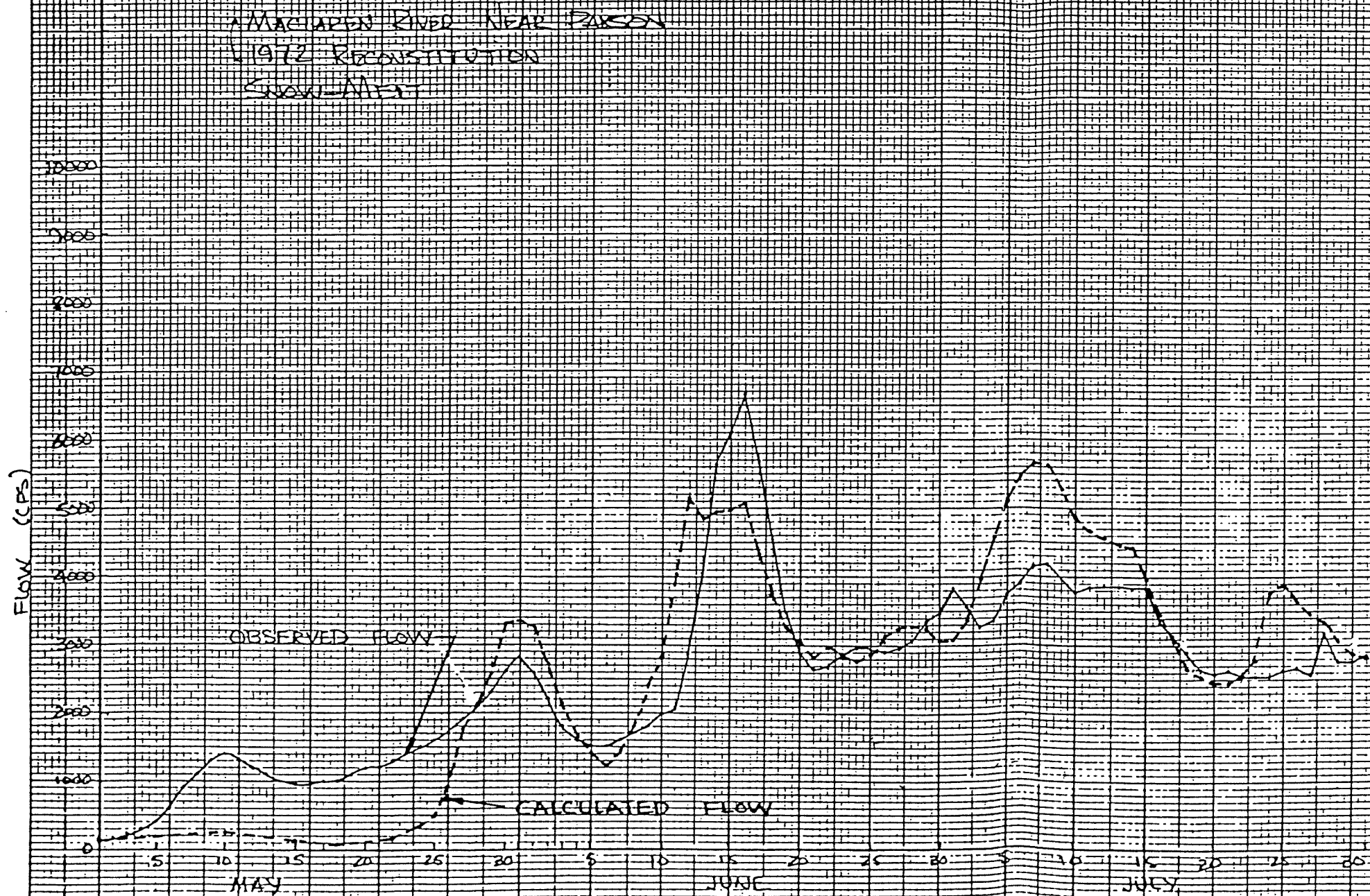
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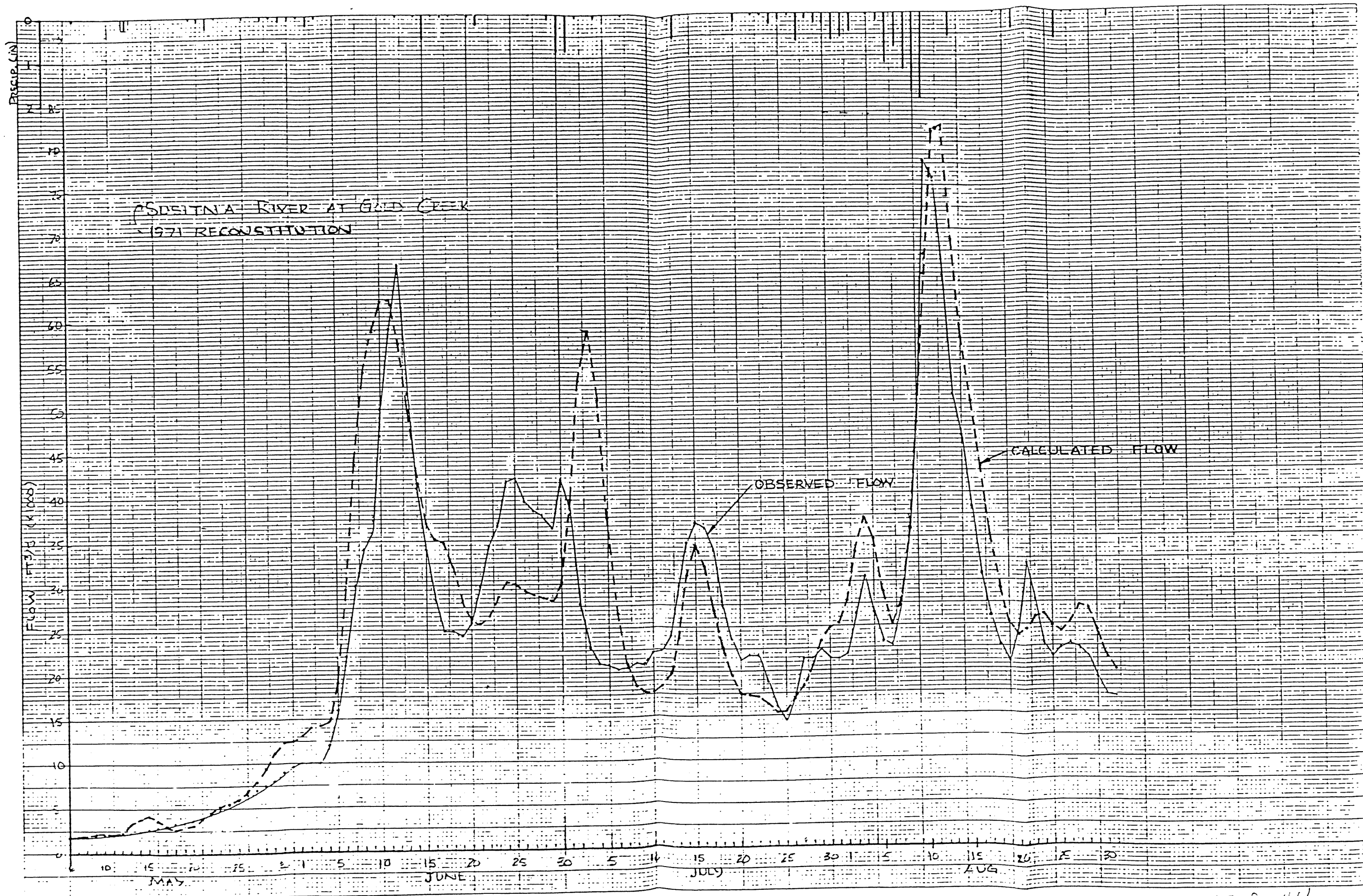


SUSITNA RIVER NEAR CANTWELL
1972 RECONSTITUTION
SNOW-MELT



15-12-45

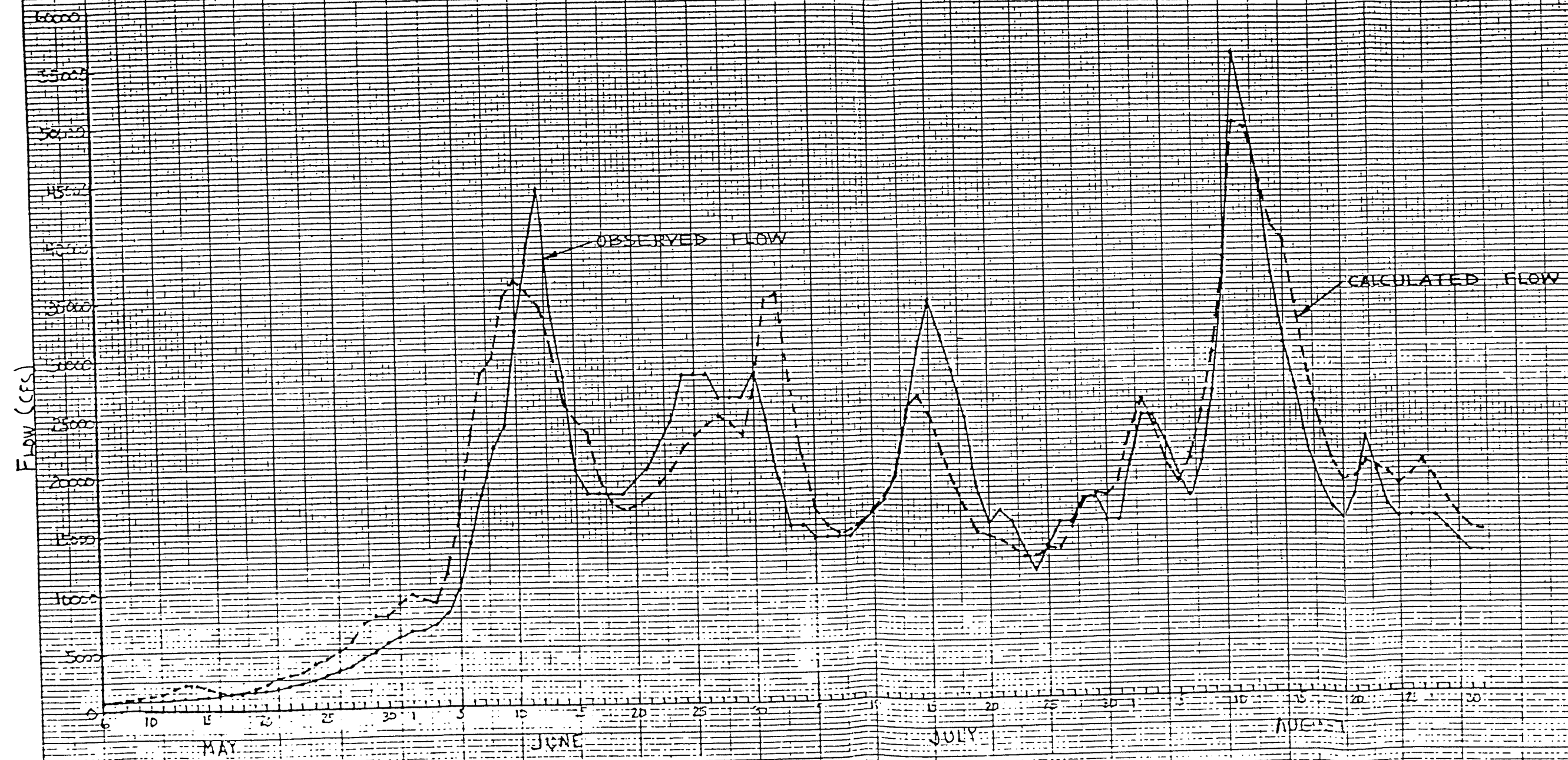




47 1320

K-E 10 X 10 TO 1/4 INCH 10 X 18 INCHES
NEUFEL & ESSEN CO. MADE IN U.S.A.

SUSITNA RIVER NEAR CANTWELL
1971 RECONSTITUTION

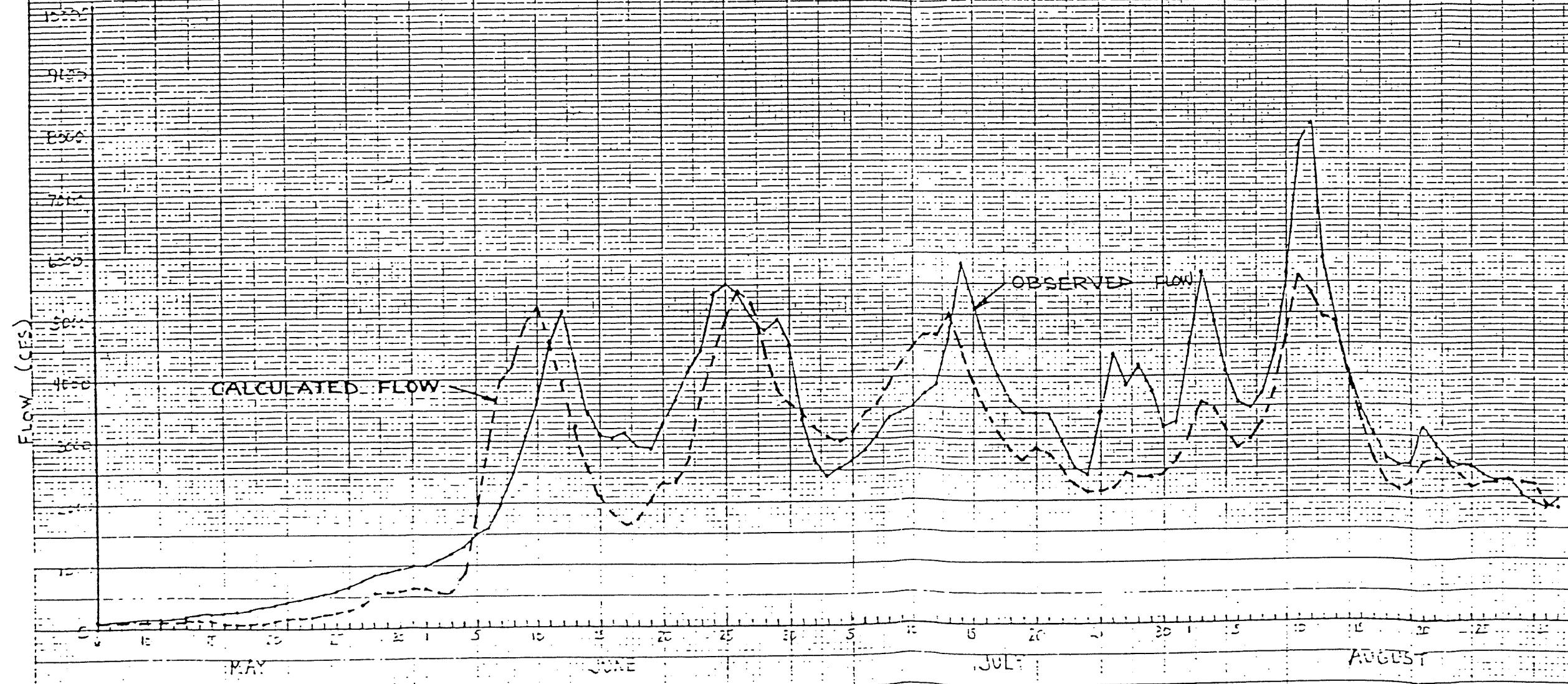


15 10 21/71

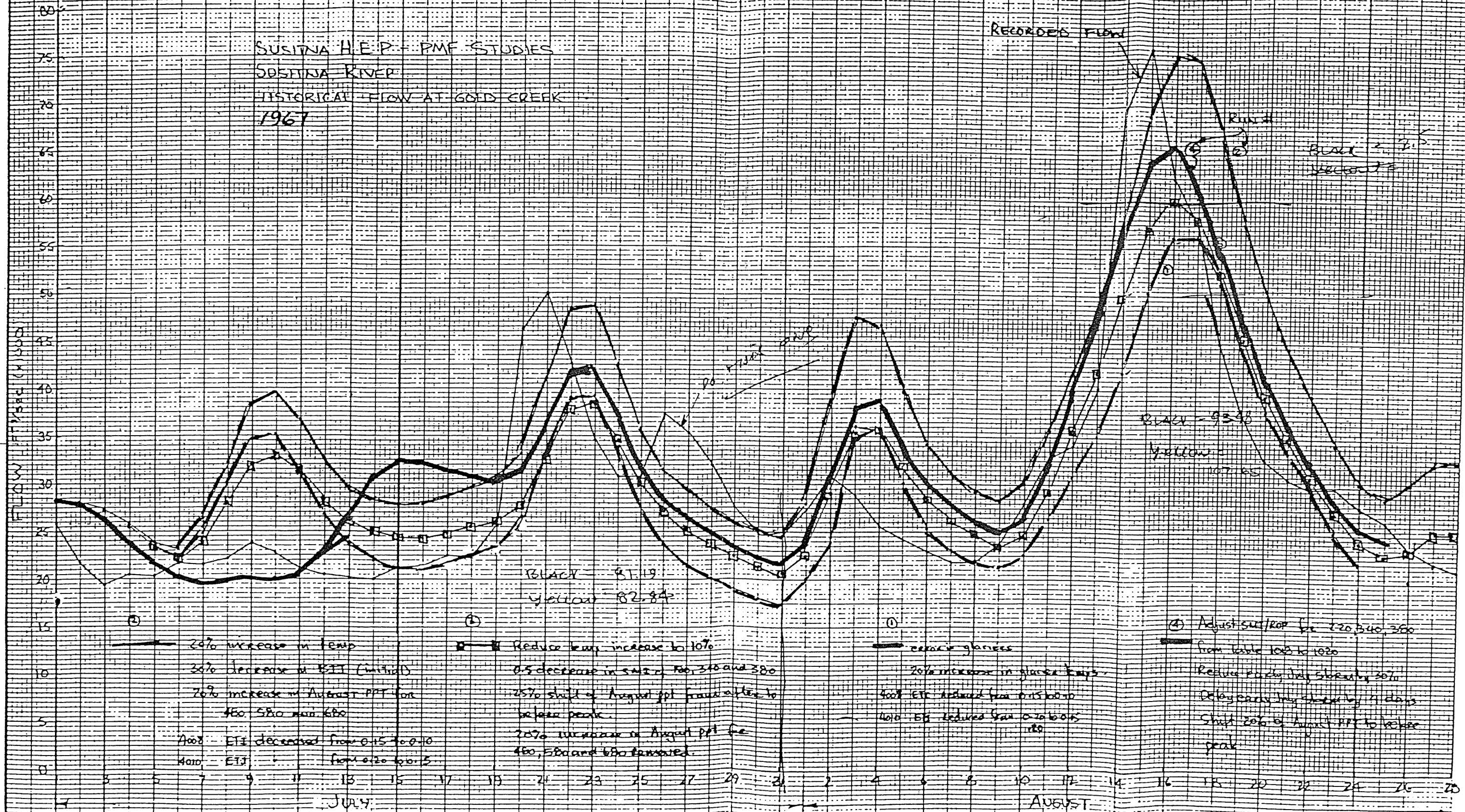
47 1320

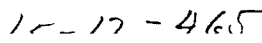
10 X 10 TO 1/4 INCH 10 X 13 INCHES
K&S NEUFFEL & ESSER CO. MINNAPOLIS

MACLAREN RIVER NEAR PAXSON
1971 RECONSTITUTION



SUSITNA H.E.P. - PMF STUDIES
 SUSITNA RIVER
 HISTORICAL FLOW AT GOOD CREEK
 1967





P.T. (INS)

20

LEGEND:

SEE GOLD CREEK HYDROGRAPHS

20% temp increase

SUSTNA-HEP
PME STUDY

MACLAREN RIVER AT MACLAREN
1967 FLOOD

Black = 26.35
Yellow = 29.51

Black = 24.67
Yellow = 29.53

DISCHARGE (CFS)

10

8

6

4

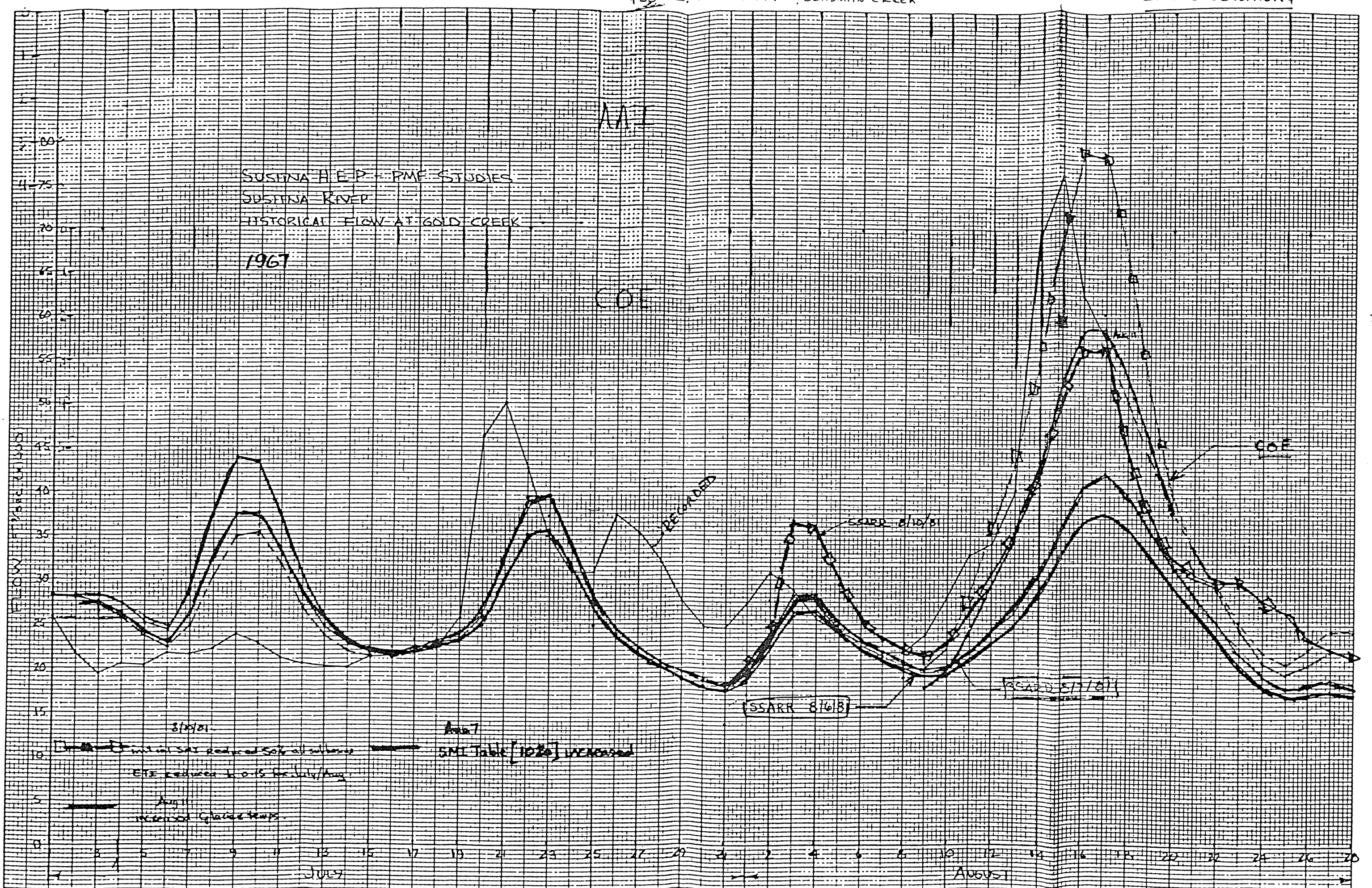
2

TIME (DAY)

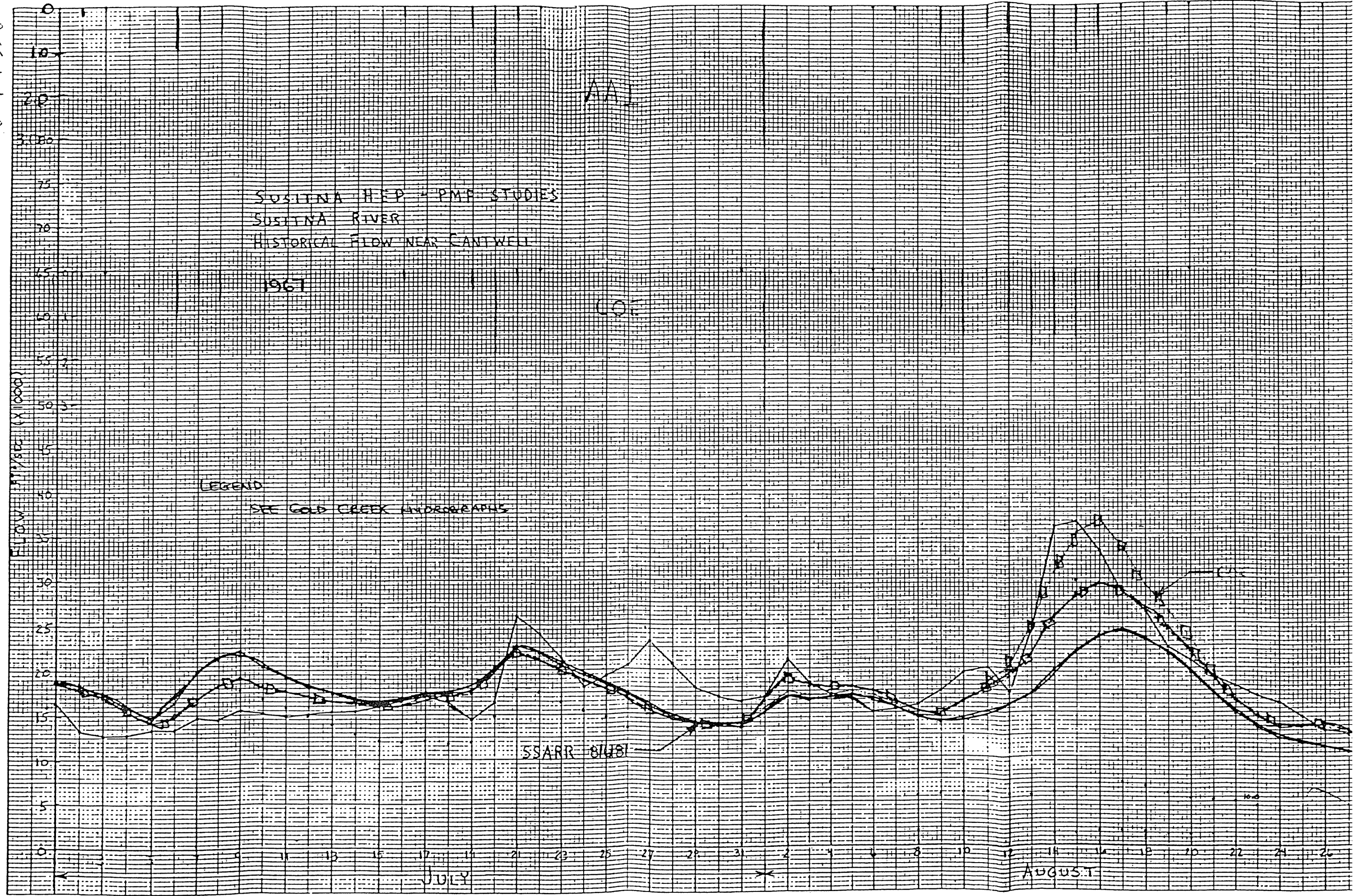
AUGUST

JULY

15-17-2166



7-10-62



Calculations

SUBJECT: SUBSTANCE AND STUDY
SEASON PRECIPITATION AMOUNTS

JOB NUMBER 1570013

FILE NUMBER

SHEET - 2 - OF

BY P. G. J. DATE June 25/5

APP DATE

STORM PERIOD	AMOUNTS (inches)							TOTAL	STATION	ELEV. (ft)
	Day									
	1	2	3	4	5	6	7			
July 25, 26, 27, 28, 29, 30, 31 /1930										
	.17	.52	T	.32	.38	.86	.08	2.33	Gulkana	
	.01	T	1.34	.12	.29	.17	.25	1.93	Talkeetna	
	.05	.10	.74	.68	.04	.30	.13	2.04	Paxon	
	.29	.27	.03	.31	.09	T	T	0.99	McKinley	
	T	.25	.25	.54	.12	0	0	1.16	Healy	
	.07	.07	.12	.26	T	.23	T	0.75	Big Delta	
	.54	1.62	2.32	.71	.25	0	.16	5.60	Chulita Lodge	
WESTERN RIZARDS	1.2	6.4	13.2	36.5	18.4	2.6	3	78.4 (3.09)	Devil's Canyon	
	10.8	5.3	17.0	23.2	.2	.4	3	57.4 (2.26)	Watana	
	1.2	13.4	7.2	41.2	11.3	5.2	5.8	86.3 (3.42)	Susitna Glacier	
	.6	4.4	.3	18.4	1.4	.9	1.0	27.4 (1.08)	Denali - numerous caves	
61° 49' , 47° 33'	.17	.57	.23	.03	.09	.09	.27	1.49	Tahleah Pass	
61° 36' 143° 06'	.03	.10	.22	.01	.53	?	.07	1.98	Pulmer Pass	
note: on plots as this storm is not particularly different from other August storms except that Gulkana is rather low - normal.										

ACRES

Calculations

SUBJECT: SUSANNA PMF STUDY

STORM PRECIPITATION AMOUNTS

JOB NUMBER P570002

FILE NUMBER _____

SHEET 1 OF _____

BY P.G.V. DATE Jan 21/8

APP _____ DATE _____

STORM PERIOD	AMOUNTS (inches)							STATION	ELEV. (ft.)	
	Day 1 2 3 4 5 6 7									
Aug. 4, 5, 6, 7, 8, 9, 10 / 1971	0	.15	.6	.16	.79	.08	0	1.78	Anchorage	114
	0	0	.19	.08	.99	.03	.08	0.47	Gulkana	1572
	0	.04	.76	.97	1.58	.77	1.18	4.80	Talkeetna	345
	.03	.05	.03	.41	.33	.72	1.02	2.59	Trims Camp	2408
	T	T	.71	5.42	.94	.18		2.25	Paxon	2750
	0	.11	.59	.41	.97	1.10	1.10	3.78	Gracious House	2550
	.97	.16	.20	.56	.13	.37	.38	2.27	Mackinley	2070-209
	.08	.16	.31	.13	.25	.91	.23	1.57	Summit	2400
	.22	.02	.07	.01	.09	.17	.42	0.95	Big Delta	666
	no record								Chulitna Lodge	?
Aug. 9, 10, 11, 12, 13, 14, 15, 16, 17 / 1967	T	.03	.02	.19	.65	0	0	1.47	Anchorage	114
	.12 .46									
	.15	0	T	T	.03	.06	T. 0	0.34	Gulkana	1572
	T .1									
	.21	.99	.09	.27	1.58	.56	.32	4.71	Talkeetna	345
	.72 .35									
	.37	.35	.40	.73	2.44	.91	.29	5.95	Trims Camp	2408
	.15 .31									
	.23	0	.71	.19	.27	.42	.75	2.57	Paxon	2750
	0 0									
	.53	.75	.34	.50	1.08	.71	.77	4.99	Gracious House	2550
	.25 0									
	.41	.25	0	1.36	.02	.32	.05	2.93	Mackinley	2070-20
	.01 .01									
	.30	.30	.48	.16	.18	.47	.28	2.47	Summit	2400
	23 .04									
	.12	.09	.09	.04	.92	.03	.02	T 0.81	Big Delta	666
	0 0									
	no record								Chulitna Lodge	?

AGRES

Calculations

SUBJECT: *SUCINA PMF STUDY*

STORM PRECIPITATION AMOUNTS

JOB NUMBER *P570003*

FILE NUMBER _____

SHEET *2* OF _____

BY *P. G. J.* DATE *June 13/8*

APP _____ DATE _____

STORM PERIOD	AMOUNTS (inches)							STATION	ELEV. (Ft)		
	Day 1 2 3 4 5 6 7										
Aug 19, 20, 21, 22, 23, 24, 25, 1959	.03	.02	.03	.11	.64	.07	T	1.38	Anchorage	114	
	.37	.14	0	T	.10	.12	.03	0.76	Gulkana	1572	
	1.35	T	.06	.02	.47	.77	.83	T	3.50	Talkeetna	345
	.94	.02	T	.03	.29	.43	.20	1.96	Travis Camp	2408	
	no record								Paxon	2750	
	.40	.05	.10	.10	.12	1.0	1.0	0	2.77	Gracious House	2550
	.31	.11	T	T	.07	.75	.23	1.47	Mckinley	2070-2092	
	.46	.35	.17	.13	.12	.52	.44	.07	2.30	Summit	2400
	T	.07	0	0	0	T	.23	0	.36	Big Delta	666
	no record								Chulitna Lodge	?	
July 28, 27, 30, 31, Aug. 1, 2, 3, 1958	T	T	.02	.02	.21	.45	.04	0.74	Anchorage		
	.02	.01	.16	.11	.38	.01	.31	0.95	Gulkana		
	.12	.15	.13	.17	.14	.08	.59	.88	2.51	Talkeetna	345
	.08	.61	.31	.72	.30	.26	.32	1.62	4.92	Travis Camp	2408
	no record								Paxon	2750	
	no record								Gracious House	2550	
	.11	.09	.12	.55	.75	.12	.08	1.82	Mckinley	2070-92	
	.23	.27	.23	.01	.16	.50	.39	.23	2.02	Summit	2400
	T	T	.67	.17	.07	T	0	0.91	Big Delta		
	no record								Chulitna Lodge		
Aug. 22, 23, 24, 25, 26, 27, 28, 1955	.02	.53	1.30	.47	.15	.23	T	2.70	Anchorage		
	T	T	.04	.12	.02	.64	.51	.73	2.46	Gulkana	
	.11	.95	1.88	1.33	.35	1.15	1.52	0	8.45	Talkeetna	345
	no record								Travis Camp		
	no record								Paxon		
	no record								Gracious House		
	.04	.01	.05	.39	.03	.42	.21	1.15	Mckinley	2070-92	
	.07	.27	1.34	.66	.36	1.57	.38	.13	4.73	Summit	2400
	.01	0	0	.18	0	.02	.08	0.29	Big Delta		
	no record								Chulitna Lodge		

ACRES

Calculations

SUBJECT:

JOB NUMBER _____
 FILE NUMBER _____
 SHEET _____ OF _____
 BY _____ DATE _____
 APP _____ DATE _____

Correlation to check for storm type

A, G, T, TC, P, GH, Mc, S, BD, etc.

too far
 from
 dense so
 have not
 at correlation

A vs G	G vs T				
A vs T	G vs TC	T vs TC			
A vs TC	G vs P	T vs P	TC vs P		
A vs P	G vs GH	T vs GH	TC vs GH	P vs GH	
A vs GH	G vs Mc	T vs Mc	TC vs Mc	P vs Mc	GH
A vs Mc	G vs S	T vs S	TC vs S	P vs S	GH
A vs S	G vs BD	T vs BD	TC vs BD	P vs BD	GH
A vs BD					

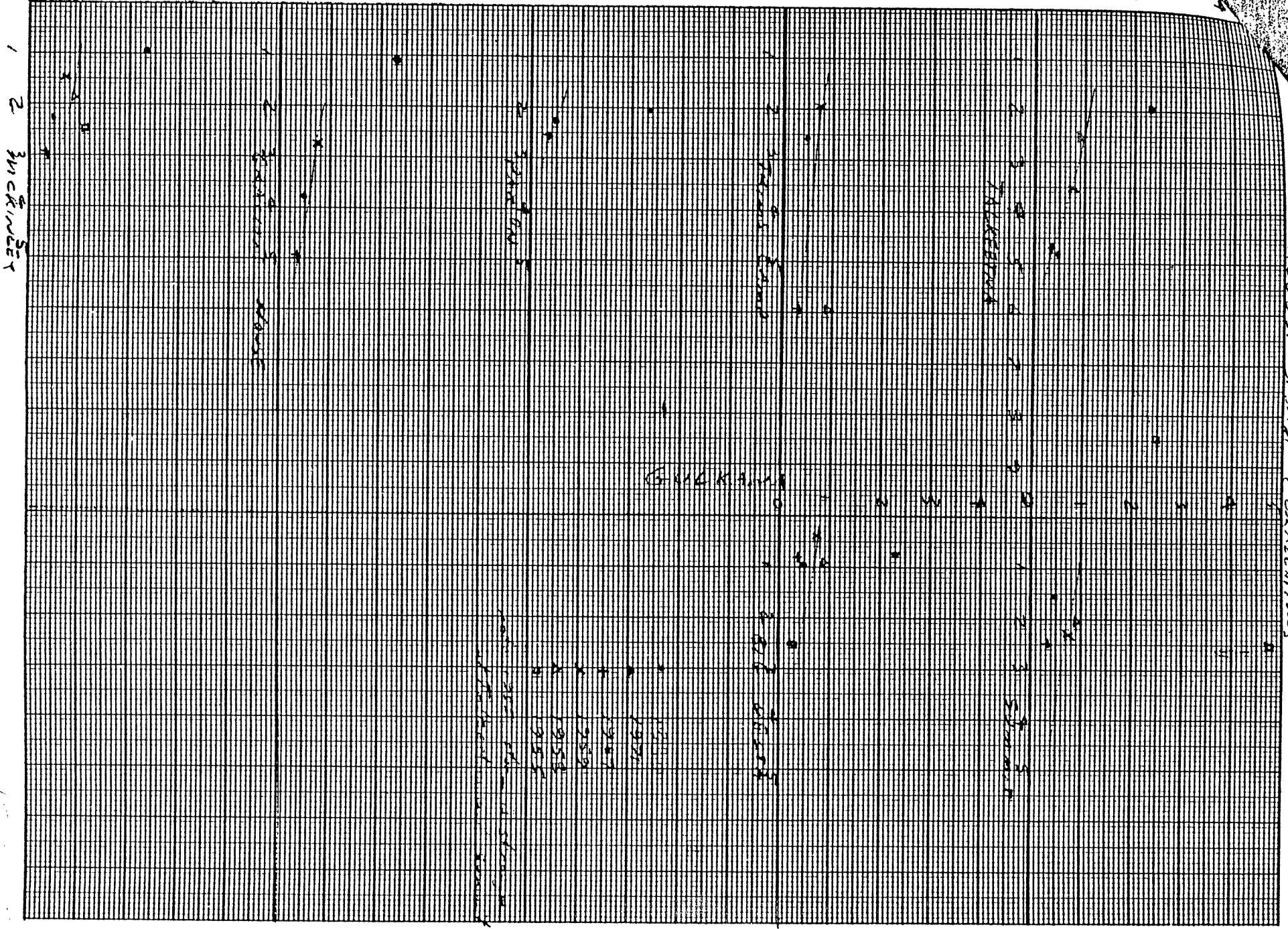
Mc vs S
 Mc vs S vs BD
 30

A reasonable corr. on each of 36 correlations
 indicates that a definite Aug. storm type
 exist

17 12 1964

GULKANA

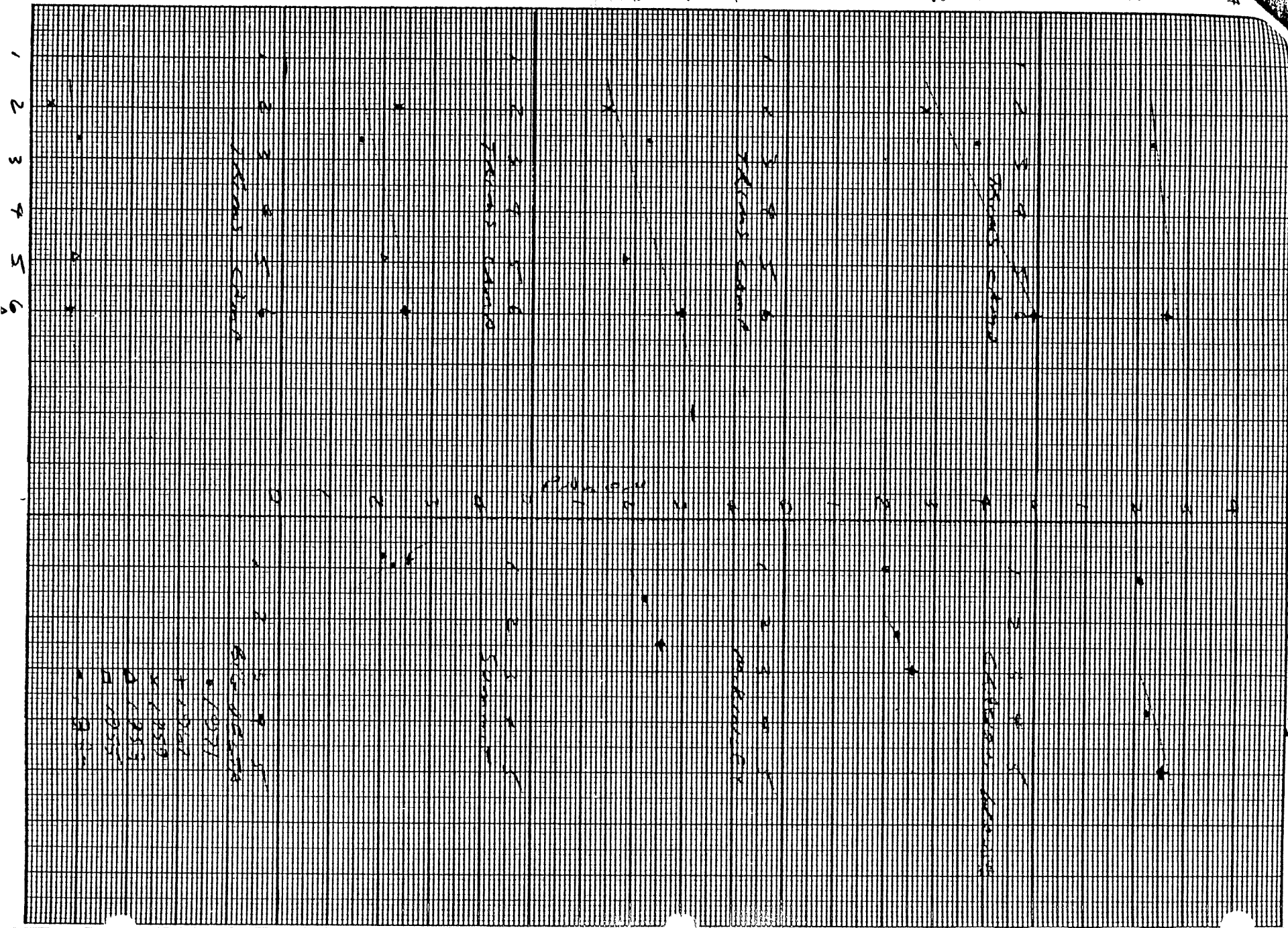
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SUSPENDED STUDY

JUNE 1931

0 1 BIG DELTA 0 1 SUMMIT 1 MCKINLEY 1 GRACIOUS HOUSE 1 PAXON



Subsistent in the system

June

SUMMIT
N W A

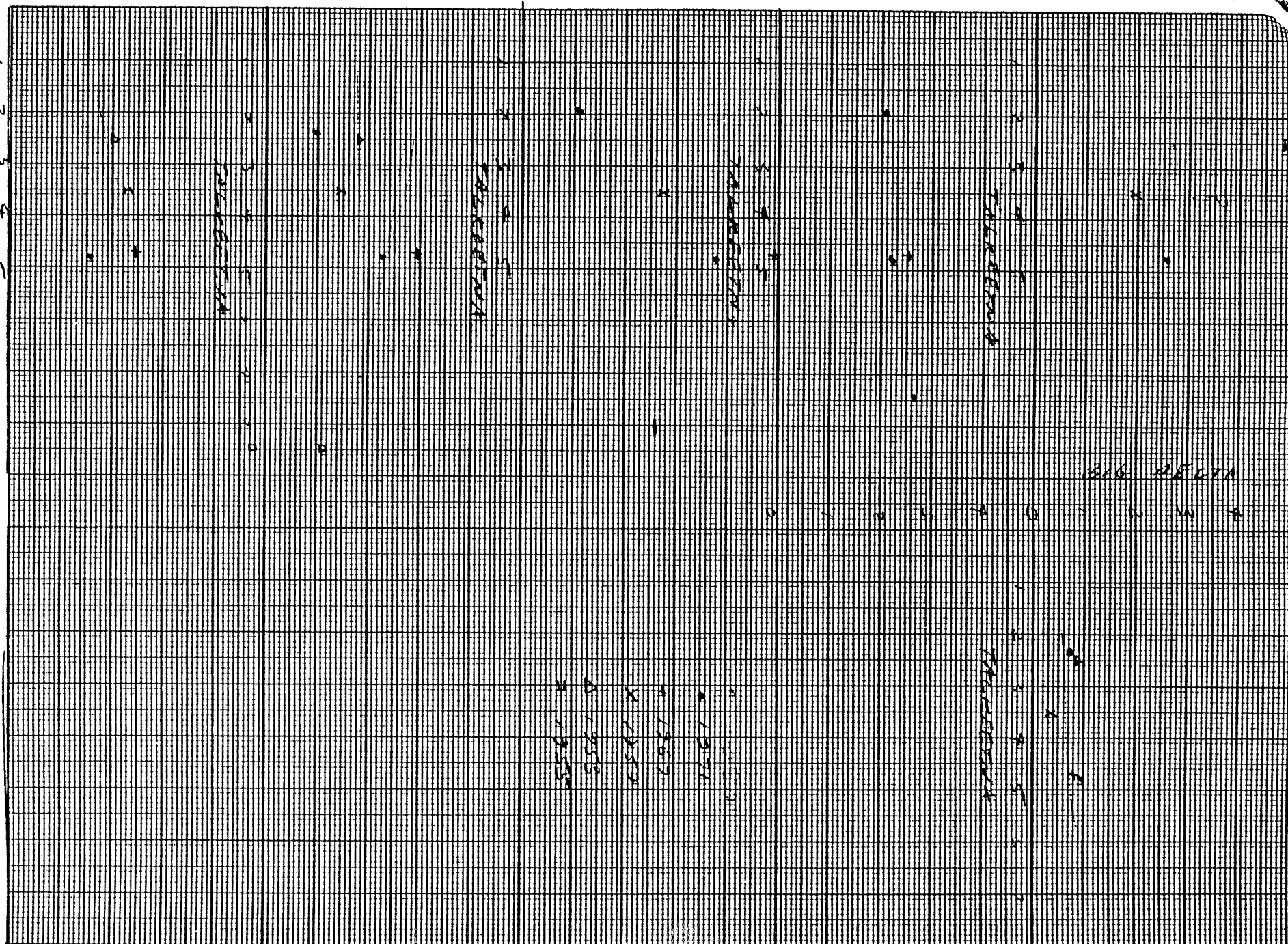
MCKINLEY
N W A

GRACIOUS HOUSE
N W A

PAXSON
N W A

TRANS. C.
N W A

SUMMIT



SUMMIT AND STATION

AUGUST STATION CORRELATIONS

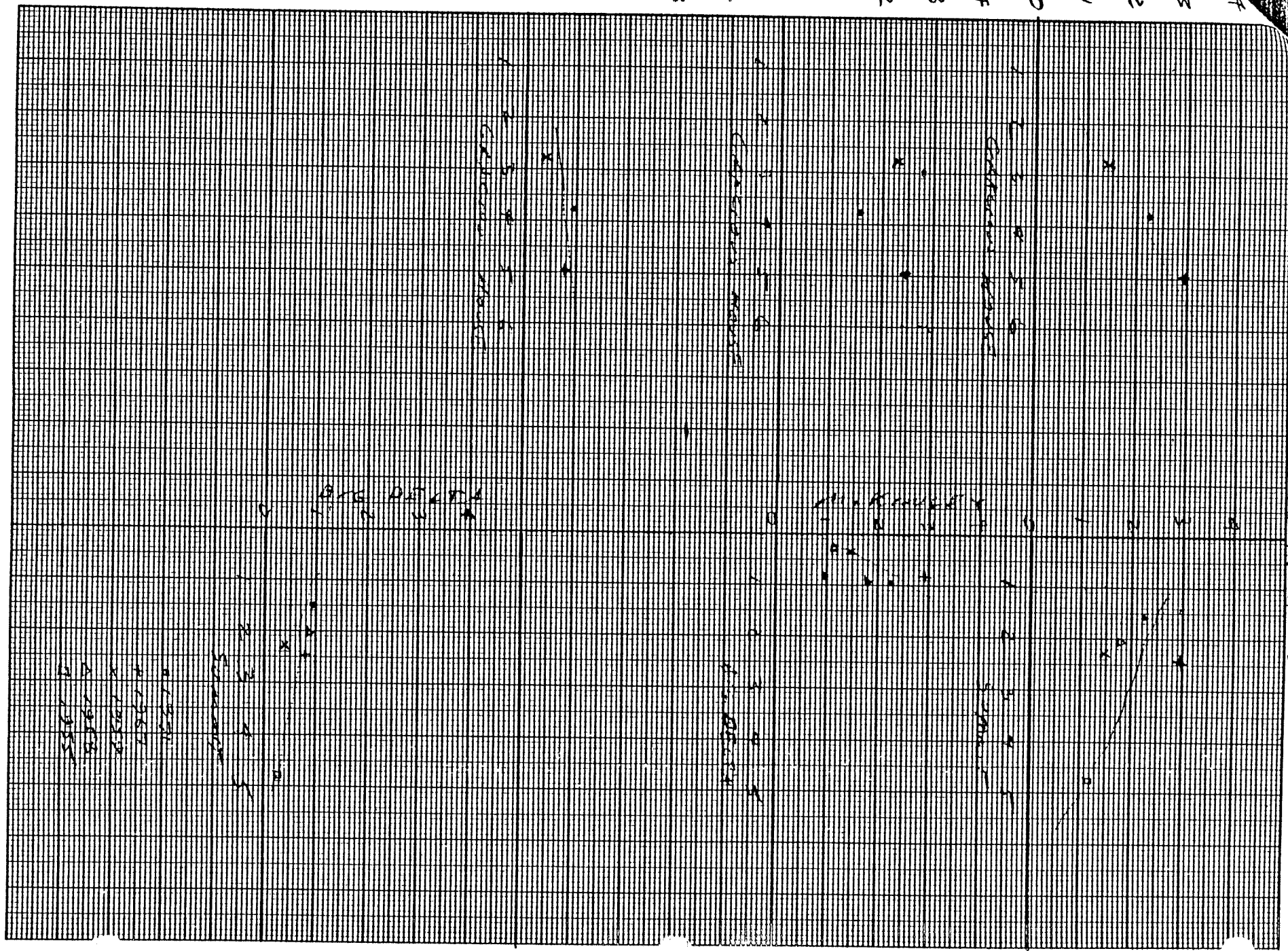
JUNE 18/5

0 - N W A 0 - N W A 0

Summit

N. KINCE

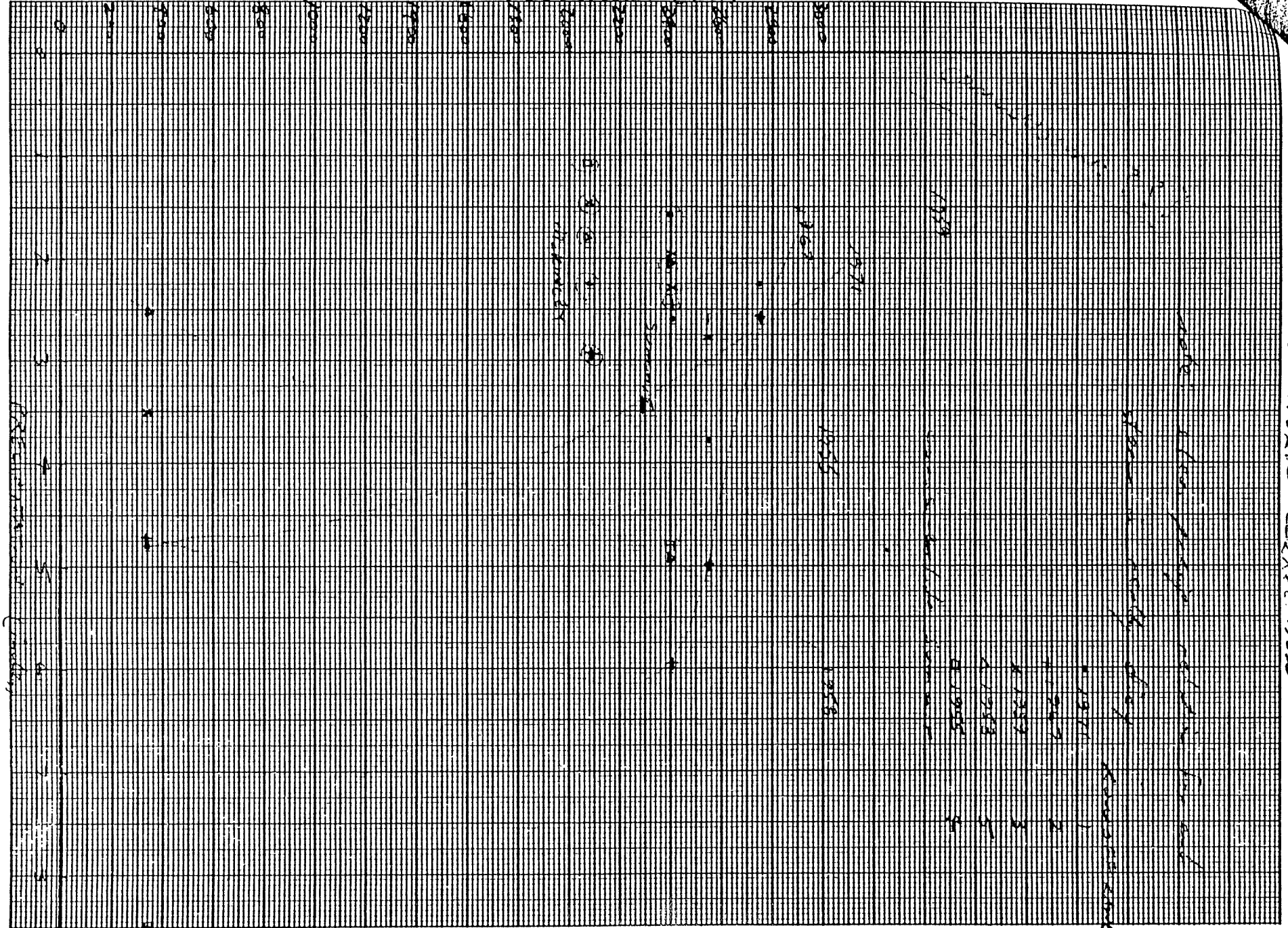
0 - N W A



SUSPENDED STATION

JUNE 1955

ELEVATION (Ft.)



SUSTAIN PINE STUDY
AGGREGATE CORRELATION
JUNE 1967



Calculations

SUBJECT: SUSITNA PMF DEMONSTRATION
TERRITORY DATE AT ANCHORAGE

JOB NUMBER 1570053
FILE NUMBER _____
SHEET 1 OF _____
BY P.G.J. DATE 1/1/72
APP _____ DATE _____

August 1971 Storm

Day	Hour	Dew Pt Temp. (°F)	Day	Hour	Dew Pt Temp. (°F)	Day	Hour	Dew Pt Temp. (°F)
1	02	<u>52</u>	05	02	<u>48</u> ^{48.7}	09	02	<u>52</u>
	05	<u>51</u>		05	<u>48</u>		05	<u>51</u>
	08	<u>52</u>		08	<u>49</u>		08	<u>51</u>
	11	<u>54</u>		11	<u>53</u>		11	<u>53</u>
	14	<u>52</u>		14	<u>53</u>		14	<u>56</u>
	17	<u>52</u>		17	<u>53</u>		17	<u>55</u>
	20	<u>51</u>		20	<u>53</u>		20	<u>55</u>
	23	<u>51</u>		23	<u>52</u>		23	<u>52</u>
2	02	<u>50</u>	06	02	<u>50</u>	10	02	<u>51</u>
	05	<u>50</u>		05	<u>51</u>		05	<u>51</u>
	08	<u>51</u>		08	<u>50</u>		08	<u>52</u>
	11	<u>51</u>		11	<u>50</u>		11	<u>54</u>
	14	<u>52</u>		14	<u>51</u>		14	<u>56</u>
	17	<u>51</u>		17	<u>51</u>		17	<u>56</u>
	20	<u>51</u>		20	<u>49</u>		20	<u>54</u>
	23	<u>47</u>		23	<u>49</u>		23	<u>53</u>
3	02	<u>40</u>	07	02	<u>50</u>	11	02	<u>54</u>
	05	<u>36</u>		05	<u>50</u>		05	<u>53</u>
	08	<u>40</u>		08	<u>50</u>		08	<u>52</u>
	11	<u>43</u>		11	<u>52</u>		11	<u>55</u>
	14	<u>45</u>		14	<u>53</u>		14	<u>56</u>
	17	<u>44</u>		17	<u>50</u>		17	<u>55</u>
	20	<u>44</u>		20	<u>51</u>		20	<u>54</u>
	23	<u>44</u>		23	<u>51</u>		23	<u>48</u>
4	02	<u>45</u>	08	02	<u>51</u>	note: underlining indicates precip. recorded : red is storm depr. in air flowing in area?		
	05	<u>42</u>		05	<u>52</u>			
	08	<u>48</u>		08	<u>52</u>			
	11	<u>46</u>		11	<u>53</u>			
	14	<u>50</u>		14	<u>53</u>			
	17	<u>49</u>		17	<u>53</u>			
	20	<u>50</u>		20	<u>51</u>			
	23	<u>48</u>		23	<u>50</u>			



Calculations

SUBJECT: SURFHA AND AIR POINT
TEMPERATURE DATA AT ANCHORAGE

JOB NUMBER R-75001
FILE NUMBER _____
SHEET 2 OF _____
BY R. J. Smith DATE 1-1-68
APP _____ DATE _____

August 1967 Storm

Day	Hour	Obs Pt. Temp (°F)	Day	Hour	Obs Pt. Temp (°F)	Day	Hour	Obs Pt. Temp (°F)
6	02	<u>52</u>	10	02	48	14	02	49
	05	<u>51</u>		05	48		05	47
	08	<u>51</u>		08	49		08	47
	11	<u>51</u>		11	49		11	48
	14	59		14	<u>50</u>		14	43
	17	55		17	<u>50</u>		17	47
	20	<u>53</u>		20	<u>50</u>		20	46
	23	48		23	<u>49</u>		23	45
7	02	48	11	02	<u>49</u>	15	02	45
	05	50		05	48		05	45
	08	<u>52</u>		08	48		08	46
	11	<u>53</u>		11	50		11	48
	14	<u>55</u>		14	49		14	48
	17	<u>51</u>		17	47		17	47
	20	48		20	<u>47</u> T		20	46
	23	50		23	46		23	45
8	02	50	12	02	45	16	02	45
	05	<u>50</u>	46°F	05	45		05	46
	08	<u>51</u>		08	51		08	46
	11	<u>52</u>		11	45		11	48
	14	<u>53</u>		14	<u>48</u>		14	<u>51</u>
	17	<u>50</u>		17	<u>49</u>		17	<u>53</u>
	20	46		20	<u>47</u> T		20	47
	23	49		23	<u>47</u> T		23	46
9	02	45	high pressure passing	02	<u>45</u> T	17	02	<u>50</u>
	05	45	13	05	48		05	<u>50</u>
	08	46		08	45		08	<u>50</u>
	11	46		11	<u>49</u>		11	<u>51</u>
	14	48		14	<u>51</u>		14	<u>51</u>
	17	<u>49</u> T		17	<u>51</u>		17	48
	20	<u>48</u> T		20	<u>51</u>		20	47
	23	48		23	<u>51</u>		23	46



Calculations

SUBJECT: SUSITNA RIVER NEW POINT
TEMPERATURE DATA AT ANCHORAGE

JOB NUMBER 100000
FILE NUMBER _____
SHEET 3 OF _____
BY J. C. J. DATE _____
APP _____ DATE _____

August 1958 Steam

Day	Hour	Obs. Pt. Temp. (°F)	Day	Hour	Obs. Pt. Temp. (°F)	Day	Hour	Obs. Pt. Temp. (°F)
17	02	49	21	02	49			
	05	48		05	48			
	08	54	78°F	08	50			
	11	55		11	48			
	14	49		14	49			
	17	55		17	49			
	20	53		20	51			
	23	51 T		23	49			
18	02	51	22	02	47			
	05	52		05	47			
	08	54		08	50			
	11	53 T		11	48 T			
	14	56		14	49			
	17	51		17	52			
	20	50		20	49			
	23	48		23	48			
19	02	49	23	02	49			
	05	49	largest precip. period	05	48			
	08	49		08	50			
	11	48		11	52			
	14	46 T		14	52			
	17	45		17	53			
	20	46 T		20	54			
	23	47		23	53			
20	02	48	29	02	53			
	05	48 T		05	53			
	08	47		08	52			
	11	48		11	53			
	14	48		14	53			
	17	51		17	56 T			
	20	48		20	57			
	23	47		23	56			



Calculations

SUBJECT: SUSITNA RMT GEN POINT
TEMPERATURE DATA AT FANCHERSE

JOB NUMBER 157000
FILE NUMBER _____
SHEET 4 OF _____
BY L.G. DATE 4/23/58
APP _____ DATE _____

July - August / 1958 Storm

Day	Hour	Dew Pt. Temp. (°F)	Day	Hour	Dew Pt. Temp. (°F)	Day	Hour	Dew Pt. Temp. (°F)
28	02	55	1	02	52			
	05	56		05	52			
	08	<u>56</u> T		08	52			
	11	<u>57</u> T		11	52			
	14	52		14	53			
	17	50		17	<u>53</u>			
	20	50		20	<u>52</u>			
	23	50		23	50			
29	02	50	2	02	<u>50</u>			
	05	51		05	<u>52</u>			
	08	52		08	<u>51</u>			
	11	<u>49</u> T		11	<u>52</u>			
	14	<u>47</u> T		14	<u>53</u>			
	17	<u>49</u> T		17	<u>53</u>			
	20	49		20	<u>51</u>			
	23	49		23	<u>49</u>			
30	02	47	3	02	<u>48</u>			
	05	47		05	<u>47</u> T			
	08	47		08	47			
	11	48		11	45			
	14	51		14	47			
	17	<u>50</u> T		17	45			
	20	<u>52</u>		20	<u>47</u> T			
	23	<u>52</u>		23	47			
31	02	<u>52</u>	4	02	47			
	05	<u>52</u>		05	47			
	08	54		08	<u>51</u> T			
	11	<u>54</u> T		11	<u>51</u>			
	14	<u>53</u> T		14	<u>51</u> T			
	17	<u>50</u> T		17	<u>54</u> T			
	20	51		20	<u>54</u> T			
	23	52		23	<u>53</u> T			

75°F or 52°F?
maybe use 50°F



Calculations

SUBJECT: SUSPENSE FISH DEW POINT
TEMPERATURE DATA AT ANCHORAGE

JOB NUMBER 15700

FILE NUMBER

SHEET 5 OF

BY J. G. J. DATE

APP DATE

August 11, 1955 Storm

Day	Hour	Dew Pt. Temp. (°F)	Day	Hour	Dew Pt. Temp. (°F)	Day	Hour	Dew Pt. Temp. (°F)
21	02	51	25	02	44			
	05			05				
	08	46		08	42			
	11			11				
	14	49		14	45			
	17			17				
	20	47F		20	40			
	23			23				
22	02	50	26	02	35			
	05			05				
	08	45		08	35			
	11			11				
	14	48		14	40			
	17			17				
	20	43		20	36			
	23			23				
23	02	50	27	02	32			
	05			05				
	08	43		08	43			
	11			11				
	14	45		14	39			
	17			17				
	20	49		20	38			
	23			23				
24	02	49	28	02	29			
	05			05				
	08	43		08	39			
	11			11				
	14	48		14	42			
	17			17				
	20	48		20	40			
	23			23				



Calculations

SUBJECT: *SUNSHINE PINE PLANTATION*
TEMPERATURE DATA AT THE KEEFING

JOB NUMBER *750000*
FILE NUMBER _____
SHEET *1* OF _____
BY *C. S. S.* DATE *1-27*
APP _____ DATE _____

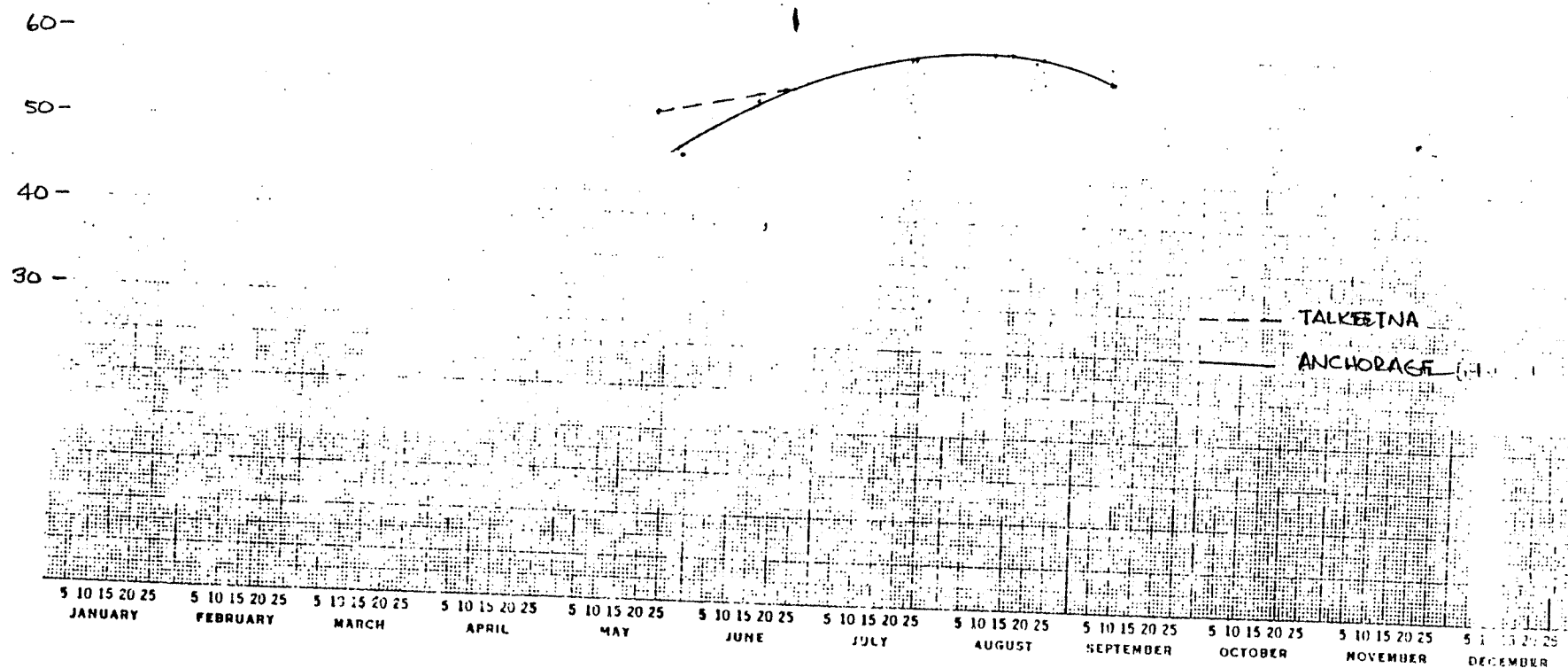
August 1977

Day	Hour	Dew Pt. Temp. (°F)	Day	Hour	Dew Pt. Temp. (°F)	Day	Hour	Dew Pt. Temp. (°F)
1	02		5	02		9	02	
	05			05			05	
	08	<u>53</u>		08	<u>52</u>		08	<u>52</u>
	11	<u>54</u>		11	<u>54</u> <i>50°F</i>		11	<u>53</u>
	14	<u>54</u>		14	<u>55</u>		14	<u>55</u>
	17	<u>53</u> <i>T</i>		17	<u>54</u> <i>T</i>		17	<u>56</u>
	20	<u>53</u> <i>T</i>		20	<u>54</u> <i>T</i>		20	<u>56</u>
	23	<u>53</u>		23	<u>53</u>		23	<u>55</u>
2	02		6	02		10	02	
	05			05			05	
	08	<u>51</u>		08	<u>50</u>		08	<u>55</u>
	11	<u>53</u>		11	<u>51</u>		11	<u>56</u>
	14	<u>53</u>	<i>heavy</i>	14	<u>52</u>		14	<u>56</u>
	17	<u>47</u>	<i>occasional</i>	17	<u>54</u>		17	<u>56</u>
	20	<u>50</u>	<i>white</i>	20	<u>53</u>		20	<u>57</u>
	23	<u>47</u>	<i>large</i>	23	<u>53</u>		23	<u>56</u>
3	02		7	02		11	02	
	05			05			05	
	08	<u>46</u> <i>T</i>		08	<u>53</u>		08	<u>55</u>
	11	<u>37</u>		11	<u>52</u>		11	<u>58</u>
	14	<u>45</u>		14	<u>54</u>		14	<u>55</u>
	17	<u>40</u>		17	<u>52</u> <i>T</i>		17	<u>52</u>
	20	<u>54</u>		20	<u>54</u> <i>T</i>		20	<u>57</u>
	23	<u>44</u>		23	<u>52</u>		23	<u>54</u>
4	02		8	02		12	02	
	05			05			05	
	08	<u>43</u>		08	<u>52</u>		08	<u>54</u>
	11	<u>47</u>		11	<u>53</u>		11	<u>56</u>
	14	<u>49</u>	<i>45°F</i>	14	<u>53</u>		14	<u>52</u>
	17	<u>45</u>		17	<u>54</u>		17	<u>52</u>
	20	<u>56</u>		20	<u>54</u>		20	<u>59</u>
	23	<u>54</u>		23	<u>54</u>		23	<u>58</u>

1512

SUSITNA HEP

50 YR MAX. 12hr. PERSISTING DEW POINT TEMPERATURES





Calculations

SUBJECT:

JOB NUMBER _____
FILE NUMBER _____
SHEET _____ OF _____
BY _____ DATE _____
APP _____ DATE _____

TALKEETNA 50 yr. 12hr MAX. PERSISTING DEW PT. TEMP

DATE	50 YR DEW PT (°F)
MAY 22	52.0
JUNE 21	55.0
JULY 21	59.0
AUGUST 10	60.0
SEPT. 8	57.0

GULKANA 50 yr. 12hr. MAX PERSISTING DEW PT. TEMP

DATE	50 YR DEW PT (°F)
MAY 22	50.5
JUNE 26	54.0
JULY 27	57.0
AUGUST 9	58.0
SEPT. 10	52.0



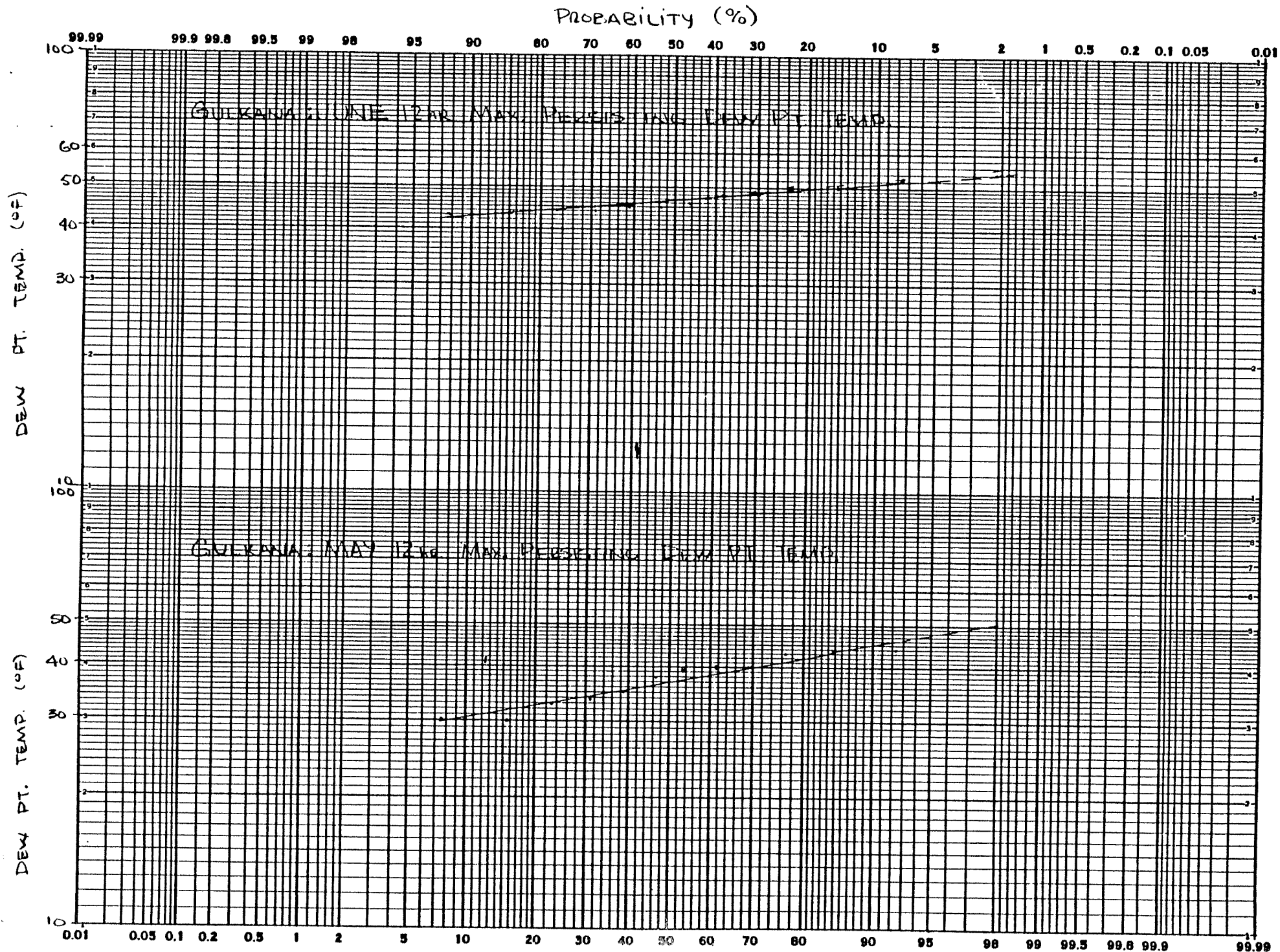
Calculations

SUBJECT: SUSANA HED
DMF - STUDIES

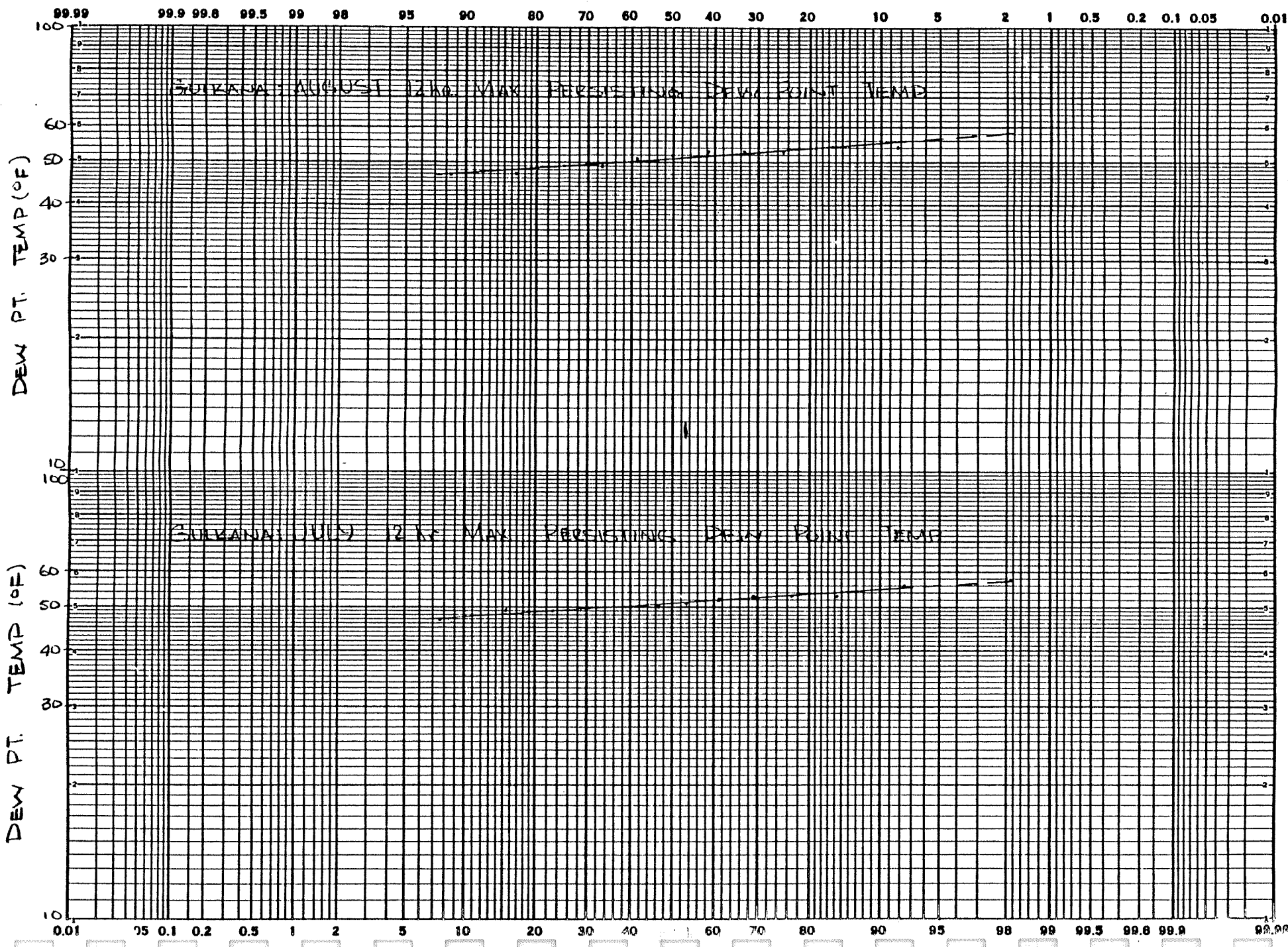
JOB NUMBER _____
FILE NUMBER _____
SHEET _____ OF _____
BY PTS DATE 7/2/84
APP _____ DATE _____

ANCHORAGE COUR MAY 12HR. PREDICTING DSW PT. TEMP

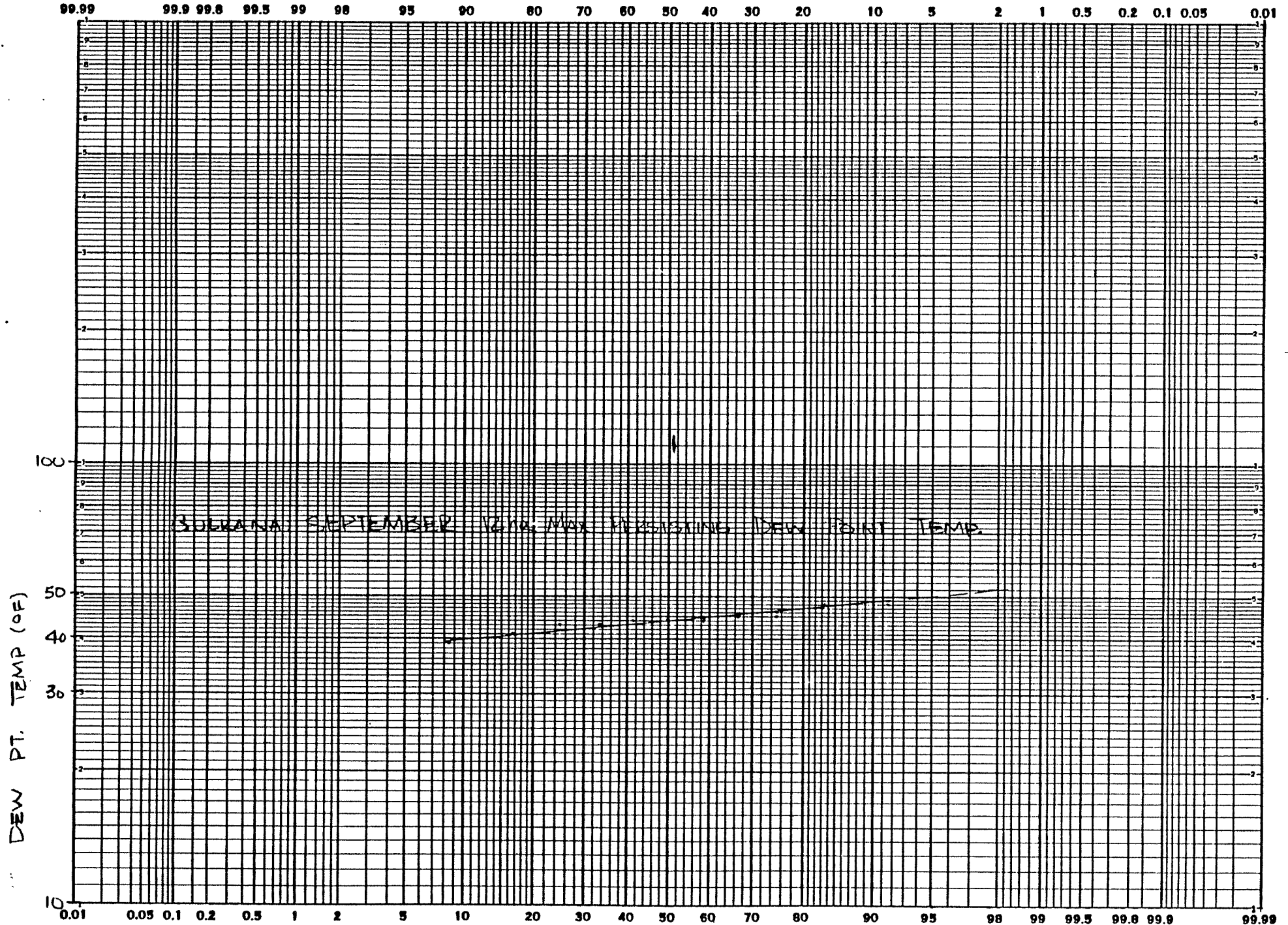
DATE	50 yr DSW pt. (°F)
MAY 23	47
JUNE 21	55
JULY 22	59.0
AUGUST 14	60.0
SEPTEMBER 7	57.0



PROBABILITY (%)



Probability (%)





Calculations

SUBJECT: Suckana

JOB NUMBER _____
FILE NUMBER _____
SHEET _____ OF _____
BY _____ DATE _____
APP _____ DATE _____

AUGUST

SEPT.

RANK	$\frac{M}{N+1}(\%)$	MAY		JUNE		JULY		RANK	$\frac{M}{N+1}(\%)$	DEW	DAY	DEW	DAY
		DEW PT. TEMP °F	DAY	DEW PT. TEMP. °F	DAY	DEW PT. TEMP. °F	DAY			PT T.(°F)		PT. T.(°F)	
1	7.7	44	28	52	30	56	24	1	8.3	54	10	48	1
2	15.4	43	31	50	30	53	31	2	16.7	54	10	48	11
3	23.1	42	30	50	26	53	18	3	25.0	53	7	45	5
4	30.8	40	23	49	27-28	53	25	4	33.3	53	1	45	13
5	38.5	40	31	48	27	52	11	5	41.7	53	16	44	11
6	46.2	39	14	46	27-28	51	22	6	50.0	52	14	44	14-15
7	53.8	38	19	45	23	50	27	7	58.3	51	3	44	13
8	61.5	35	25	45	22	50	9	8	66.7	49	4	43	11
9	69.2	34	2	44	30	50	16	9	75.0	49	11	43	7
10	76.9	33	9-10	44	24	49	23	10	83.3	47	18	41	4
11	84.6	30	28	44	7	49	31	11	91.7	47	5-6	39	9
12	92.3	30	27-28	43	29	47	28				8.8		9.5
			21.8		25.6		26.5						



Calculations

SUBJECT: SUSITNAI HEP

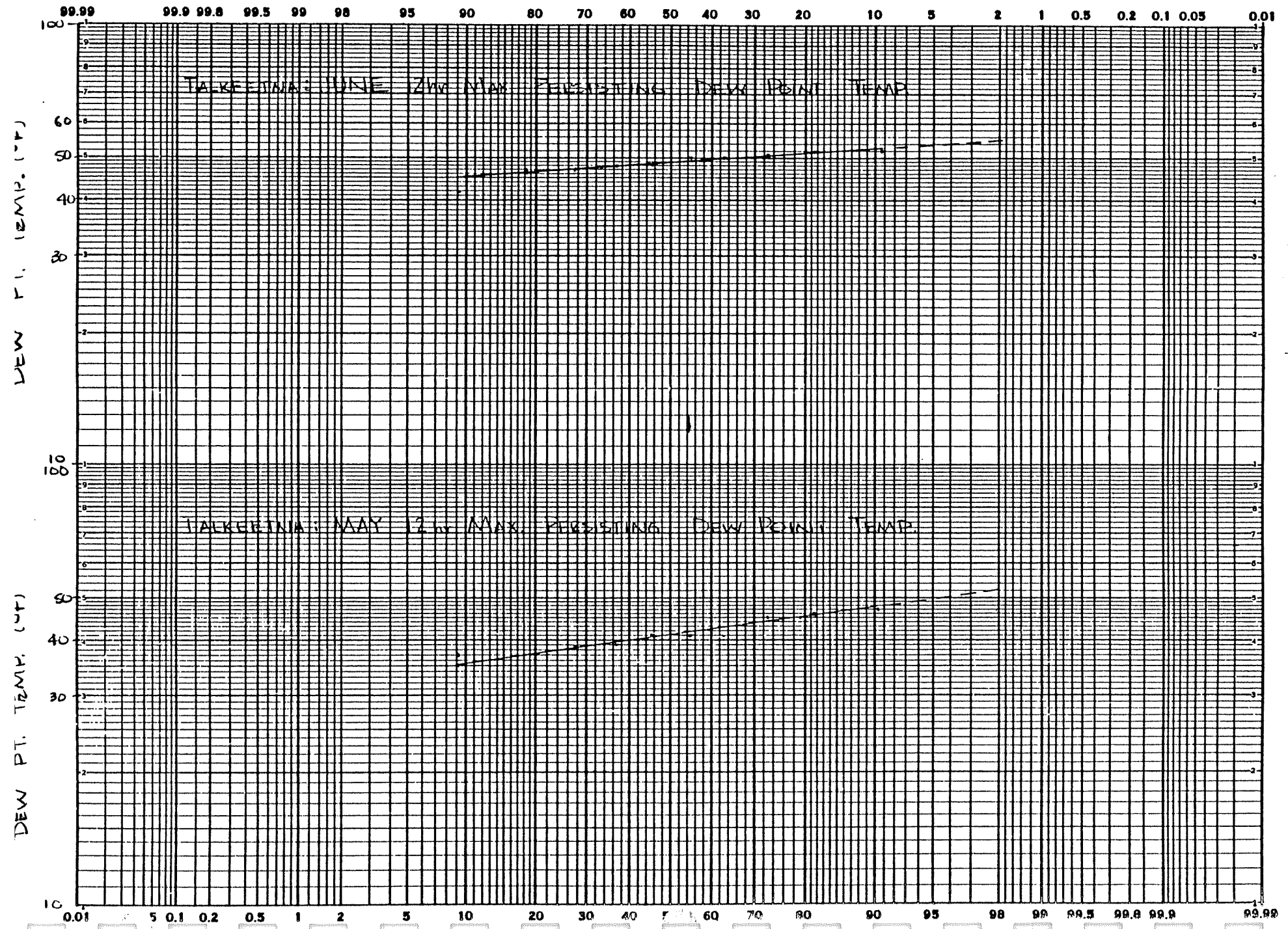
PMF - STUDIES

JOB NUMBER PS 700.03
FILE NUMBER _____
SHEET _____ OF _____
BY RJS DATE 7/22/89
APP _____ DATE _____

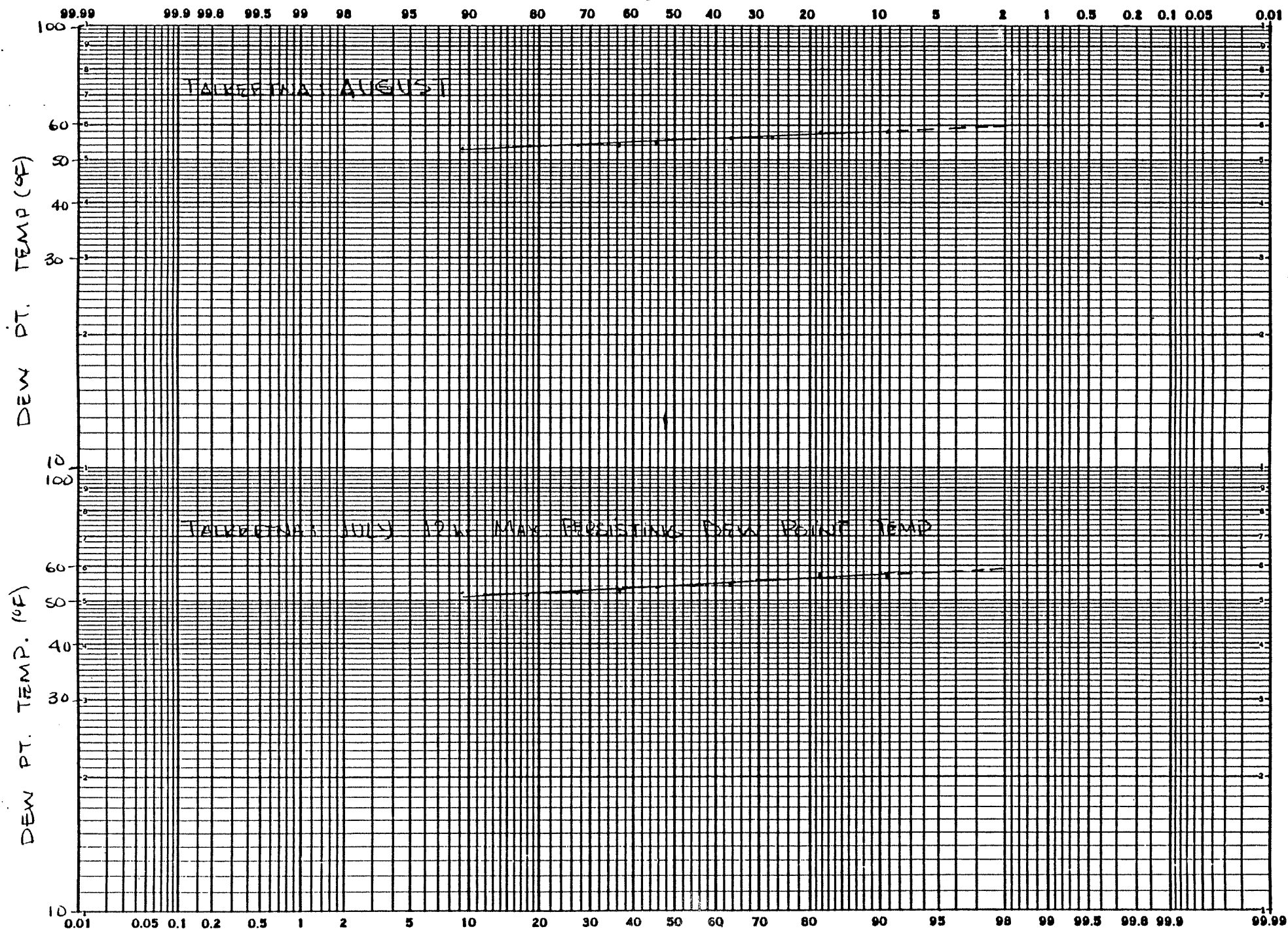
GAULIKANA - 12hr. Persisting Max. dew pt. Temp °F

YEAR	MAY	JUNE	JULY	AUGUST	SEPT.
1968	40°/23	48°/27	47°/28	47°/18	45°/15
1969	40°/31	52°/30'	52°/11	51°/3	41°/4
1970	39°/14	45°/23	49°/23	47°/5-6	45°/13
1971	30°/28	46°/27-28	53°/31	54°/10	48°/1
1972	42°/30'	44°/30	50°/27	53°/16	44°/11
1973	33°/9-10	44°/24	51°/22	NONE	NONE
1974	38°/19	49°/27-28	49°/31	49°/4	44°/14-15
1975	44°/28'	50°/30	53°/18	52°/14	48°/11
1976	30°/27-28	45°/22	50°/7	49°/11	39°/9
1977	43°/31'	50°/26	56°/24	54°/10	42°/11
1978	35°/25	44°/7	50°/16	53°/7	43°/7
1979	34°/2	42°/28	53°/25	53°/1	44°/13

PROBABILITY (%)



PROBABILITY (%)



PROBABILITY (%)

99.9 99.8 99.5 99 98 95 90 80 70 60 50 40 30 20 10 5 2 1 0.5 0.2 0.1 0.05 0.01

TAKFETNA: SEPTEMBER 12 HR MAX PERSISTING DEW POINT TEMP.

DEW PT. TEMP. (°F)

100

60

50

40

30

10

0.01 0.05 0.1 0.2 0.5 1 2 5 10 20 30 40 60 70 80 90 95 98 99 99.5 99.8 99.9 99.99



Calculations

SUBJECT: SUSITNA HEP

PMF - STUDIES

JOB NUMBER D5700.03

FILE NUMBER _____

SHEET _____ OF _____

BY RJS DATE 7/21/81

APP _____ DATE _____

TALKEETNA - 12 hr. persisting Max dew pt. temp. (°F)

YEAR	MAY	JUNE	JULY	AUGUST	SEPT.
1968	45°/23'	47°/10-11'	54°/8'	56°/3-2'	50°/5'
1969	47°/22'	52°/30'	56°/11'	54°/4'	47°/3'
1970	41°/27'	51°/27'	54°/28'	53°/5'	49°/15'
1971	39°/28'	47°/21'	55°/13'	56°/10'	51°/1'
1972	46°/31'	48°/20'	53°/11'	54°/14'	54°/2'
1973	39°/16'	48°/18-19'	52°/28'	55°/20'	48°/19'
1974	37°/16'	42°/19'	52°/19'	54°/16'	54°/1'
1975	41°/25'	50°/28-29'	52°/29'	56°/14'	46°/16'
1976	37°/28'	50°/16'	57°/29'	58°/4'	46°/19'
1977	41°/29'	52°/14-15'	57°/31'	58°/14'	48°/10'



Calculations

SUBJECT:

JOB NUMBER D-700.02

FILE NUMBER _____

SHEET _____ OF _____

BY RJS DATE 22 July 82

APP _____ DATE _____

TAUSETNA - 12hr persisting Max dew pt. temp (°F)

MAY

DAY	RANK	DEW PT. TEMP	$\left(\frac{M}{N+1}\right)$ $\times 100 = \%$
22	1	47	9.1
31	2	46	18.2
23	3	45	27.3
27	4	41	36.4
25	5	41	45.5
29	6	41	54.5
28	7	39	63.6
16	8	39	72.7
16	9	37	81.8
<u>28</u>	10	37	90.9
22.0			

JULY

29	1	57	9.1
31	2	57	18.2
11	3	56	27.3
13	4	55	36.4
8	5	54	45.5
28	6	54	54.5
11	7	53	63.6
19	8	52	72.7
29	9	52	81.8
<u>29</u>	10	52	90.9
20.7			

JUNE

DAY	RANK	DEW PT. TEMP	$\left(\frac{M}{N+1}\right)$ $\times 100 = \%$
30	1	52	9.1
14-15	2	52	18.2
27	3	51	27.3
28-29	4	50	36.4
16	5	50	45.5
30	6	48	54.5
18-19	7	48	63.6
10-11	8	47	72.7
21	9	47	81.8
<u>19</u>	10	42	90.9
20.5			

AUGUST

4	1	53	9.1
4	2	53	18.2
8-9	3	56	27.3
10	4	56	36.4
14	5	56	45.5
20	6	55	54.5
4	7	54	63.6
14	8	54	72.7
16	9	54	81.8
<u>5</u>	10	53	90.9
9.8			



Calculations

SUBJECT: SUSITNA NED

JOB NUMBER _____

FILE NUMBER _____

SHEET _____ OF _____

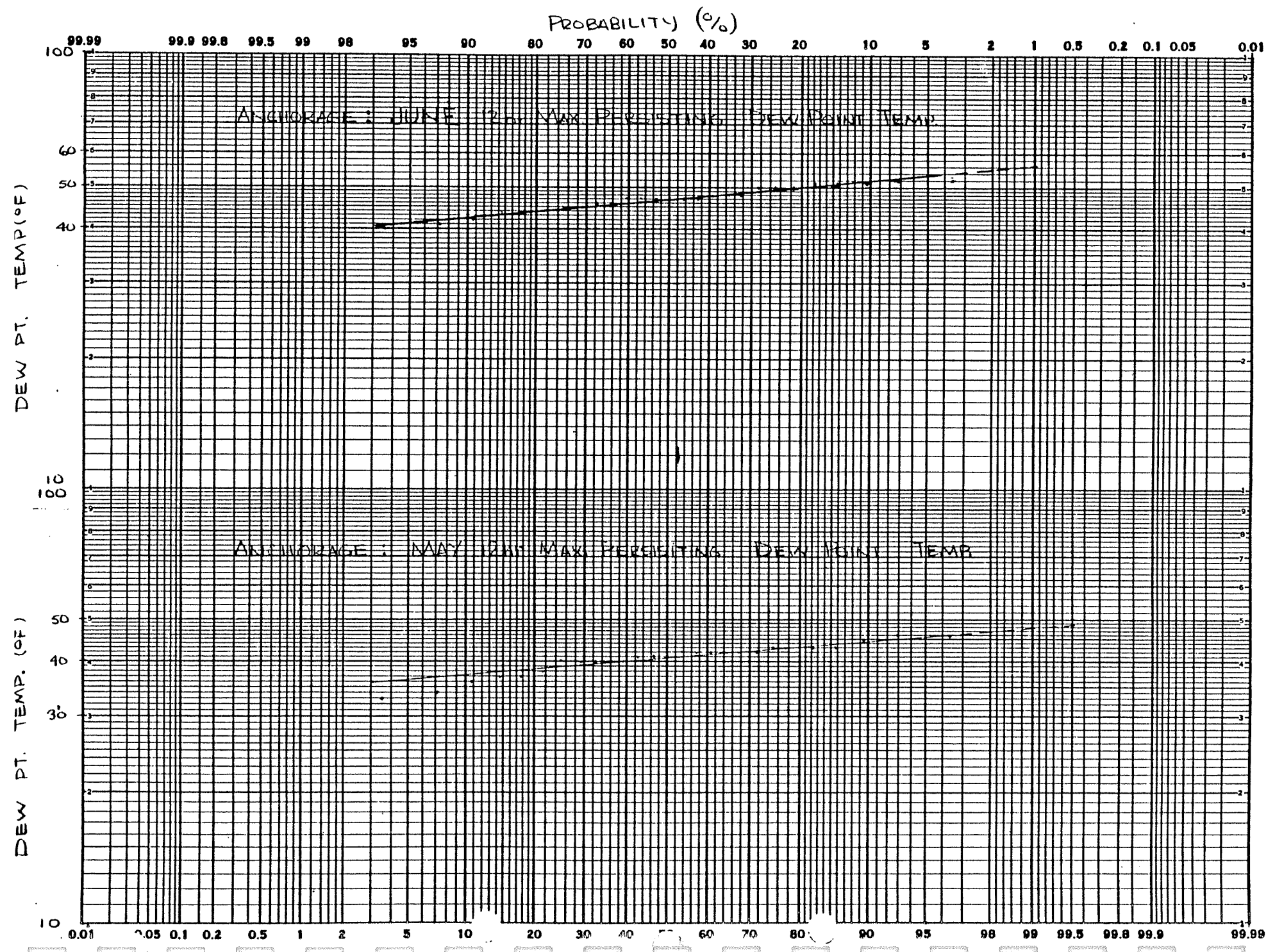
BY DJS DATE 7/22/91

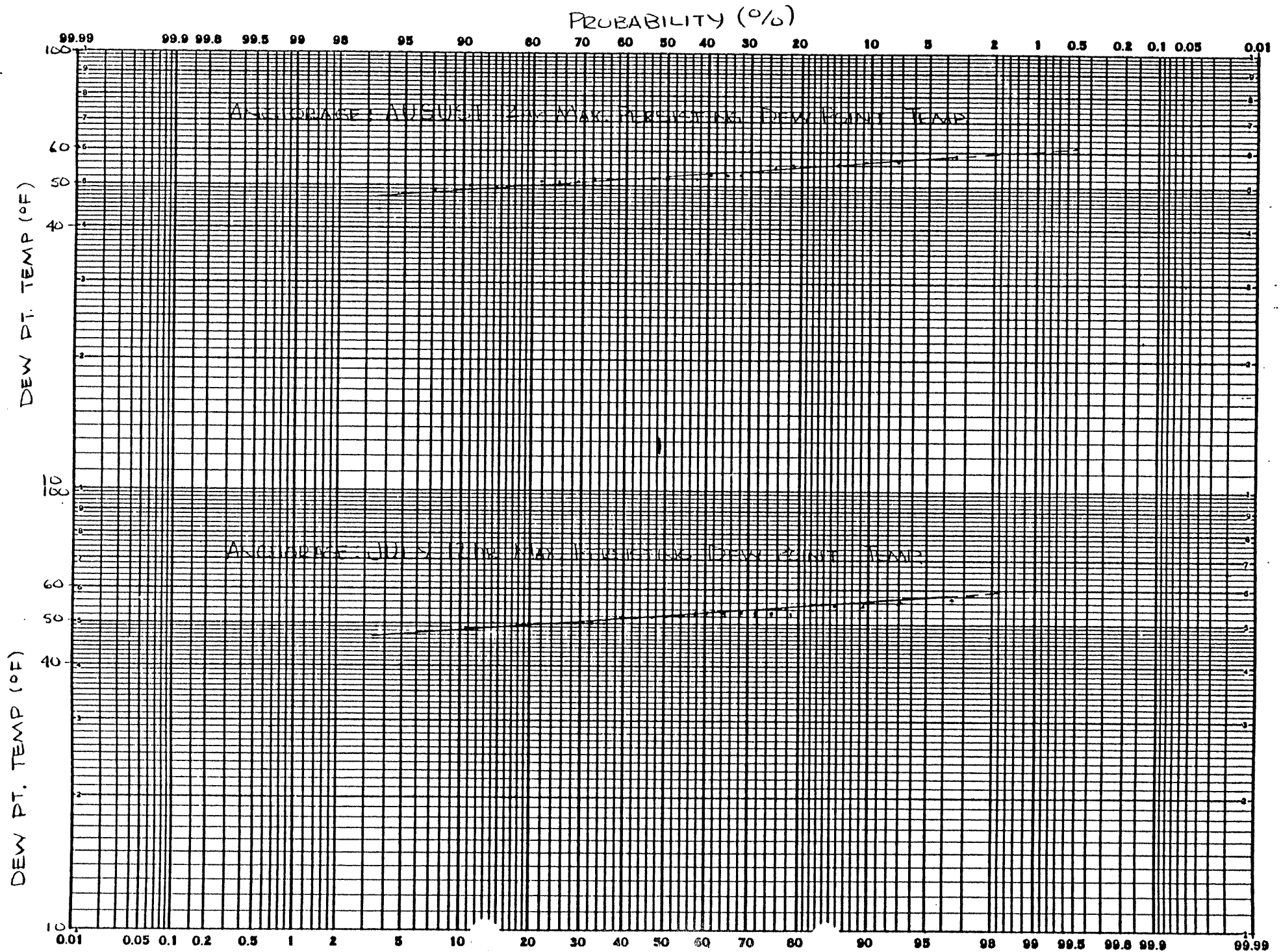
APP _____ DATE _____

TAKSEETNA - 12 hr persisting Max. dew pt. temp. (°F)

September

DAY	RANK	DEW PT. TEMP	$\frac{M}{N+1}$ (%)
2	1	54	9.1
1	2	54	18.2
1	3	51	27.3
5	4	50	36.4
15	5	49	45.5
19	6	48	54.5
10	7	48	63.6
3	8	47	72.7
16	9	46	81.8
9	10	46	90.9
8.1			





PROBABILITY (%)

99.99 99.9 99.8 99.5 99 98 95 90 80 70 60 50 40 30 20 10 5 2 1 0.5 0.2 0.1 0.05 0.01

18

6

8

8

2

10

ANCHORAGE SEPTEMBER 12th MAX. PEWEEING DEW POINT 11MM

0.01 0.05 0.1 0.2 0.5 1 2 5 10 20 30 40 50 60 70 80 90 95 98 99 99.5 99.8 99.9 99.99

DEW PT. TEMP. (°F)



Calculations

SUBJECT: SUSITNA WED

PMF-STUDIES

JOB NUMBER P5222.23

FILE NUMBER _____

SHEET 1 OF 5

BY RJS DATE 7/21/81

APP _____ DATE _____

ANCHORAGE - 12HR MAX. PERSISTING DEW POINT TEMP. (°F)

MONTH OF May

DATE	RANK	DEW PT. TEMP.	Probability $\frac{RANK}{N+1}$
22	1	46	.036
24	2	46	.071
30	3	45	.107
31	4	43	.143
14	5	43	.179
31	6	43	.214
31	7	43	.250
18-19	8	42	.286
26	9	42	.321
14	10	42	.357
25	11	42	.393
29	12	42	.429
22	13	42	.464
20	14	41	.500
29	15	41	.536
31	16	41	.571
15	17	40	.607
31	18	40	.643
30	19	40	.679
14	20	40	.714
10	21	40	.750
28	22	38	.786
30	23	37	.821
26	24	37	.857
24	25	36	.893
31	26	34	.929
27-29	27	33	.964

AVE = 27.9



Calculations

SUBJECT:

JOB NUMBER _____

FILE NUMBER _____

SHEET 2 OF 5

BY RSS DATE _____

APP _____ DATE _____

ANCHORAGE 12hr max. persisting Dew pt. temp (°F)

JUNE

DATE	RANK	DEW PT. TEMP	$\frac{M}{N+1}$
23	1	52	.036
19	2	52	.071
19	3	51	.107
24	4	51	.143
29	5	51	.179
20	6	50	.214
12	7	50	.250
28	8	50	.286
27	9	48	.321
30	10	48	.357
26	11	48	.393
24	12	47	.429
28	13	47	.464
4	14	47	.500
27	15	47	.536
26	16	47	.571
25	17	47	.607
12	18	46	.643
23	19	46	.679
20	20	45	.710
23	21	45	.750
24	22	44	.786
13	23	44	.821
16	24	44	.857
9	25	42	.893
22	26	41	.929
21	27	40	.964

AVE = 21.4



Calculations

SUBJECT:

JOB NUMBER _____

FILE NUMBER _____

SHEET 3 OF 5

BY RJS DATE _____

APP _____ DATE _____

ANCHORAGE: 12 hr Max. persisting Dew pt. temp. (°F)

July

DATE	RANK	DEW PT. TEMP.	$\frac{M}{N+1}$
24	1	57	.036
27	2	56	.071
26	3	55	.107
19	4	55	.143
30	5	54	.179
18	6	53	.214
17	7	53	.250
25	8	53	.286
24	9	53	.321
19	10	53	.357
12	11	53	.393
29	12	53	.429
20	13	52	.464
19	14	52	.500
9	15	52	.536
27	16	52	.571
20	17	52	.607
31	18	51	.643
28	19	51	.679
17	20	51	.710
9	21	51	.750
30	22	51	.786
19	23	51	.821
27	24	51	.857
3	25	50	.893
23	26	50	.929
31	27	50	.964

AVE. = 21.6



Calculations

SUBJECT:

JOB NUMBER _____

FILE NUMBER _____

SHEET 4 OF 5

BY RJS DATE _____

APP _____ DATE _____

ANCHORAGE: 12hr Max persisting Dew pt. temp (°F)

AUGUST

DATE	RANK	DEW PT. TEMP	$\frac{M}{N+1}$
13	1	59	.036
20	2	57	.071
1	3	57	.107
22	4	56	.143
1	5	56	-.179
29	6	56	.214
5-6	7	55	.250
5	8	54	.286
15	9	53	.321
5	10	53	.357
13	11	53	.393
11	12	52	.429
3	13	52	.464
8	14	52	.500
25	15	52	.536
16	16	52	.571
8	17	52	.607
14	18	52	.643
4	19	52	.679
22	20	51	.710
15	21	51	.750
11	22	51	.786
30	23	50	.821
21-22	24	50	.857
20	25	50	.893
1	26	49	.929
<u>31</u>	27	44	.964

AVE = 14.0



Calculations

SUBJECT:

JOB NUMBER _____

FILE NUMBER _____

SHEET 5 OF 5

BY DJS DATE _____

APP _____ DATE _____

ANCHORAGE: 12hr MAX. PERSISTING DEW PT TEMP. (°F)

SEPTEMBER

DATE	RANK	DEW PT. TEMP.	$\frac{M}{N+1}$
13	1	54	.036
3	2	54	.071
2	3	53	.107
1	4	52	.143
11	5	51	.179
4	6	50	.214
17	7	50	.250
10-11	8	50	.286
1	9	50	.321
10	10	50	.357
2	11	49	.393
14	12	49	.429
8	13	49	.464
1	14	49	.500
19	15	49	.536
5	16	49	.571
9	17	48	.607
5	18	48	.643
3	19	47	.679
1	20	47	.714
22	21	47	.750
3	22	46	.786
4	23	46	.821
2	24	45	.857
8	25	45	.893
2	26	43	.929
3	27	43	.964

Ave = 6.9



Calculations

SUBJECT: SUSITNA PMP

TEMPORAL MAXIMIZATION

JOB NUMBER P 57003

FILE NUMBER

SHEET 1 OF

BY L. C. W. DATE July 27

APP DATE

There are 2 approaches.

- 1) - Assume the storm used to model the PMP was a unique storm with a unique mechanism and as such the temporal pattern cannot be altered at all.
Similarly a unique storm could be assumed but the temporal pattern could be shifted or altered within this particular storm.
- 2) - The maximum daily rates of precip. could be used from each of the 6 historical storms and assumed to occur during the model PMP storm.

Analyze the 2nd approach first.

Subbasin No.	Max. daily precip. (in.)	Storm	Max Factor	Maximized Max. daily precip. (in.)	% of 1967 Storm PMP	Max. daily For 1967 Storm
1	2.33	Aug/55	1.86	4.45	37.7	29.0
2	1.90	Aug/67	2.00	3.80	28.0	28.0
3	1.56	Aug/71	1.77	2.76	21.0	22.0
4	1.15	Aug/59	1.80	2.07	23.0	21.0
5	0.97	Aug/67	2.00	1.99	22.0	22.0
6	2.13	Aug/67	2.00	4.26	29.0	29.0
7	1.84	Aug/71	1.77	3.26	22.0	22.0
8	2.34	Aug/67	2.00	4.68	25.0	25.0

the same
the other
technique
used

ACRES

Calculations

SUBJECT: SUSITNA RMP
TEMPORAL PATTERN ESTIMATION

JOB NUMBER PS10002
FILE NUMBER _____
SHEET 2 OF _____
BY P.G.M. DATE Jul 59
APP _____ DATE _____

Subbasin No.	2 nd Largest Daily Precip. (in.)	Storm	Max Factor	Maximized Model Daily Precip (in.)	% of 1967 Storm	2 nd Largest Daily Precip. (in.)
1	2.09	Aug/55	1.86	3.89	33	18
2	1.98	Aug/71	1.77	2.62	19	16
3	1.55	Aug/71	1.77	2.74	21	15
4	1.08	Aug/59	1.80	1.94	21	17
5	0.92	Aug/53	1.8	1.66	18	15
6	1.53	Aug/71	1.77	2.71	18	16
7	1.84	Aug/71	1.77	3.26	22	15
8	2.12	Aug/71	1.77	3.75	20	13

2nd largest of record is from the 2nd largest modelled FFO 1967 storm

note: Say the record largest time is from say Aug/71 with the largest time from Aug/67 would create a storm which could be completely artificial w.r.t. the storm mechanism. If a storm is selected for the largest daily precip in a subbasin then the 2nd largest etc. should be for that actual storm. So use simply the Aug/67 storm rearranged for temporal pattern.



Calculations

SUBJECT: SUSITNA IMF
TEMPORAL MAXIMIZATION

JOB NUMBER P570003
FILE NUMBER _____
SHEET 3 OF _____
BY O.G.I. DATE Jan 29/81
APP _____ DATE _____

6 Hour Pattern

There is only 24 hour data available for the majority of the stations for historical storms. Hourly data is available for all storms at Anchorage which perhaps is too far removed from the basin to be useful. 6 hourly data is also available since 1963 at Talkeetna and 15 minute data from the Weather Wizards in the 1980 storm. An examination of the Talkeetna and Gulkana data for the Aug 71 storm and the deficient data for the 1980 storm should give a reasonable indication of the % of daily rain which could occur in any 6 hour period.

<u>Talkeetna</u>	Aug 4	24 hour rain	12 hour	6 hour
	5	0.09	0.09	0.09
note: 8/12 to	6	0.76	0.5	0.25
8/12 is one	7	0.97	0.9	0.07
reading so data	8	1.58	0.79	0.69
is not continuous	9	0.77	0.47	0.16
6 Hourly data.	10	1.18	1.17	0.01

$$\frac{\text{max 12 hour}}{\text{24 hour}} = \frac{1.17}{1.18} = 100\%$$

$$\frac{0.5}{0.75} = 66\%$$

$$\frac{\text{max 6 hour}}{\text{24 hour}} = \frac{0.69}{1.58} = 44\%$$

A reasonable approach from this data would be
6 hour value = 44% of 24 hourly
12 hour value = 70% of 24 hourly
18 hour value = 80% of 24 hourly
24 hour value = 100% of 24 hourly

Gulkana not enough precip. to evaluate



Calculations

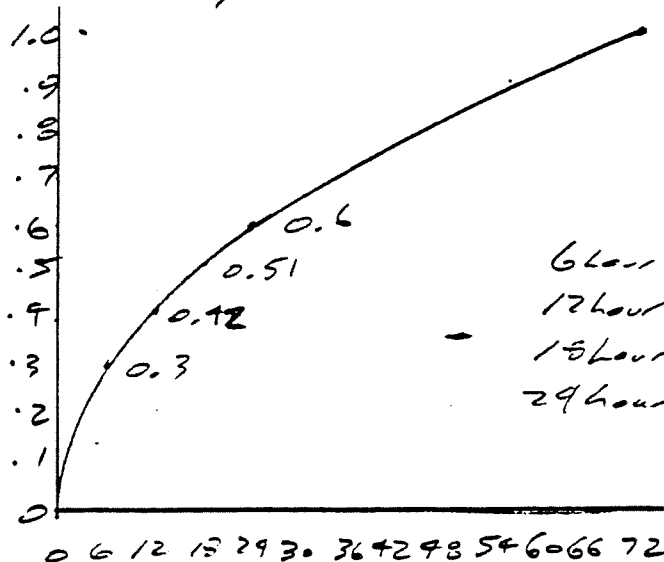
SUBJECT: SUSITNA PMP
TEMPERATURE MAXIMIZATION

JOB NUMBER P570000
FILE NUMBER _____
SHEET 9 OF _____
BY P. C. V. DATE min
APP _____ DATE _____

From the Corps of Engineers Study

24 Hr. PMP use 60% of 72 hour
6 hr. PMP use 30% of 72 hour

For intermediate duration use a straight plot through the origin and the 3 values specified



as % of 24 hour value

6 hour $0.3/0.6 = 0.5 = 50\%$
12 hour $0.42/0.6 = 0.70 = 70\%$
18 hour $0.51/0.6 = 0.85 = 85\%$
24 hour $0.6/0.6 = 1.0 = 100\%$

This is close to my prediction in question 2.

So perhaps the prudent thing to do is use the recommendations of the Corps of Engineers



Calculations

SUBJECT: SUSITNA PMF
TEMPERATURE MAXIMIZATION

JOB NUMBER RE-7000
FILE NUMBER _____
SHEET 5 OF _____
BY R.G.J. DATE Jul 29, 85
APP _____ DATE _____

RECOMMENDATIONS

- 1) Model the PMF event after the Aug 167 storm
- 2) Assume the same temporal pattern rearranged as follows

Largest 24 hours next to 2nd largest 24 hours
with the 3rd largest at either end with 16th & 4th
largest at either end, etc.

This technique must be used in conjunction with the
SSARR model to find the "worst case"

I expect a reasonable 1st attempt ranking would be

10, 9, 8, 7, 6, 4, 2, 1, 3, 5

note: the largest 24 hours is late in the storm
to allow for snowpack priming and to ensure
the reservoir is approaching its maximum level
before the flood peak arrives

note: This ranking should be done for each
subbasin. The largest - 1st 2nd largest days
occur simultaneously in all 8 subbasins
so this adjustment should not bias the
spread of precipitation over the whole
basin.

other trials

could be 10, 9, 8, 7, 5, 4, 2, 1, 3, 6

10, 9, 8, 7, 6, 4, 3, 1, 2, 5

10, 9, 8, 7, 6, 4, 3, 2, 1, 5

note: it will not be possible to check all
combinations but you will use a wild "feeling"
your way into an appropriate pattern.



Calculations

SUBJECT: SUSTAINA AMF
FEDERAL REGULATION

JOB NUMBER 1570000
FILE NUMBER
SHEET 6 OF
BY R. G. L. DATE
APP DATE

3) The 6-hour pattern should be as follows within
each 24-hour period.

1st largest 6 hour: 90% of 24 hour precip. $\leq 50\%$

2nd largest 6 hour: 90% of 24 hour precip. $\leq 20\%$

3rd largest 6 hours: 90% of 24 hour precip. $\leq 15\%$

4th largest 6 hours: 90% of 24 hour precip. $\leq 15\%$

note: For small precip. days (i.e. 9 or 5 thru
10 ranking) the 6 hour dist. should make
little diff. for same. For the largest 2 or 3
days the ranking of 6 hour values will
probably be.

day ranking	2	1	3
6 hour ranking	4 3 2 1	1 2 3 4	1 2 3 4

or some variation on this basic theme

note: the 2nd largest 6 hour count's occ.
back to back.

water discharge not 10000

Factor is less than 10000 but the discharge is not 10000
0.357 Factor



Calculations

SUBJECT: SUGAR APP

STATION: MOUNTAIN VIEW

Storm	Storm Peak @ 10000 (°F)	Precip. Water From 10000 to to 10,000 (mm)	Max. Air Pt. (°F)	Precip. Water From 10000 to to 10000 (mm)	Maximized Factor
August (7)/71	78° } 79° 79°	19.9	60°	35.2	1.77
August (12)/67	76°	17.6	60°	35.2	2.00
August (22)/59	78°	18.9	59.5°	39.1	1.80
July-Aug (1)/58	50°	21.0	60°	35.2	1.66
August (29)/55	47°	12.3	59.5°	39.1	1.86

note: For maximization of discharge - station 11
appears that the Aug/67 storm when
maximized for moisture will give the largest flood

JOB NUMBER 1
FILE NUMBER
SHEET 1 OF
BY D.C.J. DATE
APP DATE



Calculations

SUBJECT: SUSTAINABLE

STORM MODELS AND EVALUATION

JOB NUMBER 1071000

FILE NUMBER

SHEET 3 OF

BY L.S.V. DATE 10/1/71

APP DATE

STORM TIME TRANSPPOSITION

Assume actual storm precipitation events and dew point temperatures could be exactly duplicated for a storm on June 15. The mean (50 yr.) dew pt. temp. for June 15 should therefore be used in minimizing the Aug. /67 (transposed to June 15) storm.

June 15 max (50 yr.) dew point temperature = 53°F
at Anderson.
precipitable water from 0 to 10000 = 25 in.

max. factor = $25 / 17.6 = 1.42$

$$\frac{1.42}{2.00} = 0.71$$

note: curiously close to 0.7
recommended by NWS to the
 Corps of Engineers



Calculations

SUBJECT: SUSITNA RIVER STORM FLOODING MAXIMIZATION

JOB NUMBER 157-002
FILE NUMBER
SHEET 2 OF
BY J.E.J. DATE 1/23
APP DATE

Storm	Max. Factor	Subbasin 1		Subbasin 2		Subbasin 3		Subbasin 4		Subbasin 5		Subbasin 6		Subbasin 7		Subbasin 8		Basin	
		Actual	Max.	Actual	Max.	Actual	Max.	Actual	Max.	Actual	Max.	Actual	Max.	Actual	Max.	Actual	Max.	Actual	Max.
Aug/71	1.77	5.30	9.38	5.97	10.57	5.49	9.72	4.06	7.19	3.42	6.05	5.37	9.54	6.33	11.20	7.33	12.97	5.11	9.0
Aug/67	2.00	5.90	11.80	6.74		6.98		4.56		4.49		7.42		7.52		9.26		6.27	
Aug/59	1.80	4.77	8.59	4.40	7.92	3.83	6.89	2.89	5.20	2.60	4.68	3.80	6.89	4.47	8.05	5.57	10.03	3.77	6.8
July-Aug/50	1.66	3.55	5.89	2.42	4.02	2.00	3.32	1.50	2.97	1.81	3.00	4.71	7.82	2.53	4.20	6.69	11.02	2.99	4.5
Aug/55	1.86	10.0		6.67	12.41	4.31	8.02	4.12	7.66	2.37	4.91	2.17	9.04	2.49	4.63	2.64	4.91	3.78	7.0

The maximum recorded precipitation occurred for the Aug/67 storm
note: the max value for Subbasin 1 occurred for the Aug/55 storm - since this Subbasin is
below the dam sites the Aug/67 storm is max for all important Subbasins

The Aug/67 storm will likely have a max or near max reduction with
max moisture resupply or storm efficiency

note: the max 24 hour precip expected for any subbasin for either the 1971 or 1967 storm
is ~30%. Values as high as 49% could occur for smaller storms but I
suspect ~30% is the max probable for very large storms
30% in 24 hours is 3.76 inches/24 hours

ENGINEERING

15. Exhibit F and Supporting Design Report

Comment 13

Borings are necessary along the Watana Dam centerline and under the dam base upstream and downstream of the centerline to properly assess the suitability of the Watana site for the proposed dam. The seismic profiles developed at the Watana site are inadequate to determine foundation conditions and top of rock elevations without borings. The need for these borings was pointed out by Staff Geologist Harry Thomas in a preliminary review of the license application in the spring of 1982. The deficiency was again pointed out in Staff comments on the pre-filing review of the draft application in the January 11, 1983 letter on p. 65. The lack of borings at the Watana site cast serious doubts on the adequacy of the cost estimate (Exhibit F).

Response

It is agreed that borings were needed in addition to seismic profiles to adequately determine foundation conditions for the Watana dam site. The 1983 winter underground explorations program, which gave top priority to the dam foundation, now provides sufficient information to properly assess the site and remove any doubts regarding the adequacy of the preliminary design cost estimates.

A report, summarizing the results of the 1983 winter program, is now being prepared. The report will be submitted for review in the near future. A borehole summary resulting from this program is attached. A river channel exploration map is contained in Supplemental Attachment 15-13. To provide information for final design, additional explorations are programmed for the dam foundation areas and for potential construction material sources.

WATANA DAM

River Channel

EMBANKMENT FOUNDATION

SUMMARY OF 1983 WINTER DRILLING PROGRAM

BOREHOLE NUMBER	SURFACE ELEVATION ICE	ELEVATION OVERBURDEN	DIP	AZIMUTH	DEPTH TO BEDROCK FEET	BEDROCK ELEVATION	TOTAL DEPTH FEET
DH83-1	1,464.4	1,386.4	90°	----	78.0	1,386.4	91.0
DH83-2	1,470.6	1,466.1	90°	----	46.0	1,424.6	64.0
DH83-3	1,460.4	1,450.6	90°	----	92.9	1,367.5	126.5
DH83-4	1,475.2	1,473.8	45°	350°	22.0	1,459.6	116.5
HD83-10	1,459.4	1,455.9	90°	----	96.0	1,363.4	119.5
HD83-11	1,459.1	1,451.1	90°	----	73.2	1,385.9	89.4
HD83-12	1,459.0	1,451.5	90°	----	77.0	1,382.0	87.5
HD83-13	1,458.5	1,449.5	90°	----	84.0	1,374.5	89.5
HD83-14	1,464.8	1,459.8	90°	----	34.0	1,430.8	57.5
HD83-15	1,465.1	1,460.1	90°	----	29.5	1,435.6	46.0
HD83-16	1,465.5	1,457.5	90°	----	19.0	1,446.5	39.5
HD83-17	1,464.4	1,449.4	90°	----	63.0	1,401.4	77.5
HD83-18	1,465.7	1,461.2	90°	----	30.0	1,435.7	39.0
HD83-19	1,463.5	1,453.0	90°	----	80.0	1,383.5	98.0
HD83-20	1,464.9	1,455.4	90°	----	-----	-----	76.5
HD83-21	1,467.7	1,467.7	90°	----	66.0	1,401.7	86.5
HD83-22	1,467.6	1,464.6	90°	----	87.0	1,380.3	107.3
HD83-23	1,468.0	1,468.0	90°	----	71.0	1,397.0	87.0
HD83-24	1,453.8	1,448.3	90°	----	44.0	1,409.8	57.0
HD83-25	1,454.4	1,446.4	90°	----	75.0	1,379.4	95.9
HD83-26	1,453.8	1,445.8	90°	----	81.0	1,372.8	96.0
HD83-27	1,453.7	1,445.8	90°	----	70.0	1,383.7	98.5
HD83-28	1,453.6	1,443.6	90°	----	72.0	1,381.6	88.5
HD83-29	1,453.8	1,444.8	90°	----	79.0	1,374.8	104.3
HD83-30	1,453.8	1,444.8	90°	----	65.0	1,388.8	75.6
HD83-31	1,456.2	1,455.2	90°	----	60.0	1,396.2	82.9
HD83-32	1,454.0	1,447.5	90°	----	29.0	1,425.0	57.8
HD83-33	1,453.2	1,445.7	90°	----	21.0	1,432.2	43.0
HD83-34	1,454.9	1,449.9	90°	----	12.0	1,442.9	32.4

15-13-2

WATAN, DAM
RIVER CHANNEL
EMBANKMENT FOUNDATION

SUMMARY OF 1983 WINTER DRILLING PROGRAM

BOREHOLE NUMBER	SURFACE ELEVATION ICE	ELEVATION OVERBURDEN	DIP	AZIMUTH	DEPTH TO BEDROCK FEET	BEDROCK ELEVATION	TOTAL DEPTH FEET
HD83-35	1,458.4	1,455.9	90°	---	51.5	1,406.9	71.5
HD83-36	1,456.8	1,453.8	90°	---	24.0	1,432.8	43.6
HD83-37	1,464.3	1,463.3	90°	---	153.5	1,310.8	155.0
HD83-38	1,463.6	1,461.1	90°	---	-----	---	94.5
HD83-39	1,467.2	1,462.2	90°	---	152.0	1,315.2	168.0
HD83-40	1,470.6	1,468.6	90°	---	-----	---	38.0
HD83-41	1,471.9	1,470.5	45°	098°	83.0	1,413.2	104.5
HD83-42	1,462.1	1,451.1	90°	---	70.0	1,392.1	127.8
HD83-43	1,461.1	1,451.1	90°	---	75.4	1,385.7	107.7
HD83-44	1,459.9	1,449.9	90°	---	67.5	1,392.4	118.0
HD83-45	1,463.5	1,462.8	45°	328°	56.0	1,423.9	80.0
HD83-46	1,461.5	1,460.1	45°	155°	55.5	1,422.3	98.2
HD83-47	1,459.6	1,458.2	45°	010°	-----	---	65.0
HD83-48	1,455.6	1,447.6	90°	---	88.0	1,367.6	108.0

15-13-3

WATANA DAM
BORROW AREA "D"
AND
WATANA RELICT CHANNELS
SUMMARY OF 1983 WINTER DRILLING PROGRAM

<u>BOREHOLE NUMBER</u>	<u>SURFACE ELEVATION</u>	<u>DEPTH TO BEDROCK FEET</u>	<u>BEDROCK ELEVATION</u>	<u>TOTAL DEPTH FEET</u>
HD83-1	2,246.2	—	—	328.0
HD83-2	2,147.1	77.5	2,069.6	87.0
HD83-3	2,220.0	—	—	82.5
HD83-4	2,246.7	—	—	94.0
HD83-5	2,283.7	—	—	138.0
HD83-6	2,211.2	—	—	126.5
HD83-7	2,095.5	—	—	82.0
HD83-8	2,217.2	—	—	78.0
HD83-9	2,237.6	—	—	110.0
HD83-49	2,205.5	—	—	38.0
HD83-50	2,289.0	—	—	119.5
HD83-51	2,234.9	—	—	98.5
HD83-52	2,249.1	320.0	1,929.1	333.0
HD83-53	2,248.0	—	—	212.0
WW-3	2,267.0 ¹	206.5	—	214.5

ENGINEERING

15. Exhibit F and Supporting Design Report

Comment 14

Clarify the discrepancy concerning the upstream shell material to be used for the Watana Dam. Page F-4-9 indicates that fines less than 1/2 inch will be removed, but on p. F-4-10, it is stated that the processed upstream shell material will have no more than 10% of the material less than 3/8 inch in size (Exhibit F, SDR).

Response

This material will be processed gravel with no more than 10% of the material less than 3/8 inch.

ENGINEERING

15. Exhibit F and Supporting Design Report

Comment 15

Provide additional information on the proposed impervious borrow area to enable a determination on the availability of sufficient quantities of impervious materials consistent with the design intent of the impervious zones of the proposed Watana Dam and Devil Canyon saddle dam embankments. This information shall include the types, range of gradations, plasticity index, and other physical characteristics of the materials to be placed in the core of the embankment. The highly plastic clays that exist in the proposed borrow pit shall be discussed with respect to their effect on the expected excavation methods needed to control the blending of various gradations of materials that will be encountered and any effects this might have on developing the quantities of impervious material required for the proposed embankments (Exhibit F, SDR).

Response

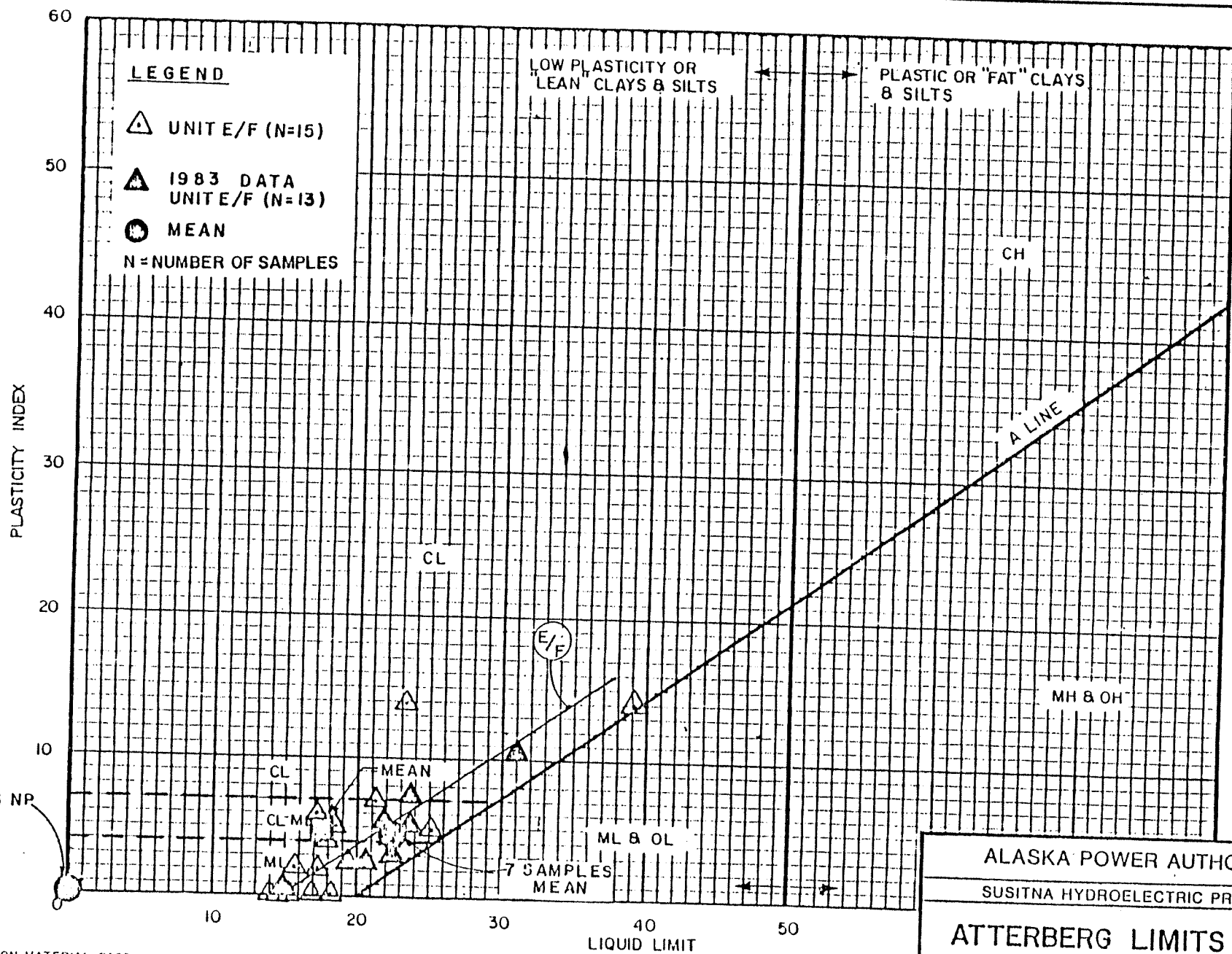
Because the Susitna reservoirs will be used for long term storage, the design intent is to construct the dam embankment impervious core zones using relatively low permeability materials. In addition to meeting the permeability criteria, the impervious soils must also be satisfactory from an overall design standpoint including strength and settlement.

To satisfy the design intent, emphasis will be given to selecting impervious materials having a wide range of grain sizes, such as a gravelly clay (GC). These well graded soils are preferable to materials having relatively uniform particle sizes as they are stronger, less susceptible to piping, erosion and liquefaction, and are less compressible.

Appraisals of the winter 1983 exploration program along with previous boring data indicates well graded impervious soils are attainable from borrow area "D" by mixing of the layered deposits in prudent proportions. It is expected that the desired GC materials will be accomplished by blending gravelly soils with smaller amounts of plastic fines. The blending operation will utilize vertical cuts from portions of the borrow that have been pre-drained by excavating the operating base of the pit on an incline. This job tested method will produce a satisfactory blend of materials without special processing procedures.

The impervious embankments require volumes of 9 million cubic yards for the Watana main dam and 400,000 cubic yards for the Devil Canyon saddle dam. Although most of the overburden in borrow area "D" is suitable for blending satisfactory core materials, it is presently planned to mix gravelly soils from surficial units E and F with clays from the underlying G unit. This combination will more than supply sufficient embankment quantities as borrow area "D" units E and F are estimated to contain 130 million cubic yards while unit G contains 50 million cubic yards.

As shown by the attached gradation curves, the soils in borrow area "D" range from coarse gravels to silt and clay. The attached plasticity plots indicate the finer fractions range from non cohesive to cohesive. The majority of the samples are either nonplastic or low to medium plasticity. Only in a very few instances are there indications of high plasticity materials. Highly plastic clays are not in existence in sufficient quantities to significantly affect either the excavation or blending methods used to produce the required impervious embankment quantities.



TEST PERFORMED ON MATERIAL PASSING
NO. 40 SIEVE IN ACCORDANCE WITH
ASTM D423-66 (1972) AND D424-59 (1971)

(INCLUDES ALL TESTS 1978-1982)

ALASKA POWER AUTHORITY

SUSITNA HYDROELECTRIC PROJECT

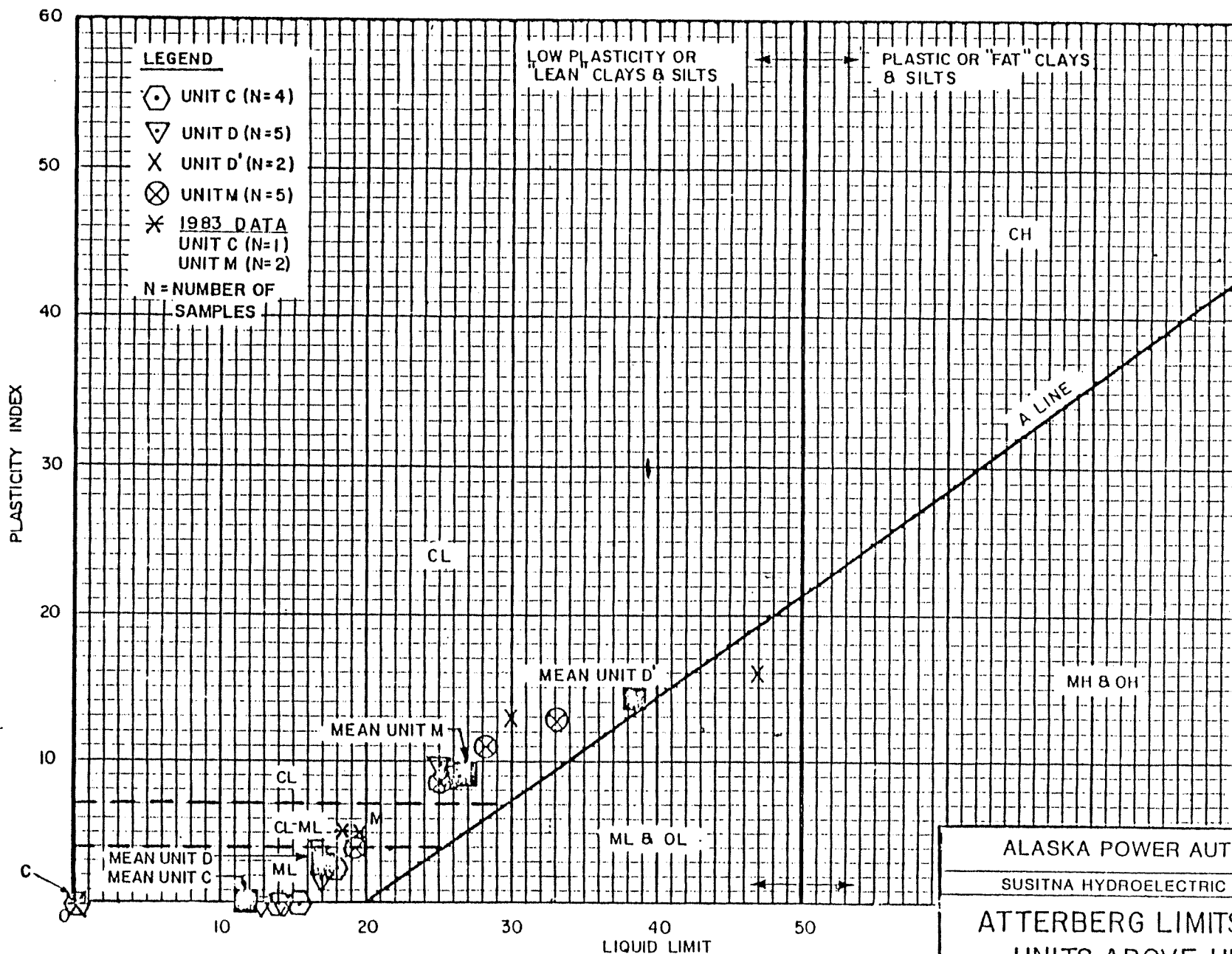
ATTERBERG LIMITS TEST
UNITS E/F
BORROW AREA "D" & RELICT CHANNEL

HARZA-ENGINEERING

DATE

FIGURE

15-15-3

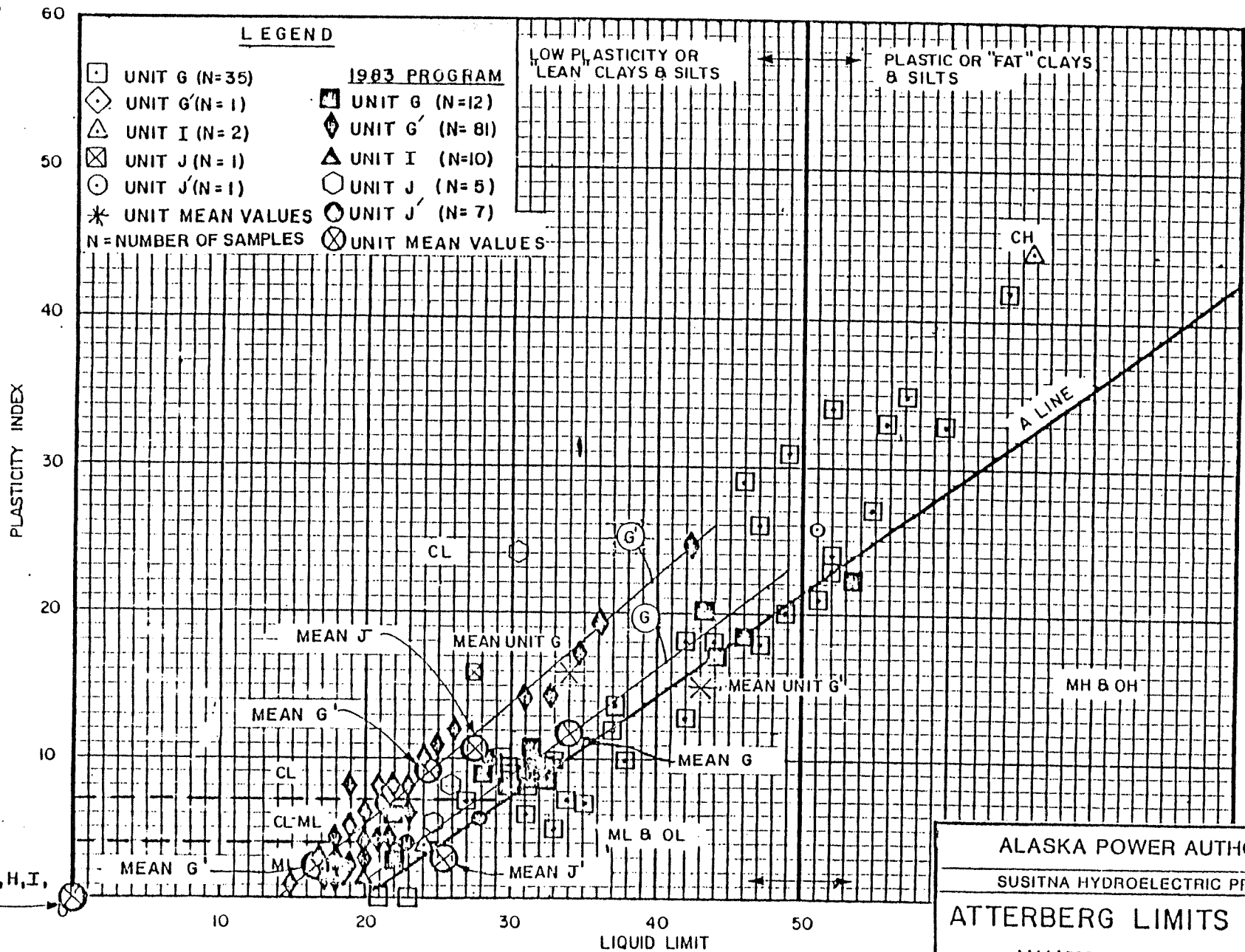


TEST PERFORMED ON MATERIAL PASSING
NO. 40 SIEVE IN ACCORDANCE WITH
ASTM D423-66 (1972) AND D424-59 (1971)

ALASKA POWER AUTHORITY
SUSITNA HYDROELECTRIC PROJECT
ATTERBERG LIMITS TEST
UNITS ABOVE UNIT E
BORROW AREA "D" & RELICT CHANNEL

10/11/80 DATE 10/11/80

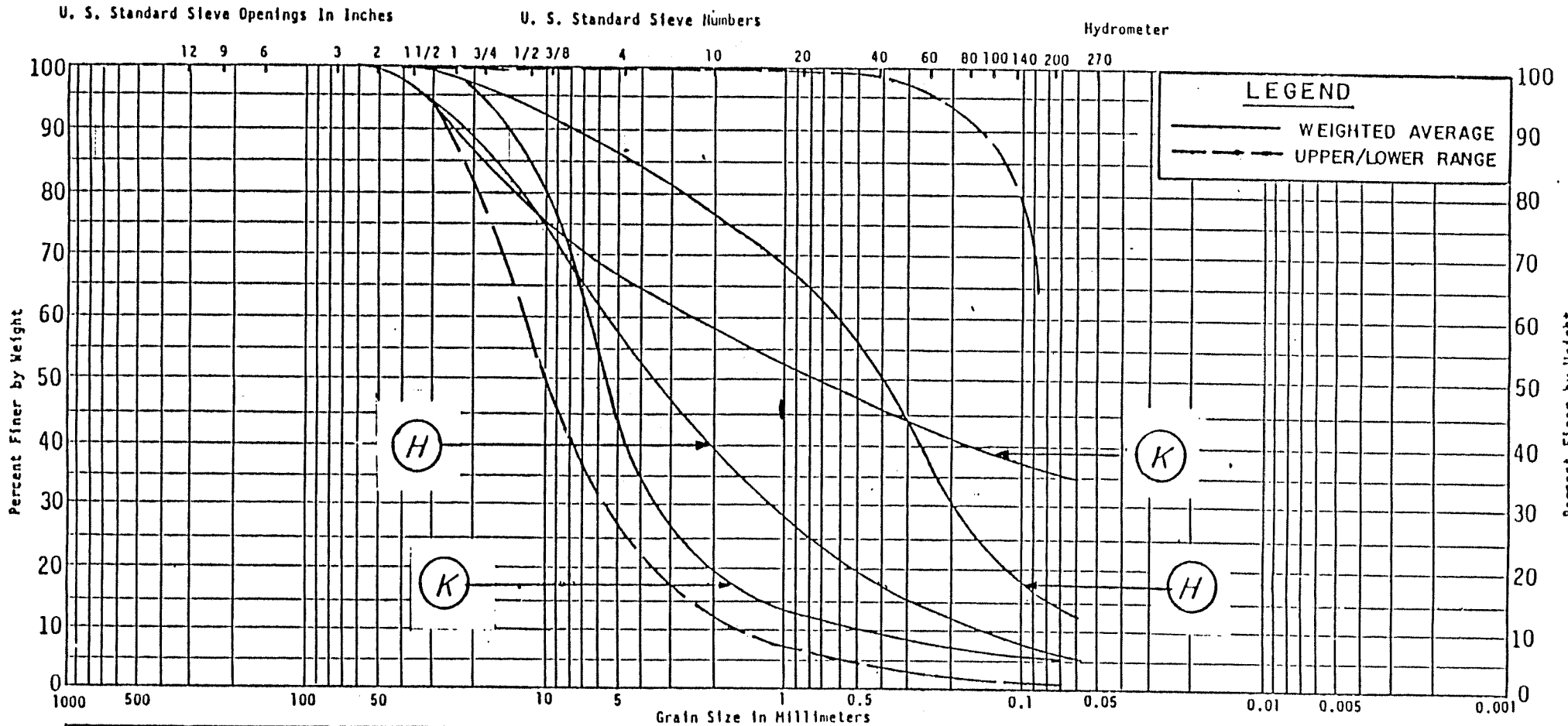
INCLUDES ALL TESTS 1979-1982



TEST PERFORMED ON MATERIAL PASSING
NO. 40 SIEVE IN ACCORDANCE WITH
ASTM D423-66 (1972) AND D424-59 (1971)

ALASKA POWER AUTHORITY
SUSITNA HYDROELECTRIC PROJECT
ATTERBERG LIMITS TEST
UNITS G, G', I, J, AND J'
BORROW AREA "D" & RELICT CHANNEL
HARZA-EMSCO DATE FIGURE

GRADATION SIZE ANALYSIS



BOULDERS	COBBLES	GRAVEL		SAND			FINES	
		Coarse	Fine	Coarse	Medium	Fine	Silt Sizes	Clay Sizes

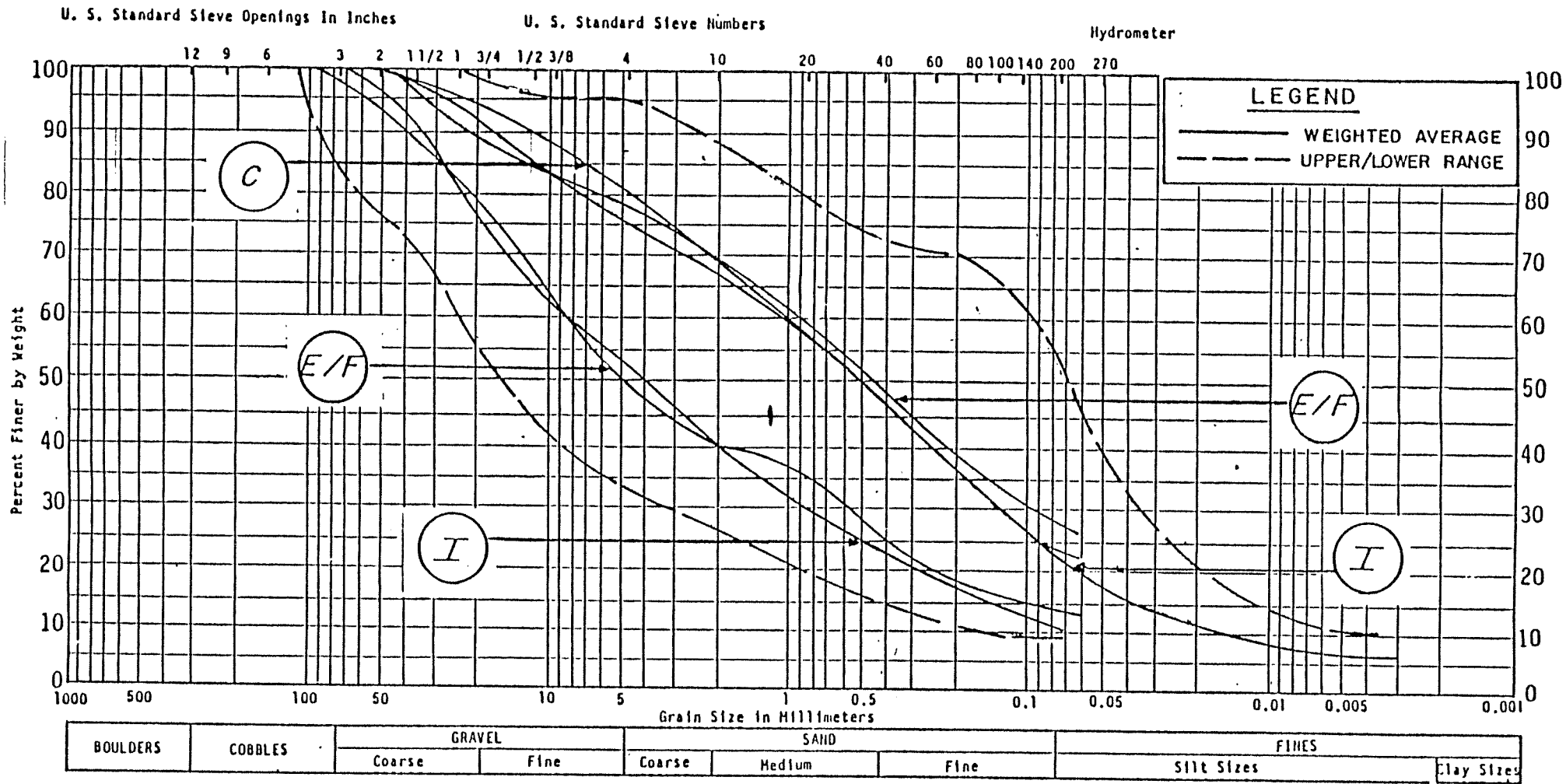
UNIT	MATERIAL	NO. OF SAMPLES	FEET OF SAMPLE	% MAT'L IN SECTION
H	SANDY GRAVEL, (GW/GM)	6	10	32
H	SILTY SAND, (SM)	10	21	68
K	SANDY GRAVEL, (GP/GM)	7	7	70
K	SILTY SANDY, (GM)	2	3	30

ALASKA POWER AUTHORITY

SUSITNA HYDROELECTRIC PROJECT

ALLUVIUM
BORROW AREA "D" & RELICT CHANNEL

GRADATION SIZE ANALYSIS



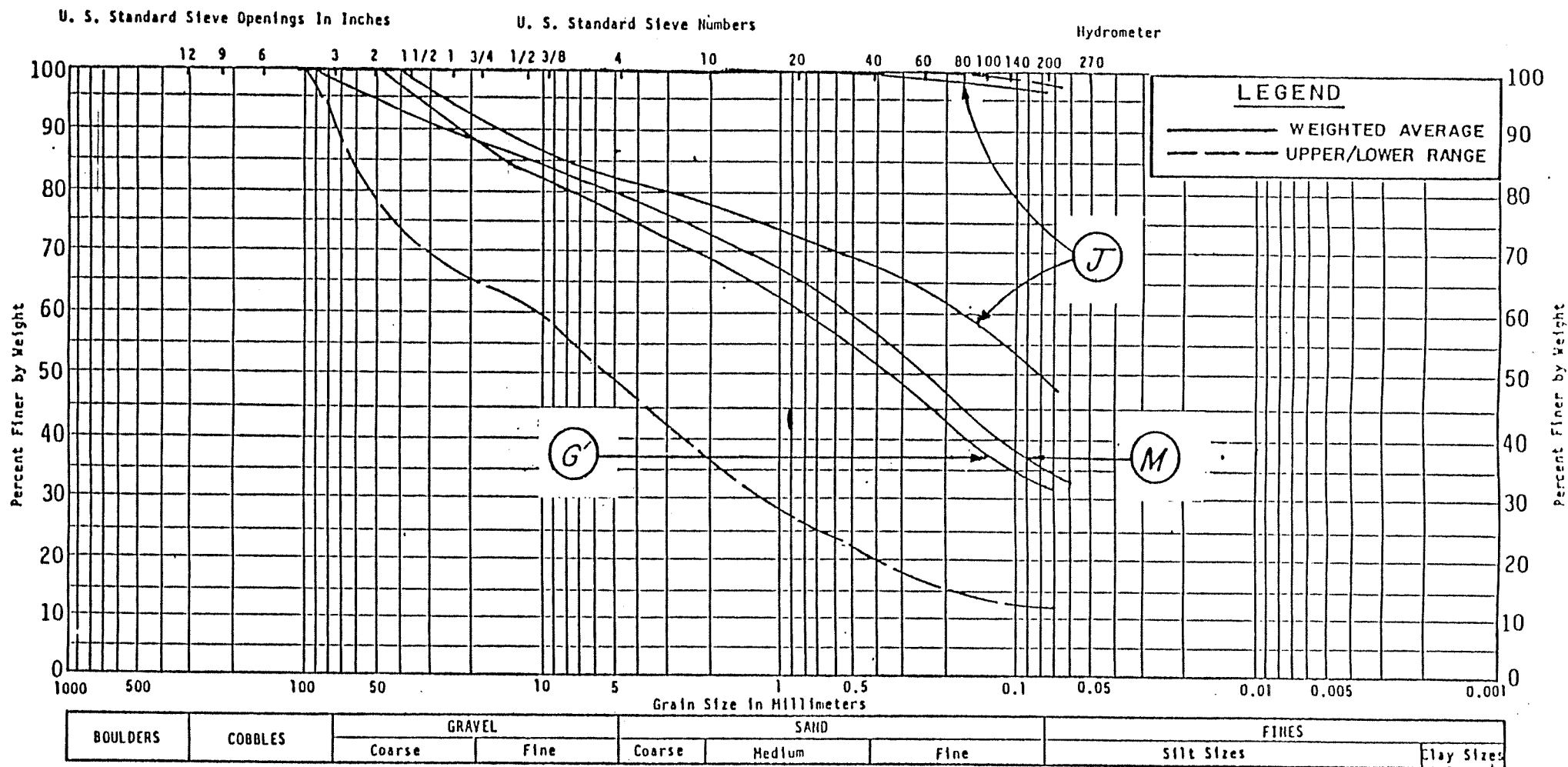
UNIT	MATERIAL	NO. OF SAMPLES	FEET OF SAMPLE	% MAT'L IN SECTION
E/F	SANDY GRAVEL, (GM)	10	26	26
E/F	SILTY SAND, (SM)	35	73	74
I	SANDY GRAVEL, (GW/GM)	5	11	19
I	SILTY SAND, (SM)	18	48	81
C	SILTY SAND, (SM)	8	27	100

ALASKA POWER AUTHORITY
SUSITNA HYDROELECTRIC PROJECT

OUTWASH
BORROW AREA "D" & RELICT CHANNEL

L-21-21

GRADATION SIZE ANALYSIS

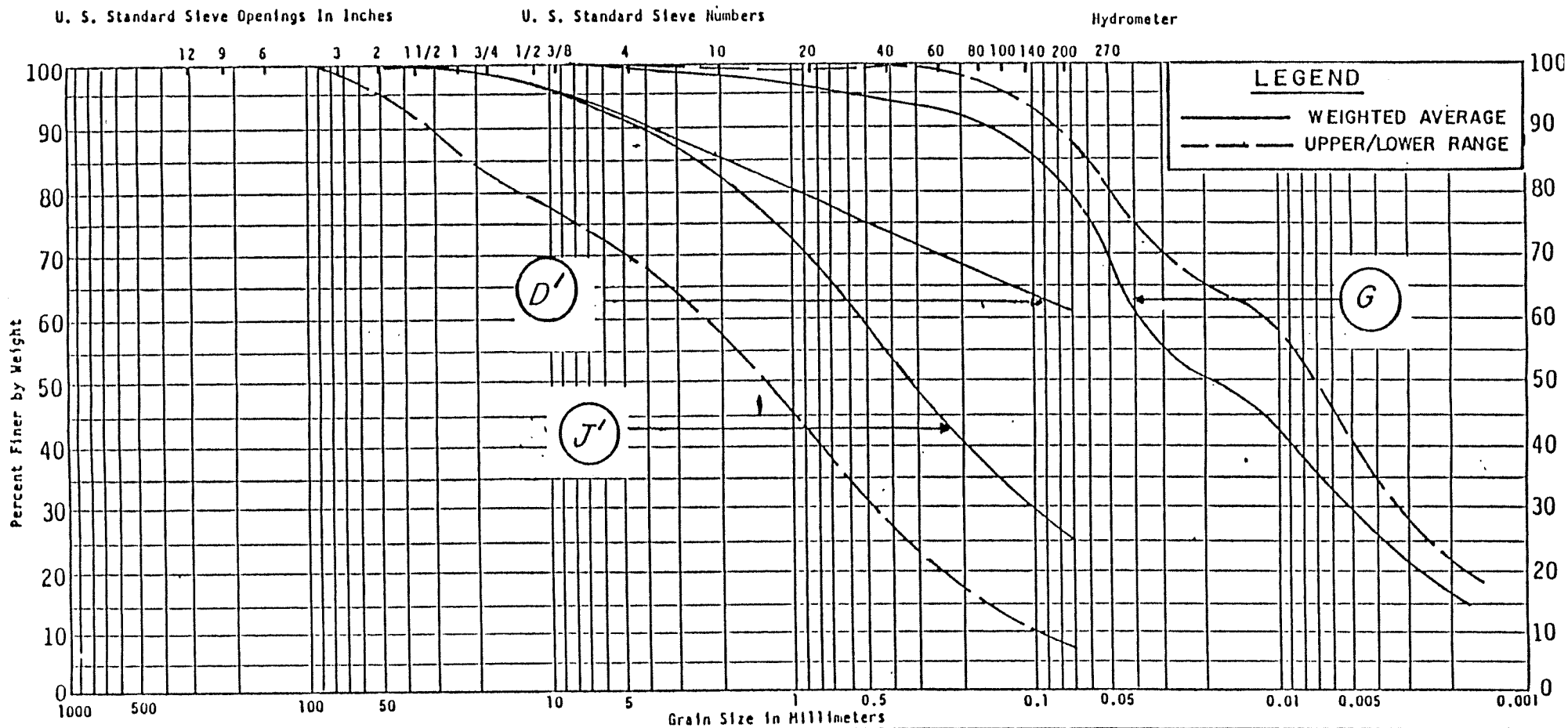


UNIT	MATERIAL	NO. OF SAMPLES	FEET OF SAMPLE	% MAT'L IN SECTION
M	SILTY SAND, (SM/SC)	8	13	100
G'	SILTY GRAVELLY SAND, (SM/SC/GC)	91	233	100
J	SANDY SILT, (SM/SC)	4	6	50
J	CLAY, (CL)	4	6	50

ALASKA POWER AUTHORITY
SUSITNA HYDROELECTRIC PROJECT

BASAL TILL
BORROW AREA "D" & RELICT CHANNEL

GRADATION SIZE ANALYSIS



BOULDERS	COBBLES	GRAVEL		SAND			FINES	
		Coarse	Fine	Coarse	Medium	Fine	Silt Sizes	Clay Sizes

UNIT	MATERIAL	NO. OF SAMPLES	FEET OF SAMPLE	% MAT'L IN SECTION
G	SILTY CLAY, (CL/GL-ML)	9	17	100
D'	SANDY SILT, (ML)	4	4	100
J'	SILTY SAND, (SM/SM-SC)	18	23	100

ALASKA POWER AUTHORITY
SUSITNA HYDROELECTRIC PROJECT

LACUSTRINE
BORROW AREA "D" & RELICT CHAN

UNDER CHAN... OFF... FIGURE

15-15-9

ENGINEERING

16. Exhibit G

Comment

Plate G6 - Complete boundary for PSC 443 in Section 6, T31N, R1E. Delete reference to "ELEVATION 1500 MSL" from legend.

Plate G12 - Show location of transmission line with reference to appropriate G sheet.

Plate G30 - Identify the project boundary for the Knik Substation. (If the project areas are aliquot parts of the public land survey, simply delineate the areas accurately.)

Plates G30 through G37, and G39 through G52 - Identify meridian (Seward or Fairbanks).

Plates G35 through G38, and G41 through G45 - Add coordinates of the Alaska State Plane Coordinate System at angle points of the transmission line.

Plate G38 - Indicate purpose of the 130 acre project area in Sections 16, 20, and 21 T31N, R2W.

Plates G38 and G39 - Show location of railroad access corridor with reference to appropriate G sheet.

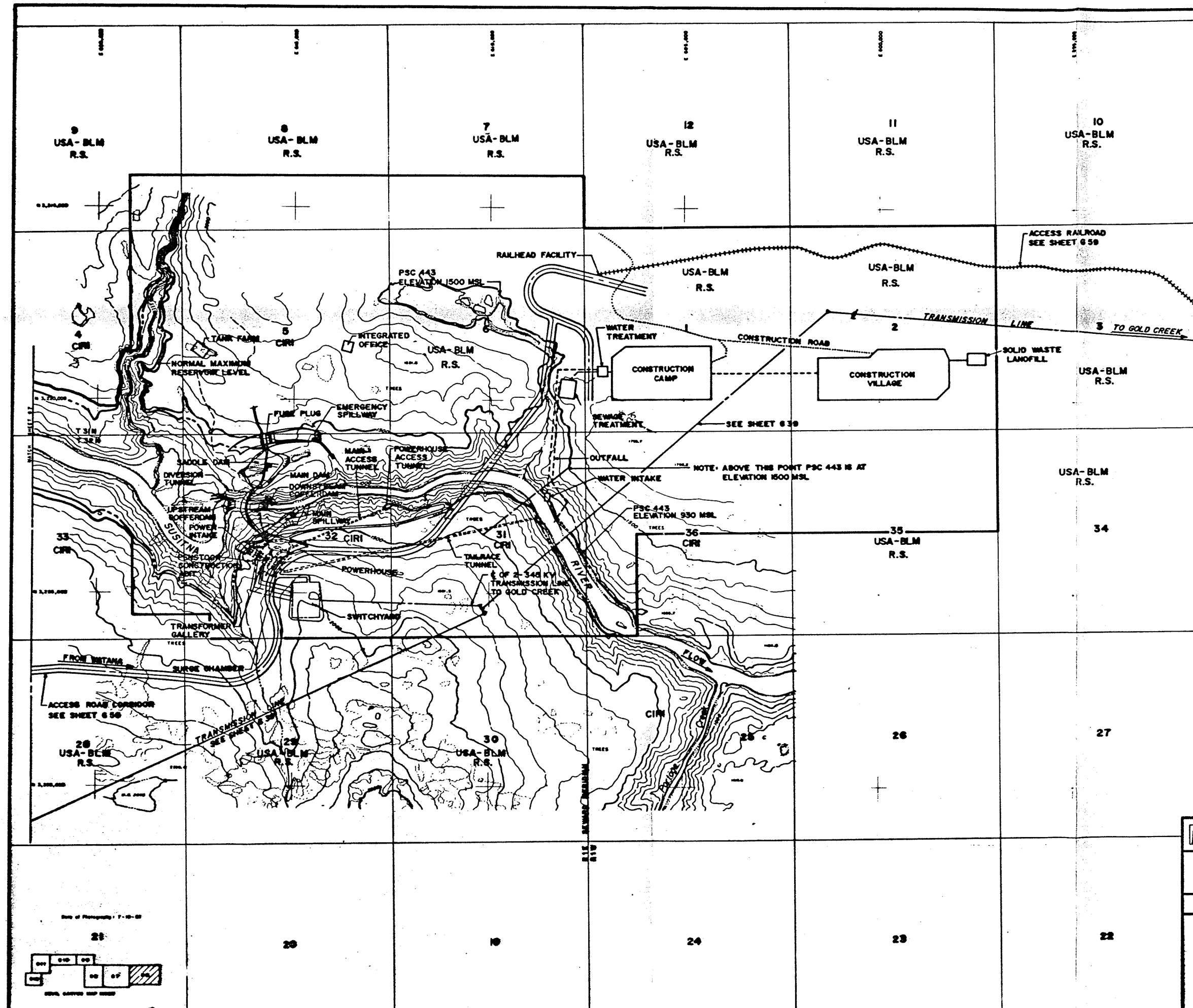
Plate G40 - Correct Devil Canyon project boundary in Section 35, T32N, R4E, (compare with G12), and Watana project boundary in Sections 3, 4, and 5, T31N, R5E, (compare with G13).

Plate G52 - Identify the project boundary for the Ester Substation. (If it coincides with an approved Federal survey, simply identify the survey.)

Show the ownership status of the project land in Section 3, T1S, R2W.

Response

Revised Exhibit G Plates 6, 12 and 30 through 52 are attached.



BASED ON ALASKA STATE PLANE
COORDINATE SYSTEM, ZONE 4 AND
LOCAL M.S.L. MEAN SEA LEVEL
DATUM. ALL SECTION, RANGE AND
TOWNSHIP LINES SHOWN ARE ACCORD-
ING TO THE OFFICIAL PROJECTION
FOR THE SECOND MERIDIAN, ALASKA.



LEGEND

- PROJECT BOUNDARY
- NORMAL MAXIMUM RESERVOIR LEVEL
ELEVATION 1455 MSL
- POWER SITE CLASSIFICATION
NO. 443
- LAND OWNERSHIP SCHEDULE
- USA-BLM - BUREAU OF LAND MANAGEMENT
- AK - STATE OF ALASKA
- CIRI - COOK INLET REGION, INC.
- US ARMY - UNITED STATES ARMY
- USAF - UNITED STATES AIR FORCE
- MAT - U - MATANUSKA-SUSITNA BOROUGH
- M OF ANC - MUNICIPALITY OF ANCHORAGE
- R.S. - COOK INLET REGION, INC. REGIONAL SELECTION
- NOTE: ALL LAND OWNERSHIP BY SECTIONS UNLESS OTHERWISE SHOWN

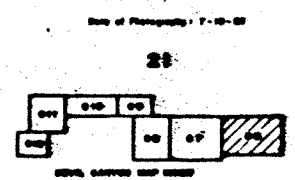
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Scale: 1" = 1000'
Contour Interval: 100'

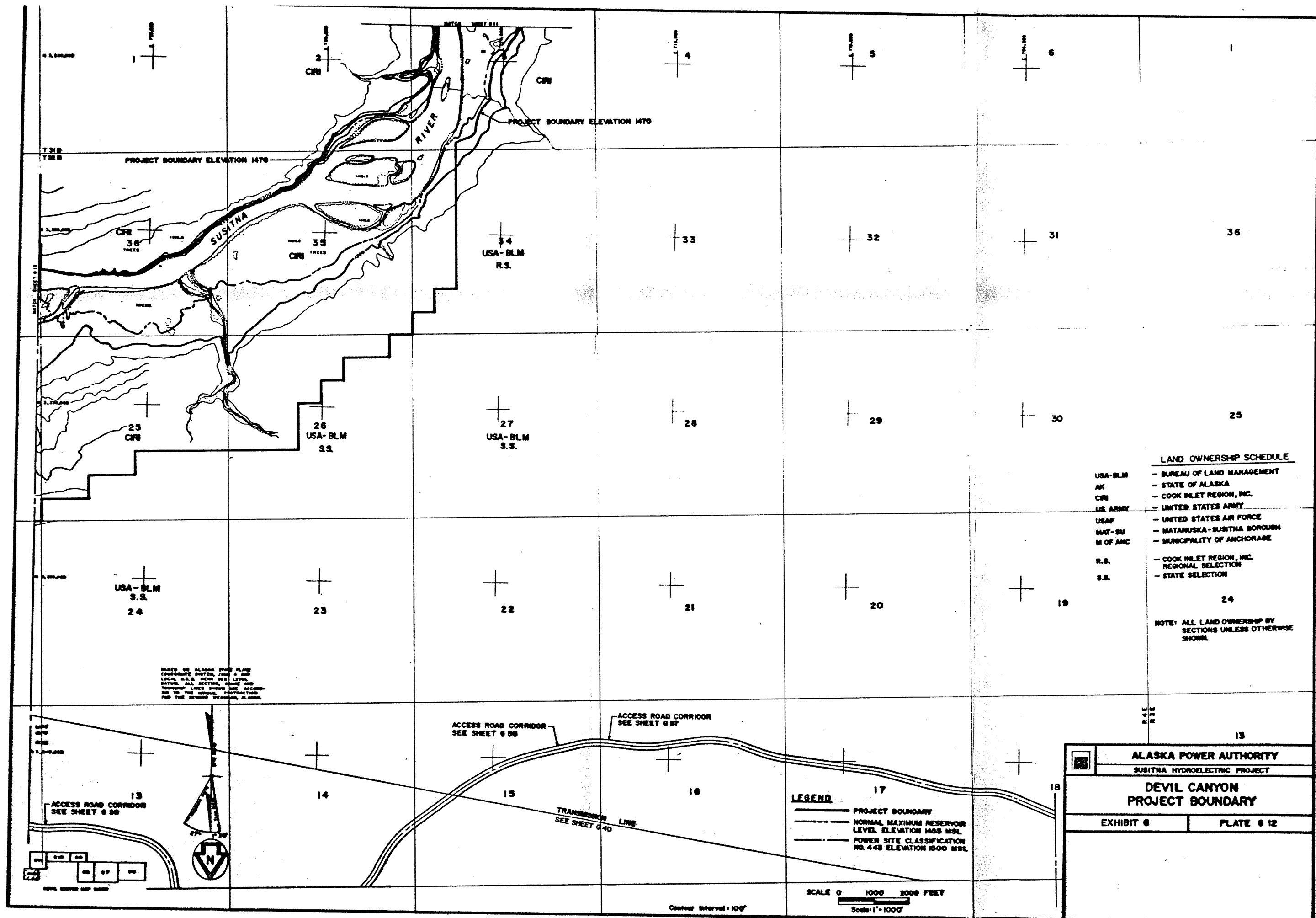
ALASKA POWER AUTHORITY
SUSITNA HYDROELECTRIC PROJECT

DEVIL CANYON
PROJECT BOUNDARY

EXHIBIT 6

PLATE G 6





LAND OWNERSHIP SCHEDULE

- USA-BLM - BUREAU OF LAND MANAGEMENT
- AK - STATE OF ALASKA
- CRN - COOK INLET REGION, INC.
- US ARMY - UNITED STATES ARMY
- USAF - UNITED STATES AIR FORCE
- MAT-SU - MATANUSKA-SUSITNA BOROUGH
- M OF ANC - MUNICIPALITY OF ANCHORAGE
- R.S. - COOK INLET REGION, INC. REGIONAL SELECTION
- S.S. - STATE SELECTION

NOTE: ALL LAND OWNERSHIP BY SECTIONS UNLESS OTHERWISE SHOWN.

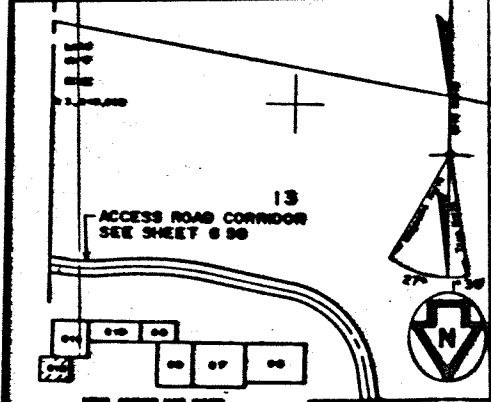
ALASKA POWER AUTHORITY	
SUSITNA HYDROELECTRIC PROJECT	
DEVIL CANYON PROJECT BOUNDARY	
EXHIBIT 6	PLATE 6 12

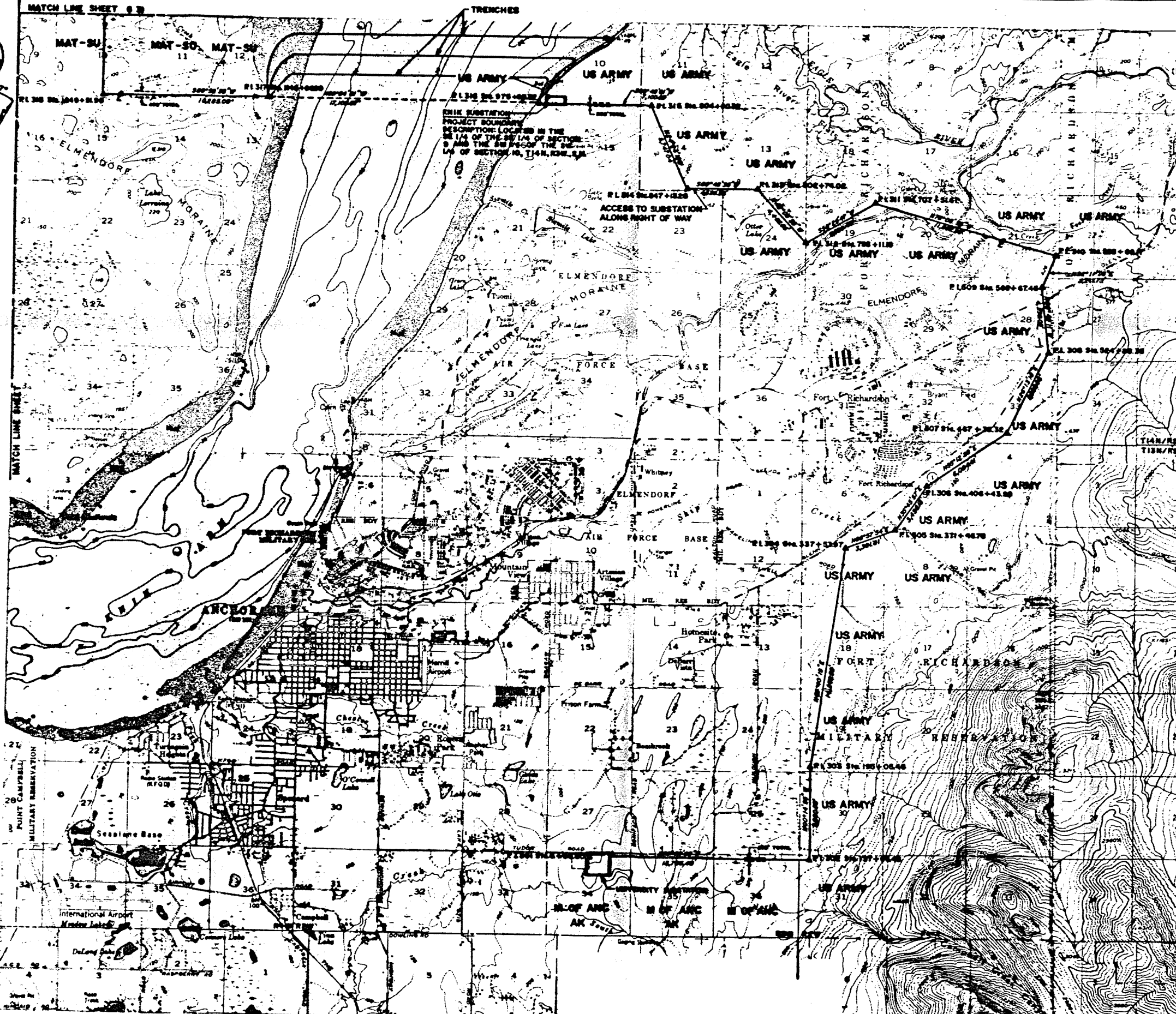
- LEGEND
- PROJECT BOUNDARY
 - NORMAL MAXIMUM RESERVOIR LEVEL ELEVATION 1465 MSL
 - POWER SITE CLASSIFICATION NO. 443 ELEVATION 1500 MSL

SCALE 0 1000 2000 FEET
Scale 1" = 1000'

Contour Interval - 100'

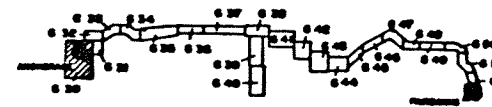
BASED ON ALASKA THIRD PLANE COORDINATE SYSTEM, 1983 & 1984 LOCAL N.T.S. BEAR SEA LEVEL. DATUM: ALL SECTION, RANGE AND TOWNSHIP LINES SHOWN ARE ACCORDING TO THE OFFICIAL PERTINENT FOR THE BEAR SEA REGION, ALASKA.





- NOTES**
1. NO SURVEY WAS PERFORMED PRIOR TO THE PREPARATION OF THIS MAP. TOWNSHIP CORNER POSITIONS WERE DETERMINED BY COORDINATING RECORD BUREAU OF LAND MANAGEMENT (BLM) SURVEY PLATS FOR THE ASSOCIATED TOWNSHIPS WHERE NO RECORD PLAT EXISTED, POSITIONS WERE DETERMINED FROM THE OFFICIAL BLM PROTRACTION DIAGRAM POSITIONS FOR THE TRANSMISSION LINE PL'S WERE DETERMINED BY DIGITIZING SCALED POINTS ON THE RESPECTIVE U.S.G.S. QUADRANGLE MAPS ORIENTED TO THE COMPUTED TOWNSHIP CORNER POSITIONS.
 2. ALL DIMENSIONS, COORDINATES AND STATIONING SHOWN ARE BASED ON THE ALASKA STATE PLANE COORDINATE SYSTEM ZONE 4 GRID.

PT. #	NORTHING	EASTING
301	2623540.04	536884.28
302	2623578.57	550571.69
303	262378.51	550544.52
304	2643465.13	552684.63
305	2644682.50	555880.61
306	2647521.01	557906.88
307	2650998.49	562910.08
308	2656102.98	565424.22
309	2660313.37	564831.67
310	2662351.97	565763.86
311	2665414.33	564282.45
312	2662846.16	548823.22
313	2666158.75	548835.89
314	2666145.00	542484.48
315	2671378.62	540120.07
316	2671355.93	533020.11
317	2671365.72	515913.47
318	2671365.38	505628.47

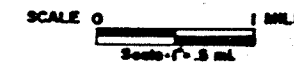


LEGEND

PROJECT BOUNDARY

LAND OWNERSHIP SCHEDULE	
USA-BLM	- BUREAU OF LAND MANAGEMENT
AK	- STATE OF ALASKA
CIR	- COOK INLET REGION, INC.
US ARMY	- UNITED STATES ARMY
USAF	- UNITED STATES AIR FORCE
MAT-SU	- MATANUSKA-SUSTINA BOROUGH
M OF ANC	- MUNICIPALITY OF ANCHORAGE

NOTE: ALL LAND OWNERSHIP BY SECTIONS UNLESS OTHERWISE SHOWN



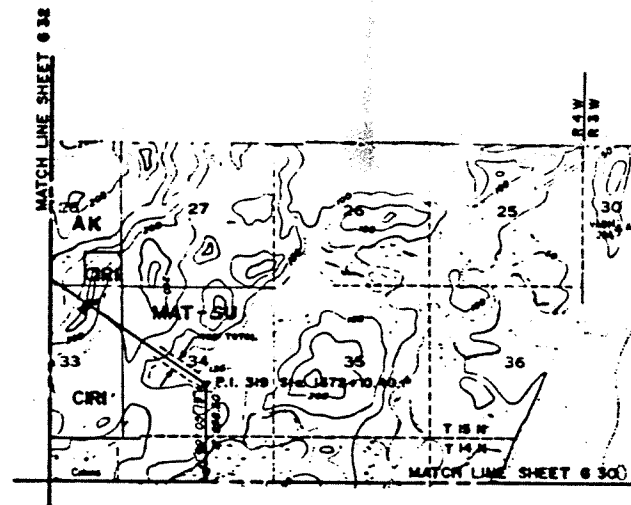
ALASKA POWER AUTHORITY
SUSTINA HYDROELECTRIC PROJECT

TRANSMISSION LINE PROJECT BOUNDARY

EXHIBIT 6

PLATE 6 30

REFERENCE: BASE MAP FROM U.S.G.S. 1:63,360 ALASKA QUADRANGLES, ANCHORAGE (A-7), ANCHORAGE (A-8), ANCHORAGE (B-7) AND ANCHORAGE (B-8) SEWARD MERIDIAN



NOTES

1. NO SURVEY WAS PERFORMED PRIOR TO THE PREPARATION OF THIS MAP. TOWNSHIP CORNER POSITIONS WERE DETERMINED BY COORDINATING RECORD BUREAU OF LAND MANAGEMENT (BLM) SURVEY PLATS FOR THE ASSOCIATED TOWNSHIPS. WHERE NO RECORD PLAT EXISTED, POSITIONS WERE DETERMINED FROM THE OFFICIAL BLM PROTRACTION DIAGRAM. POSITIONS FOR THE TRANSMISSION LINE P.I.'S WERE DETERMINED BY DIGITIZING SCALED POINTS ON THE RESPECTIVE U.S.G.S. QUADRANGLE MAPS ORIENTATED TO THE COMPUTED TOWNSHIP CORNER POSITIONS.

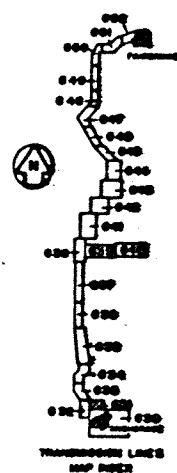
2. ALL DIMENSIONS, COORDINATES AND STATIONING SHOWN ARE BASED ON THE ALASKA STATE PLANE COORDINATE SYSTEM ZONE 4 GRID.

LAND OWNERSHIP SCHEDULE

USA-BLM	- BUREAU OF LAND MANAGEMENT
AK	- STATE OF ALASKA
CRI	- COOK INLET REGION, INC.
US ARMY	- UNITED STATES ARMY
USAF	- UNITED STATES AIR FORCE
MAE-SU	- MATANUKA-SUSITNA BOROUGH
M of ANC	- MUNICIPALITY OF ANCHORAGE

NOTE: ALL LAND OWNERSHIP BY SECTIONS UNLESS OTHERWISE SHOWN

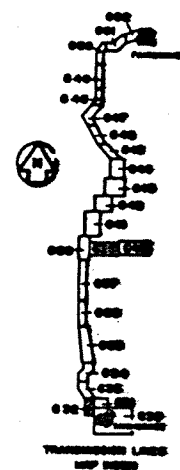
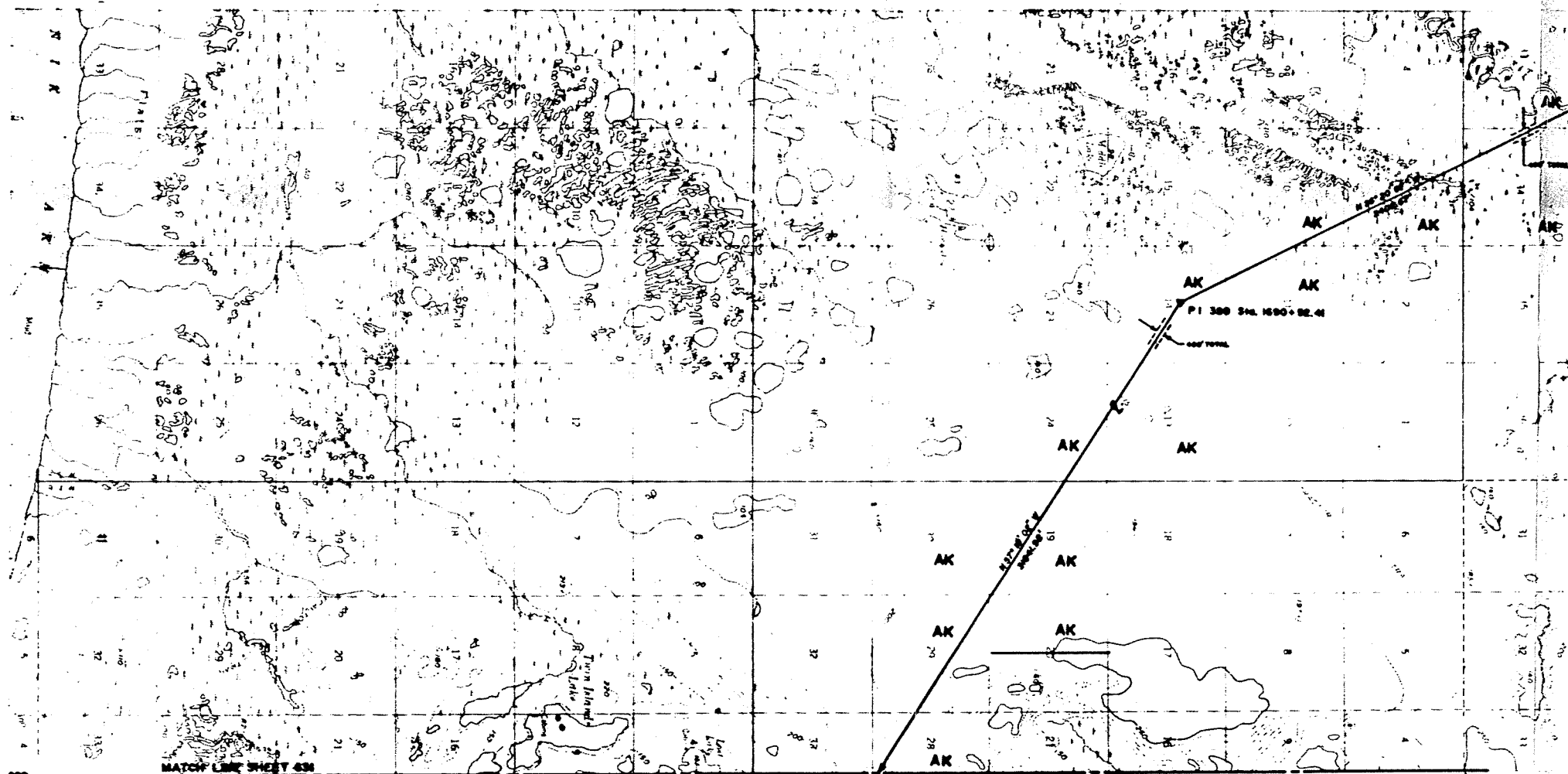
SCALE 0 1 MILE
Scale: 1" = 0.5 mi.



P.I. #	NORTHING	EASTING
319	2483643.86	505609.40
P.I. #	NORTHING	EASTING

REFERENCE: BASE MAP FROM U.S.G.S. 1:62,500 ALASKA QUADRANGLE ANCHORAGE (8-00) SEWARD MERIDIAN

ALASKA POWER AUTHORITY	
SUBITNA HYDROELECTRIC PROJECT	
TRANSMISSION LINE PROJECT BOUNDARY	
EXHIBIT 6	PLATE 6 31



REFERENCE: BASE MAP FROM U.S.G.S 1:63,300 ALASKA
QUADRANGLE, TYONEK (8-12)
SEWARD MERIDIAN

P.L.#	NORTHING	EASTING
320	2700838.15	478808.05
P.L.#	NORTHING	EASTING

NOTES

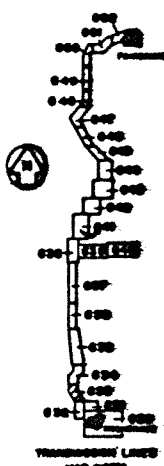
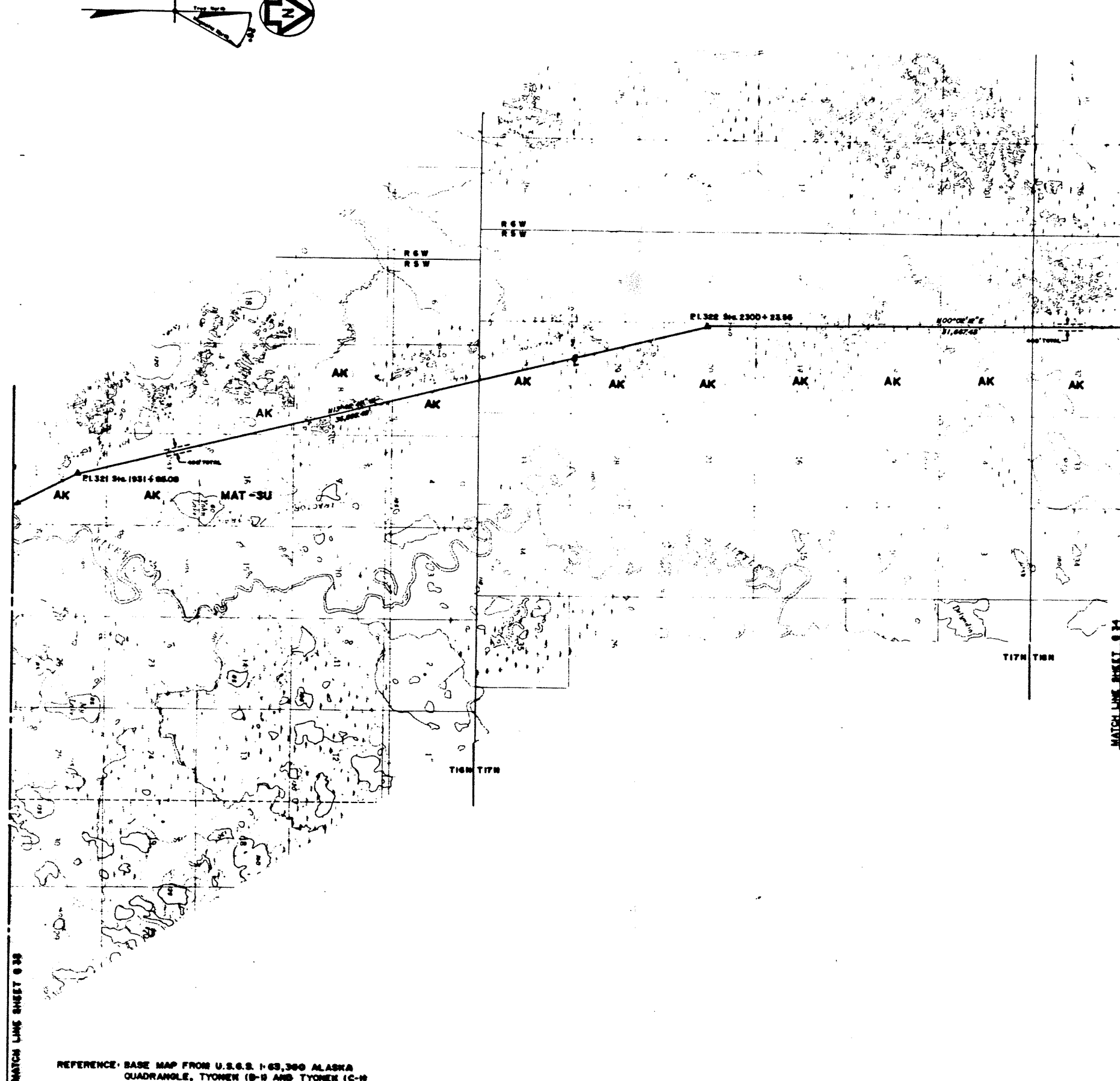
1. NO SURVEY WAS PERFORMED PRIOR TO THE PREPARATION OF THIS MAP. TOWNSHIP CORNER POSITIONS WERE DETERMINED BY COORDINATING RECORD BUREAU OF LAND MANAGEMENT (BLM) SURVEY PLATS FOR THE ASSOCIATED TOWNSHIPS. WHERE NO RECORD PLAT EXISTED, POSITIONS WERE DETERMINED FROM THE OFFICIAL BLM PROTRACTION DIAGRAM. POSITIONS FOR THE TRANSMISSION LINE P.L.'S WERE DETERMINED BY DIGITIZING SCALED POINTS ON THE RESPECTIVE U.S.G.S. QUADRANGLE MAPS ORIENTED TO THE COMPUTED TOWNSHIP CORNER POSITIONS.
2. ALL DIMENSIONS, COORDINATES AND STATIONING SHOWN ARE BASED ON THE ALASKA STATE PLANE COORDINATE SYSTEM ZONE 4 GRID.

LAND OWNERSHIP SCHEDULE	
USA-BLM	- BUREAU OF LAND MANAGEMENT
AK	- STATE OF ALASKA
CRB	- COOK RILEY REGION, INC.
US ARMY	- UNITED STATES ARMY
USAF	- UNITED STATES AIR FORCE
MAT-SU	- MATANUSKA-SUSITNA BOROUGH
M OF ANC	- MUNICIPALITY OF ANCHORAGE

NOTE: ALL LAND OWNERSHIP BY SECTIONS
UNLESS OTHERWISE SHOWN

SCALE 0 1 MILE
Scale: 1" = 5 mi.

ALASKA POWER AUTHORITY SUBITNA HYDROELECTRIC PROJECT	
TRANSMISSION LINE PROJECT BOUNDARY	
EXHIBIT 6	PLATE 632



REFERENCE: BASE MAP FROM U.S.G.S. 1:63,360 ALASKA
QUADRANGLE, TYONEK (D-9) AND TYONEK (C-10)
SEWARD MERIDIAN

NOTES

1. NO SURVEY WAS PERFORMED PRIOR TO THE PREPARATION OF THIS MAP. TOWNSHIP CORNER POSITIONS WERE DETERMINED BY COORDINATING RECORD BUREAU OF LAND MANAGEMENT (BLM) SURVEY PLATS FOR THE ASSOCIATED TOWNSHIPS. WHERE NO RECORD PLAT EXISTED, POSITIONS WERE DETERMINED FROM THE OFFICIAL BLM PROTRACTION DIAGRAM POSITIONS FOR THE TRANSMISSION LINE PL'S WERE DETERMINED BY DIGITIZING SCALED POINTS ON THE RESPECTIVE U.S.G.S. QUADRANGLE MAPS ORIENTED TO THE COMPUTED TOWNSHIP CORNER POSITIONS.
2. ALL DIMENSIONS, COORDINATES AND STATIONING SHOWN ARE BASED ON THE ALASKA STATE PLANE COORDINATE SYSTEM ZONE 4 GRID.

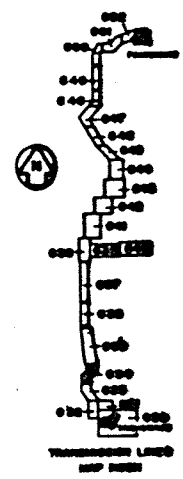
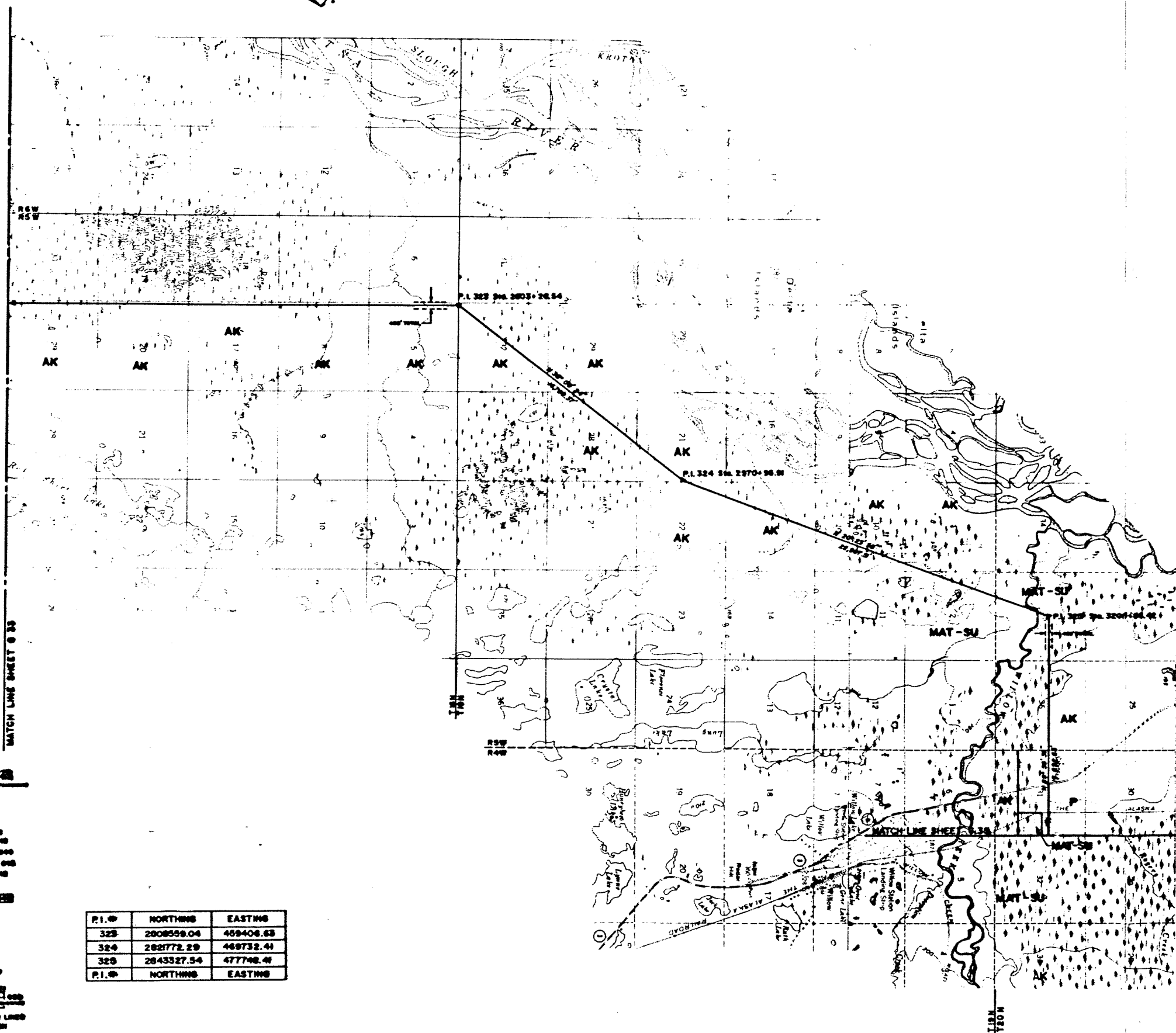
P.L.#	NORTHING	EASTING
321	2722448.22	468112.04
322	2758256.06	459374.43
P.L.#	NORTHING	EASTING

LAND OWNERSHIP SCHEDULE	
USA-BLM	- BUREAU OF LAND MANAGEMENT
AK	- STATE OF ALASKA
CRI	- COOK INLET REGION, INC.
US ARMY	- UNITED STATES ARMY
USAF	- UNITED STATES AIR FORCE
MAT-SU	- MATANUSKA-SUTINA BOROUGH
M OF ANC	- MUNICIPALITY OF ANCHORAGE

NOTE: ALL LAND OWNERSHIP BY SECTIONS UNLESS OTHERWISE SHOWN

SCALE 0 1 MILE
Scale 1" = .5 mi.

ALASKA POWER AUTHORITY SUTINA HYDROELECTRIC PROJECT	
TRANSMISSION LINE PROJECT BOUNDARY	
EXHIBIT 6	PLATE 6 33



P.L.#	NORTHING	EASTING
323	2808559.04	469408.63
324	2821772.29	469732.41
325	2843327.54	477748.41
P.L.#	NORTHING	EASTING

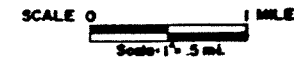
REFERENCE: BASE MAP FROM U.S.G.S. 1:63,360 ALASKA
QUADRANGLE TYONEK (C-1) AND TYONEK (D-1).
SEWARD MERIDIAN

NOTES

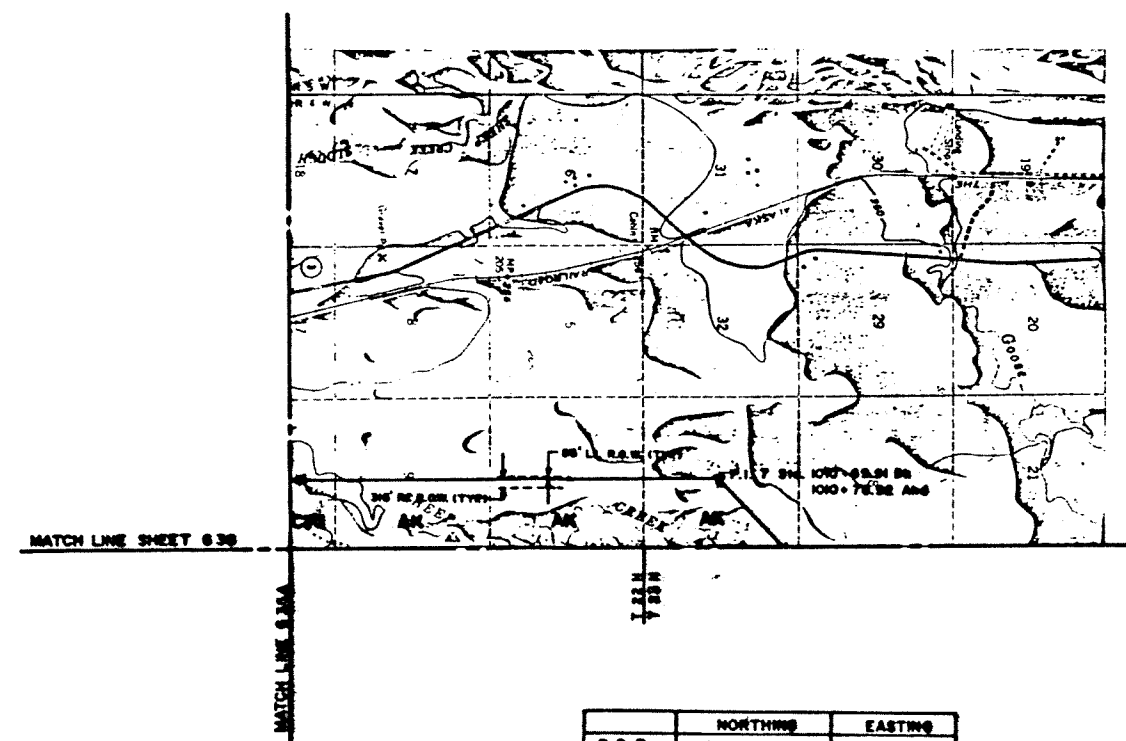
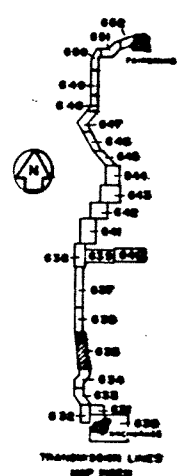
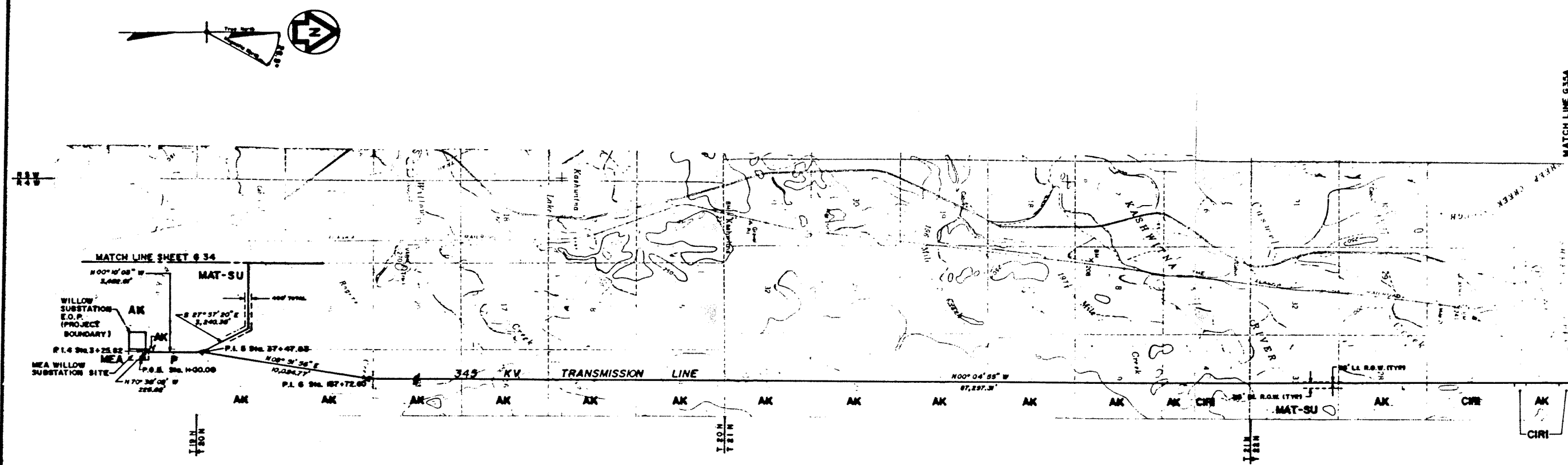
1. NO SURVEY WAS PERFORMED PRIOR TO THE PREPARATION OF THIS MAP. TOWNSHIP CORNER POSITIONS WERE DETERMINED BY COORDINATING RECORD BUREAU OF LAND MANAGEMENT (BLM) SURVEY PLATS FOR THE ASSOCIATED TOWNSHIPS. WHERE NO RECORD PLAT EXISTED, POSITIONS WERE DETERMINED FROM THE OFFICIAL BLM PROTRACTION DIAGRAM. POSITIONS FOR THE TRANSMISSION LINE P.L.'S WERE DETERMINED BY DIGITIZING SCALED POINTS ON THE RESPECTIVE U.S.G.S. QUADRANGLE MAPS ORIENTATED TO THE COMPUTED TOWNSHIP CORNER POSITIONS.
2. ALL DIMENSIONS, COORDINATES AND STATIONING SHOWN ARE BASED ON THE ALASKA STATE PLANE COORDINATE SYSTEM ZONE 4 GRID.

LAND OWNERSHIP SCHEDULE

- | | |
|----------|-----------------------------|
| USA-BLM | - BUREAU OF LAND MANAGEMENT |
| AK | - STATE OF ALASKA |
| CR | - COOK INLET REGION, INC. |
| US ARMY | - UNITED STATES ARMY |
| USAF | - UNITED STATES AIR FORCE |
| MAT-SU | - MATANUSKA-SUSITNA BOROUGH |
| M OF ANC | - MUNICIPALITY OF ANCHORAGE |
| P | - PRIVATE |
- NOTE: ALL LAND OWNERSHIP BY SECTIONS UNLESS OTHERWISE SHOWN



ALASKA POWER AUTHORITY SUSITNA HYDROELECTRIC PROJECT	
TRANSMISSION LINE PROJECT BOUNDARY	
EXHIBIT 6	PLATE 6 34



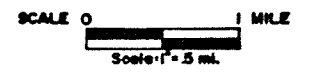
LAND OWNERSHIP SCHEDULE

AK	- STATE OF ALASKA
MAT-SU	- MATANUSKA-SUSITNA BOROUGH
CIRI	- COOK INLET REGION, INC.
MEA	- MATANUSKA ELECTRIC ASSOCIATION
P	- PRIVATE

NOTE: ALL LAND OWNERSHIP BY SECTIONS UNLESS OTHERWISE SHOWN

NOTES

1. ALL DIMENSIONS, COORDINATES AND STATIONING SHOWN ARE BASED ON THE ALASKA STATE PLANE COORDINATE SYSTEM ZONE 4 GRID.

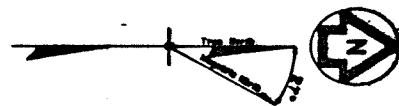
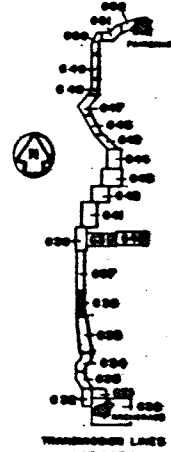
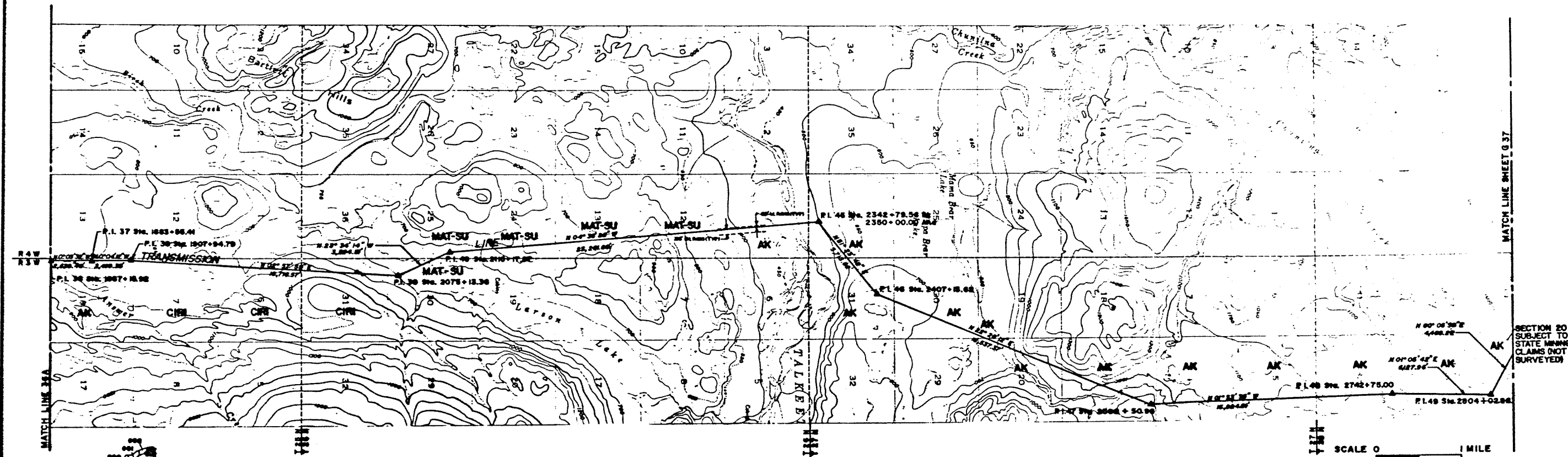
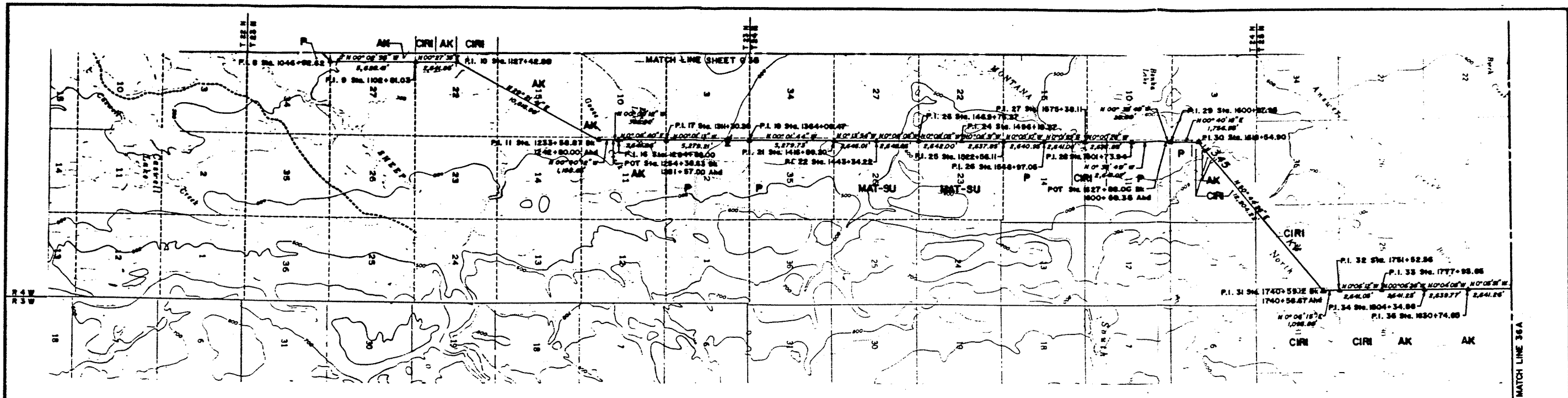


	NORTHING	EASTING
P.O.B.	2829899.84	488404.88
P.I.		
4	2830388.00	487708.00
5	2840487.00	488160.00
6	2850388.00	487708.00
P.L.	NORTHING	EASTING

LANDS WITHIN THE TRANSMISSION CORRIDOR INDICATED ON THIS SHEET HAVE BEEN ACQUIRED BY THE ALASKA POWER AUTHORITY. THE LINE SHOWN WILL BE CONSTRUCTED TO 2005.

THIS SHEET IS A COMPOSITE OF THE FOLLOWING U.S.G.S. QUADRANGLES: TALKEETNA (4-16, TYONEK (D-8 SEWARD MERIDIAN

ALASKA POWER AUTHORITY	
SUSITNA HYDROELECTRIC PROJECT	
TRANSMISSION LINE PROJECT BOUNDARY	
EXHIBIT 6	PLATE G 35



LAND OWNERSHIP SCHEDULE

- AK - STATE OF ALASKA
- MAT-SU - MATANUSKA-SUSITNA BOROUGH
- CIRI - COOK INLET REGION, INC.
- P - PRIVATE

NOTE: ALL LAND OWNERSHIP BY SECTIONS UNLESS OTHERWISE SHOWN

PL	NORTHING	EASTING
36	304442.40	514823.88
37	301706.89	514821.14
38	301946.27	514846.16
39	303867.44	515683.38
40	3039399.54	514286.97
48	3042546.00	514400.08
49	3046150.00	514400.08
47	3083265.00	523685.00
46	3098259.84	523548.70
49	304422.08	514823.88
PL	NORTHING	EASTING

LANDS WITHIN THE TRANSMISSION CORRIDOR INDICATED ON THIS SHEET HAVE BEEN ACQUIRED BY THE ALASKA POWER AUTHORITY. THE LINE SHOWN WILL BE CONSTRUCTED IN 1981.

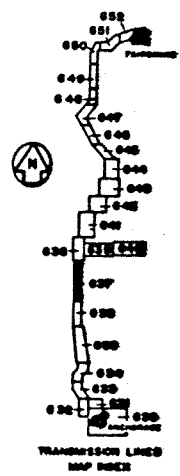
THIS SHEET IS A COMPOSITE OF THE FOLLOWING U.S.G.S. QUADRANGLES: TALKEETNA MOUNTAINS (8-8), TALKEETNA MOUNTAINS (A-8), SEWARD MERIDIAN

ALASKA POWER AUTHORITY	
SUBITNA HYDROELECTRIC PROJECT	
TRANSMISSION LINE PROJECT BOUNDARY	
EXHIBIT 8	PLATE G 36

SECT. 20
SUBJECT TO STATE
MINING
CLAIMS
(NOT SUR-
VEYED)

MATCH LINE SHEET G36

MATCH LINE SHEET G38



P.I. #	NORTHING	EASTING
50	3106660.00	519680.00
51	3126690.00	522450.00
52	3145230.00	521810.00
53	3143860.79	524810.28
54	3148776.86	527900.98
55	3158628.88	534916.28
56	3164688.78	538584.31
57	3174679.34	544687.80
58	3177039.30	546970.14
59	318667.68	548192.74
60	3186188.58	552436.13
61	3191835.22	557210.67
P.I. #	NORTHING	EASTING

LAND OWNERSHIP SCHEDULE

- STATE OF ALASKA
- COOK INLET REGION, INC. SELECTED

AK
USA
C.S.

NOTE: ALL LAND OWNERSHIP BY SECTIONS
UNLESS OTHERWISE SHOWN.

NOTES

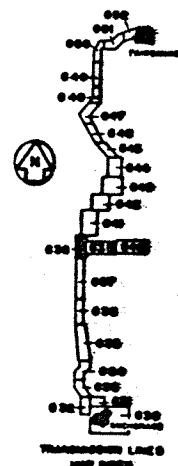
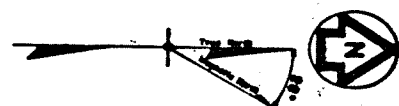
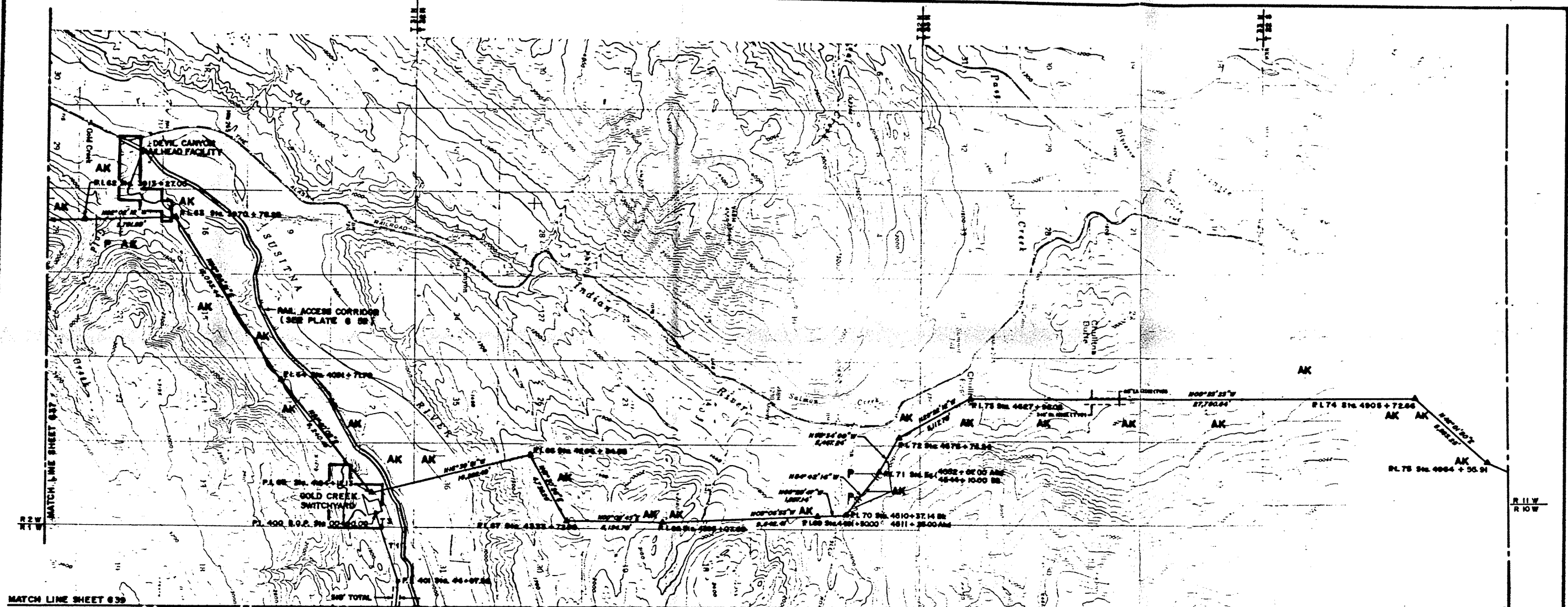
1. ALL DIMENSIONS, COORDINATES AND STATIONING
SHOWN ARE BASED ON THE ALASKA STATE
PLANE COORDINATE SYSTEM ZONE 4 GRID.

LANDS WITHIN THE TRANSMISSION CORRIDOR
INDICATED ON THIS SHEET HAVE BEEN
ACQUIRED BY THE ALASKA POWER AUTHORITY.
THE LINE SHOWN WILL BE CONSTRUCTED IN 1988.

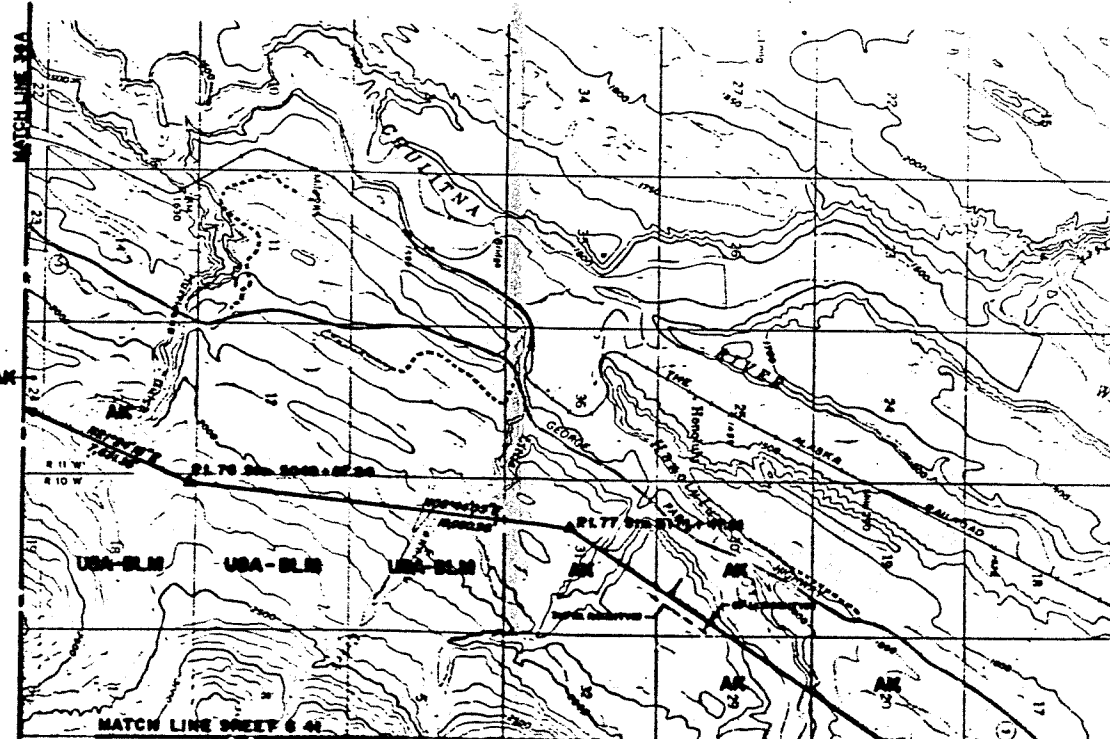
THIS SHEET IS COMPOSED OF
U.S.G.S. QUADRANGLE:
TALKEETNA MOUNTAINS (C-6)
SEWARD MERIDIAN



ALASKA POWER AUTHORITY	
SUSITNA HYDROELECTRIC PROJECT	
TRANSMISSION LINE PROJECT BOUNDARY	
EXHIBIT 6	PLATE G37



P.L.	NORTHING	EASTING
62	3199654.04	557151.84
63	3205401.61	556947.46
64	3212180.66	556962.28
65	3217911.60	574210.82
66	3227781.54	571478.57
67	3230021.94	575840.94
68	3238158.70	575828.08
69	3246764.66	575132.64
70	3247646.98	574826.16
71	3249345.00	572148.00
72	3250940.00	570110.00
73	3255400.00	567800.00
74	3258180.00	567411.00
75	3257380.00	571350.00
76	3294665.00	574155.00
77	3307660.00	574440.00
P.L.	NORTHING	EASTING



LAND OWNERSHIP SCHEDULE

- AK - STATE OF ALASKA
- USA-BLM - BUREAU OF LAND MANAGEMENT
- P - PRIVATE

NOTE: ALL LAND OWNERSHIP BY SECTION UNLESS OTHERWISE SHOWN.

LABEL	BEARING	DISTANCE
T1	N 71° 12' 10" E	4407.52
T3	N 71° 12' 10" E	880.82
LABEL	BEARING	DISTANCE

LEGEND

PROJECT BOUNDARY

LANDS WITHIN THE TRANSMISSION CORRIDOR INDICATED ON THIS SHEET HAVE BEEN ACQUIRED BY THE ALASKA POWER AUTHORITY. THE LINE SHOWN WILL BE CONSTRUCTED IN 1988.

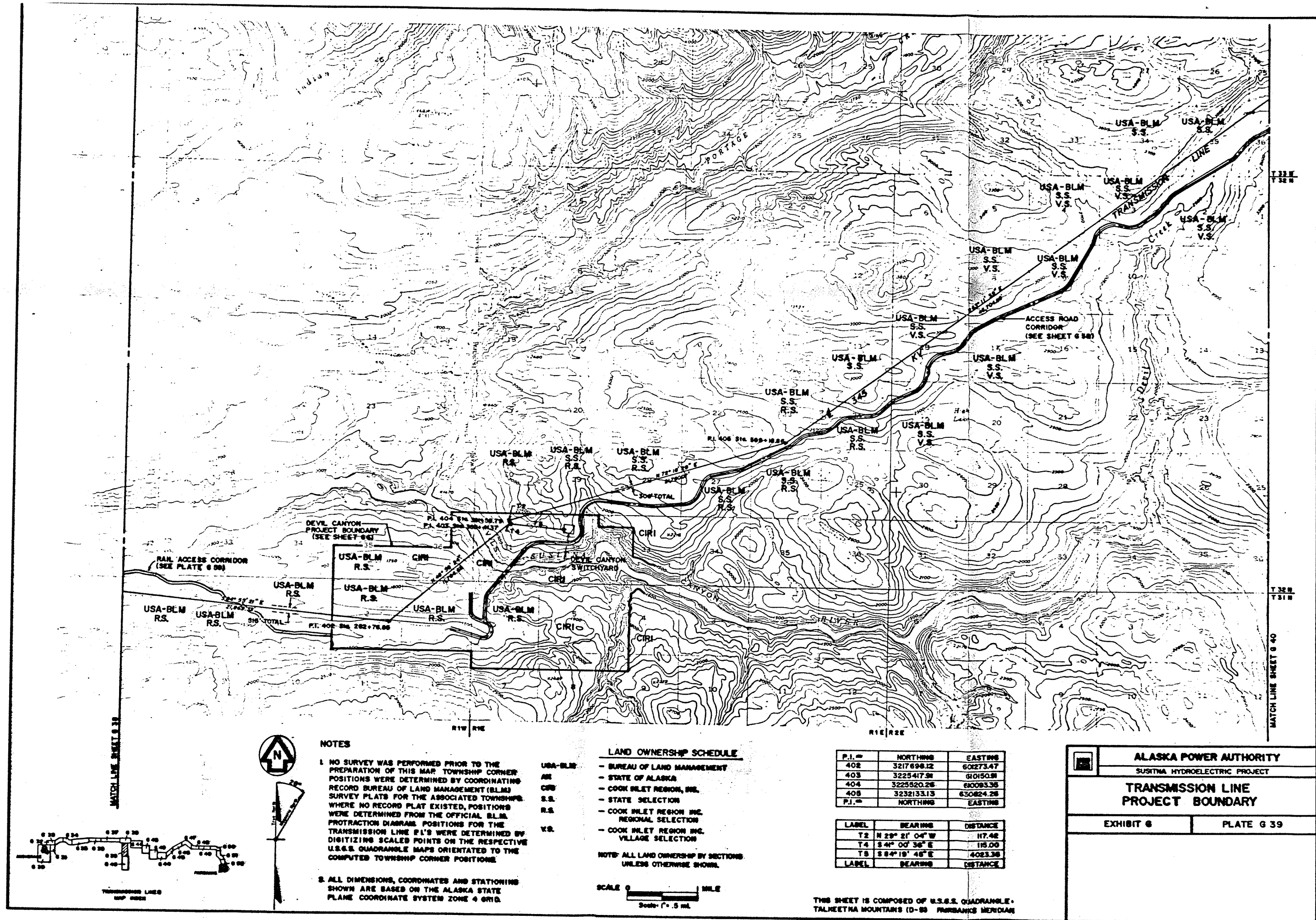
NOTES

1. ALL DIMENSIONS, COORDINATES AND STATIONING SHOWN ARE BASED ON THE ALASKA STATE PLANE COORDINATE SYSTEM ZONE 4 GRID.

SCALE 0 1 MILE
Scale: 1" = .5 MI.

ALASKA POWER AUTHORITY SUSITNA HYDROELECTRIC PROJECT	
TRANSMISSION LINE PROJECT BOUNDARY	
EXHIBIT 6	PLATE G38

THIS SHEET IS A COMPOSITE OF THE FOLLOWING U.S.G.S. QUADRANGLES: TALKIETHA MOUNTAINS (D-63), HEALY (A-63)



NOTES

1. NO SURVEY WAS PERFORMED PRIOR TO THE PREPARATION OF THIS MAP. TOWNSHIP CORNER POSITIONS WERE DETERMINED BY COORDINATING RECORD BUREAU OF LAND MANAGEMENT (BLM) SURVEY PLATS FOR THE ASSOCIATED TOWNSHIPS. WHERE NO RECORD PLAT EXISTED, POSITIONS WERE DETERMINED FROM THE OFFICIAL BLM PROTRACTION DIAGRAM POSITIONS FOR THE TRANSMISSION LINE PL'S WERE DETERMINED BY DIGITIZING SCALE POINTS ON THE RESPECTIVE U.S.G.S. QUADRANGLE MAPS ORIENTATED TO THE COMPUTED TOWNSHIP CORNER POSITIONS.

2. ALL DIMENSIONS, COORDINATES AND STATIONING SHOWN ARE BASED ON THE ALASKA STATE PLANE COORDINATE SYSTEM ZONE 4 GRID.

LAND OWNERSHIP SCHEDULE

USA-BLM
BLM
CIRI
S.S.
R.S.
V.S.

- BUREAU OF LAND MANAGEMENT
- STATE OF ALASKA
- COOK INLET REGION, INC.
- STATE SELECTION
- COOK INLET REGION INC. REGIONAL SELECTION
- COOK INLET REGION INC. VILLAGE SELECTION

NOTE: ALL LAND OWNERSHIP BY SECTIONS, UNLESS OTHERWISE SHOWN.

SCALE 0 1 MILE
Scale: 1" = .5 MI.

P.L.#	NORTHING	EASTING
402	3217698.12	60273.47
403	3225417.91	610150.91
404	3225520.26	60093.36
405	3232133.13	630824.26
P.L.#	NORTHING	EASTING

LABEL	BEARING	DISTANCE
T2	N 29° 21' 04" W	117.42
T4	S 44° 00' 36" E	115.00
T8	S 84° 19' 46" E	4023.36
LABEL	BEARING	DISTANCE

THIS SHEET IS COMPOSED OF U.S.G.S. QUADRANGLE - TALKEETHA MOUNTAINS (D-83) PARALLEL MERIDIAN

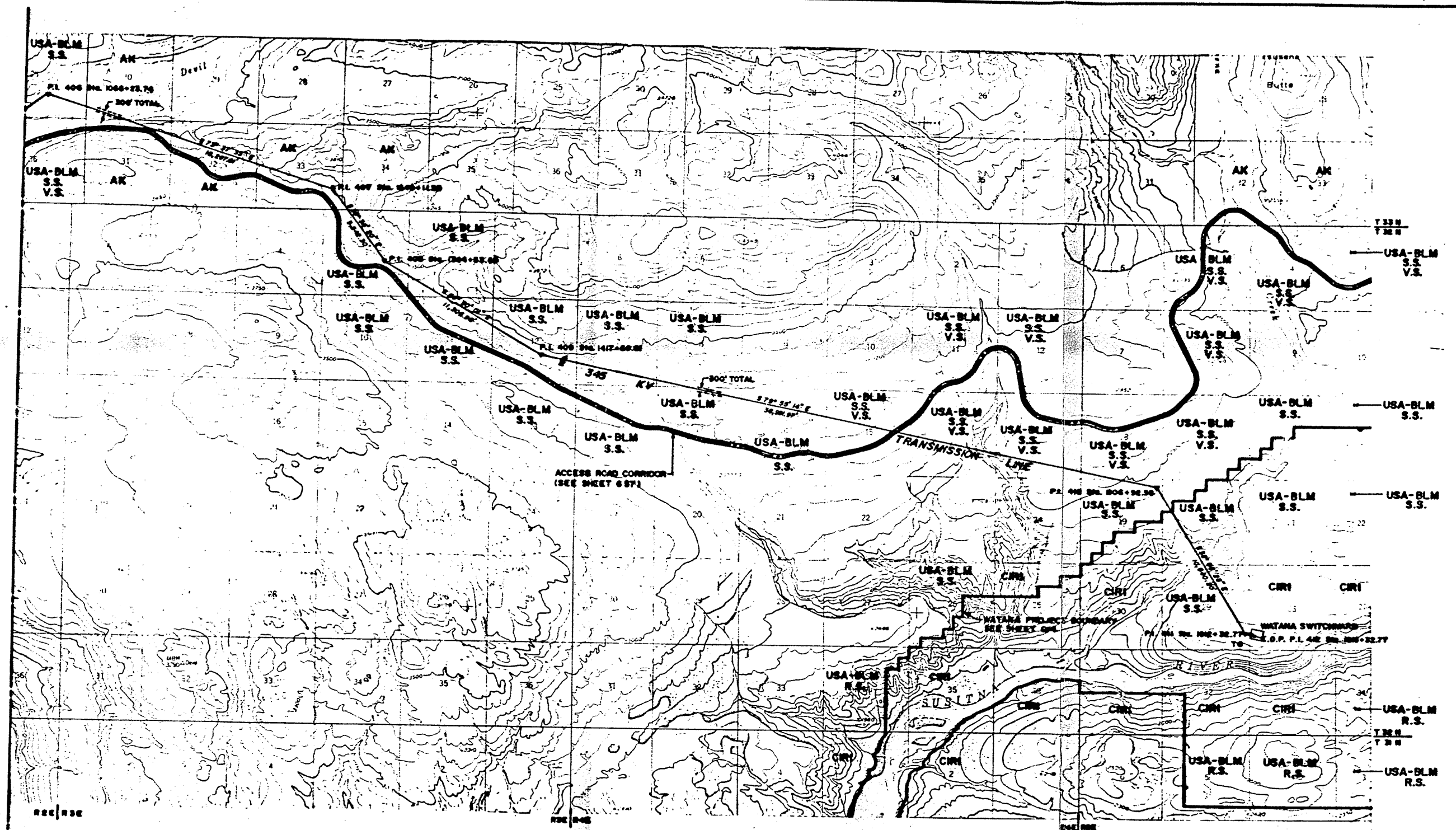
ALASKA POWER AUTHORITY

SUSITNA HYDROELECTRIC PROJECT

TRANSMISSION LINE PROJECT BOUNDARY

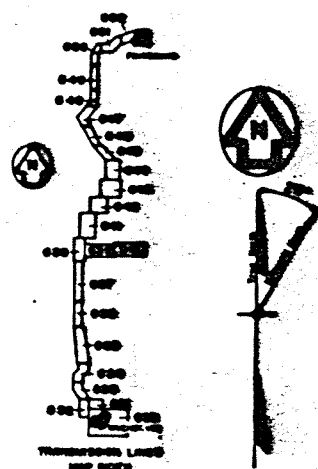
EXHIBIT 6

PLATE G 39



P.I. #	NORTHING	EASTING
406	326010.71	660222.13
407	325485.25	660768.02
408	325062.16	660223.65
409	324611.75	659086.96
410	323829.18	737428.09
411	322938.39	743027.80
412	322938.70	743323.48
P.I. #	NORTHING	EASTING

LABEL	BEARING	DISTANCE
T 8	S 80° 28' 00" E	300.00
LABEL	BEARING	DISTANCE



NOTES

1. NO SURVEY WAS PERFORMED PRIOR TO THE PREPARATION OF THIS MAP. TOWNSHIP CORNER POSITIONS WERE DETERMINED BY COORDINATING RECORD BUREAU OF LAND MANAGEMENT (BLM) SURVEY PLATS FOR THE ASSOCIATED TOWNSHIPS WHERE NO RECORD PLAT EXISTED, POSITIONS WERE DETERMINED FROM THE OFFICIAL BLM PROJECTION DIAGRAM POSITIONS FOR THE TRANSMISSION LINE P.I.'S WERE DETERMINED BY DIGITIZING SCALE POINTS ON THE RESPECTIVE U.S.G.S. QUADRANGLE MAPS ORIENTED TO THE COMPUTED TOWNSHIP CORNER POSITIONS.

2. ALL DIMENSIONS, COORDINATES AND STATIONING SHOWN ARE BASED ON THE ALASKA STATE PLANE COORDINATE SYSTEM ZONE 4 GRN.

LAND OWNERSHIP SCHEDULE

USA-BLM - BUREAU OF LAND MANAGEMENT
 AK - STATE OF ALASKA
 CR - COOK INLET REGION, INC.
 S.S. - STATE SELECTED
 R.S. - COOK INLET REGION, INC. REGIONAL SELECTION
 V.S. - COOK INLET REGION, INC. VILLAGE SELECTION

NOTE: ALL LAND OWNERSHIP BY SECTIONS UNLESS OTHERWISE SHOWN

THIS SHEET IS A COMPOSITE OF THE FOLLOWING U.S.G.S. QUADRANGLES: TALKEETNA MOUNTAINS (D-5), TALKEETNA MOUNTAINS (D-6), FIERBERG MOUNTAINS

SCALE 0 1 MILE
 Scale 1" = 5 mi.

ALASKA POWER AUTHORITY
 SUBITNA HYDROELECTRIC PROJECT

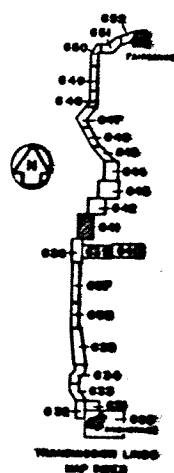
TRANSMISSION LINE
 PROJECT BOUNDARY

EXHIBIT 6

PLATE G 40

MATCH LINE SHEET 838

MATCH LINE SHEET 842



AK
USA-BLM
AHTNA
USDA
A.S.

LAND OWNERSHIP SCHEDULE

- STATE OF ALASKA
- BUREAU OF LAND MANAGEMENT
- AHTNA, INC.
- AHTNA, INC. SELECTED

NOTE: ALL LAND OWNERSHIP BY SECTIONS
UNLESS OTHERWISE SHOWN.

P.I. #	NORTHING	EASTING
78	3242378.00	098780.00
79	3248380.00	004080.00
80	3386740.00	008480.00
81	3388210.00	017870.00
P.I. #	NORTHING	EASTING

NOTES

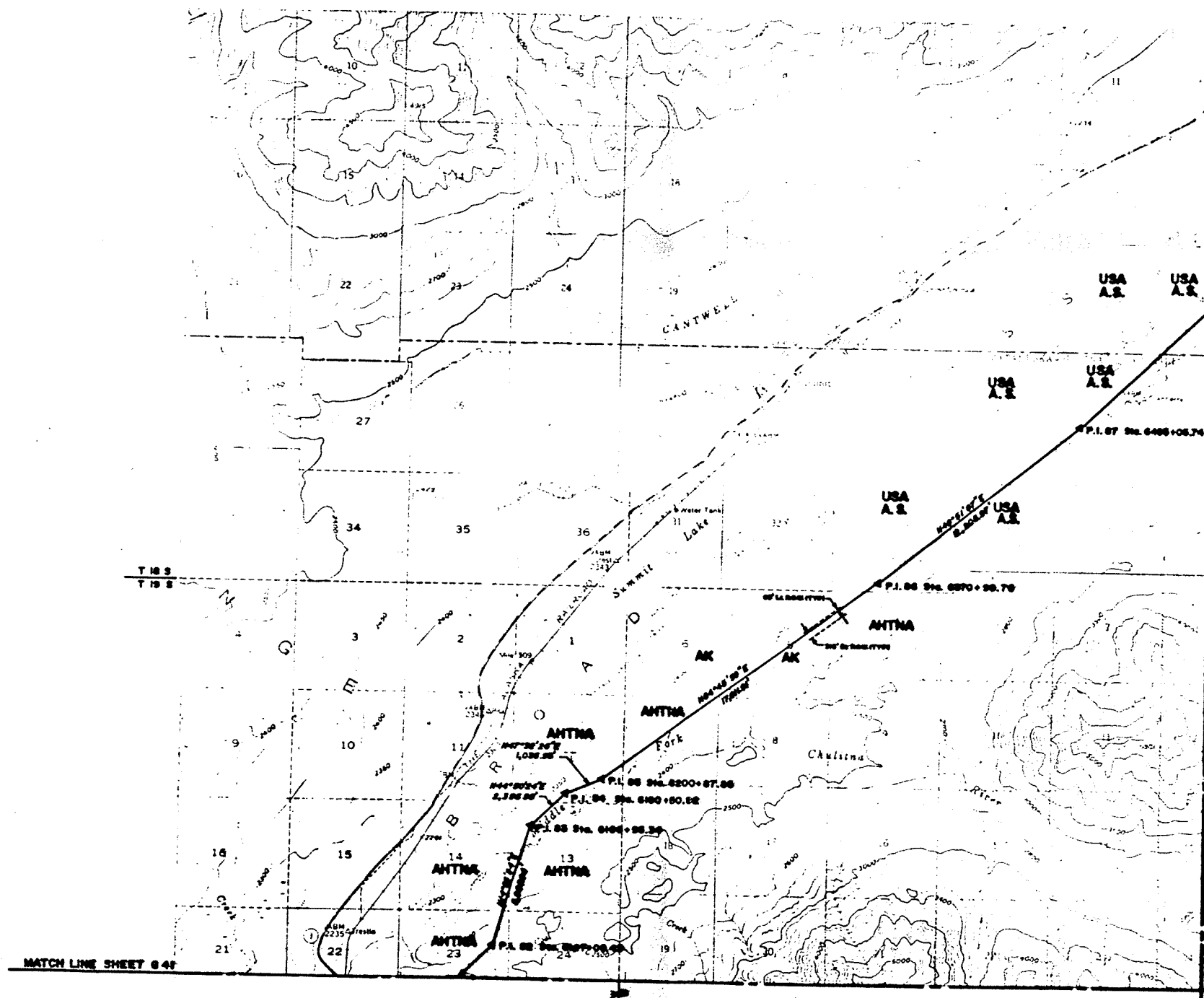
1. ALL DIMENSIONS, COORDINATES AND STATIONING
SHOWN ARE BASED ON THE ALASKA STATE
PLANE COORDINATE SYSTEM ZONE 4 GRID.

LANDS WITHIN THE TRANSMISSION CORRIDOR
INDICATED ON THIS SHEET HAVE BEEN
ACQUIRED BY THE ALASKA POWER AUTHORITY.
THE LINE SHOWN WILL BE CONSTRUCTED IN 1988.

THIS SHEET IS COMPOSED OF
U.S.G.S. QUADRANGLE: HEALY (A-8)
PUBLISHED 1960



ALASKA POWER AUTHORITY	
SUBITNA HYDROELECTRIC PROJECT	
TRANSMISSION LINE PROJECT BOUNDARY	
EXHIBIT 8	PLATE G41



LAND OWNERSHIP SCHEDULE

- AK - STATE OF ALASKA
- USA A.S. - ANTHA, INC. SELECTED
- ANTNA - ANTHA, INC.

NOTE: ALL LAND OWNERSHIP BY SECTIONS UNLESS OTHERWISE SHOWN

P.I. #	NORTHING	EASTING
02	33824400.00	630000.00
03	338244.71	630000.00
04	338244.00	630000.00
05	338244.00	630000.00
06	3400480.00	640000.00
07	3400480.00	640000.00
P.I. #	NORTHING	EASTING

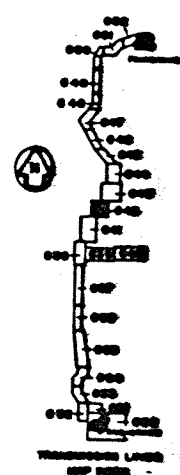
NOTES
1. ALL DIMENSIONS, COORDINATES AND STATIONING SHOWN ARE BASED ON THE ALASKA STATE PLANE COORDINATE SYSTEM ZONE 4 GRID.

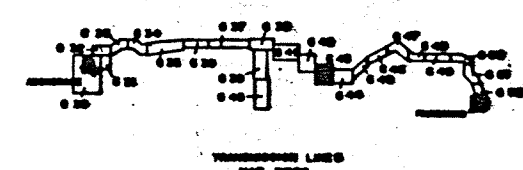
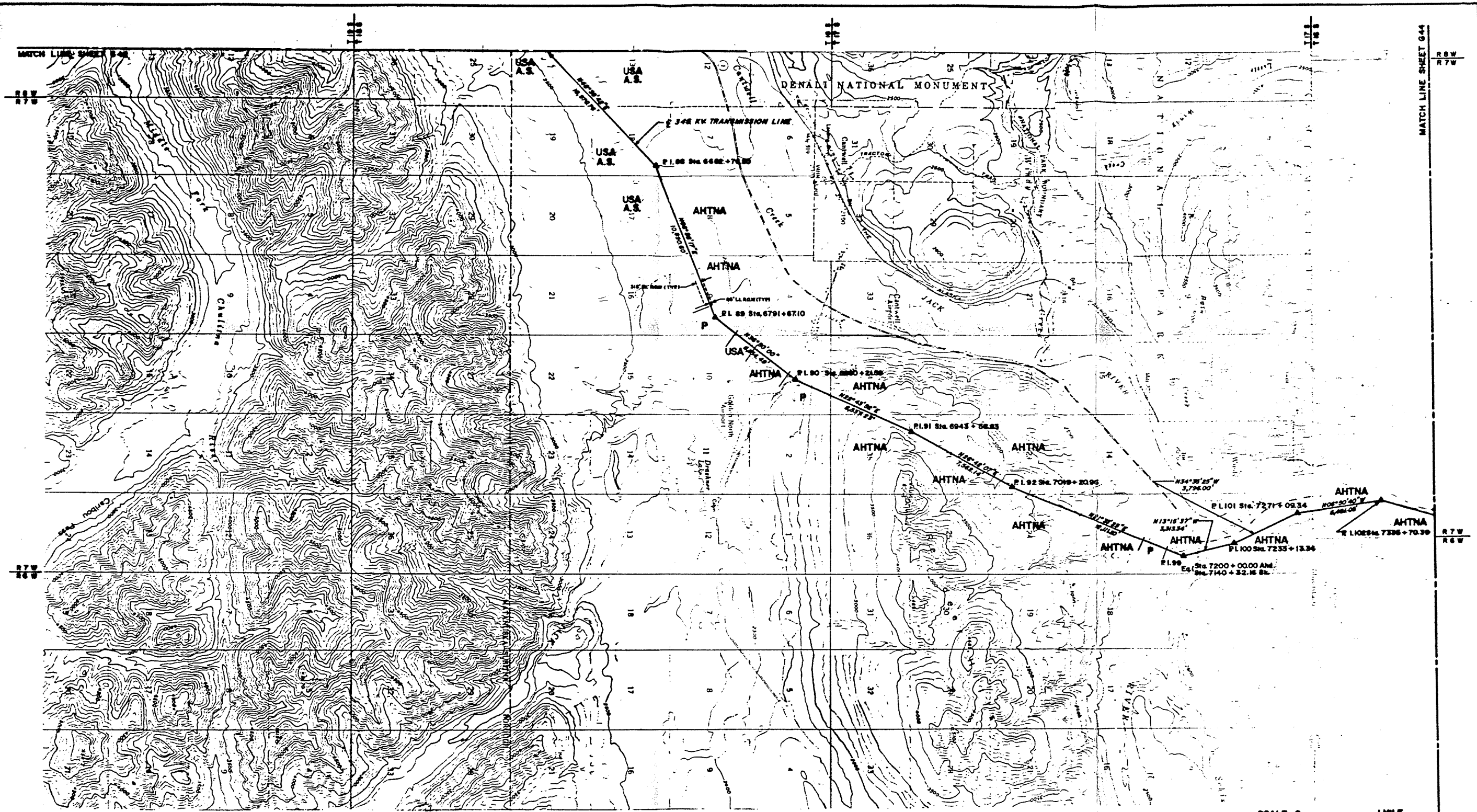


ALASKA POWER AUTHORITY	
SUBITNA HYDROELECTRIC PROJECT	
TRANSMISSION LINE PROJECT BOUNDARY	
EXHIBIT 6	PLATE G 42

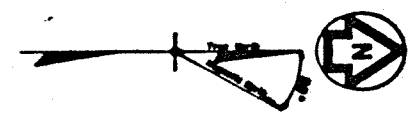
LANDS WITHIN THE TRANSMISSION CORRIDOR INDICATED ON THIS SHEET HAVE BEEN ACQUIRED BY THE ALASKA POWER AUTHORITY. THE LINE SHOWN WILL BE CONSTRUCTED IN 2002.

THIS SHEET IS COMPOSED OF U.S.G.S. QUADRANGLE: HEALY (18-0) PARADISE MERIDIAN





P.L.#	NORTHING	EASTING
88	3421894.02	671785.02
89	3422854.34	681805.34
90	3434340.56	686915.56
91	3439030.22	692137.11
92	3445785.90	692535.15
93	3457050.00	692985.00
100	3460275.00	696225.00
101	3463400.00	694070.00
102	3469815.00	693300.00
P.L.#	NORTHING	EASTING



LAND OWNERSHIP SCHEDULE

- USA - AHTNA, INC. SELECTED
- A.S. - AHTNA, INC.
- P - PRIVATE
- USA - UNITED STATES OF AMERICA

NOTE: ALL LAND OWNERSHIP BY SECTIONS UNLESS OTHERWISE SHOWN.
LANDS WITHIN THE TRANSMISSION CORRIDOR INDICATED ON THIS SHEET HAVE BEEN ACQUIRED BY THE ALASKA POWER AUTHORITY. THE LINE SHOWN WILL BE CONSTRUCTED IN 1988.

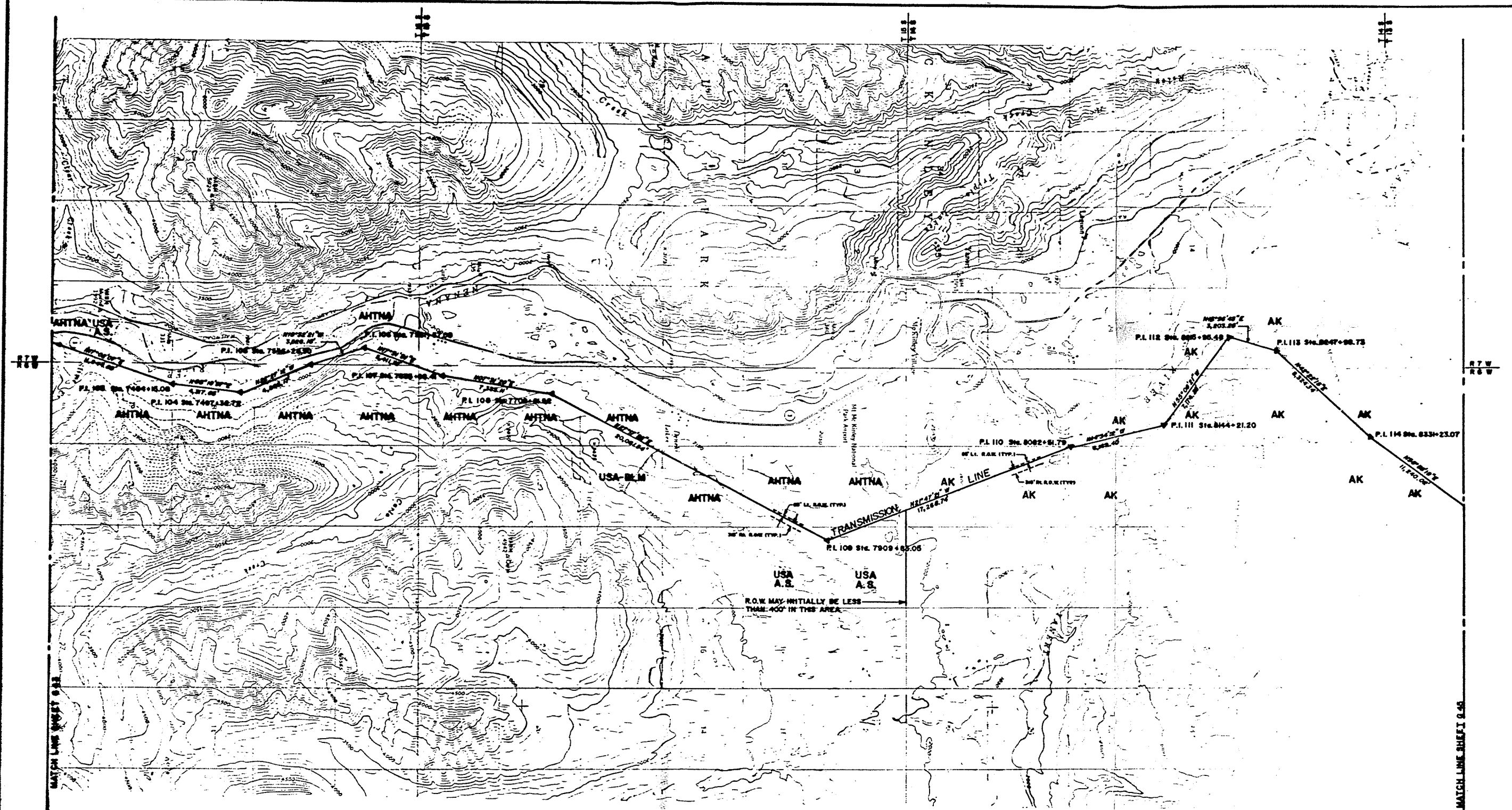
NOTES

1. ALL DIMENSIONS, COORDINATES AND STATIONING SHOWN ARE BASED ON THE ALASKA STATE PLANE COORDINATE SYSTEM ZONE 4 GRID.

THIS SHEET IS COMPOSED OF U.S.G.S. QUADRANGLE: NEALY 6-49 PARBANKS MERIDIAN

SCALE 0 1 MILE
Scale: 1" = 5mi

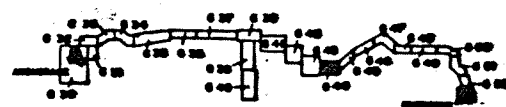
ALASKA POWER AUTHORITY SUSTNA HYDROELECTRIC PROJECT	
TRANSMISSION LINE PROJECT BOUNDARY	
EXHIBIT G	PLATE G43



LAND OWNERSHIP SCHEDULE

- ANTNA - ANTNA, INC.
- USA-BLM - BUREAU OF LAND MANAGEMENT
- USA-A.S. - ANTNA, INC. SELECTED
- AK - STATE OF ALASKA

NOTE: ALL LAND OWNERSHIP BY SECTION UNLESS OTHERWISE SHOWN.



TRANSMISSION LINE MAP 1000

P.I.#	NORTHING	EASTING
108	3481140.00	696770.00
109	3485440.00	697180.00
109	3489280.00	698220.00
108	3493290.00	694110.00
107	3498480.00	695740.00
108	3506730.00	696700.00
P.I.#	NORTHING	EASTING

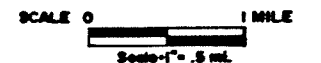
P.I.#	NORTHING	EASTING
109	3523585.00	705910.00
110	3539800.00	699500.00
111	3548571.00	697948.00
112	3549670.00	692060.00
113	3552750.00	692340.00
114	35589000.00	698550.00
P.I.#	NORTHING	EASTING

NOTES

1. ALL DIMENSIONS, COORDINATES AND STATIONING SHOWN ARE BASED ON THE ALASKA STATE PLANE COORDINATE SYSTEM ZONE 4 60N.

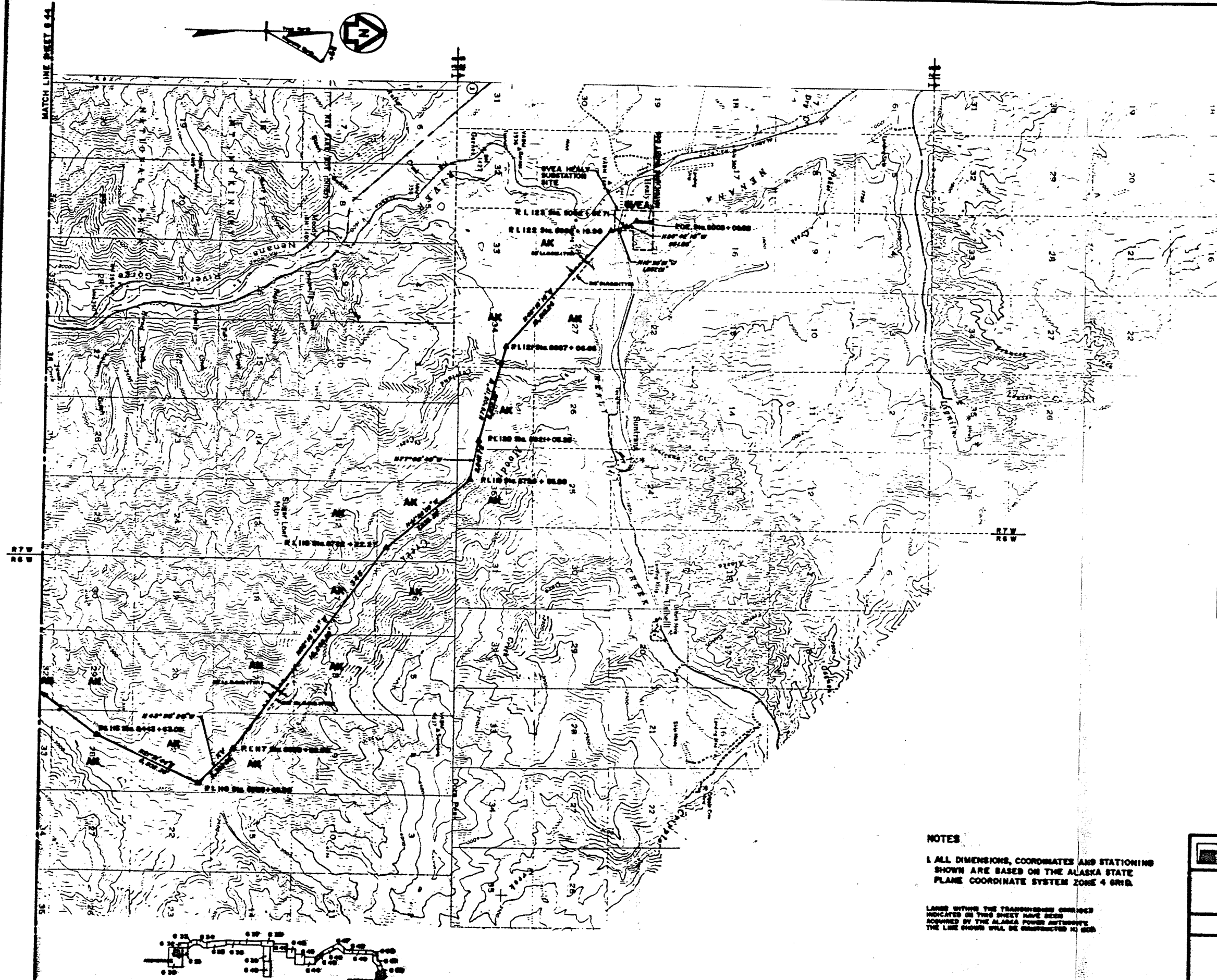
LANDS WITHIN THE TRANSMISSION CORRIDOR INDICATED ON THIS SHEET HAVE BEEN ACQUIRED BY THE ALASKA POWER AUTHORITY. THE LINE SHOWN WILL BE CONSTRUCTED IN 2008.

THIS SHEET IS COMPOSED OF U.S.G.S. QUADRANGLE HEALY (C-4) FAIRBANKS MERIDIAN



ALASKA POWER AUTHORITY	
SUBITNA HYDROELECTRIC PROJECT	
TRANSMISSION LINE PROJECT BOUNDARY	
EXHIBIT G	PLATE G 44

MATCH LINE SHEET G-44



LAND OWNERSHIP SCHEDULE

- AK - STATE OF ALASKA
GVEA - GOLDEN VALLEY ELECTRIC ASSOCIATION

NOTE: ALL LAND OWNERSHIP BY SECTION UNLESS OTHERWISE SHOWN.

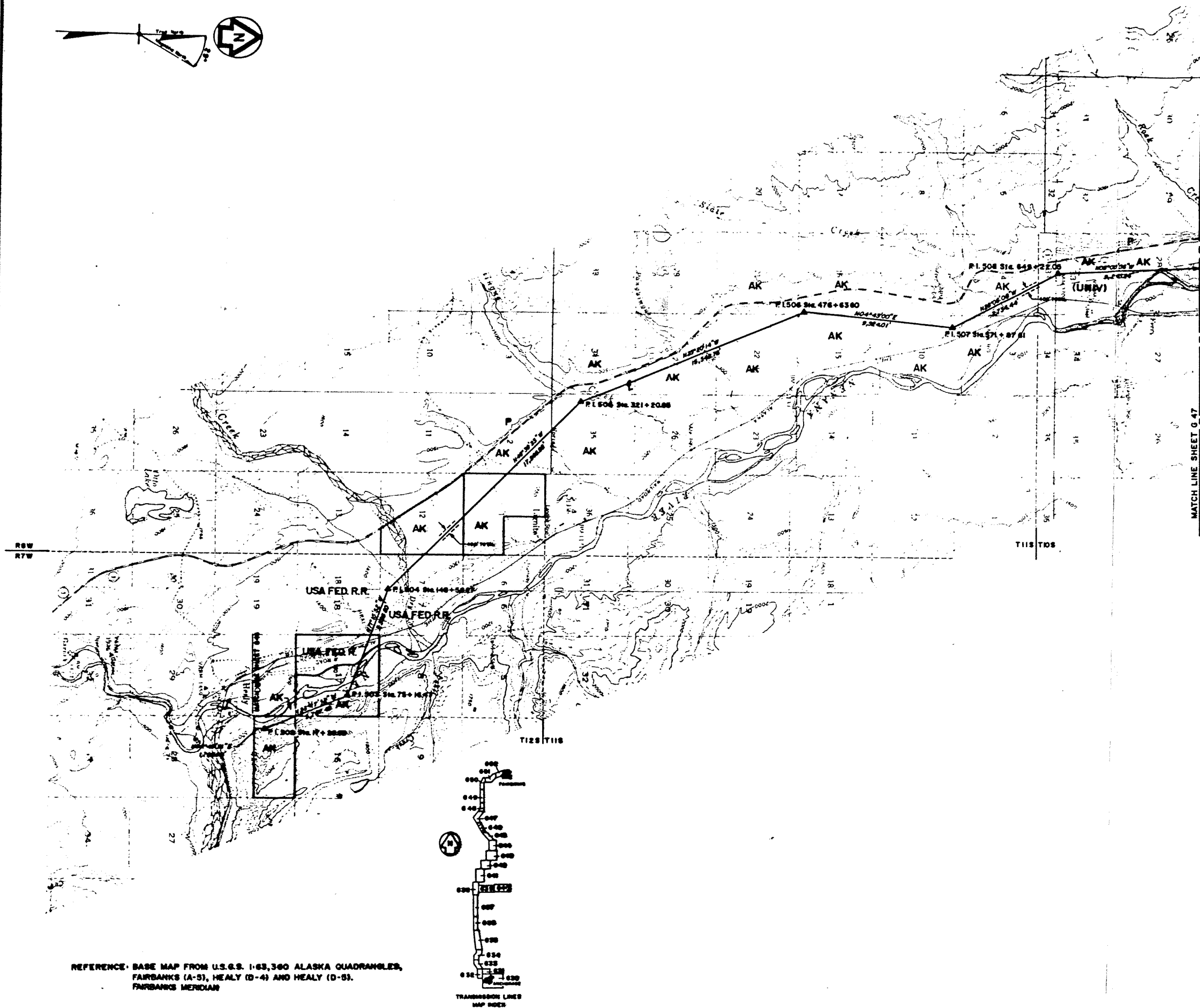
P.I. =	NORTHING	EASTING
115	3567880.00	70638000
116	3575510.00	70638000
117	3577980.00	706870.00
118	3587220.00	682800.00
119	3588240.00	68780.00
120	3593235.00	685230.00
121	3594938.00	67880.00
122	3601800.00	670865.00
123	3602795.00	670890.00
P.O.E.	3603272.00	670398.78
P.I. =	NORTHING	EASTING

SCALE 0 1 MILE
Scale 1" = 5 mi

NOTES
1. ALL DIMENSIONS, COORDINATES AND STATIONING SHOWN ARE BASED ON THE ALASKA STATE PLANE COORDINATE SYSTEM ZONE 4 GRN.
LANDS WITHIN THE TRANSMISSION CORRIDOR INDICATED ON THIS SHEET HAVE BEEN ACQUIRED BY THE ALASKA POWER AUTHORITY. THE LINE SHOWN WILL BE CONSTRUCTED IN 2005.

THIS SHEET IS COMPOSED OF U.S.G.S. QUADRANGLE: HEALY (8-45) FAIRBANKS MERIDIAN

ALASKA POWER AUTHORITY	
SUBITNA HYDROELECTRIC PROJECT	
TRANSMISSION LINE PROJECT BOUNDARY	
EXHIBIT G	PLATE G-45



REFERENCE: BASE MAP FROM U.S.G.S. 1:63,360 ALASKA QUADRANGLES, FAIRBANKS (A-5), HEALY (D-4) AND HEALY (D-5). FAIRBANKS MERIDIAN

NOTES

1. NO SURVEY WAS PERFORMED PRIOR TO THE PREPARATION OF THIS MAP. TOWNSHIP CORNER POSITIONS WERE DETERMINED BY COORDINATING RECORD BUREAU OF LAND MANAGEMENT (BLM) SURVEY PLATS FOR THE ASSOCIATED TOWNSHIPS. WHERE NO RECORD PLAT EXISTED, POSITIONS WERE DETERMINED FROM THE OFFICIAL BLM PROTRACTION DIAGRAM. POSITIONS FOR THE TRANSMISSION LINE P.I.'S WERE DETERMINED BY DIGITIZING SCALED POINTS ON THE RESPECTIVE U.S.G.S. QUADRANGLE MAPS ORIENTED TO THE COMPUTED TOWNSHIP CORNER POSITIONS.

2. ALL DIMENSIONS, COORDINATES AND STATIONING SHOWN ARE BASED ON THE ALASKA STATE PLANE COORDINATE SYSTEM ZONE 4 GRID.

P.I. #	NORTHING	EASTING
502	360501.08	670485.28
503	3610327.11	668197.31
504	3612683.37	661250.22
505	3624753.39	648900.39
506	3639024.58	642743.28
507	3648516.35	643526.44
508	3655338.97	632983.17
P.I. #	NORTHING	EASTING

LAND OWNERSHIP SCHEDULE

USA-BLM	- BUREAU OF LAND MANAGEMENT
AK	- STATE OF ALASKA
CRI	- COOK INLET REGION, INC.
US ARMY	- UNITED STATES ARMY
USAF	- UNITED STATES AIR FORCE
USA FED. R.R.	- UNITED STATES FEDERAL RAILROAD
P	- PRIVATE

NOTE: ALL LAND OWNERSHIP BY SECTIONS UNLESS OTHERWISE SHOWN

SCALE 0 1 MILE
Scale: 1" = .5 MI.

ALASKA POWER AUTHORITY
SUSITNA HYDROELECTRIC PROJECT

TRANSMISSION LINE
PROJECT BOUNDARY

EXHIBIT G

PLATE G 46



NOTES

1. NO SURVEY WAS PERFORMED PRIOR TO THE PREPARATION OF THIS MAP. TOWNSHIP CORNER POSITIONS WERE DETERMINED BY COORDINATING RECORD BUREAU OF LAND MANAGEMENT (BLM) SURVEY PLATS FOR THE ASSOCIATED TOWNSHIPS. WHERE NO RECORD PLAT EXISTED, POSITIONS WERE DETERMINED FROM THE OFFICIAL BLM PROTRACTION DIAGRAM. POSITIONS FOR THE TRANSMISSION LINE P.L.'S WERE DETERMINED BY DIGITIZING SCALED POINTS ON THE RESPECTIVE U.S.G.S. QUADRANGLE MAPS ORIENTED TO THE COMPUTED TOWNSHIP CORNER POSITIONS.

2. ALL DIMENSIONS, COORDINATES AND STATIONING SHOWN ARE BASED ON THE ALASKA STATE PLANE COORDINATE SYSTEM ZONE 4 GRID.

PT. #	NORTHING	EASTING
509	3664568.25	638375.43
510	3672778.48	640401.01
511	3707070.76	624611.40
512	3711306.26	627039.11
513	3725244.14	629446.88
PT. #	NORTHING	EASTING

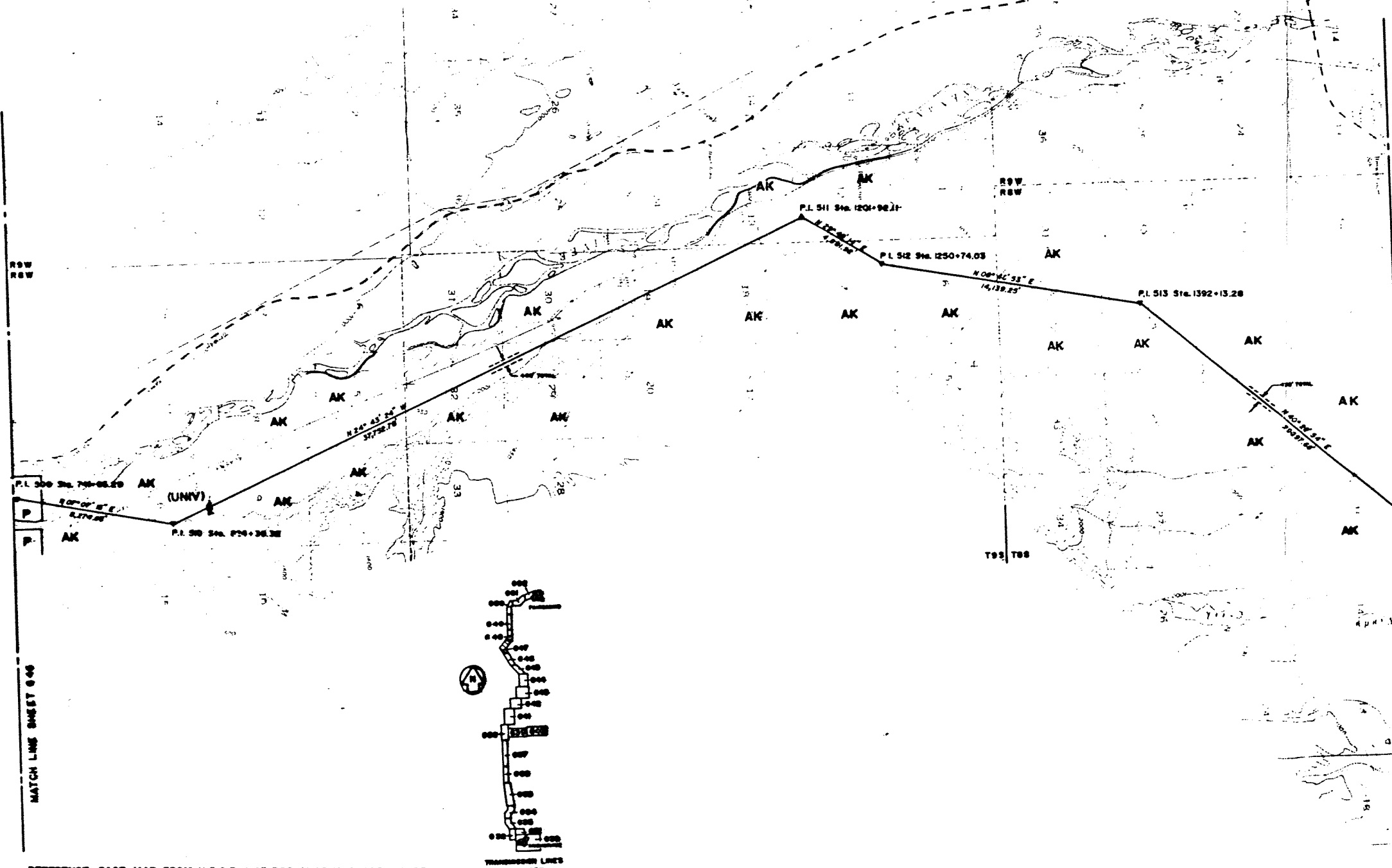
LAND OWNERSHIP SCHEDULE

USA-BLM	- BUREAU OF LAND MANAGEMENT
AK	- STATE OF ALASKA
CRI	- COOK INLET REGION, INC.
US ARMY	- UNITED STATES ARMY
USAF	- UNITED STATES AIR FORCE
MAI-SU	- MATANUSKA-SUSITNA BOROUGH
M OF ANC	- MUNICIPALITY OF ANCHORAGE

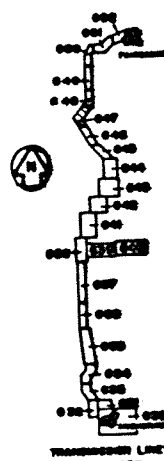
NOTE: ALL LAND OWNERSHIP BY SECTIONS UNLESS OTHERWISE SHOWN

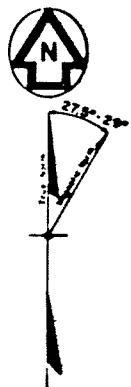
SCALE 0 1 MILE
Scale 1" = 0.5 mi.

ALASKA POWER AUTHORITY	
SUSITNA HYDROELECTRIC PROJECT	
TRANSMISSION LINE PROJECT BOUNDARY	
EXHIBIT 6	PLATE G47

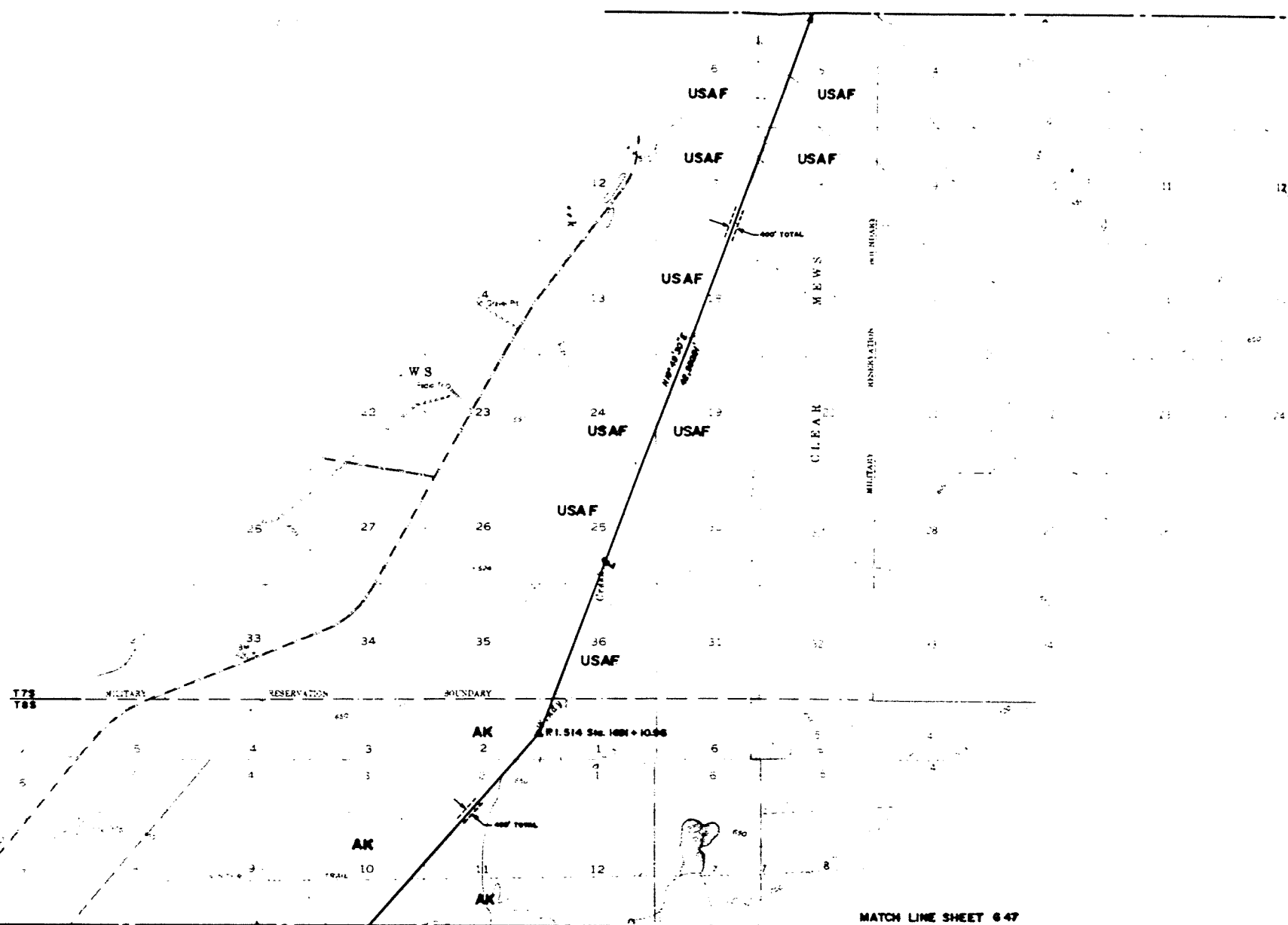


REFERENCE: BASE MAP FROM U.S.G.S. 1:63,360 ALASKA QUADRANGLES, FAIRBANKS (A-5), FAIRBANKS MERIDIAN





MATCH LINE SHEET G 49



NOTES

1. NO SURVEY WAS PERFORMED PRIOR TO THE PREPARATION OF THIS MAP. TOWNSHIP CORNER POSITIONS WERE DETERMINED BY COORDINATING RECORD BUREAU OF LAND MANAGEMENT (BLM) SURVEY PLATS FOR THE ASSOCIATED TOWNSHIPS. WHERE NO RECORD PLAT EXISTED, POSITIONS WERE DETERMINED FROM THE OFFICIAL BLM PROTRACTION DIAGRAM. POSITIONS FOR THE TRANSMISSION LINE P.L.'S WERE DETERMINED BY DIGITIZING SCALED POINTS ON THE RESPECTIVE U.S.G.S. QUADRANGLE MAPS ORIENTED TO THE COMPUTED TOWNSHIP CORNER POSITIONS.

2. ALL DIMENSIONS, COORDINATES AND STATIONING SHOWN ARE BASED ON THE ALASKA STATE PLANE COORDINATE SYSTEM ZONE 4 GRID.

PT. #	NORTHING	EASTING
514	3747964.70	648526.61

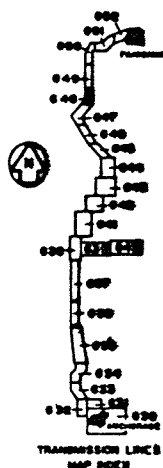
LAND OWNERSHIP SCHEDULE

USA-BLM	- BUREAU OF LAND MANAGEMENT
AK	- STATE OF ALASKA
CIRI	- COOK INLET REGION, INC.
US ARMY	- UNITED STATES ARMY
USAF	- UNITED STATES AIR FORCE
MAT-SU	- MATANUSKA-SUSITNA BOROUGH
M OF ANC	- MUNICIPALITY OF ANCHORAGE

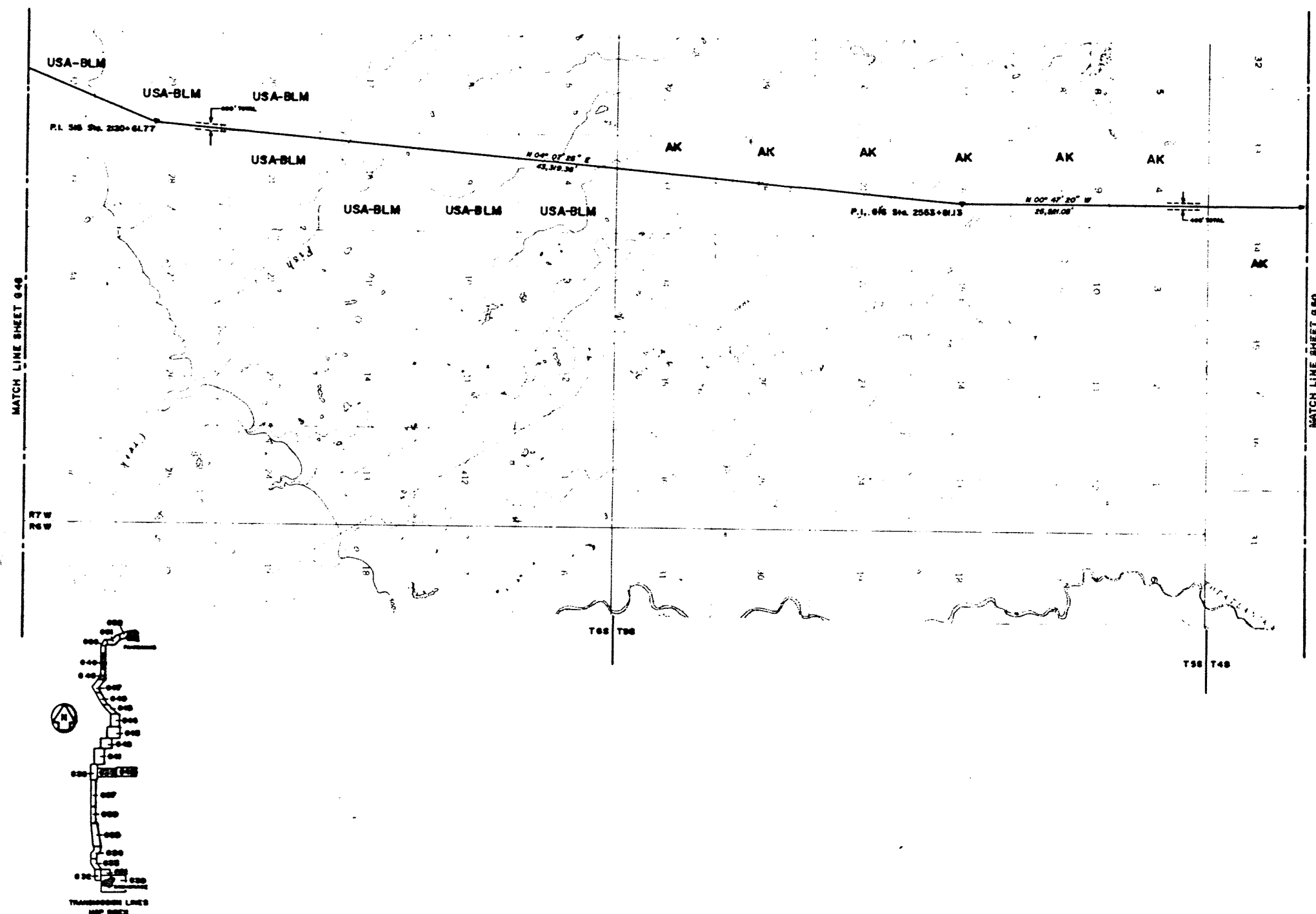
NOTE: ALL LAND OWNERSHIP BY SECTIONS UNLESS OTHERWISE SHOWN

SCALE 0 1 MILE
Scale: 1" = .5 mi.

REFERENCE: BASE MAP FROM U.S.G.S. 1:63,300 ALASKA QUADRANGLES, FAIRBANKS (A-4), FAIRBANKS (A-5), FAIRBANKS (B-4), AND FAIRBANKS (B-5) FAIRBANKS MERIDIAN



ALASKA POWER AUTHORITY	
SUSITNA HYDROELECTRIC PROJECT	
TRANSMISSION LINE PROJECT BOUNDARY	
EXHIBIT G	PLATE G48



REFERENCE: BASE MAP FROM U.S.G. 1:63,360 ALASKA QUADRANGLES,
FAIRBANKS (B-4) AND FAIRBANKS (C-4).
FAIRBANKS MERIDIAN

NOTES

1 NO SURVEY WAS PERFORMED PRIOR TO THE PREPARATION OF THIS MAP. TOWNSHIP CORNER POSITIONS WERE DETERMINED BY COORDINATING RECORD BUREAU OF LAND MANAGEMENT (BLM) SURVEY PLATS FOR THE ASSOCIATED TOWNSHIPS. WHERE NO RECORD PLAT EXISTED, POSITIONS WERE DETERMINED FROM THE OFFICIAL BLM PROJECTION DIAGRAM. POSITIONS FOR THE TRANSMISSION LINE P.I.'S WERE DETERMINED BY DIGITIZING SCALED POINTS ON THE RESPECTIVE U.S.G. QUADRANGLE MAPS ORIENTATED TO THE COMPUTED TOWNSHIP CORNER POSITIONS.

2. ALL DIMENSIONS, COORDINATES AND STATIONING SHOWN ARE BASED ON THE ALASKA STATE PLANE COORDINATE SYSTEM ZONE 4 GRID.

PT. #	NORTHING	EASTING
515	3786369.93	643393.3
516	3831597.14	666508.3
PT. #	NORTHING	EASTING

LAND OWNERSHIP SCHEDULE

USA-BLM	- BUREAU OF LAND MANAGEMENT
AK	- STATE OF ALASKA
CRI	- COOK INLET REGION, INC.
US ARMY	- UNITED STATES ARMY
USAF	- UNITED STATES AIR FORCE
MAT-SU	- MATANUSKA-SUSITNA BOROUGH
M OF ANC	- MUNICIPALITY OF ANCHORAGE

NOTE: ALL LAND OWNERSHIP BY SECTIONS
UNLESS OTHERWISE SHOWN

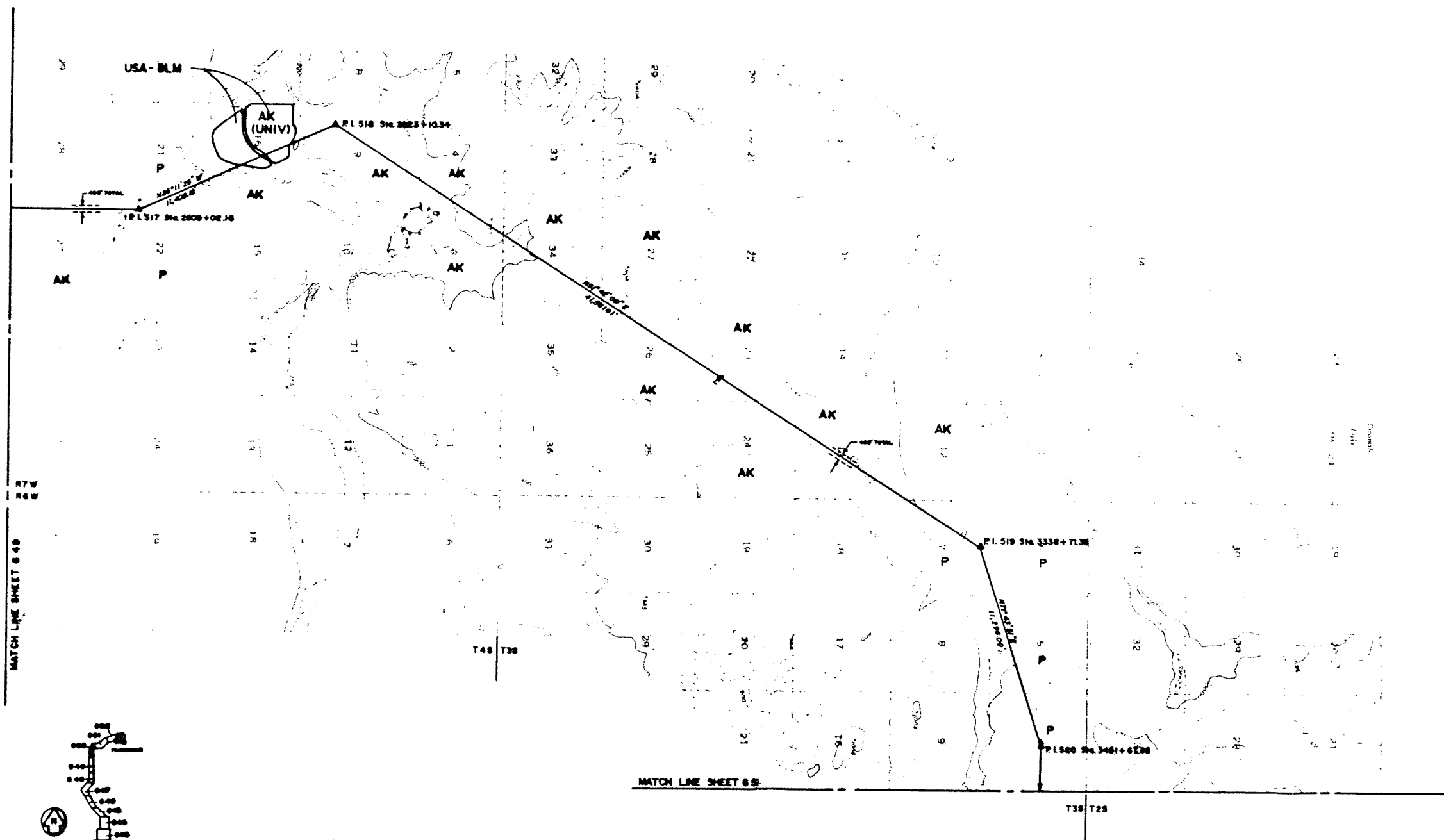
SCALE 0 1 MILE
Scale: 1" = 5 mi.

ALASKA POWER AUTHORITY
SUSITNA HYDROELECTRIC PROJECT

**TRANSMISSION LINE
PROJECT BOUNDARY**

EXHIBIT C

PLATE G 49



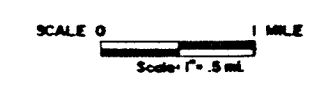
NOTES

1. NO SURVEY WAS PERFORMED PRIOR TO THE PREPARATION OF THIS MAP. TOWNSHIP CORNER POSITIONS WERE DETERMINED BY COORDINATING RECORD BUREAU OF LAND MANAGEMENT (BLM) SURVEY PLATS FOR THE ASSOCIATED TOWNSHIPS. WHERE NO RECORD PLAT EXISTED, POSITIONS WERE DETERMINED FROM THE OFFICIAL BLM PROTRACTION DIAGRAM. POSITIONS FOR THE TRANSMISSION LINE P.L.'S WERE DETERMINED BY DIGITIZING SCALED POINTS ON THE RESPECTIVE U.S.G.S. QUADRANGLE MAPS ORIENTATED TO THE COMPUTED TOWNSHIP CORNER POSITIONS.
2. ALL DIMENSIONS, COORDINATES AND STATIONING SHOWN ARE BASED ON THE ALASKA STATE PLANE COORDINATE SYSTEM ZONE 4 GRID.

PT. #	NORTHING	EASTING
517	3857115.76	666157.03
518	3867439.01	661301.42
519	3902799.63	683140.48
520	3906340.88	693867.10
PT. #	NORTHING	EASTING

LAND OWNERSHIP SCHEDULE	
USA-BLM	- BUREAU OF LAND MANAGEMENT
AK	- STATE OF ALASKA
CRI	- COOK INLET REGION, INC.
US ARMY	- UNITED STATES ARMY
USAF	- UNITED STATES AIR FORCE
P	- PRIVATE
M OF ANC	- MUNICIPALITY OF ANCHORAGE

NOTE: ALL LAND OWNERSHIP BY SECTIONS UNLESS OTHERWISE SHOWN



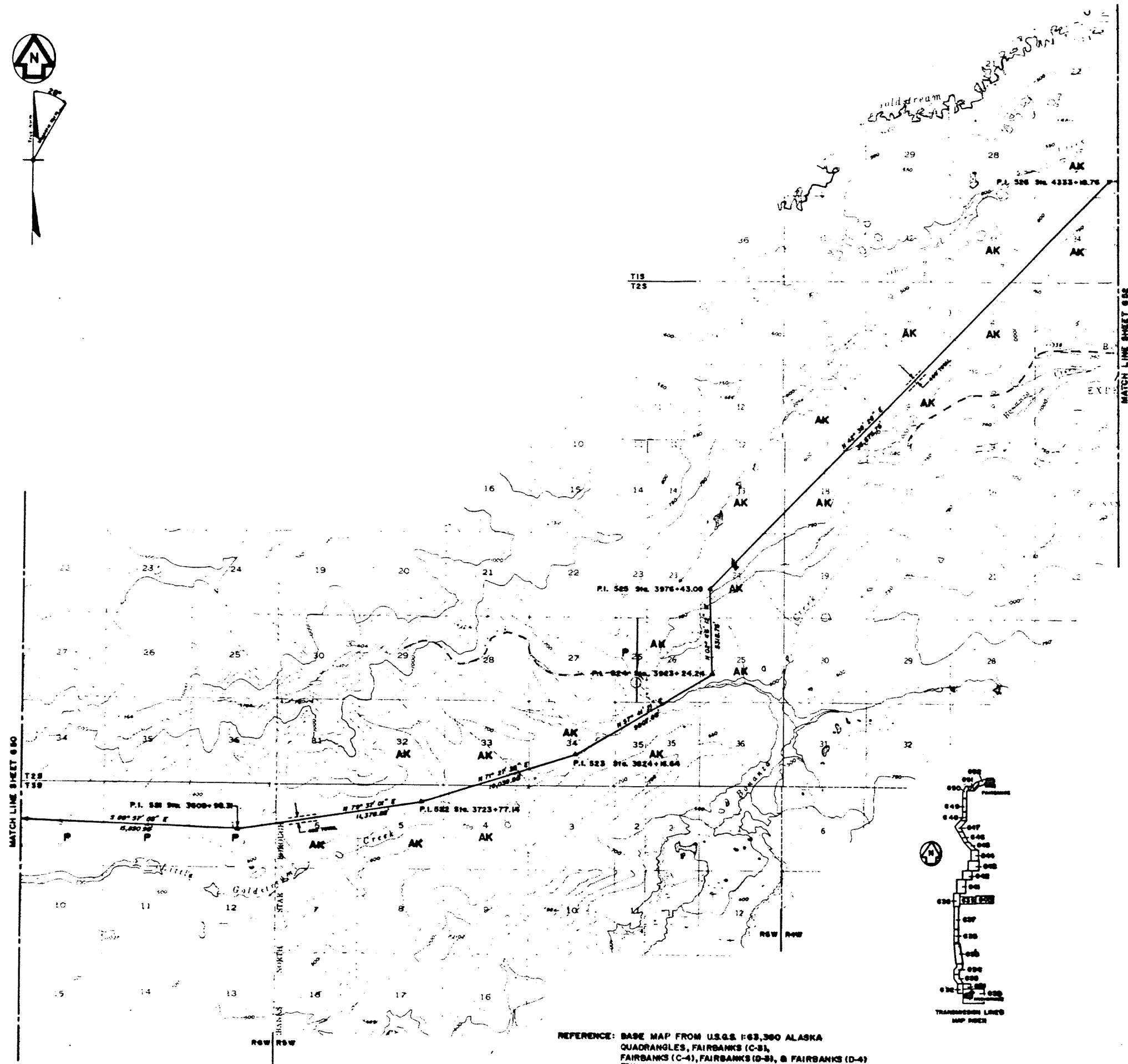
REFERENCE: BASE MAP FROM U.S.G.S. 1:63,360 ALASKA QUADRANGLE, FAIRBANKS (C-4) FAIRBANKS MERIDIAN

**ALASKA POWER AUTHORITY**
SUSITNA HYDROELECTRIC PROJECT

**TRANSMISSION LINE
PROJECT BOUNDARY**

EXHIBIT 6

PLATE G50



NOTES

1. NO SURVEY WAS PERFORMED PRIOR TO THE PREPARATION OF THIS MAP. TOWNSHIP CORNER POSITIONS WERE DETERMINED BY COORDINATING RECORD BUREAU OF LAND MANAGEMENT (BLM) SURVEY PLATS FOR THE ASSOCIATED TOWNSHIPS. WHERE NO RECORD PLAT EXISTED, POSITIONS WERE DETERMINED FROM THE OFFICIAL BLM PROTRACTION DIAGRAM. POSITIONS FOR THE TRANSMISSION LINE P.I.'S WERE DETERMINED BY DIGITIZING SCALED POINTS ON THE RESPECTIVE U.S.G.S. QUADRANGLE MAPS ORIENTED TO THE COMPUTED TOWNSHIP CORNER POSITIONS.
2. ALL DIMENSIONS, COORDINATES AND STATIONING SHOWN ARE BASED ON THE ALASKA STATE PLANE COORDINATE SYSTEM ZONE 4 GRID.

PT. #	NORTHING	EASTING
521	3904327.07	709698.06
522	3908377.87	720890.58
523	3911570.22	730408.98
524	3916865.96	738782.50
525	3922178.50	738525.46
526	3948414.96	762699.98
PT. #	NORTHING	EASTING

LAND OWNERSHIP SCHEDULE

USA-BLM	- BUREAU OF LAND MANAGEMENT
AK	- STATE OF ALASKA
CRI	- COOK INLET REGION, INC.
US ARMY	- UNITED STATES ARMY
USAF	- UNITED STATES AIR FORCE
MAK-SU	- MATANUSKA-SUSITNA BOROUGH
P	- PRIVATE

NOTE: ALL LAND OWNERSHIP BY SECTIONS UNLESS OTHERWISE SHOWN

SCALE 0 1 MILE
Scale: 1" = .5 mi.

REFERENCE: BASE MAP FROM U.S.G.S. 1:63,360 ALASKA QUADRANGLES, FAIRBANKS (C-3), FAIRBANKS (C-4), FAIRBANKS (D-3), & FAIRBANKS (D-4) FAIRBANKS MERIDIAN

ALASKA POWER AUTHORITY

SUSITNA HYDROELECTRIC PROJECT

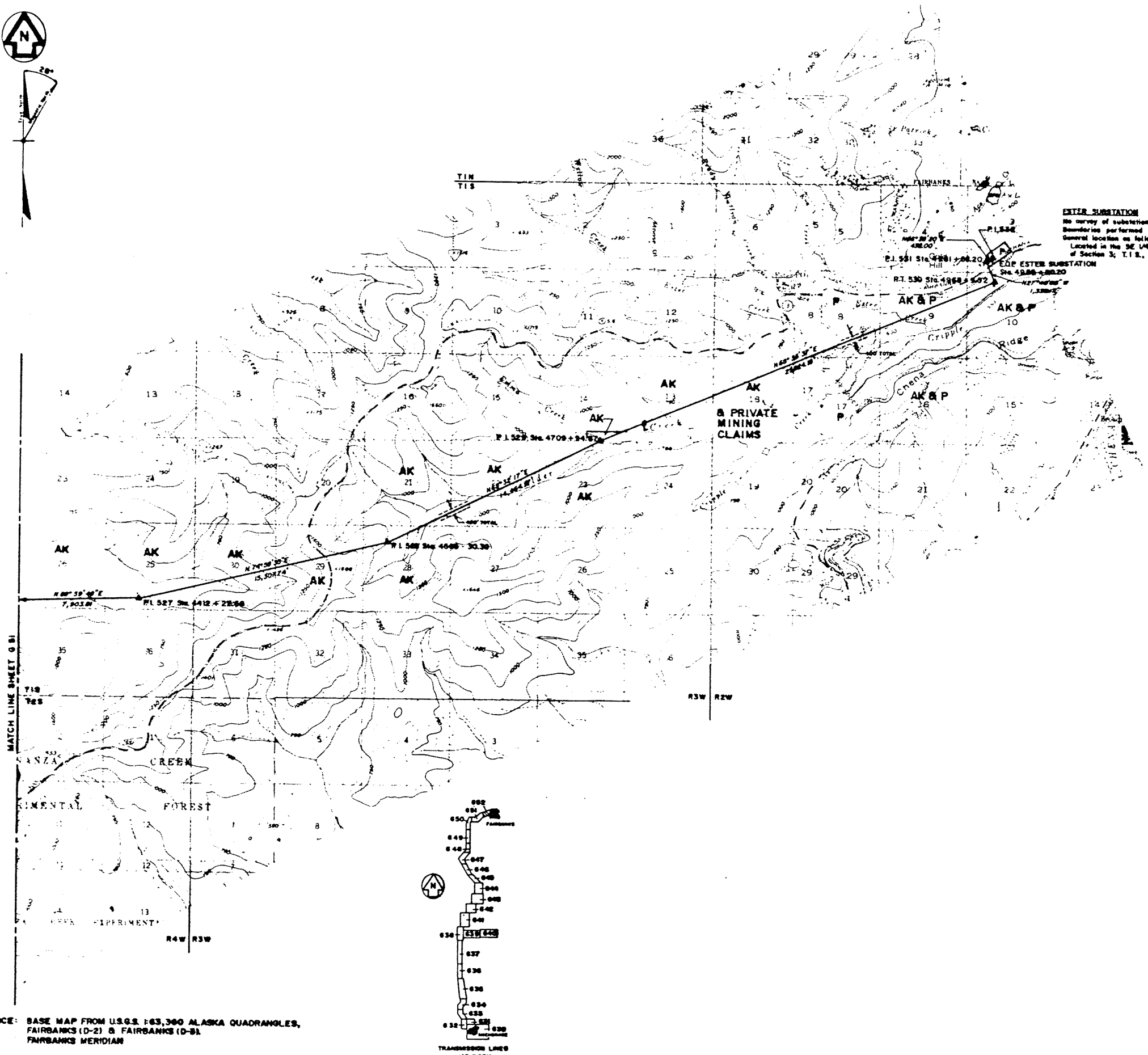
TRANSMISSION LINE PROJECT BOUNDARY

EXHIBIT G

PLATE G-51



MATCH LINE SHEET G-1



REFERENCE: BASE MAP FROM U.S.G.S 1:63,360 ALASKA QUADRANGLES, FAIRBANKS (D-2) & FAIRBANKS (D-3), FAIRBANKS MERIDIAN

NOTES
1. NO SURVEY WAS PERFORMED PRIOR TO THE PREPARATION OF THIS MAP. TOWNSHIP CORNER POSITIONS WERE DETERMINED BY COORDINATING RECORD BUREAU OF LAND MANAGEMENT (BLM) SURVEY PLATS FOR THE ASSOCIATED TOWNSHIPS WHERE NO RECORD PLAT EXISTED, POSITIONS WERE DETERMINED FROM THE OFFICIAL B.L.M. PROTRACTION DIAGRAM POSITIONS FOR THE TRANSMISSION LINE P.I.'S WERE DETERMINED BY DIGITIZING SCALED POINTS ON THE RESPECTIVE U.S.G.S. QUADRANGLE MAPS ORIENTATED TO THE COMPUTED TOWNSHIP CORNER POSITIONS.
2. ALL DIMENSIONS, COORDINATES AND STATIONING SHOWN ARE BASED ON THE ALASKA STATE PLANE COORDINATE SYSTEM ZONE 4 GRID.

P.I. #	NORTHING	EASTING
527	3948415.41	770603.79
528	3952383.44	785388.29
529	3959053.90	798222.96
530	3969738.33	821733.17
531	3970922.91	821108.54
532	3971160.00	821469.36
P.I. #	NORTHING	EASTING

LAND OWNERSHIP SCHEDULE	
USA-BLM	- BUREAU OF LAND MANAGEMENT
AK	- STATE OF ALASKA
CR	- COOK INLET REGION, INC.
US ARMY	- UNITED STATES ARMY
USAF	- UNITED STATES AIR FORCE
MAT-SU	- MATANUSKA-SUSITNA BOROUGH
M OF ANC	- MUNICIPALITY OF ANCHORAGE
P	- PRIVATE
NOTE: ALL LAND OWNERSHIP BY SECTIONS UNLESS OTHERWISE SHOWN	

SCALE 0 1 MILE
Scale: 1" = .5 mi.

ALASKA POWER AUTHORITY	
SUSITNA HYDROELECTRIC PROJECT	
TRANSMISSION LINE PROJECT BOUNDARY	
EXHIBIT G	PLATE G 52

NEED FOR POWER

17. EXHIBIT B

Item 17 (3)

A description of the assumptions embedded in the above methodologies specifically including but not limited to:

- A. The studies which were examined to determine elasticities of demand.
- B. The rationale for the particular values chosen in the range of elasticity values examined.

Response

See RED Technical Documentation Report, Chapter 7.

NEED FOR POWER

17. EXHIBIT B

Item 17(7)

A more complete explanation of the methodology used to generate the future electricity prices used in the demand forecasts.

Response

See RED Technical Documentation Report, MAP Documentation Report, and Revised License Application, Exhibit B, Volume 2A, Chapter 5, Sections 5.2, 5.3, and 5.4.

NEED FOR POWER

17. EXHIBIT B

Item 17(9)

A sensitivity analysis of explanatory variables and model assumptions including those that drive the MAP model's economic and population projections.

Response

See MAP and RED Technical Documentation Reports and Revised License Application, Exhibit B, Volume 2A, Chapter 5, Sections 5.3 and 5.4.

NEED FOR POWER

17. EXHIBIT B

Item 17(10)

The hourly loads for the combined Susitna market area for the most recent available year.

Response

See License Application, Exhibit B, Volume 2A Chapter 5 Section 5.2(b) and Figure B.80.

NEED FOR POWER

17. EXHIBIT B

Item 18(1)

Provide a description of the Alaska Residential Conservation Survey Audits and a description of how this survey has been used.

Response

ON NEXT SHEETS

Description of Alaska Residential Conservation Survey Audits and Use of Survey

The Alaska Residential Conservation Survey Audits are an important part of the State of Alaska's energy conservation program. The Division of Energy and Power Development (DEPD) of the Department of Commerce and Economic Development has been responsible for implementing the home energy audits.

The DEPD program is currently being phased out, except for low income family assistance, particularly in the Bush Communities. Even in those communities, only 13% of the homes will be treated (at a cost of \$2000/house) in the next 3 years. Educational efforts, however, will continue. If programs are constructed for the future, they will be directed at fossil fuel conservation, particularly in the remote areas.

- (1) Training of energy auditors;
- (2) Performance of residential energy audits, which are physical inspections including measurements of heat loss, upon request*
- (3) Providing grants of up to \$300/household, or loans, for energy conservation improvements based upon the audit;
- (4) Providing retrofit (e.g. insulation, weatherization) for low income homes.

The key to the program is the audit, which is performed by private contractors. The forms employed are designed to show savings that can be achieved in the first year, the seventh year, and the tenth year after energy conservation measures have been implemented. The savings demonstrated provide the basis for qualifying for a grant or loan. The audits focus on major conservation opportunities such as insulation and reduction of infiltration (e.g., by weather stripping, caulking, and storm window application).

The DEPD program, overall, achieved a significant level of penetration into the conservation marketplace, as is shown in Table 1. Penetration in the state as a whole achieved 24%; and in the combined load centers of Anchorage and Fairbanks it also achieved 24%. Market penetration is computed by taking the ratio of audits relative to the total number of homes in various regions. Kenai Peninsula, Anchorage, Matanuska-Susitna, Fairbanks, Southeast Fairbanks, and regional total. It is useful to note that the audit program was more effective in high cost energy areas (e.g., Fairbanks) indicating that public participation was based upon market forces at least to some extent.

The effects of this program was included in the formulation of end-use consumption and fuel mode splits used in the RED Residential Module.

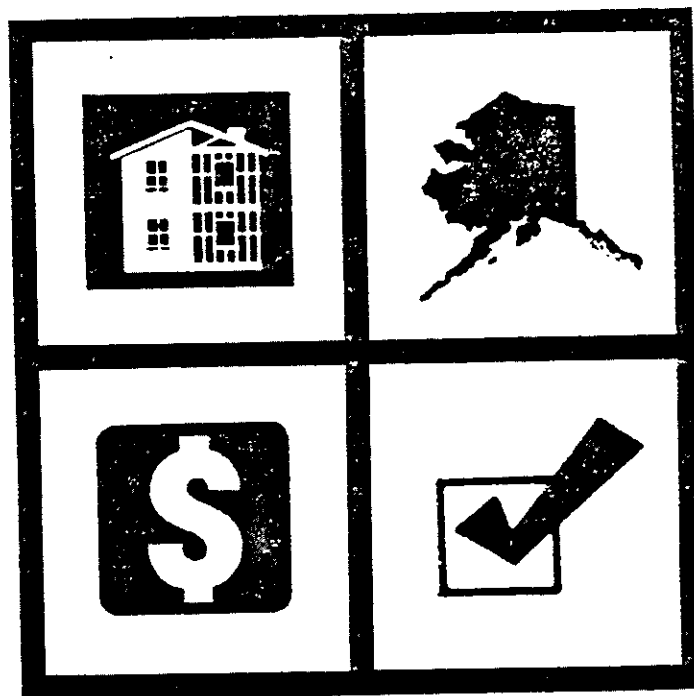
* The state is charged for a portion of the cost of the audit, on a sliding scale, depending upon location in the state. The homeowner pays the difference between that price and the market price.

TABLE 1: MARKET PENETRATION OF THE DEPD AUDIT
PROGRAM AS OF 1983

COMMUNITY REGION	HOMES	AUDITS	MARKET PRODUCTION (%)
Kenai Peninsula	11,740	2,659	22.6
Anchorage	70,363	16,297	23.2
Matanuska- Susitna	10,198	2,801	17.7
Fairbanks	22,708	6,202	27.3
Southeast Fairbanks	2,490	734	29.5
Total	162,825	39,188	24.1

Source: Department of Commerce and Economic Development, Division of Energy and Power Development. 1983 Long Term Energy Plan, Appendix S, 1983.

ALASKA RESIDENTIAL ENERGY CONSERVATION PROGRAM



Department of Commerce and Economic Development
Division of Energy & Power Development
Box 3535
Anchorage, Alaska 99510
276-0512

17-18(1)-5



ALASKA RESIDENTIAL ENERGY CONSERVATION PROGRAM

In July, 1980, the Alaska Legislature enacted a comprehensive energy act, SB 438. Included in the provisions of the act is the establishment of a Residential Energy Conservation Program. The Program provides for State-financed energy audits of residences with grants/refunds and low-interest loans for the homeowner to implement the energy saving improvements recommended by the audit.



ENERGY AUDIT

A home energy audit approved by the State of Alaska must be made before an energy conservation grant/refund or loan can be made. An energy audit is a site visit to the home in which an inspection of the building is made to determine its energy consumption characteristics. The audit would include a calculation of the building's heat loss and recommended energy conservation measures with calculated energy cost savings attributed to the energy improvements.

State of Alaska Financed Audits



The Division of Energy and Power Development has developed a program that will provide for State financed energy audits for Alaskans upon request. The Division of Energy has contracted with specially trained and certified auditors to participate in the State-financed Residential Audit Program. Only those auditors under contract with the Division of Energy will be able to perform audits under the program.

A person requesting an energy audit is only required to pay a \$10 fee to the auditor for the audit. The State will pay the balance of the real cost of the audit when the audit has been performed under a contract and by a State certified auditor. The audit will include a site visit of the home and an analysis of the energy consumption characteristics of the residence. Recommended energy conservation and calculations of the energy cost savings will be provided.

Persons requesting an audit should contact a State contractor. Current lists of contractors for energy audits are available from the Division of Energy and Power Development.



ENERGY CONSERVATION GRANT/REFUND

The Division of Energy and Power Development will make refunds or grants for the purchase and installation of energy-saving improvements that are recommended by an approved audit and shown to pay for themselves in seven years or less in energy savings. The refund or grant is for an amount up to \$300 for a single-family dwelling and \$200 for each unit in qualifying multi-family dwellings. A refund will be made for those who wish to purchase the recommended energy-saving measures immediately. A grant is applied for in the case where one is willing to wait for or is not capable of purchasing the material. For a grant you would obtain an estimate for the required materials from a vendor and submit the estimate with your application. Applications for refunds and grants will be provided by the auditor.



ENERGY CONSERVATION LOANS

Individuals who have received an approved audit of their home may also qualify for a 5% interest loan up to \$5,000 for energy conservation improvements that the energy audit shows to have a payback of less than ten years. The Division of Business Loans administers the program.

To apply, contact the Division of Business Loans:

Anchorage: 2600 Denali Street, Suite 401
Anchorage, Alaska 99501
PH: (907) 274-6693

Fairbanks: 675 7th Avenue
Fairbanks, Alaska 99701
PH: (907) 452-8182

Juneau:
Pouch "D"
Juneau, Alaska 99811
PH: (907) 465-2510



Alaska Division of
Energy and Power
Development
P.O. Box 3535
Anchorage, Alaska
99510

17-18(1)-8

STATE OF ALASKA
DIVISION OF ENERGY & POWER DEVELOPMENT

ENERGY AUDITS
BY
ELECTION DISTRICT *
STATE-WIDE
SUMMARY PAGE

<u>ELECTION DISTRICT</u>	<u>TOTAL # OF HOMES</u>	<u>TOTAL # OF AUDITS</u>
1	6,808	1,330
2	3,675	759
3	3,128	1,004
4	7,656	1,775
5	11,740	1,909
6	3,263	718
7-15	70,363	12,370
16	10,098	2,614
17	2,490	680
18-21	22,708	5,260
22	2,644	775
23	3,781	988
24	2,401	1,295
25	2,802	389
26	3,061	860
27	3,719	604
TOTAL:	162,825	33,330

*Information as of June 30, 1982

17-18(1)-9

9/15/82
md

STATE OF ALASKA
DIVISION OF ENERGY & POWER DEVELOPMENT

ENERGY AUDITS
BY
ELECTION DISTRICT
STATE-WIDE

Election District 1

<u>COMMUNITY</u>	<u>TOTAL # OF HOMES</u>	<u>TOTAL # OF AUDITS</u>
Ketchikan Gateway Borough	4,431	830
- Clover Pass		
- Herring Cove		
- Ketchikan City		
- Ketchikan East		
- Florina		
- Mountain Point		
- Mud Bay		
- North Tongass Highway		
- Pennock-Gravina		
- Refuge Cove		
- Saxman City		
- Saxman East		
- Port Higgins		
- Ward Cove		
Annette	35	
Hyder	29	1
Kupreanof	26	
Metlakatla	286	106
Meyer's Chuck	21	19
Petersburg	1,074	238
- Scow Bay		
Wrangell	906	136
TOTAL	6,808	1,330

Election District 2

Angoon	132	79
Cape Pole	4	0
Chilkat	N/I	0
Coffman Cove	62	0
Cordova	885	75
Craig	199	126
Eyak	14	0
Gustavus	45	25
Haines & Environs	743	270
Hollis	N/I	2

Hydaburg	122	42
Kake	181	10
Kasaan	9	9
Klawock	79	11
Klukwan	40	2
LaBouchere	N/I	0
Malaspina	N/I	0
Naukiti	N/I	0
Peninsula	N/I	0
Point Baker	45	39
Port Alice	N/I	0
Rowan Bay	N/I	17
Skagway & Environs	607	61
Thorne Bay	N/I	0
Whale Pass	25	0
Yakutat	783	0
TOTAL	3,675	759

Election District 3

Elfin Cove	13	1
Hoonah	183	39
Pelican	80	63
Port Alexander	51	
Sitka	2,694	853
- Freshwater Bay		
- Halibut Point		
- Jamestown Bay		
- Mt. Edgecumbe		
- Port Armstrong		
Tenakee Springs	107	48
TOTAL	3,128	1,004

Election District 4

Juneau	7,656	1,775
-Auke Bay		
-Douglas/North Douglas		
-Fritz Cove		
-Tee Harbor	=	
-Thane		

Election District 5

Kenai Peninsula Borough	11,740	1,909
-Kenai		
-Homer		
-Anchor Point		
-Clam Gulch		
-Diamond Ridge		
-English Bay		
-Kachemak		

- Kalifonsky
- Kasilof
- Ninilchik
- Port Graham
- Salamatof
- Seldovia
- Soldotna
- Sterling
- Tustamena

Election District 6

Cooper Landing	90	21
Hope	43	0
Moose Pass	51	18
Nikiski	431	10
Seward	777	340
Valdez	1,559	312
Whittier	282	0
Tatitlek	30	17
TOTAL	3,263	718

Election District 7-15

Anchorage	70,363	12,370
- Birchwood		
- Bird		
- Bird Creek		
- Chugiak		
- Eagle River		
- Eklutna		
- Girdwood		
- Indian		
- Kern		
- Knik		
- Peter's Creek		
- Rabbit Creek		
- Portage		

Election District 16

Matanuska-Susitna	10,098	2,614
- Big Lake		
- Butte		
- Fishhook		
- Houston		
- Knik/Fairview		
- Lazy Mountain		
- Matanuska		
- Meadow Lakes		
- Palmer		
- Sheep Mountain		

- Susitna
- Sutton
- Chulitna
- Talkeetna
- Trappers Creek
- Wasilla
- Willow

Election District 17

Anderson	142	56
Big Delta	173	0
Cantwell	37	12
Chicken	14	0
Chistochina	15	0
Chitina	19	0
Clear	15	17
Copper Center	157	86
Delta Junction	472	150
Denali Park	41	38
Dot Lake	14	0
Eagle	96	1
Gakona	252	77
Glennallen	234	80
Gulkana	32	0
Healy	188	27
Kenny Lake/Tonsina	57	7
Lake View	N/I	0
McCarthy	15	7
Mentasta	12	1
Nenana	198	16
Northway	81	68
Paxson	12	0
Tanacross	32	14
Tazlina	23	0
Tetlin	27	0
Tok	192	16
Slana	16	6
Usibelli	19	1
TOTAL	2,490	680

Election District 18-21

Fairbanks	22,708	5,260
- Aurora		
- Badger		
- Central		
- Chatanika		
- Chena		
- Circle		
- Eielson/Moose Creek		
- Ester		
- Fort Wainwright		

- Fox
- Geist
- Goldstream
- Harding Lake
- Lemeta
- Livengood
- North Pole
- Pike
- Plack
- Richardson
- Salcha
- Shanly
- Steele Creek
- Steese
- Two Rivers
- University

Election District 22

Ambler	75	71
Anaktuvuk Pass	75	75
Atqasuk	22	0
Barrow	691	0
Browerville	88	0
Buckland	45	0
Deering	47	12
Kaktovik (Barter Island)	60	22
Kiana	107	15
Kivalina	37	43
Kobuk	37	0
Kotzebue	690	195
Noatak	59	88
Noorvik	136	27
Nuiqsut	66	66
Point Hope	137	100
Point Lay	18	0
Selawik	86	0
Shungnak	61	61
Wainwright	107	
TOTAL	2,644	775

Election District 23

Alakanuk	132	5
Brevig Mission	41	0
Chevak	103	30
Diomede	33	0
Elim	48	46
Emmonak	161	0
Gambell	163	157
Golovin	44	0
Hooper Bay	151	120
Kotlik	78	70

Koyuk	48	0
Nome	901 & 500	286
Savoonga	158	50
Scammon Bay	53	60
Shaktoolik	56	0
Sheldon Point	31	0
Shishmaref	86	80
St. Michael	73	12
Stebbins	82	0
Teller	116	
Unalakleet	200	37
- Area	428	
Wales	54	35
White Mountain	41	0
TOTAL	3,781	988

Election District 24

Alatna	156	156
Aniak	126	32
Anvik	39	0
Arctic Village	35	0
Beaver	23	0
Bettles	13	0
Chalkyitsik	29	0
Chuathbaluk	32	0
Crooked Creek	25	0
Fort Yukon	28	50
Fortuna Ledge	82	0
Galena	183	87
Grayling	62	39
Holy Cross	72	55
Hughes	27	0
Huslia	66	45
Kalskag	38	36
Kaltag	67	5
Koyukuk	32	36
Lower Kalskag	59	53
Manley Hot Springs	28	29
McGrath	163	81
Minto	50	0
Mountain Village	119	165
Nikolai	28	0
Nulato	86	56
Pilot Station	41	0
Pitkas Point	24	16
Rampart	14	0
Ruby	92	21
Shageluk	48	14
Sleetmute	10	40
St. Mary's	88	91
Stevens Village	30	0
Stony River	17	16
Takotna	17	27

Tanana	146	50
Tuluksuk	42	49
Tyonek	75	46
Venetie	36	0
TOTAL	2,401	1,295

Election District 25

Akiachak	87	40
Akiak	39	0
Atmauluak	47	29
Bethel & Area	1,486	157
Chefornak	44	24
Eek	80	63
Goodnews Bay	51	0
Kasigluk	75	0
Kipnuk	75	0
Kongiganak	48	1
Kwethluk	105	0
Kwigillingok	66	0
Mekoryuk	61	0
Napakiaak	64	0
Napaskiak	64	0
Newtok	30	0
Nightmute	30	38
Nunapitchuk	50	0
Platinum	18	2
Quinhagak	82	0
Toksook Bay	71	35
Tuntutuliak	42	0
Tununak	87	0
TOTAL	2,802	389

Election District 26

Port Heiden	30	0
Sand Point	191	61
South Naknek	43	0
Saint George	40	0
Saint Paul	137	62
Togiak	121	103
Unalaska	323	174
Adak	666	0
Akutan	19	17
Alegnagik	75	12
Atka	22	0
Clarks Point	28	7
Cold Bay	49	0
Dillingham	580	92
Egegik	32	3
Pilot Point	16	0
Ekwok	25	15
False Pass	21	13

Iliamna	22	0
Newhalen	18	51
King Cove	134	38
King Salmon	75	16
Kokhanok/Igiugig	29	0
Koliganek	24	17
Dutch Harbor	N/I	16
Levelock	21	0
Manokotak	60	11
Naknek	103	87
New Stuyahok	65	23
Nikolski	23	19
Nondalton	58	23
Pedro Bay	11	0
TOTAL	3,061	860

Election District 27:

Kodiak Island Borough	3,557	582
- Kodiak		
- Akhiok		
- Larsen Bay		
- Old Harbor		
- Ouzinkie		
- Port Lions		
Cape Chiniak		
Chigniks	101	0
Ivanof	9	0
Karluk	21	22
Perryville	31	0
TOTAL	3,719	604

NEED FOR POWER

17. EXHIBIT B

Item 18(2)

Provide the BNW Railbelt End Use survey and a description of how it has been used.

Response

See RED Technical Documentation Report Appendix B.

NEED FOR POWER

17. Exhibit B

Item 26

The claim of no energy reduction due to retrofiting in the commercial/ industrial sectors should be verified. Provide information on the ISER demand model assumptions regarding this claim.

Response

The ISER demand model is no longer used. This item is not applicable.

NEED FOR POWER

18. EXHIBIT D

Item 2(c):

Provide the annual cost for the Susitna Project in actual dollars including: (a) escalation of project costs; (b) cost of capital including finance charges and (c) interest during construction. Project annual costs should be presented for all the years included in the life cycle analysis.

Response:

See revised License Application Exhibit D, Table D.10.

NEED FOR POWER

18 EXHIBIT D

Item 5: Page 1-11, Section 1.5

Specify allowance for funds used during construction (AFDC).

Response:

See revised License Application Exhibit D, Table D.1.

NEED FOR POWER

18. EXHIBIT D

Item 31: Table D.8 and D.9

State interest during construction and provide copies of the references, i.e., Table 1, 5 R.L. 521, etc.

Response:

See revised License Application Exhibit D, Table D.1 The IDC included in Table D.11 was calculated in the 100% debt financing analysis included in Table D.10.

NEED FOR POWER

18. EXHIBIT D

Item 22: Pages 4-25 and 4-26, Section 4.7

Furnish details of the base period coal price estimations of \$1.66/mBtu for Beluga, and \$1.75/mBtu for Healy. Show details of the residually derived annual escalation rates of 2.6 percent and 1.2 percent during the intervals 1982 to 2000, and 2000 to 2040, respectively.

Response:

See revised License Application Exhibit D, Appendix D-1 for revised fuel prices and residually derived annual escalation rates.

NEED FOR POWER

18. EXHIBIT D

Item 26: Page 4-31. Equal Environmental Costs - Provide details on analysis

Response:

The explanation of the subject costs in the application as filed has been expanded over that which was included in the prefiling review. The point of the explanation is that, because the Susitna Project has been studied to the feasibility-level, the costs for mitigation measures have been included as site specific items, whereas for the thermal plan the costs used were general per kilowatt costs not based on a site specific analysis at the feasibility level. Such a detailed study might result in increased costs for the thermal alternative.

NEED FOR POWER

18. EXHIBIT D

Item 19: Exhibit D (p. 1-6, section 1.1)

Some estimates should be made of possible escalation in nominal as well as real terms for both direct and indirect costs.

Response

Escalation is shown on Table D-1 of Exhibit D of the revised License Application. This value of escalation will cover both direct and indirect costs. The escalation shown is nominal escalation as real escalation of capital has been assumed to be zero in the present analysis.

NEED FOR POWER

18. EXHIBIT D

Item 19: Exhibit D (p.4 - 15)

Provide copies of all input data and all output results of the OGP5 runs and a brief explanation of all data entry for each alternative case study discussed in Section 4.7 and 4.8.

Response:

OGP 6 input and output is provided as Supplemental Attachment 18 - 19(4) for the Reference Case forecast.

18-19(4)-1

NEED FOR POWER

18. EXHIBIT D

Item 19: Exhibit D (p. 4 - 17, Section 4.6)

Provide Beluga coal costs assuming commercial development does not take place. Discuss the relative economics of mining coal specifically for electric power generation, and its likelihood under this scenario.

Response:

See revised License Application Exhibit D, Appendix D-1.

NEED FOR POWER

18. EXHIBIT D

Item 19: Exhibit D, Pg. 4-18, Section 4.7.

There is currently a disparity between incremental, domestic market, and opportunity (shadow) values of natural gas prices. Quantify the sensitivity of using current incremental prices, assuming escalation will track world prices and eventually equal the international value, in the OGP5 runs.

Response:

See revised License Application Exhibit D, Appendix D-1.

NEED FOR POWER

18. EXHIBIT D

Item 19: Exhibit D, Pg. 4-19, Paragraph 2.

If feasible, we would also like to see analysis conducted in nominal terms (including inflation.)

Response:

See revised License Application Exhibit D. OGP6 input and output for nominal runs which served as the basis for the financial analysis are provided in Supplemental Attachment 18 - 19(7).

NEED FOR POWER

18. EXHIBIT D

Item 19: Exhibit D, Pg. 4-30.

On IRR - what is IRR for next largest Alaska project (power or non-power)?

Response:

The Power Authority does not customarily determine the internal rate of return for its' projects. The Power Authority bases its economic evaluation on the calculation of costs, benefits, net benefits and benefit/cost ratios. These values for the Susitna Project under the reference case and other recent representative Power Authority projects are as follows:

<u>Project</u>	<u>Installed CapacityMW.</u>	<u>Date of Report</u>	<u>Discount Rate%</u>	<u>Present Worth(\$1000)</u>		<u>Net Benefits</u>	<u>Benefit/Cost Ratio</u>
				<u>Costs</u>	<u>Benefits</u>		
Susitna	1620.0	July 1983	3.0	5489.4	7316.0	1826.0	1.3
Tyee	20.0	Dec. 1981	3.0	130.0	139.0	9.0	1.1
Terror Lake	30.0	Dec. 1981	3.0	182.0	277.0	95.0	1.5
Bl. Bear Lake	6.0	Oct. 1981	3.0	57.7	191.4	133.7	3.3
Chester Lake	2.5	June 1983	3.5	20.2	28.7	8.5	1.4
Intertie	----	Nov. 1981	3.0	74.0	115.9	41.9	1.6

18. EXHIBIT D

Item 9: Exhibit D, Pg. 4 - 30

Response: (continued)

of 7 percent for a low and a high TAGS tariff scenario. The average Japanese price was found to be 1.4 times the TAGS low tariff cost and 1.1 times the TAGS high tariff cost.^{2/}

The evaluation of the ANGTS was completed in 1977.^{3/} The ANGTS project is estimated to cost about \$9 billion in 1975 dollars. The evaluation of Net National Economic Benefit (NNEB)^{4/} of the ANGTS project will produce benefits of about \$11.8 billion of 1975 dollars for a cost of \$6.0 billion

^{2/}See Table 4, page 45 of reference cited in footnote 1.

^{3/}Decision and Report to Congress on the Alaska Natural Gas Transportation System." Executive Office of the President, September 1977.

^{4/}NNEB measures the desirability of a project from the public perspective and is the present value of benefits derived less the present value of resources employed in undertaking the project.

NEED FOR POWER

18. EXHIBIT D

Item 19: Exhibit D, Pg. 4-33, Section 4.7

In the single variable sensitivity analysis, a 5% discount rate resulted in a negative net economic benefit. Perform a multivariate sensitivity analysis using discount rates in lieu of capital costs as a key issue, assigned probabilities, and discuss results. Construct probability trees similar to Figures D.17 and D.18.

Response;

The multivariate sensitivity analysis which was included in the application of February 28, 1985 was eliminated from the revised License Application Exhibit D.

18. EXHIBIT D

Item 19: Exhibit D, Pg. 4-35, Paragraph 1

It might be helpful to model the interactions. Section 4.9.

Response;

The requested model of interactions references the multivariate sensitivity analyses which was be eliminated from Exhibit D. However, the point of the request is that there are variables which are interdependent such as fuel price escalation, revenue projections and load forecasts. These interdependencies are described in Section 5 of Exhibit B and the interactions are modeled in the RED model.

18. EXHIBIT D

Item 20: Financial Plan

Comment:

As a minimum financial plan, please provide us with letters from the various "Railbelt" utilities expressing conditions under which they would be interested in purchasing power from Susitna. We also need some type of expression from the Alaskan legislature which will provide us with at least a reasonable expectation that the "expected" State appropriations will be forthcoming if the project is approved and that necessary additional funds will be committed in the event of cost overruns. Also, please submit a letter from an investment banker (or groups of bankers) of sufficient size and reputation to handle the sale of revenue bonds on a project of this magnitude, which sets forth their view of the conditions required to market revenue bonds. Their letter should specifically address the projections of expected demand and revenue which you expect us to act upon in the filing (either the current projections on file or revised projection) and contain a statement concerning whether or not such projections provide a basis that would allow sale of revenue bonds to finance the project. Finally, please provide us with a statement concerning what would happen if Susitna is constructed and energy costs of alternative options do not rise as you expect or if cost overruns occur.' Would additional State funds be appropriated, or would consumers be required to bear the burden of high cost energy?

Response:

Item 20 - Financial Plan

First Quarterly Progress Report - April 12, 1983 through
July 11, 1983

The information requested in Item 20 can be divided into four principal sub-items. The four sub-items and the progress of each during the report period is as follows:

Sub-item 1. Letters from the various "Railbelt" utilities expressing conditions under which they would be interested in purchasing power from Susitna.

Progress during period: The Power Authority continues to maintain close contact with the Railbelt utilities. During the period utilities were contacted to gather data in order to respond to the non-conforming items in Exhibit B. A dialogue on the subject of power purchases from Susitna was initiated by the Power Authority in a letter to utility managers dated May 6, 1983. (See attachment A). To date follow-up meetings have been held with the managers of Golden Valley Electric Association (See attachment B) and Anchorage Municipal Light and Power (See attachment C).

Sub-item 2. Expression from the Alaskan legislature which will provide a reasonable expectation that the "expected" State appropriations will be forthcoming if the project is approved and that necessary additional

funds will be committed in the event of cost overruns.

Progress during period: During the report period, the Alaskan State legislature has been in session, and has considered several bills affecting the Susitna Project. These bills illustrate the Alaskan legislature's commitment to resolving the Susitna financing question. The level of legislative activity related to Susitna underscores the continuing attention being focused on the project by the legislature. Of the numerous bills affecting Susitna considered during the 1983 Legislative Session, most were referred to committee for further study, and have not been finally enacted.

The bills which have been introduced during the 1983 Legislative Session are:

<u>Chamber</u>	<u>Bill No.</u>	<u>Description</u>	<u>Status</u>
Senate	68	Would authorize an advisory vote of the electorate establishing a \$2.3 billion Susitna Project construction fund.	Referred to State Affairs, Resources and Finance Committees
Senate	69	Would authorize and approve construction of the Susitna Project with a construction	Referred to the State Affairs, Resources and Finance Committees

budget of \$5.4 billion.

Senate	70	Would establish the Alaskan Energy Dividend Fund consisting of money transferred from the Alaskan Permanent Fund, to finance eligible energy projects.	Referred to State Affairs, Resources and Finance Committee
Senate	168	Extended to 1993 the deadline for appropriation of \$5 billion to the Power Project Fund	Passed by both Chambers
House	120	Tracks the language of S.69. Would authorize and approve constructions of the Susitna Project with a construction budget of \$5.4 billion.	Referred to State Affairs, Resources and Finance Committees
House	121	Tracks the language of S.68. Would authorize an advisory vote of the electorate on establishing a \$2.3 billion Susitna Project	Referred to State Affairs, Resources and Finance Committees

construction fund.

House	239	Would affect a power project's proportionate share of debt service on state loan and bonds issued as part of the energy program for Alaska	Referred to the Labor and Commerce, Resources and Finance Committees
House	386	Would empower the APA to issue its own bonds for the construction or acquisition of power projects.	Referred to the Labor and Commerce, Resources, and Finance Committees

The most recent statement of support for Susitna from the legislature is the approval of \$33 million to fund studies of the project during Fiscal 1984.

Sub-item 3. Letter from an investment banker (or groups of bankers) of sufficient size and reputation to handle the sale of revenue bonds on a project of this magnitude, which sets forth their view of the conditions required to market revenue bonds. The letter should specifically address the projections of expected demand and revenue which you expect and contain a statement concerning whether or not such projections provide a basis that would allow sale of revenue bonds to finance the project.

Progress during period: The most recent statement from investment banks setting forth their views is that contained in Section 5 of the report: "Susitna Hydroelectric Project, Task 11: Financing Options", January 1983. (See Attachment D.)

The Power Authority has maintained contact with the financial advisors during the preparation of responses to the non-conforming items.

Sub-item 4: Provide a statement concerning what would happen if Susitna is constructed and energy costs of alternative options do not rise as you expect, or if cost overruns occur. Would additional State funds be appropriated, or would consumers be required to bear the burden of high cost energy?

Progress during period: The subject of this sub-item has been part of the Power Authority's continuing dialogue with utilities (Sub-item 1) and with the State legislature (Sub-item 2).

Additional Discussion:

The financial plan for the Project is the subject of continuing discussions and study by the Power Authority and other agencies, both public and private, in the State of Alaska.

During the report period, the Power Authority has had contacts with the staff of the State Office of Management and Budget to identify the availability of funds for the project under alternative world oil price forecasts and state fiscal scenarios.

In the private sector, the newly formed Susitna Finance Committee Inc., a non-profit group of Southcentral Alaska businessmen recently contracted William Kent and Company of Connecticut to make an independent study of the project's financial feasibility, which is expected to be completed in about six months.

ALASKA POWER AUTHORITY

334 WEST 5th AVENUE - ANCHORAGE, ALASKA 99501

May 6, 1983
Susitna File 40.6

Mr. James F. Palin
General Manager
Matanuska Electric Association, Inc.
P.O. Box 1148
Palmer, Alaska 99645

Subject: Susitna Hydroelectric Project, FERC Comments on Power
Purchase by Railbelt Utilities.

Dear Mr. Palin:

In April, the Federal Energy Regulatory Commission (FERC) provided the Alaska Power Authority with written comments on its license application for the Susitna project. One area of concern is acceptance of the project by the Railbelt utilities.

The purpose of this letter is to solicit your ideas on this subject. Specifically, we would like you to consider the following issues:

- 1) What financial implications would you foresee in signing power purchase agreements for Susitna power? What are your risks or advantages?
- 2) What should be the basis upon which the price of capacity and energy should be established, and what type of power purchase formula should be established?
- 3) Do you foresee any problems in associating with other utilities in purchasing power?
- 4) How do you perceive the Susitna project affecting your system reliability and planning of your system?

Once you have had an opportunity to consider these issues, we would like to meet with you for an informal discussion, say during the week of May 16, 1983. Ray LaRusso, Vice President of Harza Engineering Company and Project Manager for the Harza-Ebasco Susitna Joint Venture,

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SUSITNA JOINT VENTURE

20-8

will be calling to arrange a brief meeting. Please keep in mind that these are preliminary discussions only, and that they do not represent a commitment by the utility to any future position on Susitna power.

Please feel free to call me if you wish to discuss this matter.

Sincerely,



Eric P. Yould
Executive Director

cc: Ray LaRusso, Harza-Ebasco, Anchorage

8659

RAILBELT UTILITY CONTACT LIST

Mr. James F. Palin
General Manager
Matanuska Electric Association, Inc.
P.O. Box 1148
Palmer, AK 99645

Mr. Michael Kelly
General Manager
Golden Valley Electric Association, Inc.
P.O. Box 1249
Fairbanks, AK 99707

Mr. Walter V. Truitt, Jr.
General Manager
Chugach Electric Association, Inc.
P.O. Box 3518
Anchorage, AK 99501

Mr. Wally Droz
Acting General Manager
Fairbanks Municipal Utilities
P.O. Box 2215
Fairbanks, AK 99707

Mr. Thomas Stahr
General Manager
Anchorage Municipal Light & Power Company
1200 East First Avenue
Anchorage, AK 99501

Mr. B. Kent Wick
General Manager
Homer Electric Association, Inc.
P.O. Box 429
Homer, AK 99603

Mr. Dennis Dooley
Seward Light & Power Division
Box 167
Seward, AK 99664

HARZA-EBASCO SUSITNA JOINT VENTURE

MEMORANDUM

LOCATION Anchorage DATE June 13, 1983

TO Files NUMBER _____

FROM H. H. Chen _____

SUBJECT Notes on Meeting with Golden Valley Electric Association and Fairbanks Municipal Utilities System on 23 May 1983. Page 1

Attending:

Golden Valley Electric Association:	Mike Kelly John Huber
Fairbanks Municipal Utilities System:	Don LaMarca Larry Colp
Alaska Power Authority:	David Wozniak Tom Arminski
Harza-Ebasco	Ray S. LaRusso Bill Rom Henry Chen

General:

The meeting was scheduled for the Fairbanks utilities to express their views on various issues related to power supply from Susitna including electricity price level, interconnection with other utilities, system reliability, as suggested in the letter of 6 May 1983 from the Power Authority to the utilities. In addition, we wanted to have an understanding of any other utilities concern which might be factored in the ongoing Susitna work.

Power Sales From Susitna

GVEA would be willing to pay Susitna energy at a price equivalent to GVEA's savings from fuel and O&M, and also savings in investment if GVEA had to build new capacity. GVEA does not feel they needed to pay for spinning reserve.

GVEA has diesels and combustion turbines (North Pole) which can be brought on line in 15 and 30 minutes respectively. The system outage level has been about 7 hours per customer per year, which is higher than REA had been encouraging them (5 hours). Keeping their CT's on spinning reserve could reduce the outages but would increase costs, and they have chosen not to do that.

HARZA-EBASCO SUSITNA JOINT VENTURE

MEMORANDUM

LOCATION Anchorage DATE June 13, 1983

TO Files NUMBER _____

FROM H. H. Chen. _____

SUBJECT Notes on Meeting with Golden Valley Electric Page 2
 Association and Fairbanks Municipal Utilities
 System on 23 May 1983.

GVEA thinks it would be unrealistic to accept or take-or-pay contract if there is no limitation in supply. However, GVEA would agree to take a specified amount related to the actual demand in a given near-term year.

Reliability

No specific reliability criteria have been set. At present there are no long transmission lines, the only one being from Healy. The line generally experiences outages in the summer, especially in the months of June and September. An average of 3 outages a year can be expected.

The idea of utilizing lower voltage lines from Susitna was discussed. Fairbanks utilities does not care if the transmission line voltage from the south is 345-kV (as shown in the License Application) or a lower voltage as we feel could be. They naturally favor two circuits (including the intertie,) but can also accept a single circuit initially in order to minimize initial electricity price, provided that as the system builds up two circuits are built. The two circuits can be on the same right of way if they are properly spaced so that the failure of one circuit does not affect the second one.

Generation Plans Without Susitna

The Fairbanks utilities are assuming Susitna will go ahead and have, therefore, not made any alternative plans for beyond 1990. GVEA thinks their present capacity can carry them through the time to take Susitna power without any new capacity. FMUS has a study done where they now plan to add a new unit to obtain additional capacity, retire several old units, and supply district heat to a number of commercial customers. District heat is unprofitable and is being subsidized by electricity business.

GVEA believes that without Susitna they might want to build a coal-fired unit at Healy, or they might participate in a gas-fired combined cycle plant at Beluga with some Anchorage utilities. GVEA plans to have a power supply study done sometime this year or next.

HARZA-EBASCO

SUSITNA JOINT VENTURE

MEMORANDUM

LOCATION Anchorage DATE June 13, 1983
TO Files NUMBER _____
FROM H. H. Chen _____
SUBJECT Notes on Meeting with Golden Valley Electric Page 3
Association and Fairbanks Municipal Utilities
System on 23 May 1983.

Military

GVEA is currently purchasing a small amount of energy from Fort Wainwright. However, the costs are high because the plants (coal-fired) are old. Eielson AFB is studying rehabilitating its plant in part to meet its expansion. The plants at both Fort Wainwright and Eielson AFB have large steam demands. Potentially this could adversely influence their ability to purchase power from Susitna.

Load Forecast Outlook

GVEA is optimistic about load growth. There is a good amount of new residential construction and new connections are up. Furthermore the shift from electricity to oil and wood seems to have stabilized.

With reference to load forecast, the Power Authority and Harza-Ebasco offered assistance to them since we have done a lot of work recently.


Henry H. Chen

HHC/gn

MEMORANDUM

LOCATION Anchorage

DATE June 22, 1983

TO Files

NUMBER _____

FROM H. H. Chen

SUBJECT Notes on Meeting with Anchorage Municipal
Light and Power Department, June 15, 1983

The meeting was held with Mr. Thomas Stahr, General Manager of Anchorage Municipal Light and Power, as a follow-up of the 6 May 1983 letter from the Power Authority requesting the views of the utilities on various aspects relating to purchasing power from Susitna. Representing Harza-Ebasco were D. L. Glasscock, R. L. Meagher, and H. H. Chen.

Power Sales From Susitna

AML P feels that the state should demonstrate its commitment to the project. It should provide funding to the project in order to bring the initial cost of power sales down. He also suggested the need to come up with some innovative approaches to financing such as "geometric" rather than "levelized" power cost determination.

With regard to "take or pay" type contracts, AML P has floated some bonds where there could be restrictions in signing this type of a contract. Mr Stahr suggested for us to contact a Goldman Sachs representative that AML P deals with. (Mr. Stahr subsequently called and gave the name of Mr. Frank Ingrassia at 212/676-3122.)

Reliability

AML P has previously given us their reliability criteria. Mr. Stahr agreed to confirm this in a letter to us. This is needed to respond to FERC non-conforming items.

Load Growth Outlook

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Henry H. Chen

*Attn: Mr. George V. Clark
Fairbanks.*

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JAN 21 1983

ALASKA POWER AUTHORITY

SUSITNA HYDROELECTRIC PROJECT

TASK 11: FINANCING OPTIONS

Prepared by:
Acres American Incorporated



January 1983

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MAR 30 1983

Harza-Ebasco

ALASKA POWER AUTHORITY

20-15

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FINANCIAL ANALYSES

Option A - \$1.4 Billion Drawn from Uncommitted State Funds Available for Capital Construction
Option B - \$1.8 Billion Drawn from Uncommitted State Funds Available for Capital Construction
Option C - \$1.4 Billion Dedicated from Permanent Fund Income
Option D - \$1.8 Billion Dedicated from Permanent Fund Income

5 -STATEMENT BY THE FIRST BOSTON CORPORATION,
JOHN NUVEEN & COMPANY, AND FIRST SOUTHWEST COMPANY

The First Boston Corporation and John Nuveen & Company (the Alaska Power Authority's co-senior managing underwriters) and First Southwest Company (the Power Authority's financial advisor) have reviewed the financing options described in this memorandum and have made the following observations regarding the financing of the Susitna Project. Together these investment firms are referred to as the Power Authority's Investment Advisors. Their opinions stated herein are based primarily upon the State's projected revenues using the "30th Percentile". First Boston Corporation, John Nuveen & Company and First Southwest Company have concurred in the following statement:

"It is our opinion that prior to major State expenditures, of State appropriations definitive contractual commitments by participating Railbelt Utilities be in place and that such appropriations should be funded by the State during the period 1983-1989, a period within the estimated life of Alaska's oil and gas reserves, so that appropriations provided during this period will provide the crucial "equity" to assure the most economical bond financing of the remainder of the project.

In view of the magnitude of Susitna and the relatively long construction period, the Power Authority should not commence significant borrowing for Susitna before the late 1980's at which time major risks have been defined and completion and start-up dates are known with a high degree of reliability.

In our opinion, in order to maintain the financial integrity for the State of Alaska, prerequisites for issuance of bonds of any type for the project are:

(a) Definitive contractual commitments by participating Railbelt utilities;

(b) Up-dated economic and financial analysis of the project; and

- (c) Resolution of the question of tax exemption of such bonds.

With regard to the utilization of State G.O. Bonds, it is our opinion that the issuance of such bonds will be of limited importance to financing Susitna because of the substantial borrowing required for this project. If a major portion of such borrowing were met from State G.O. Bonds, Alaska's present double A ratings would be endangered. The following are some major limitations of State G.O. Bonds:

- (1) A crucial feature of Alaska's double A rating is the Rating Agencies' concurrence with the State's present debt policy of amortizing G.O. Bonds rapidly (i.e., within 10 to 15 years (a period within current estimates of oil/gas revenues (the principal source of State revenues) and we believe this policy should be continued.
- (2) Using the State's December, 1982 Department of Revenue forecasts, we estimate that the State can issue a relatively small volume of G.O. Bonds while maintaining it's double A rating (see Tables 1 and 2). Based on the "30th percentile" of the Department of Revenue projections, the State could "safely" issue \$565 million (nominal dollars, assuming 8% inflation) G.O. Bonds during the period fiscal 1983-1990. This amount would rise to \$945 million if the "50th percentile" revenue projections were achieved during this period.

A reduction in the State's rating from double A to single A could correspondingly lower the rating of Alaska Power Authority's own revenue bonds backed by a Capital Reserve Fund with a moral obligation to a rating as low as Baa by Moody's and BBB by Standard Poors. Such a rating would substantially raise the

Authority's borrowing cost and could impair the viability of the project. The volume of debt contemplated under all scenarios would be extremely difficult to market if rated less than "A".

The Power Authority, rather than utilizing State G.O. Bonds, should utilize, to the fullest extent possible, revenue bonds secured by the income derived from participating Railbelt Utilities pursuant to long-term power sales contracts. Additional security for the bonds would be provided by the Capital Reserve Fund provided in the Alaska Power Authority Act whereby to the extent that revenues from Susitna were insufficient to service the bonds, the Legislature may, but is not legally obligated to, appropriate monies to make up such deficiency in the Capital Reserve Fund. Alaska Power Authority's credit perception will be enhanced by a simple and straightforward debt structure comprised solely of revenue bonds backed by the State's "moral obligation" pledge.

Any dedicated stream of State appropriations covering the entire construction and start-up period will enhance confidence of investors, participating utilities, and the rating agencies in the completion of the project. Such an appropriation would, however, require a constitutional amendment. In conclusion, as Investment Advisors to the Authority, we strongly prefer the financing plan developed as Option B and D which requires greater appropriations prior to issuance of Revenue Bonds because the credit status of the State is least affected and the credit quality of the Authority's bonds is enhanced, maintaining project feasibility. Should oil revenue and projections, however, dramatically improve we would be in a position to more favorably consider alternate financial options.

May 6, 1983
Susitna File 40.6

Mr. James F. Palin
General Manager
Matanuska Electric Association, Inc.
P.O. Box 1148
Palmer, Alaska 99645

Subject: Susitna Hydroelectric Project, FERC Comments on Power
Purchase by Railbelt Utilities.

Dear Mr. Palin:

In April, the Federal Energy Regulatory Commission (FERC) provided the Alaska Power Authority with written comments on its license application for the Susitna project. One area of concern is acceptance of the project by the Railbelt utilities.

The purpose of this letter is to solicit your ideas on this subject. Specifically, we would like you to consider the following issues:

- 1) What financial implications would you foresee in signing power purchase agreements for Susitna power? What are your risks or advantages?
- 2) What should be the basis upon which the price of capacity and energy should be established, and what type of power purchase formula should be established?
- 3) Do you foresee any problems in associating with other utilities in purchasing power?
- 4) How do you perceive the Susitna project affecting your system reliability and planning of your system?

Once you have had an opportunity to consider these issues, we would like to meet with you for an informal discussion, say during the week of May 16, 1983. Ray LaRusso, Vice President of Harza Engineering Company and Project Manager for the Harza-Ebasco Susitna Joint Venture,

will be calling to arrange a brief meeting. Please keep in mind that these are preliminary discussions only, and that they do not represent a commitment by the utility to any future position on Susitna power.

Please feel free to call me if you wish to discuss this matter.

Sincerely,

Eric P. Yould
Executive Director

cc: Ray LaRusso, Harza-Ebasco, Anchorage

8659

RAILBELT UTILITY CONTACT LIST

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Seward, AK 99664

Anchorage

June 22, 1983

Files

H. H. Chen

Notes on Meeting with Anchorage Municipal
Light and Power Department, June 15, 1983

The meeting was held with Mr. Thomas Stahr, General Manager of Anchorage Municipal Light and Power, as a follow-up of the 6 May 1983 letter from the Power Authority requesting the views of the utilities on various aspects relating to purchasing power from Susitna. Representing Harza-Ebasco were D. L. Glasscock, R. L. Meagher, and H. H. Chen.

Power Sales From Susitna

AMLP feels that the state should demonstrate its commitment to the project. It should provide funding to the project in order to bring the initial cost of power sales down. He also suggested the need to come up with some innovative approaches to financing such as "geometric" rather than "levelized" power cost determination.

With regard to "take or pay" type contracts, AMLP has floated some bonds where there could be restrictions in signing this type of a contract. Mr Stahr suggested for us to contact a Goldman Sachs representative that AMLP deals with. (Mr. Stahr subsequently called and gave the name of Mr. Frank Ingrassia at 212/676-3122.)

Reliability

AMLP has previously given us their reliability criteria. Mr. Stahr agreed to confirm this in a letter to us. This is needed to respond to FERC non-conforming items.

Load Growth Outlook

AMLP and Chugach are cooperating in a study by Burns and McDonnell. According to Mr. Stahr, B&M is projecting good load growth in the 80's but flattening and leveling in the 1990's. Mr. Stahr feels that the fundamental assumptions relating to their load forecast could be questioned. He thought that the price of oil is important but might not be the only factor relating to load growth. For instance the demographic factor including birth rate is one that may not have been adequately addressed in that forecast.

H. H. Chen

HHC/gn