

SUSITNA HYDROELECTRIC PROJECT

1982

HYDROGRAPHIC SURVEYS REPORT

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# SUSITNA HYDROELECTRIC PROJECT

1982

## HYDROGRAPHIC SURVEYS REPORT

DECEMBER 1982

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ALASKA POWER AUTHORITY

ALASKA POWER AUTHORITY  
SUSITNA HYDROELECTRIC PROJECT

TASK 2 - SURVEYS AND SITE FACILITIES

1982 HYDROGRAPHIC SURVEYS

DECEMBER 1982

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SUSITNA HYDROELECTRIC PROJECT  
HYDROGRAPHIC SURVEYS

1982 HYDROGRAPHIC SURVEYS REPORT

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ACKNOWLEDGMENTS

These river surveys were conducted under contract to Acres American, Inc., for the Susitna Hydroelectric Feasibility Study. This program was coordinated in collaboration with the Alaska Department of Fish & Game. The survey crews were supervised by Larry Nicholson (R&M). Carl Schoch coordinated the surveys program, reduced and analysed the data, and prepared this report.

## 1 - INTRODUCTION

### 1.1 - Objective

Hydrographic Surveys, Subtask 2.16 of the Susitna Hydroelectric Feasibility Study, was expanded in 1982 in order to provide additional data for further study of fisheries habitats, stream perching and ice cover modeling. This report presents the R&M Consultants field procedures and descriptions for monument identification. The objective is to provide future field crews and data users with an explanation of the methodology and to encourage standardization or improvement.

### 1.2 - Scope of Work

The primary data gathering effort concerned flow regimes through Susitna River side channels and sloughs. Sixty-nine additional cross sections were surveyed in selected slough spawning habitats between Portage Creek (RM 149) and Goose Creek (RM 70). These data will be useful in assessing potential detrimental effects to resident fish and fish fry by post-project reservoir discharges.

The natural flow regime through the sloughs is dependent upon groundwater infiltration and mainstem discharges. Prior to the spring breakup the sloughs are generally isolated from the mainstem at the mouth by a dewatered channel and by a berm at the upstream entrance or head. Rapid increases in river stage caused by freezeup or breakup ice jamming on the mainstem could result in water breaching the berm and flowing through the slough. Often vegetation is scarred and the configuration of gravel bars altered as ice blocks are swept through the channel. These floods are usually of short duration, and when the water subsides the slough is again isolated from the mainchannel. With summer runoff the river discharge increases, and the stage is usually high enough to open the mouth of the slough to mainstem flow. Characteristically a backwater pool forms at the mouth providing migrating fish with sufficient water to negotiate the shallows and swim up into the slough. Occasionally a severe summer flood will again breach the berm at the head and mainstem flow will pass through the slough. As precipitation decreases and summer flows subside, prior to freezeup, the access channels are dewatered and the sloughs are once again isolated.

It may be evident from the described flow sequence that access channel elevations are critical to the flow regime within the sloughs and therefore important to fisheries habitats. The post-project regulated summer flow is expected to be significantly less than normal and a concern was indicated about whether the flow within the sloughs will remain adequate to support resident populations as well as providing access to migrating salmon. Conversely the winter discharges will be dictated by energy requirements. This may potentially open the sloughs to mainstem flow and circulate the relatively warm (4°C) water through the spawn habitat. Therefore, in

Attachment A is a tabulation of elevations for the survey monuments established by R&M under Subtask 2.16 from 1980 to 1982. Attachment B contains the graphical plots of slough cross-section surveyed in 1982 as well as reproductions of printouts listing the station description and elevations. Cross sections plots for the ice studies computer model "ICESIM" are shown in Attachment C, and finally in Attachment D are the revised copies of the Susitna River Hydrographic maps which delineate the locations of all cross sections surveyed to date below Devil Canyon.

order to effectively model the flow behavior within the sloughs and determine mitigation measures necessary to accommodate spawning fish, detailed channel cross sectioning was required. These data will determine critical elevations for flooding and dewatering of access channels.

Under Subtask 3.03 and in conjunction with the flow regime study of the sloughs, streamgages and strip chart recorders were installed in five separate sloughs to monitor water levels and record any sudden flow variations such as during breaching of the berm at the slough head. In addition, discharges were periodically measured and a stage-discharge curve was developed for 11 sloughs, including the recorder sites. This information will be published in the report Field Data Collection and Processing, Supplement 1 (R&M, 1982a).

A secondary objective, incorporated into the 1982 survey program, was to gather cross section and profile data on selected tributaries to the Susitna downstream of Devil Canyon. When bed material is large enough to remain stable even during high flows, then the bottom is considered armoured, and insignificant degradation of the channel will occur. If an armoured bottom exists at the mouth of a tributary to the Susitna, and anticipating below normal Susitna water levels due to regulated flow during post-project reservoir operation, then it is conceivable that some tributaries may become "perched" or elevated. This could virtually isolate these streams and prevent access to migrating fish.

Nineteen tributaries were identified for the study, and profiles were surveyed on each as well as a cross-section near the mouth. The results of this assessment have been published in Tributary Stability Analysis, (R&M, 1982b).

The final project that identified a need for further survey data was the river ice processes study conducted by Acres American. Thirty-two additional main channel cross sections were surveyed, nine downstream of Talkeetna and the remaining upstream to Sherman, supplementing the original lower river cross sections surveyed during 1980-1981. Of the original 62 cross-sections surveyed in 1980, cross section LRX-1 to LRX-5 were resurveyed to define changes in channel morphology near the Susitna/Chulitna confluence. These data were filed in HEC-2 format and transferred to Boeing Computer Services for storage on magnetic tape. Cross-section plots and the file printout are included in Attachment C.

### 1.3 - Report Contents

Section 2 of this report presents an explanation of the alphanumeric identification system used for survey monuments and staff gages. The procedures used by R&M Consultants for surveying the sloughs and tributaries are also briefly described. For a detailed discussion on methodology however, refer to the Hydrographic Surveys Closeout Report (R&M, 1981).

Attachment A is a tabulation of elevations for the survey monuments established by R&M under Subtask 2.16 from 1980 to 1982. Attachment B contains the graphical plots of slough cross-section surveyed in 1982 as well as reproductions of printouts listing the station description and elevations. Cross sections plots for the ice studies computer model "ICESIM" are shown in Attachment C, and finally in Attachment D are the revised copies of the Susitna River Hydrographic maps which delineate the locations of all cross sections surveyed to date below Devil Canyon.

## 2 - PROCEDURES

The general surveying procedures that were followed are described here. It should be noted that specific procedures may have varied somewhat due to channel configuration, water depth and restrictions imposed by weather conditions.

### 2.1 - Monument Identification

Coordination of this survey effort with the Alaska Department of Fish and Game resulted in collaboration on a standard indexing and identification system. The purpose of the system was twofold, first to provide a unique label for each survey monument and second to assign a location code so that the monument can be relocated in the field or on a map by referring to river mile numbers and orientation within a drainage channel. The various drainage channels include tributaries (coded "T"), the mainstem Susitna (M), and sloughs (S). The sloughs are further subdivided to identify specific areas within the slough such as the upstream entrance or head (H), mouth (M), backwater (B) and secondary access channels (A). The location code was refined to identify the specific object at the site, such as temporary benchmarks or staff gages. Temporary benchmarks are designated with RB or LB referring to right and left bank respectively. For all monuments set by R&M Consultants, this bank designation only applies when looking downstream. Staff gages were usually set in a stepped series perpendicular to the flow. These are identified with an A, B or C designation starting with the gage nearest the bank labelled "A".

For example, an aluminum cap stamped 144.8 H RB can be found on the Susitna River Hydrographic maps (Attachment D) by following the the river mile numbering system to Sheet 4. The first four digits of the code coincide with river mile estimated to the nearest 1/10 of a mile. The "H" in the code stands for head of a slough and "RB" refers to the right bank of the slough channel.

### 2.2 - Slough Surveys

All elevations surveyed in the sloughs are based on and tied in to existing vertical control, either R&M monumentation established during the 1980 cross-section surveys or National Geodetic Survey first-order benchmarks along the Alaska Railroad tracks. A level line was first surveyed through the sloughs and temporary benchmarks established at the sites selected to be cross-sectioned. These temporary benchmarks are 24" rebar, 5/8" in diameter, driven into the bank on both ends of the cross-section site. A 2" aluminum disk is sets on the rebar, and this provides the control surface. In areas near existing cross-sections, a spike was set in a tree trunk in place of an aluminum cap. This, however, applied to only one end of a transect, the opposite end having the normal rebar and "Alcap". Elevations were established on the temporary benchmarks, and the level line was either looped back to the initial starting elevation or tied to the nearest existing datum. This double running of each level line assured

that no errors were made and that all elevations are within the standard degree of error for 4th-order surveys. If the initial or control level line closed well, then the cross-sections were surveyed.

Each study slough had, in general, the following areas identified as critical and to be cross-sectioned:

1. The head or upstream entrance of the slough and across the highest and lowest points on the berm. These data are for determining the critical mainstem flow required to breach the berm.
2. The mouth of the slough, also across the highest and lowest points, in order to define the critical low water level of the mainstem before the slough is cut off.
3. In the backwater area above the mouth of the slough but downstream of any riffles or shallows. This backwater area is characteristically recognized caused by ponding of water caused by the backfilling or eddy of mainstem flow. The water surface within the backwater area is directly dependent on the water surface in the mainstem.
4. Access channels were also cross-sectioned, since many of these convey water to the slough from the mainstem (Slough 21).
5. Some intensive habitat study sites, such as Sloughs 8 and 9, required further cross-sectioning near tributary confluences and groundwater wells.

Water surface elevations were surveyed and a bottom profile established on all cross-sections. When sections were too deep to wade, then soundings were made from a boat. A staff gage was set on every cross-section if one had not already been placed by the Alaska Department of Fish and Game.

Elevations were brought in from the NGS 1st-order level line along the Alaska Railroad, which established true elevations on monuments in Birch Creek, Sunshine Slough, Rabideux Creek, Whitefish Slough and Goose Creek. Cross-section locations are shown in Attachment D.

### 2.3 - Tributaries

The stability analysis for determining whether a stream will become perched required a thalweg profile and cross-section at the mouth. The profile extended from about 1,000 feet upstream of the confluence to an arbitrary point opposite the confluence, across the first deep channel of the Susitna.

Stations were established at 50-foot intervals along the thalweg, where the bottom elevation was determined as well as water surface elevations. The thalweg profile was extended across the Susitna in order to define the slope where the tributary flows into the Susitna. This mainstem profile extension required the use of a sounding weight and a boat.

A cross-section of the tributary channel was required at a representative section near the mouth. Temporary benchmarks were placed at each end of this section. These benchmarks were the reference datum for the elevations used in the analysis of the tributaries.

#### 2.4 - ICESIM Cross Sections

In order to provide additional information for the Acres ice cover model "ICESIM", mainstem cross sections were surveyed in the confluence area near Talkeetna and at key locations upstream to Sherman. The ice cover model is intended to provide information on ice cover thicknesses, upstream ice cover extent and ice jam locations before and after dam construction.

The area of particular interest is at the confluence of the three rivers - Chulitna, Susitna and Talkeetna - near the town of Talkeetna. Because of the intricate channel morphology at and downstream of the confluence, the additional cross-sections were concentrated in this area. Downstream of LRX-1, nine additional cross-sections were surveyed across the entire active flood plain. Between LRX-1 and LRX-5, thirteen new cross were surveyed. The remaining ten cross-sections were surveyed at key locations identified as sites of recurring ice jams or points of diverging or converging channels.

The procedures established during the 1980 cross-section surveys were followed this year to maintain a standard format, with the exception that in 1982 an aluminum cap monument was set at both ends of the transect. In 1980 only one monument was set for each cross-section, usually on the left bank. This addition was a result of problems encountered in relocating several of the 1980 monuments. Vertical control for cross-sections below Talkeetna was taken directly from NGS benchmarks. Upstream of Talkeetna, the original 1980 monuments were used for reference elevations. Cross-section locations are shown in Attachment D.

### 3 - REFERENCES

- R&M Consultants, Inc. 1982a. Field Data Collection and Processing, Supplement 1, prepared for Acres American Incorporated for the Susitna Hydroelectric Feasibility Study. Anchorage, Alaska.
- R&M Consultants, Inc. 1982b. Tributary Stability Analysis, prepared for Acres American Incorporated for the Susitna Hydroelectric Feasibility Study. Anchorage, Alaska.
- R&M Consultants, Inc. 1981. Hydrographic Surveys Closeout Report, prepared for Acres American Incorporated for the Susitna Hydroelectric Feasibility Study. Anchorage, Alaska.

ATTACHMENT A

Susitna Hydroelectric Feasibility Study

Tabulated Elevations, Identifications and  
Descriptions of R&M Consultants, Inc.  
Survey Monumentation, 1980-1982

THIRD AND FOURTH ORDER BENCHMARKS SET  
IN ASSOCIATION WITH 1982 SUSITNA HYDROGRAPHIC SURVEYS

DEFINITION OF SYMBOLS AND ABBREVIATIONS

A - Access. Designation established by R&M for identification of survey monuments, referring to access channels leading to sloughs.

Alcap - Aluminum cap. A two inch aluminum disk usually set on 5/8" rebar within .2 of a foot from ground level. Stamped R&M Consultants Inc., 1982 and with the location identification also stamped in block type.

B - Backwater. Designation established by R&M for identification of survey monuments. Referring to pools in sloughs immediately upstream from the slough mouth.

C.W. - Cottonwood. Abbreviation used in location descriptions.

D.S. - Downstream. Abbreviation used in location descriptions.

H - Head. Designation established by ADF&G for location identification of the upstream end of a slough where mainstem flow could diverge and flow through the slough.

L.B. & R.B. - Left and right bank respectively. This designation applies when looking downstream only. All R&M river bank designations are relative to the downstream view.

LRX - Lower river cross section. Designation established by R&M for identification of mainstem cross sections which were used primarily for computer modeling.

M - Mainstem. Designation established by ADF&G for identification of staff gages, referring to the main channel flow as opposed to side channels or flow through sloughs.

Rebar - 24" long steel rod, 5/8" in diameter.

S - Slough. Designation established by ADF&G for use in labelling and identification of staff gages.

S.G. - Staff Gage

SL - Slough

U.S. - Upstream. Abbreviation used in location descriptions

T - Tributary. Designation established by ADF&G for identification of staff gages.

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W - Mouth. Designation established by ADF&G for use in labelling the mouth of sloughs where they converge with the mainstem.

X-sec - Cross Section

R&M CONSULTANTS  
 TEMPORARY BENCHMARKS FOR  
 MAIN CHANNEL CROSS SECTIONS  
 1980-1982\*

Monument Description	Identification	Elevation
R&M Rebar & Alcap on left bank of canyon	LRX-68 L. B.	861.70
R&M Rebar & Alcap on right bank of canyon	LRX-67 R. B.	853.47
R&M Rebar & Alcap on right bank of canyon	LRX-66 R. B.	853.75
R&M Rebar & Alcap on right bank of canyon	LRX-65 R. B.	852.72
R&M Rebar & Alcap on right bank of canyon	LRX-64 R. B.	848.23
R&M Rebar & Alcap on right bank of canyon	LRX-63 R. B.	847.11
R&M Rebar & Alcap @ center of photo panel	-	844.26
R&M spike in 14" cottonwood, right bank	TBM 153	845.92
R&M Rebar & Alcap, left bank near RM 147.6	LRX-60 L. B.	831.87
R&M Rebar & Alcap, left bank near RM 144.9	LRX-59 L. B.	796.80
Nail in base of 16" cottonwood, top of right bank	LRX-59 R. B.	797.59
Rebar at toe of steep left bank	TBM 101	767.05
Nail in root of cottonwood near RM 143.2	LRX-58 R. B.	773.41
R&M Rebar & Alcap, left bank @ RM 142.3	LRX-57 L. B.	761.68
R&M Rebar & Alcap, left bank @ RM 142.1	LRX-56 L. B.	759.30
R&M Rebar & Alcap, top of left bank, main channel	LRX-55 L. B.	748.51
R&M Rebar & Alcap, Top of left bank, RM 140.8	LRX-54 L. B.	741.20
R&M Rebar & Alcap, left bank on terrace	LRX-53 L. B.	733.76
R&M Rebar & Alcap, left bank at RM 139.5	LRX-52 L. B.	735.67
Nail in 6" C.W. on right bank at LRX-51	Indian	716.01
R&M Rebar & Alcap, left bank at RM 138.9	LRX-51 L. B.	717.86

\* NOTE: LRX-1 - LRX-62 were surveyed in 1980,  
 LRX-63 - LRX-68 were surveyed in 1981,  
 the remaining cross sections were surveyed in 1982.

R&M CONSULTANTS  
 TEMPORARY BENCHMARKS FOR  
 MAIN CHANNEL CROSS SECTIONS  
 1980 - 1982\*

Monument Description	Identification	Elevation
R&M Rebar & Alcap, on steep bedrock, left bank	LRX-50 L. B.	709.34
R&M Rebar & Alcap, left bank at RM 138.2	LRX-49 L. B.	733.40
R&M Rebar & Alcap, top of left bank	LRX-48 L. B.	700.48
R&M Rebar & Alcap, left bank at RM 137.2	LRX-47 L. B.	700.48
R&M Rebar & Alcap, top of left bank, RM 136.9	LRX-46 L. B.	700.17
R&M Rebar & Alcap, left bank at RM 136.6	LRX-45 L. B.	690.81
Nail in 14" Cottonwood tree on right bank	LRX-44 R. B.	693.48
R&M Rebar & Alcap, angle point on far left bank	LRX-44 L. B.	688.67
R&M Rebar & Alcap, left bank main channel	LRX-43 L. B.	683.11
Nail in cottonwood tree on right bank	LRX-42 R. B.	676.71
R&M Rebar & Alcap, left bank RM 135.6	LRX-42 L. B.	703.81
Nail in tree stump on right bank	LRX-41 R. B.	664.55
R&M Rebar & Alcap, left bank RM 134.7	LRX-41 L. B.	703.01
Nail in 14" cottonwood tree, right bank	LRX-40 R. B.	663.30
R&M Rebar & Alcap, left bank RM 134.2	LRX-40 L. B.	676.53
R&M Rebar & Alcap, left bank RM 133.3	LRX-39 L. B.	652.06
R&M Rebar & Alcap, left bank east channel	LRX-38 L. B.	647.98
R&M Rebar & Alcap, left bank RM 131.9	LRX-37 L. B.	650.08
R&M Rebar & Alcap, left bank RM 131.2	LRX-36 L. B.	631.37
Spike in 36" cottonwood at crest gage	TBM-1	630.49
R&M Rebar & Alcap, top of left bank	LRX-35 L. B.	626.56

\* NOTE: LRX-1 - LRX-62 were surveyed in 1980,  
 LRX-63 - LRX-68 were surveyed in 1981,  
 the remaining cross sections were surveyed in 1982.

R&M CONSULTANTS  
 TEMPORARY BENCHMARKS FOR  
 MAIN CHANNEL CROSS SECTIONS  
 1980 - 1982\*

<u>Monument Description</u>	<u>Identification</u>	<u>Elevation</u>
R&M Rebar & Alcap, top of left bank, west channel	LRX-34 L.B.	625.38
R&M Rebar & Alcap, left bank main channel	LRX-33 L.B.	615.53
Nail in 12" cottonwood on right bank	-	619.05
R&M Rebar & Alcap, left bank RM 129.7	LRX-32 L.B.	608.72
R&M Rebar & Alcap, left bank main channel	LRX-31 L.B.	603.50
R&M Rebar & Alcap, right bank on veg. island	LRX-30 N3 R.B.	599.75
R&M Rebar & Alcap, left bank an island, RM 128.7	LRX-30 N3 L.B.	600.99
R&M Rebar & Alcap, right bank on small island	LRX-30 N2 R.B.	596.15
R&M Rebar & Alcap, left bank on sand bar	LRX-30 N1 L.B.	592.33
R&M Rebar & Alcap, right bank, island w/lone C.W.	LRX-30 N1 R.B.	593.44
R&M Rebar & Alcap, top of left bank, RM 127.5	LRX-30	596.07
R&M Rebar & Alcap, top of left bank, RM 126.1	LRX-29	578.43
R&M Rebar & Alcap, left bank of bypass channel	LRX-28A L.B.	569.73
R&M Rebar & Alcap, right bank main channel	LRX-28A R.B.	575.84
Spike in 48" cottonwood on left bank, RM 124.4	TBM-1	565.48
R&M Rebar & Alcap, top of left bank near crest gage	LRX-28	561.80
R&M Rebar & Alcap, left bank at RM 123.3	LRX-27	552.71
R&M Rebar & Alcap, left bank at RM 122.5	LRX-26	547.80
R&M Rebar & Alcap, left bank at RM 122.1	LRX-25A L.B.	539.88
R&M Rebar & Alcap, right bank of main channel	LRX-25A R.B.	542.10
Nail in 16" cottonwood stump on left bank main channel	TBM "Tooth"	539.50

\* NOTE: LRX-1 - LRX-62 were surveyed in 1980,  
 LRX-63 - LRX-68 were surveyed in 1981,  
 the remaining cross sections were surveyed in 1982.

R&M CONSULTANTS  
 TEMPORARY BENCHMARKS FOR  
 MAIN CHANNEL CROSS SECTIONS  
 1980 - 1982\*

<u>Monument Description</u>	<u>Identification</u>	<u>Elevation</u>
R&M Rebar & Alcap, left bank of east channel	LRX-25 L. B.	536.55
Spike in 15" spruce near Curry crest gage	TBM-1	534.20
R&M Rebar & Alcap, left bank at RM 120.7	LRX-24 L. B.	531.39
Nail in base of 15" spruce at angle point on island	TBM "FLU"	528.18
R&M Rebar & Alcap, left bank at RM 119.3	LRX-23 L. B.	530.53
Nail in cottonwood on right bank at RM 119.2	TBM "Fern"	518.94
R&M Rebar & Alcap, left bank by RR tracks	LRX-21 L. B.	523.74
R&M Rebar & Alcap, right bank at RM 118.4	LRX-20B R. B.	511.45
R&M Rebar & Alcap, left bank of east channel	LRX-20A L. B.	511.20
R&M Rebar & Alcap, right bank of west channel	LRX-20A R. B.	505.98
R&M Rebar & Alcap, left bank at RM 117.2	LRX-20 L. B.	503.98
R&M Rebar & Alcap, left bank at RM 116.5	LRX-19 L. B.	496.41
R&M Rebar & Alcap, left bank at RM 115.9	LRX-18C L. B.	500.57
R&M Rebar & Alcap, right bank main channel	LRX-18C R. B.	492.29
R&M Rebar & Alcap, left bank east channel RM 115.3	LRX-18B L. B.	485.72
Orange painted rock on right bank main channel	LRX-18B R. B.	482.71
R&M Rebar & Alcap, left bank at head of Lane SL	LRX-18A L. B.	482.21
R&M Rebar & Alcap, right bank of west channel	LRX-18A R. B.	479.35
Nail set in tree at top of right bank	LRX-18 R. B.	471.44
R&M Rebar & Alcap, left bank at RM 113	LRX-18 L. B.	469.91
R&M Rebar & Alcap, left bank at RM 112.7	LRX-17 L. B.	471.59

\* NOTE: LRX-1 - LRX-62 were surveyed in 1980,  
 LRX-63 - LRX-68 were surveyed in 1981,  
 the remaining cross sections were surveyed in 1982.

R&M CONSULTANTS  
 TEMPORARY BENCHMARKS FOR  
 MAIN CHANNEL CROSS SECTIONS  
 1980 - 1982\*

Monument Description	Identification	Elevation
Spike in 48" cottonwood on right bank, west channel	LRX-16 R.B.	465.45
R&M Rebar & Alcap, left bank of east channel	LRX-16 L.B.	469.58
R&M Rebar & Alcap, right bank at toe of bluff	LRX-15 R.B.	457.73
R&M Rebar & Alcap, left bank of east channel	LRX-15 L.B.	468.25
R&M Rebar & Alcap, on right bank at toe of bluff	LRX-14 R.B.	450.66
R&M Rebar & Alcap, left bank of east channel	LRX-14 L.B.	450.92
R&M Rebar & Alcap, top of left bank at RM 110.3	LRX-13 L.B.	454.43
Spike in 25" cottonwood on right bank at RM 108.4	LRX-12 R.B.	434.38
Spike in railroad tie on left bank at RM 108.4	LRX-12 L.B.	449.02
R&M Rebar set near toe of right bank at RM 106.7	LRX-11 R.B.	413.28
R&M Rebar & Alcap, left bank at RM 106.7	LRX-11 L.B.	420.88
R&M Rebar & Alcap, left bank at RM 106.4	LRX-10C L.B.	420.32
R&M Rebar & Alcap, right bank below bluff	LRX-10C R.B.	416.17
R&M Rebar & Alcap, left bank at RM 105.9	LRX-10B L.B.	417.03
R&M Rebar & Alcap, right bank below bluff	LRX-10B R.B.	413.64
R&M Rebar & Alcap, left bank at RM 105.1	LRX-10A L.B.	403.99
R&M Rebar & Alcap, right bank of west channel	LRX-10A R.B.	403.18
R&M Rebar & Alcap, left bank at RM 104.8	LRX-10 L.B.	410.15
Spike in 28" cottonwood on left bank of west channel	TBM "RAIN"	404.63
R&M Rebar & Alcap, left bank at RM 104.1	LRX-9A L.B.	404.80
R&M Rebar & Alcap, right bank in vegetation	LRX-9A R.B.	392.93

\* NOTE: LRX-1 - LRX-62 were surveyed in 1980,  
 LRX-63 - LRX-68 were surveyed in 1981,  
 the remaining cross sections were surveyed in 1982.

R&M CONSULTANTS  
 TEMPORARY BENCHMARKS FOR  
 MAIN CHANNEL CROSS SECTIONS  
 1980 - 1982\*

<u>Monument Description</u>	<u>Identification</u>	<u>Elevation</u>
R&M Rebar & Alcap, left bank ar RM 103.4	LRX-9 L.B.	387.82
Spike in 18" spruce near crest gages	TBM-1	397.06
Nail in 18" spruce stump in right bank	LRX-9 R.B.	393.75
R&M Rebar & Alcap, left bank at RM 102.5	LRX-8 L.B.	385.64
R&M Rebar & Alcap, right bank near edge of veg.	LRX-8 R.B.	383.70
R&M Rebar & Alcap, left bank at RM 101.5	LRX-7 L.B.	369.26
R&M Rebar on right bank of west channel	TBM "WHISKERS"	375.29
R&M Rebar on right bank below Whiskers Cr.	LRX-6 R.B.	371.09
R&M Rebar & Alcap, left bank at RM 101	LRX-6 L.B.	371.16
R&M Rebar & Alcap, left bank of east channel	LRX-5 L.B.	362.75
R&M Rebar & Alcap, left bank of east channel	LRX-4D L.B.	364.09
R&M Rebar & Alcap, right bank at RM 100.2	LRX-4D R.B.	360.61
R&M Rebar & Alcap, left bank of east channel	LRX-4C L.B.	359.16
R&M Rebar & Alcap, right bank at RM 100.1	LRX-4C R.B.	360.07
R&M Rebar & Alcap, left bank of east channel	LRX-4B L.B.	359.45
R&M Rebar & Alcap, right bank at RM 99.9	LRX-4B R.B.	359.60
R&M Rebar & Alcap, left bank of east channel	LRX-4A L.B.	358.35
R&M Rebar & Alcap, right bank at RM 99.8	LRX-4A R.B.	358.74
R&M Rebar & Alcap, left bank of east channel	LRX-4 L.B.	352.30
Spike in 10" Spruce near crest gages at RM 99.5	TBM-1	366.96
R&M Rebar & Alcap, left bank of main channel	LRX-3D L.B.	361.69

\* NOTE: LRX-1 - LRX-62 were surveyed in 1980,  
 LRX-63 - LRX-68 were surveyed in 1981,  
 the remaining cross sections were surveyed in 1982.

R&M CONSULTANTS  
 TEMPORARY BENCHMARKS FOR  
 MAIN CHANNEL CROSS SECTIONS  
 1980 - 1982\*

<u>Monument Description</u>	<u>Identification</u>	<u>Elevation</u>
R&M Rebar & Alcap, right bank of west channel	LRX-30 R.B.	350.50
R&M Rebar & Alcap, left bank of main channel	LRX-3C L.B.	352.39
R&M Rebar & Alcap, right bank on gravel island	LRX-3C R.B.	350.74
R&M Rebar & Alcap, left bank near slough head	LRX-38 L.B.	350.40
R&M Rebar & Alcap, right bank on island at RM 98.9	LRX-3B R.B.	351.75
R&M Rebar & Alcap, left bank of main channel	LRX-3A L.B.	349.18
R&M Rebar & Alcap, right bank of island	LRX-3A R.B.	349.84
Nail set in cottonwood log on bank of island	TBM "COAST"	349.68
R&M Rebar & Alcap, left bank of main channel	LRX-3 L.B.	346.45
R&M Rebar & Alcap, left bank of Susitna at RM 98.5	LRX-2C L.B.	346.93
R&M Rebar & Alcap, right bank of Chulitna River	LRX-2C R.B.	347.30
R&M Rebar & Alcap, left bank of Susitna at RM 98.3	LRX-2B L.B.	345.66
R&M Rebar & Alcap, right bank of Chulitna River	LRX-2B R.B.	346.63
R&M Rebar & Alcap, left bank at RM 98	LRX-2A L.B.	344.23
R&M Rebar & Alcap, right bank Chulitna right channel	LRX-2A R.B.	345.63
R&M Rebar & Alcap, left bank Susitna left channel	LRX-2 L.B.	343.87
R&M Rebar & Alcap, right bank at RM 97.9	LRX-2 R.B.	343.26
R&M Rebar & Alcap, left bank Susitna east channel	LRX-1B L.B.	341.90
R&M Rebar & Alcap, right bank of west channel	LRX-1B R.B.	341.87
R&M Rebar & Alcap, left bank above Talkeetna R.	LRX-1A L.B.	339.86
R&M Rebar & Alcap, right bank of west channel	LRX-1A R.B.	340.41
R&M Rebar & Alcap, left bank near vegetation	LRX-1 L.B.	336.33

\* NOTE: LRX-1 - LRX-62 were surveyed in 1980,  
 LRX-63 - LRX-68 were surveyed in 1981,  
 the remaining cross sections were surveyed in 1982.

R&M CONSULTANTS  
 TEMPORARY BENCHMARKS FOR  
 MAIN CHANNEL CROSS SECTIONS  
 1980 - 1982\*

Monument Description	Identification	Elevation
R&M Rebar & Alcap, right bank at RM 97	LRX-1 R.B.	338.80
R&M Rebar & Alcap, right bank near RM 96.6	LRX-11 R.B.	336.77
R&M Rebar & Alcap, left bank near RM 96.8	LRX-11 L.B.	338.43
R&M Rebar & Alcap, right bank near RM 96.2	LRX-12 R.B.	334.54
R&M Rebar & Alcap, left bank near RM 96.5	LRX-12 L.B.	340.68
R&M Rebar & Alcap, right bank near RM 95.9	LRX-13 R.B.	334.62
R&M Rebar & Alcap, left bank near RM 95.6	LRX-13 L.B.	330.55
R&M Rebar & Alcap, right bank near RM 95.5	LRX-14 R.B.	329.14
R&M Rebar & Alcap, left bank near RM 95.2	LRX-14 L.B.	328.98
R&M Rebar & Alcap, right bank near RM 94.9	LRX-15 R.B.	323.80
R&M Rebar & Alcap, left bank near RM 94.9	LRX-15 L.B.	332.39
R&M Rebar & Alcap, right bank near RM 94.5	LRX-16 R.B.	323.22
R&M Rebar & Alcap, left bank near RM 94.5	LRX-16 L.B.	339.22
R&M Rebar & Alcap, right bank near RM 94	LRX-17 R.B.	322.22
R&M Rebar & Alcap, left bank near RM 94.2	LRX-17 L.B.	321.66

\* NOTE: LRX-1 - LRX-62 were surveyed in 1980,  
 LRX-63 - LRX-68 were surveyed in 1981,  
 the remaining cross sections were surveyed in 1982.

R&M CONSULTANTS  
TEMPORARY BENCHMARKS  
FOR 1982 SLOUGH SURVEYS

<u>Description/Location</u>	<u>River Mile I.D.</u>	<u>Elevation</u>
Chiseled Square, right bank, mouth Portage Cr.	148.9 T R.B.	848.32
Photo panel center, rebar & Alcap	148.9 T L.B.	844.27
TBM "Portage Q R.B.", right bank @ discharge site	148.9 Q R.B.	845.46
R&M Rebar & Alcap, right bank, mouth Jacklong Cr.	144.9 T1 R.B.	794.13
R&M Rebar & Alcap, left bank, mouth Jacklong Cr.	144.9 T1 L.B.	796.94
R&M Rebar & Alcap, right bank, head SL 22	144.8 H4 R.B.	791.93
R&M Spike, left bank, SL 22	144.8 H4 L.B.	794.99
R&M Rebar & Alcap, right bank @ discharge site	144.6 S3 R.B.	789.54
R&M Spike, left bank, SL 22 @ discharge site	144.6 S3 L.B.	788.92
R&M Rebar & Alcap, right bank SL 22	144.4 S2 R.B.	785.16
ADF&G Spike, right bank, Susitna mainstem	144.3 M1 R.B.	794.78
R&M Spike in 12" C.W., right bank, Susitna	144.3 M1 R.B.	794.79
ADF&G Spike in 14" C.W., left bank, SL 22	144.3 S4 L.B.	788.86
ADF&G Spike in 8" C.W., left bank, SL 22	144.3 W3 L.B.	788.25
R&M Rebar & Alcap, right bank, mouth SL 22	144.2 W1 R.B.	786.00
R&M Rebar & Alcap, left bank, mouth SL 22	144.2 W1 L.B.	784.58
R&M Spike in 20" C.W., left bank, head SL 21	142.0 H9 L.B.	763.33
R&M Rebar & Alcap, right bank SL 21 @ recorder	141.9 S8 R.B.	752.21
R&M Rebar & Alcap, left bank, SL 21 @ recorder	141.9 S8 L.B.	751.66
R&M Rebar & Alcap, right bank, x-sec SL 21	141.8 S7 R.B.	750.39
R&M Rebar & Alcap, left bank, x-sec SL 21	141.8 S7 L.B.	751.45
R&M Rebar & Alcap, left bank of access channel	141.8 A6 L.B.	753.45
R&M Rebar & Alcap, right bank of access channel	141.8 A6 R.B.	753.04

R&M CONSULTANTS  
 TEMPORARY BENCHMARKS  
 FOR 1982 SLOUGH SURVEYS  
 (Continued)

Description/Location	River Mile I.D.	Elevation
R&M Rebar & Alcap, left bank of access channel	141.7 A5 L.B.	750.81
R&M Rebar & Alcap, right bank of access channel	141.7 A5 R.B.	751.27
R&M Rebar & Alcap, right bank of access channel	141.3 A4 R.B.	746.28
R&M Rebar & Alcap, left bank of access channel	141.0 A3 L.B.	743.45
R&M Rebar & Alcap, right bank of access channel	141.0 A3 R.B.	740.84
R&M Rebar & Alcap, left bank of access channel	140.8 A2 L.B.	741.00
R&M Rebar & Alcap, right bank on point of island	140.6 W1 R.B.	736.05
R&M Rebar & Alcap, left bank, mouth SL 21	140.6 W1 L.B.	735.53
R&M Rebar & Alcap, left bank, head SL 20	140.6 H3 L.B.	737.33
ADF&G nail in root of 12" birch, head SL 20	140.6 H3 L.B.	737.49
R&M Rebar & Alcap, right bank, head of SL 20	140.6 H3 R.B.	734.25
ADF&G, nail in 30" C.W. on Trib. to SL 20	-	735.73
R&M Rebar & Alcap, left bank @ discharge site, SL 20	140.2 S2 L.B.	729.66
R&M Rebar & Alcap, right bank @ discharge site, SL 20	140.2 S2 R.B.	732.20
R&M Rebar & Alcap, left bank, mouth of SL 20	140.1 W1 L.B.	728.14
ADF&G staff gage top, SL 20	140.1 T3 B.	732.57
ADF&G 1½" Alcap at mouth of SL 19, right bank	-	725.14
R&M Rebar & Alcap, left bank, mouth of SL 19	139.8 W1 L.B.	725.09
R&M Rebar & Alcap, left bank at mouth of Indian River	138.6 T1 L.B.	712.02
R&M TBM, 8" spike in 30" C.W. tree on right bank of Indian River	-	714.09

R&M CONSULTANTS  
 TEMPORARY BENCHMARKS  
 FOR 1982 SLOUGH SURVEYS  
 (Continued)

Description/Location	River Mile I.D.	Elevation
ADF&G Rebar on right bank at head of SL 16	-	708.22
ADF&G Rebar on left bank at head of SL 16	-	708.86
R&M Rebar & Alcap, left bank at recorder site, SL 16	138.0 S3 L.B.	705.62
R&M Rebar & Alcap, right bank at recorder site, SL 16	138.0 S3 R.B.	706.05
R&M Rebar & Alcap, on right bank SL 16, edge of vegetation	137.9 S2 R.B.	701.24
R&M Rebar & Alcap, left bank, mouth of SL 16	137.8 W1 L.B.	702.01
R&M Rebar & Alcap, right bank, mouth of SL 16	137.8 W1 R.B.	701.74
ADF&G Rebar on left bank (R.B. Head pin 1), SL 16	-	702.21
R&M Rebar & Alcap, left bank, Gold Cr. discharge site	136.8 T2 L.B.	698.86
R&M Rebar & Alcap, right bank, Gold Cr. discharge site	136.8 T2 R.B.	699.81
R&M Rebar & Alcap, left bank at mouth of Gold Cr.	136.8 T1 L.B.	694.16
R&M Rebar & Alcap, right bank at mouth of Gold Cr.	136.8 T1 R.B.	696.28
R&M Rebar & Alcap, left bank of SL 11 at head	136.5 H4 L.B.	689.36
R&M Rebar & Alcap, left bank bypass channel, discharge site	136.5 Q3 L.B.	688.63
R&M Rebar & Alcap, right bank bypass channel, discharge site	136.5 Q3 R.B.	686.17
R&M Rebar & Alcap, left bank at recorder site, SL 11	135.7 S2 L.B.	675.88
R&M Rebar & Alcap, right bank at recorder site, SL 11	135.7 S2 R.B.	674.76
R&M Rebar & Alcap, left bank, mouth of SL 11	135.5 W1 L.B.	675.80

R&M CONSULTANTS  
 TEMPORARY BENCHMARKS  
 FOR 1982 SLOUGH SURVEYS  
 (Continued)

Description/Location	River Mile I.D.	Elevation
R&M Rebar & Alcap, right bank, mouth of SL 11	135.5 W1 R.B.	672.77
R&M Rebar & Alcap, left bank SL 11A	135.1 S1 L.B.	672.00
R&M Rebar & Alcap, right bank SL 11A	135.1 S1 R.B.	669.56
R&M Rebar & Alcap, left bank of SL 10 at discharge site	134.1 S1 L.B.	654.37
R&M Rebar & Alcap, right bank of SL 10 at discharge site	134.1 S1 R.B.	654.24
R&M Rebar & Alcap, left bank of trib., 75 ft U.S. from mouth	131.9 T1 L.B.	639.85
R&M Rebar & Alcap, right bank of trib.	131.9 T1 R.B.	641.52
R&M Rebar & Alcap, right bank of slough near 4th of July Cr.	131.2 S4 R.B.	626.18
R&M Rebar & Alcap, left bank of slough near 4th of July Cr.	131.2 S4 L.B.	624.39
R&M Rebar & Alcap, right bank, 300 ft. D.S. of 4th of July Cr.	131.1 S1 R.B.	623.03
R&M Rebar & Alcap, left bank, 300 ft. D.S. of 4th of July Cr.	131.1 S1 L.B.	619.08
R&M Rebar & Alcap, left bank, mouth of 4th of July Cr.	131.1 T2 L.B.	621.52
R&M Rebar & Alcap, right bank at mouth of 4th of July Cr.	131.1 T2 R.B.	622.66
R&M Rebar & Alcap, right bank at discharge site, 4th of July Cr.	131.1 T3 R.B.	626.13
R&M Rebar & Alcap, left bank at discharge site, 4th of July Cr.	131.1 T3 L.B.	627.69
R&M Rebar & Alcap, left bank Sherman Cr. at discharge site	130.8 T2 L.B.	622.78
R&M Rebar & Alcap, right bank Sherman Cr. at discharge site	130.8 T2 R.B.	624.96

R&M CONSULTANTS  
 TEMPORARY BENCHMARKS  
 FOR 1982 SLOUGH SURVEYS  
 (Continued)

Description/Location	River Mile I.D.	Elevation
R&M Rebar & Alcap, left bank mouth of Sherman Cr.	130.8 T1 L.B.	622.25
R&M Rebar & Alcap, right bank mouth of Sherman Cr.	130.8 T1 R.B.	623.53
R&M TBM 9-4, Spike at base of 8" C.W. near well 9-4	129.5 T6	613.95
R&M Rebar & Alcap, near well 9-4 in SL 9	129.5 T6 L.B.	610.39
R&M Rebar & Alcap, near well 9-5 in SL 9	129.5 T6 R.B.	607.41
ADF&G TBM, Spike in fork of 3" birch, near S.G.	129.5 T6	605.15
R&M Rebar & Alcap, at mouth of trib. to SL 9	129.4 T7 R.B.	605.66
R&M Rebar & Alcap, at mouth of trib. in SL 9	129.4 T7 L.B.	605.43
R&M TBM 9-7, Spike at base of 24" C.W.	129.3 S8	609.23
R&M Rebar & Alcap, left bank SL 9	129.3 S8 L.B.	608.28
R&M, Rebar & Alcap, right bank SL 9, 350 ft D.S. of head	129.3 S8 R.B.	606.33
R&M Rebar & Alcap, left bank SL 9 at head	129.3 H9 L.B.	606.77
R&M Rebar & Alcap, right bank at head of SL 9	129.3 H9 R.B.	608.18
ADF&G Rebar HP2, left bank SL 9	129.3 H9	605.85
R&M TBM 9-10, nail at base of 8" birch, near well 9-10	129.2 T7	606.66
R&M Rebar & Alcap, left bank 30 ft. U.S. of well 9-10	129.2 S5 L.B.	605.08
R&M Rebar & Alcap, right bank 8.9 ft. D.S. of Well 9-11	129.2 S5 R.B.	606.01
R&M Rebar & Alcap, left bank of SL 9 @ recorder	128.8 S3 L.B.	600.10
R&M Rebar & Alcap, right bank of SL 9 @ recorder	128.8 S3 R.B.	598.94
ADF&G Spike @ base of 6" birch, near Trib. 129.0	128.8	600.18

R&M CONSULTANTS  
 TEMPORARY BENCHMARKS  
 FOR 1982 SLOUGH SURVEYS  
 (Continued)

Description/Location	River Mile I.D.	Elevation
TBM 9-14, spike @ base of 30" C.W. @ well 9-14	-	602.19
R&M Rebar & Alcap, right bank Trib. 128.5	128.5 T2 R.B.	597.19
R&M Rebar & Alcap, left bank of Trib. 128.5	128.5 T2 L.B.	597.76
R&M Rebar & Alcap, right bank at mouth of SL 9	128.4 W1 R.B.	597.48
R&M Rebar & Alcap, left bank, mouth of SL 9	128.4 W1 L.B.	599.08
TBM ADF&G, Nail @ Base of 8" birch, left bank	128.4 W1	600.97
R&M Rebar & Alcap, left bank of tributary	127.3 T1 L.B.	590.01
R&M Rebar & Alcap, right bank of tributary	127.3 T1 R.B.	590.72
R&M Rebar & Alcap, left bank SL 8	126.6 S9 L.B.	579.15
R&M Rebar & Alcap, right bank SL 8	126.6 S9 R.B.	579.84
R&M Rebar & Alcap, left bank SL 8	126.5 S8 L.B.	578.14
R&M Rebar & Alcap, right bank SL 8	126.5 S8 R.B.	578.85
R&M Rebar & Alcap, left bank SL 8	126.5 S7 L.B.	580.79
R&M Rebar & Alcap, right bank SL 8	126.5 S7 R.B.	575.73
R&M Rebar & Alcap, left bank SL 8 at head	126.1 H4 L.B.	576.32
R&M Rebar & Alcap, right bank SL 8 at head	126.1 H4 R.B.	577.12
R&M Rebar & Alcap, left bank SL 8	125.9 S6 L.B.	571.40
R&M Rebar & Alcap, right bank SL 8	125.9 S6 R.B.	571.56
R&M Rebar & Alcap, right bank SL 8	125.7 S3 R.B.	570.90
R&M Rebar & Alcap, left bank at SL 8 recorder	125.7 S5 L.B.	568.37
R&M Rebar & Alcap, right bank at SL 8 recorder	125.7 S5 R.B.	567.56
R&M Rebar & Alcap, left bank SL 8	125.7 S3 L.B.	570.01

R&M CONSULTANTS  
 TEMPORARY BENCHMARKS  
 FOR 1982 SLOUGH SURVEYS  
 (Continued)

Description/Location	River Mile I.D.	Elevation
R&M Rebar & Alcap, right bank, SL 8	125.6 S2 R.B.	567.25
R&M Rebar & Alcap, left bank SL 8	125.6 S2 L.B.	571.49
R&M Rebar & Alcap, left bank, mouth of SL 8	125.2 W1 L.B.	568.51
R&M Rebar & Alcap, right bank, mouth of SL 8	125.2 W1 R.B.	566.01
TBM 8-8, nail at base of 5" birch tree	-	573.56
TBM 8-12, spike in 6" alder	-	569.58
TBM 8-5, nail in 6" birch	-	579.99
R&M Rebar & Alcap, left bank of Skull Cr.	124.7 T1 L.B.	564.91
R&M Rebar & Alcap, right bank of Skull Cr.	124.7 T1 R.B.	560.04
R&M Rebar & Alcap, left bank tributary @ RM 123.9	123.9 T1 L.B.	554.31
R&M Rebar & Alcap, right bank trib.	123.9 T1 R.B.	555.61
R&M Rebar & Alcap, left bank mouth of Curry Creek	120.9 T1 L.B.	536.67
R&M Rebar & Alcap, left bank mouth trib. 121.0	121.0 T1 L.B.	533.73
R&M Rebar & Alcap, right bank mouth trib. 121.0	121.0 T1 R.B.	532.96
R&M Rebar & Alcap, right bank mouth trib. 117.4	117.4 T1 RB	502.20
R&M Rebar & Alcap, left bank mouth trib. 117.4	117.4 T1 L.B.	503.04
R&M Rebar & Alcap, right bank mouth Mackenzie Cr.	116.7 T1 R.B.	497.77
R&M Rebar & Alcap, left bank mouth Mackenzie Cr.	116.7 T1 L.B.	496.34
R&M Rebar & Alcap, right bank at head Lane S1	114.1 H1 R.B.	476.23
R&M Rebar & Alcap, left bank at head Lane Sl.	114.1 H1 L.B.	481.81
R&M Rebar & Alcap, right bank Lane Cr. @ bridge	113.6 T2 R.B.	478.27

R&M CONSULTANTS  
 TEMPORARY BENCHMARKS  
 FOR 1982 SLOUGH SURVEYS  
 (Continued)

<u>Description/Location</u>	<u>River Mile I.D.</u>	<u>Elevation</u>
R&M Rebar & Alcap, left bank at Lane Cr. bridge	113.6 T2 L.B.	481.04
R&M Rebar & Alcap, left bank mouth Lane Cr.	113.6 T1 L.B.	473.21
R&M Rebar & Alcap, right bank mouth of Lane Cr.	113.6 T1 R.B.	474.31
R&M Rebar & Alcap, left bank, trib. at RM 110.1	110.1 T1 L.B.	445.89
R&M Rebar & Alcap, right bank, trib. at RM 110.1	110.1 T1 R.B.	446.14
R&M Rebar & Alcap, left bank, head Whiskers Sl.	101.6 H4 L.B.	374.24
R&M Rebar & Alcap, right bank, head Whiskers Sl.	101.6 H4 R.B.	372.72
R&M Rebar & Alcap, left bank, backwater Whiskers Sl.	101.4 S3 L.B.	370.38
R&M Rebar & Alcap, right bank, backwater Whiskers Sl.	101.4 S3 R.B.	370.85
R&M Rebar & Alcap, left bank, mouth Whiskers Cr.	101.3 T2 L.B.	368.17
R&M Rebar & Alcap, right bank, mouth Whiskers Cr.	101.3 T2 R.B.	369.37
R&M Rebar & Alcap, right bank, mouth Whiskers Sl.	101.2 W1 R.B.	370.07
R&M Rebar & Alcap, left bank, mouth Whiskers Sl.	101.2 W1 L.B.	370.43
ADF&G Rebar, left bank, near staff gages 101.2 M4	101.2	370.74
TBM RR Spike in 6" birch, left bank Susitna R.	96.8	339.27
TBM RR Spike in 10" birch, left bank Susitna R.	96.6	338.44
TBM RR Spike in root of 12" Spruce, left bank	96.2	340.17
TBM RR Spike in 10" birch, left bank Susitna R.	95.7	331.65
TBM RR Spike in 8" birch, left bank Susitna R.	95.4	334.94
TBM RR Spike in opposite Mile Post 225, between rails in a railroad tie.	95.2	335.19

R&M CONSULTANTS  
 TEMPORARY BENCHMARKS  
 FOR 1982 SLOUGH SURVEYS  
 (Continued)

<u>Description/Location</u>	<u>River Mile I.D.</u>	<u>Elevation</u>
TBM RR Spike, west end of railroad tie	94.9	334.13
TBM RR Spike, west end of railroad tie	94.6	343.94
TBM RR Spike, west end of railroad tie	94.3	355.94
R&M Rebar & Alcap, left bank, head of Birch Cr.	93.1 H4 L.B.	315.47
R&M Rebar & Alcap, right bank, head of Birch Cr.	93.1 H4 R.B.	313.96
R&M Rebar & Alcap, right bank, Birch Cr. Slough	89.3 S1 R.B.	287.44
R&M Rebar & Alcap, left bank, Birch Cr. Slough	89.3 S1 L.B.	387.79
R&M Rebar & Alcap, right bank, Birch Cr.	89.3 T2 R.B.	290.97
R&M Rebar & Alcap, left bank, Birch Cr.	89.3 T2 L.B.	290.68
R&M Rebar & Alcap, right bank, Birch Cr.	89.3 T3 R.B.	287.25
R&M Rebar & Alcap, left bank, Birch Cr.	89.3 T3 L.B.	286.90
R&M Rebar & Alcap, left bank, head Sunshine Sl.	86.8 H3 L.B.	284.77
R&M Rebar & Alcap, right bank, head of Sunshine Sl.	86.8 H3 R.B.	285.02
R&M Rebar & Alcap, right bank, Sunshine Cr., backwater	86.1 T2 R.B.	267.97
R&M Rebar & Alcap, left bank, Sunshine Cr., backwater	86.1 T2 L.B.	268.82
R&M Rebar & Alcap, right bank, mouth Sunshine Cr.	85.7 T1 R.B.	268.33
R&M Rebar & Alcap, left bank, mouth Sunshine Cr.	85.7 T1 L.B.	267.44
R&M Rebar & Alcap, right bank, mouth Rabideaux Cr.	83.3 T1 L.B.	263.08
R&M Rebar & Alcap, right bank, mouth Rabideaux Cr.	83.3 T1 R.B.	262.97
R&M Rebar & Alcap, right bank, mouth Whitefish Sl.	78.9 W1 R.B.	241.74

R&M CONSULTANTS  
 TEMPORARY BENCHMARKS  
 FOR 1982 SLOUGH SURVEYS  
 (Continued)

<u>Description/Location</u>	<u>RiverMileI.D.</u>	<u>Elevation</u>
R&M Rebar & Alcap, left bank, mouth Whitefish Sl.	78.9 W1 L.B.	242.42
R&M Rebar & Alcap, left bank, head Goose Sl.	75.0 H5 L.B.	222.06
R&M Rebar & Alcap, right bank, head Goose Sl.	75.0 H5 R.B.	221.38
R&M Rebar & Alcap, left bank, x-sec. in Goose Sl.	73.2 S2 L.B.	212.76
R&M Rebar & Alcap, right bank, x-sec. in Goose Sl.	73.2 S2 R.B.	213.03
R&M Rebar & Alcap, left bank, mouth Goose Sl.	73.1 W1 L.B.	212.96
R&M Rebar & Alcap, right bank, mouth Goose Sl.	73.1 W1 R.B.	212.18
R&M Rebar & Alcap, right bank, Goose Cr.	73.1 T3 R.B.	215.71
R&M Rebar & Alcap, left bank, Goose Cr.	73.1 T3 L.B.	213.06
R&M Rebar & Alcap, right bank, Goose Cr.	73.0 T4 R.B.	215.17
R&M Rebar & Alcap, left bank, Goose Cr.	73.0 T4 L.B.	213.59

ATTACHMENT B

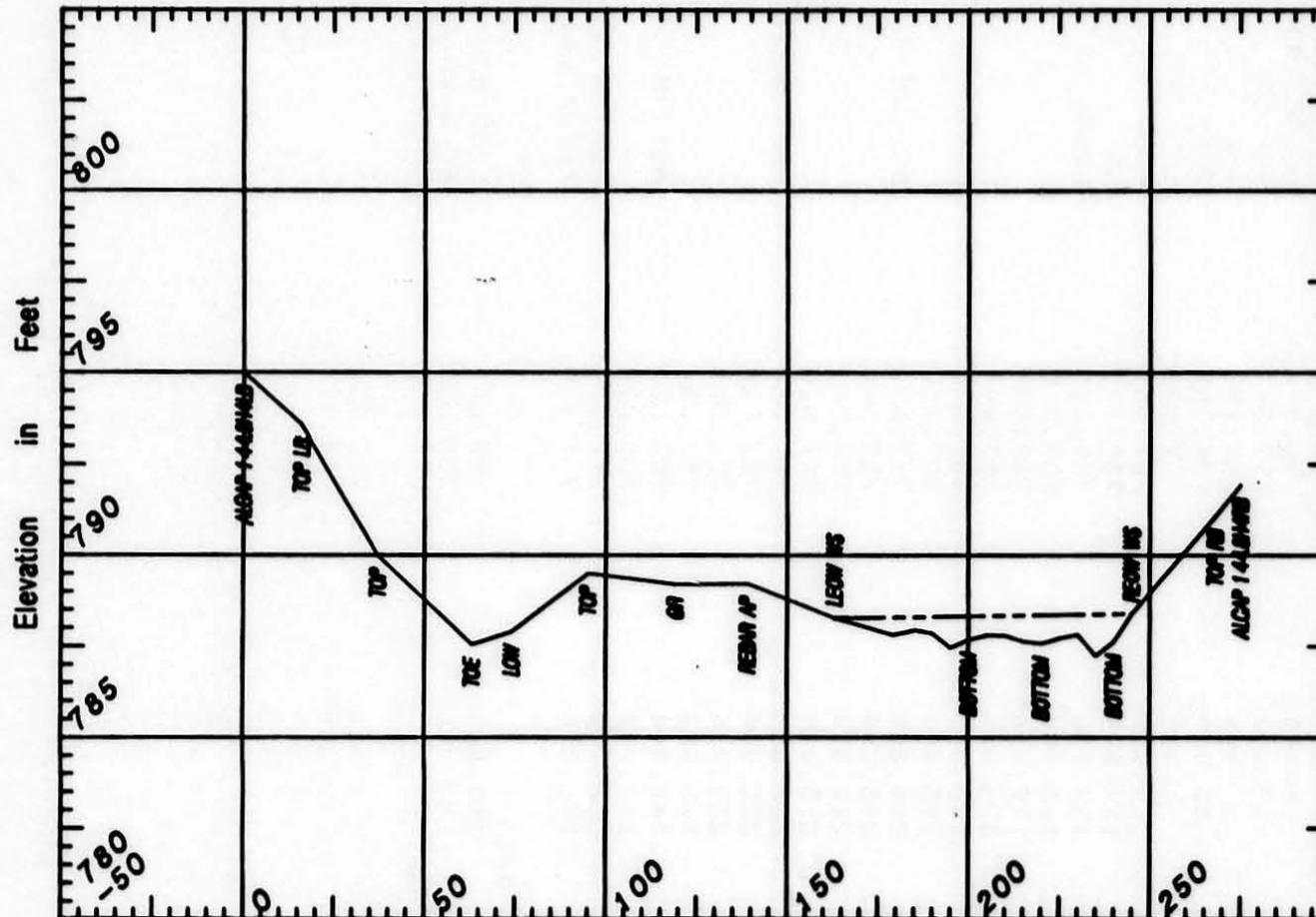
1982 Slough Cross Section Notes  
and Graphical Plots

SUSITNA HYDROGRAPHIC SURVEYS  
cross section SL22 144.8H4

Date of Survey: JULY 10, 1982

POINT	'X'	'Y'	DESCRIPTION
Cross section data:			
1	0.000	794.990	ALCAP 144.8H4LB
2	16.000	793.560	TOP LB
3	37.000	789.990	TOP
4	63.000	787.540	TOE
5	74.000	787.900	LOW
6	95.000	789.500	TOP
7	119.000	789.190	GR
8	139.000	789.210	REBAR AP
9	163.000	788.260	
10	179.000	787.800	
11	185.000	787.940	
12	190.000	787.840	
13	195.000	787.450	
14	200.000	787.680	BOTTOM
15	205.000	787.800	
16	210.000	787.780	
17	215.000	787.620	
18	220.000	787.560	BOTTOM
19	225.000	787.720	
20	230.000	787.820	
21	235.000	787.230	
22	240.000	787.630	BOTTOM
23	245.000	788.390	
24	268.000	791.070	TOP RB
25	275.000	791.930	ALCAP 144.8H4RB
Water surface data:			
1	163.000	788.260	LEOW WS
2	245.000	788.390	REOW WS
MIN	0.000	787.230	
MAX	275.000	794.990	

# SUSITNA HYDROGRAPHIC SURVEYS



2-51

PREPARED BY:



PREPARED FOR:

cross section SL22 1 44.8H4  
Date of Survey: JULY 10, 1982

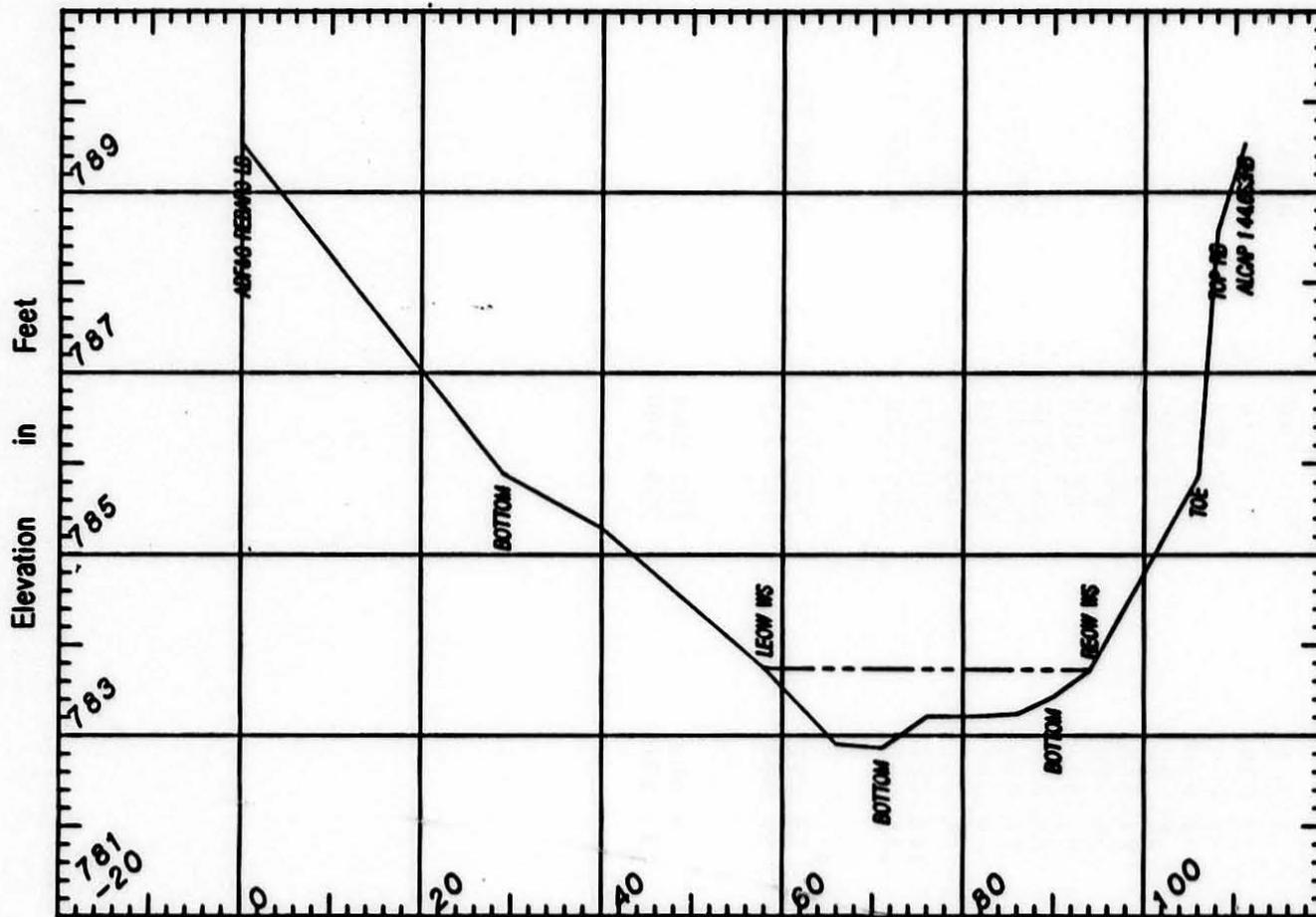


SUSITNA HYDROGRAPHIC SURVEYS  
 cross section SL22 144.653

Date of Survey: JULY 10, 1982

POINT	'X'	'Y'	DESCRIPTION
Cross section data:			
1	0.000	789.540	ADF&G REBAR3 LB
2	29.000	785.890	BOTTOM
3	40.000	785.290	
4	58.000	783.740	
5	66.000	782.900	
6	71.000	782.860	BOTTOM
7	76.000	783.210	
8	81.000	783.210	
9	86.000	783.240	
10	90.000	783.430	BOTTOM
11	94.000	783.720	
12	106.000	785.880	TOE
13	108.000	788.570	TOP RB
14	111.000	789.540	ALCAP 144.653RB
Water surface data:			
1	58.000	783.740	LEOW WS
2	94.000	783.720	REGW WS
MIN	0.000	782.860	
MAX	111.000	789.540	

# SUSITNA HYDROGRAPHIC SURVEYS



PREPARED BY:



cross section SL22 1 44.6S3  
Date of Survey: JULY 10, 1982

PREPARED FOR:

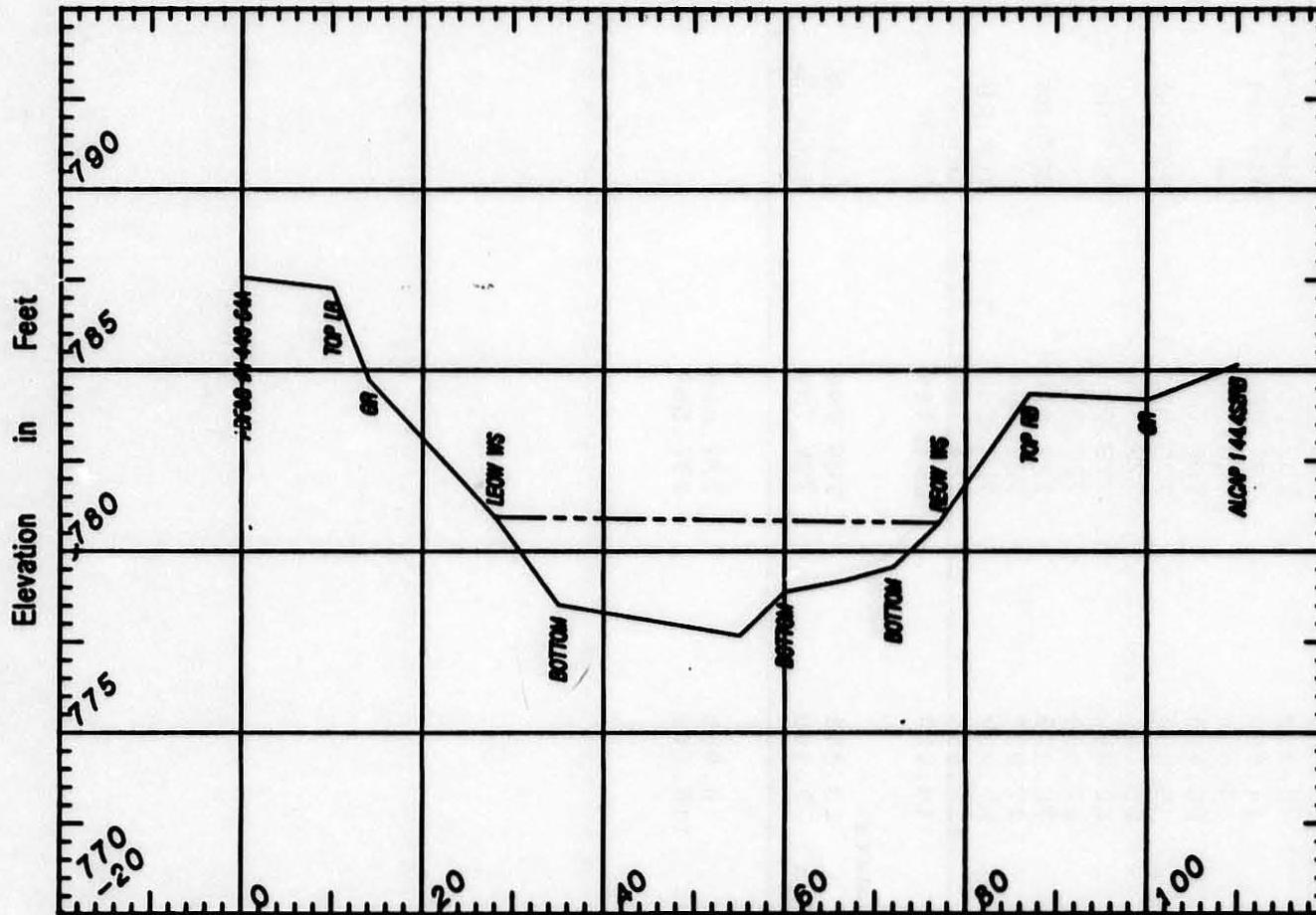


SUSITNA HYDROGRAPHIC SURVEYS  
 cross section SL22 144.452

Date of Survey: JULY 10, 1982

POINT	'X'	'Y'	DESCRIPTION
Cross section data:			
1	0.000	787.560	ADF&G #1443 S4A
2	10.000	787.250	TOP LB
3	14.000	784.720	GR
4	28.000	780.940	
5	35.000	778.520	BOTTOM
6	55.000	777.660	
7	60.000	778.890	BOTTOM
8	67.000	779.220	
9	72.000	779.570	BOTTOM
10	77.000	780.780	
11	87.000	784.350	TOP RB
12	100.000	784.190	GR
13	110.000	785.160	ALCAP 144.452RB
Water surface data:			
1	28.000	780.940	LEOW WS
2	77.000	780.780	REOW WS
MIN	0.000	777.660	
MAX	110.000	787.560	

# SUSITNA HYDROGRAPHIC SURVEYS



B-6

PREPARED BY:

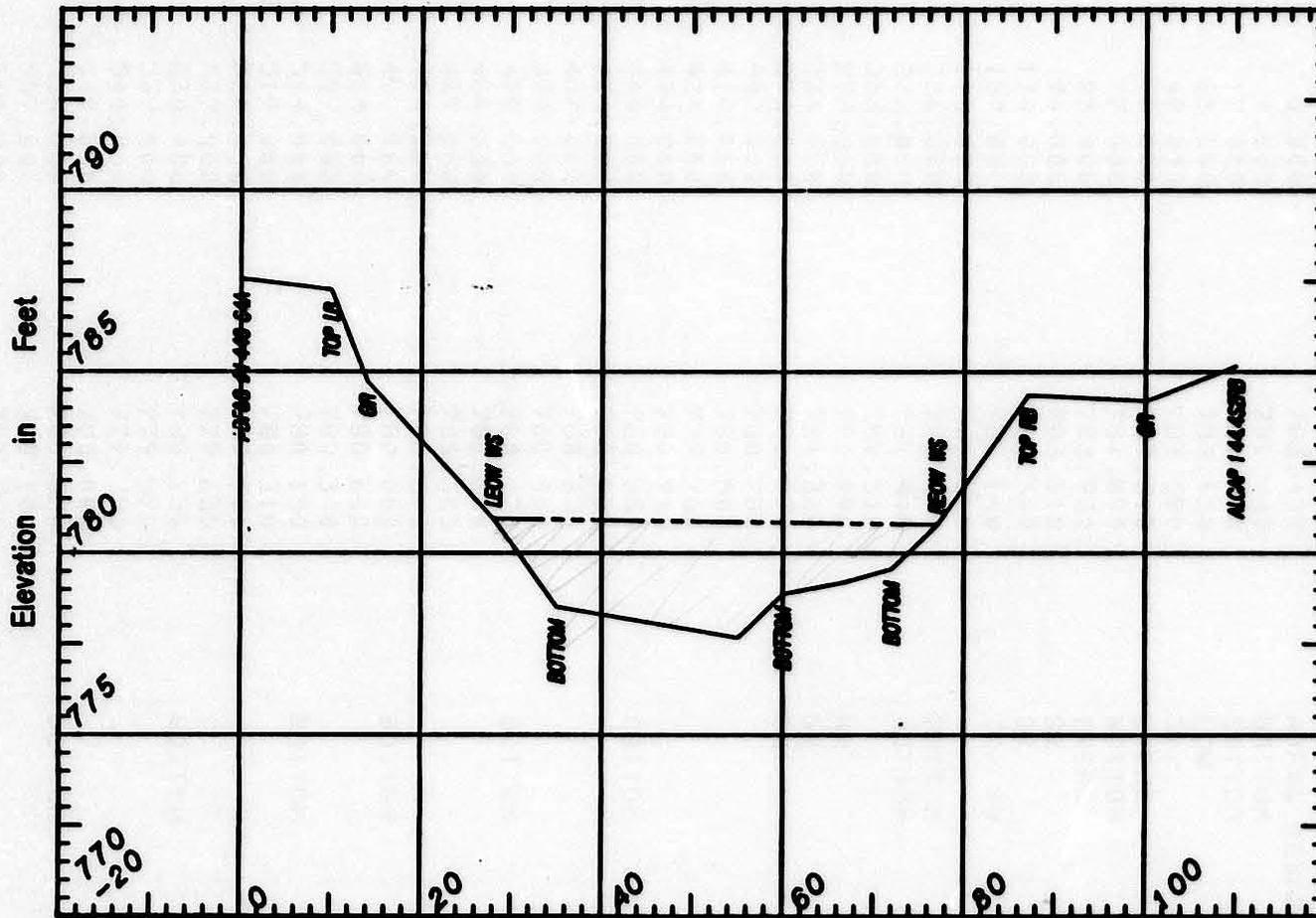


PREPARED FOR:

cross section SL22 144.4S2  
Date of Survey: JULY 10, 1982



# SUSITNA HYDROGRAPHIC SURVEYS



PREPARED BY:



cross section SL22 1 44.4S2  
Date of Survey: JULY 10, 1982

PREPARED FOR:

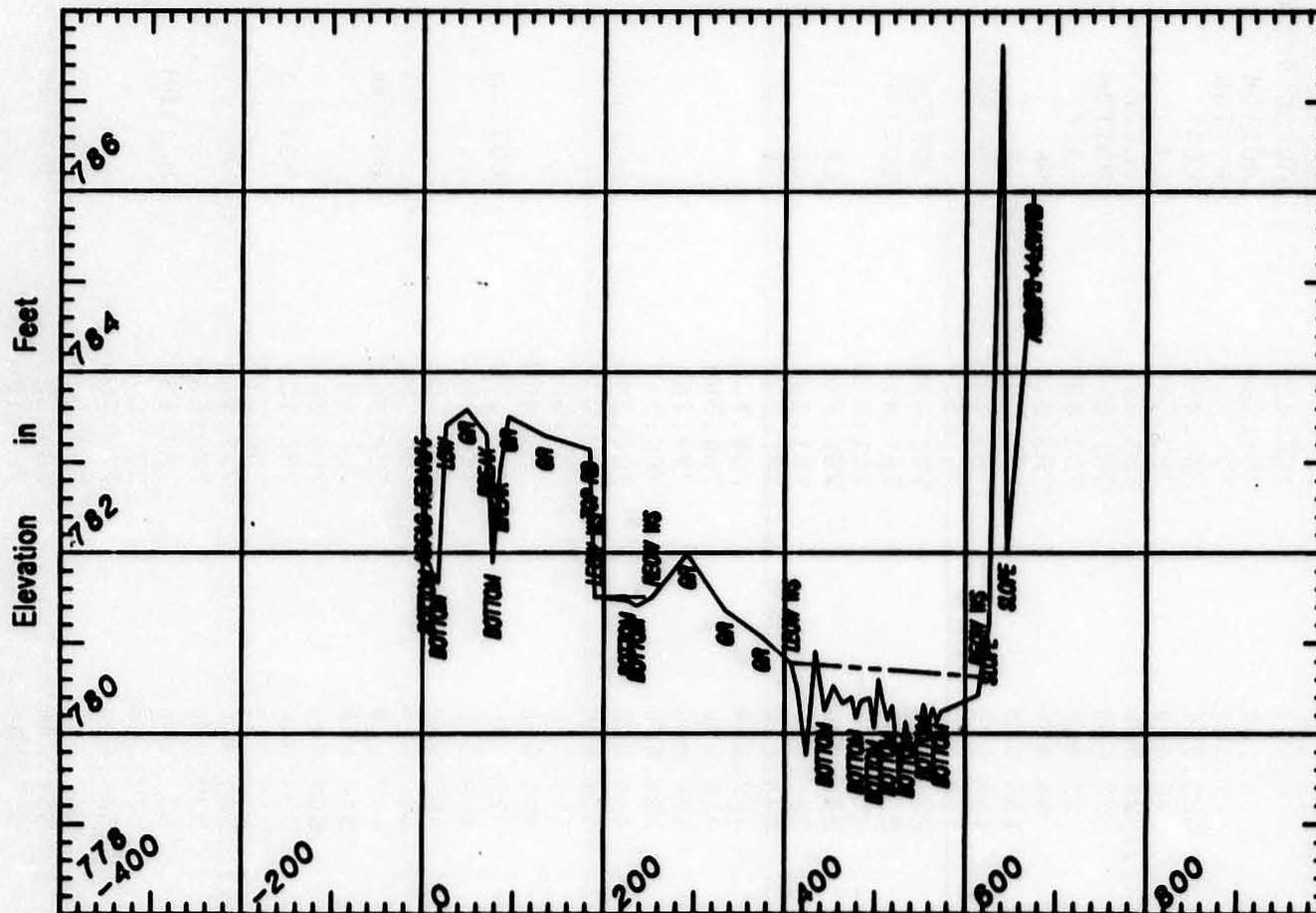


SUSITNA HYDROGRAPHIC SURVEYS  
 cross section SL22 144.2W1

Date of Survey: JULY 10, 1982

POINT	'X'	'Y'	DESCRIPTION
Cross section data:			
1	0.000	783.420	ADF&G REBAR#5
2	4.000	781.940	BOTTOM
3	17.000	781.670	BOTTOM
4	25.000	783.420	LOW
5	48.000	783.590	GR
6	70.000	783.310	BREAK
7	77.000	781.890	BOTTOM
8	85.000	782.930	BREAK
9	94.000	783.510	GR
10	134.000	783.300	GR
11	184.000	783.140	TOP RB
12	190.000	781.510	
13	226.000	781.470	BOTTOM
14	236.000	781.410	BOTTOM
15	253.000	781.510	
16	292.000	781.990	GR
17	334.000	781.360	GR
18	374.000	781.070	GR
19	407.000	780.780	
20	414.000	780.500	
21	424.000	779.760	
22	434.000	780.910	
23	444.000	780.250	BOTTOM
24	454.000	780.530	
25	464.000	780.330	
26	474.000	780.400	
27	479.000	780.170	BOTTOM
28	484.000	780.350	
29	489.000	780.380	
30	494.000	780.390	
31	499.000	780.060	BOTTOM
32	504.000	780.600	
33	509.000	780.340	
34	514.000	780.150	BOTTOM
35	519.000	780.310	
36	524.000	779.900	
37	529.000	779.630	
38	534.000	780.130	BOTTOM
39	539.000	779.890	
40	544.000	779.750	
41	549.000	780.000	
42	554.000	780.320	BOTTOM
43	559.000	780.100	
44	564.000	780.280	
45	569.000	780.130	
46	573.000	780.240	BOTTOM
47	614.000	780.430	
48	626.000	781.200	SLOPE
49	639.000	787.630	
50	646.000	782.020	SLOPE
51	673.000	785.150	SLOPE
52	674.000	786.000	ALCAP 144.2W1RB

# SUSITNA HYDROGRAPHIC SURVEYS



B-8

PREPARED BY:

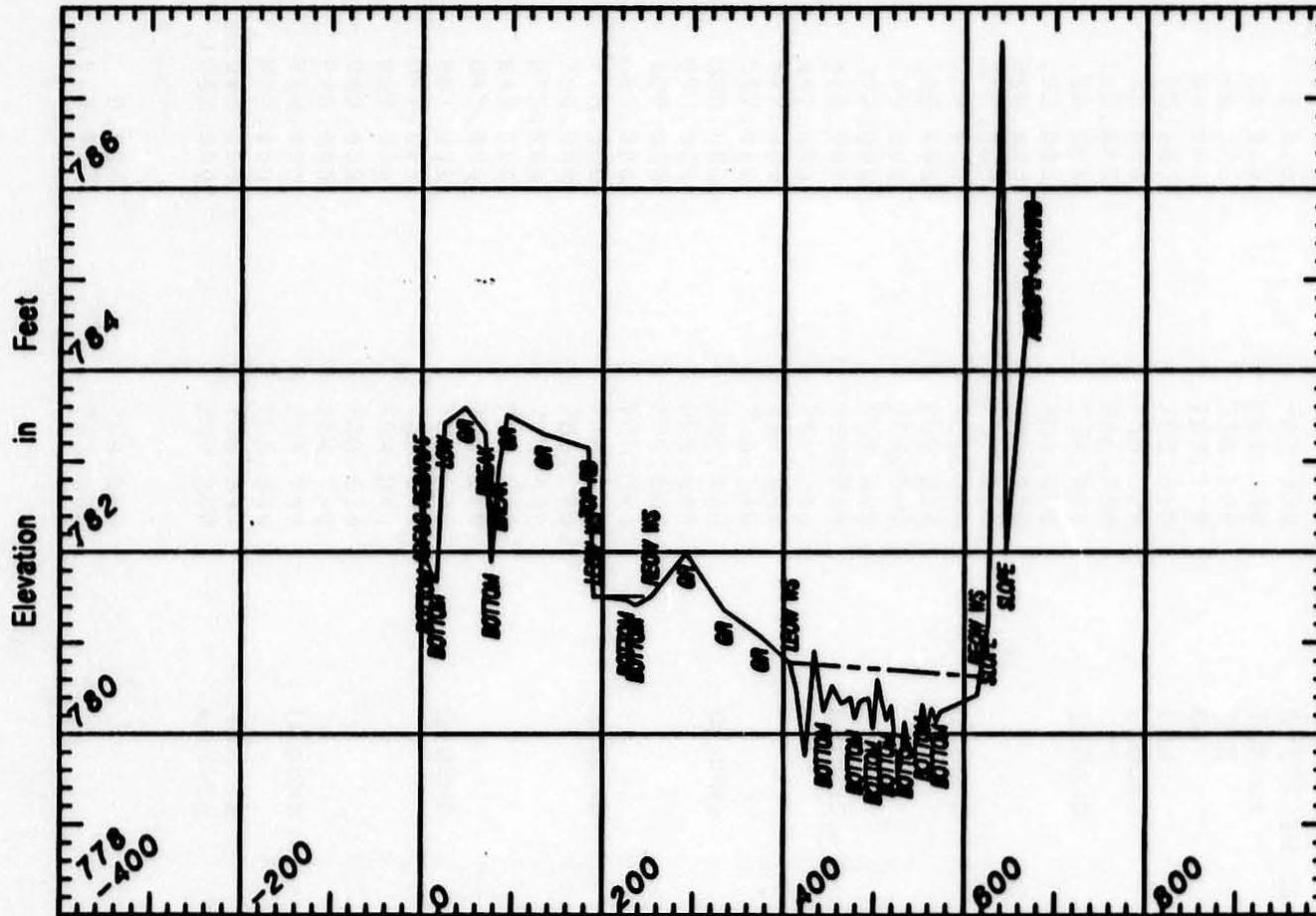
PREPARED FOR:



cross section SL22 1 44.2W1  
Date of Survey: JULY 10, 1982



# SUSITNA HYDROGRAPHIC SURVEYS



P-9

PREPARED BY:



cross section SL22 1 44.2W1  
Date of Survey: JULY 10, 1982

PREPARED FOR:

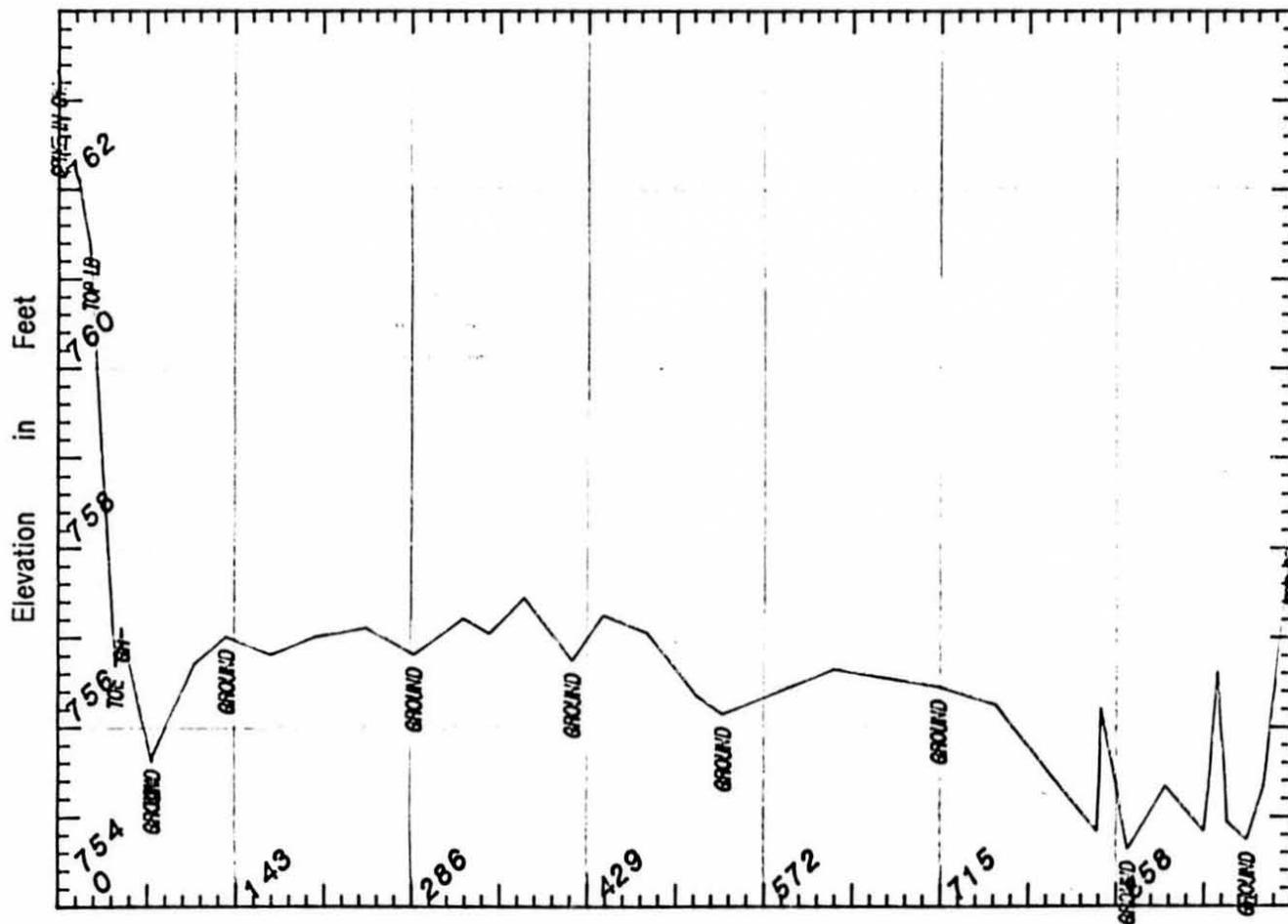


SUSITNA HYDROGRAPHIC SURVEYS  
cross section SL21 142.0H9

Date of Survey: JULY 11, 1982

POINT	'X'	'Y'	DESCRIPTION
Cross section data:			
1	0.000	763.330	SPIKE IN CW
2	26.000	761.380	TOP LB
3	46.000	756.680	TOE
4	51.000	757.110	GR
5	75.000	755.610	LOW
6	75.000	755.670	GROUND
7	110.000	756.710	
8	136.000	757.010	GROUND
9	172.000	756.810	
10	208.000	757.010	
11	249.000	757.110	
12	288.000	756.810	GROUND
13	328.000	757.210	
14	349.000	757.040	
15	377.000	757.440	
16	416.000	756.740	GROUND
17	441.000	757.240	
18	477.000	757.040	
19	517.000	756.340	
20	538.000	756.140	GROUND
21	592.000	756.440	
22	628.000	756.640	
23	669.000	756.540	
24	713.000	756.440	GROUND
25	760.000	756.240	
26	805.000	755.440	
27	842.000	754.840	
28	845.000	756.210	
29	867.000	754.640	GROUND
30	897.000	755.340	
31	929.000	754.840	
32	940.000	756.610	
33	948.000	754.940	
34	964.000	754.740	GROUND
35	977.000	755.340	
36	1003.000	758.340	TOP RB
37	1003.000	759.260	LRX-56
MIN	0.000	754.640	
MAX	1003.000	763.330	

# SUSITNA HYDROGRAPHIC SURVEYS



PREPARED BY:

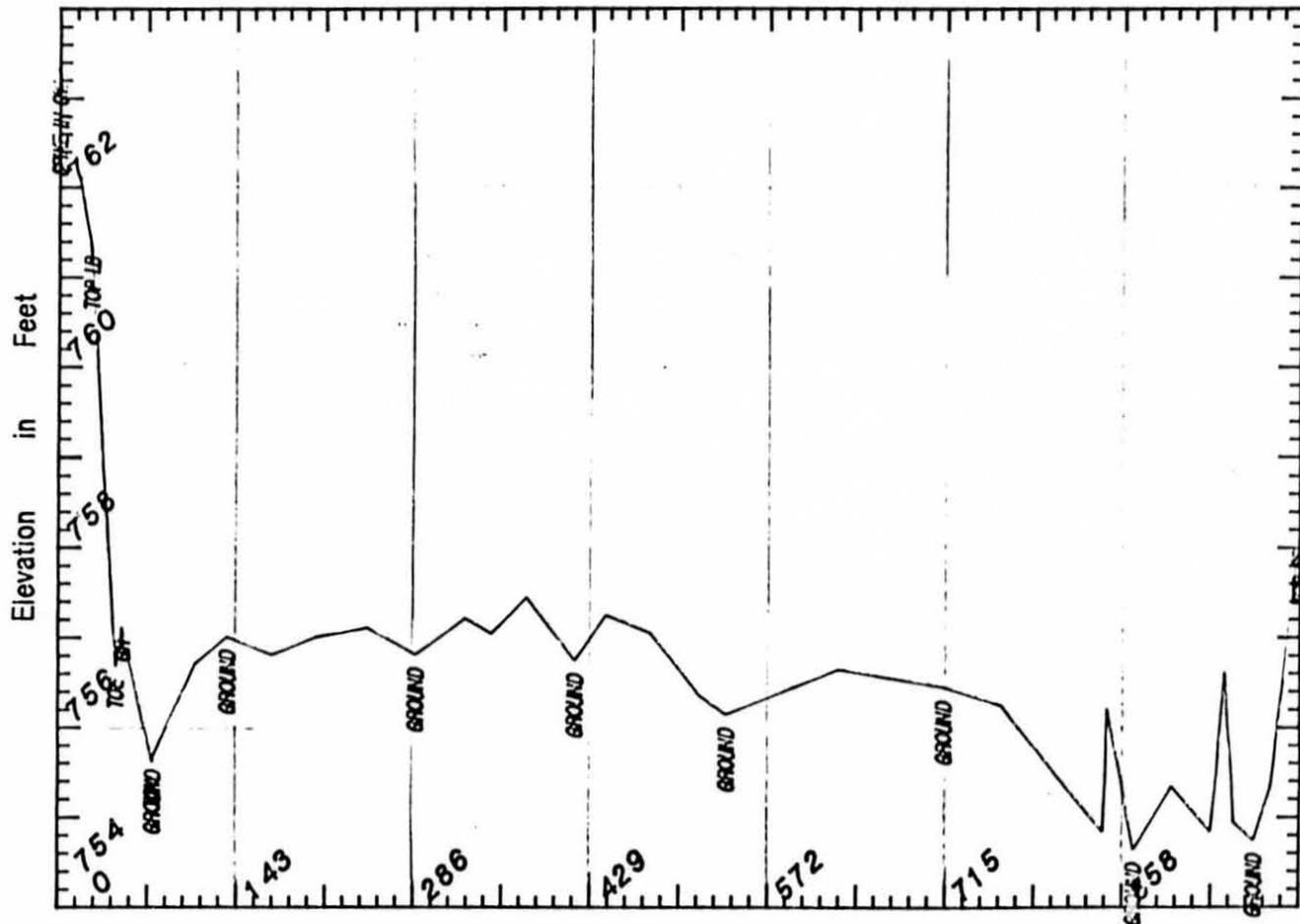


cross section SL21 1 42.0H9  
Date of Survey: JULY 11, 1982

PREPARED FOR:



# SUSITNA HYDROGRAPHIC SURVEYS



PREPARED BY:



cross section SL21 1 42.0H9  
Date of Survey: JULY 11, 1982

PREPARED FOR:

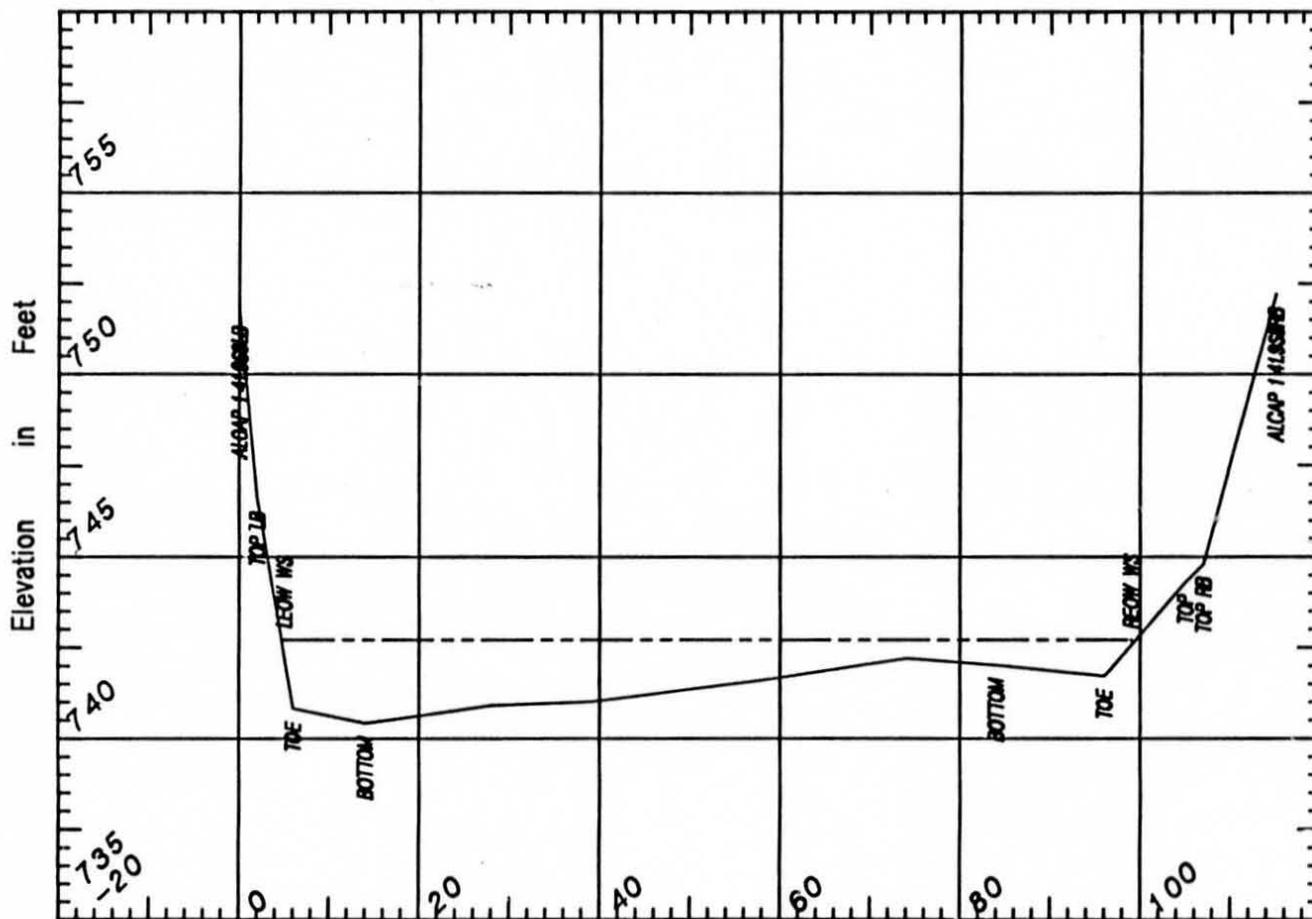


SUSITNA HYDROGRAPHIC SURVEYS  
 cross section SL21 141.958

Date of Survey: JULY 11, 1982

POINT	'X'	'Y'	DESCRIPTION
Cross section data:			
1	0.000	751.690	ALCAP 141.958LB
2	2.000	746.610	TOP LB
3	6.000	740.810	TOE
4	14.000	740.410	BOTTOM
5	28.000	740.910	
6	39.000	741.010	
7	58.000	741.610	
8	74.000	742.210	
9	84.000	742.010	BOTTOM
10	96.000	741.710	TOE
11	105.000	744.310	TOP
12	107.000	744.810	TOP RB
13	115.000	752.210	ALCAP 141.958RB
Water surface data:			
1	5.000	742.700	LEOW WS
2	99.000	742.700	REGW WS
MIN	0.000	740.410	
MAX	115.000	752.210	

# SUSITNA HYDROGRAPHIC SURVEYS



PREPARED BY:

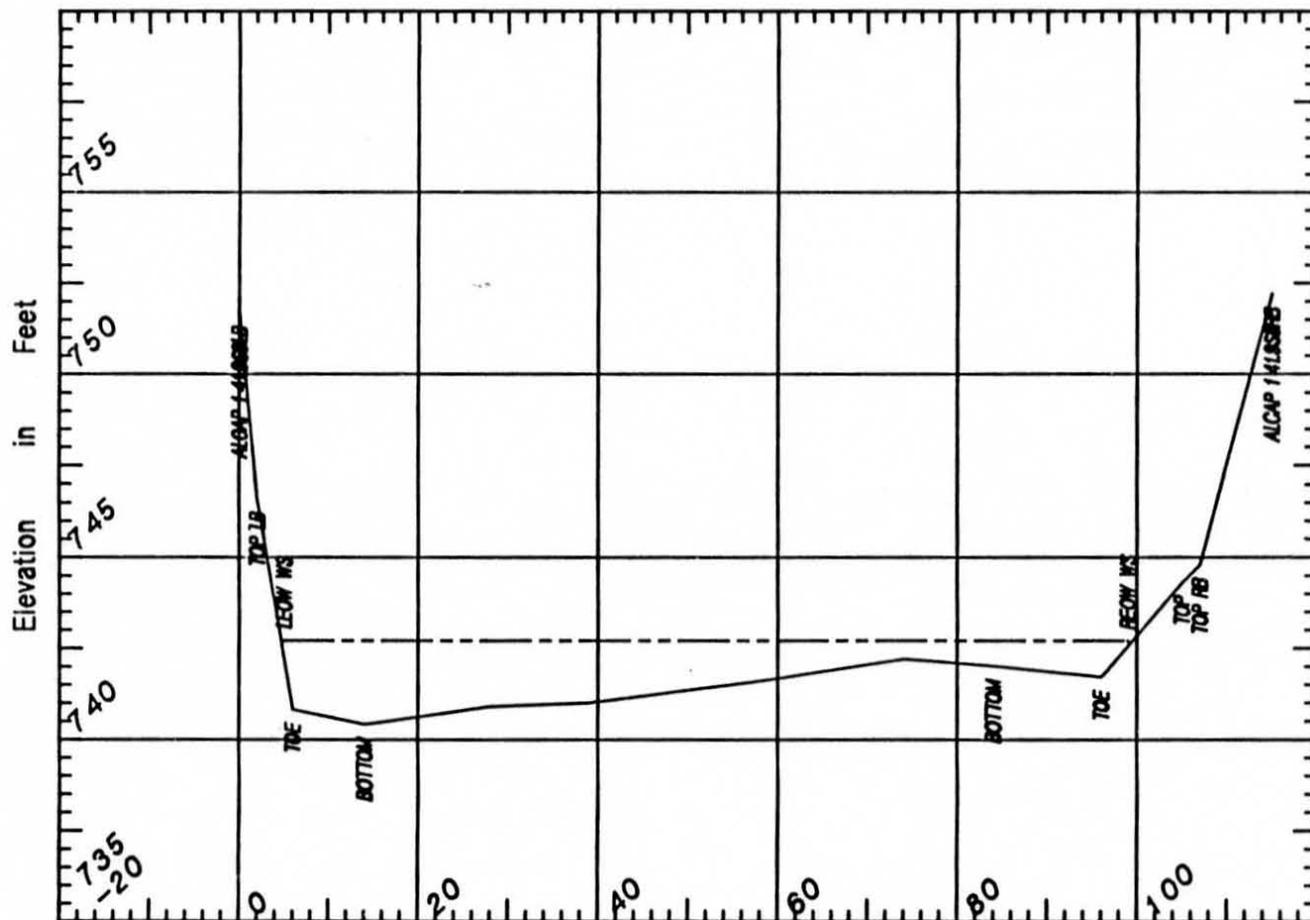


cross section SL21 1 41.9S8  
Date of Survey: JULY 11, 1982

PREPARED FOR:



# SUSITNA HYDROGRAPHIC SURVEYS



PREPARED BY:

PREPARED FOR:



cross section SL21 1 41.9S8  
Date of Survey: JULY 11, 1982

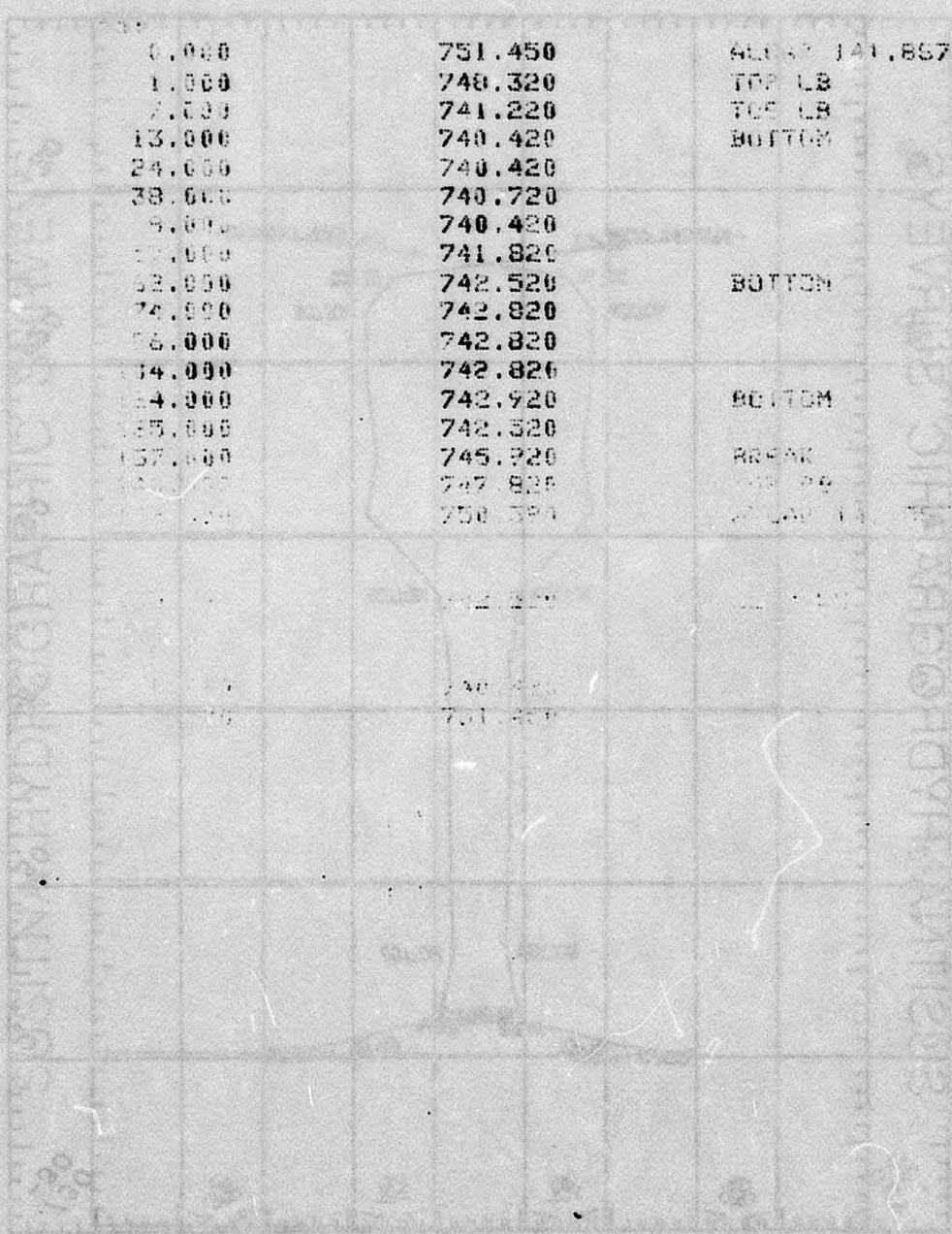


R-17

POSITIVE HYDROGRAPHIC SURVEY  
 CROSS SECTION 021 141.857

Date of Survey: JULY 11, 1982

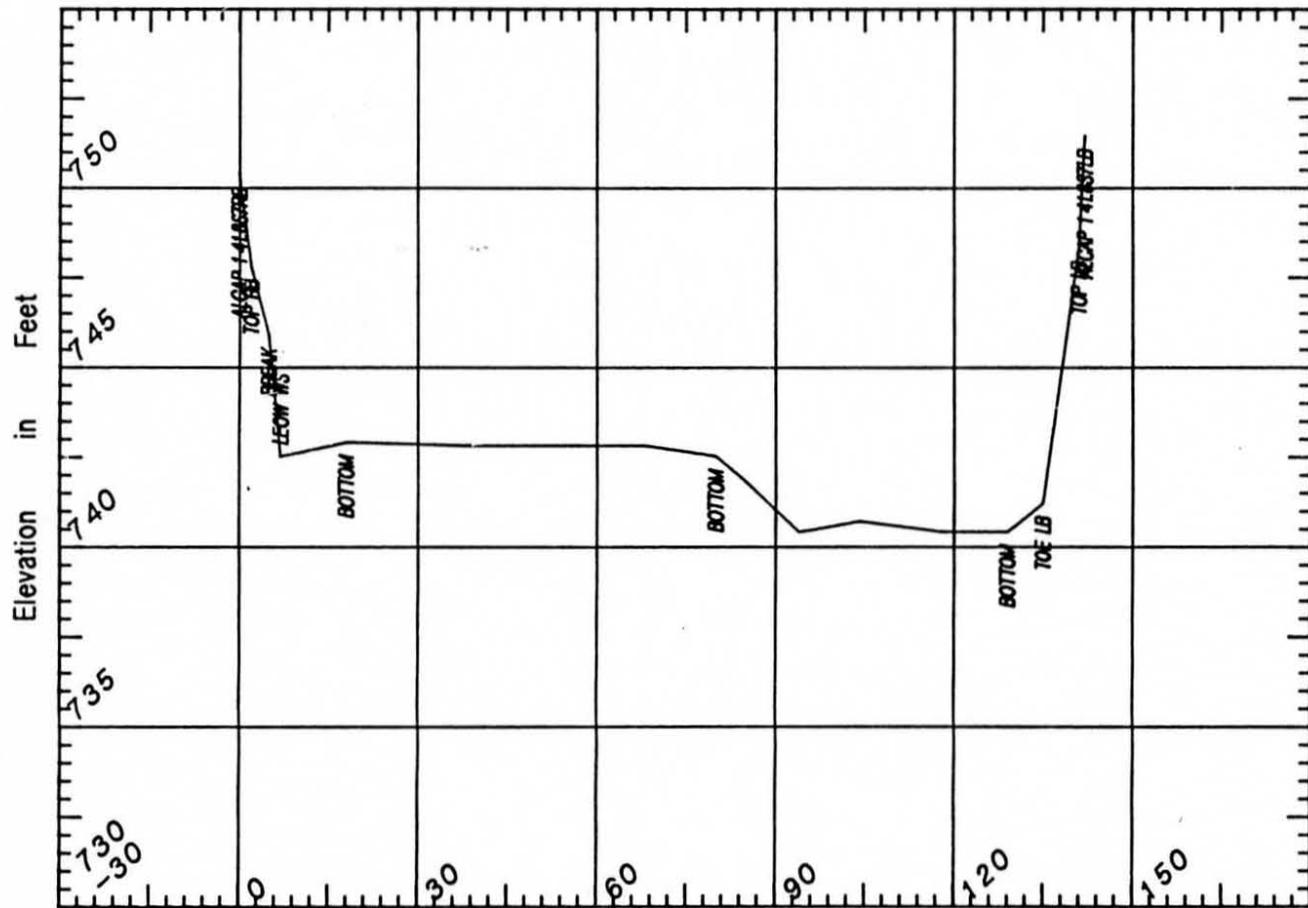
X'	Y'	DESCRIPTION
0.000	751.450	ALERT 141.857LB
1.000	748.320	TOP LB
2.000	741.220	TOP LB
13.000	740.420	BOTTOM
24.000	740.420	
38.000	740.720	
5.000	740.420	
17.000	741.820	
32.000	742.520	BOTTOM
74.000	742.820	
56.000	742.820	
104.000	742.820	BOTTOM
124.000	742.920	
125.000	742.320	
137.000	745.220	RRFAR
141.000	747.820	TOP LB
142.000	750.320	ALERT 141.857LB



Date of Survey: JULY 11, 1982  
 Cross Section 021 141.857

Date of Survey: JULY 11, 1982  
 Cross Section 021 141.857

# SUSITNA HYDROGRAPHIC SURVEYS



PREPARED BY:

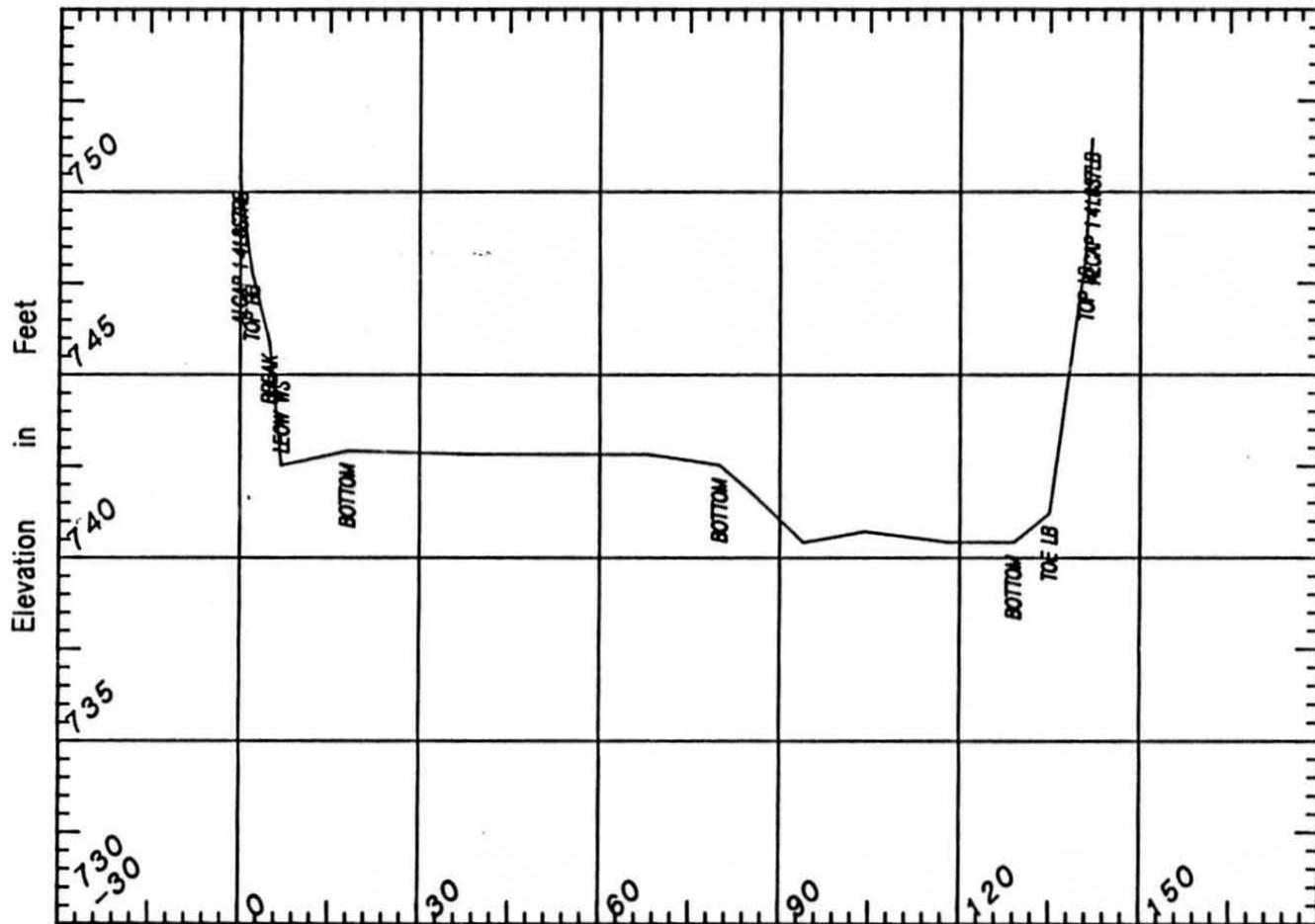
PREPARED FOR:



cross section SL21 1 41.8S7  
Date of Survey: JULY 11, 1982



# SUSITNA HYDROGRAPHIC SURVEYS



PREPARED BY:



PREPARED FOR:

cross section SL21 1 41.8S7  
Date of Survey: JULY 11, 1982

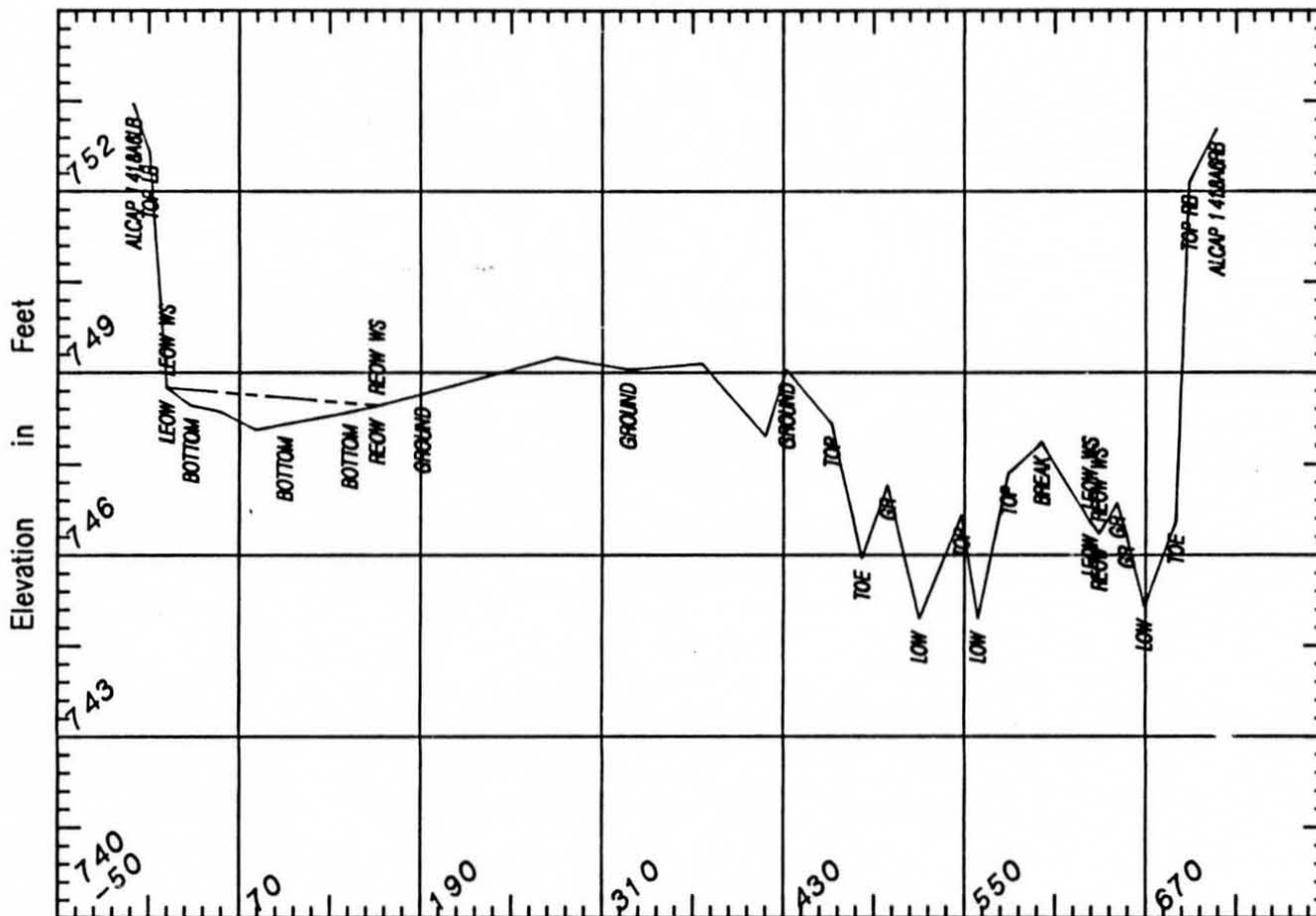


SUSITNA HYDROGRAPHIC SURVEYS  
cross section SL21 141.8A6

Date of Survey: JULY 11, 1982

POINT	'X'	'Y'	DESCRIPTION
Cross section data:			
1	0.000	753.450	ALCAP 141.8A6LB
2	11.000	752.650	TOP LB
3	22.000	748.750	LEOW
4	38.000	748.450	BOTTOM
5	57.000	748.350	
6	81.000	748.050	
7	100.000	748.150	BOTTOM
8	122.000	748.250	
9	143.000	748.350	BOTTOM
10	161.000	748.450	REOW
11	191.000	748.650	GROUND
12	235.000	748.950	
13	279.000	749.250	
14	327.000	749.050	GROUND
15	376.000	749.150	
16	418.000	747.950	
17	432.000	749.050	GROUND
18	462.000	748.150	TOP
19	482.000	745.950	TOE
20	499.000	747.150	GR
21	520.000	744.950	LOW
22	548.000	746.650	TOP
23	559.000	744.950	LOW
24	579.000	747.350	TOP
25	601.000	747.850	BREAK
26	633.000	746.550	LEOW
27	639.000	746.350	REOW
28	651.000	746.850	GR
29	657.000	746.350	GR
30	669.000	745.150	LOW
31	690.000	746.550	TOE
32	699.000	752.150	TOP RB
33	717.000	753.040	ALCAP 141.8A6RB
Water surface data:			
1	22.000	748.750	LEOW WS
2	161.000	748.450	REOW WS
			SPLIT
4	633.000	746.550	LEOW WS
5	639.000	746.350	REOW WS
MIN	0.000	744.950	
MAX	717.000	753.450	

# SUSITNA HYDROGRAPHIC SURVEYS



PREPARED BY:

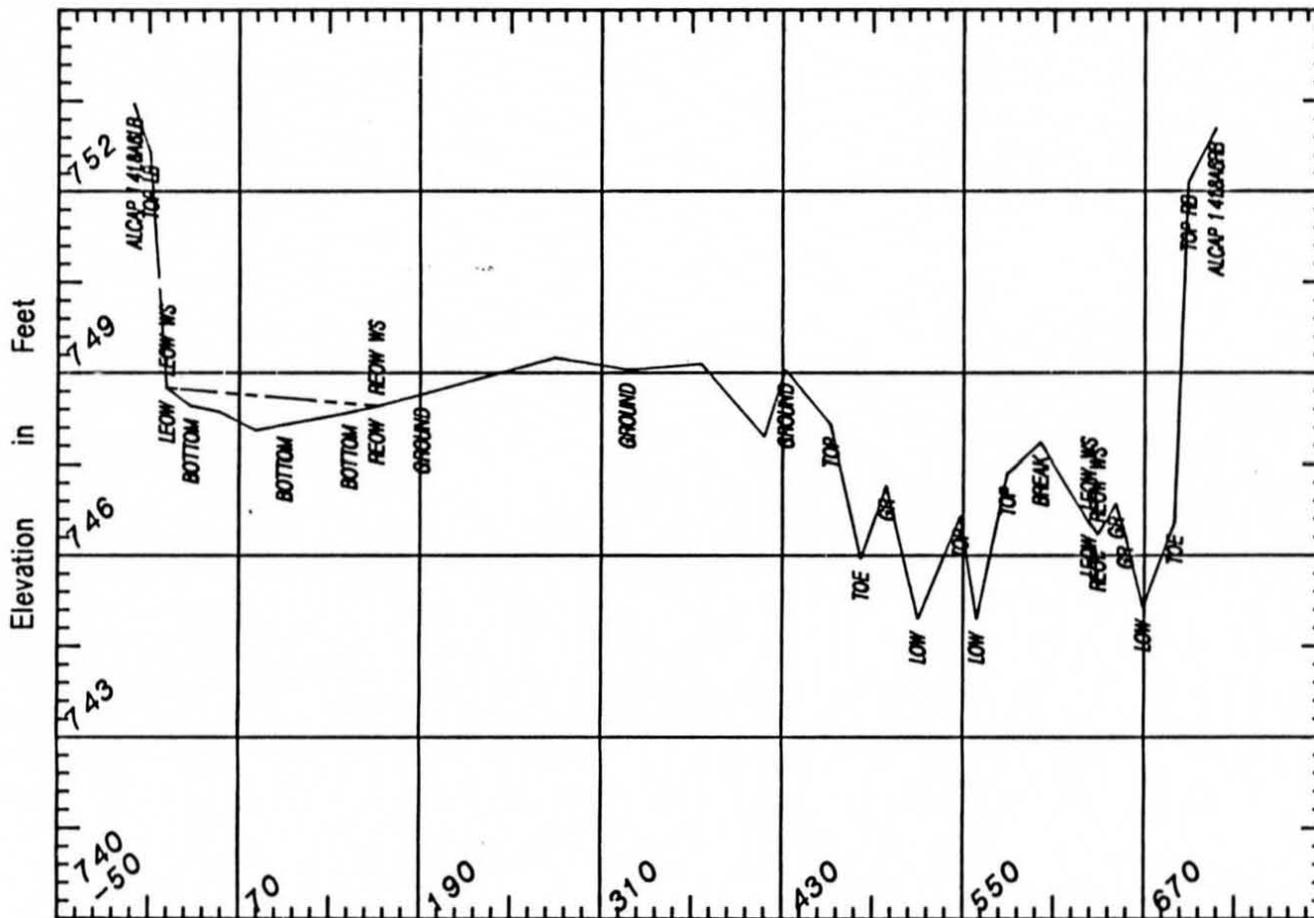
PREPARED FOR:



cross section SL21 1 41.8A6  
Date of Survey: JULY 11, 1982



# SUSITNA HYDROGRAPHIC SURVEYS



PREPARED BY:

PREPARED FOR:



cross section SL21 1 41.8A6  
Date of Survey: JULY 11, 1982



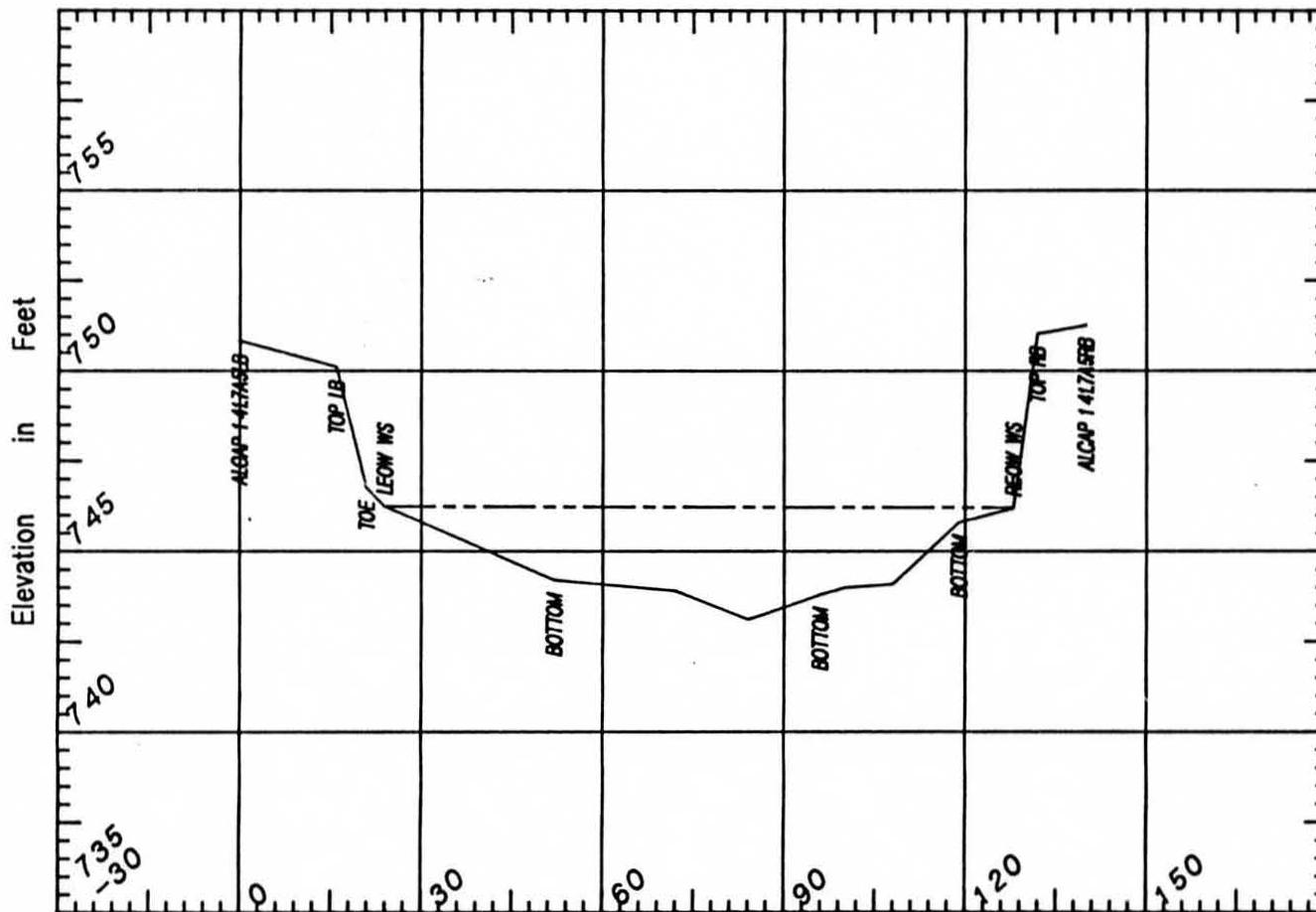
B-16

SUSITNA HYDROGRAPHIC SURVEYS  
 cross section SL21 141.7A5

Date of Survey: JULY 11, 1982

POINT	'X'	'Y'	DESCRIPTION
Cross section data:			
1	0.000	750.810	ALCAP 141.7A5LB
2	16.000	750.100	TOP LB
3	21.000	746.750	TOE
4	24.000	746.230	
5	52.000	744.200	BOTTOM
6	72.000	743.900	
7	84.000	743.100	
8	96.000	743.800	BOTTOM
9	100.000	744.000	
10	108.000	744.100	
11	119.000	745.800	BOTTOM
12	128.000	746.200	
13	132.000	751.030	TOP RB
14	140.000	751.270	ALCAP 141.7A5RB
Water surface data:			
1	24.000	746.230	LEOW WS
2	128.000	746.200	REOW WS
MIN	0.000	743.100	
MAX	140.000	751.270	

# SUSITNA HYDROGRAPHIC SURVEYS



PREPARED BY:

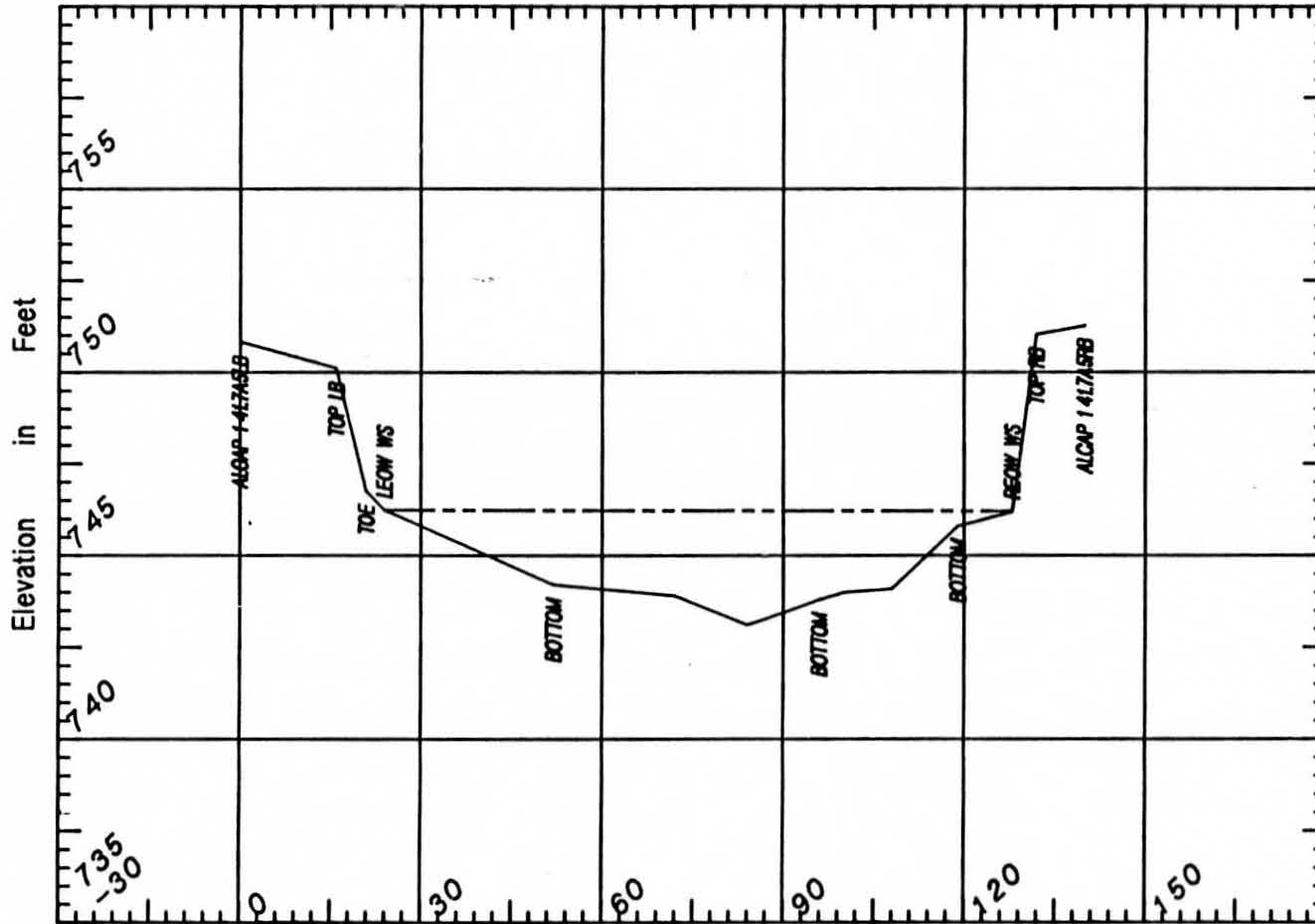
PREPARED FOR:



cross section SL21 1417A5  
Date of Survey: JULY 11, 1982



# SUSITNA HYDROGRAPHIC SURVEYS



PREPARED BY:

PREPARED FOR:



cross section SL21 1 41.7A5  
Date of Survey: JULY 11, 1982

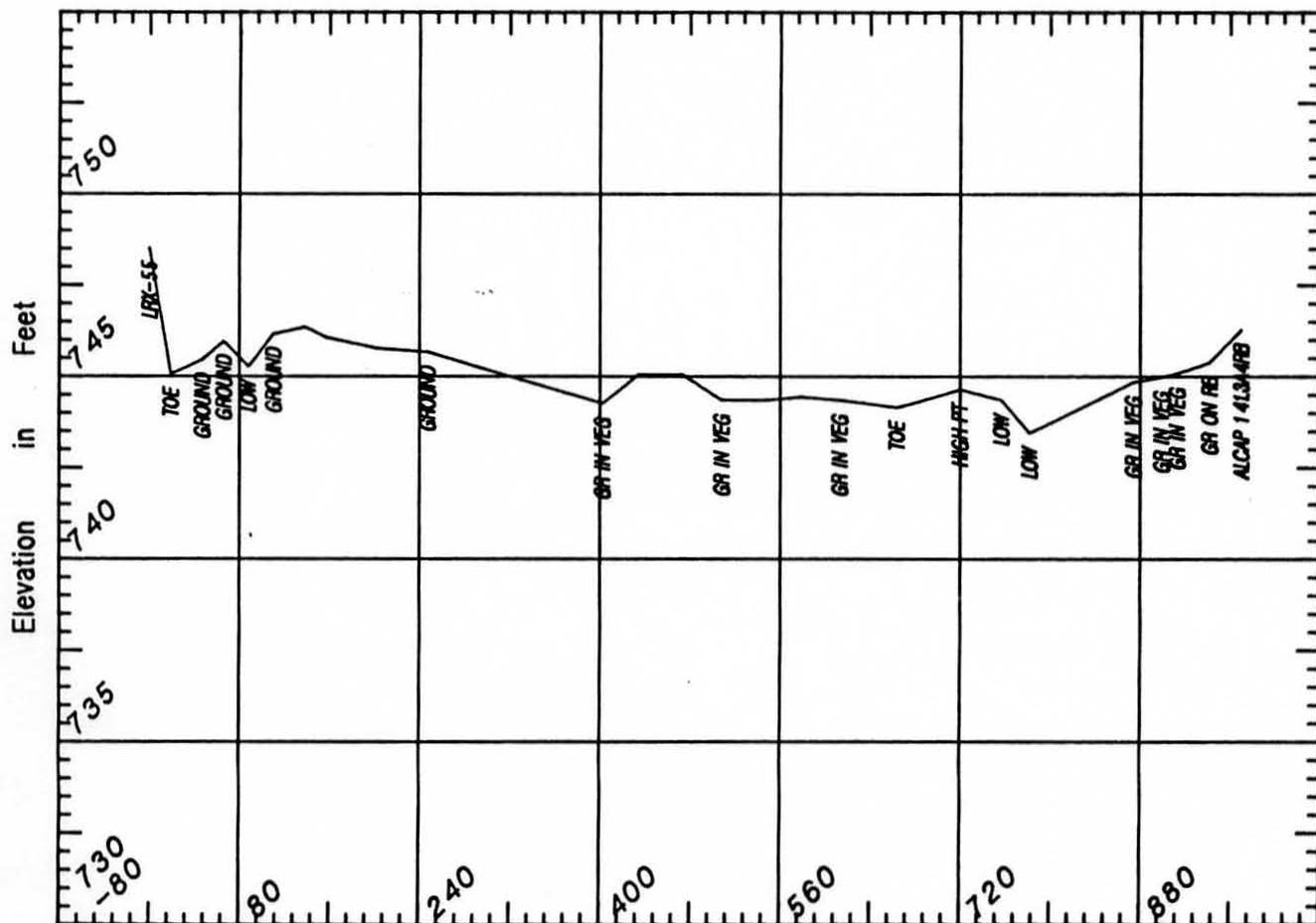


SUSITNA HYDROGRAPHIC SURVEYS  
cross section SL21 141.3A4

Date of Survey: JULY 12, 1982

POINT	'X'	'Y'	DESCRIPTION
Cross section data:			
1	0.000	748.510	LRX-55
2	19.000	745.060	TOE
3	47.000	745.460	GROUND
4	66.000	745.960	GROUND
5	88.000	745.260	LOW
6	110.000	746.160	GROUND
7	138.000	746.360	
8	157.000	746.060	
9	202.000	745.760	
10	247.000	745.660	GROUND
11	290.000	745.260	
12	346.000	744.760	
13	402.000	744.260	GR IN VEG
14	434.000	745.050	
15	473.000	745.050	
16	508.000	744.350	GR IN VEG
17	546.000	744.350	
18	577.000	744.450	
19	613.000	744.350	GR IN VEG
20	664.000	744.150	TOE
21	720.000	744.650	HIGH PT
22	757.000	744.350	LOW
23	782.000	743.450	LOW
24	874.000	744.850	GR IN VEG
25	899.000	744.990	GR IN VEG
26	913.000	745.090	GR IN VEG
27	942.000	745.390	GR ON RB
28	970.000	746.280	ALCAP 141.3A4RB
MIN	0.000	743.450	
MAX	970.000	748.510	

# SUSITNA HYDROGRAPHIC SURVEYS



PREPARED BY:

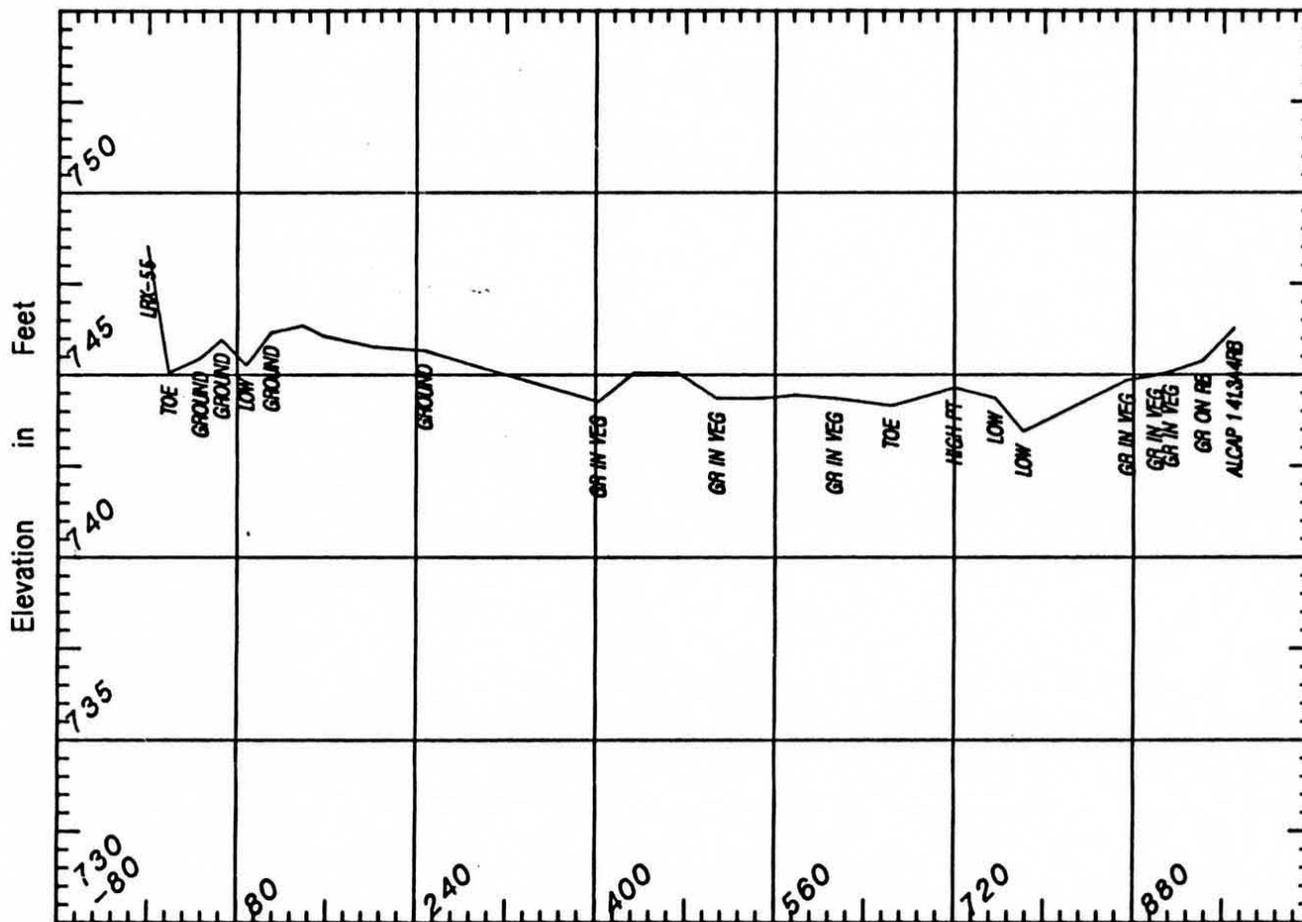
PREPARED FOR:



cross section SL21 1 41.3A4  
Date of Survey: JULY 12, 1982



# SUSITNA HYDROGRAPHIC SURVEYS



PREPARED BY:



cross section SL21 1 41.3A4  
Date of Survey: JULY 12, 1982

PREPARED FOR:

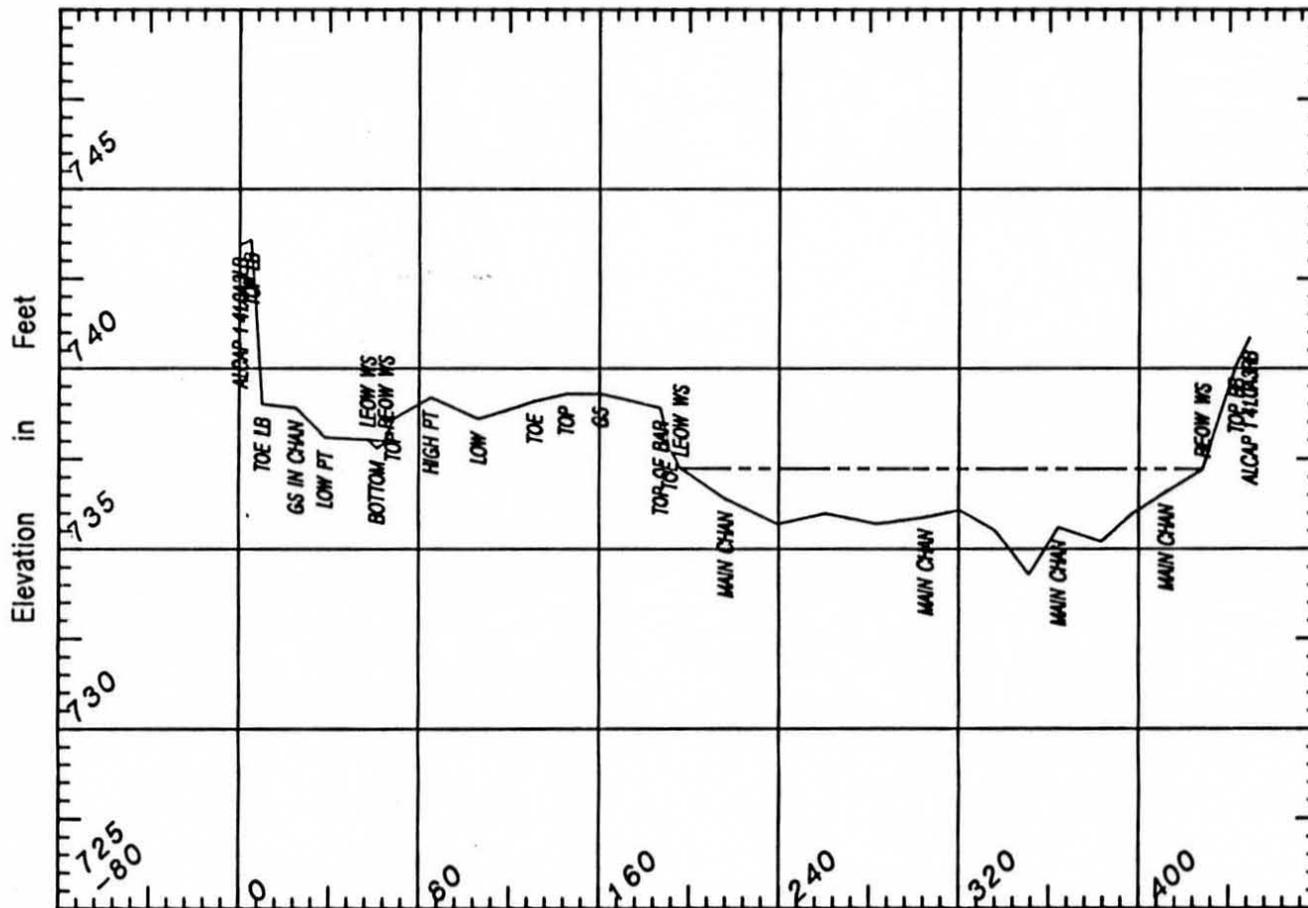


SUSITNA HYDROGRAPHIC SURVEYS  
 cross section SL21 141.0A3

Date of Survey: JULY 12, 1982

POINT	'X'	'Y'	DESCRIPTION
Cross section data:			
1	0.000	743.450	ALCAP 141.0A3LB
2	5.000	743.590	TOP LB
3	10.000	738.990	TOE LB
4	25.000	738.890	GS IN CHAN
5	38.000	738.090	LOW PT
6	57.000	738.030	
7	61.000	737.790	BOTTOM
8	65.000	737.990	
9	68.000	738.590	TOP
10	85.000	739.190	HIGH PT
11	106.000	738.590	LOW
12	131.000	739.090	TOE
13	145.000	739.290	TOP
14	160.000	739.290	GS
15	187.000	738.890	TOP OF BAR
16	191.000	737.790	TOE
17	196.000	737.230	
18	216.000	736.390	MAIN CHAN
19	239.000	735.690	
20	260.000	735.990	
21	283.000	735.690	
22	305.000	735.890	MAIN CHAN
23	320.000	736.090	
24	336.000	735.490	
25	351.000	734.290	
26	364.000	735.590	MAIN CHAN
27	383.000	735.190	
28	397.000	735.990	
29	412.000	736.590	MAIN CHAN
30	428.000	737.210	
31	443.000	740.090	TOP RB
32	449.000	740.840	ALCAP 141.0A3RB
Water surface data:			
1	57.000	738.030	LEOW WS
2	65.000	737.990	REOW WS
			SPLIT
4	196.000	737.230	LEOW WS
5	428.000	737.210	REOW WS
MIN	0.000	734.290	
MAX	449.000	743.590	

# SUSITNA HYDROGRAPHIC SURVEYS



B-22

PREPARED BY:

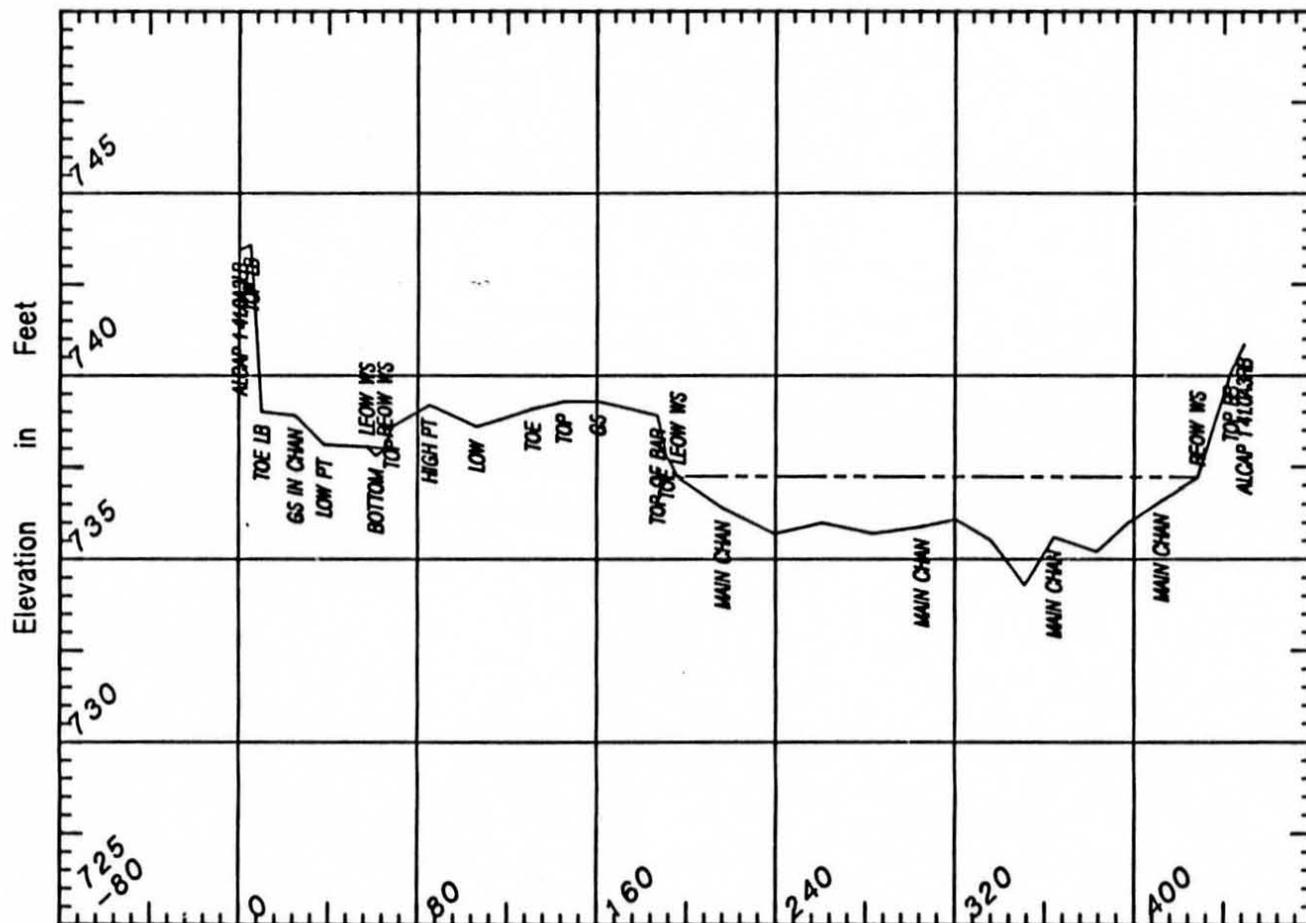
PREPARED FOR:



cross section SL21 1 41.0A3  
Date of Survey: JULY 12, 1982



# SUSITNA HYDROGRAPHIC SURVEYS



B-22

PREPARED BY:



cross section SL21 1 41.0A3  
Date of Survey: JULY 12, 1982

PREPARED FOR:



SUSITNA HYDROGRAPHIC SURVEYS  
cross section SL21 140.8A2

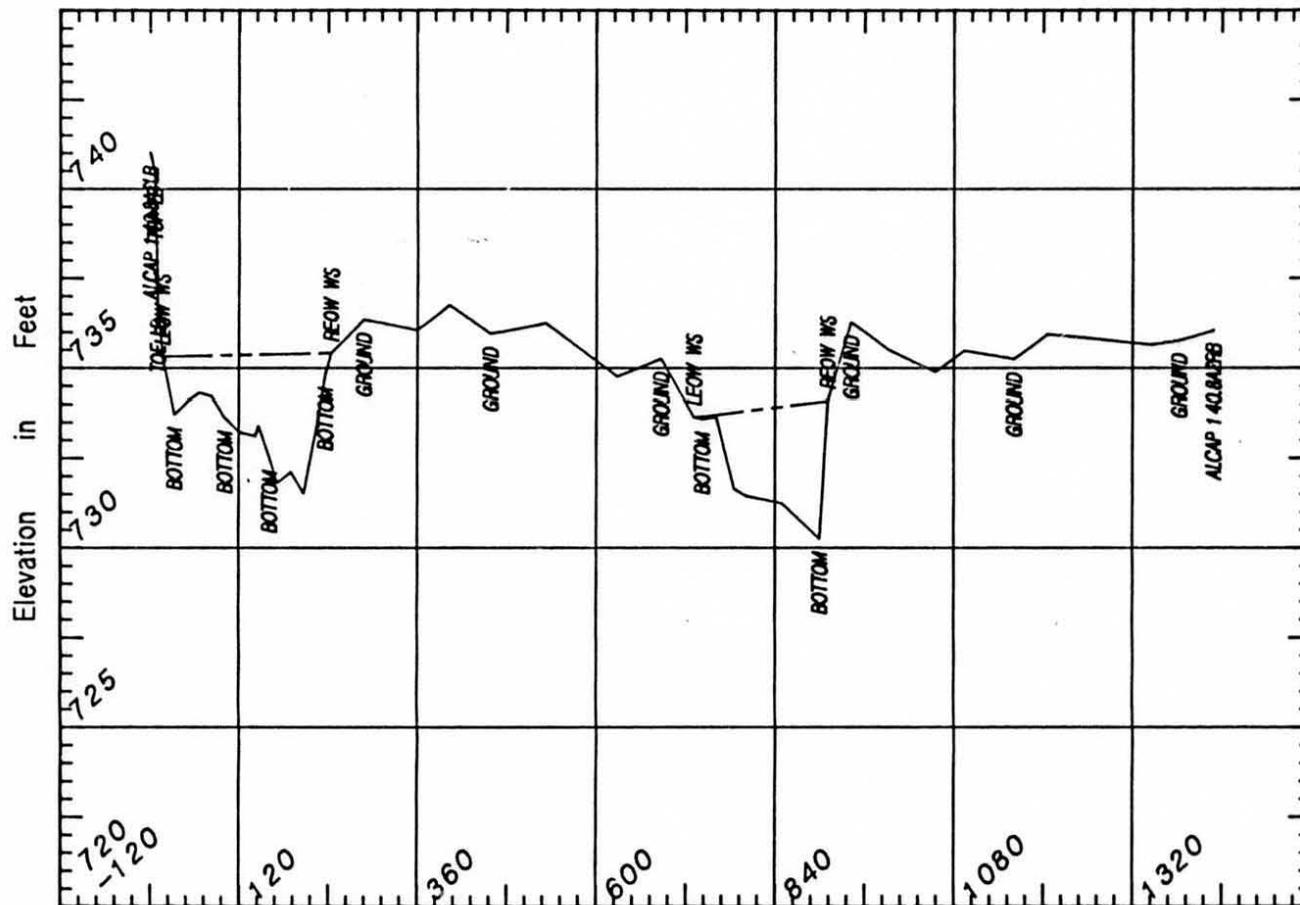
Date of Survey: JULY 12, 1982

POINT	'X'	'Y'	DESCRIPTION
Cross section data:			
1	0.000	741.000	ALCAP 140.8A2LB
2	6.000	740.420	TOP LB
3	10.000	736.720	TOE LB
4	16.000	735.310	
5	32.000	733.710	BOTTOM
6	51.000	734.110	
7	65.000	734.310	
8	82.000	734.210	
9	100.000	733.610	BOTTOM
10	120.000	733.210	
11	141.000	733.110	
12	145.000	733.410	
13	160.000	732.510	BOTTOM
14	170.000	731.810	
15	189.000	732.110	
16	206.000	731.510	
17	223.000	733.310	
18	235.000	734.810	BOTTOM
19	243.000	735.420	
20	287.000	736.350	GROUND
21	358.000	736.050	
22	402.000	736.750	
23	457.000	735.950	GROUND
24	531.000	736.250	
25	627.000	734.760	
26	686.000	735.260	GROUND
27	730.000	733.640	
28	741.000	733.590	BOTTOM
29	760.000	733.660	
30	784.000	731.640	
31	800.000	731.440	
32	848.000	731.240	
33	899.000	730.240	BOTTOM
34	910.000	734.100	
35	941.000	736.280	GROUND
36	993.000	735.480	
37	1054.000	734.880	
38	1093.000	735.480	
39	1160.000	735.240	GROUND
40	1205.000	735.940	
41	1252.000	735.840	
42	1344.000	735.640	
43	1382.000	735.770	GROUND
44	1428.000	736.050	ALCAP 140.8A2RB

Water surface data:

1	16.000	735.310	LEOW WS
2	243.000	735.420	REGW WS
			SPLIT
4	730.000	733.640	LEOW WS
5	910.000	734.100	REGW WS

# SUSITNA HYDROGRAPHIC SURVEYS



PREPARED BY:

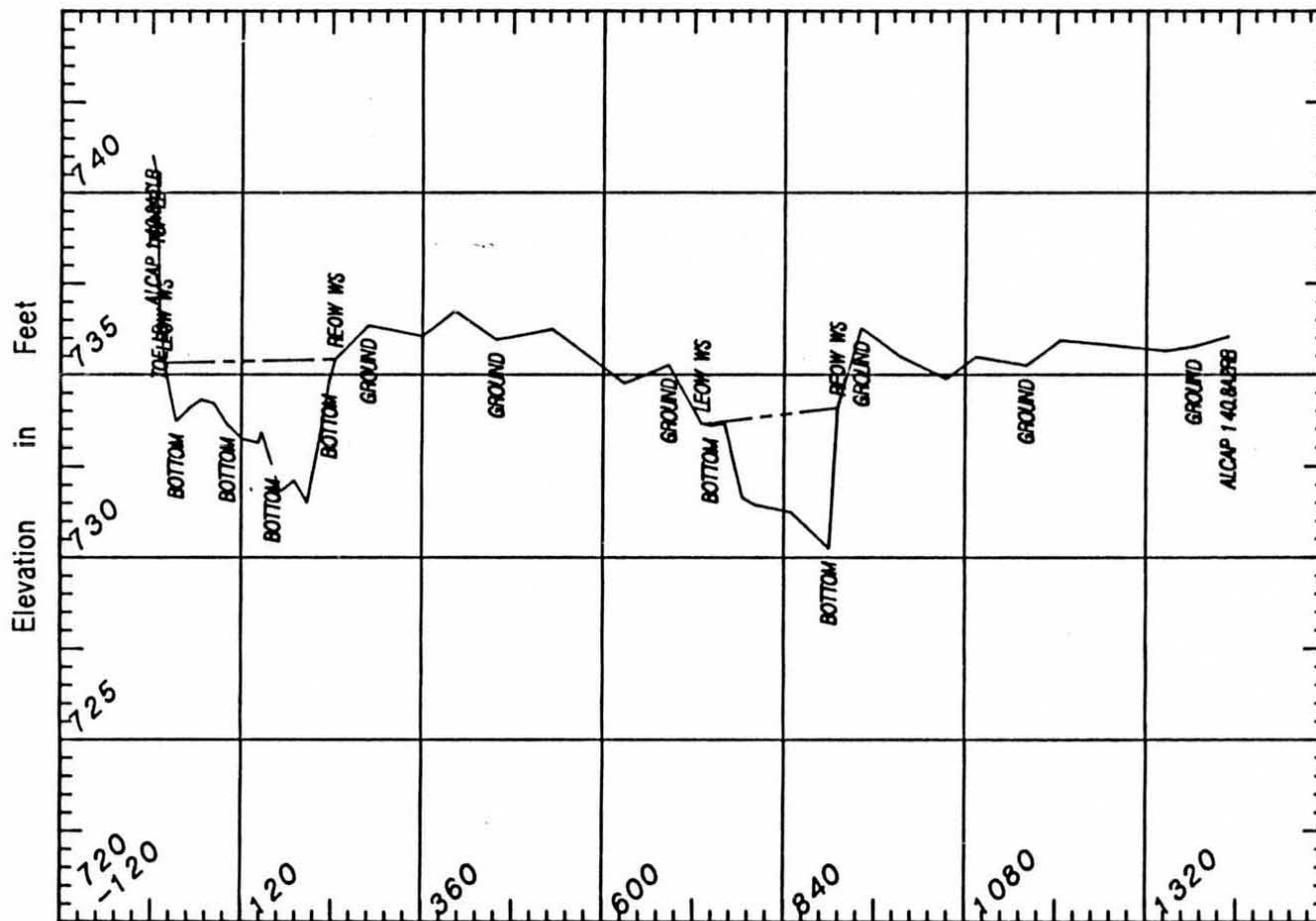
PREPARED FOR:



cross section SL21 140.8A2  
Date of Survey: JULY 12, 1982

ACRES

# SUSITNA: HYDROGRAPHIC SURVEYS



PREPARED BY:

PREPARED FOR:



cross section SL21 1 40.8A2  
Date of Survey: JULY 12, 1982

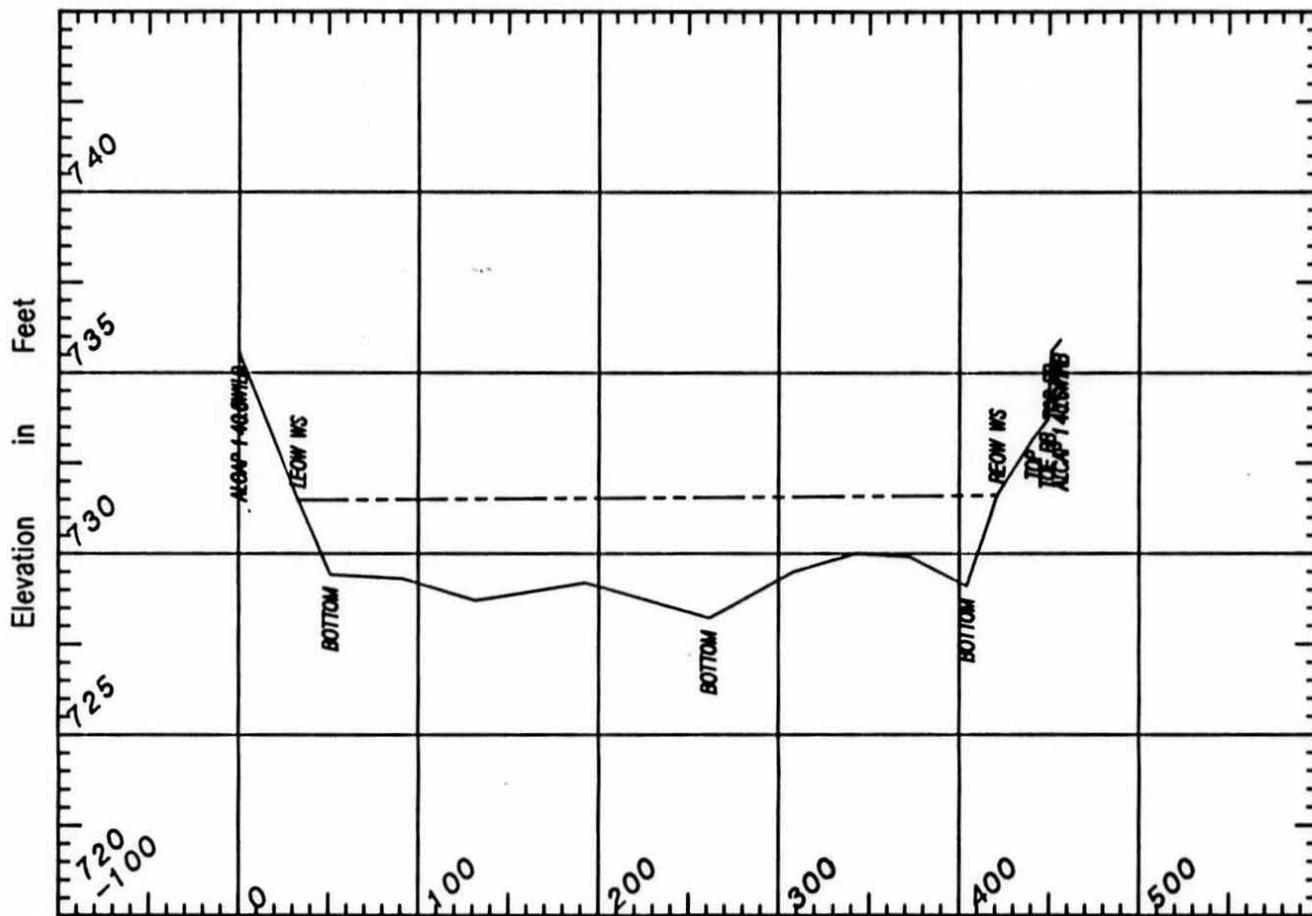


SUSITNA HYDROGRAPHIC SURVEYS  
 cross section SL21 140.6W1

Date of Survey: JULY 12, 1982

POINT	X'	Y'	DESCRIPTION
Cross section data:			
1	0.000	735.530	ALCAP 140.6W1LB
2	33.000	731.470	
3	51.000	729.410	BOTTOM
4	91.000	729.300	
5	131.000	728.700	
6	192.000	729.200	
7	261.000	728.210	BOTTOM
8	308.000	729.500	
9	342.000	730.000	
10	372.000	729.900	
11	404.000	729.100	BOTTOM
12	421.000	731.610	
13	441.000	733.200	TOP
14	449.000	733.700	TOE RB
15	451.000	735.600	TOP RB
16	456.000	735.900	ALCAP 140.6W1RB
Water surface data:			
1	33.000	731.470	LEOW WS
2	421.000	731.610	REOW WS
MIN	0.000	728.210	
MAX	456.000	735.900	

# SUSITNA HYDROGRAPHIC SURVEYS



B-26

PREPARED BY:

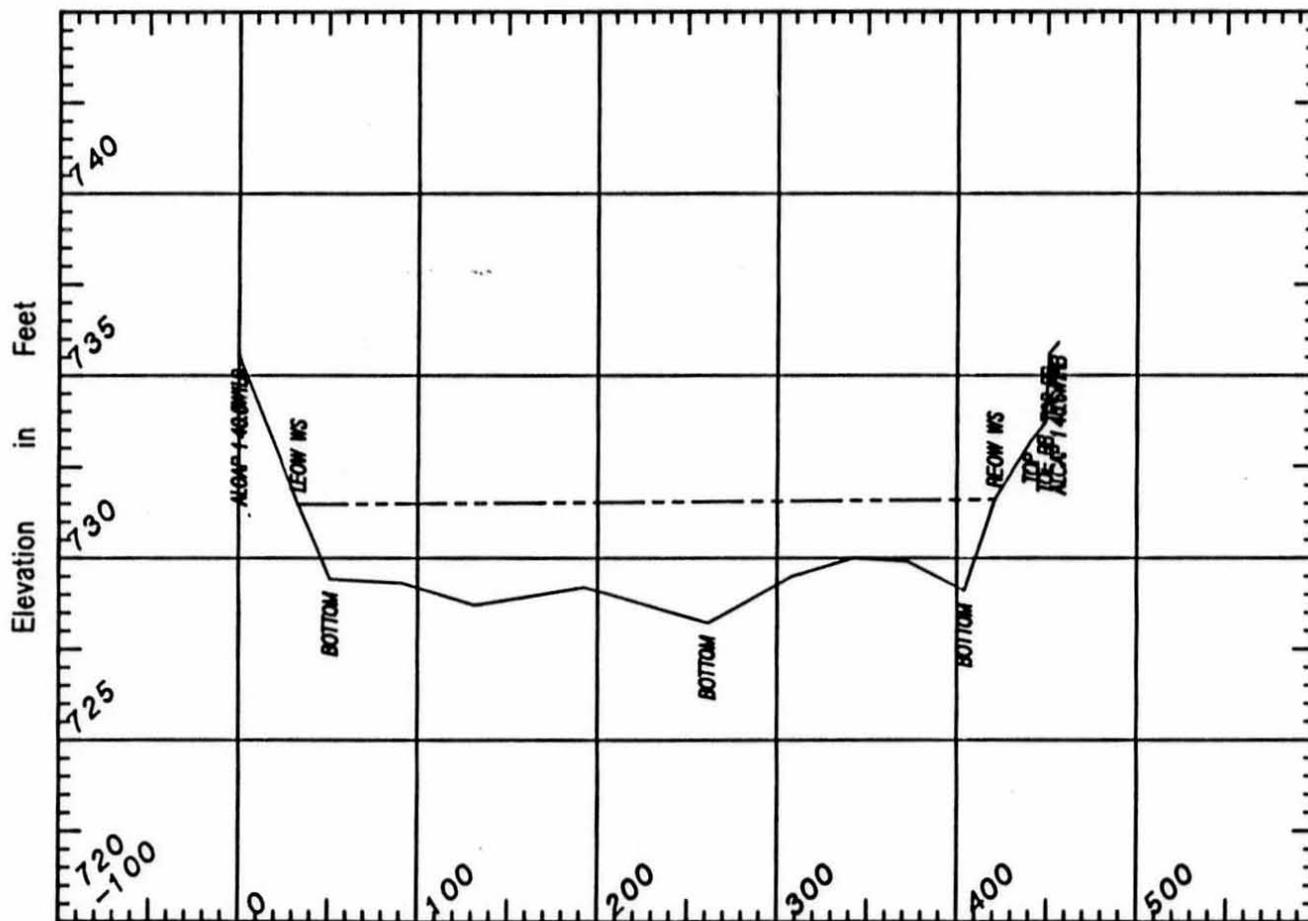


cross section SL21 1 40.6W1  
Date of Survey: JULY 12, 1982

PREPARED FOR:



# SUSITNA HYDROGRAPHIC SURVEYS



PREPARED BY:

PREPARED FOR:



cross section SL21 1 40.6W1  
Date of Survey: JULY 12, 1982

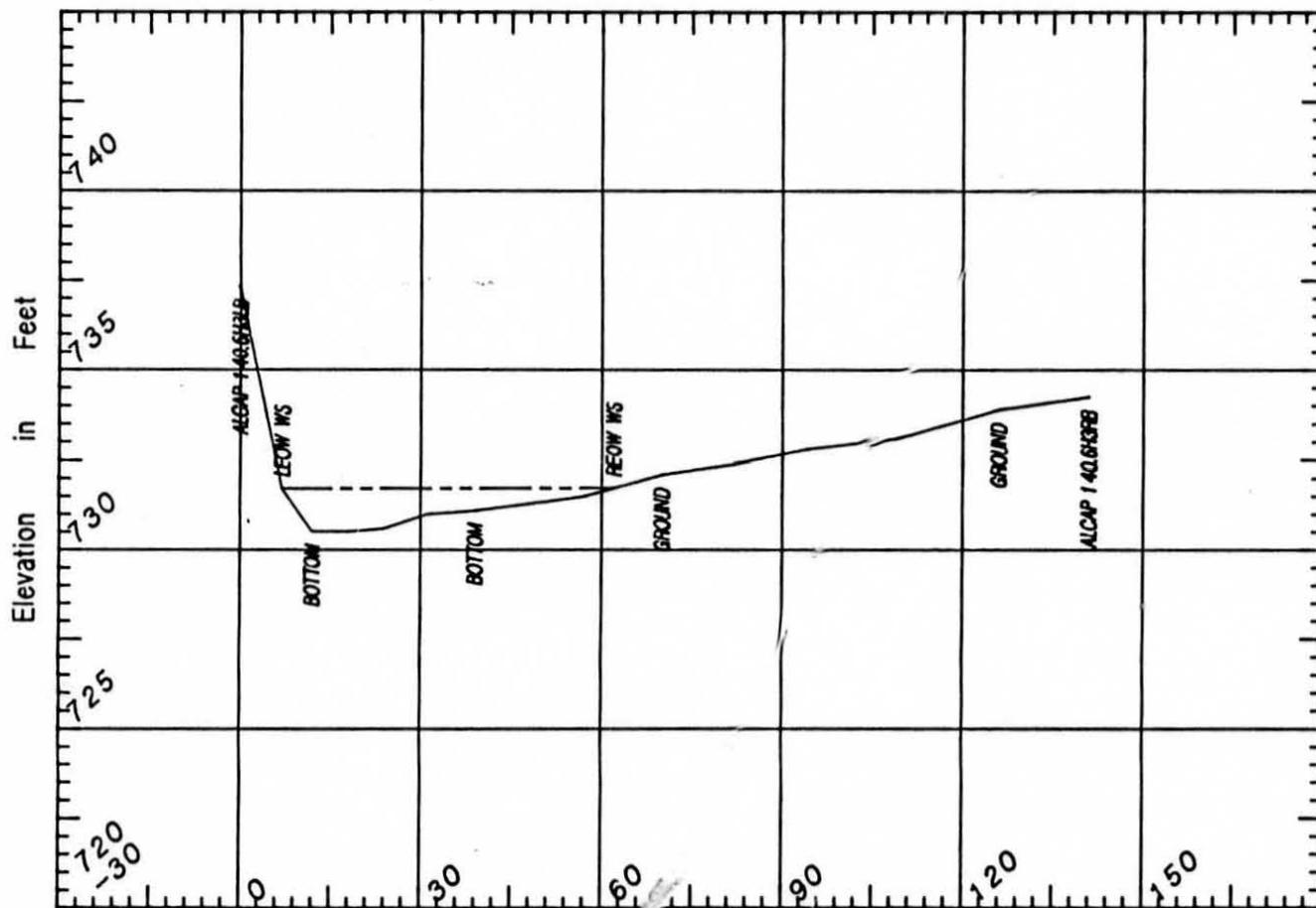


SUSITNA HYDROGRAPHIC SURVEYS  
 cross section SL20 140.6H3

Date of Survey: JULY 27, 1982

POINT	'X'	'Y'	DESCRIPTION
Cross section data:			
1	0.000	737.330	ALCAP 140.6H3LB
2	7.000	731.710	
3	12.000	730.500	BOTTOM
4	18.000	730.500	
5	24.000	730.600	
6	31.000	731.000	
7	39.000	731.100	BOTTOM
8	48.000	731.300	
9	57.000	731.500	
10	62.000	731.730	
11	70.000	732.100	GROUND
12	82.000	732.400	
13	94.000	732.800	
14	109.000	733.100	
15	126.000	733.900	GROUND
16	141.000	734.250	ALCAP 140.6H3RB
Water surface data:			
1	7.000	731.710	LEOW WS
2	62.000	731.730	REOW WS
MIN	0.000	730.500	
MAX	141.000	737.330	

# SUSITNA HYDROGRAPHIC SURVEYS



B-28

PREPARED BY:

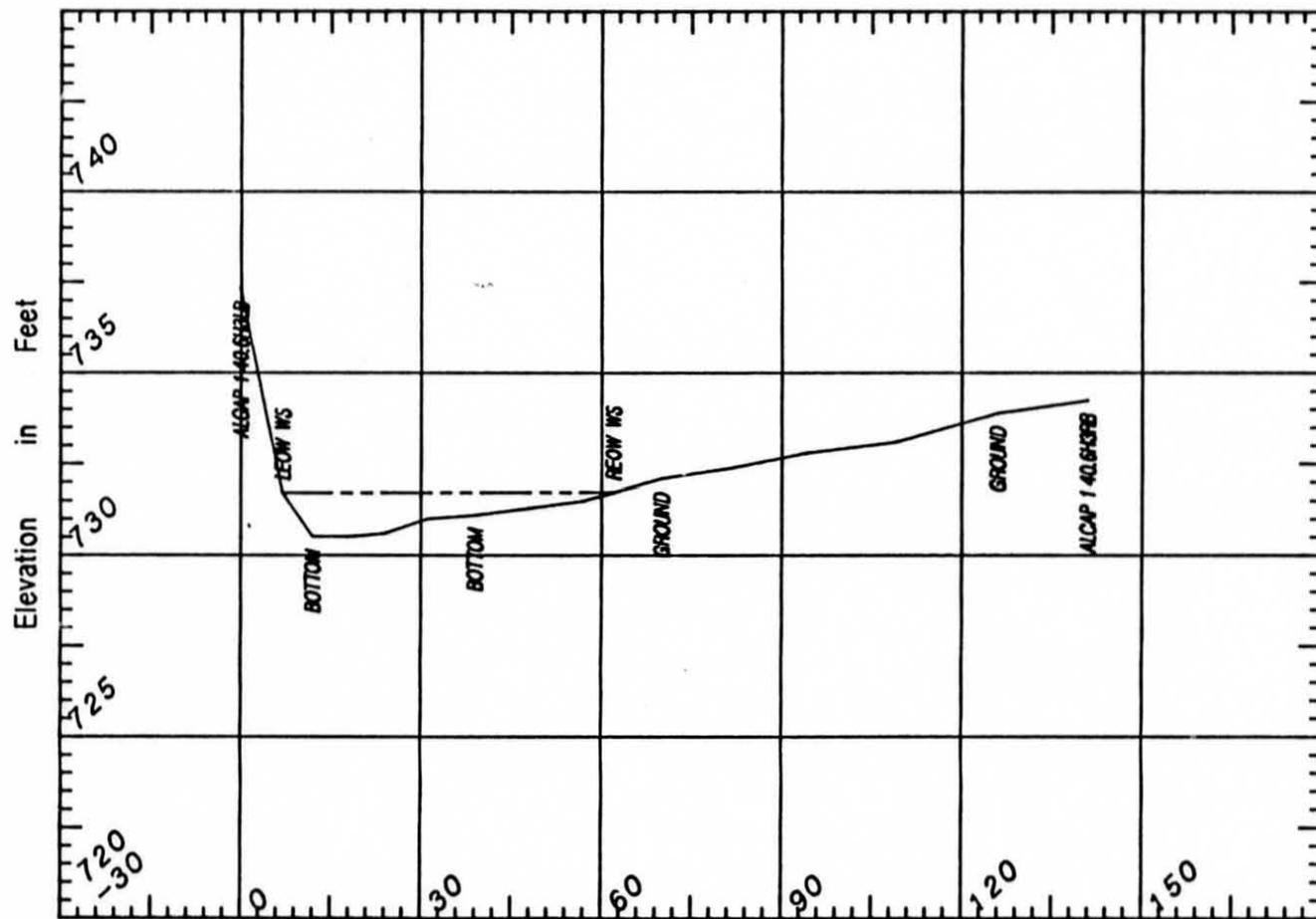


cross section SL20 140.6H3  
Date of Survey: JULY 27, 1982

PREPARED FOR:



# SUSITNA HYDROGRAPHIC SURVEYS



PREPARED BY:



cross section SL20 1 40.6H3  
Date of Survey: JULY 27, 1982

PREPARED FOR:



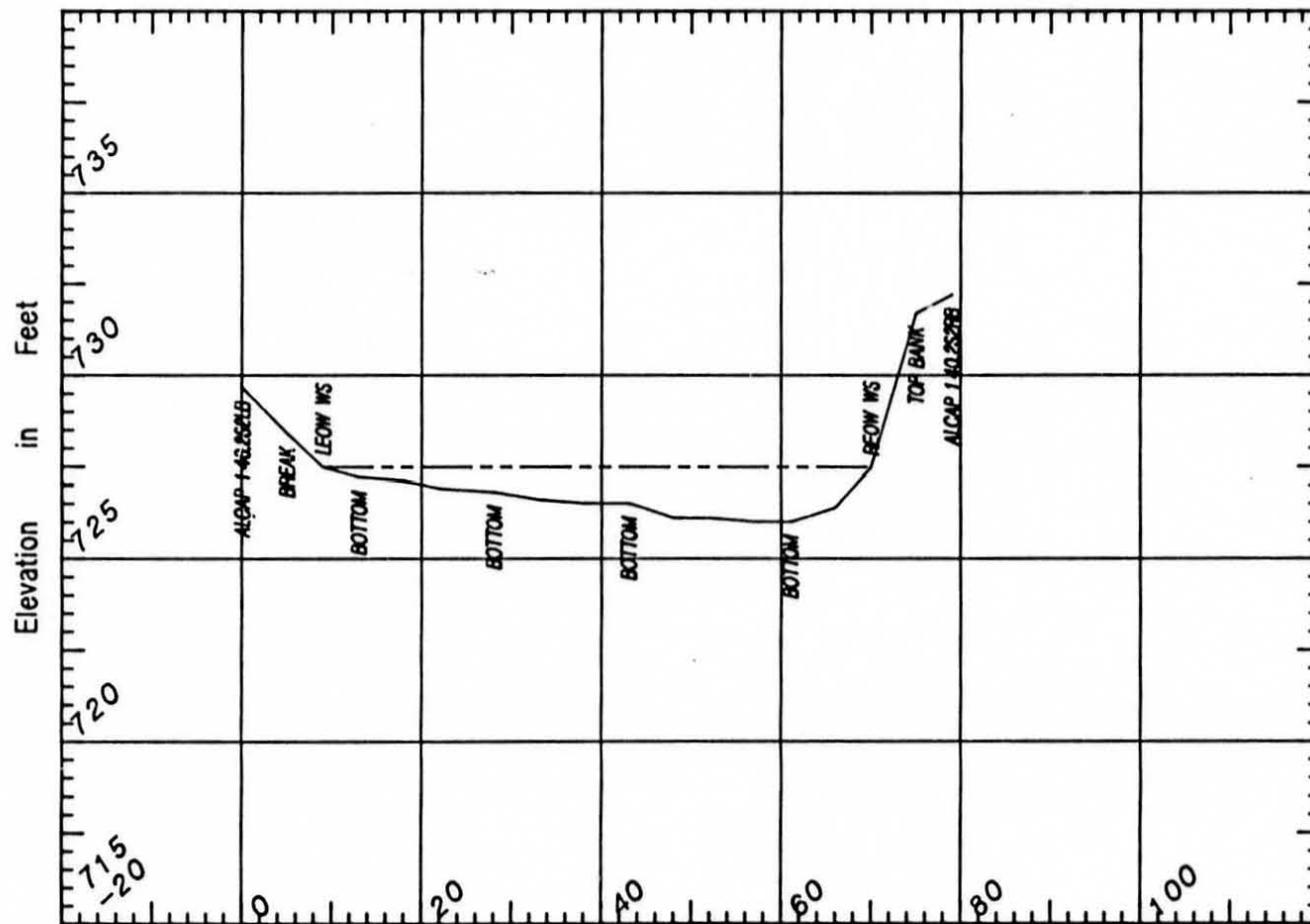
SUSITNA HYDROGRAPHIC SURVEYS  
 cross section SL20 140.252

Date of Survey: JULY 27, 1982

POINT	X'	Y'	DESCRIPTION
Cross section data:			
1	0.000	729.660	ALCAP 140.25ZLB
2	5.000	728.400	BREAK
3	9.000	727.480	
4	13.000	727.200	BOTTOM
5	18.000	727.100	
6	22.000	726.900	
7	28.000	726.800	BOTTOM
8	33.000	726.600	
9	38.000	726.500	
10	43.000	726.500	BOTTOM
11	48.000	726.100	
12	52.000	726.100	
13	57.000	726.000	
14	61.000	726.000	BOTTOM
15	66.000	726.400	
16	70.000	727.480	
17	75.000	731.700	TOP BANK
18	79.000	732.200	ALCAP 140.25ZRB
Water surface data:			
1	9.000	727.480	LEOW WS
2	70.000	727.480	REOW WS
MIN	0.000	726.000	
MAX	79.000	732.200	

B-30

# SUSITNA HYDROGRAPHIC SURVEYS



PREPARED BY:

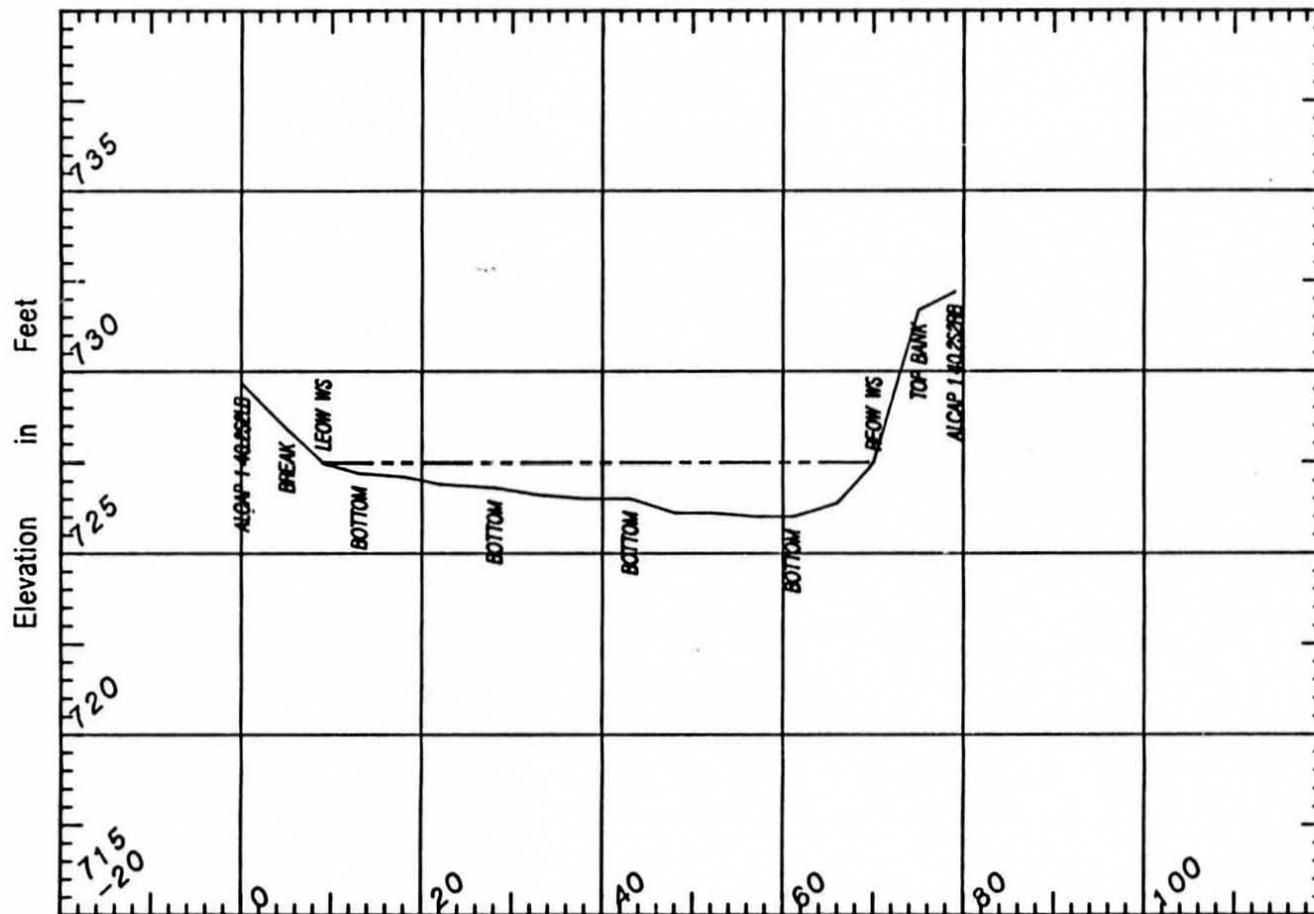
PREPARED FOR:



cross section SL20 1 40.2S2  
Date of Survey: JULY 27, 1982



# SUSITNA HYDROGRAPHIC SURVEYS



PREPARED BY:



cross section SL20 1 40.2S2  
Date of Survey: JULY 27, 1982

PREPARED FOR:

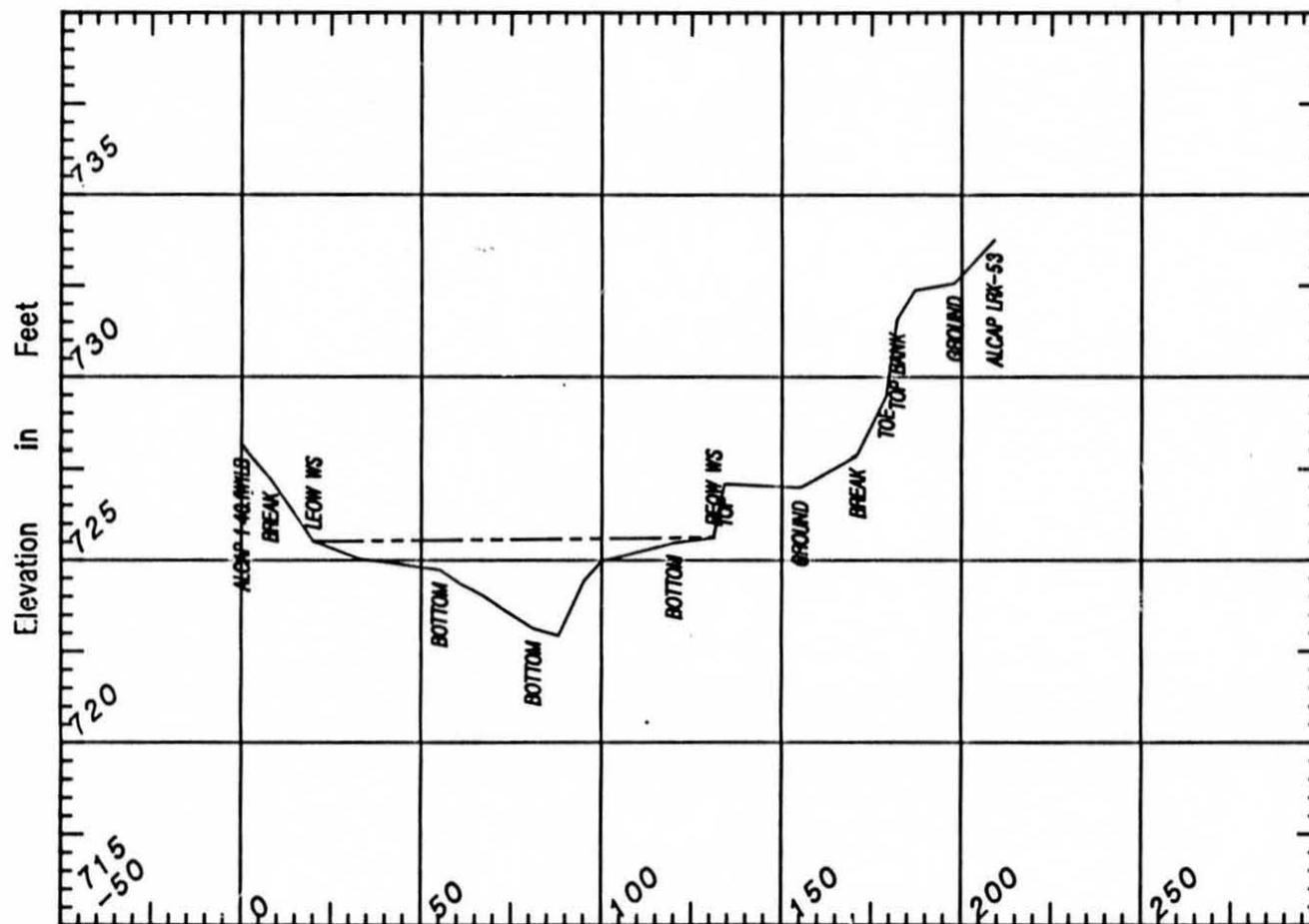


SUSITNA HYDROGRAPHIC SURVEYS  
 cross section SL20 140.1w1

Date of Survey: JULY 24, 1982

POINT	'X'	'Y'	DESCRIPTION
Cross section data:			
1	0.000	728.140	ALCAP 140.1W1LB
2	8.000	727.220	BREAK
3	20.000	725.510	
4	33.000	725.020	
5	41.000	724.920	
6	48.000	724.820	
7	55.000	724.720	BOTTOM
8	61.000	724.320	
9	67.000	724.020	
10	73.000	723.620	
11	81.000	723.120	BOTTOM
12	88.000	722.920	
13	95.000	724.420	
14	100.000	724.980	
15	120.000	725.480	BOTTOM
16	131.000	725.630	
17	134.000	727.080	TOP
18	155.000	726.980	GROUND
19	171.000	727.680	BREAK
20	179.000	729.480	TOE
21	182.000	731.580	TOP BANK
22	187.000	732.380	
23	198.000	732.580	GROUND
24	209.000	733.760	ALCAP LRX-53
Water surface data:			
1	20.000	725.510	LEOW WS
2	131.000	725.630	REOW WS
MIN	0.000	722.920	
MAX	209.000	733.760	

# SUSITNA HYDROGRAPHIC SURVEYS



PREPARED BY:

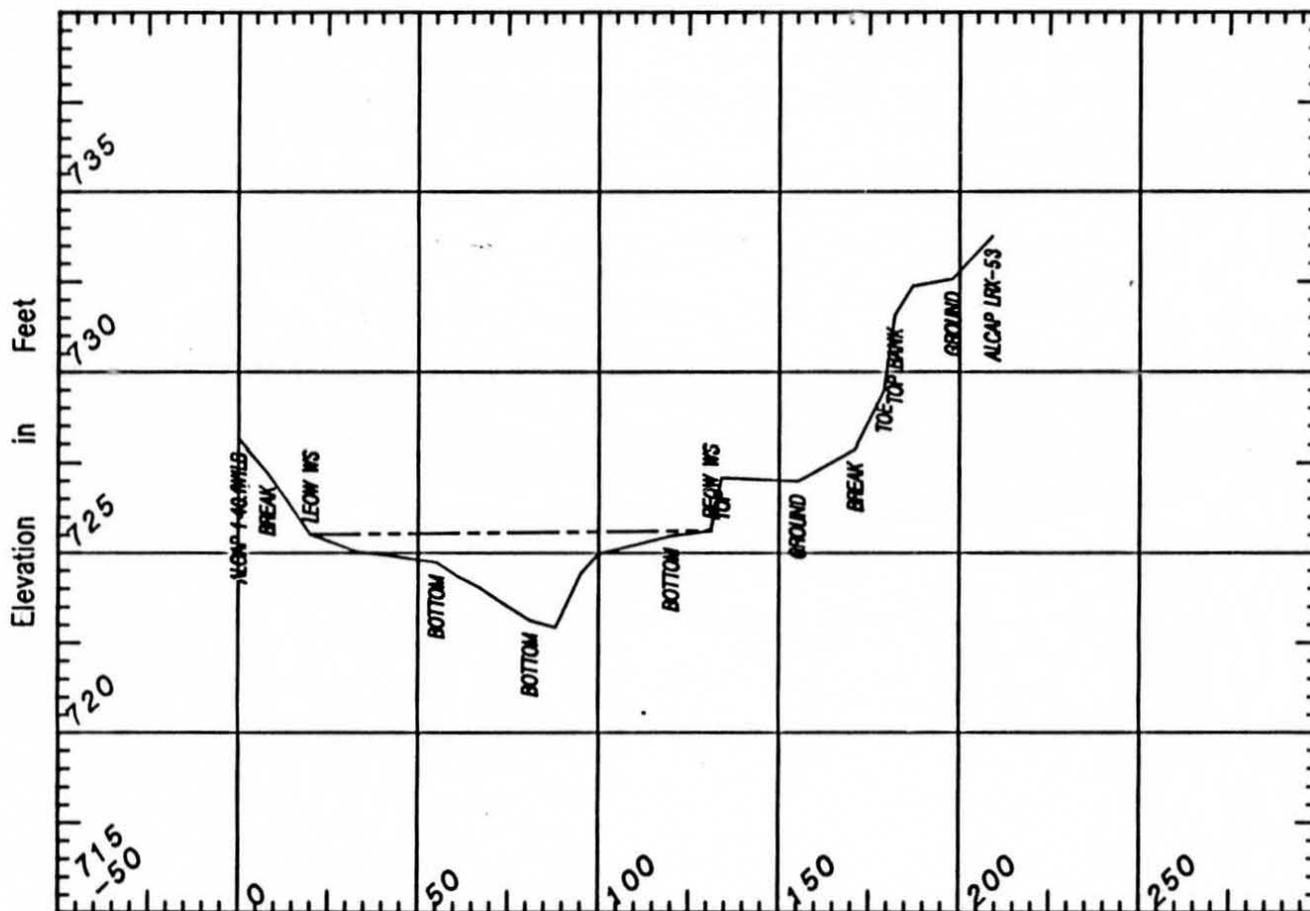
PREPARED FOR:



cross section SL20 1 40.1W1  
Date of Survey: JULY 24, 1982



# SUSITNA HYDROGRAPHIC SURVEYS



PREPARED BY:

PREPARED FOR:



cross section SL20 140.1W1  
Date of Survey: JULY 24, 1982



SUSITNA HYDROGRAPHIC SURVEYS  
cross section SL19 139.8W1

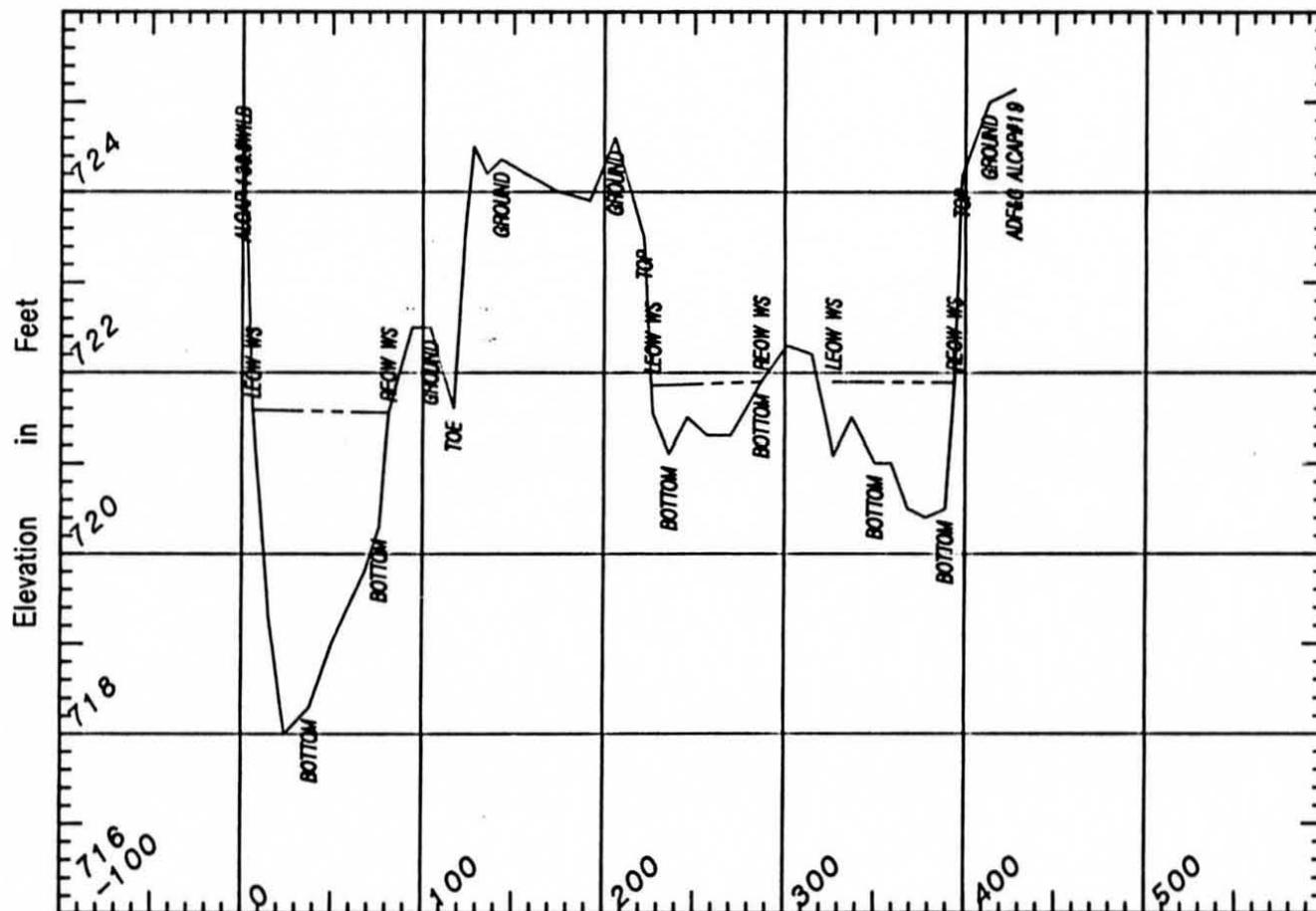
Date of Survey: JULY 24, 1982

POINT	'X'	'Y'	DESCRIPTION
Cross section data:			
1	0.000	725.090	ALCAP 139.8W1LB
2	6.000	721.580	
3	15.000	719.300	
4	24.000	718.000	
5	38.000	718.300	BOTTOM
6	50.000	719.000	
7	59.000	719.400	
8	68.000	719.800	
9	76.000	720.300	BOTTOM
10	81.000	721.550	
11	94.000	722.500	
12	104.000	722.500	GROUND
13	117.000	721.600	TOE
14	123.000	723.500	
15	128.000	724.500	
16	135.000	724.200	
17	143.000	724.360	GROUND
18	156.000	724.200	
19	174.000	724.000	
20	192.000	723.900	
21	206.000	724.600	GROUND
22	222.000	723.500	TOP
23	227.000	721.540	
24	236.000	721.100	BOTTOM
25	246.000	721.500	
26	257.000	721.300	
27	270.000	721.300	
28	287.000	721.900	BOTTOM
29	301.000	722.300	
30	315.000	722.200	
31	327.000	721.080	
32	337.000	721.500	
33	350.000	721.000	BOTTOM
34	359.000	721.000	
35	368.000	720.500	
36	378.000	720.400	
37	389.000	720.500	BOTTOM
38	394.000	721.890	
39	398.000	724.180	TOP
40	413.000	725.000	GROUND
41	427.000	725.140	ADF&G ALCAP#19

Water surface data:

1	6.000	721.580	LEOW WS
2	81.000	721.550	REOW WS
			SPLIT
4	227.000	721.860	LEOW WS
5	287.000	721.900	REOW WS
			SPLIT

# SUSITNA HYDROGRAPHIC SURVEYS



PREPARED BY:

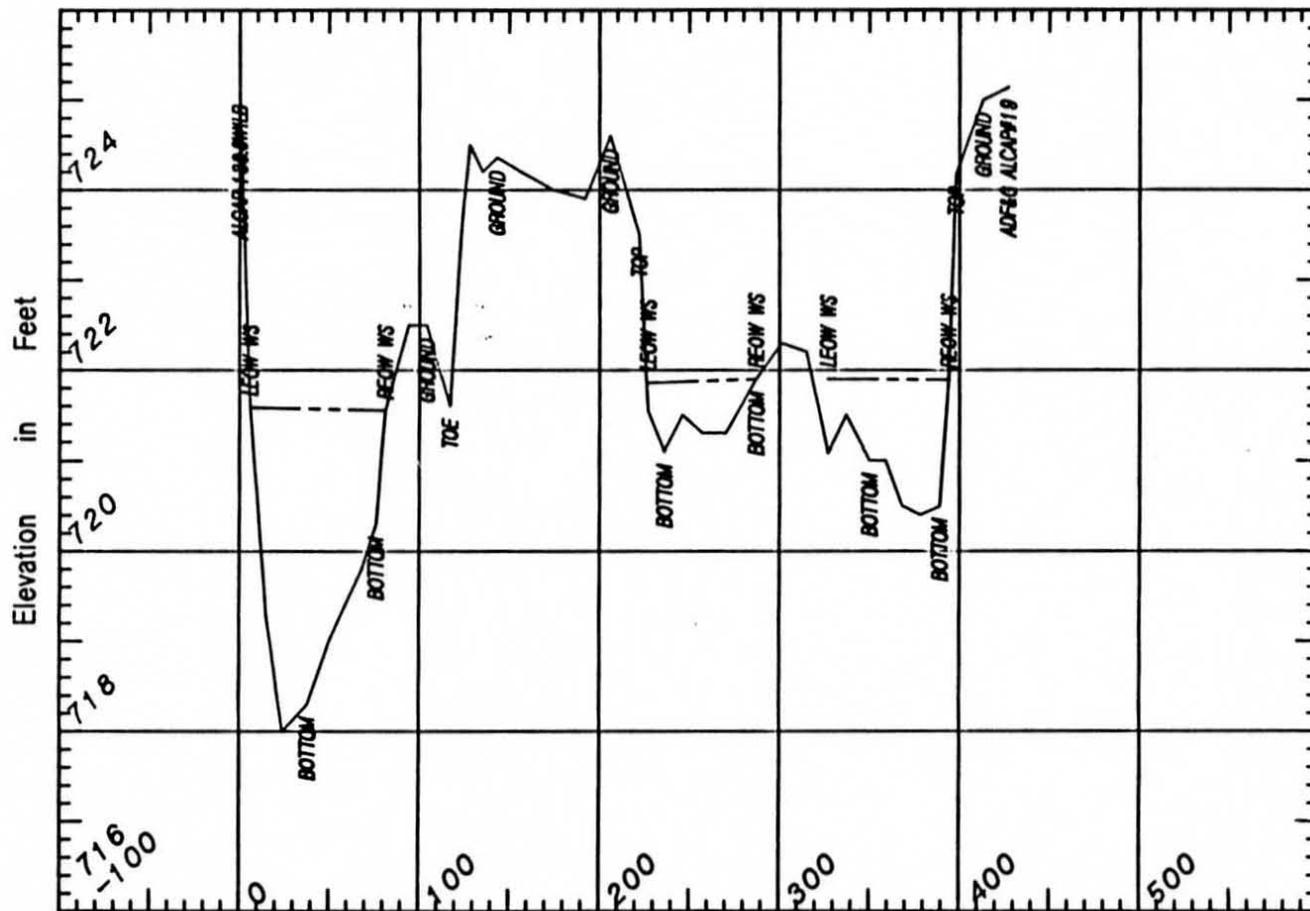
PREPARED FOR:



cross section SL19 139.8W1  
Date of Survey: JULY 24, 1982



# SUSITNA HYDROGRAPHIC SURVEYS



PREPARED BY:



cross section SL19 139.8W1  
Date of Survey: JULY 24, 1982

PREPARED FOR:



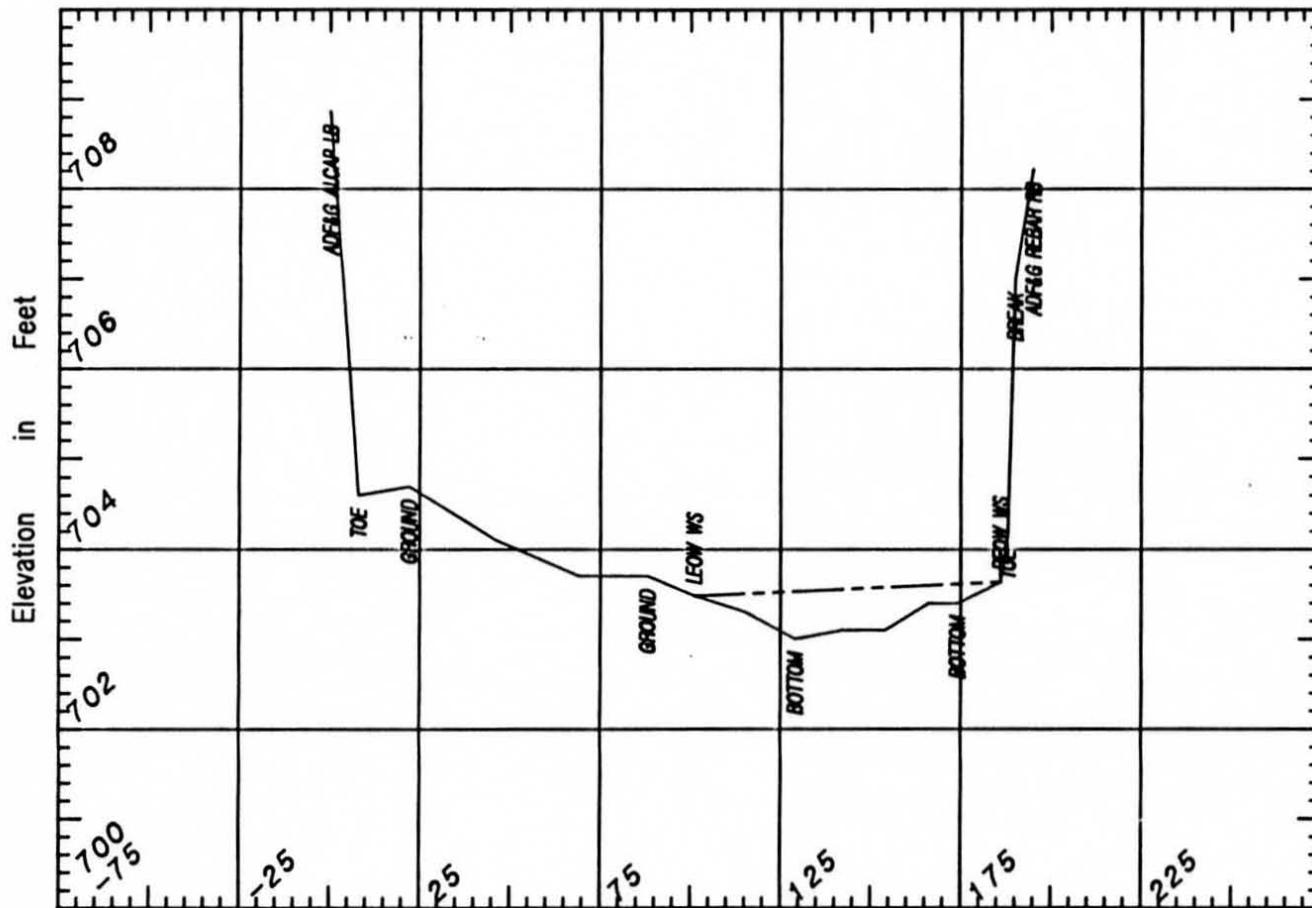
7	327.000	721.900	LEOW WS
8	394.000	721.890	REOW WS
MIN	0.000	718.000	
MAX	427.000	725.140	

SUSITNA HYDROGRAPHIC SURVEYS  
 cross section SL16 138.3H4

Date of Survey: JULY 22, 1982

POINT -----	'X' -----	'Y' -----	DESCRIPTION -----
Cross section data:			
1	0.000	708.860	ADF&G ALCAP LB
2	8.000	704.600	TOE
3	22.000	704.700	GROUND
4	46.000	704.100	
5	69.000	703.700	
6	88.000	703.700	GROUND
7	101.000	703.480	
8	115.000	703.300	
9	129.000	703.000	BOTTOM
10	142.000	703.100	
11	154.000	703.100	
12	166.000	703.400	
13	174.000	703.400	BOTTOM
14	186.000	703.640	
15	188.000	704.140	TOE
16	190.000	707.000	BREAK
17	195.000	708.220	ADF&G REBAR RB
Water surface data:			
1	101.000	703.480	LEOW WS
2	186.000	703.640	REOW WS
MIN	0.000	703.000	
MAX	195.000	708.860	

# SUSITNA HYDROGRAPHIC SURVEYS



B-37

PREPARED BY:

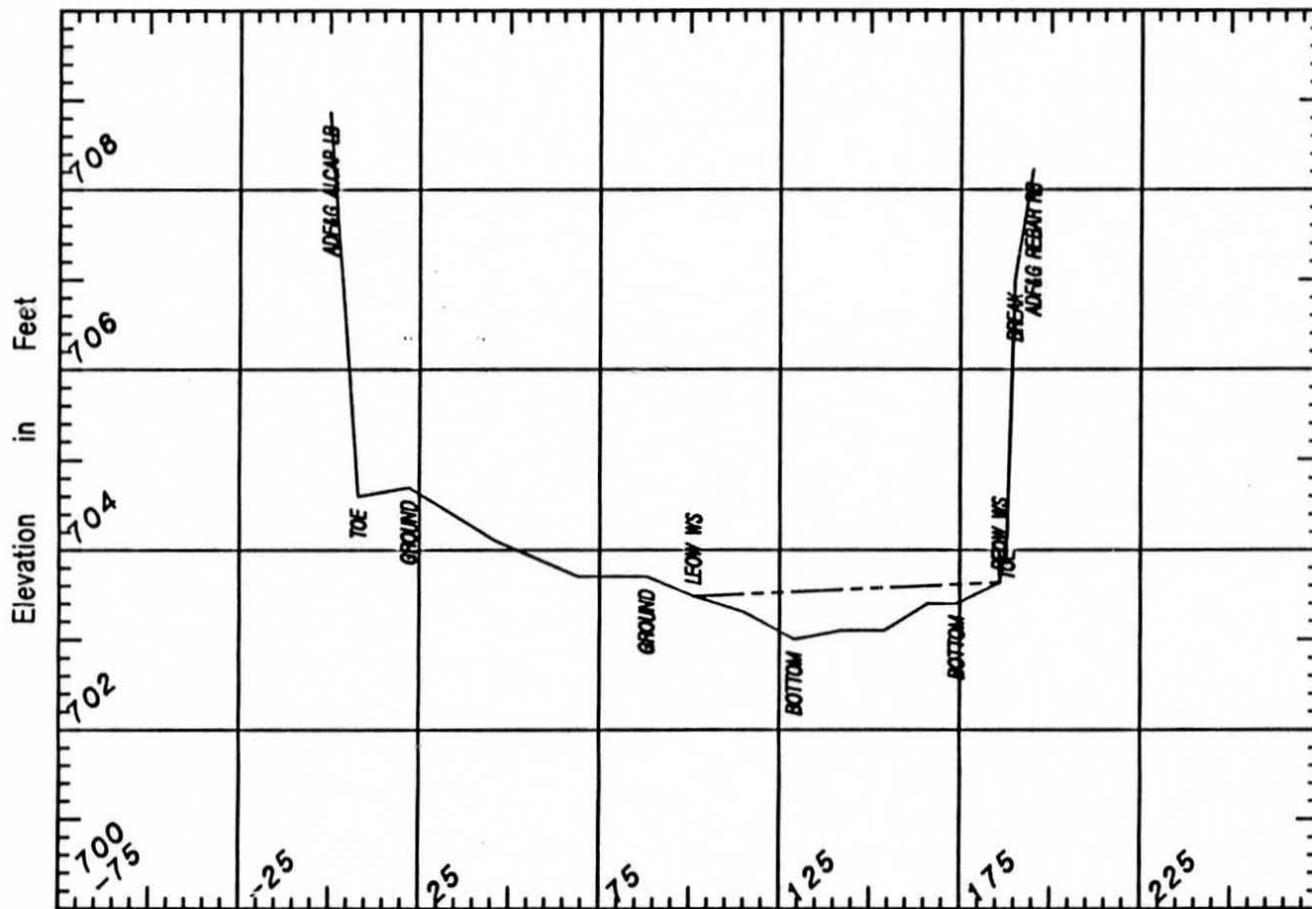
PREPARED FOR:



cross section SL16 138.3H4  
Date of Survey: JULY 22, 1982



# SUSITNA HYDROGRAPHIC SURVEYS



PREPARED BY:



cross section SL1 6 1 38.3H4  
Date of Survey: JULY 22, 1982

PREPARED FOR:

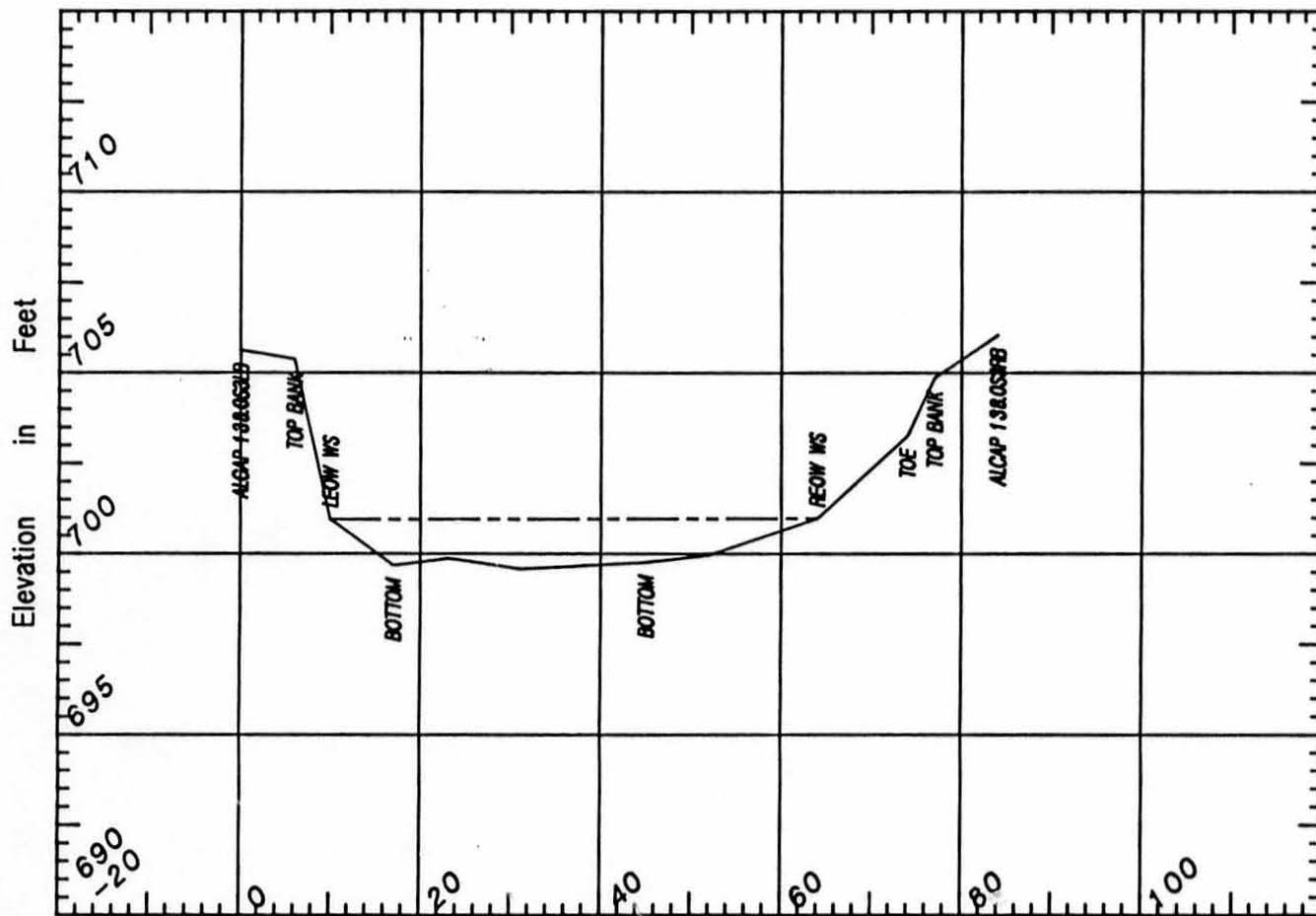


SUSITNA HYDROGRAPHIC SURVEYS  
 cross section SL16 138.0S3

Date of Survey: JULY 24, 1982

POINT -----	'X' -----	'Y' -----	DESCRIPTION -----
Cross section data:			
1	0.000	705.620	ALCAP 138.0S3LB
2	6.000	705.370	TOP BANK
3	10.000	700.940	
4	17.000	699.670	BOTTOM
5	23.000	699.870	
6	31.000	699.570	
7	38.000	699.670	
8	45.000	699.770	BOTTOM
9	52.000	699.970	
10	64.000	700.980	
11	74.000	703.270	TOE
12	77.000	704.870	TOP BANK
13	84.000	706.050	ALCAP 138.0S3RB
Water surface data:			
1	10.000	700.940	LEOW WS
2	64.000	700.980	REOW WS
MIN	0.000	699.570	
MAX	84.000	706.050	

# SUSITNA HYDROGRAPHIC SURVEYS



B-39

PREPARED BY:

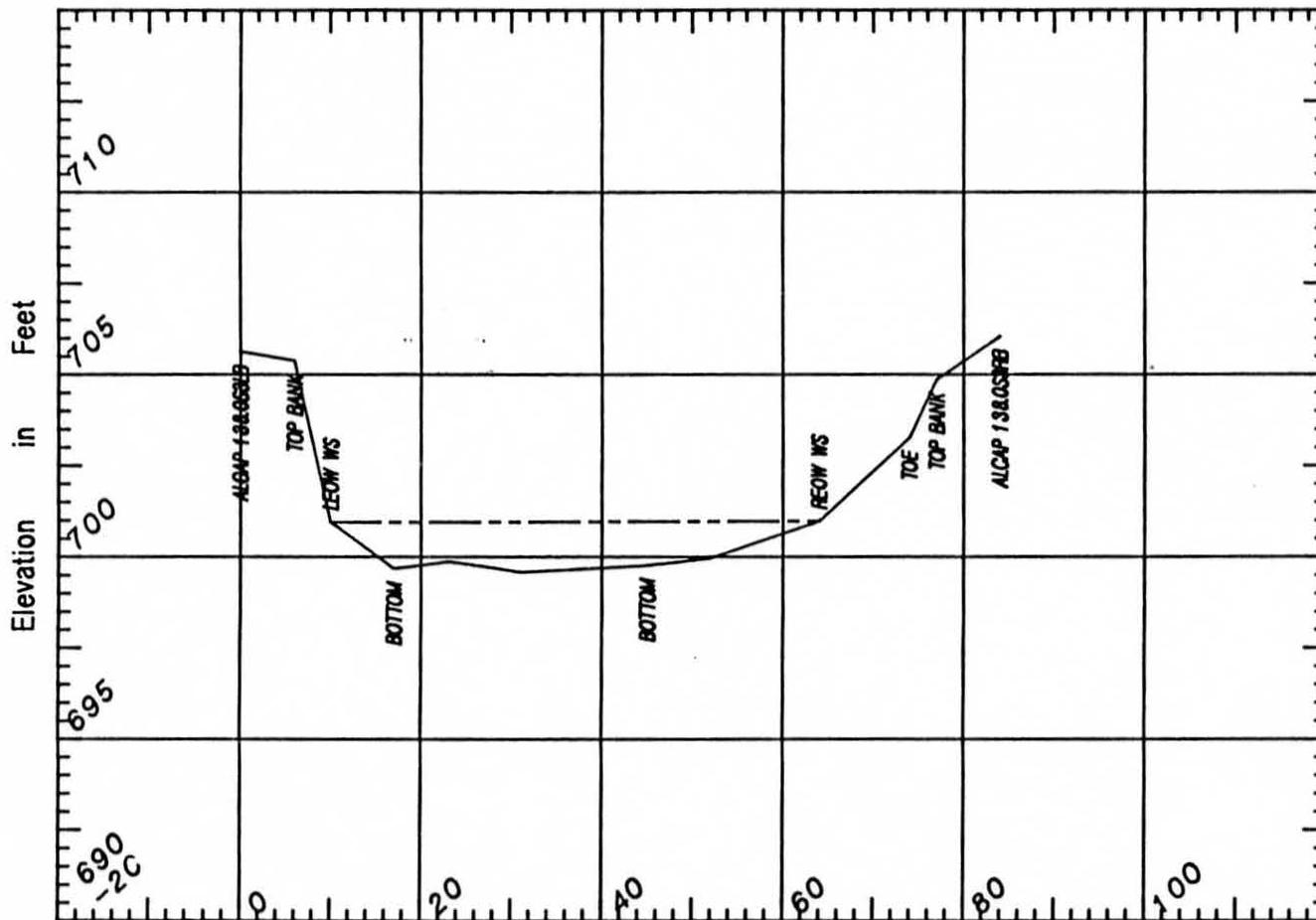


PREPARED FOR:

cross section SL1 6 1 38.0S3  
Date of Survey: JULY 24, 1982



# SUSITNA HYDROGRAPHIC SURVEYS



PREPARED BY:

PREPARED FOR:



cross section SL1 6 138.0S3  
Date of Survey: JULY 24, 1982

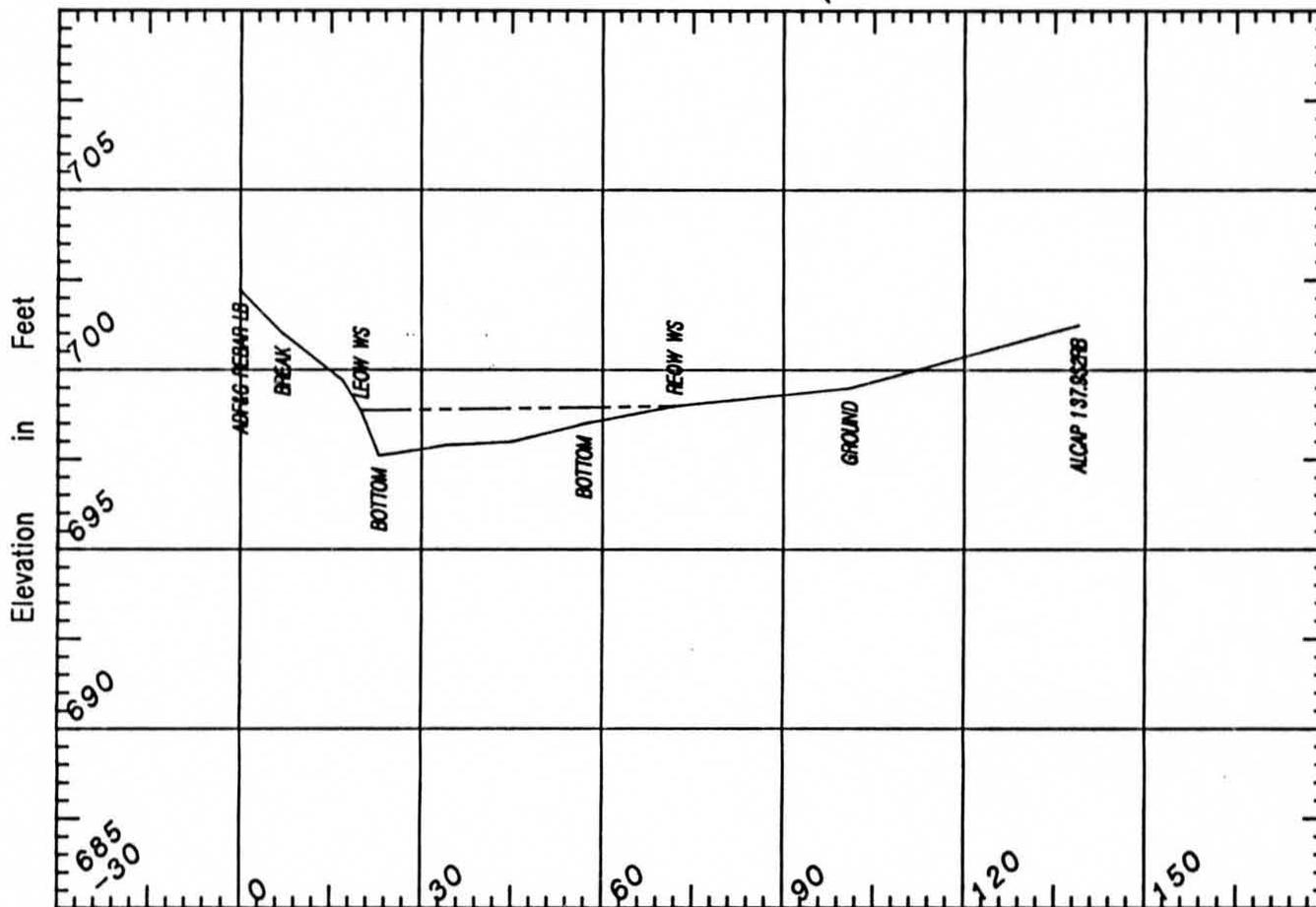


SUSITNA HYDROGRAPHIC SURVEYS  
 cross section SL16 137.9S2

Date of Survey: JULY 22, 1982

POINT	'X'	'Y'	DESCRIPTION
Cross section data:			
1	0.000	702.210	ADF&G REBAR LB
2	7.000	701.000	BREAK
3	17.000	699.700	
4	20.000	698.860	
5	23.000	697.600	BOTTOM
6	34.000	697.900	
7	45.000	698.000	
8	57.000	698.500	BOTTOM
9	72.000	698.990	
10	101.000	699.500	GROUND
11	139.000	701.240	ALCAP 137.9S2RB
Water surface data:			
1	20.000	698.860	LEOW WS
2	72.000	698.990	REOW WS
MIN	0.000	697.600	
MAX	139.000	702.210	

# SUSITNA HYDROGRAPHIC SURVEYS



PREPARED BY:

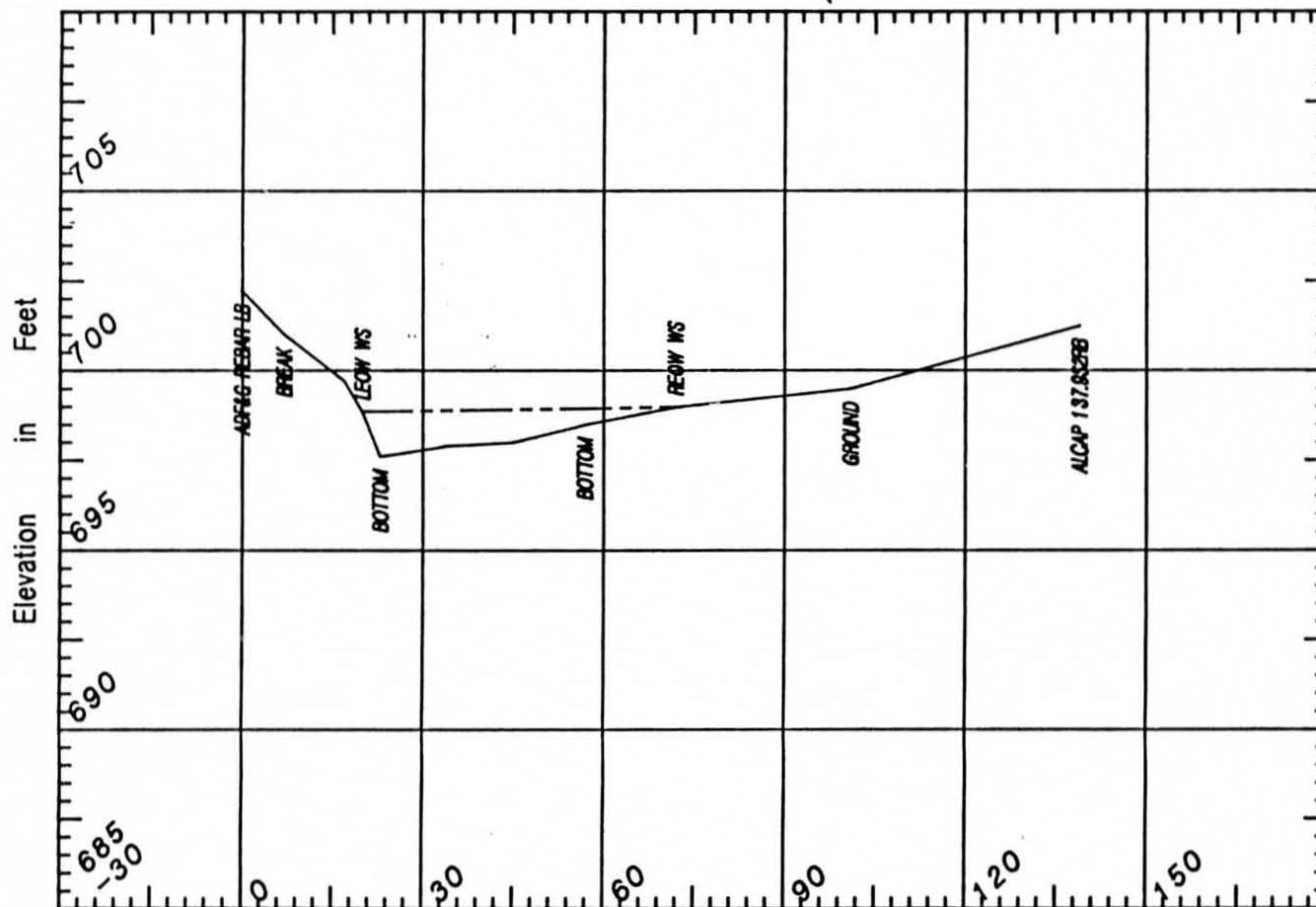
PREPARED FOR:



cross section SL16 137.9S2  
Date of Survey: JULY 22, 1982



# SUSITNA, HYDROGRAPHIC SURVEYS



PREPARED BY:

PREPARED FOR:



cross section SL16 137.9S2  
Date of Survey: JULY 22, 1982

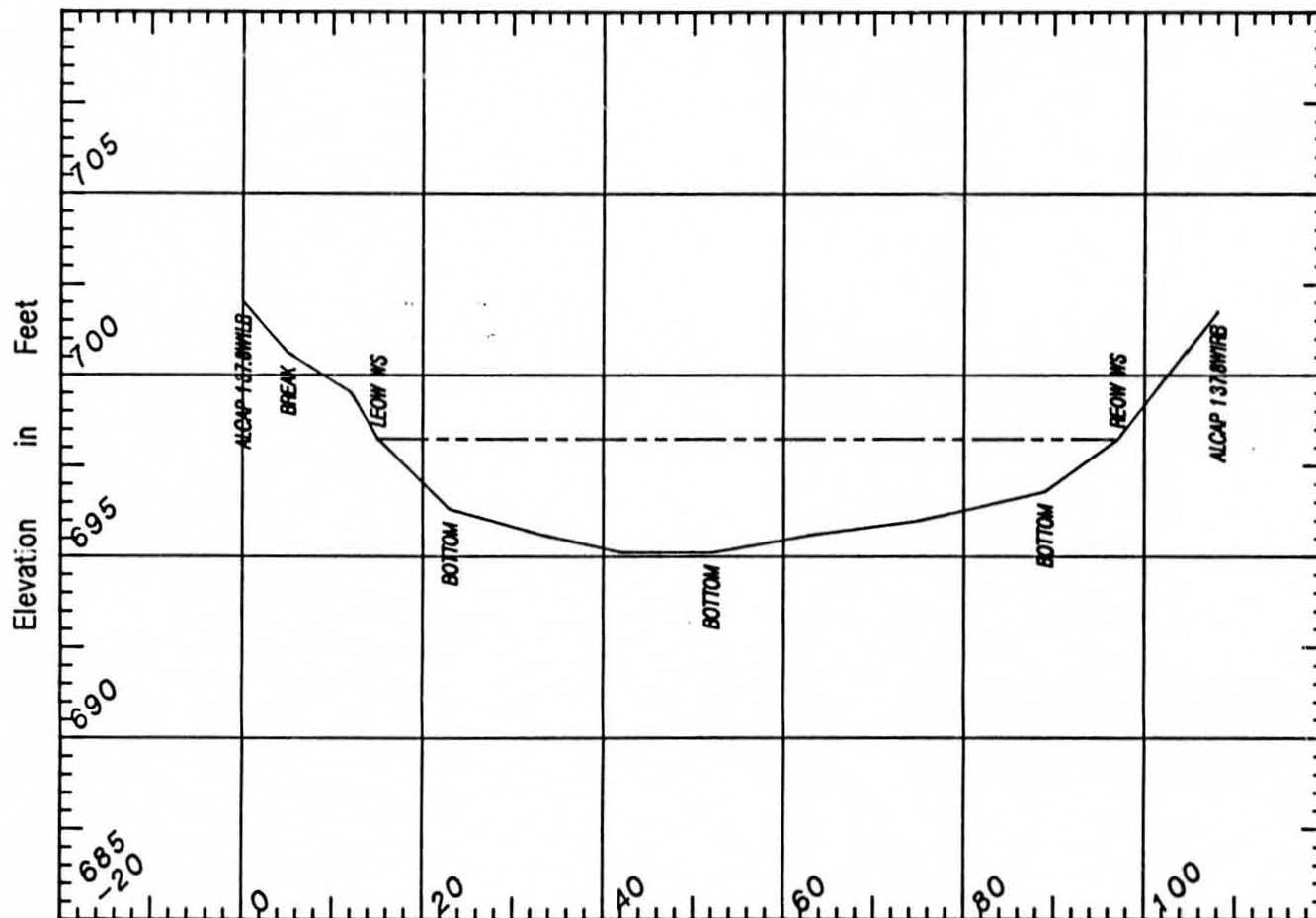


SUSITNA HYDROGRAPHIC SURVEYS  
 cross section SL16 137.8W1

Date of Survey: JULY 22, 1982

POINT -----	'X' -----	'Y' -----	DESCRIPTION -----
Cross section data:			
1	0.000	702.010	ALCAP 137.8W1LB
2	5.000	700.600	BREAK
3	12.000	699.500	
4	15.000	698.230	
5	23.000	696.300	BOTTOM
6	33.000	695.600	
7	42.000	695.100	
8	52.000	695.100	BOTTOM
9	63.000	695.600	
10	75.000	696.000	
11	89.000	696.800	BOTTOM
12	97.000	698.230	
13	108.000	701.740	ALCAP 137.8W1RB
Water surface data:			
1	15.000	698.230	LEOW WS
2	97.000	698.230	REOW WS
MIN	0.000	695.100	
MAX	108.000	702.010	

# SUSITNA HYDROGRAPHIC SURVEYS



PREPARED BY:

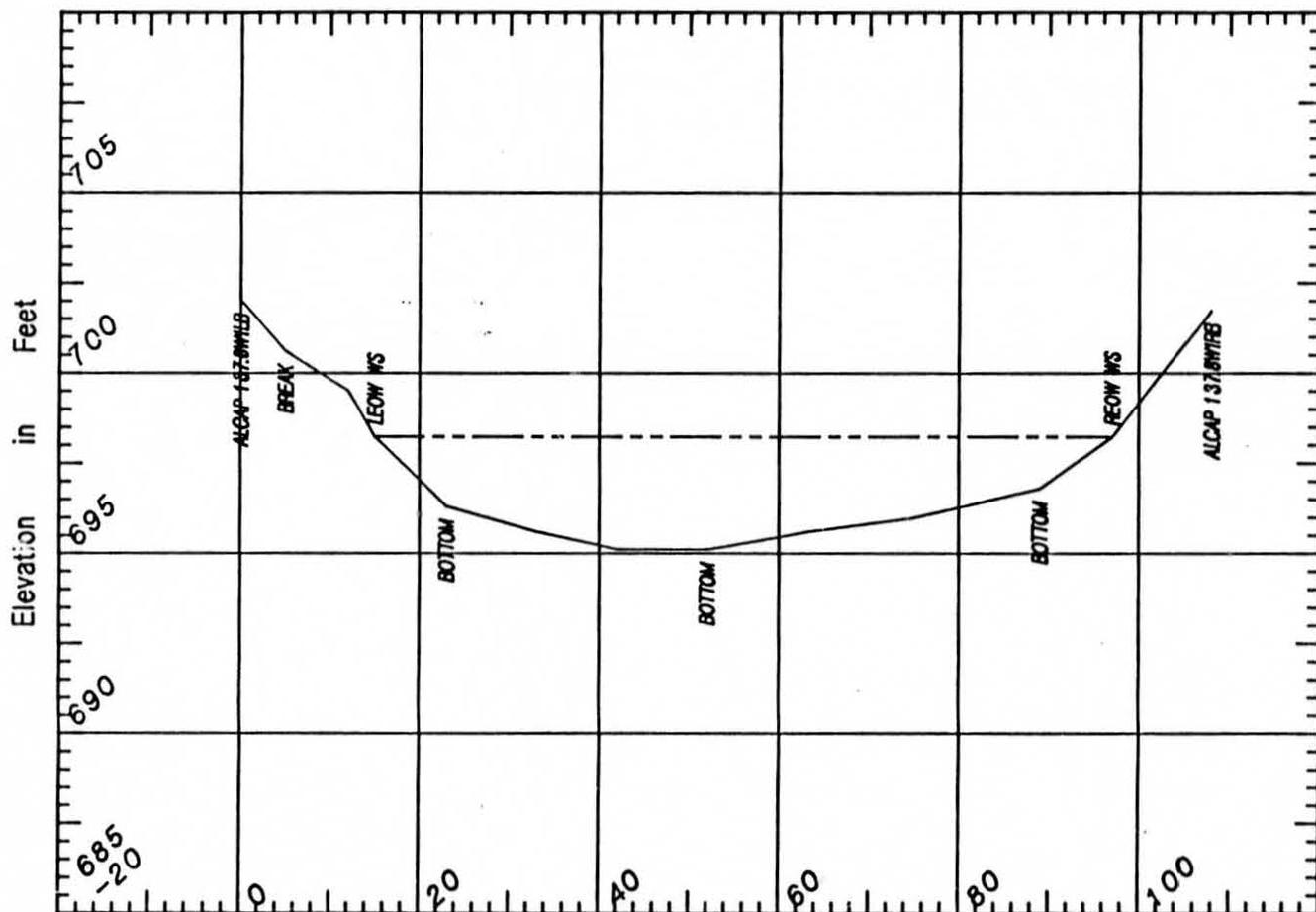


cross section SL1 6 1 37.8W1  
Date of Survey: JULY 22, 1982

PREPARED FOR:



# SUSITNA HYDROGRAPHIC SURVEYS



PREPARED BY:

PREPARED FOR:



cross section SL16 137.8W1  
Date of Survey: JULY 22, 1982

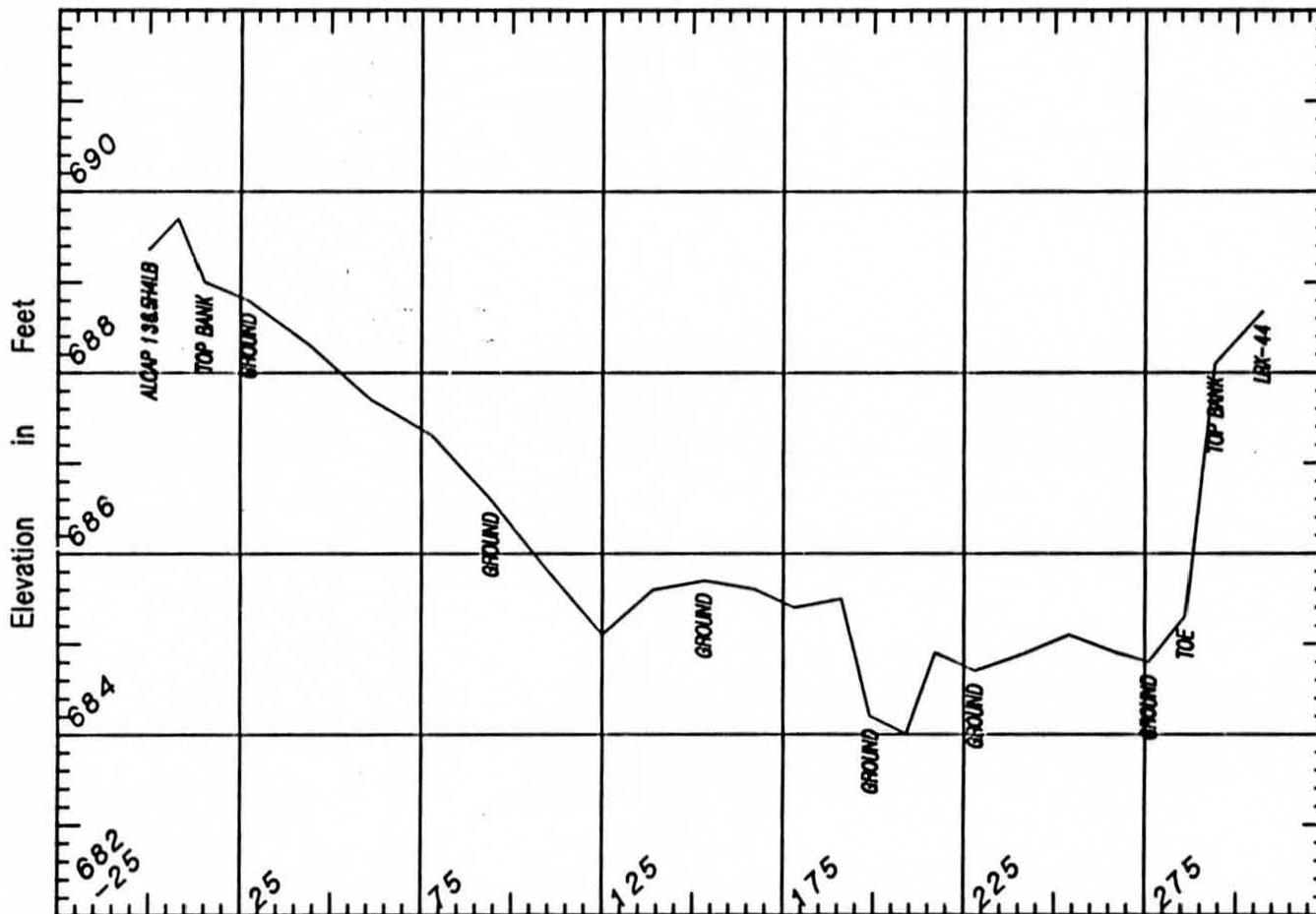


SUSITNA HYDROGRAPHIC SURVEYS  
 cross section SL11 136.5H4

Date of Survey: JULY 28, 1982

POINT	'X'	'Y'	DESCRIPTION
Cross section data:			
1	0.000	689.360	ALCAP 136.5H4LB
2	8.000	689.700	
3	15.000	689.000	TOP BANK
4	27.000	688.800	GROUND
5	44.000	688.300	
6	61.000	687.700	
7	78.000	687.300	
8	94.000	686.600	GROUND
9	110.000	685.800	
10	125.000	685.100	
11	139.000	685.600	
12	153.000	685.700	GROUND
13	167.000	685.600	
14	178.000	685.400	
15	191.000	685.500	
16	199.000	684.200	GROUND
17	209.000	684.000	
18	217.000	684.900	
19	228.000	684.700	GROUND
20	242.000	684.900	
21	254.000	685.100	
22	267.000	684.900	
23	276.000	684.800	GROUND
24	286.000	685.300	TOE
25	294.000	688.100	TOP BANK
26	307.000	688.670	LRX-44
MIN	0.000	684.000	
MAX	307.000	689.700	

# SUSITNA HYDROGRAPHIC SURVEYS



PREPARED BY:

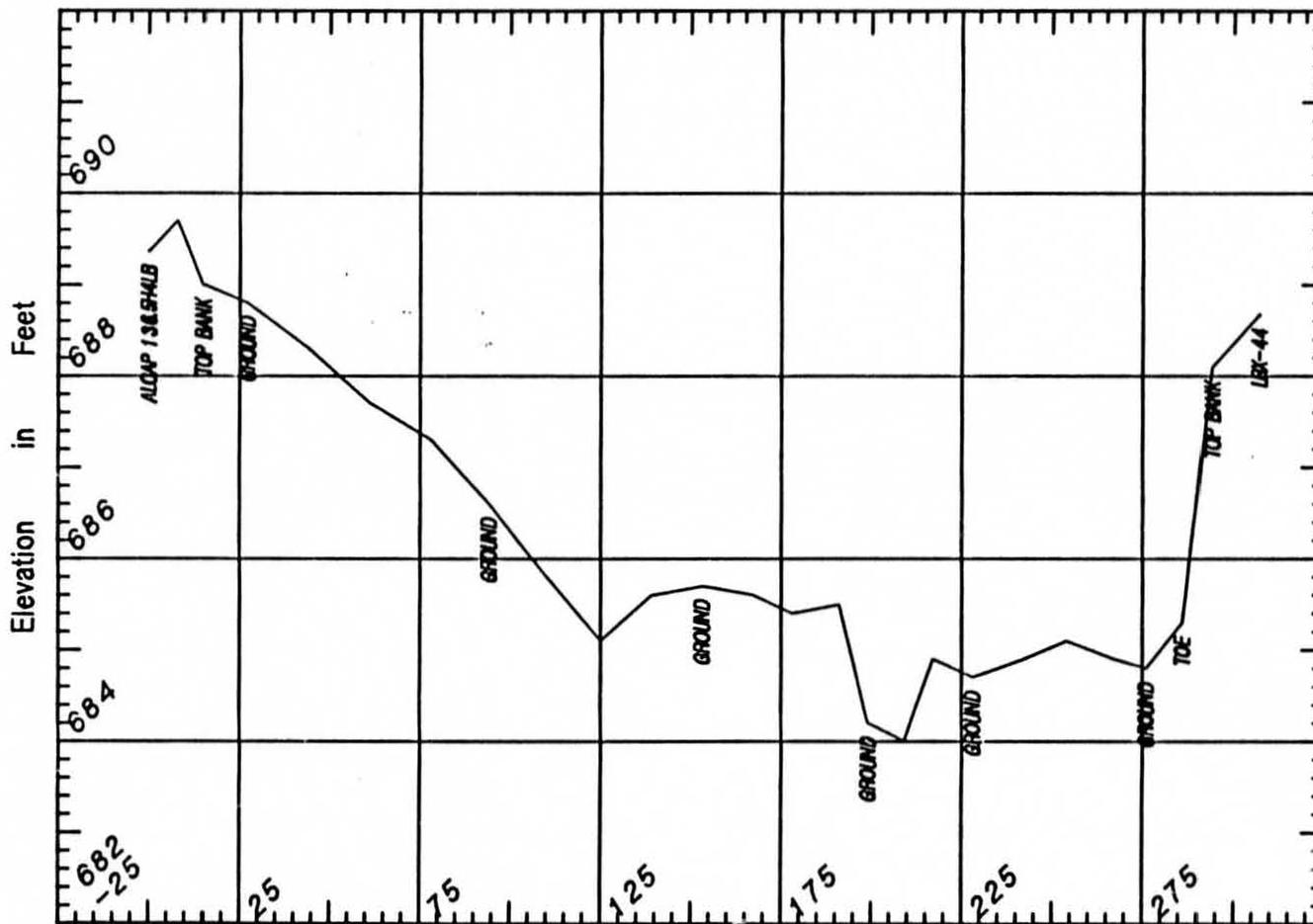
PREPARED FOR:



cross section SL1 1 136.5H4  
Date of Survey: JULY 28, 1982



# SUSITNA HYDROGRAPHIC SURVEYS



PREPARED BY:

PREPARED FOR:



cross section SL11 136.5H4  
Date of Survey: JULY 28, 1982

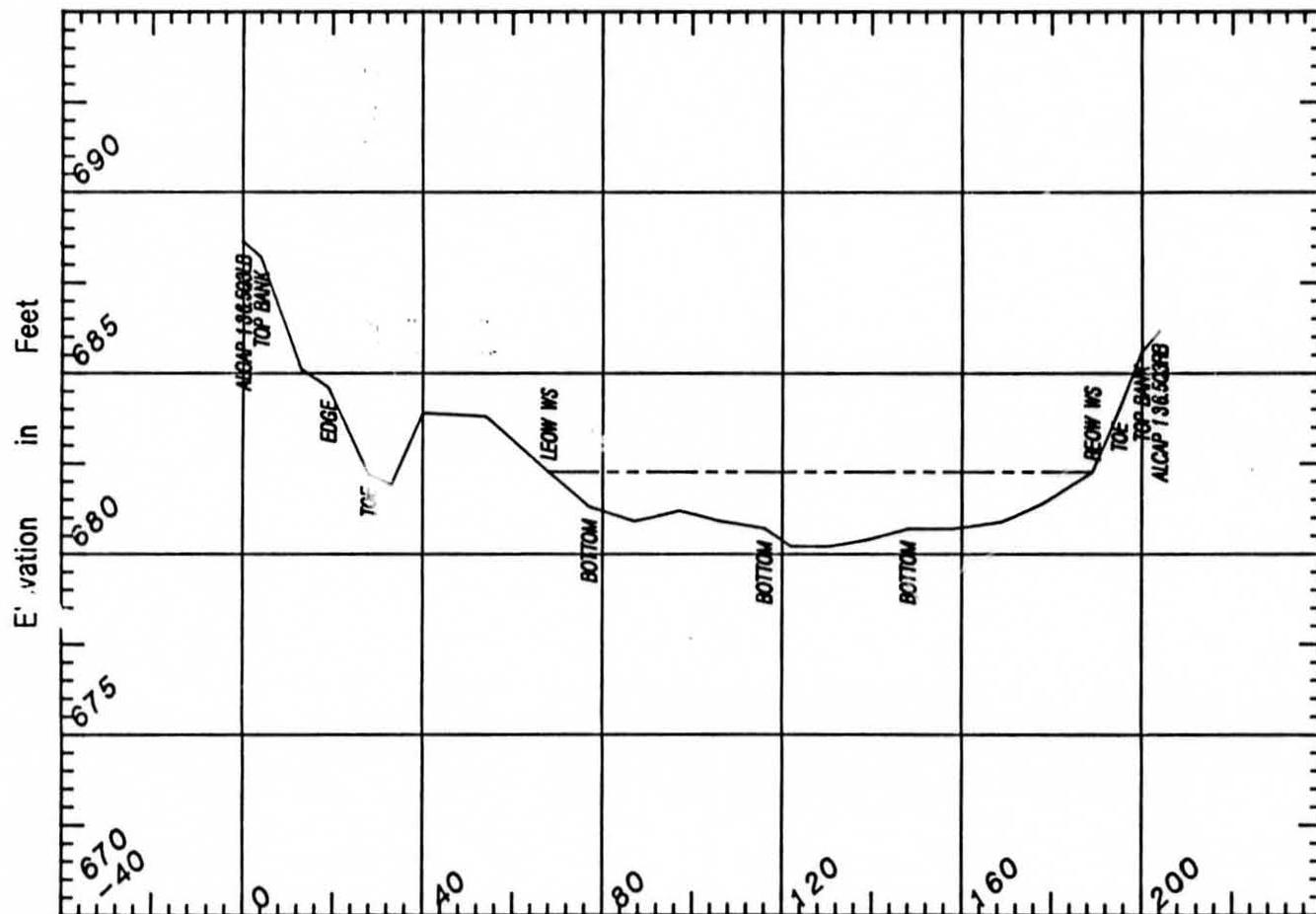


SUSITNA HYDROGRAPHIC SURVEYS  
 cross section SL11 136.503

Date of Survey: JULY 28, 1982

POINT	'X'	'Y'	DESCRIPTION
Cross section data:			
1	0.000	688.630	ALCAP 136.503LB
2	4.000	688.200	TOP BANK
3	13.000	685.100	
4	19.000	684.600	EDGE
5	28.000	682.200	TOE
6	33.000	681.900	
7	40.000	683.900	
8	54.000	683.800	
9	68.000	682.260	
10	77.000	681.300	BOTTOM
11	87.000	680.900	
12	97.000	681.200	
13	106.000	680.900	
14	116.000	680.700	BOTTOM
15	122.000	680.200	
16	130.000	680.200	
17	139.000	680.400	
18	148.000	680.700	BOTTOM
19	158.000	680.700	
20	169.000	680.900	
21	178.000	681.400	
22	189.000	682.260	
23	195.000	684.000	TOE
24	200.000	685.600	TOP BANK
25	204.000	686.170	ALCAP 136.503RB
Water surface data:			
1	68.000	682.260	LEOW WS
2	189.000	682.260	REOW WS
MIN	0.000	680.200	
MAX	204.000	688.630	

# SUSITNA HYDROGRAPHIC SURVEYS



PREPARED BY:

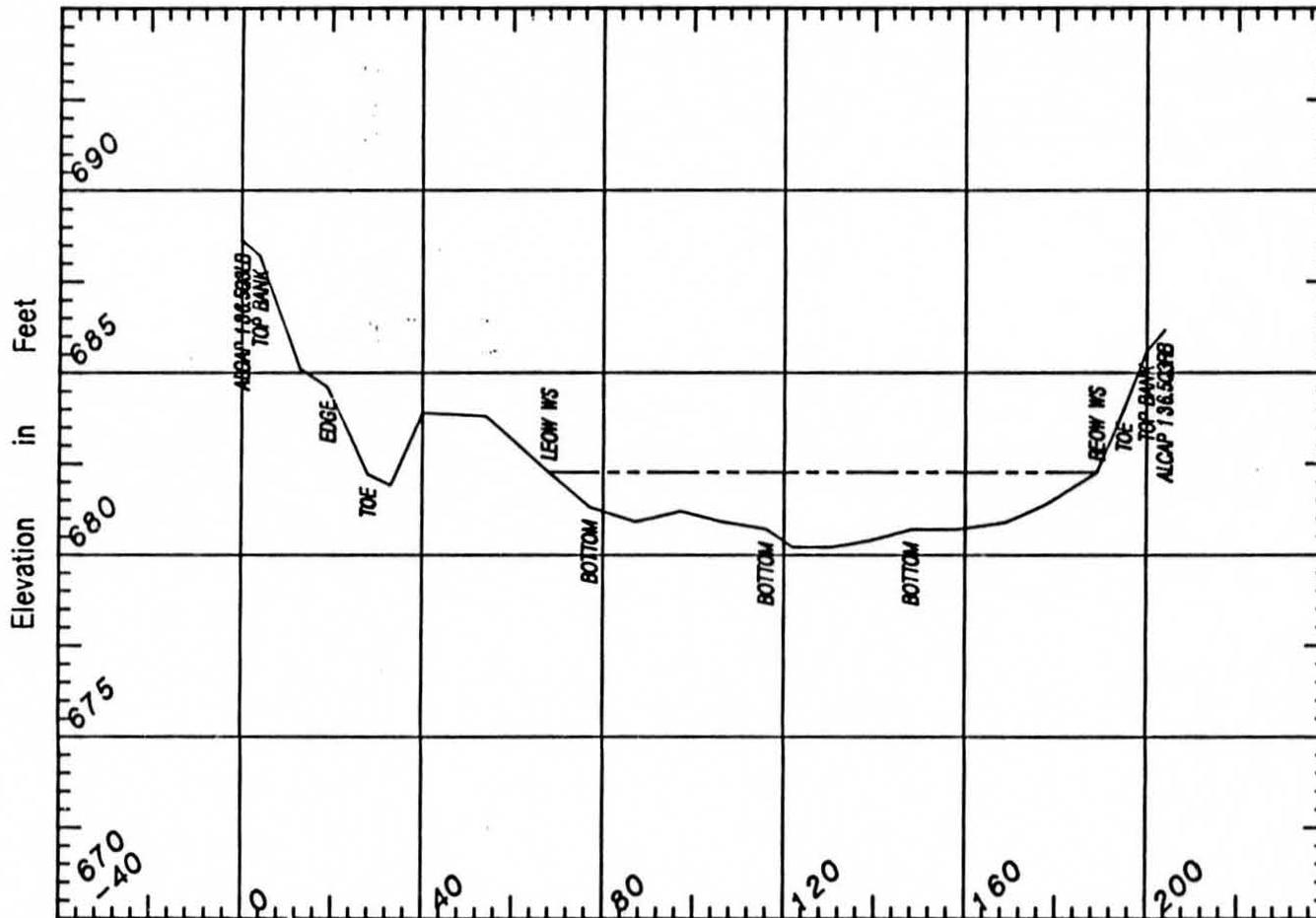


cross section SL1 1 136.5Q3  
Date of Survey: JULY 28, 1982

PREPARED FOR:



# SUSITNA HYDROGRAPHIC SURVEYS



PREPARED BY:

PREPARED FOR:



cross section SL11 136.5Q3  
Date of Survey: JULY 28, 1982

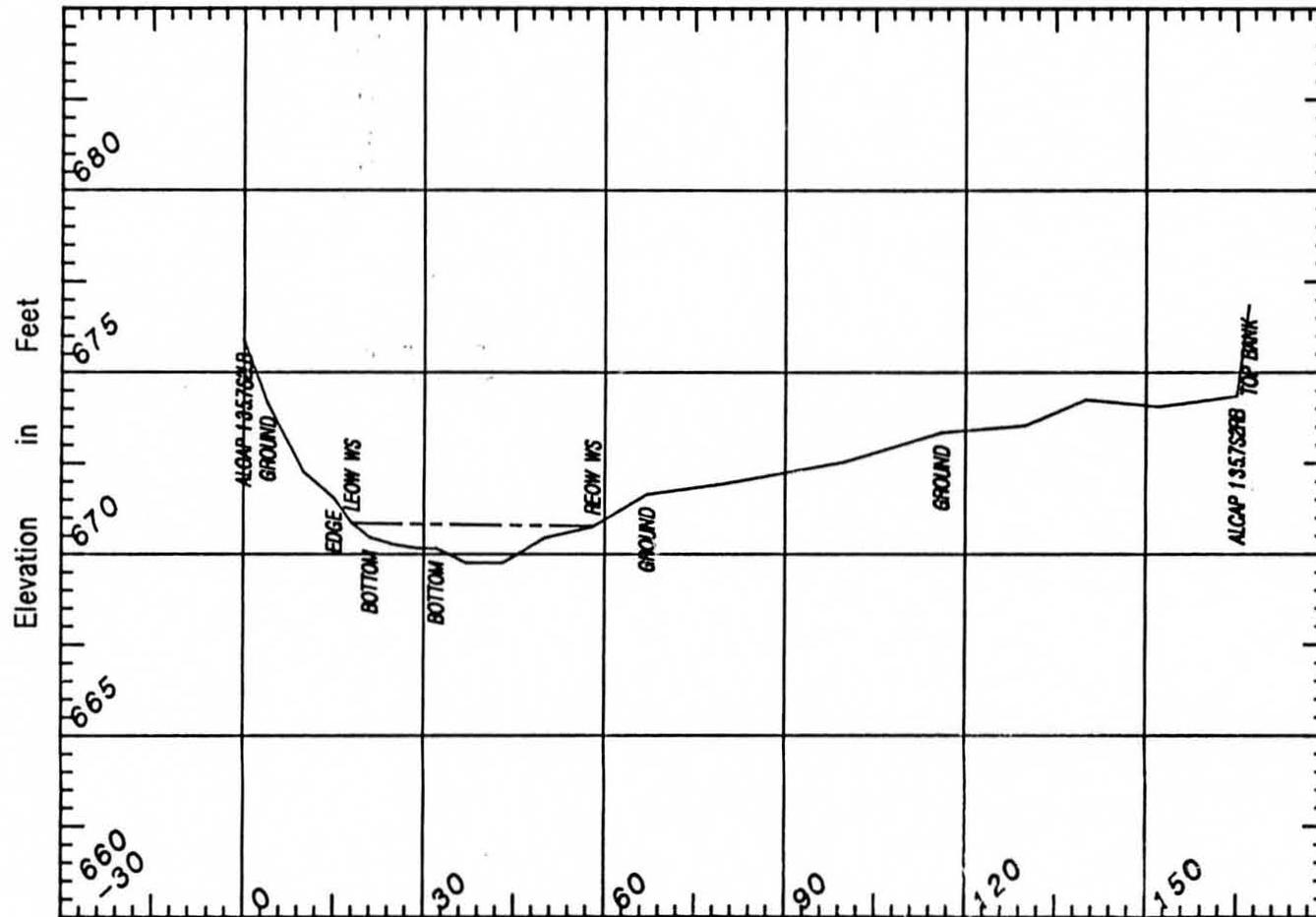


SUSITNA HYDROGRAPHIC SURVEYS  
 cross section SL11 135.752

Date of Survey: JULY 28, 1982

POINT	'X'	'Y'	DESCRIPTION
Cross section data:			
1	0.000	675.880	ALCAP 135.752LB
2	4.000	674.150	GROUND
3	10.000	672.250	
4	15.000	671.550	EDGE
5	18.000	670.840	
6	21.000	670.450	BOTTOM
7	25.000	670.250	
8	29.000	670.150	
9	32.000	670.150	BOTTOM
10	37.000	669.750	
11	43.000	669.750	
12	50.000	670.450	
13	58.000	670.760	
14	67.000	671.650	GROUND
15	80.000	671.950	
16	100.000	672.550	
17	116.000	673.350	GROUND
18	130.000	673.550	
19	140.000	674.250	
20	152.000	674.050	
21	165.000	674.360	ALCAP 135.752RB
22	167.000	676.850	TOP BANK
Water surface data:			
1	18.000	670.840	LEOW WS
2	58.000	670.760	REOW WS
MIN	0.000	669.750	
MAX	167.000	676.850	

# SUSITNA HYDROGRAPHIC SURVEYS



PREPARED BY:

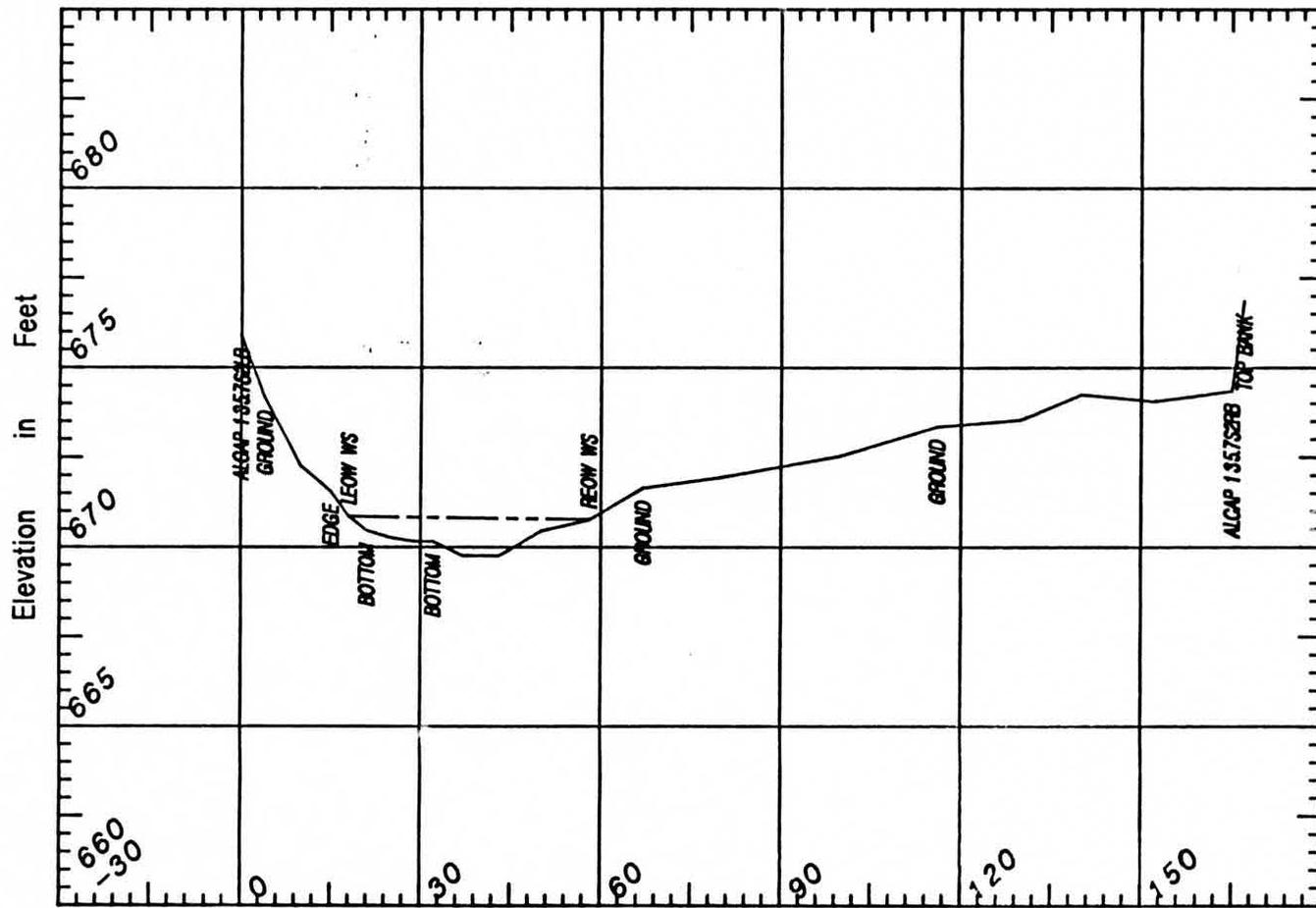


cross section SL11 135.7S2  
Date of Survey: JULY 28, 1982

PREPARED FOR:



# SUSITNA HYDROGRAPHIC SURVEYS



PREPARED BY:

PREPARED FOR:



cross section SL11 135.7S2  
Date of Survey: JULY 28, 1982



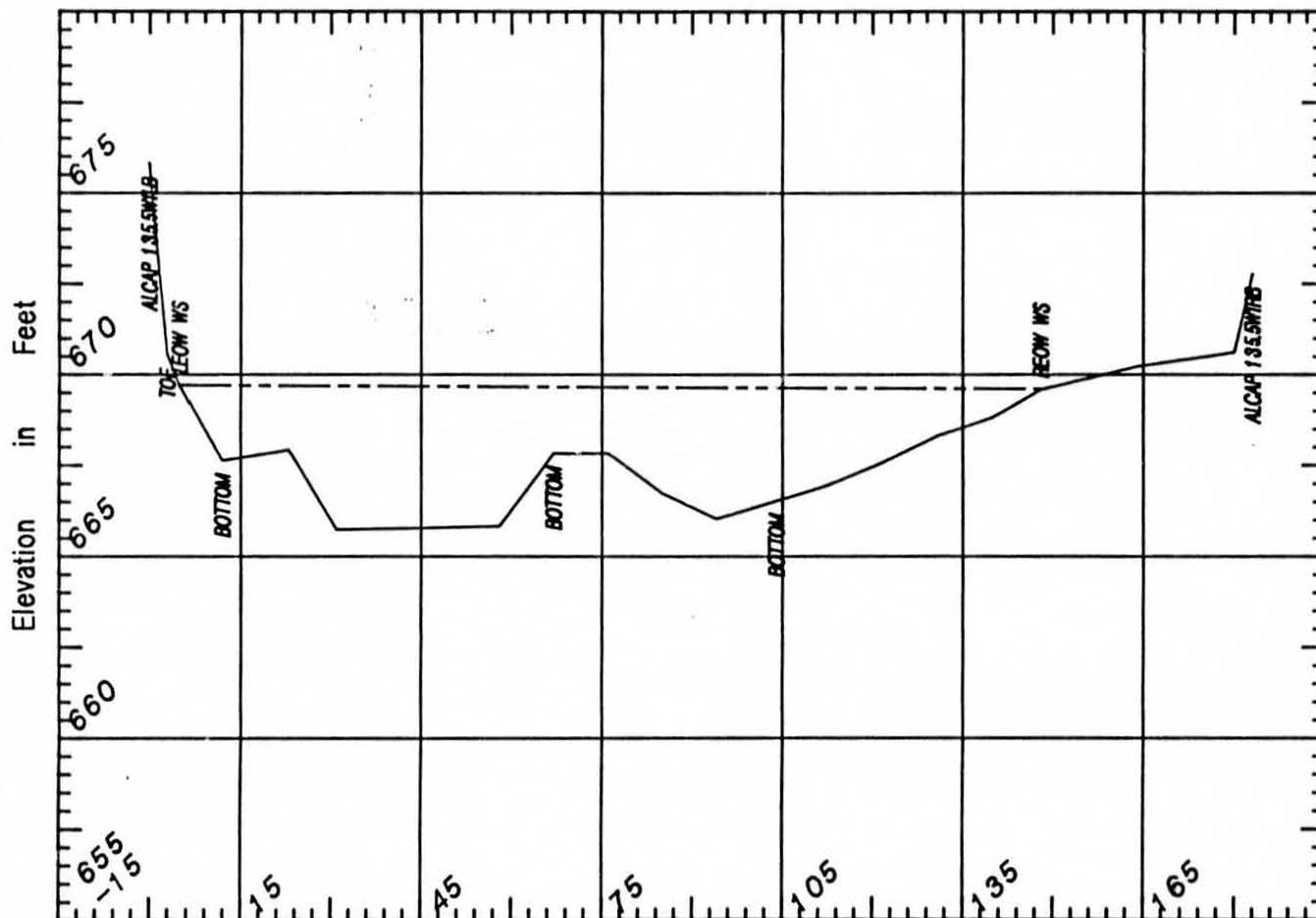
B-49

SUSITNA HYDROGRAPHIC SURVEYS  
 cross section SL11 135.5W1

Date of Survey: JULY 28, 1982

POINT	'X'	'Y'	DESCRIPTION
Cross section data:			
1	0.000	675.800	ALCAP 135.5W1LB
2	3.000	670.530	TOE
3	5.000	669.700	
4	12.000	667.630	BOTTOM
5	23.000	667.930	
6	31.000	665.730	
7	58.000	665.830	
8	67.000	667.830	BOTTOM
9	76.000	667.830	
10	85.000	666.730	
11	94.000	666.030	
12	104.000	666.530	BOTTOM
13	112.000	666.930	
14	121.000	667.530	
15	131.000	668.330	
16	140.000	668.830	
17	148.000	669.590	
18	164.000	670.230	
19	180.000	670.630	
20	183.000	672.770	ALCAP 135.5W1RB
Water surface data:			
1	5.000	669.700	LEOW WS
2	148.000	669.590	REOW WS
MIN	0.000	665.730	
MAX	183.000	675.800	

# SUSITNA HYDROGRAPHIC SURVEYS



PREPARED BY:

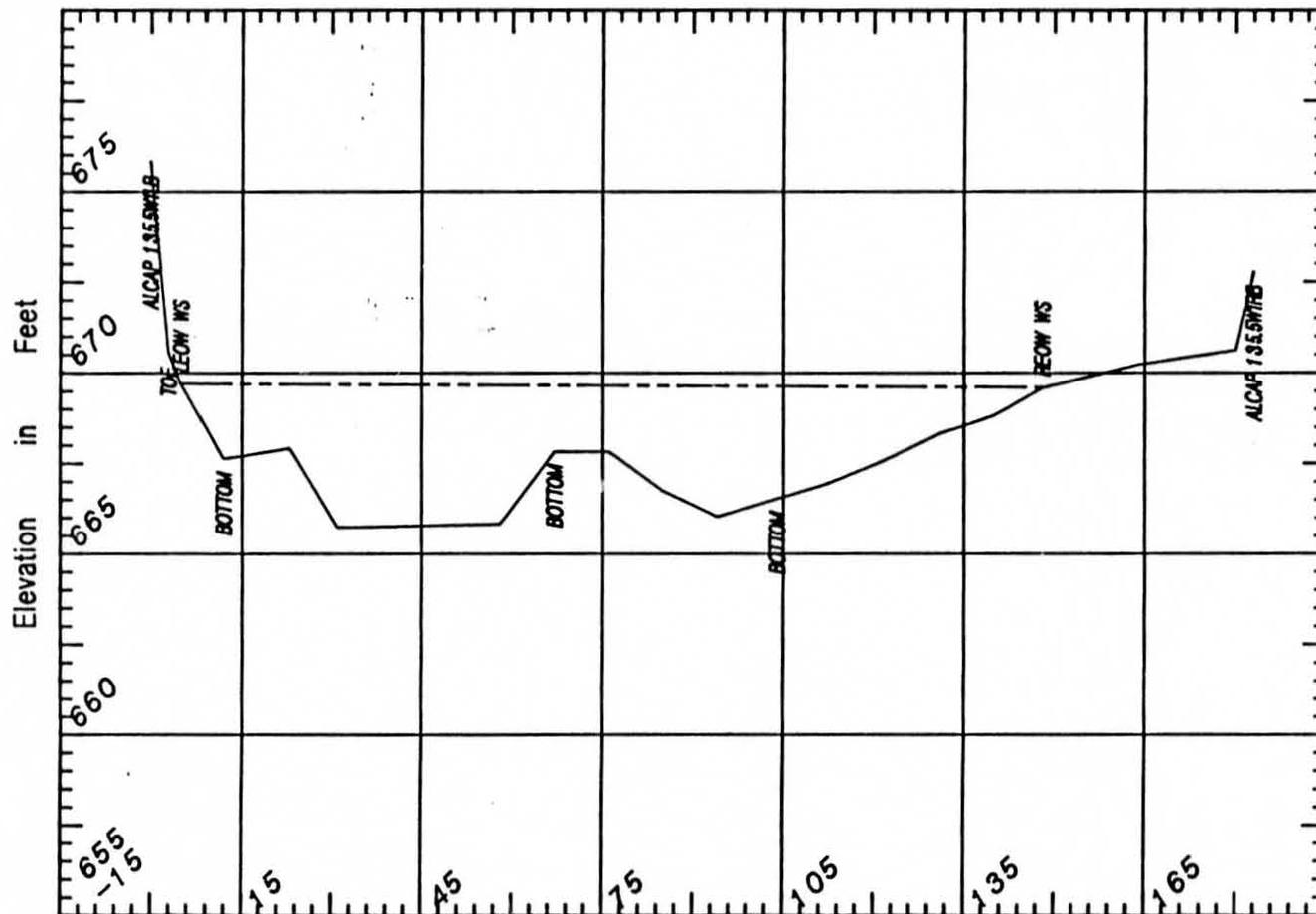
PREPARED FOR:



cross section SL11 135.5W1  
Date of Survey: JULY 28, 1982



# SUSITNA HYDROGRAPHIC SURVEYS



PREPARED BY:

PREPARED FOR:



cross section SL11 135.5W1  
Date of Survey: JULY 28, 1982

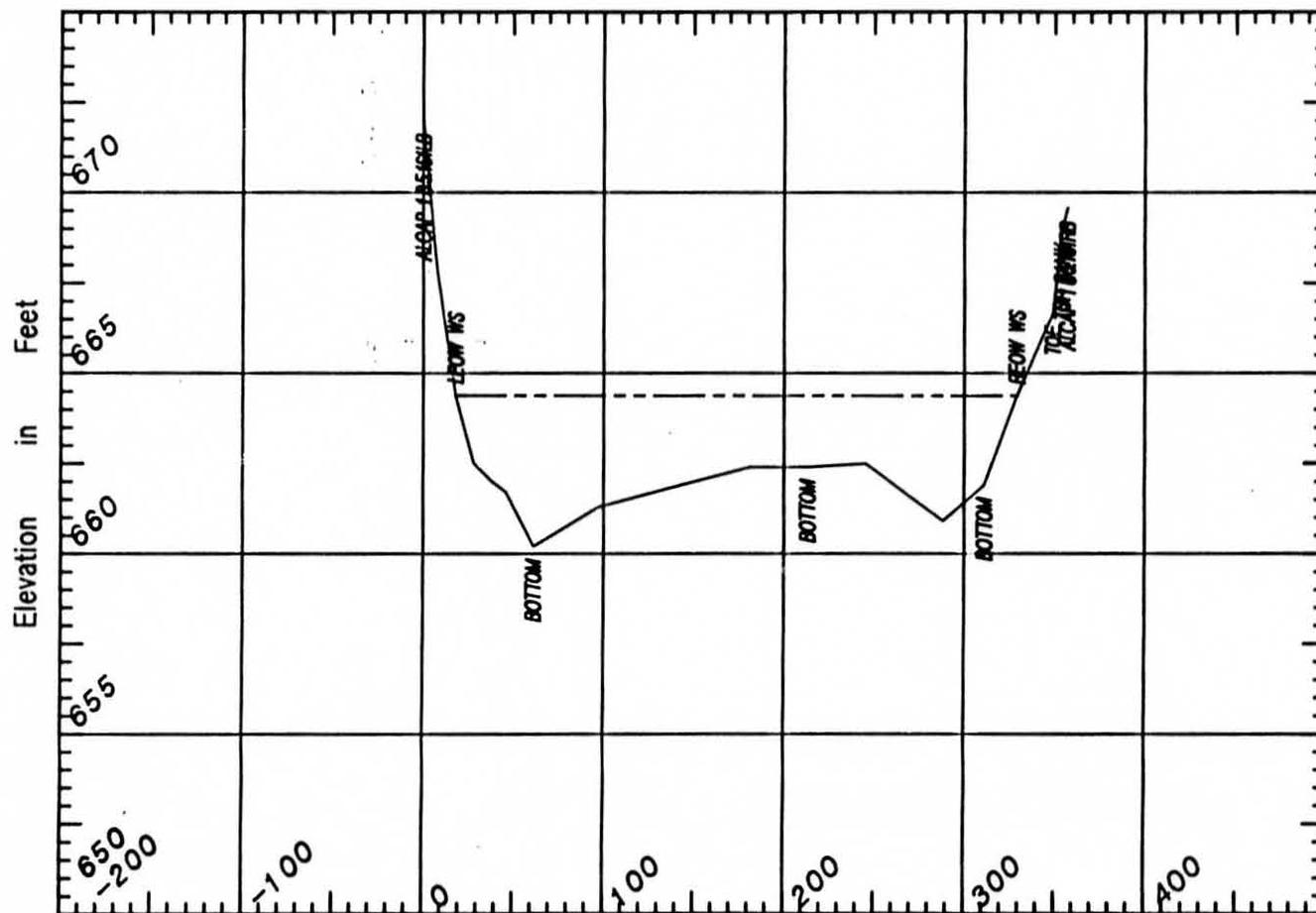


SUSITNA HYDROGRAPHIC SURVEYS  
cross section SL11 135.1S1

Date of Survey: JULY 29, 1982

POINT	'X'	'Y'	DESCRIPTION
Cross section data:			
1	0.000	672.000	ALCAP 135.1S1LB
2	8.000	667.770	
3	18.000	664.380	
4	28.000	662.500	
5	38.000	662.000	
6	46.000	661.700	
7	61.000	660.200	BOTTOM
8	97.000	661.300	
9	142.000	661.900	
10	181.000	662.400	
11	213.000	662.400	BOTTOM
12	245.000	662.500	
13	288.000	660.900	
14	311.000	661.900	BOTTOM
15	329.000	664.370	
16	349.000	666.670	TOE
17	354.000	668.970	TOP BANK
18	357.000	669.560	ALCAP 135.1S1RB
Water surface data:			
1	18.000	664.380	LEOW WS
2	329.000	664.370	REOW WS
MIN	0.000	660.200	
MAX	357.000	672.000	

# SUSITNA HYDROGRAPHIC SURVEYS



PREPARED BY:

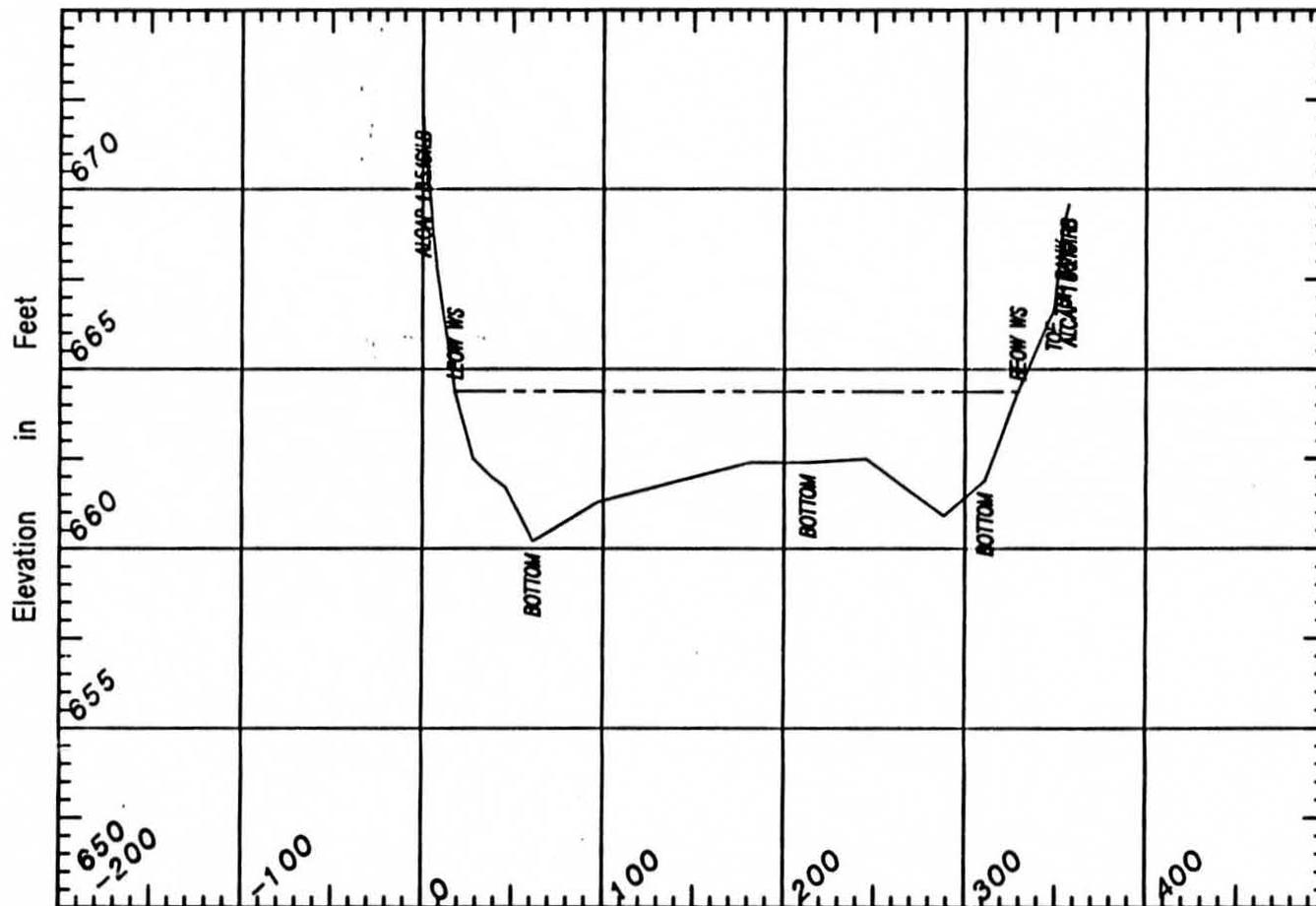
PREPARED FOR:



cross section SL11 135.1S1  
Date of Survey: JULY 29, 1982



# SUSITNA HYDROGRAPHIC SURVEYS



PREPARED BY:



cross section SL1 1 1 35.1S1  
Date of Survey: JULY 29, 1982

PREPARED FOR:

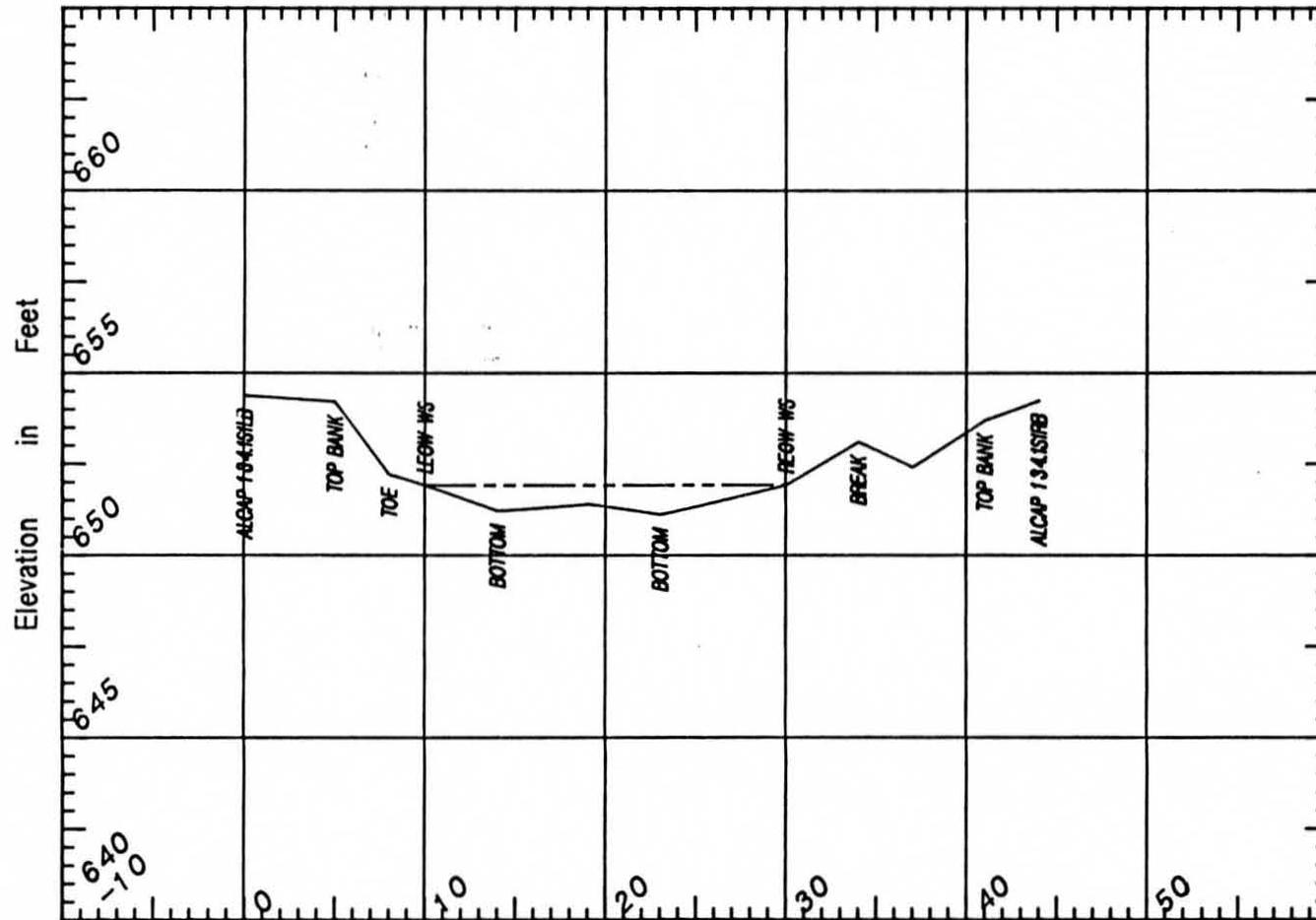


SUSITNA HYDROGRAPHIC SURVEYS  
 cross section SL10 134.1S1

Date of Survey: JULY 29, 1982

POINT	'X'	'Y'	DESCRIPTION
Cross section data:			
1	0.000	654.370	ALCAP 134.1S1LB
2	5.000	654.200	TOP BANK
3	8.000	652.200	TOE
4	10.000	651.900	
5	14.000	651.200	BOTTOM
6	19.000	651.400	
7	23.000	651.100	BOTTOM
8	30.000	651.920	
9	34.000	653.100	BREAK
10	37.000	652.400	
11	41.000	653.700	TOP BANK
12	44.000	654.240	ALCAP 134.1S1RB
Water surface data:			
1	10.000	651.900	LEOW WS
2	30.000	651.920	REOW WS
MIN	0.000	651.100	
MAX	44.000	654.370	

# SUSITNA HYDROGRAPHIC SURVEYS



PREPARED BY:

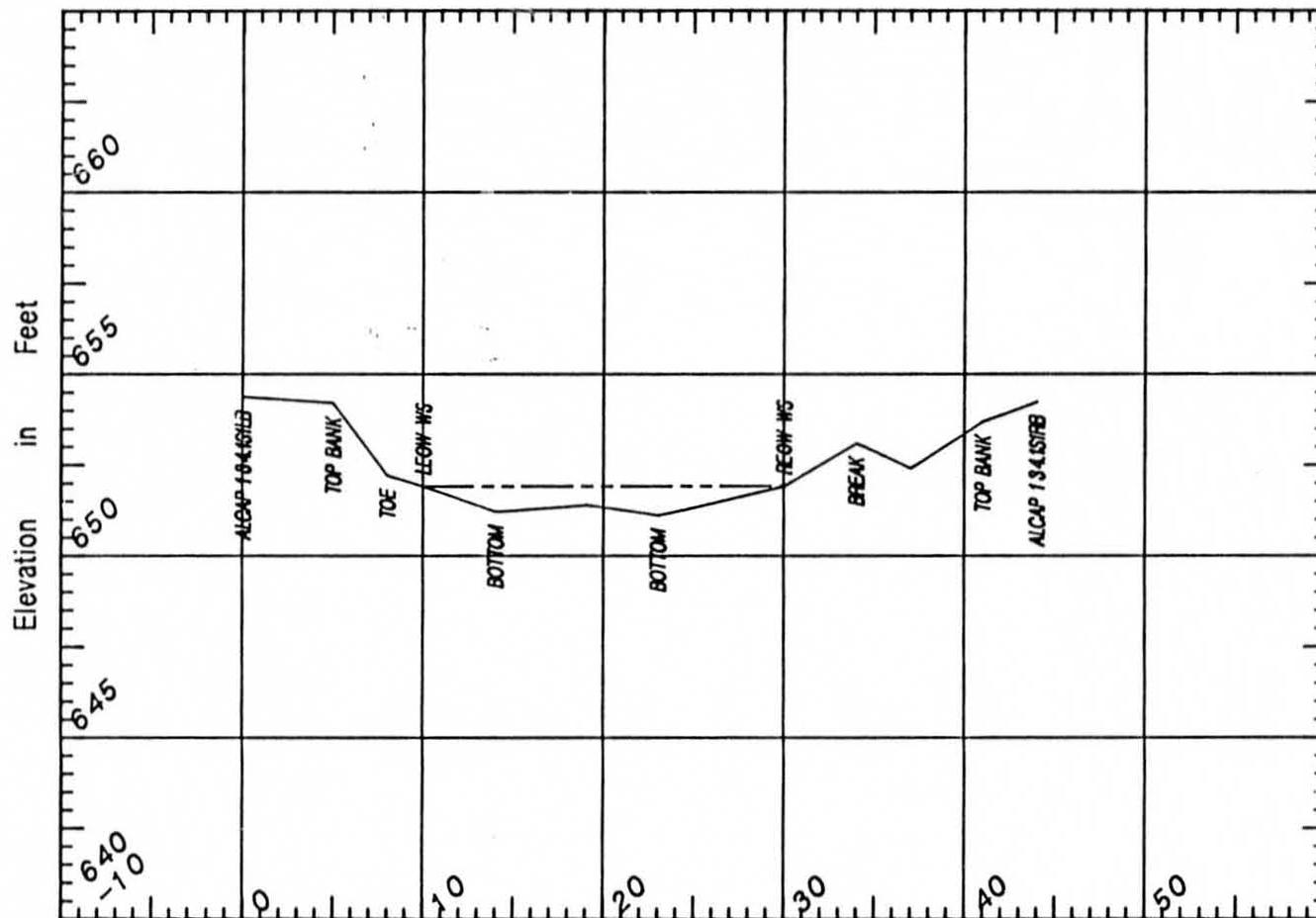


cross section SL10 134.1S1  
Date of Survey: JULY 29, 1982

PREPARED FOR:



# SUSITNA. HYDROGRAPHIC SURVEYS



PREPARED BY:

PREPARED FOR:



cross section SL10 134.1S1  
Date of Survey: JULY 29, 1982

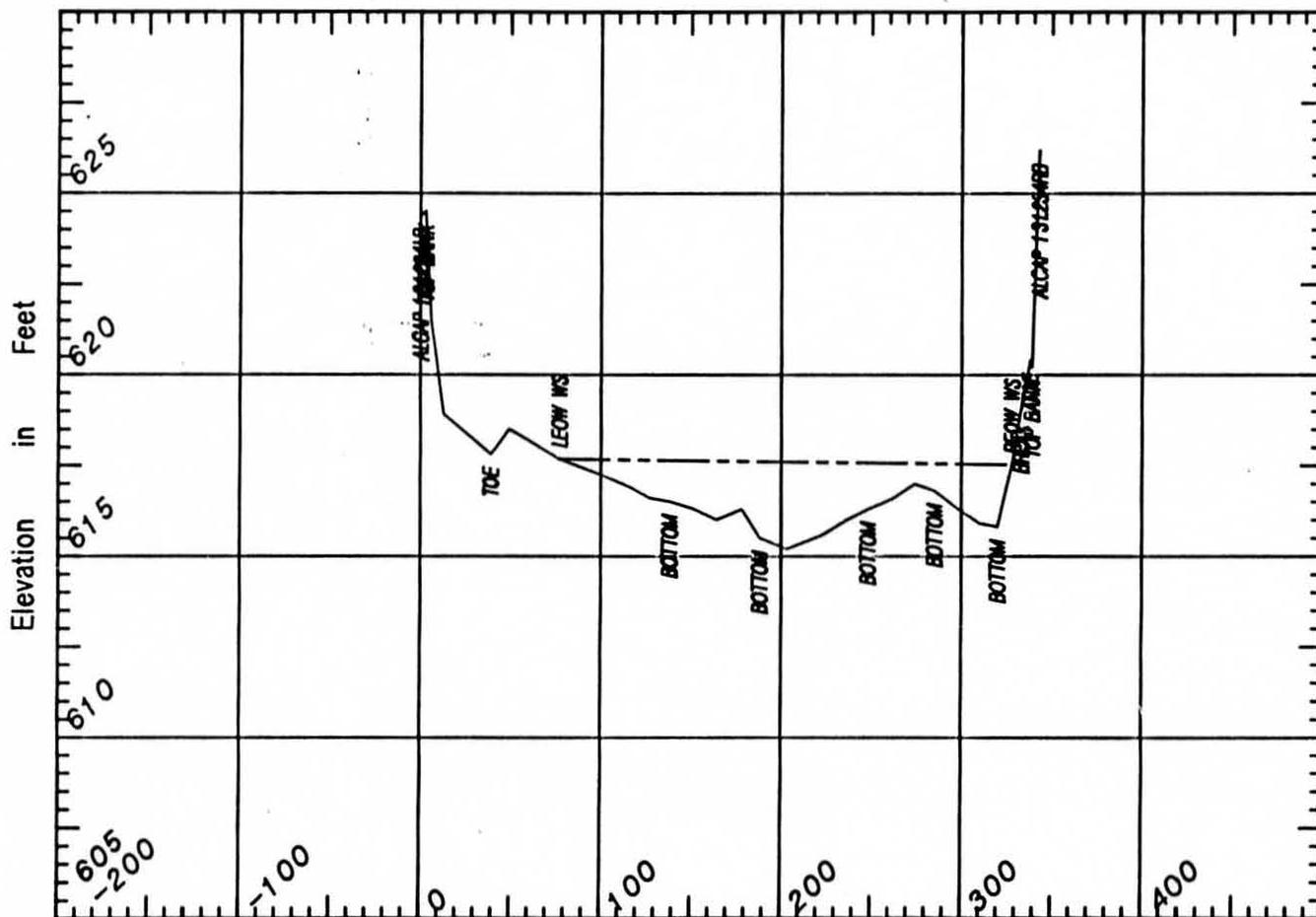


SUSITNA HYDROGRAPHIC SURVEYS  
 cross section 4TH OF JULY 131.254

Date of Survey: AUGUST 3, 1982

POINT	'X'	'Y'	DESCRIPTION
Cross section data:			
1	0.000	624.390	ALCAP 131.254LB
2	3.000	624.510	TOP BANK
3	6.000	621.510	
4	13.000	618.910	
5	39.000	617.810	TOE
6	49.000	618.510	
7	77.000	617.670	
8	102.000	617.200	
9	116.000	616.900	
10	127.000	616.600	
11	138.000	616.500	BOTTOM
12	151.000	616.300	
13	164.000	616.000	
14	178.000	616.300	
15	188.000	615.500	BOTTOM
16	203.000	615.200	
17	223.000	615.600	
18	236.000	616.000	
19	248.000	616.300	BOTTOM
20	262.000	616.600	
21	274.000	617.000	
22	285.000	616.800	BOTTOM
23	298.000	616.300	
24	310.000	615.900	
25	320.000	615.800	BOTTOM
26	328.000	617.520	
27	333.000	619.010	BREAK
28	338.000	620.410	TOE
29	339.000	620.210	TOP BANK
30	343.000	626.180	ALCAP 131.254RB
Water surface data:			
1	77.000	617.670	LEOW WS
2	328.000	617.520	REOW WS
MIN	0.000	615.200	
MAX	343.000	626.180	

# SUSITNA HYDROGRAPHIC SURVEYS



PREPARED BY:

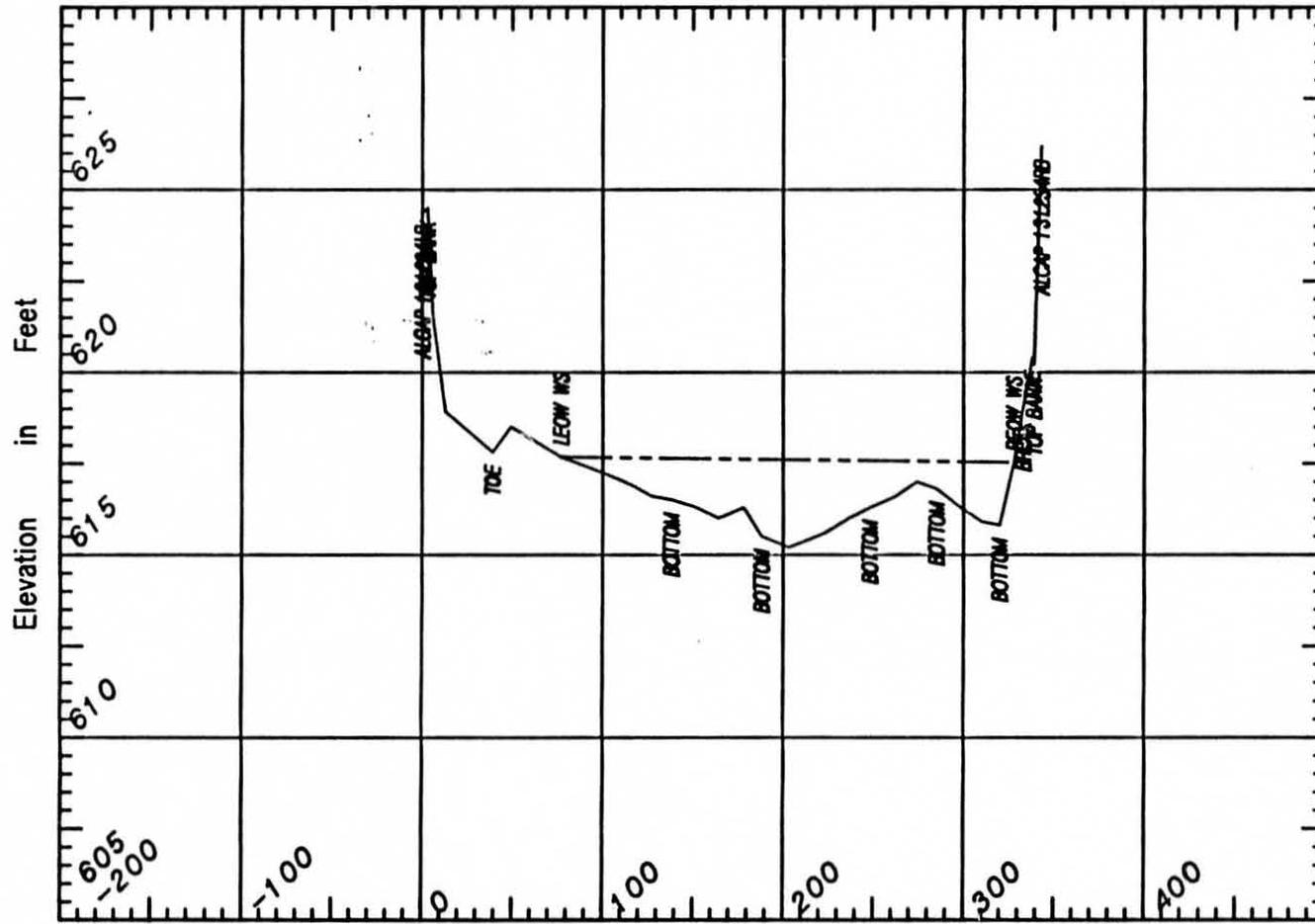


cross section 4TH OF JULY 131.2S4  
Date of Survey: AUGUST 3, 1982

PREPARED FOR:



# SUSITNA HYDROGRAPHIC SURVEYS



PREPARED BY:

PREPARED FOR:



cross section 4TH OF JULY 131.2S4  
Date of Survey: AUGUST 3, 1982

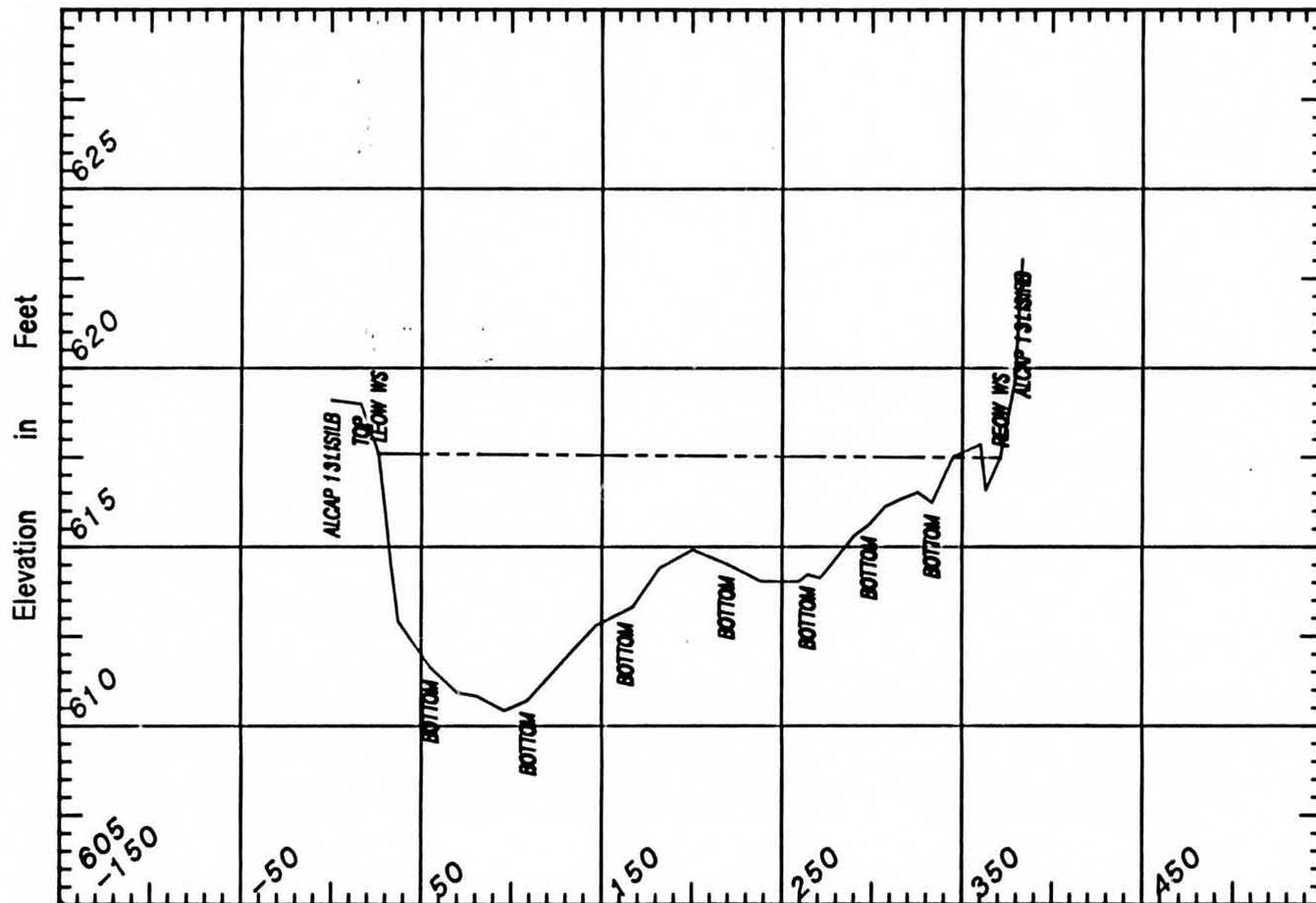


SUSITNA HYDROGRAPHIC SURVEYS  
 cross section 4TH OF JULY 131.1S1

Date of Survey: JULY 30, 1982

POINT	'X'	'Y'	DESCRIPTION
Cross section data:			
1	0.000	619.080	ALCAP 131.1S1LB
2	16.000	618.970	TOP
3	26.000	617.590	
4	33.000	614.520	
5	37.000	612.920	
6	55.000	611.620	BOTTOM
7	70.000	610.920	
8	81.000	610.820	
9	96.000	610.420	
10	109.000	610.720	BOTTOM
11	134.000	612.120	
12	147.000	612.820	
13	155.000	613.020	
14	163.000	613.220	BOTTOM
15	167.000	613.320	
16	182.000	614.420	
17	200.000	614.920	
18	219.000	614.520	BOTTOM
19	238.000	614.020	
20	250.000	614.020	
21	259.000	614.020	
22	264.000	614.220	BOTTOM
23	271.000	614.120	
24	282.000	614.820	
25	290.000	615.320	
26	298.000	615.620	BOTTOM
27	307.000	616.120	
28	315.000	616.320	
29	325.000	616.520	
30	333.000	616.220	BOTTOM
31	345.000	617.520	
32	360.000	617.870	
33	363.000	616.570	
34	371.000	617.470	
35	379.000	619.670	
36	383.000	623.030	ALCAP 131.1S1RB
Water surface data:			
1	26.000	617.590	LEOW WS
2	371.000	617.470	REOW WS
MIN	0.000	610.420	
MAX	383.000	623.030	

# SUSITNA HYDROGRAPHIC SURVEYS



PREPARED BY:

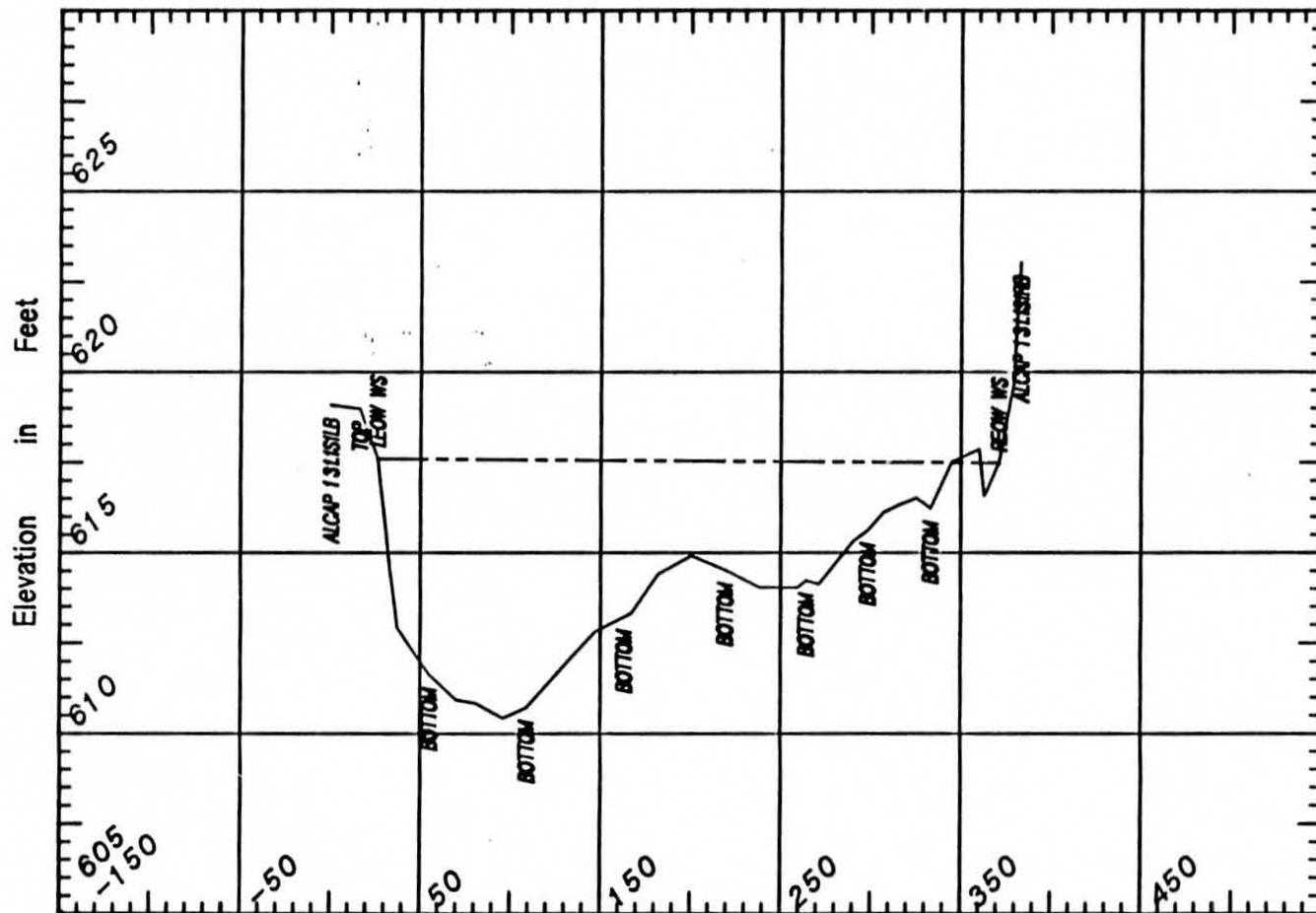
PREPARED FOR:



cross section 4TH OF JULY 131.1S1  
Date of Survey: JULY 30, 1982



# SUSITNA, HYDROGRAPHIC SURVEYS



PREPARED BY:

PREPARED FOR:



cross section 4TH OF JULY 131.1S1  
Date of Survey: JULY 30, 1982

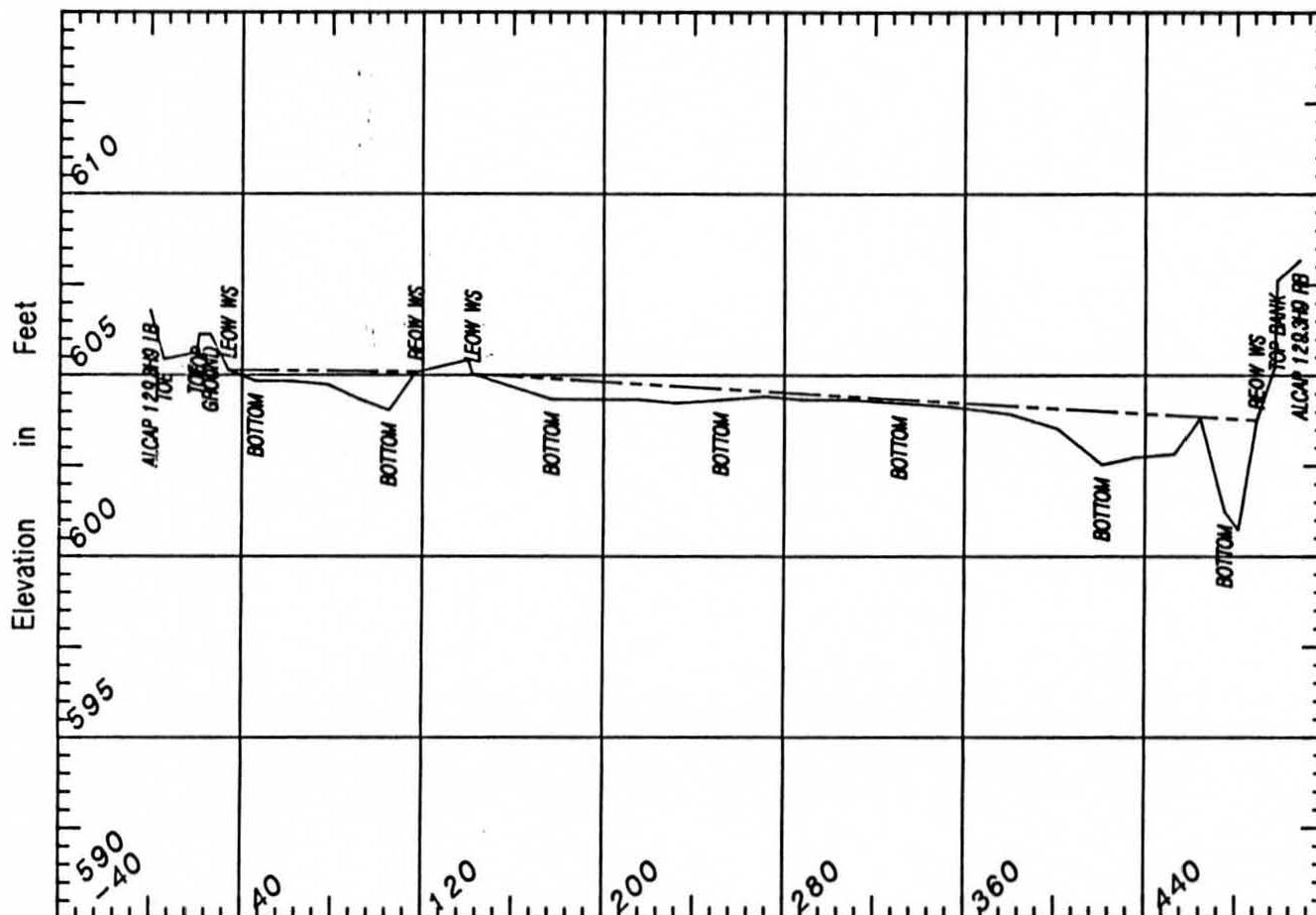


SUSITNA HYDROGRAPHIC SURVEYS  
cross section SLOUGH 9 129.3H9

Date of Survey: AUGUST 1, 1982

POINT	'X'	'Y'	DESCRIPTION
Cross section data:			
1	0.000	606.770	ALCAP 129.3H9 LB
2	6.000	605.430	TOE
3	20.000	605.630	TOE
4	21.000	606.130	TOP
5	26.000	606.130	GROUND
6	34.000	605.130	
7	46.000	604.830	BOTTOM
8	61.000	604.830	
9	78.000	604.730	
10	92.000	604.330	
11	105.000	604.030	BOTTOM
12	117.000	605.090	
13	140.000	605.430	
14	142.000	605.020	
15	177.000	604.330	BOTTOM
16	197.000	604.330	
17	215.000	604.330	
18	232.000	604.230	
19	252.000	604.330	BOTTOM
20	271.000	604.430	
21	288.000	604.330	
22	308.000	604.330	
23	331.000	604.230	BOTTOM
24	354.000	604.130	
25	380.000	603.930	
26	401.000	603.530	
27	421.000	602.530	BOTTOM
28	435.000	602.730	
29	453.000	602.830	
30	464.000	603.830	
31	475.000	601.230	BOTTOM
32	481.000	600.730	
33	489.000	603.760	
34	497.000	605.230	
35	498.000	607.630	TOP BANK
36	508.000	608.180	ALCAP 129.3H9 RB
Water surface data:			
1	34.000	605.130	LEOW WS
2	117.000	605.090	REOW WS
			SPLIT
4	142.000	605.020	LEOW WS
5	489.000	603.760	REOW WS
MIN	0.000	600.730	
MAX	508.000	608.180	

# SUSITNA HYDROGRAPHIC SURVEYS



PREPARED BY:

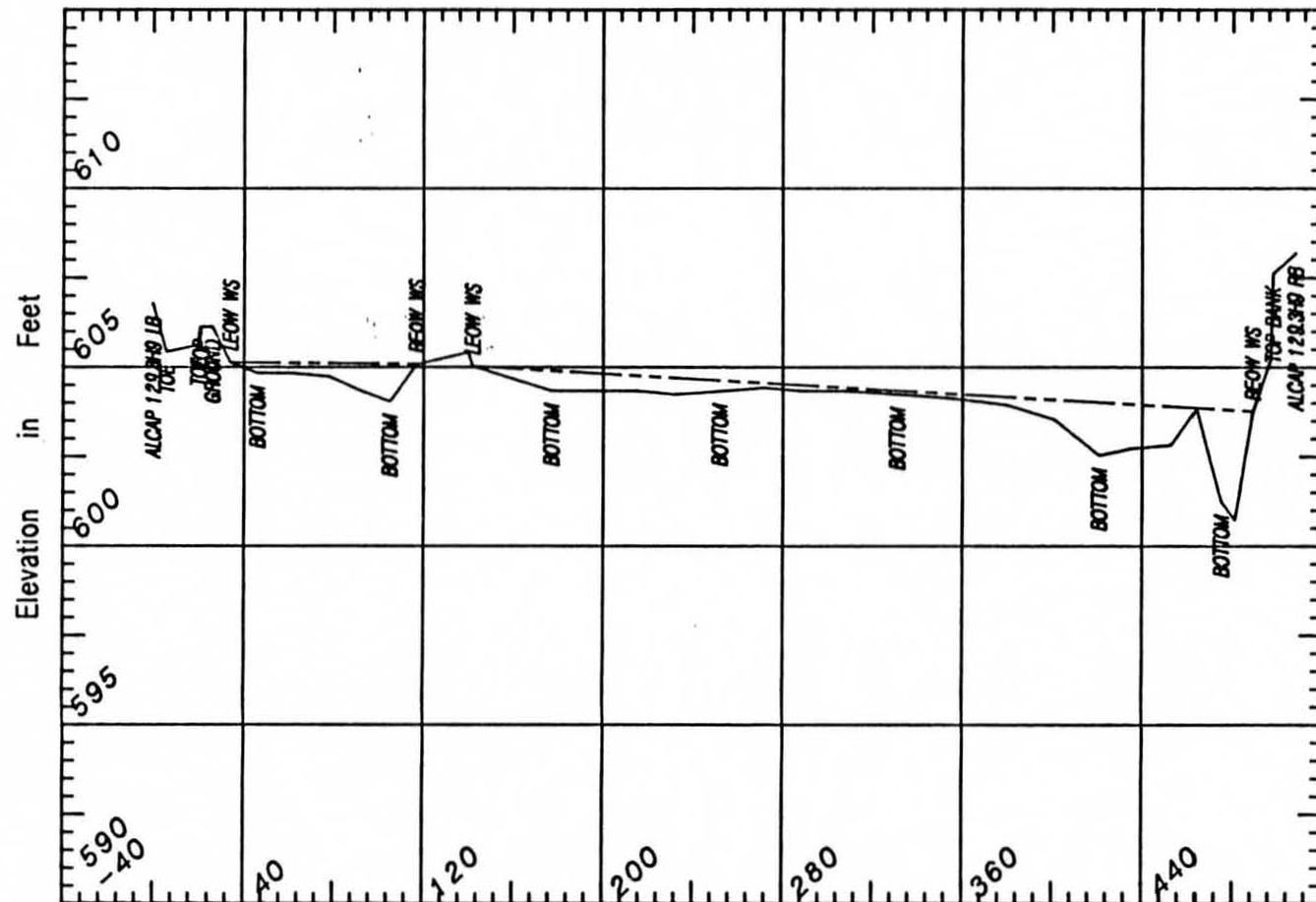


cross section SLOUGH 9 129.3H9  
Date of Survey: AUGUST 1, 1982

PREPARED FOR:



# SUSITNA HYDROGRAPHIC SURVEYS



PREPARED BY:

PREPARED FOR:



cross section SLOUGH 9 129.3H9  
Date of Survey: AUGUST 1, 1982

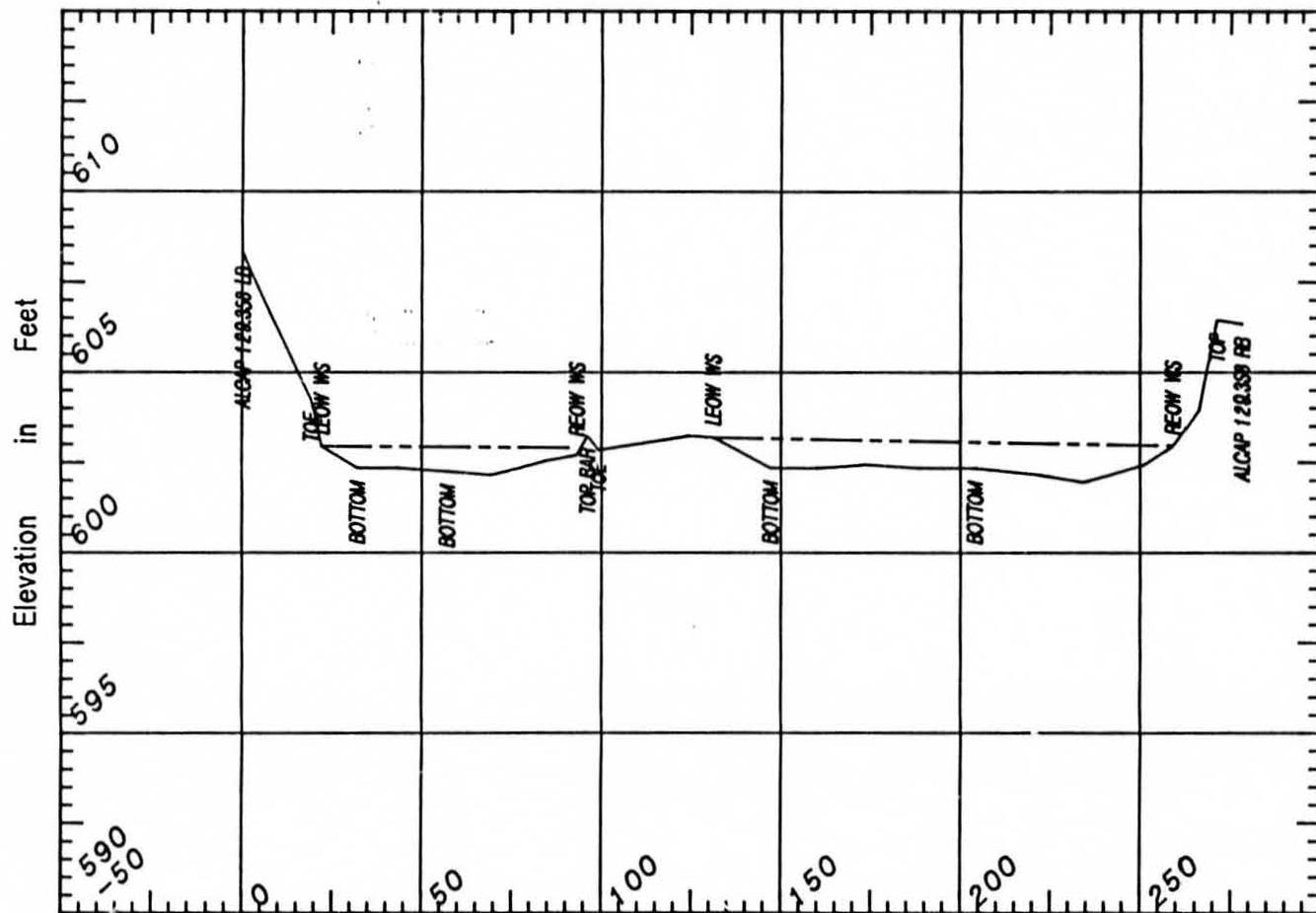


SUSITNA HYDROGRAPHIC SURVEYS  
 cross section SLOUGH 9 129.358

Date of Survey: AUGUST 1, 1982

POINT	'X'	'Y'	DESCRIPTION
Cross section data:			
1	0.000	608.280	ALCAP 129.358 LB
2	8.000	606.540	
3	19.000	604.240	TOE
4	22.000	602.940	
5	32.000	602.340	BOTTOM
6	43.000	602.340	
7	57.000	602.240	BOTTOM
8	69.000	602.140	
9	84.000	602.540	
10	93.000	602.710	
11	96.000	603.240	TOP BAR
12	99.000	602.840	TOE
13	124.000	603.240	
14	131.000	603.190	
15	147.000	602.340	BOTTOM
16	160.000	602.340	
17	173.000	602.440	
18	188.000	602.340	
19	204.000	602.340	BOTTOM
20	222.000	602.140	
21	234.000	601.940	
22	251.000	602.440	
23	259.000	602.950	
24	266.000	603.940	
25	271.000	606.440	TOP
26	278.000	606.330	ALCAP 129.358 RB
Water surface data:			
1	22.000	602.940	LEOW WS
2	93.000	602.900	REOW WS
			SPLIT
4	131.000	603.190	LEOW WS
5	259.000	602.950	REOW WS
MIN	0.000	601.940	
MAX	278.000	608.280	

# SUSITNA HYDROGRAPHIC SURVEYS



PREPARED BY:

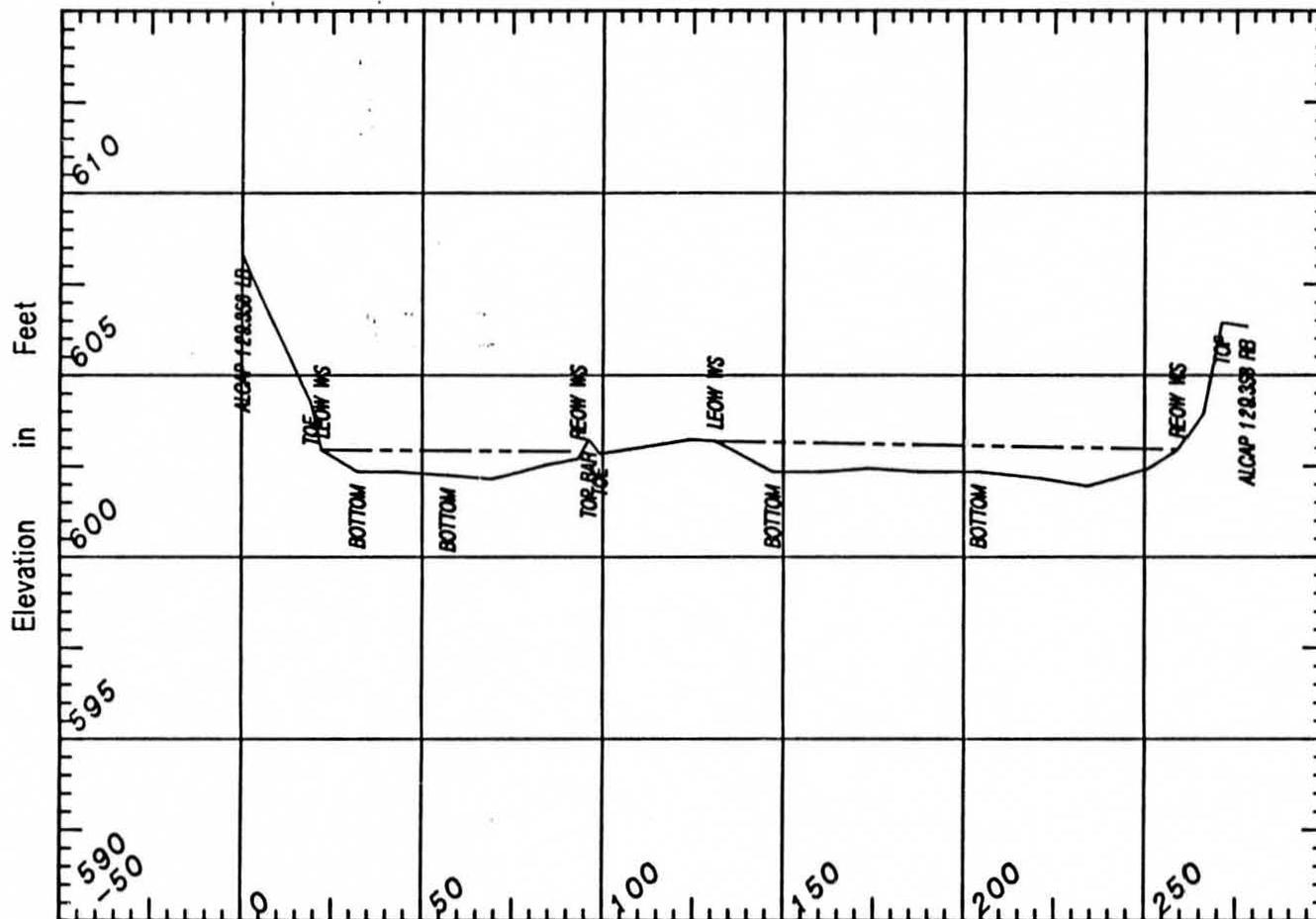


cross section SLOUGH 9 129.3S8  
Date of Survey: AUGUST 1, 1982

PREPARED FOR:



# SUSITNA HYDROGRAPHIC SURVEYS



PREPARED BY:



cross section SLOUGH 9 129.3S8  
Date of Survey: AUGUST 1, 1982

PREPARED FOR:

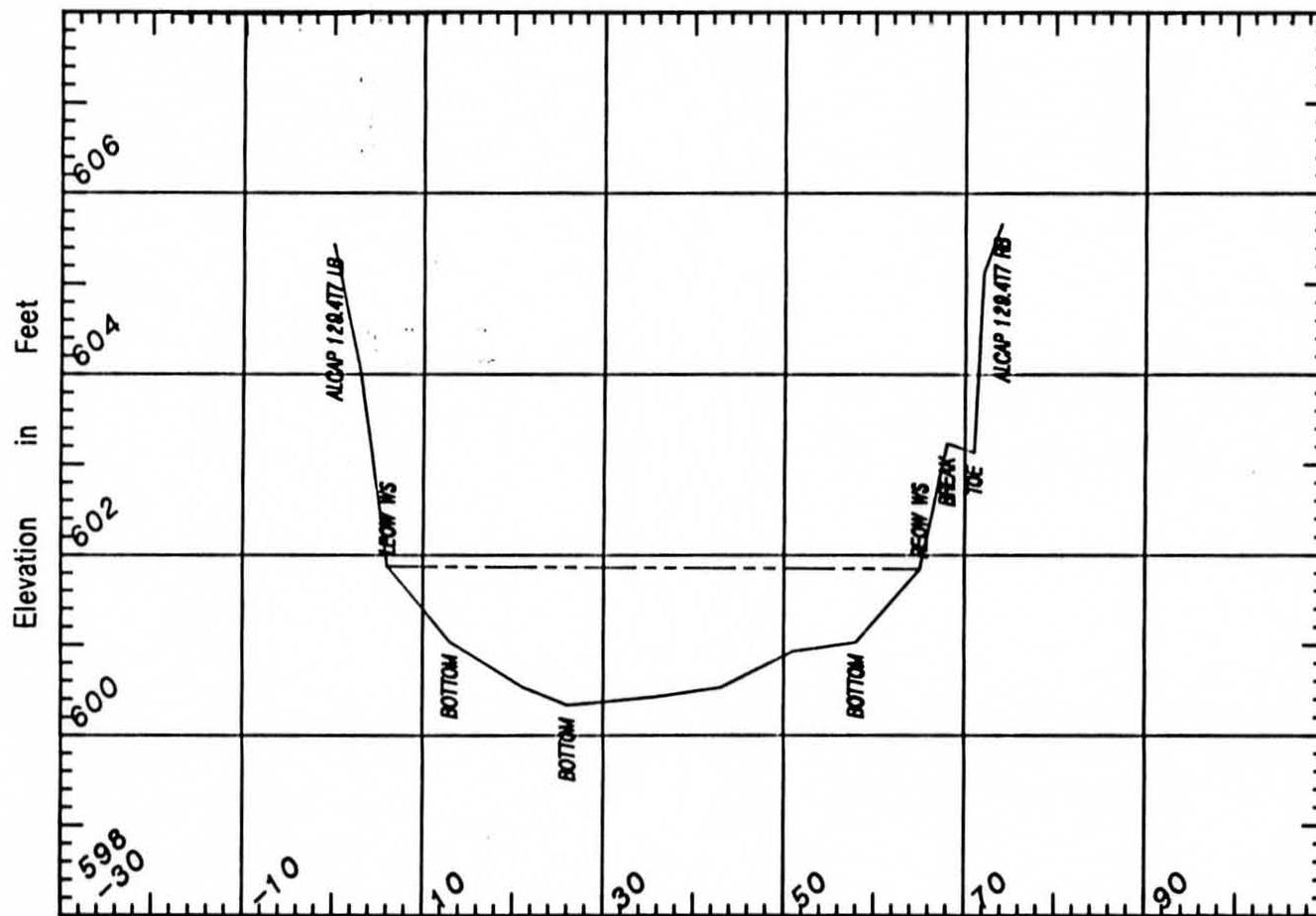


SUSITNA HYDROGRAPHIC SURVEYS  
cross section SLOUGH 9 129.4T7

Date of Survey: AUGUST 1, 1982

POINT	'X'	'Y'	DESCRIPTION
Cross section data:			
1	0.000	605.430	ALCAP 129.4T7 LB
2	3.000	604.000	
3	6.000	601.870	
4	13.000	601.030	BOTTOM
5	21.000	600.530	
6	26.000	600.330	BOTTOM
7	36.000	600.430	
8	43.000	600.530	
9	51.000	600.930	
10	58.000	601.030	BOTTOM
11	65.000	601.840	
12	68.000	603.230	BREAK
13	71.000	603.130	TOE
14	72.000	605.130	
15	74.000	605.660	ALCAP 129.4T7 RB
Water surface data:			
1	6.000	601.870	LEOW WS
2	65.000	601.840	REOW WS
MIN	0.000	600.330	
MAX	74.000	605.660	

# SUSITNA HYDROGRAPHIC SURVEYS



PREPARED BY:

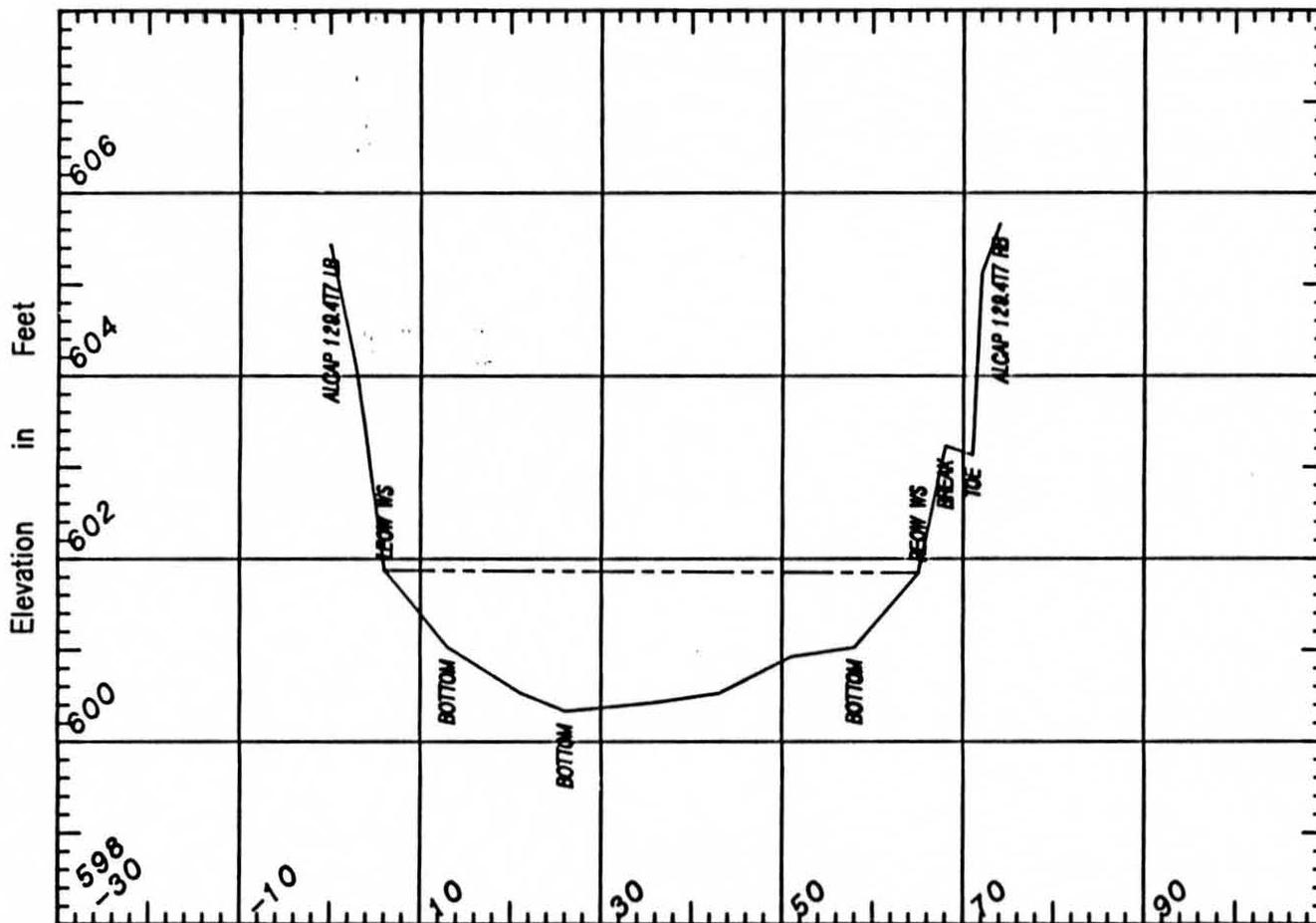
PREPARED FOR:



cross section SLOUGH 9 129.4T7  
Date of Survey: AUGUST 1, 1982



# SUSITNA HYDROGRAPHIC SURVEYS



PREPARED BY:

PREPARED FOR:



cross section SLOUGH 9 129.477  
Date of Survey: AUGUST 1, 1982



SUSITNA HYDROGRAPHIC SURVEYS  
 cross section SLOUGH 9 129.5T6

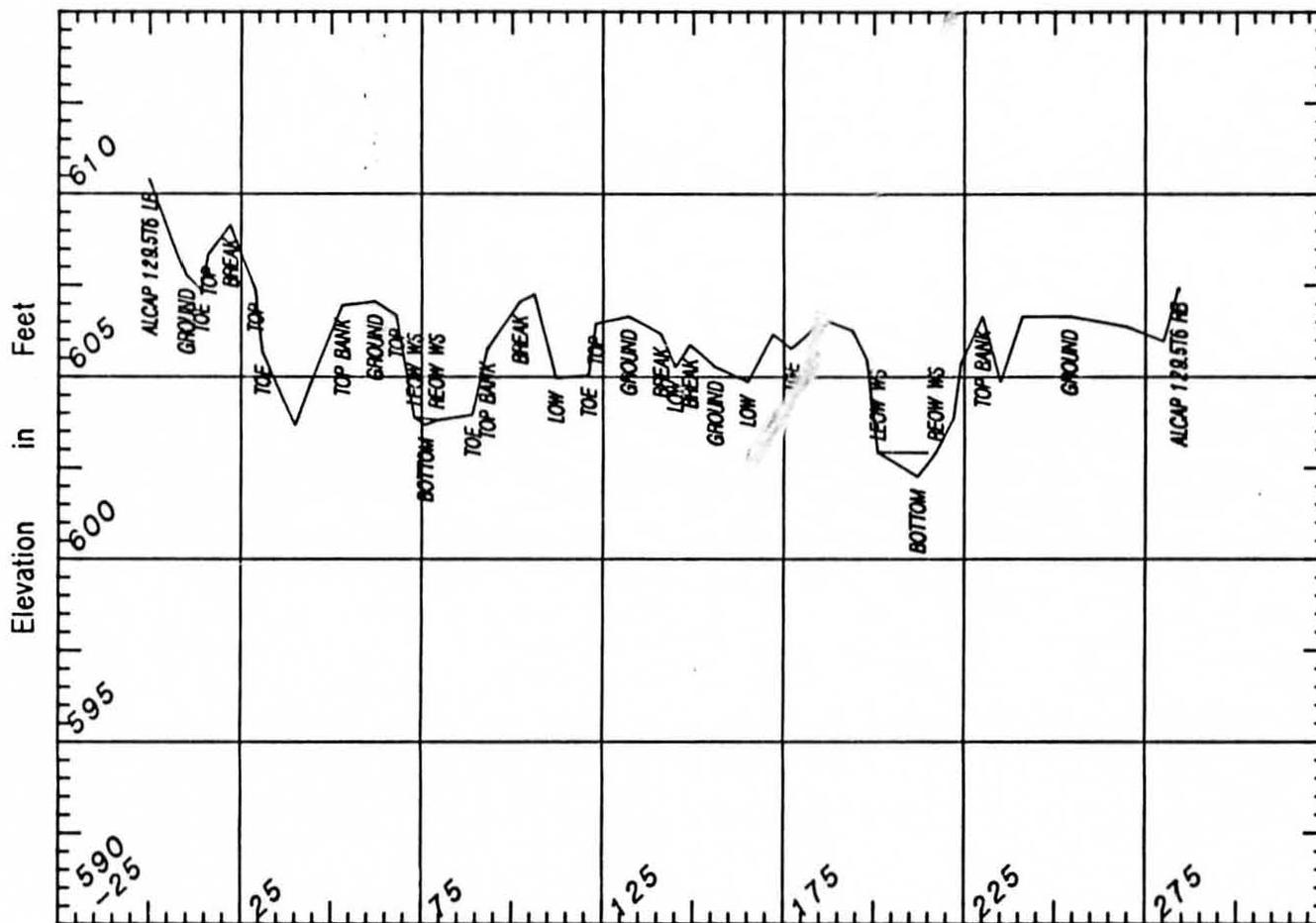
Date of Survey: AUGUST 1, 1982

POINT	'X'	'Y'	DESCRIPTION
Cross section data:			
1	0.000	610.390	ALCAP 129.5T6 LB
2	10.000	607.760	GROUND
3	14.000	607.360	TOE
4	16.000	608.360	TOP
5	22.000	609.160	BREAK
6	29.000	607.360	TOP
7	31.000	605.660	TOE
8	40.000	603.660	
9	44.000	604.760	
10	53.000	606.960	TOP BANK
11	62.000	607.060	GROUND
12	68.000	606.660	TOP
13	73.000	603.870	
14	76.000	603.660	BOTTOM
15	79.000	603.800	
16	89.000	603.960	TOE
17	93.000	605.760	TOP BANK
18	102.000	607.060	BREAK
19	106.000	607.260	
20	112.000	604.960	LOW
21	121.000	605.060	TOE
22	123.000	606.460	TOP
23	132.000	606.660	GROUND
24	141.000	606.160	BREAK
25	145.000	605.260	LOW
26	149.000	605.860	BREAK
27	156.000	605.260	GROUND
28	165.000	604.860	LOW
29	172.000	606.160	
30	177.000	605.760	TOE
31	186.000	606.560	
32	194.000	606.260	
33	198.000	605.460	
34	201.000	602.920	
35	212.000	602.260	BOTTOM
36	217.000	602.910	
37	222.000	603.860	
38	224.000	605.360	
39	230.000	606.660	TOP BANK
40	235.000	604.860	
41	241.000	606.660	
42	254.000	606.660	GROUND
43	270.000	606.360	
44	280.000	605.960	
45	284.000	607.410	ALCAP 129.5T6 RB

Water surface data:

1	73.000	603.870	LEOW WS
2	79.000	603.800	REOW WS
			SPLIT
4	201.000	602.920	LEOW WS
5	217.000	602.910	REOW WS

# SUSITNA HYDROGRAPHIC SURVEYS



PREPARED BY:

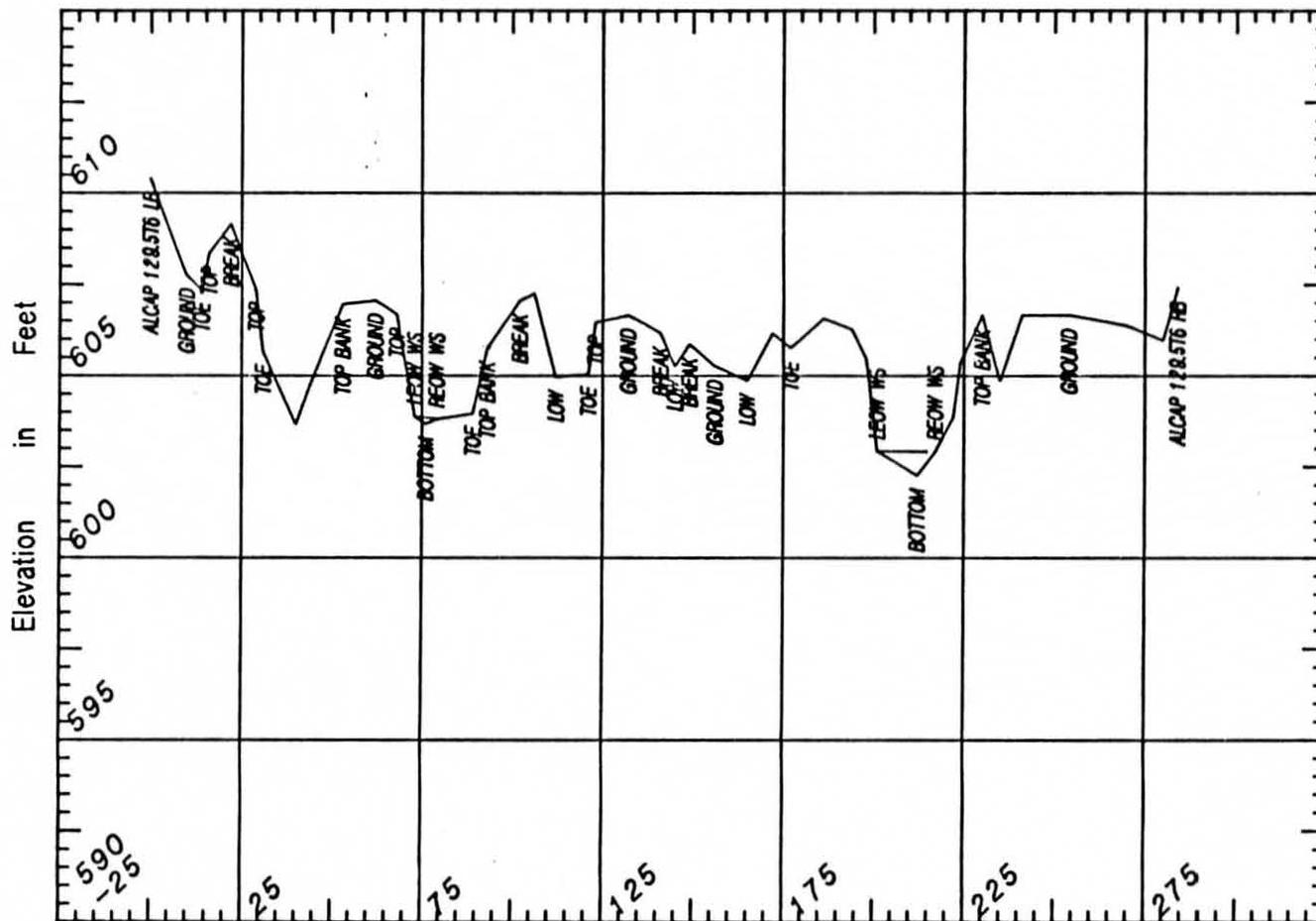
PREPARED FOR:



cross section SLOUGH 9 129.5T6  
Date of Survey: AUGUST 1, 1982



# SUSITNA HYDROGRAPHIC SURVEYS



PREPARED BY:

PREPARED FOR:



cross section SLOUGH 9 129.5T6  
Date of Survey: AUGUST 1, 1982

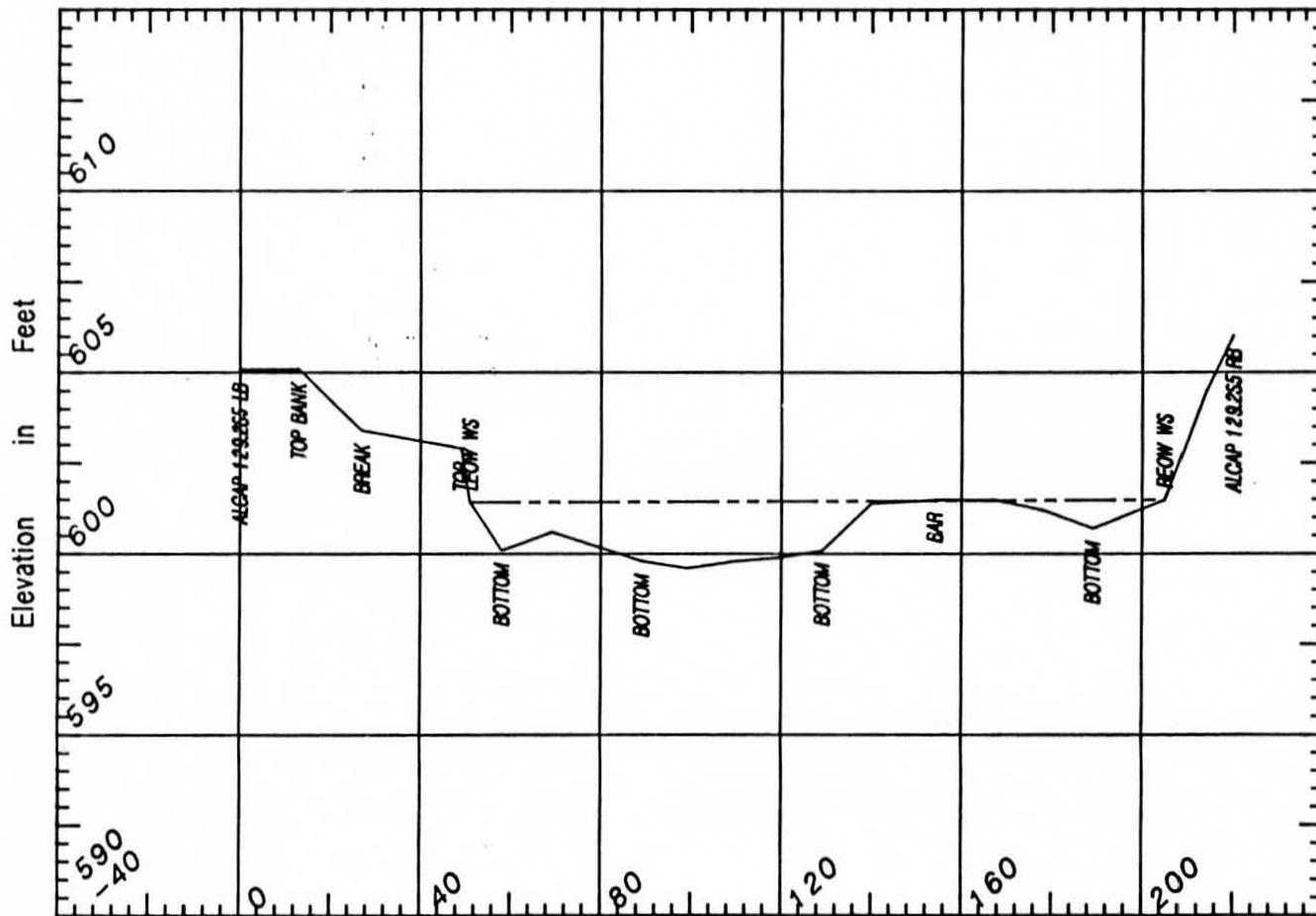


SUSITNA HYDROGRAPHIC SURVEYS  
 cross section SLOUGH 9 129.255

Date of Survey: AUGUST 1, 1982

POINT	'X'	'Y'	DESCRIPTION
Cross section data:			
1	0.000	605.080	ALCAP 129.255 LB
2	13.000	605.090	TOP BANK
3	27.000	603.390	BREAK
4	49.000	602.890	TOP
5	51.000	601.410	
6	58.000	600.090	BOTTOM
7	69.000	600.590	
8	79.000	600.190	
9	89.000	599.790	BOTTOM
10	99.000	599.590	
11	109.000	599.790	
12	119.000	599.890	
13	129.000	600.090	BOTTOM
14	140.000	601.390	
15	154.000	601.490	BAR
16	167.000	601.490	
17	178.000	601.190	
18	189.000	600.690	BOTTOM
19	205.000	601.490	
20	214.000	604.490	
21	220.000	606.010	ALCAP 129.255 RB
Water surface data:			
1	51.000	601.410	LEOW WS
2	205.000	601.490	REOW WS
MIN	0.000	599.590	
MAX	220.000	606.010	

# SUSITNA HYDROGRAPHIC SURVEYS



PREPARED BY:

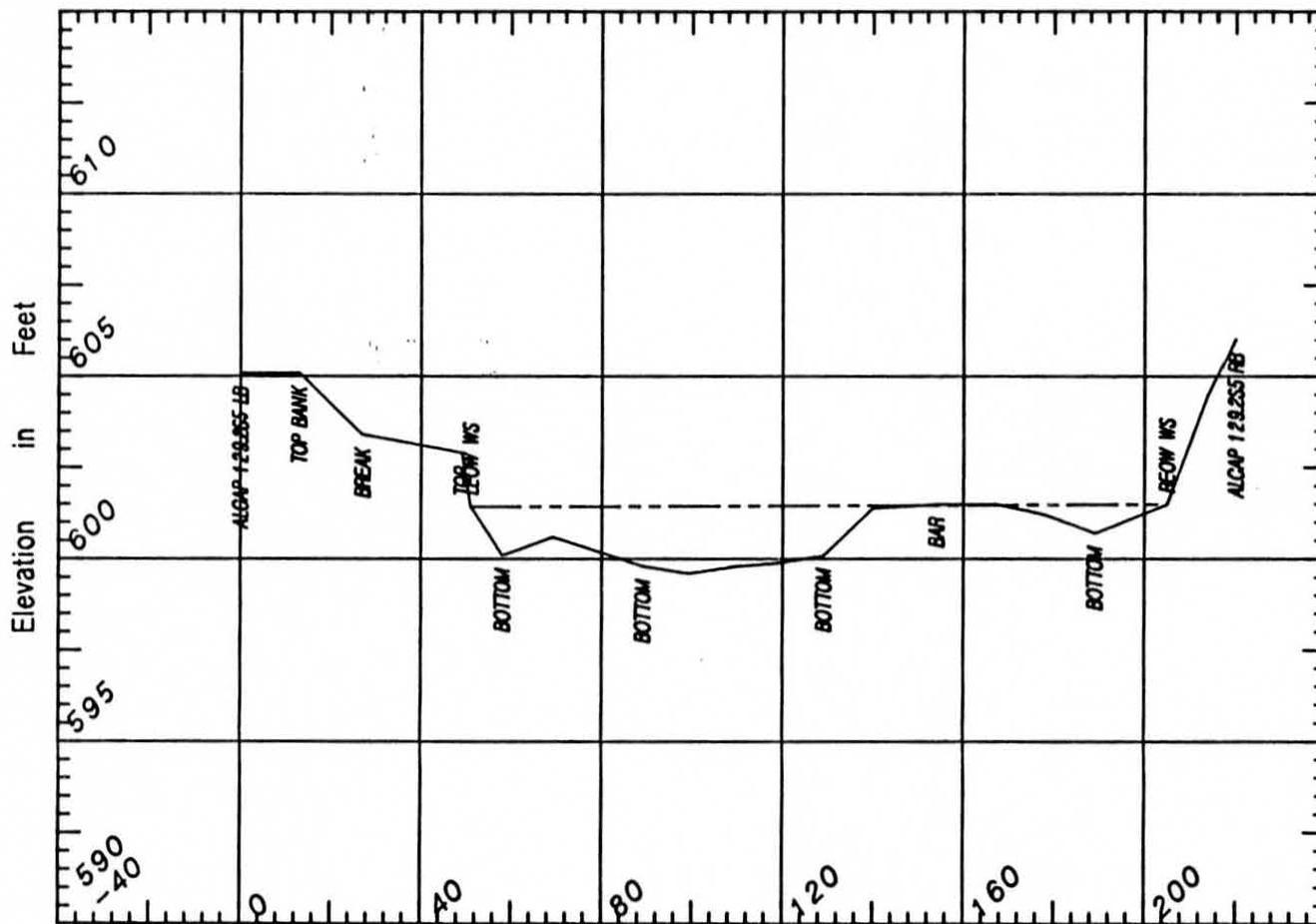


cross section SLOUGH 9 129.2S5  
Date of Survey: AUGUST 1, 1982

PREPARED FOR:



# SUSITNA HYDROGRAPHIC SURVEYS



PREPARED BY:

PREPARED FOR:



cross section SLOUGH 9 129.255  
Date of Survey: AUGUST 1, 1982

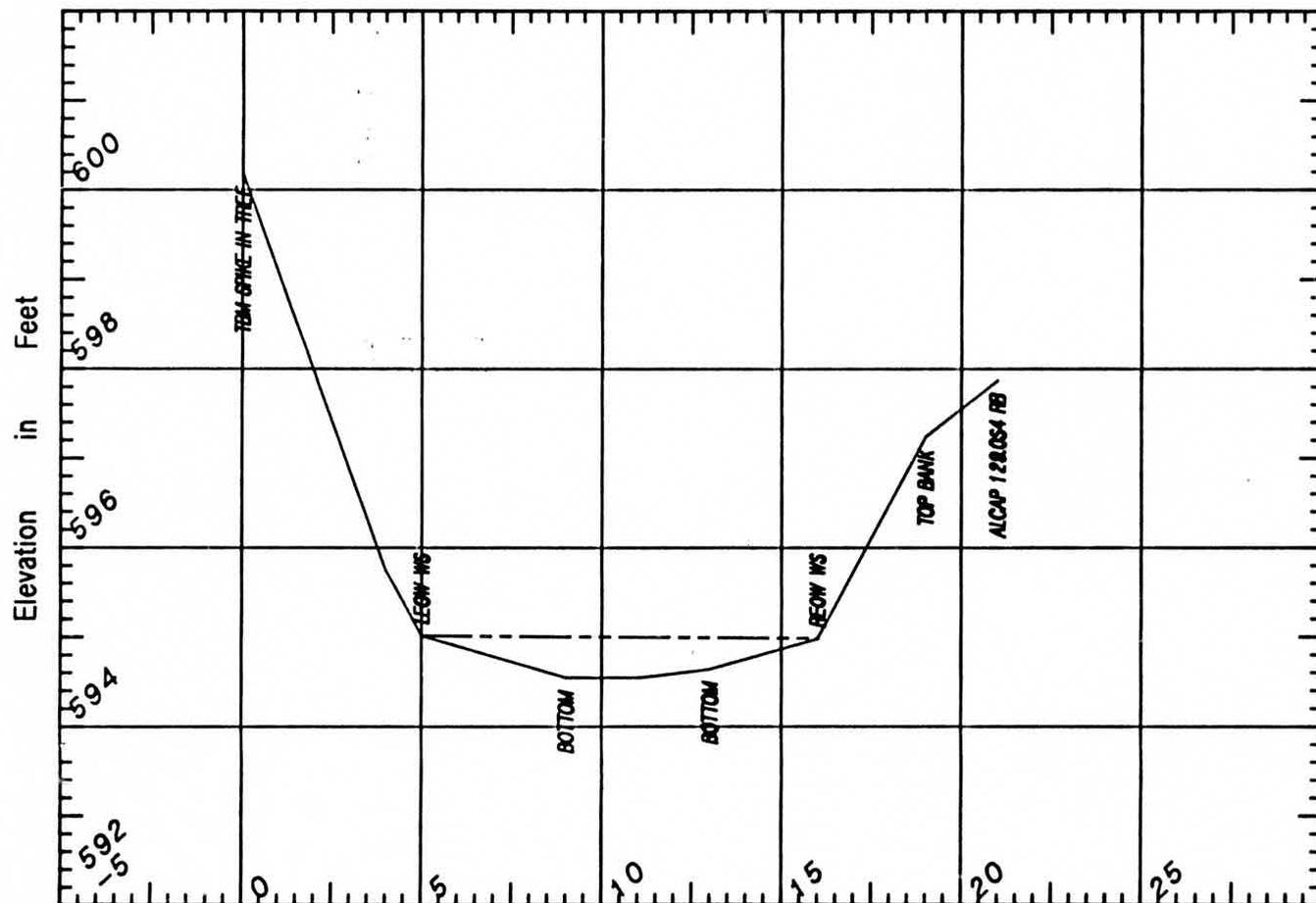
ACRES

SUSITNA HYDROGRAPHIC SURVEYS  
cross section SLOUGH 9 129.054

Date of Survey: AUGUST 1, 1982

POINT	'X'	'Y'	DESCRIPTION
Cross section data:			
1	0.000	600.180	TBM SPIKE IN TREE
2	4.000	595.740	
3	5.000	595.010	
4	9.000	594.540	BOTTOM
5	11.000	594.540	
6	13.000	594.640	BOTTOM
7	16.000	594.980	
8	19.000	597.240	TOP BANK
9	21.000	597.870	ALCAP 129.054 RB
Water surface data:			
1	5.000	595.010	LEOW WS
2	16.000	594.980	REOW WS
MIN	0.000	594.540	
MAX	21.000	600.180	

# SUSITNA HYDROGRAPHIC SURVEYS



PREPARED BY:

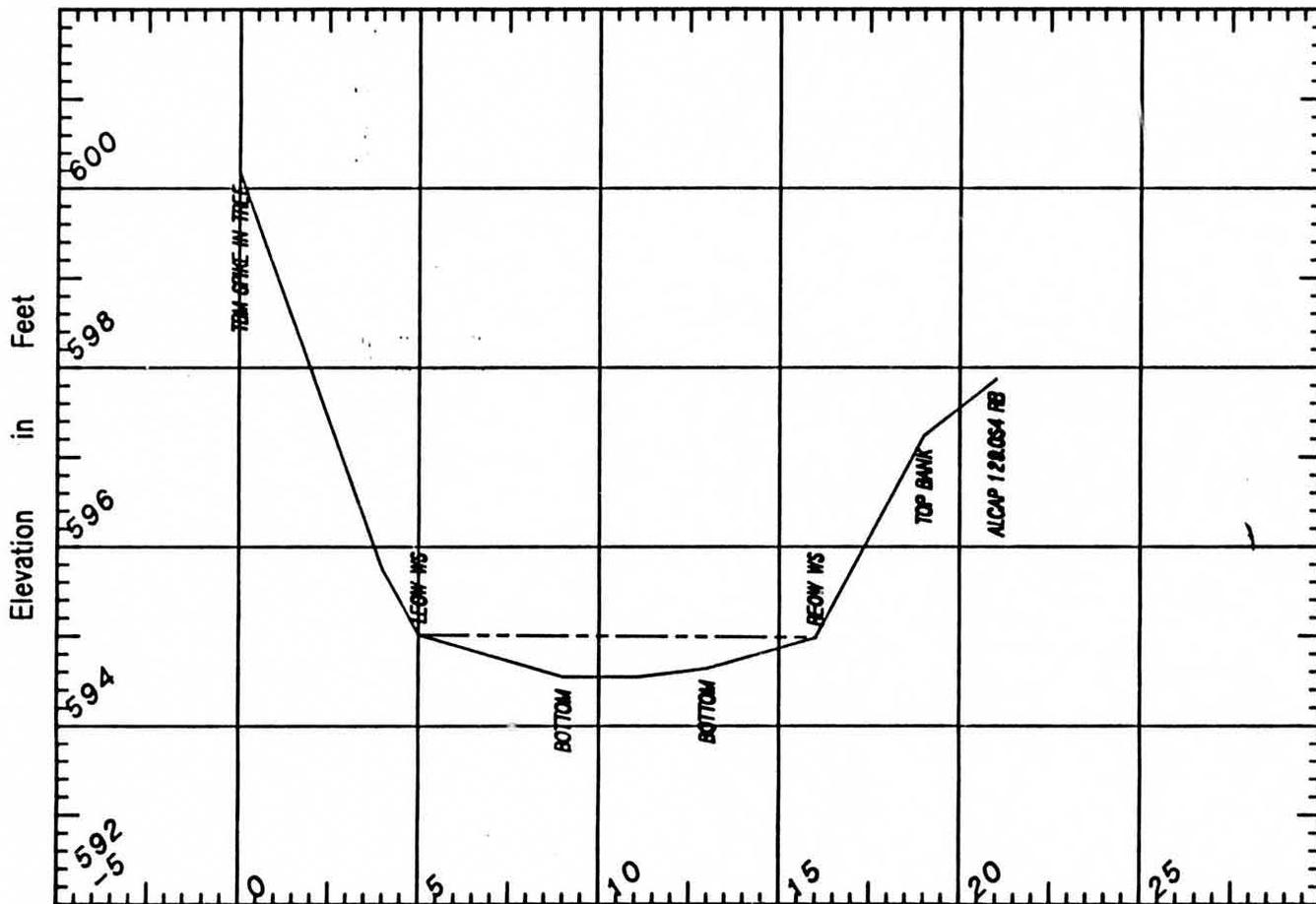
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cross section SLOUGH 9 129.054  
Date of Survey: AUGUST 1, 1982



# SUSITNA HYDROGRAPHIC SURVEYS



PREPARED BY:

PREPARED FOR:



cross section SLOUGH 9 129.054  
Date of Survey: AUGUST 1, 1982

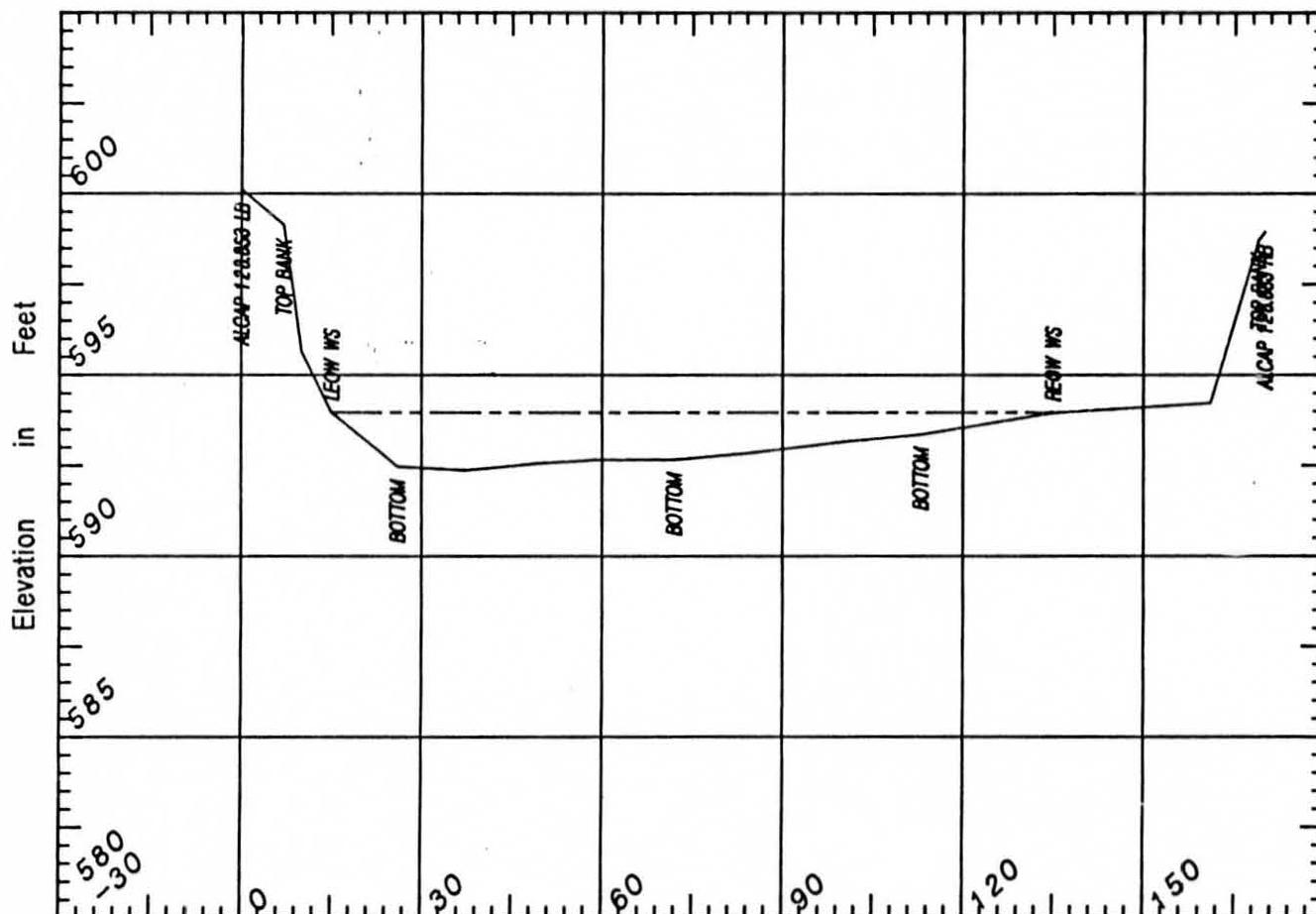


SUSITNA HYDROGRAPHIC SURVEYS  
 cross section SLOUGH 9 128.8S3

Date of Survey: AUGUST 1, 1982

POINT	'X'	'Y'	DESCRIPTION
Cross section data:			
1	0.000	600.100	ALCAP 128.8S3 LB
2	7.000	599.130	TOP BANK
3	10.000	595.630	
4	15.000	593.960	
5	26.000	592.460	BOTTOM
6	37.000	592.360	
7	49.000	592.560	
8	59.000	592.660	
9	72.000	592.660	BOTTOM
10	85.000	592.860	
11	100.000	593.160	
12	113.000	593.360	BOTTOM
13	135.000	593.960	
14	161.000	594.230	
15	169.000	598.730	TOP BANK
16	170.000	598.940	ALCAP 128.8S3 RB
Water surface data:			
1	15.000	593.960	LEOW WS
2	135.000	593.960	REOW WS
MIN	0.000	592.360	
MAX	170.000	600.100	

# SUSITNA HYDROGRAPHIC SURVEYS



PREPARED BY:

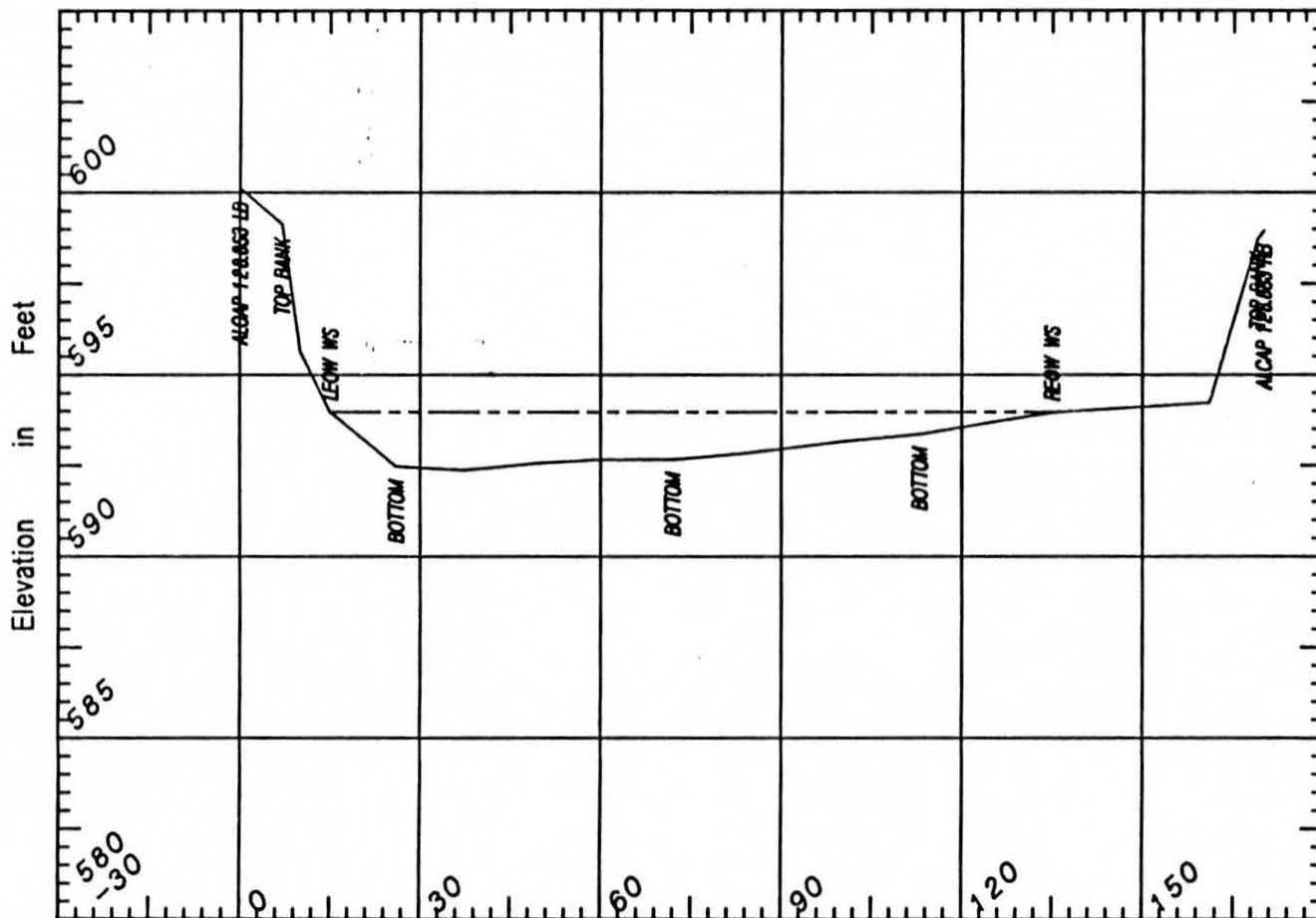


cross section SLOUGH 9 128.8S3  
Date of Survey: AUGUST 1, 1982

PREPARED FOR:



# SUSITNA HYDROGRAPHIC SURVEYS



PREPARED BY:

PREPARED FOR:



cross section SLOUGH 9 128.8S3  
Date of Survey: AUGUST 1, 1982

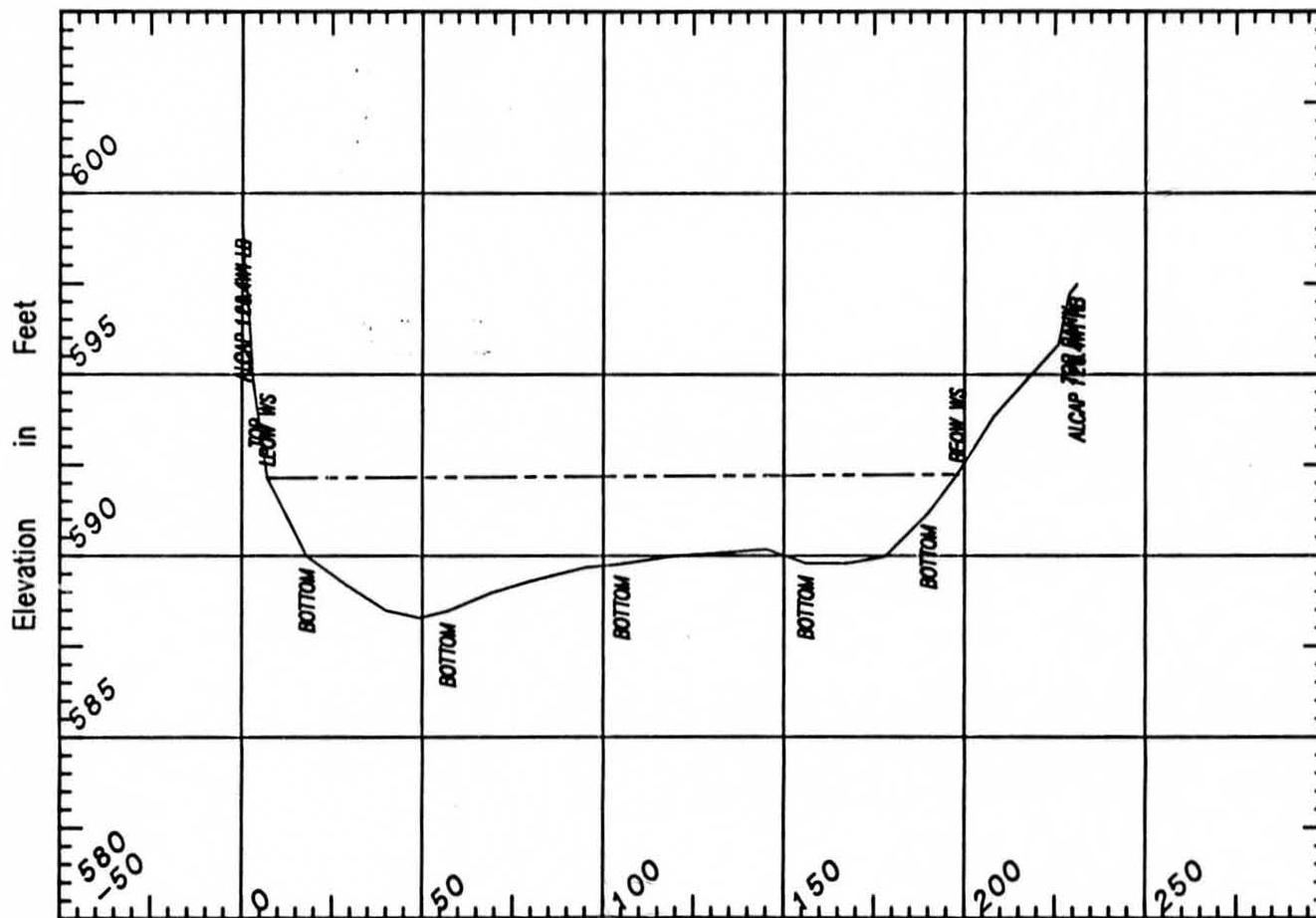


SUSITNA HYDROGRAPHIC SURVEYS  
 cross section SLOUGH 9 128.4W1

Date of Survey: AUGUST 2, 1982

POINT	'X'	'Y'	DESCRIPTION
Cross section data:			
1	0.000	599.080	ALCAP 128.4W1 LB
2	3.000	594.830	
3	4.000	594.130	TOP
4	7.000	592.130	
5	18.000	589.980	BOTTOM
6	29.000	589.180	
7	40.000	588.480	
8	49.000	588.280	
9	57.000	588.480	BOTTOM
10	69.000	588.980	
11	79.000	589.280	
12	95.000	589.680	
13	105.000	589.780	BOTTOM
14	118.000	589.980	
15	132.000	590.080	
16	145.000	590.180	
17	156.000	589.780	BOTTOM
18	167.000	589.780	
19	178.000	589.980	
20	190.000	591.180	BOTTOM
21	198.000	592.240	
22	208.000	593.830	
23	226.000	595.830	
24	229.000	597.230	TOP BANK
25	231.000	597.480	ALCAP 128.4W1 RB
Water surface data:			
1	7.000	592.130	LEOW WS
2	198.000	592.240	REOW WS
MIN	0.000	588.280	
MAX	231.000	599.080	

# SUSITNA HYDROGRAPHIC SURVEYS



PREPARED BY:

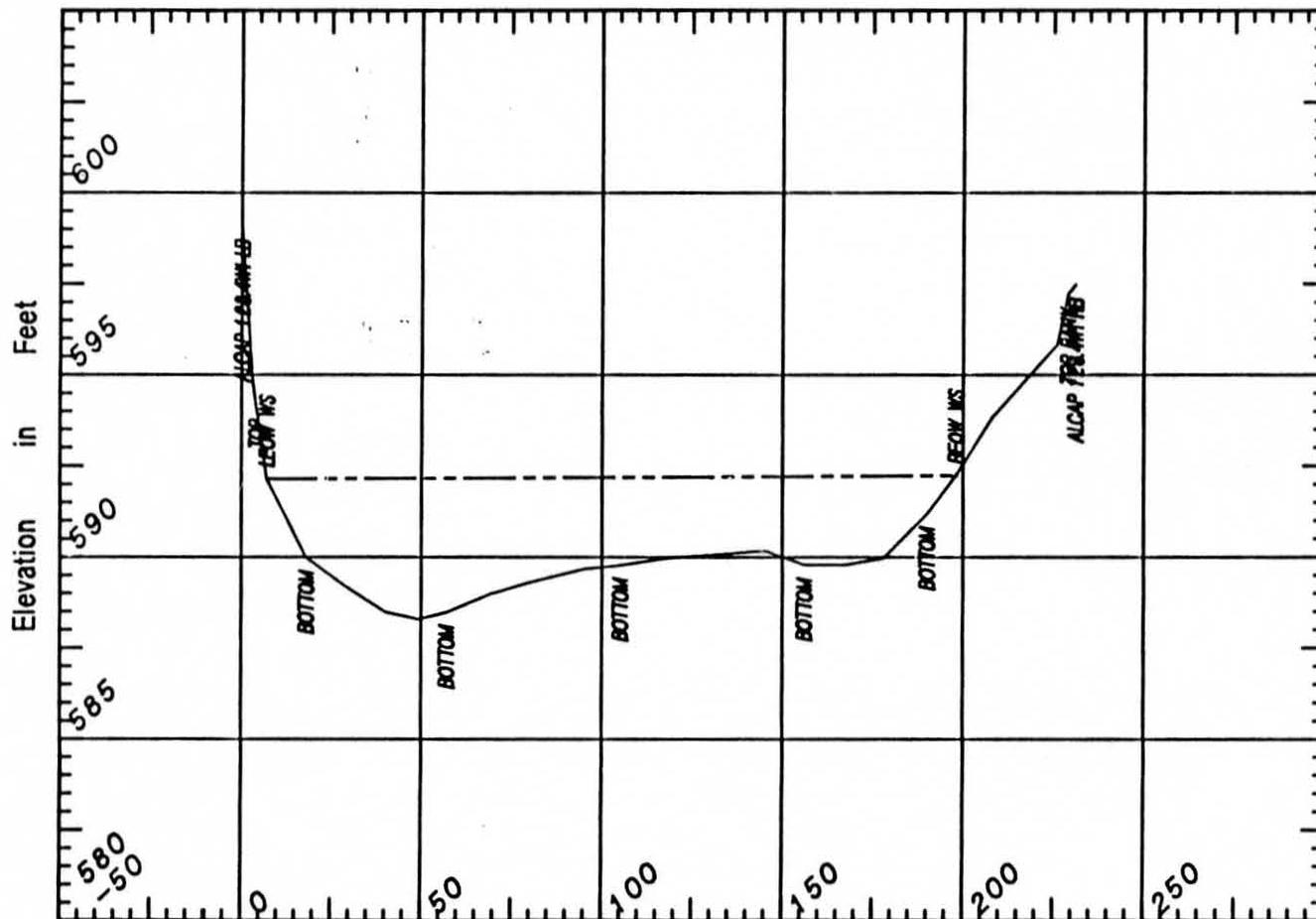


cross section SLOUGH 9 128.4W1  
Date of Survey: AUGUST 2, 1982

PREPARED FOR:



# SUSITNA HYDROGRAPHIC SURVEYS



PREPARED BY:



cross section SLOUGH 9 128.4W1  
Date of Survey: AUGUST 2, 1982

PREPARED FOR:



SUSITNA HYDROGRAPHIC SURVEYS  
 CROSS SECTION AT LRX-30N3

POINT	'X'	'Y'	DESCRIPTION
Cross section data:			
1	0.000	600.990	ALCAP LRX-30N3 LB
2	2.000	600.900	TOP
3	4.000	598.400	
4	11.000	597.000	
5	17.000	595.500	
6	22.000	595.600	BOTTOM
7	50.000	595.700	
8	80.000	595.700	BOTTOM
9	125.000	596.100	
10	170.000	596.000	BOTTOM
11	212.000	596.100	
12	245.000	596.400	BOTTOM
13	273.000	597.100	
14	308.000	598.200	
15	372.000	599.000	TOP
16	419.000	598.700	
17	447.000	598.600	
18	460.000	599.750	ALCAP LRX-30N3 RB
Water surface data:			
1	11.000	597.000	LEOW WS
2	273.000	597.100	REOW WS
MIN	0.000	595.500	
MAX	460.000	600.990	

SUSITNA HYDROGRAPHIC SURVEYS  
 CROSS SECTION AT LRX-30N2

POINT	'X'	'Y'	DESCRIPTION
-----	-----	-----	-----
Cross section data:			
1	0.000	596.150	ALCAP LRX-30N2 RB
2	25.000	595.800	TOP
3	42.000	594.300	
4	60.000	593.800	TOE
5	74.000	595.900	
6	90.000	596.100	HIGH PT
7	103.000	595.600	
8	136.000	594.400	BREAK
9	182.000	594.400	GROUND
10	223.000	594.000	
11	239.000	594.900	TOP
12	258.000	594.700	
13	270.000	593.500	TOE
14	299.000	593.200	
15	324.000	594.000	
16	367.000	593.800	LOW PT
17	407.000	591.300	
18	425.000	591.900	BREAK
19	443.000	591.700	
20	450.000	590.800	
21	465.000	588.000	
22	495.000	587.800	BOTTOM
23	526.000	588.200	
24	549.000	588.700	BOTTOM
25	559.000	589.600	
26	581.000	590.900	BOTTOM
27	593.000	591.800	
28	628.000	594.500	
29	650.000	594.400	
30	707.000	595.300	HIGH PT
31	735.000	594.700	
32	792.000	594.800	
33	840.000	593.300	BREAK
34	868.000	591.200	
35	878.000	591.200	
36	883.000	595.700	TOP RB
37	901.000	596.900	
38	915.000	597.480	ALCAP 128.4 W1 RB
Water surface data:			
1	443.000	591.700	REOW WS
2	593.000	591.800	LEOW WS
MIN	0.000	587.800	
MAX	915.000	597.480	

SUSITNA HYDROGRAPHIC SURVEYS  
 CROSS SECTION AT LRX-30N1

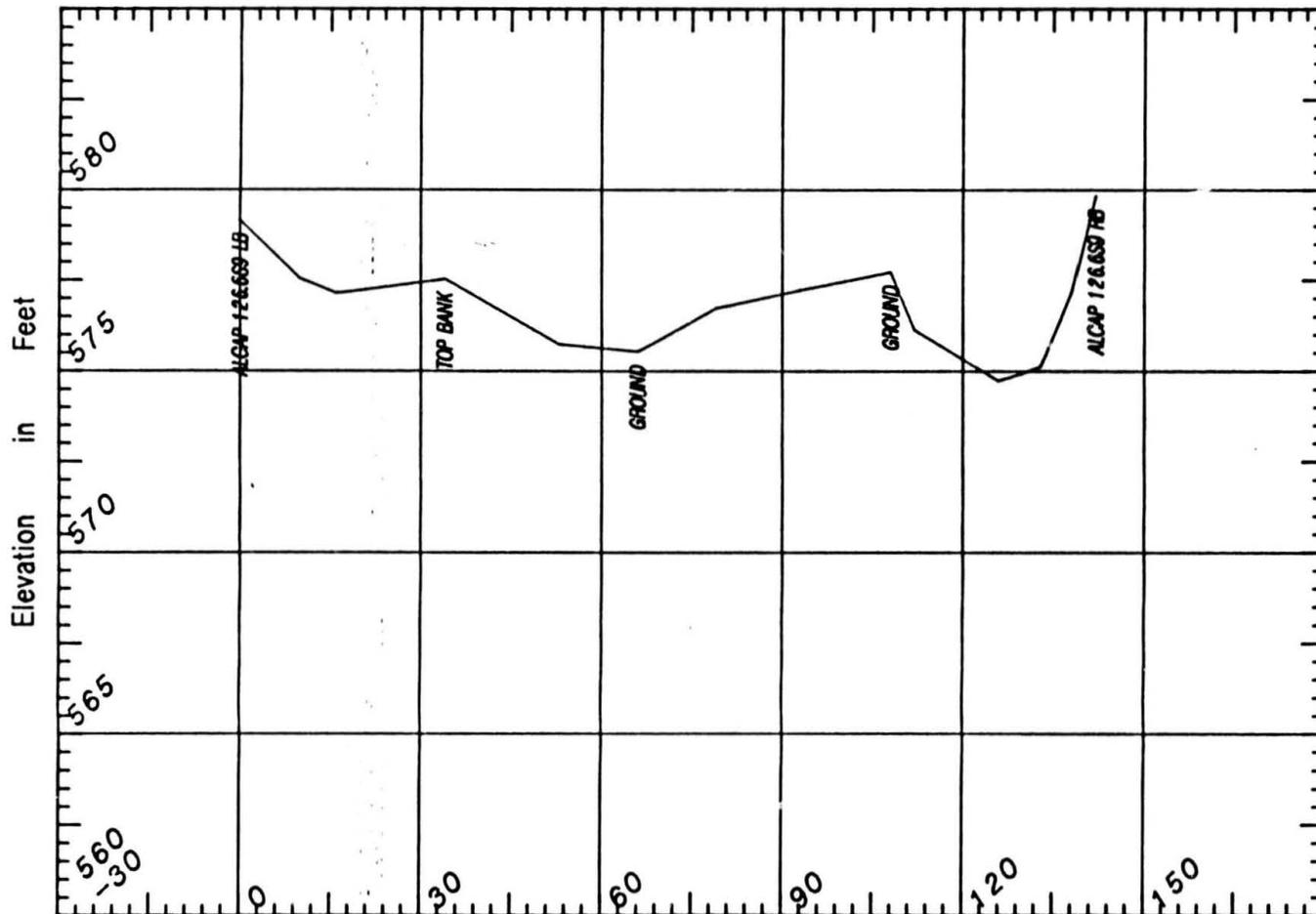
POINT	'X'	'Y'	DESCRIPTION
Cross section data:			
1	0.000	592.330	ALCAP LRX-30N1 LB
2	44.000	591.680	
3	78.000	591.180	TOP
4	81.000	590.850	
5	90.000	588.810	BOTTOM
6	112.000	586.210	
7	142.000	586.610	BOTTOM
8	169.000	587.210	
9	199.000	587.410	BOTTOM
10	232.000	588.210	
11	262.000	588.310	BOTTOM
12	295.000	589.010	
13	322.000	589.810	BOTTOM
14	350.000	590.110	
15	380.000	591.570	
16	401.000	591.480	GROUND
17	437.000	591.880	
18	458.000	590.780	
19	472.000	591.980	HIGH PT
20	523.000	591.580	
21	550.000	591.120	
22	555.000	590.380	BOTTOM
23	562.000	589.980	
24	563.000	592.580	
25	566.000	593.380	TOP RB
26	570.000	593.440	ALCAP LRX-30N1 RB
Water surface data:			
1	81.000	590.850	LEOW WS
2	380.000	591.070	REOW WS
			SPLIT
4	550.000	591.120	LEOW WS
MIN	0.000	586.210	
MAX	570.000	593.440	

SUSITNA HYDROGRAPHIC SURVEYS  
cross section SLOUGH 8 126.659

Date of Survey: AUGUST 4, 1982

POINT	'X'	'Y'	DESCRIPTION
Cross section data:			
1	0.000	579.150	ALCAP 126.659 LB
2	10.000	577.530	
3	16.000	577.130	
4	34.000	577.530	TOP BANK
5	53.000	575.730	
6	66.000	575.530	GROUND
7	79.000	576.730	
8	93.000	577.230	
9	108.000	577.730	GROUND
10	112.000	576.130	
11	119.000	575.430	
12	126.000	574.730	
13	133.000	575.130	
14	138.000	577.130	
15	142.000	579.840	ALCAP 126.659 RB
MIN	0.000	574.730	
MAX	142.000	579.840	

# SUSITNA HYDROGRAPHIC SURVEYS



PREPARED BY:

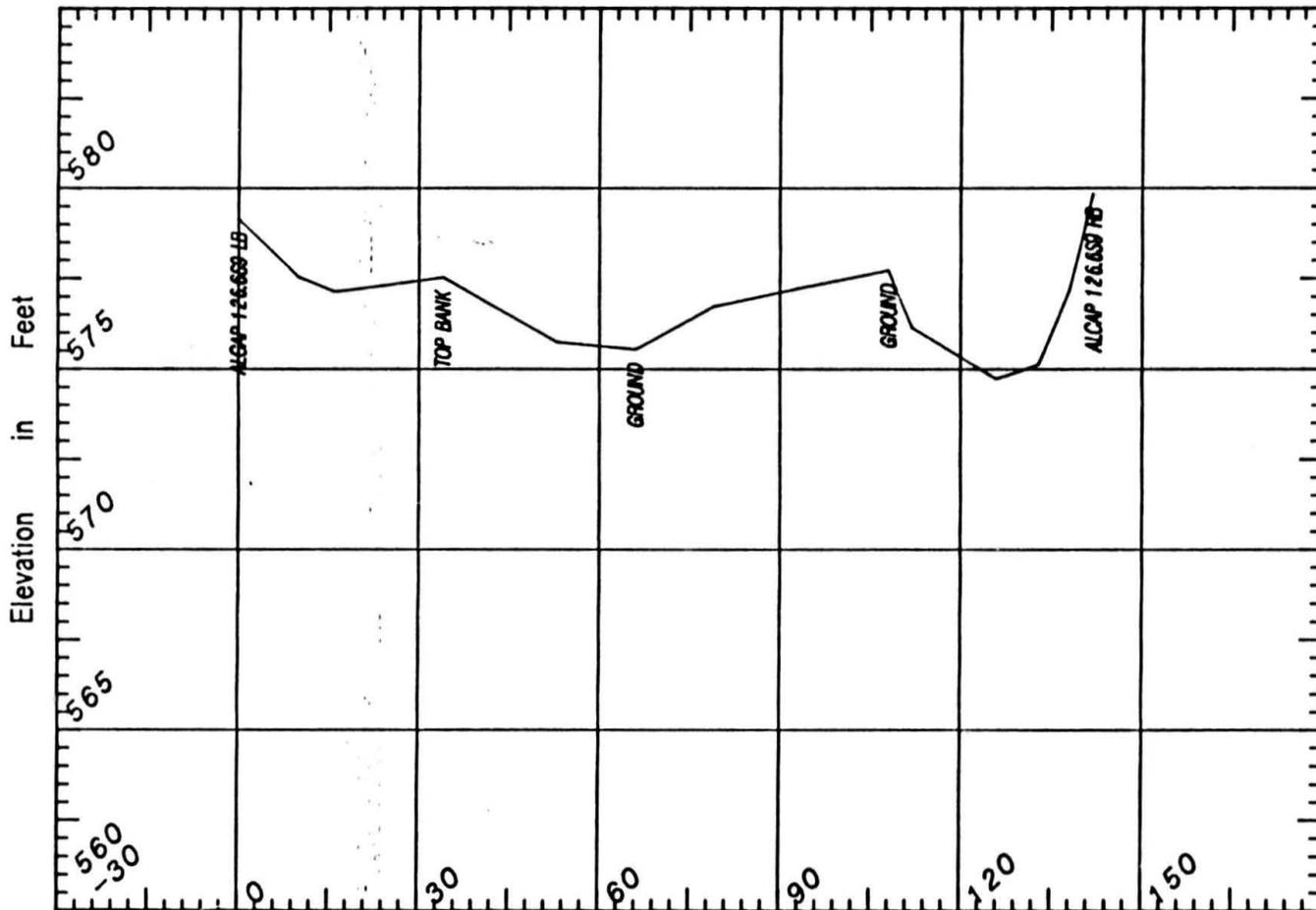


cross section SLOUGH 8 126.6S9  
Date of Survey: AUGUST 4, 1982

PREPARED FOR:



# SUSITNA HYDROGRAPHIC SURVEYS



PREPARED BY:

PREPARED FOR:



cross section SLOUGH 8 126.6S9  
Date of Survey: AUGUST 4, 1982

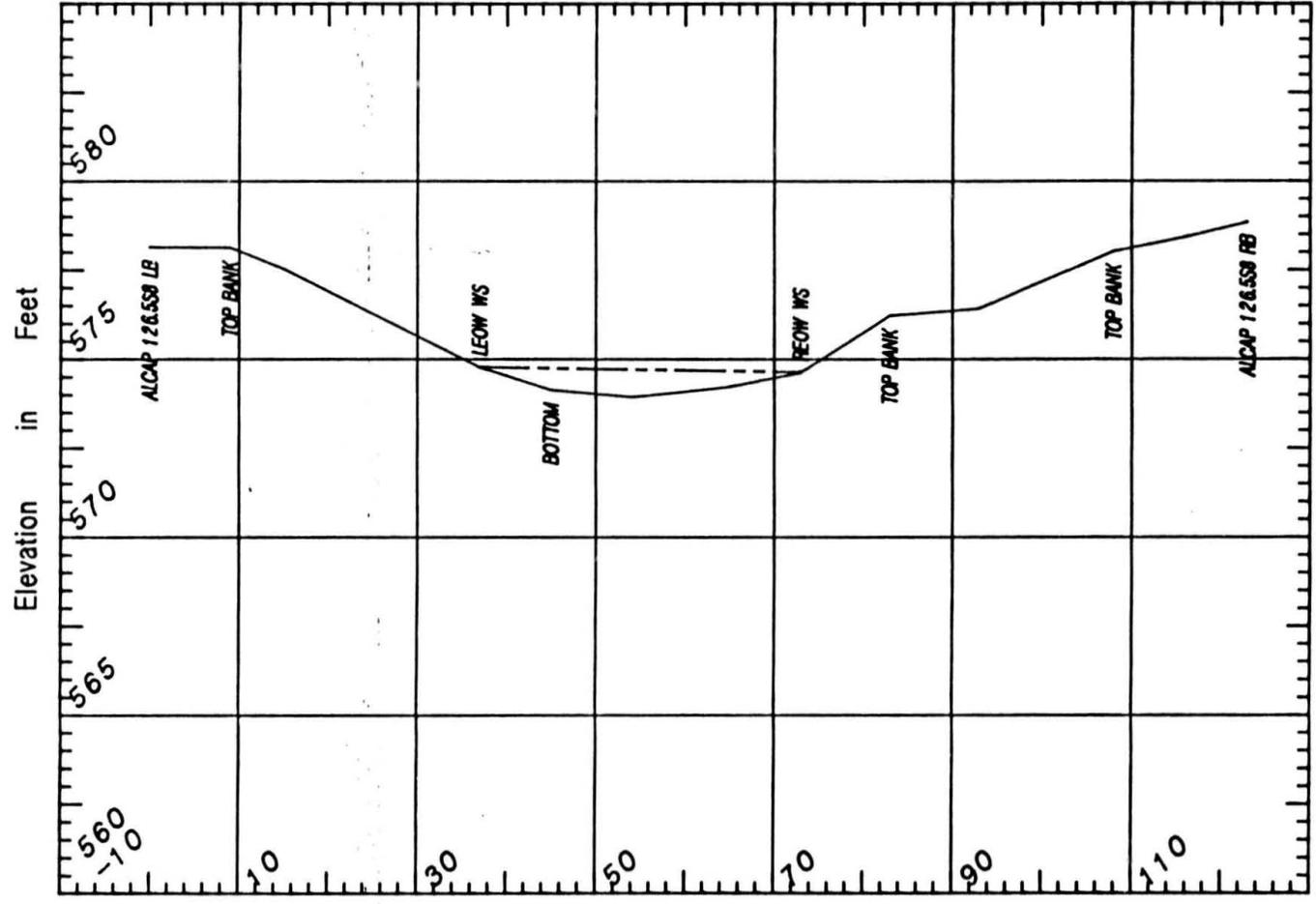


SUSITNA HYDROGRAPHIC SURVEYS  
cross section SLOUGH 8 126.558

Date of Survey: AUGUST 4, 1982

POINT	'X'	'Y'	DESCRIPTION
-----	-----	-----	-----
Cross section data:			
1	0.000	578.140	ALCAP 126.558 LB
2	9.000	578.130	TOP BANK
3	15.000	577.530	
4	37.000	574.770	
5	45.000	574.130	BOTTOM
6	54.000	573.930	
7	65.000	574.230	
8	73.000	574.630	
9	83.000	576.230	TOP BANK
10	93.000	576.430	
11	108.000	578.030	TOP BANK
12	116.000	578.430	
13	123.000	578.850	ALCAP 126.558 RB
Water surface data:			
1	37.000	574.770	LEOW WS
2	73.000	574.630	REOW WS
MIN	0.000	573.930	
MAX	123.000	578.850	

# SUSITNA HYDROGRAPHIC SURVEYS



PREPARED BY:

PREPARED FOR:

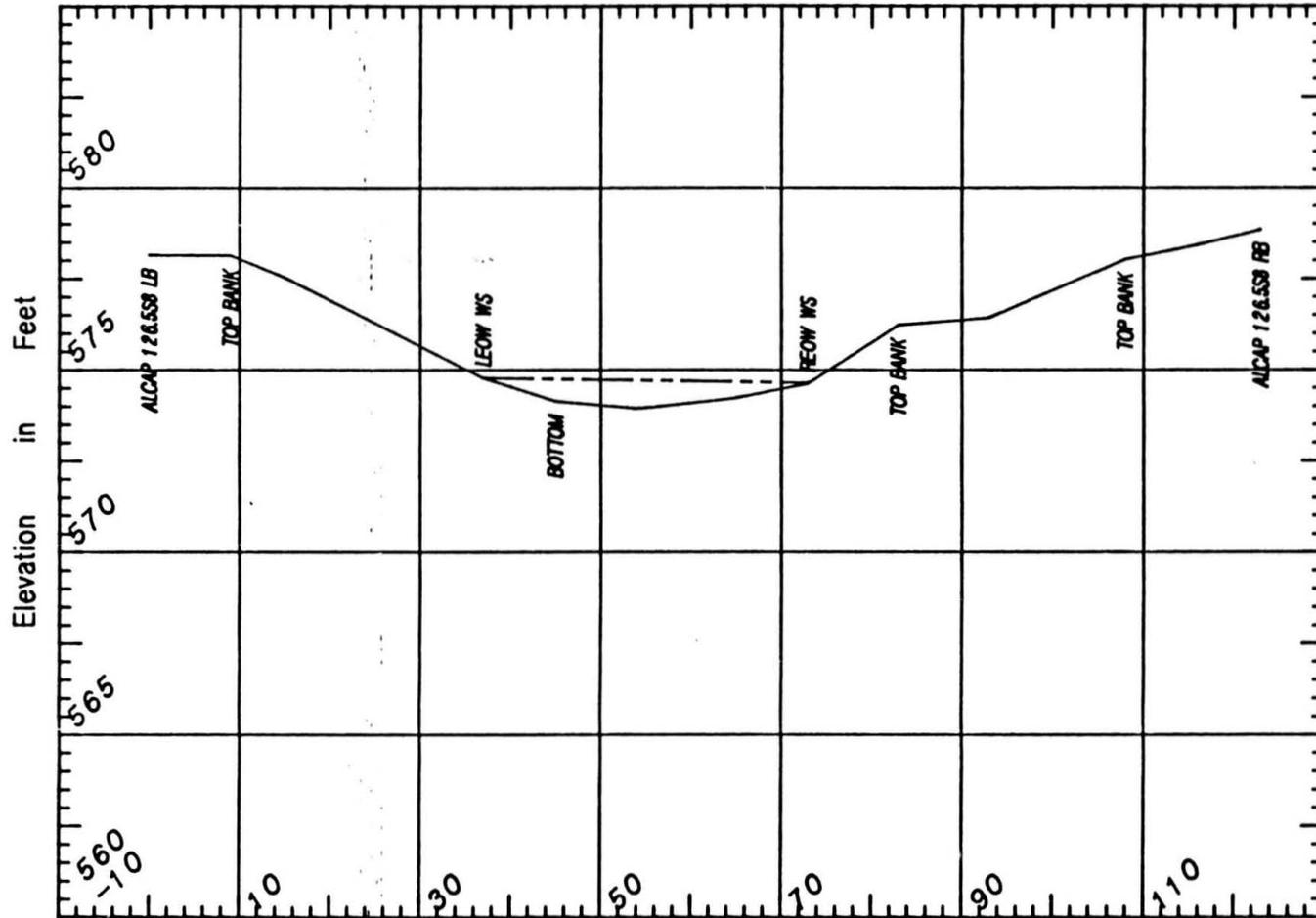


cross section SLOUGH 8 126.5S8  
Date of Survey: AUGUST 4, 1982



P-93

# SUSITNA HYDROGRAPHIC SURVEYS



PREPARED BY:

PREPARED FOR:



cross section SLOUGH 8 126.5S8  
Date of Survey: AUGUST 4, 1982

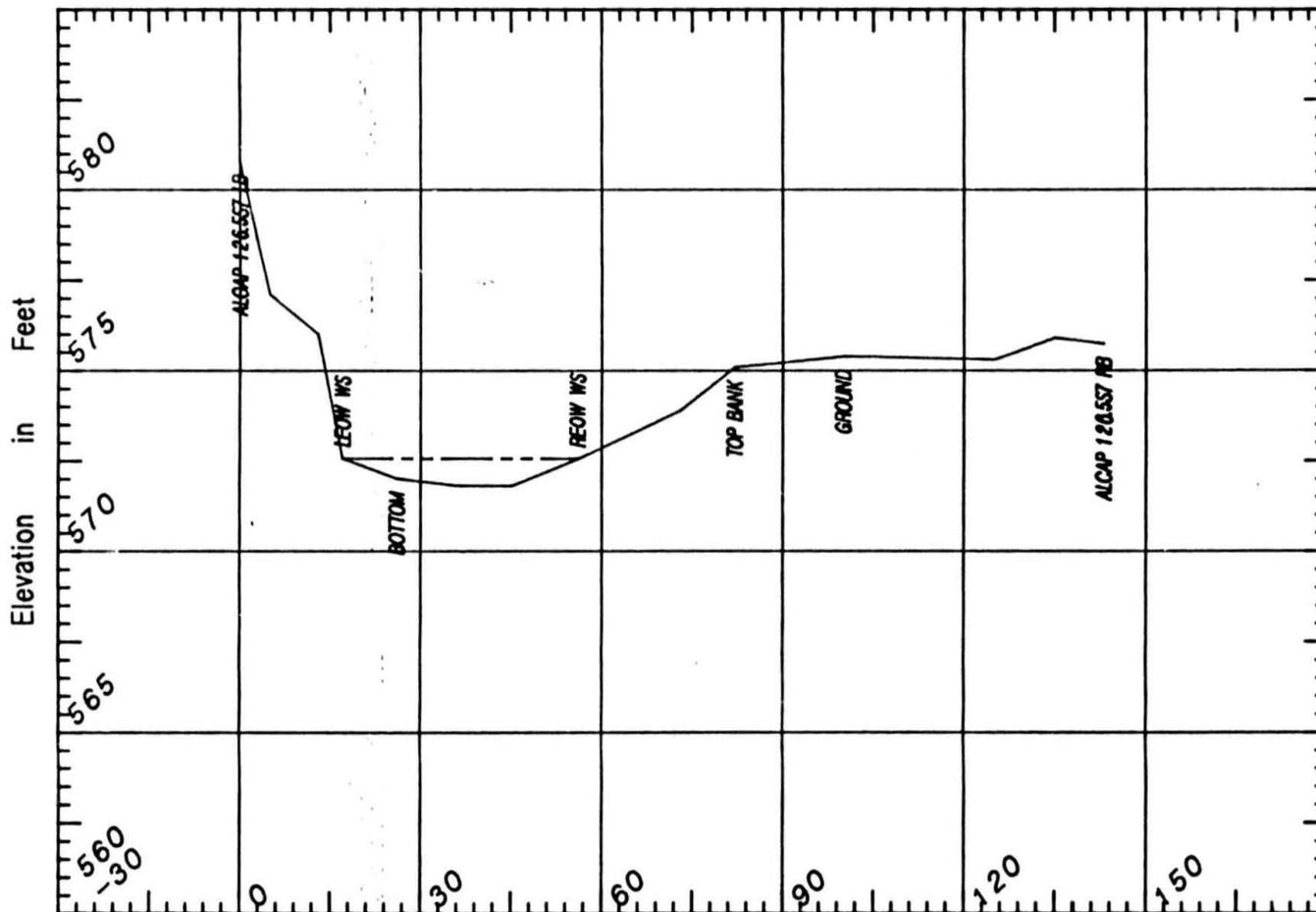


SUSITNA HYDROGRAPHIC SURVEYS  
 cross section SLOUGH 8 126.5S7

Date of Survey: AUGUST 4, 1982

POINT -----	'X' -----	'Y' -----	DESCRIPTION -----
Cross section data:			
1	0.000	580.790	ALCAP 126.5S7 LB
2	5.000	577.100	
3	13.000	576.000	
4	17.000	572.560	
5	26.000	572.000	BOTTOM
6	36.000	571.800	
7	45.000	571.800	
8	56.000	572.560	
9	73.000	573.900	
10	82.000	575.100	TOP BANK
11	100.000	575.400	GROUND
12	125.000	575.300	
13	135.000	575.900	
14	143.000	575.730	ALCAP 126.5S7 RB
Water surface data:			
1	17.000	572.560	LEOW WS
2	56.000	572.560	REOW WS
MIN	0.000	571.800	
MAX	143.000	580.790	

# SUSITNA HYDROGRAPHIC SURVEYS



PREPARED BY:

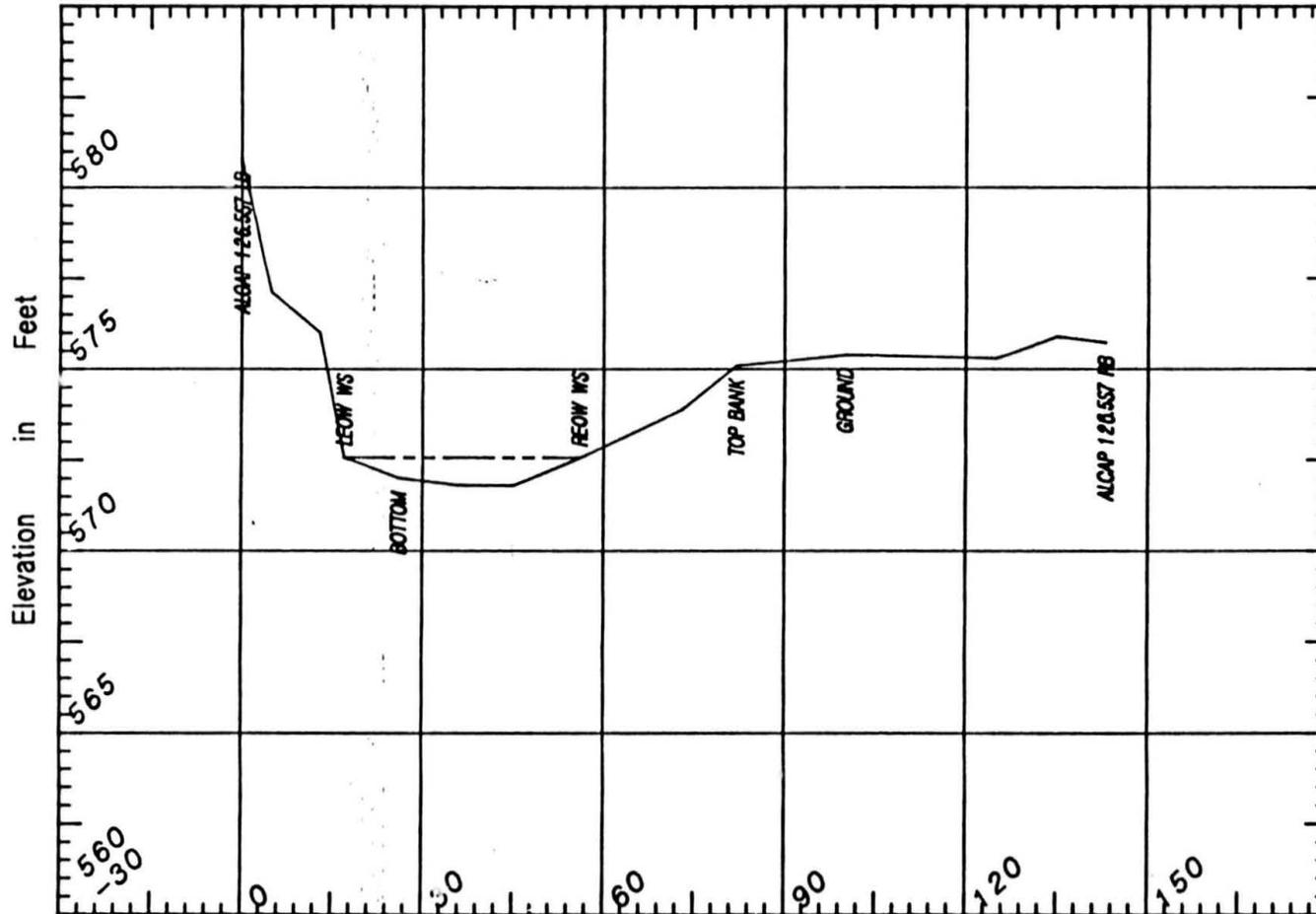
PREPARED FOR:



cross section SLOUGH 8 126.5S7  
Date of Survey: AUGUST 4, 1982



# SUSITNA HYDROGRAPHIC SURVEYS



PREPARED BY:

PREPARED FOR:



cross section SLOUGH 8 126.5S7  
Date of Survey: AUGUST 4, 1982

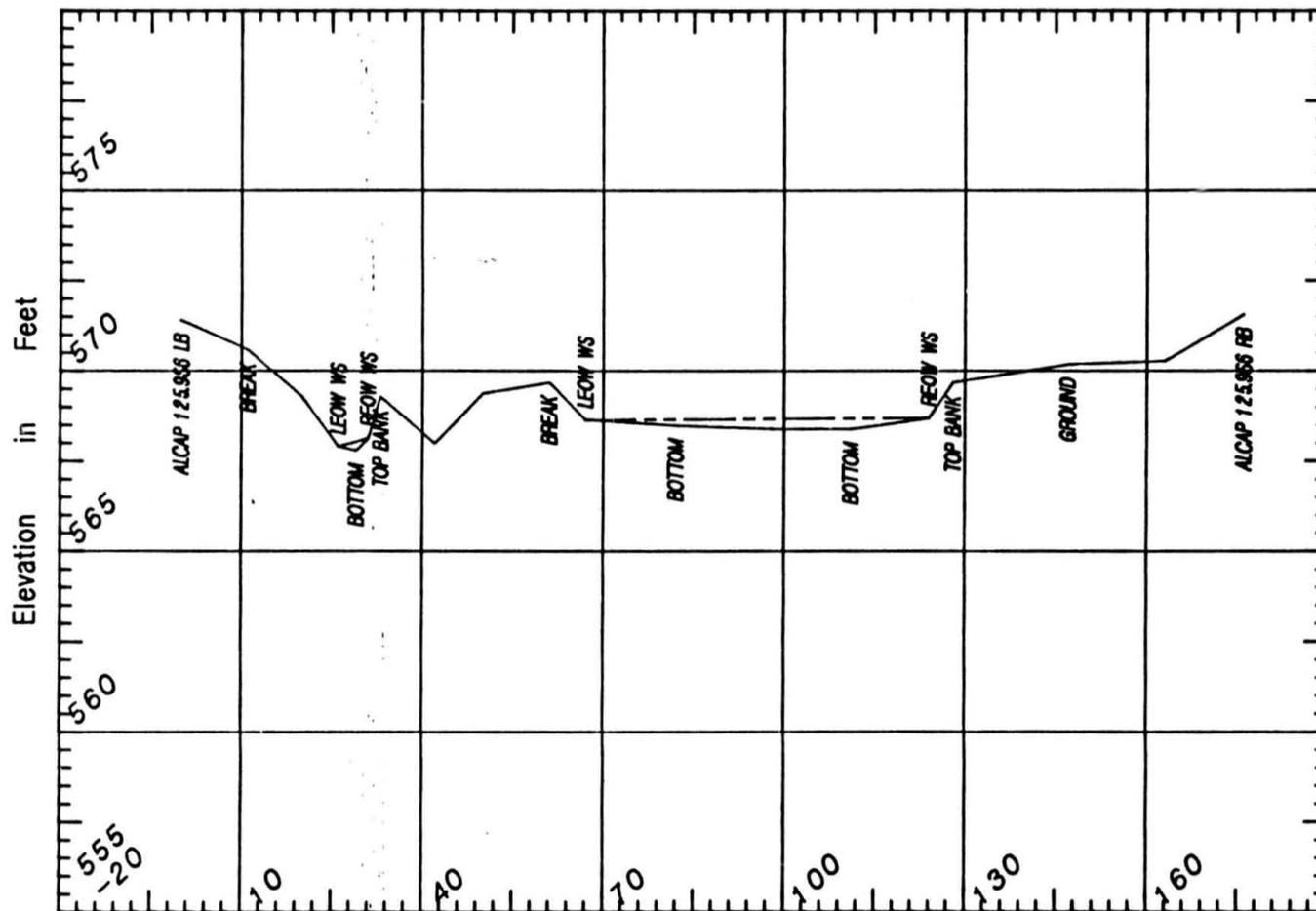


SUSITNA HYDROGRAPHIC SURVEYS  
 cross section SLOUGH 8 125.9S6

Date of Survey: AUGUST 4, 1982

POINT -----	'X' -----	'Y' -----	DESCRIPTION -----
Cross section data:			
1	0.000	571.400	ALCAP 125.9S6 LB
2	11.000	570.580	BREAK
3	20.000	569.280	
4	26.000	567.900	
5	29.000	567.780	BOTTOM
6	31.000	568.140	
7	33.000	569.280	TOP BANK
8	42.000	567.980	
9	50.000	569.380	
10	61.000	569.680	BREAK
11	67.000	568.640	
12	82.000	568.480	BOTTOM
13	98.000	568.380	
14	111.000	568.380	BOTTOM
15	124.000	568.700	
16	128.000	569.680	TOP BANK
17	147.000	570.180	GROUND
18	163.000	570.280	
19	176.000	571.560	ALCAP 125.9S6 RB
Water surface data:			
1	26.000	567.900	LEOW WS
2	31.000	568.140	REOW WS
			SPLIT
4	67.000	568.640	LEOW WS
5	124.000	568.700	REOW WS
MIN	0.000	567.780	
MAX	176.000	571.560	

# SUSITNA HYDROGRAPHIC SURVEYS



PREPARED BY:

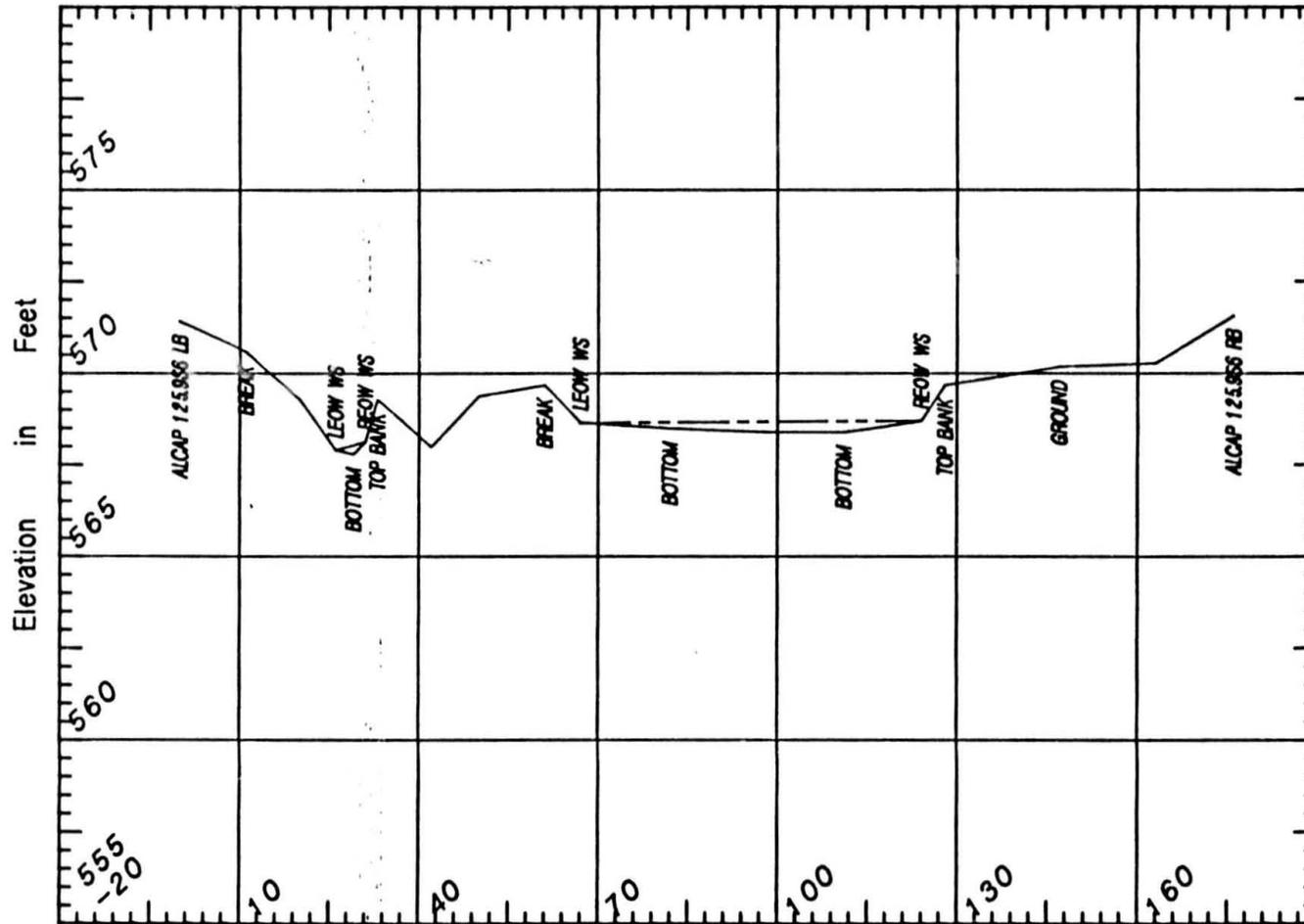


cross section SLOUGH 8 125.9S6  
Date of Survey: AUGUST 4, 1982

PREPARED FOR:



# SUSITNA HYDROGRAPHIC SURVEYS



PREPARED BY:

PREPARED FOR:



cross section SLOUGH 8 125.9S6  
Date of Survey: AUGUST 4, 1982

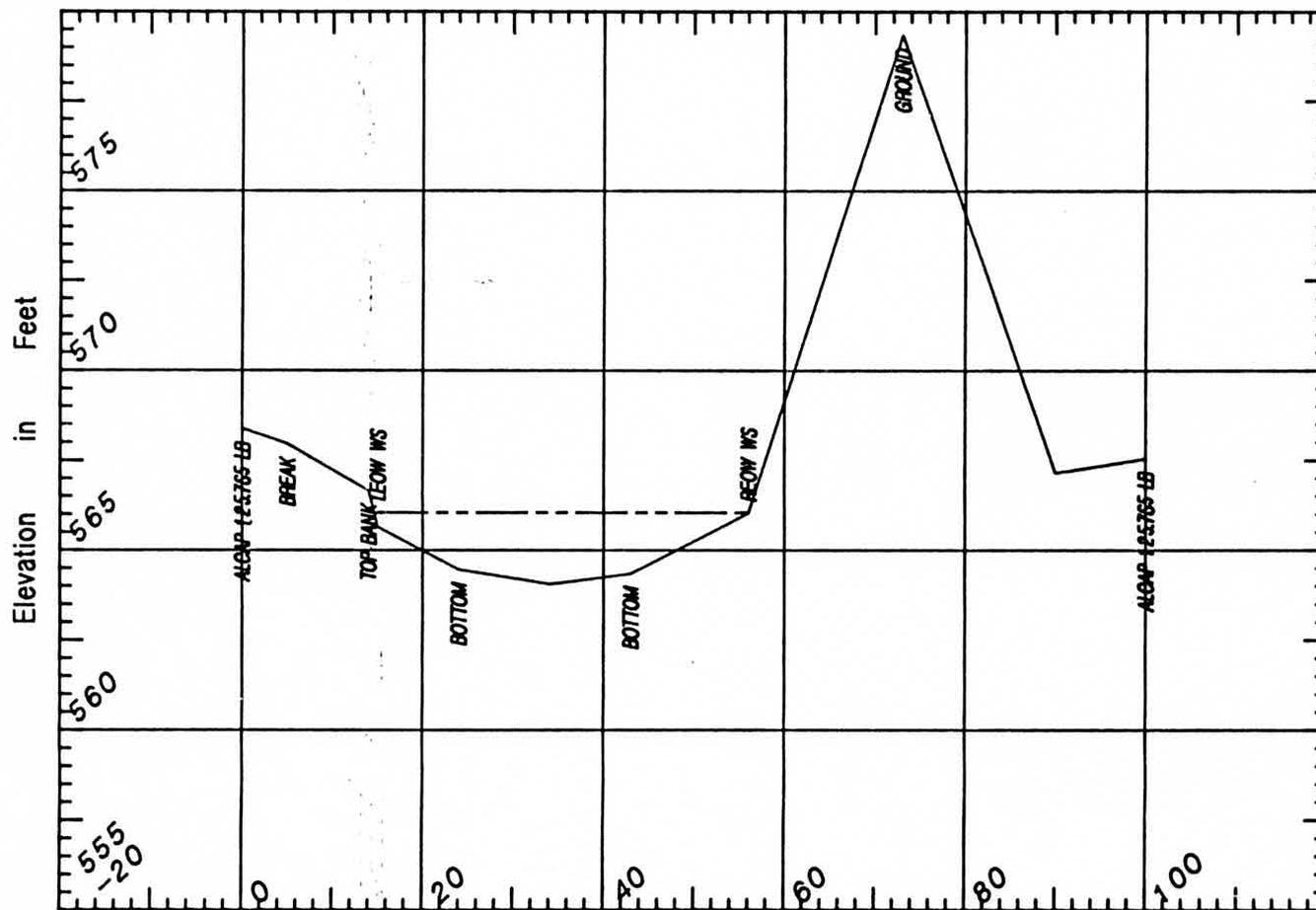


SUSITNA HYDROGRAPHIC SURVEYS  
cross section SLOUGH 8 125.755

Date of Survey: AUGUST 4, 1982

POINT	'X'	'Y'	DESCRIPTION
Cross section data:			
1	0.000	568.370	ALCAP 125.755 LB
2	5.000	567.950	BREAK
3	14.000	566.650	TOP BANK
4	15.000	565.640	
5	24.000	564.450	BOTTOM
6	34.000	564.050	
7	43.000	564.350	BOTTOM
8	56.000	566.040	
9	73.000	579.350	GROUND
10	90.000	567.150	
11	100.000	567.560	ALCAP 125.755 LB
Water surface data:			
1	15.000	566.040	LEOW WS
2	56.000	566.040	REOW WS
MIN	0.000	564.050	
MAX	100.000	579.350	

# SUSITNA HYDROGRAPHIC SURVEYS



PREPARED BY:

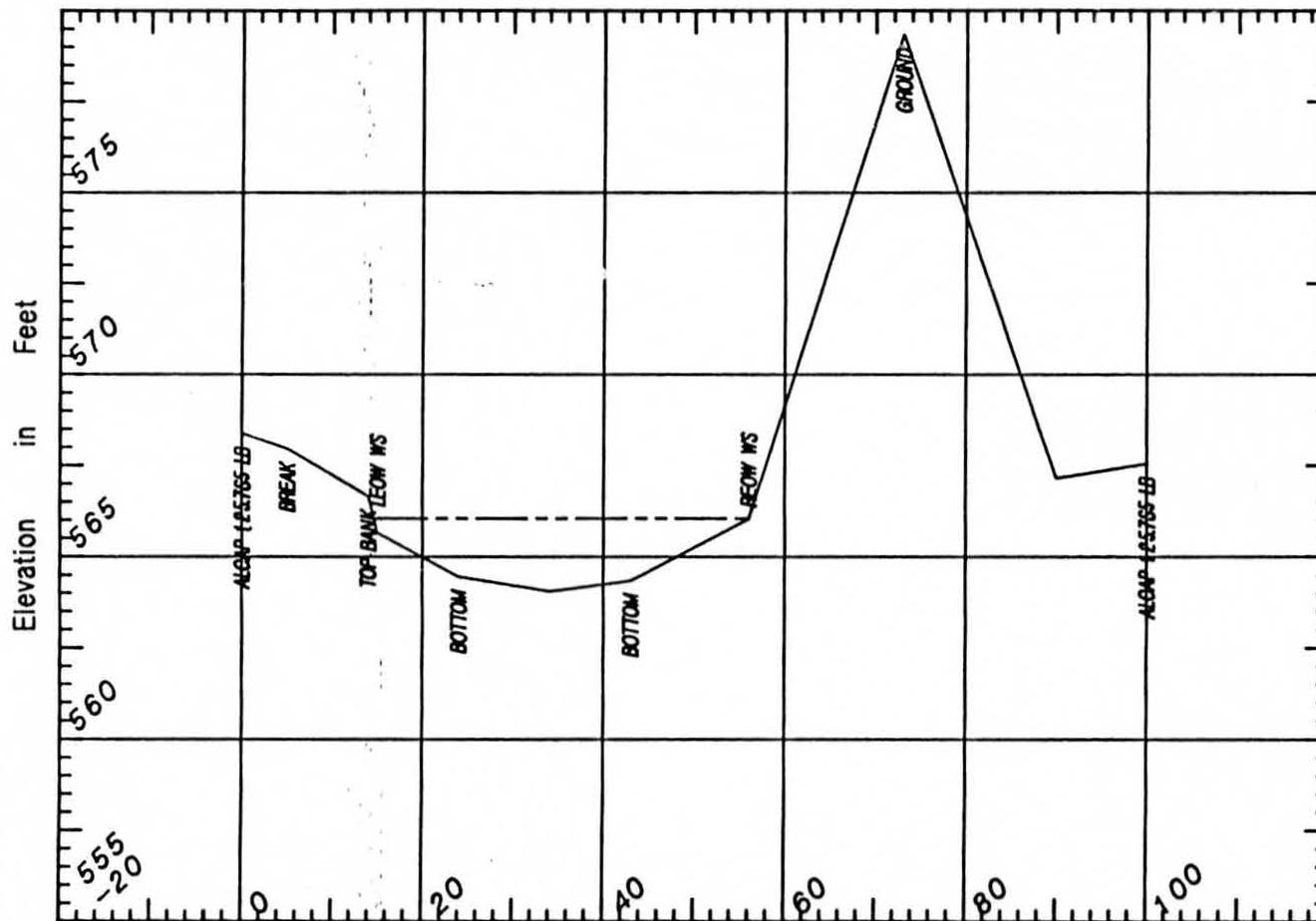


cross section SLOUGH 8 125.7S5  
Date of Survey: AUGUST 4, 1982

PREPARED FOR:



# SUSITNA HYDROGRAPHIC SURVEYS



PREPARED BY:

PREPARED FOR:



cross section SLOUGH 8 125.7S5  
Date of Survey: AUGUST 4, 1982

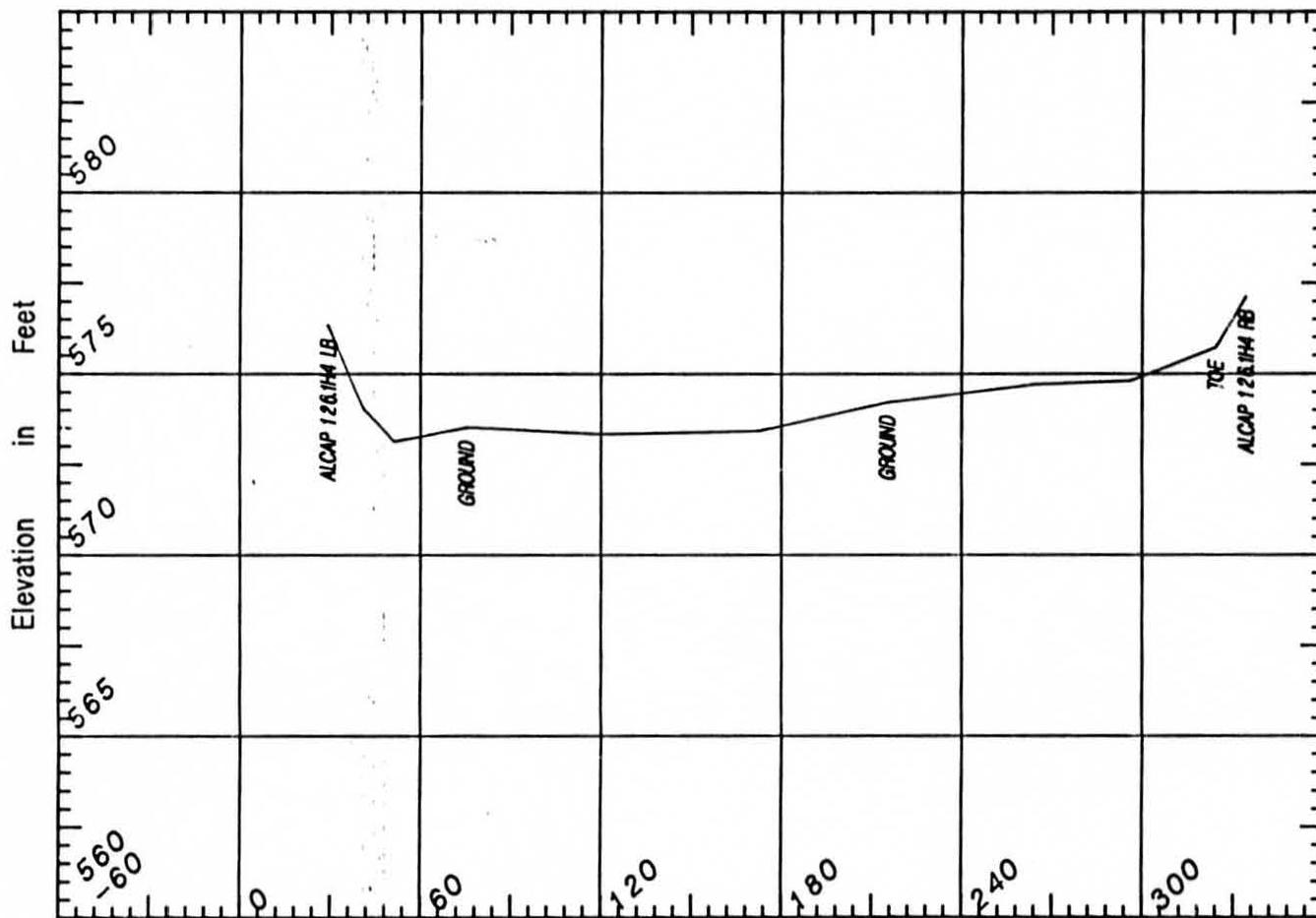


SUSITNA HYDROGRAPHIC SURVEYS  
cross section SLOUGH 8 126.1H4

Date of Survey: AUGUST 4, 1982

POINT -----	'X' -----	'Y' -----	DESCRIPTION -----
Cross section data:			
1	29.000	576.320	ALCAP 126.1H4 LB
2	41.000	574.020	
3	51.000	573.120	
4	75.000	573.520	GROUND
5	119.000	573.320	
6	172.000	573.420	
7	215.000	574.220	GROUND
8	264.000	574.720	
9	296.000	574.820	
10	324.000	575.720	TOE
11	334.000	577.120	ALCAP 126.1H4 RB
MIN	29.000	573.120	
MAX	334.000	577.120	

# SUSITNA: HYDROGRAPHIC SURVEYS



PREPARED BY:

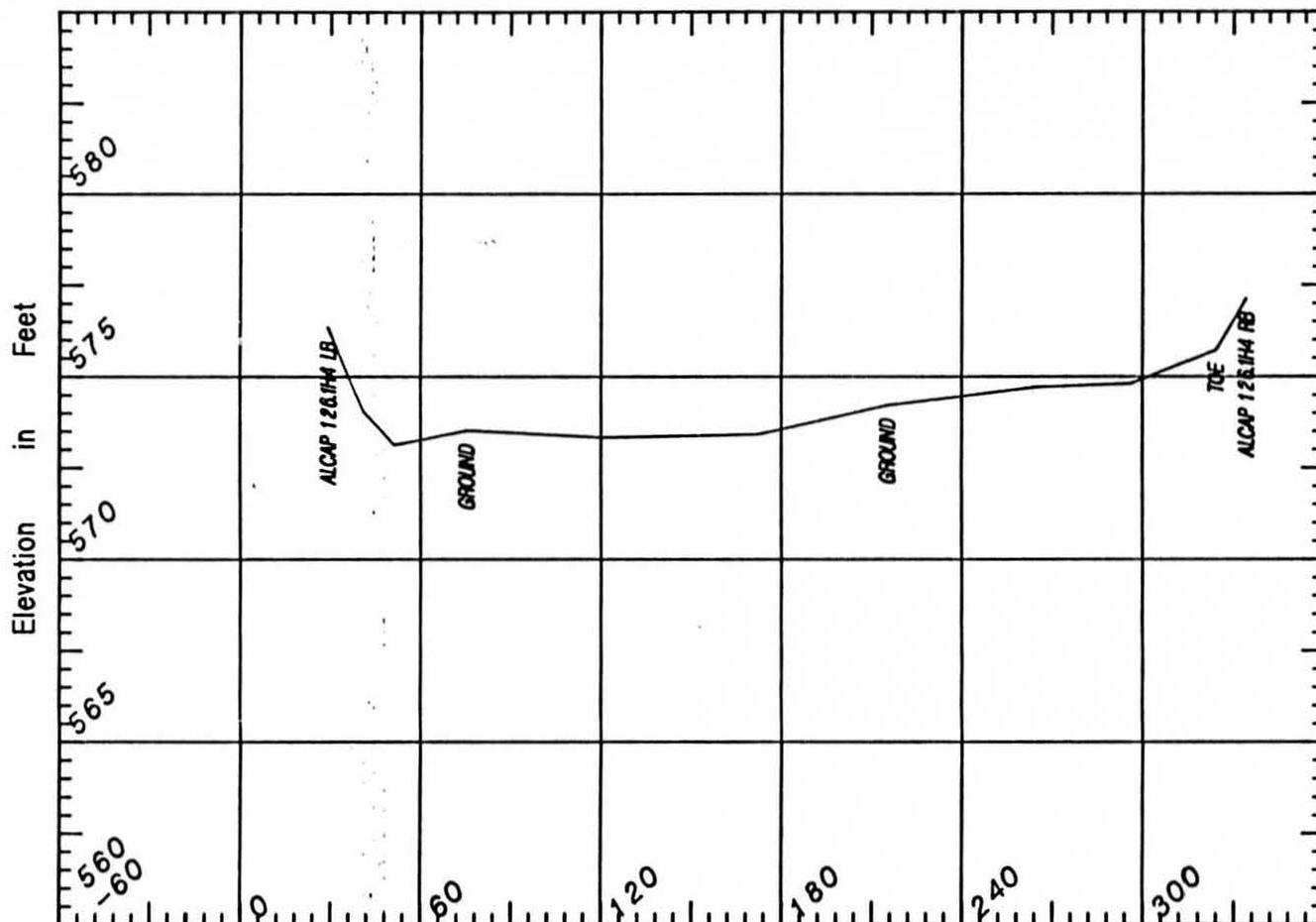


cross section SLOUGH 8 126.1H4  
Date of Survey: AUGUST 4, 1982

PREPARED FOR:



# SJSITNA HYDROGRAPHIC SURVEYS



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cross section SLOUGH 8 126.1H4  
Date of Survey: AUGUST 4, 1982

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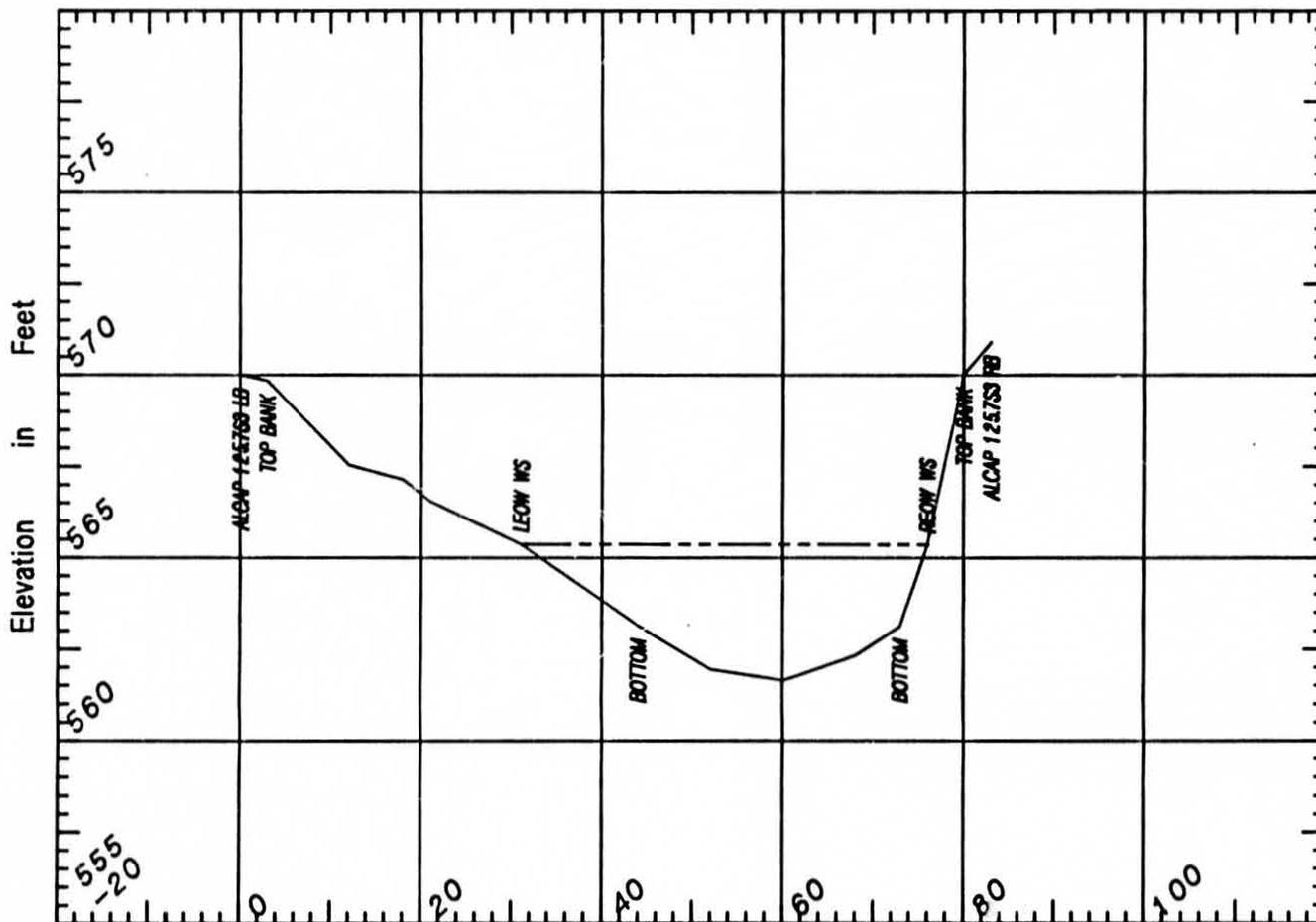


SUSITNA HYDROGRAPHIC SURVEYS  
 cross section SLOUGH 8 125.753

Date of Survey: AUGUST 4, 1982

POINT -----	'X' -----	'Y' -----	DESCRIPTION -----
Cross section data:			
1	0.000	570.000	ALCAP 125.753 LB
2	3.000	569.830	TOP BANK
3	12.000	567.530	
4	18.000	567.130	
5	21.000	566.530	
6	31.000	565.360	
7	44.000	563.130	BOTTOM
8	52.000	561.930	
9	60.000	561.630	
10	68.000	562.330	
11	73.000	563.130	BOTTOM
12	76.000	565.350	
13	80.000	570.030	TOP BANK
14	83.000	570.900	ALCAP 125.753 RB
Water surface data:			
1	31.000	565.360	LEOW WS
2	76.000	565.350	REOW WS
MIN	0.000	561.630	
MAX	83.000	570.900	

# SUSITNA HYDROGRAPHIC SURVEYS



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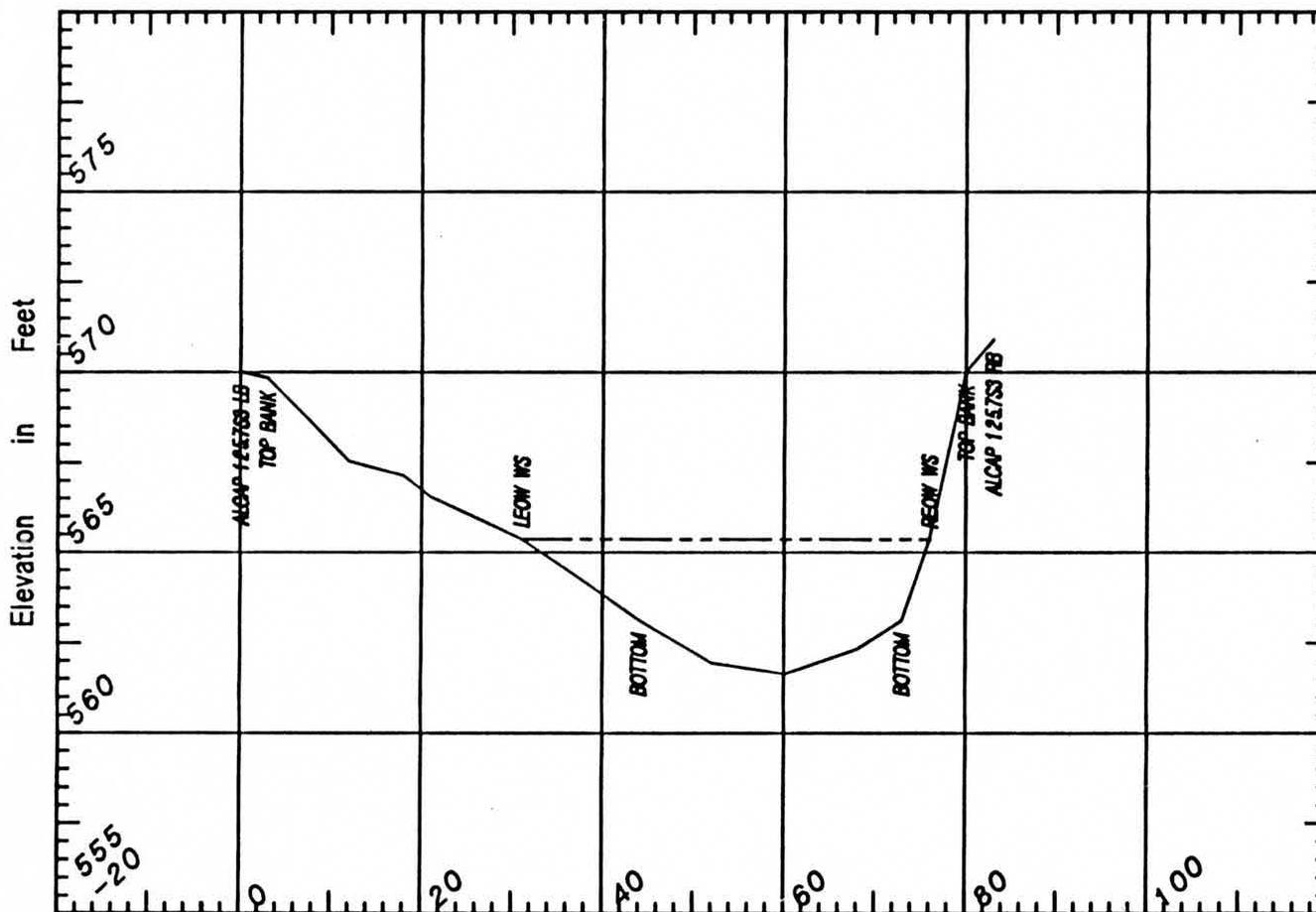
PREPARED FOR:



cross section SLOUGH 8 125.7S3  
Date of Survey: AUGUST 4, 1982



# SUSITNA HYDROGRAPHIC SURVEYS



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PREPARED FOR:



cross section SLOUGH 8 125.7S3  
Date of Survey: AUGUST 4, 1982

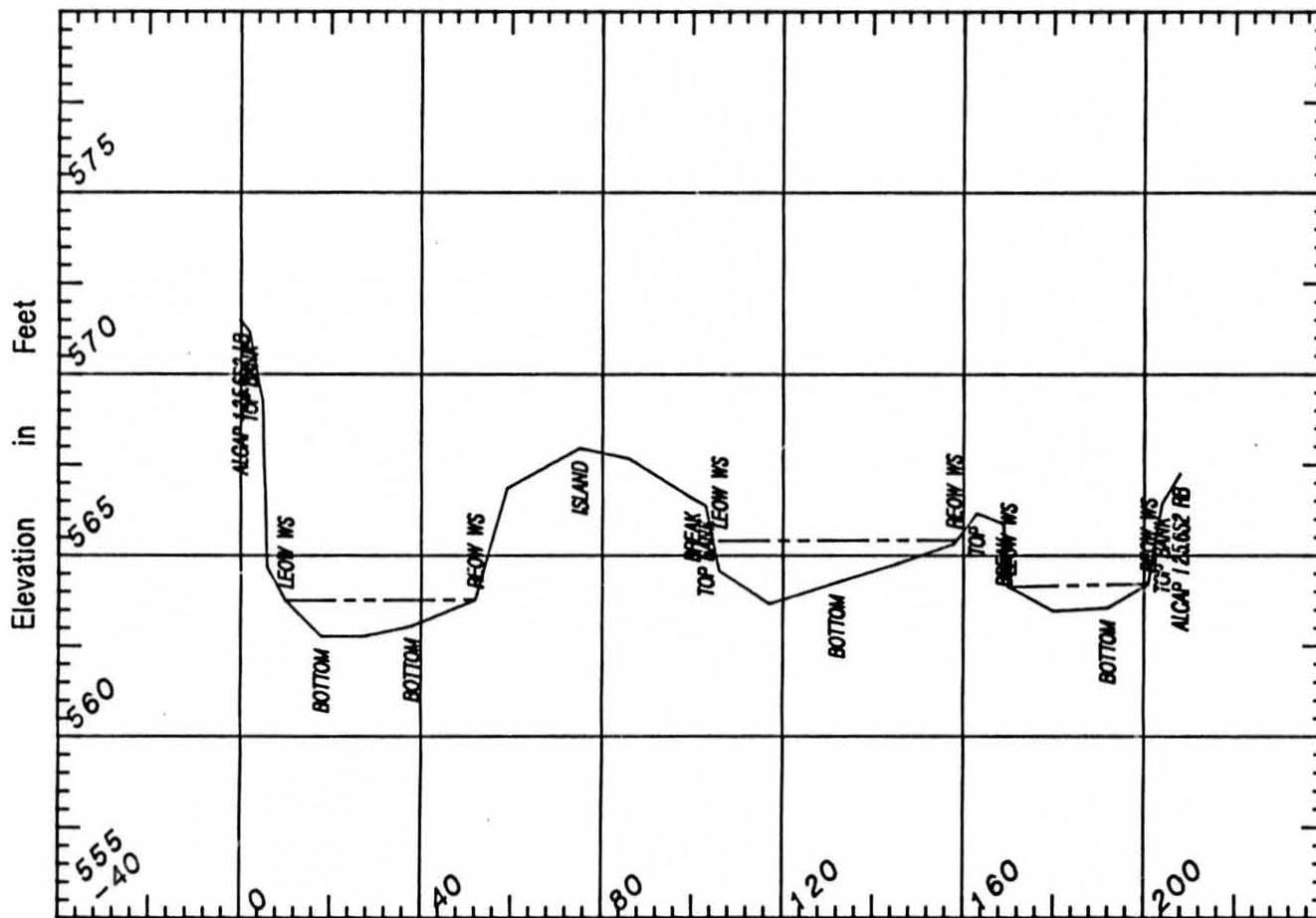


SUSITNA HYDROGRAPHIC SURVEYS  
cross section SLOUGH 8 125.6S2

Date of Survey: AUGUST 4, 1982

POINT -----	'X' -----	'Y' -----	DESCRIPTION -----
Cross section data:			
1	0.000	571.470	ALCAP 125.6S2 LB
2	2.000	571.160	TOP BANK
3	5.000	569.260	
4	6.000	564.660	
5	10.000	563.750	
6	18.000	562.760	BOTTOM
7	27.000	562.760	
8	38.000	563.060	BOTTOM
9	52.000	563.780	
10	59.000	566.860	
11	75.000	567.960	ISLAND
12	86.000	567.660	
13	100.000	566.560	BREAK
14	103.000	566.360	TOP BANK
15	106.000	564.560	
16	117.000	563.660	
17	132.000	564.260	BOTTOM
18	145.000	564.760	
19	158.000	565.330	
20	163.000	566.160	TOP
21	169.000	565.860	BREAK
22	170.000	564.130	
23	180.000	563.460	
24	192.000	563.560	BOTTOM
25	201.000	564.220	
26	204.000	566.440	TOP BANK
27	208.000	567.250	ALCAP 125.6S2 RB
Water surface data:			
1	10.000	563.750	LEOW WS
2	52.000	563.780	REOW WS
			SPLIT
4	106.000	565.410	LEOW WS
5	158.000	565.430	REOW WS
			SPLIT
7	170.000	564.130	LEOW WS
8	201.000	564.220	REOW WS
MIN	0.000	562.760	
MAX	208.000	571.470	

# SUSITNA HYDROGRAPHIC SURVEYS



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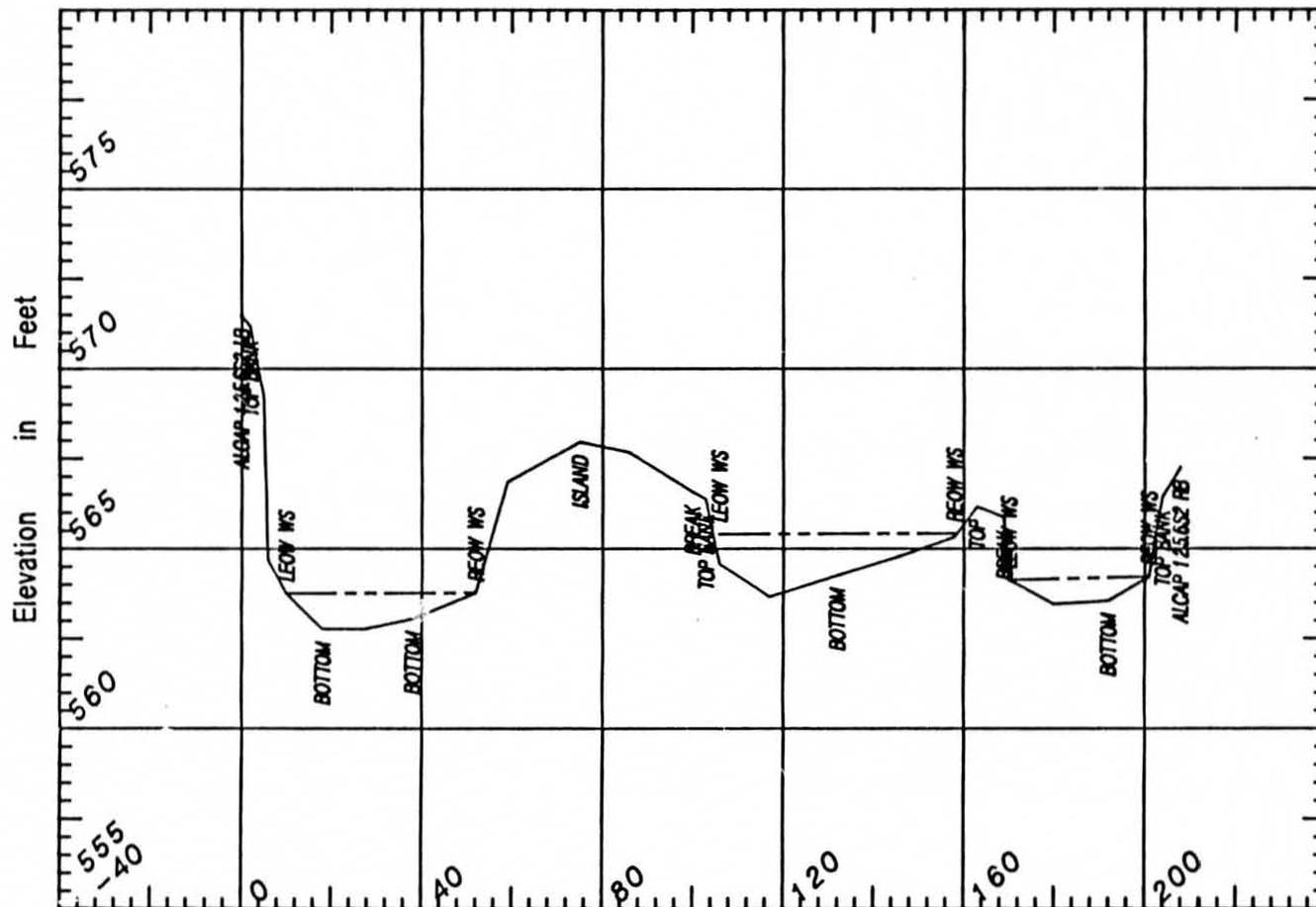


cross section SLOUGH 8 125.6S2  
Date of Survey: AUGUST 4, 1982

PREPARED FOR:



# SUSITNA HYDROGRAPHIC SURVEYS



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cross section SLOUGH 8 125.6S2  
Date of Survey: AUGUST 4, 1982

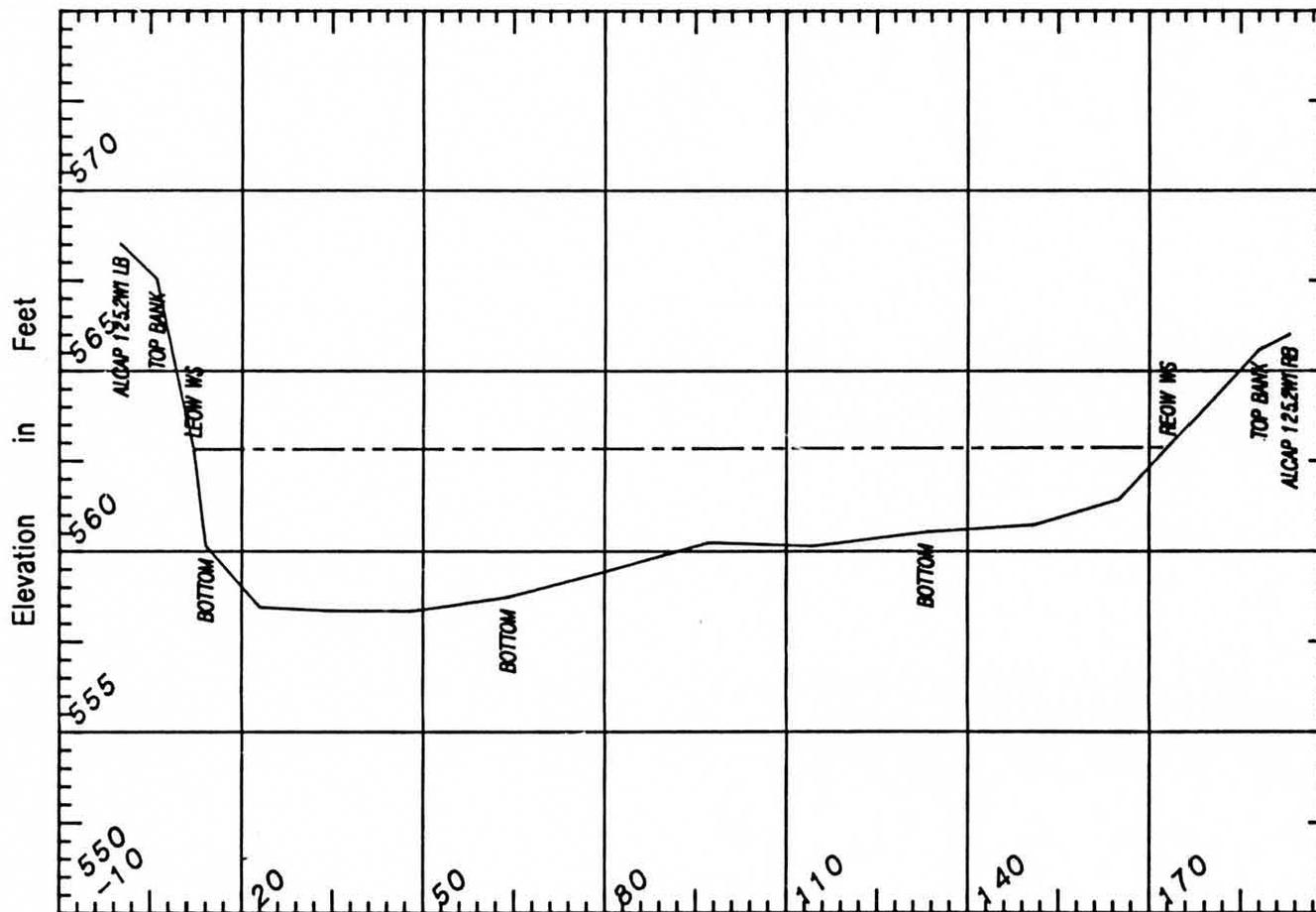


SUSITNA HYDROGRAPHIC SURVEYS  
 cross section SLOUGH 8 125.2W1

Date of Survey: AUGUST 4, 1982

<u>POINT</u>	<u>'X'</u>	<u>'Y'</u>	<u>DESCRIPTION</u>
Cross section data:			
1	0.000	568.510	ALCAP 125.2W1 LB
2	6.000	567.540	TOP BANK
3	12.000	562.810	
4	14.000	560.140	BOTTOM
5	23.000	558.440	
6	35.000	558.340	
7	48.000	558.340	
8	64.000	558.740	BOTTOM
9	80.000	559.440	
10	97.000	560.240	
11	114.000	560.140	
12	133.000	560.540	BOTTOM
13	151.000	560.740	
14	165.000	561.440	
15	173.000	562.880	
16	188.000	565.590	TOP BANK
17	193.000	566.010	ALCAP 125.2W1 RB
Water surface data:			
1	12.000	562.810	LEOW WS
2	173.000	562.880	REOW WS
MIN	0.000	558.340	
MAX	193.000	568.510	

# SUSITNA HYDROGRAPHIC SURVEYS



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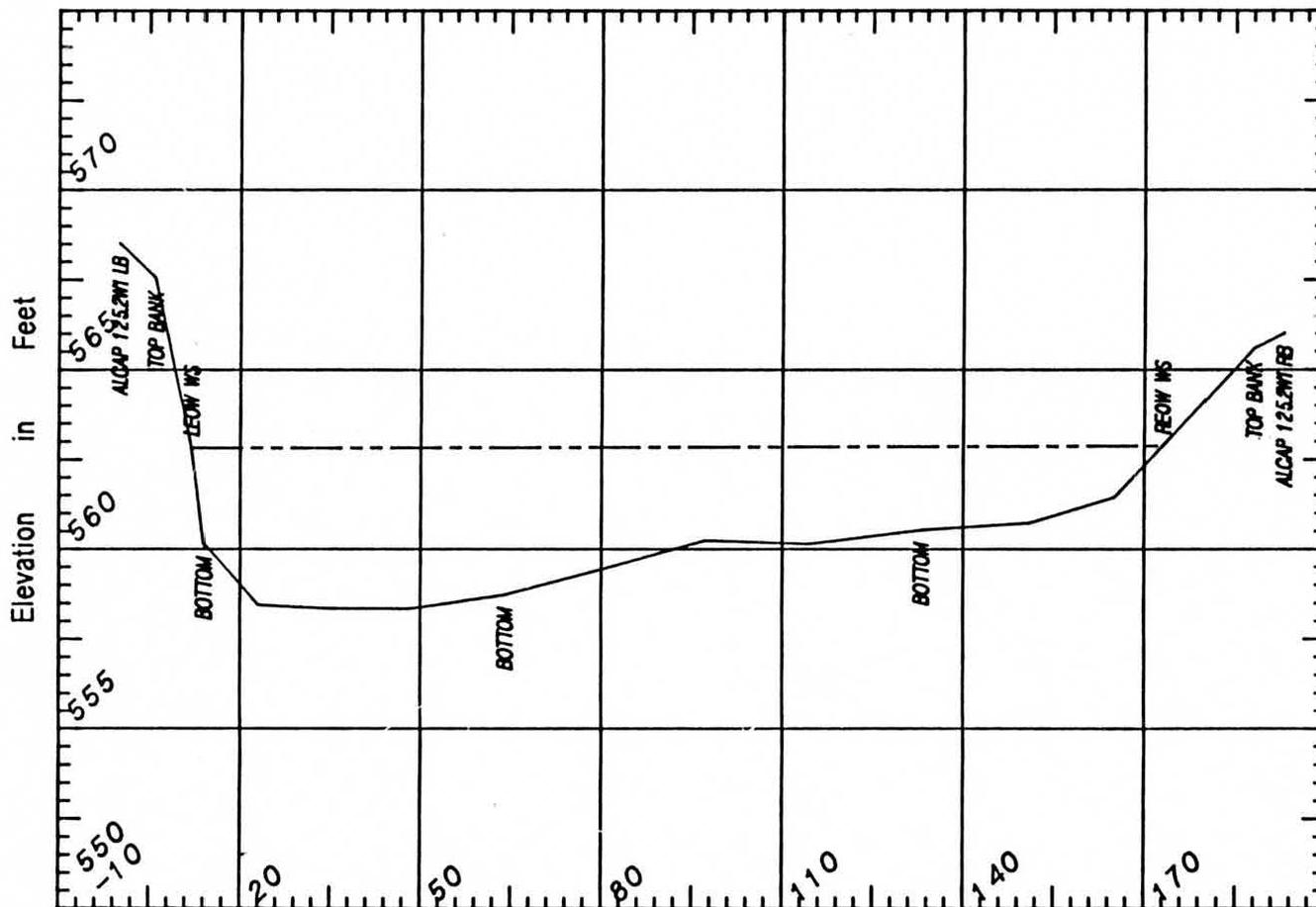


cross section SLOUGH 8 125.2W1  
Date of Survey: AUGUST 4, 1982

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# SUSITNA HYDROGRAPHIC SURVEYS



PREPARED BY:

PREPARED FOR:



cross section SLOUGH 8 125.2W1  
Date of Survey: AUGUST 4, 1982

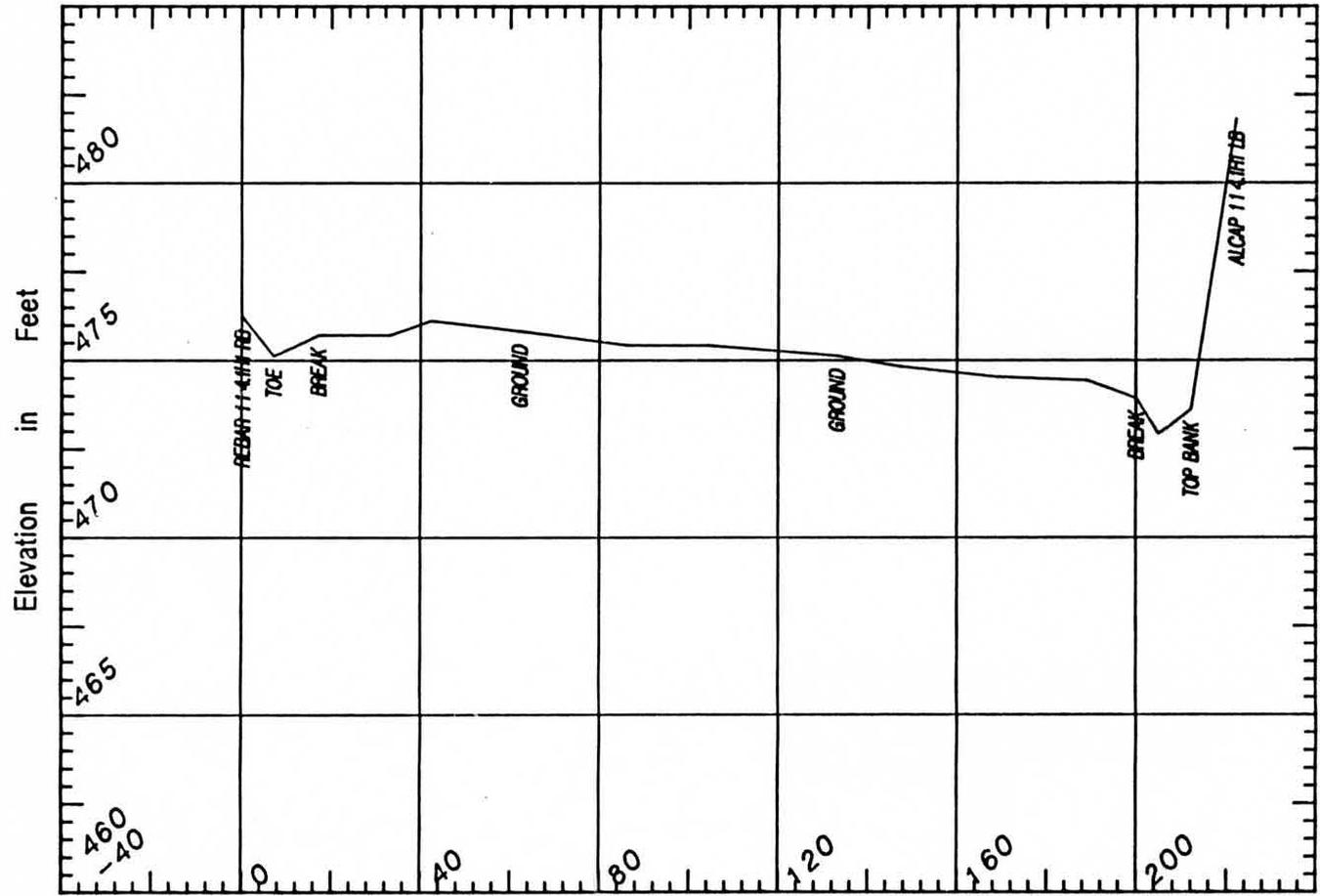


SUSITNA HYDROGRAPHIC SURVEYS  
cross section LANE CR SLOUGH 114.1H1

Date of Survey: AUGUST 16, 1982

POINT -----	'X' -----	'Y' -----	DESCRIPTION -----
Cross section data:			
1	0.000	481.810	ALCAP 114.1H1 LB
2	10.000	473.620	TOP BANK
3	14.000	473.220	
4	17.000	472.920	
5	22.000	473.920	BREAK
6	33.000	474.420	
7	53.000	474.520	
8	75.000	474.820	
9	89.000	475.120	GROUND
10	118.000	475.420	
11	136.000	475.420	
12	160.000	475.820	GROUND
13	180.000	476.120	
14	189.000	475.720	
15	205.000	475.720	BREAK
16	215.000	475.120	TOE
17	222.000	476.230	REBAR 114.1H1 RB
MIN	0.000	472.920	
MAX	222.000	481.810	

# SUSITNA HYDROGRAPHIC SURVEYS



PREPARED BY:

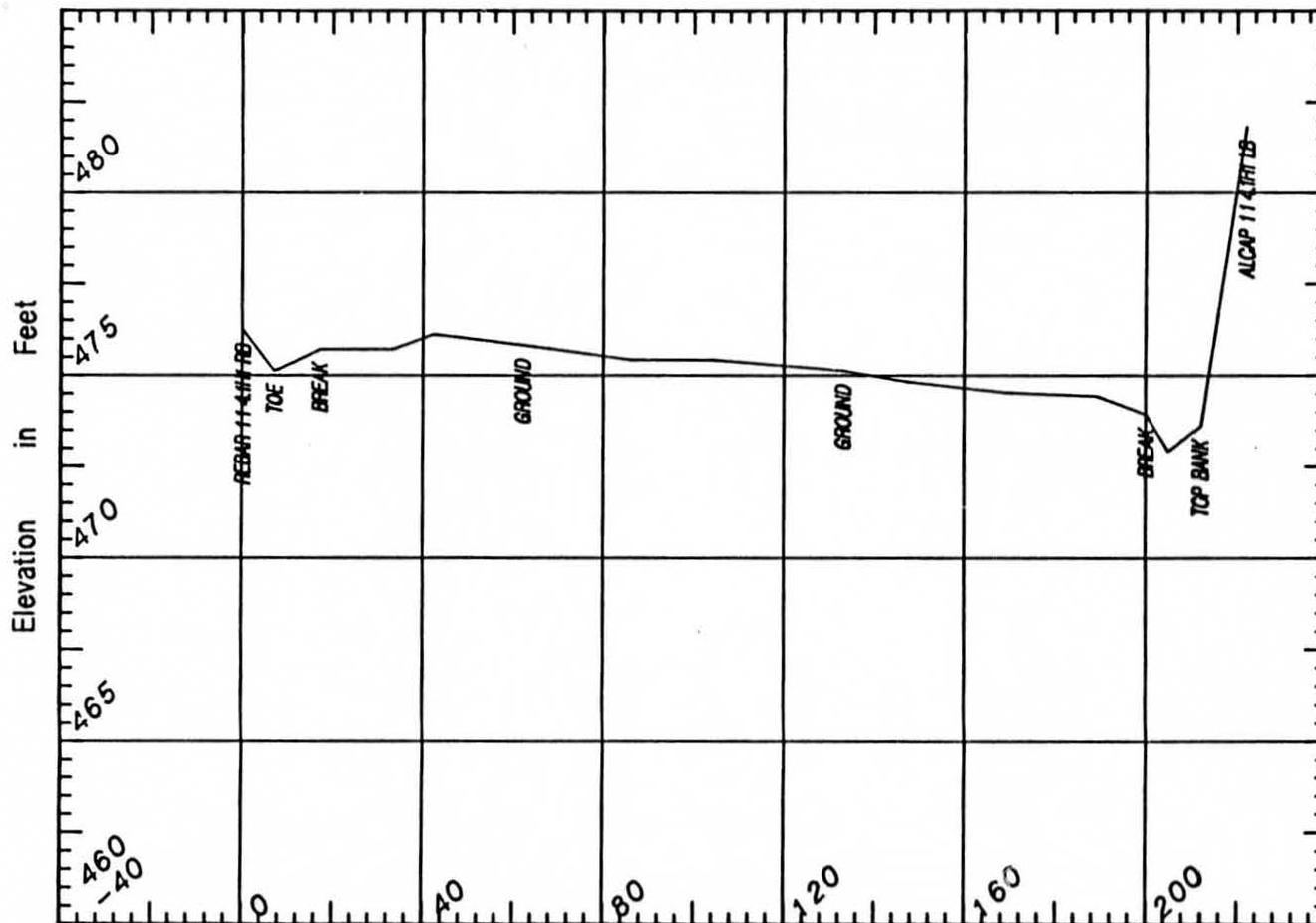
PREPARED FOR:



cross section LANE CR SLOUGH 11 4.1H1  
Date of Survey: AUGUST 16, 1982



# SUSITNA HYDROGRAPHIC SURVEYS



PREPARED BY:

PREPARED FOR:



cross section LANE CR SLOUGH 11.4.1H1  
Date of Survey: AUGUST 16, 1982

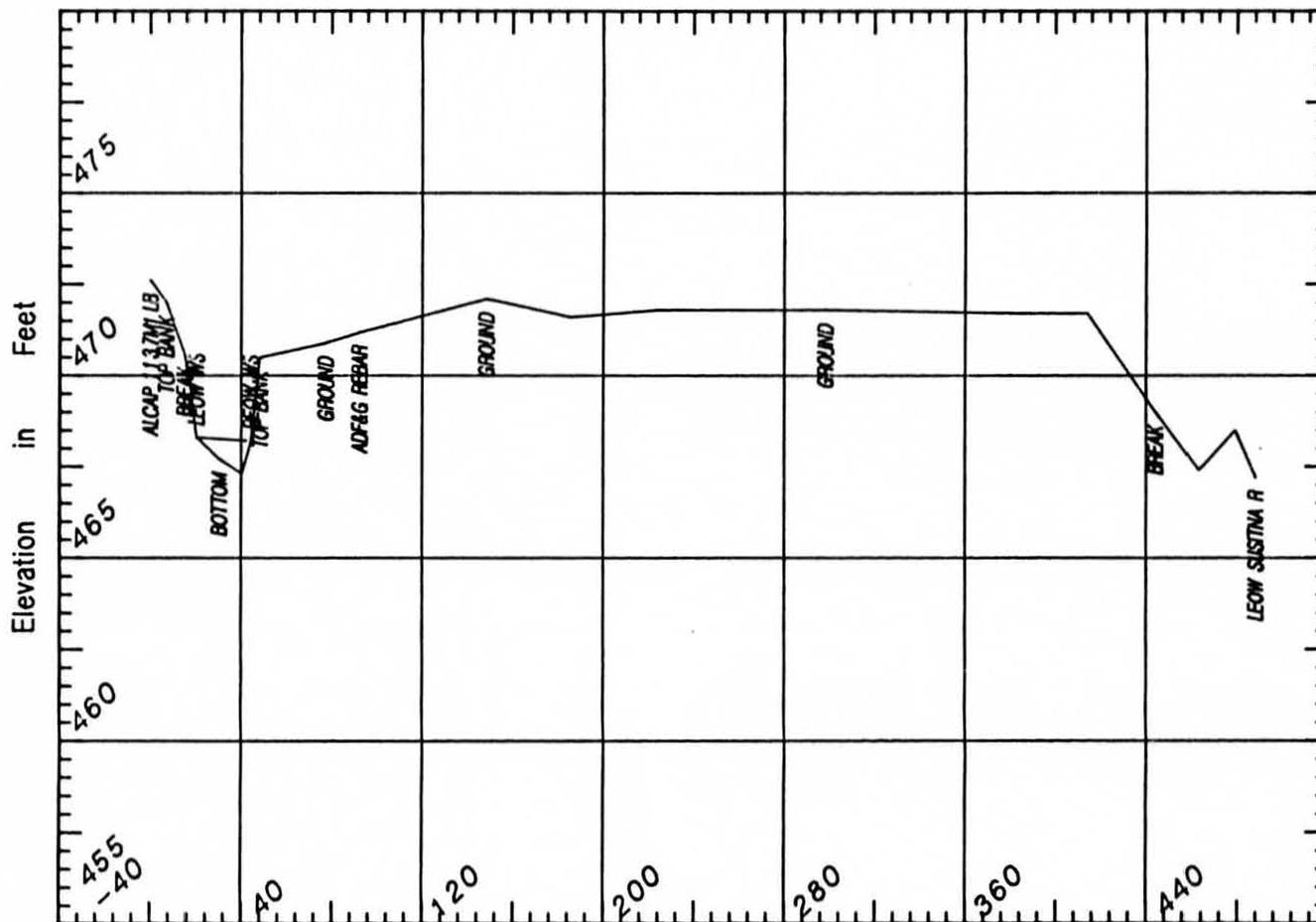


SUSITNA HYDROGRAPHIC SURVEYS  
 cross section LANE CR SLOUGH 113.7M1

Date of Survey: AUGUST 24, 1982

POINT	'X'	'Y'	DESCRIPTION
Cross section data:			
1	0.000	472.600	ALCAP 113.7M1 LB
2	7.000	472.000	TOP BANK
3	15.000	470.600	BREAK
4	20.000	468.300	
5	30.000	467.700	BOTTOM
6	40.000	467.300	
7	44.000	468.200	
8	48.000	470.500	TOP BANK
9	77.000	470.900	GROUND
10	92.000	471.190	ADF&G REBAR
11	148.000	472.100	GROUND
12	185.000	471.600	
13	223.000	471.800	
14	298.000	471.800	GROUND
15	384.000	471.700	
16	414.000	471.700	
17	444.000	469.000	BREAK
18	463.000	467.400	
19	479.000	468.500	
20	488.000	467.200	LEOW SUSITNA R
Water surface data:			
1	20.000	468.300	LEOW WS
2	44.000	468.200	REOW WS
MIN	0.000	467.200	
MAX	488.000	472.600	

# SUSITNA HYDROGRAPHIC SURVEYS



PREPARED BY:

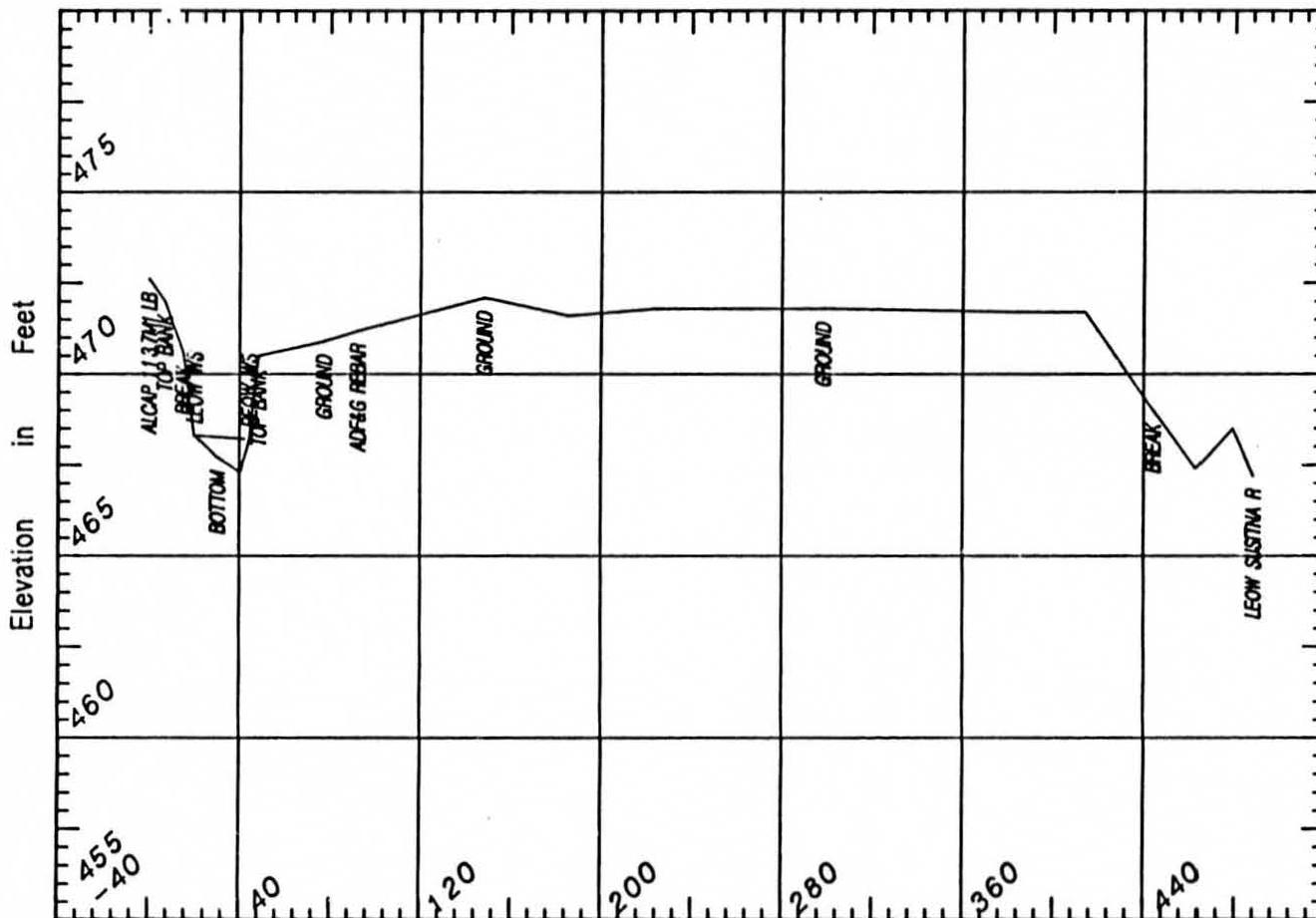
PREPARED FOR:



cross section LANE CR SLOUGH 113.7M1  
Date of Survey: AUGUST 24, 1982



# SUSITNA HYDROGRAPHIC SURVEYS



PREPARED BY:

PREPARED FOR:



cross section LANE CR SLOUGH 113.7M1  
Date of Survey: AUGUST 24, 1982

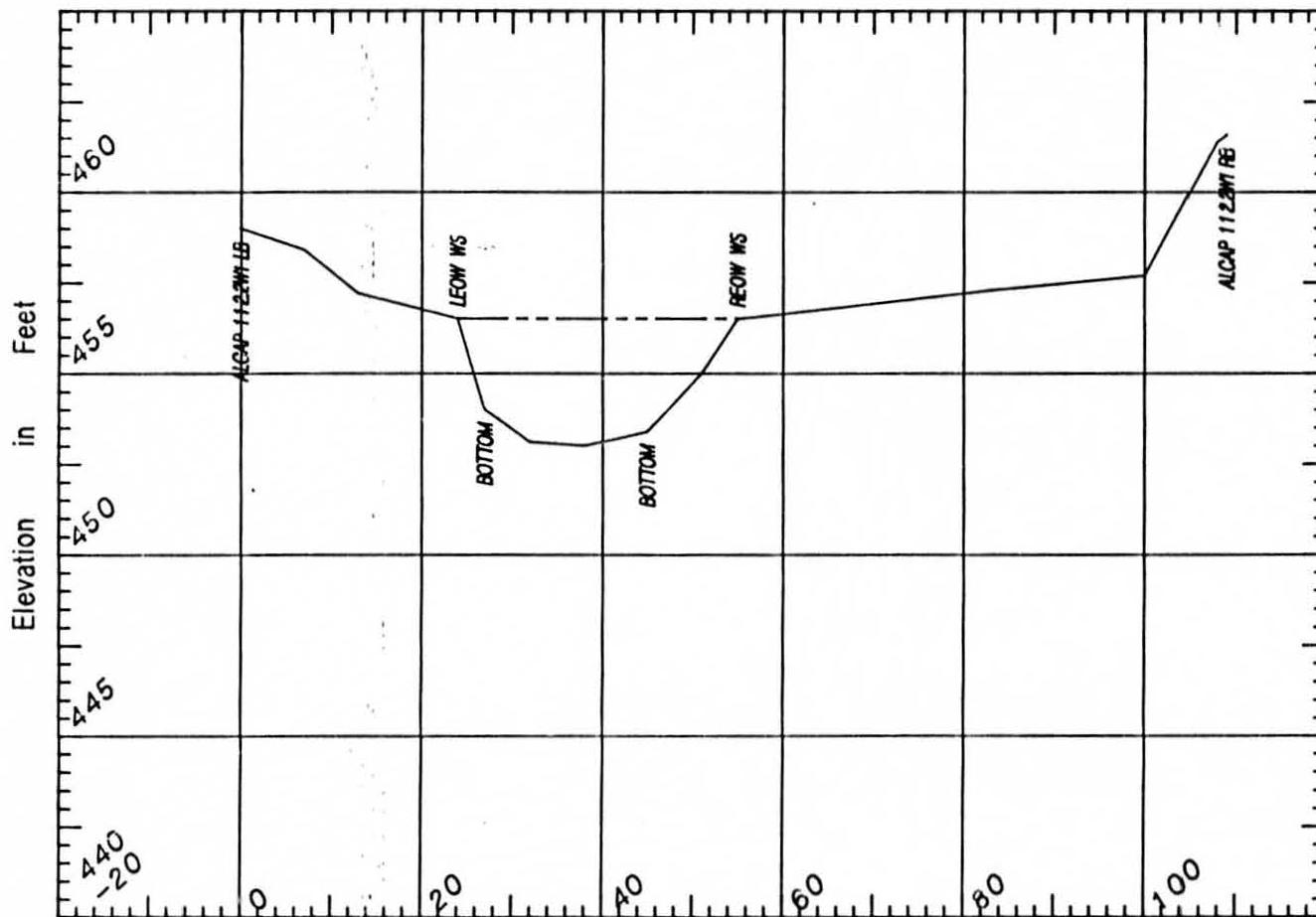


SUSITNA HYDROGRAPHIC SURVEYS  
cross section SLOUGH 6A 112.2W1

Date of Survey: SEPTEMBER 2, 1982

POINT	'X'	'Y'	DESCRIPTION
Cross section data:			
1	0.000	458.990	ALCAP 112.2W1 LB
2	7.000	458.400	
3	13.000	457.200	
4	24.000	456.500	
5	27.000	454.000	BOTTOM
6	32.000	453.100	
7	38.000	453.000	
8	45.000	453.400	BOTTOM
9	51.000	455.000	
10	55.000	456.500	
11	83.000	457.300	
12	100.000	457.700	
13	108.000	461.400	
14	109.000	461.590	ALCAP 112.2W1 RB
Water surface data:			
1	24.000	456.500	LEOW WS
2	55.000	456.500	REOW WS
MIN	0.000	453.000	
MAX	109.000	461.590	

# SUSITNA HYDROGRAPHIC SURVEYS



PREPARED BY:

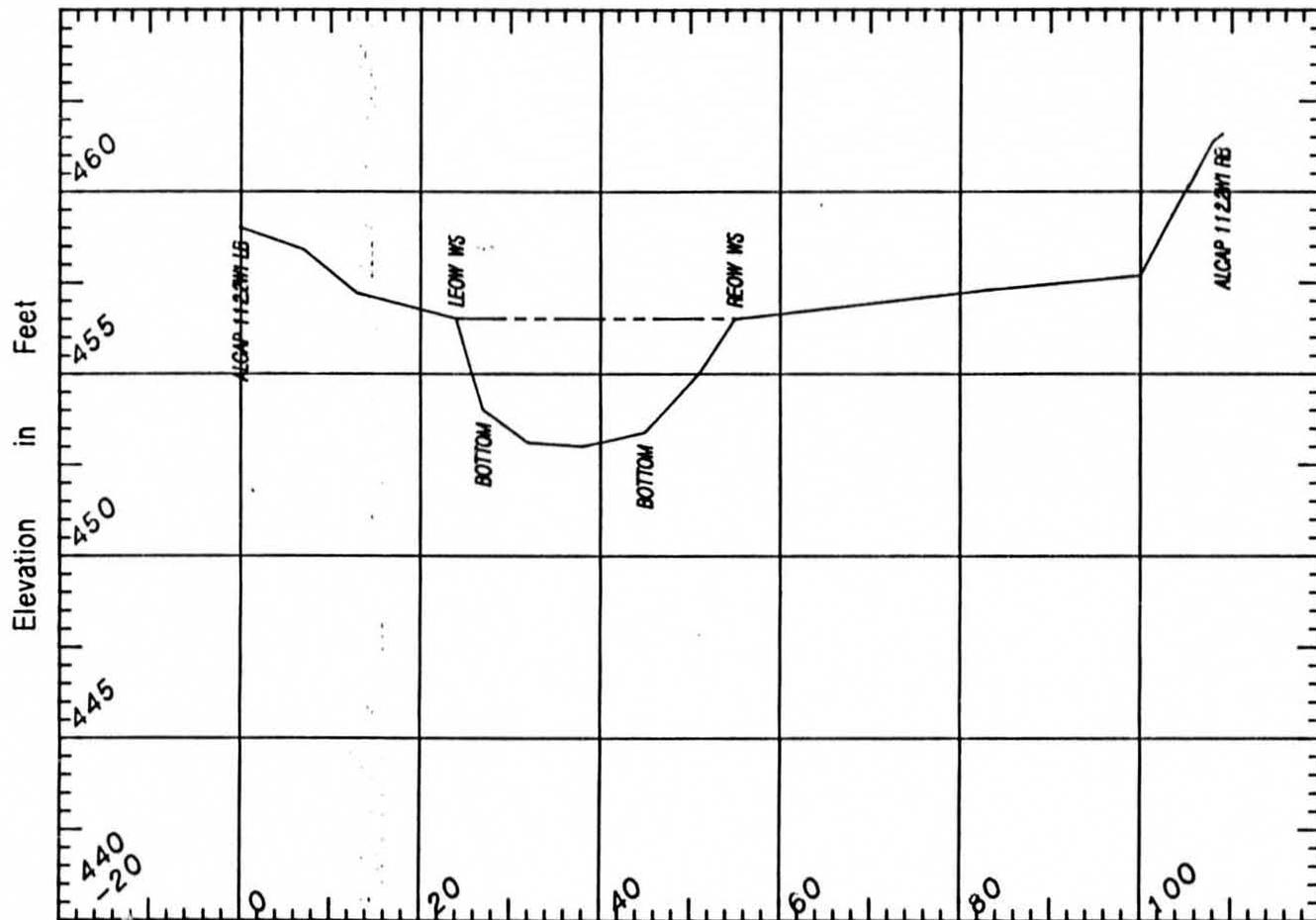


cross section SLOUGH 6A 11 2.2W1  
Date of Survey: SEPTEMBER 2, 1982

PREPARED FOR:



# SUSITNA HYDROGRAPHIC SURVEYS



PREPARED BY:



cross section SLOUGH 6A 112.2W1  
Date of Survey: SEPTEMBER 2, 1982

PREPARED FOR:

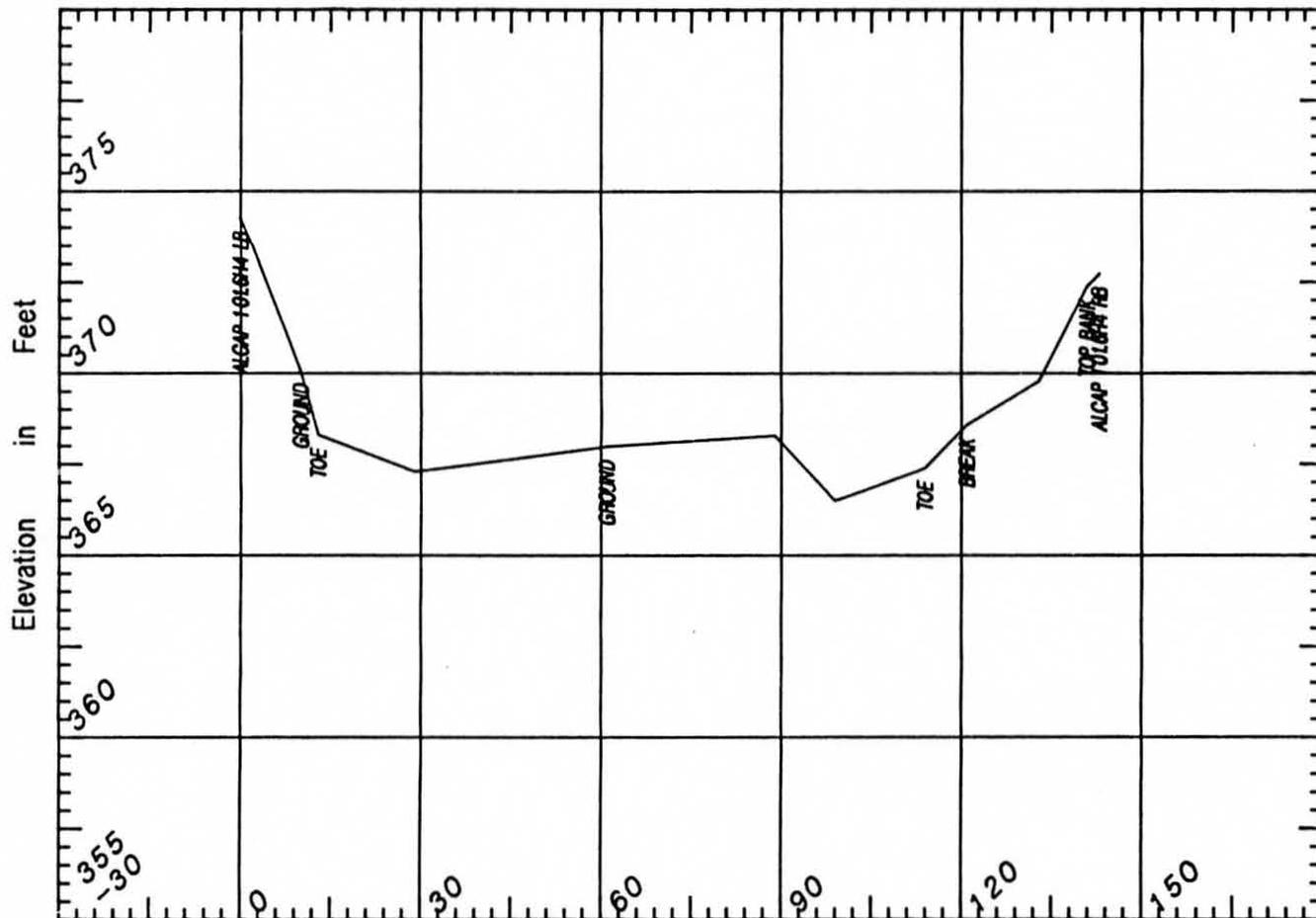


SUSITNA HYDROGRAPHIC SURVEYS  
cross section WHISKERS 101.6H4

Date of Survey: AUGUST 11, 1982

POINT	'X'	'Y'	DESCRIPTION
Cross section data:			
1	0.000	374.240	ALCAP 101.6H4 LB
2	2.000	373.490	
3	10.000	370.090	GROUND
4	13.000	368.290	TOE
5	29.000	367.290	
6	61.000	367.990	GROUND
7	70.000	368.090	
8	89.000	368.290	
9	99.000	366.490	
10	114.000	367.390	TOE
11	121.000	368.590	BREAK
12	133.000	369.790	
13	141.000	372.390	TOP BANK
14	143.000	372.720	ALCAP 101.6H4 RB
MIN	0.000	366.490	
MAX	143.000	374.240	

# SUSITNA HYDROGRAPHIC SURVEYS



PREPARED BY:

PREPARED FOR:

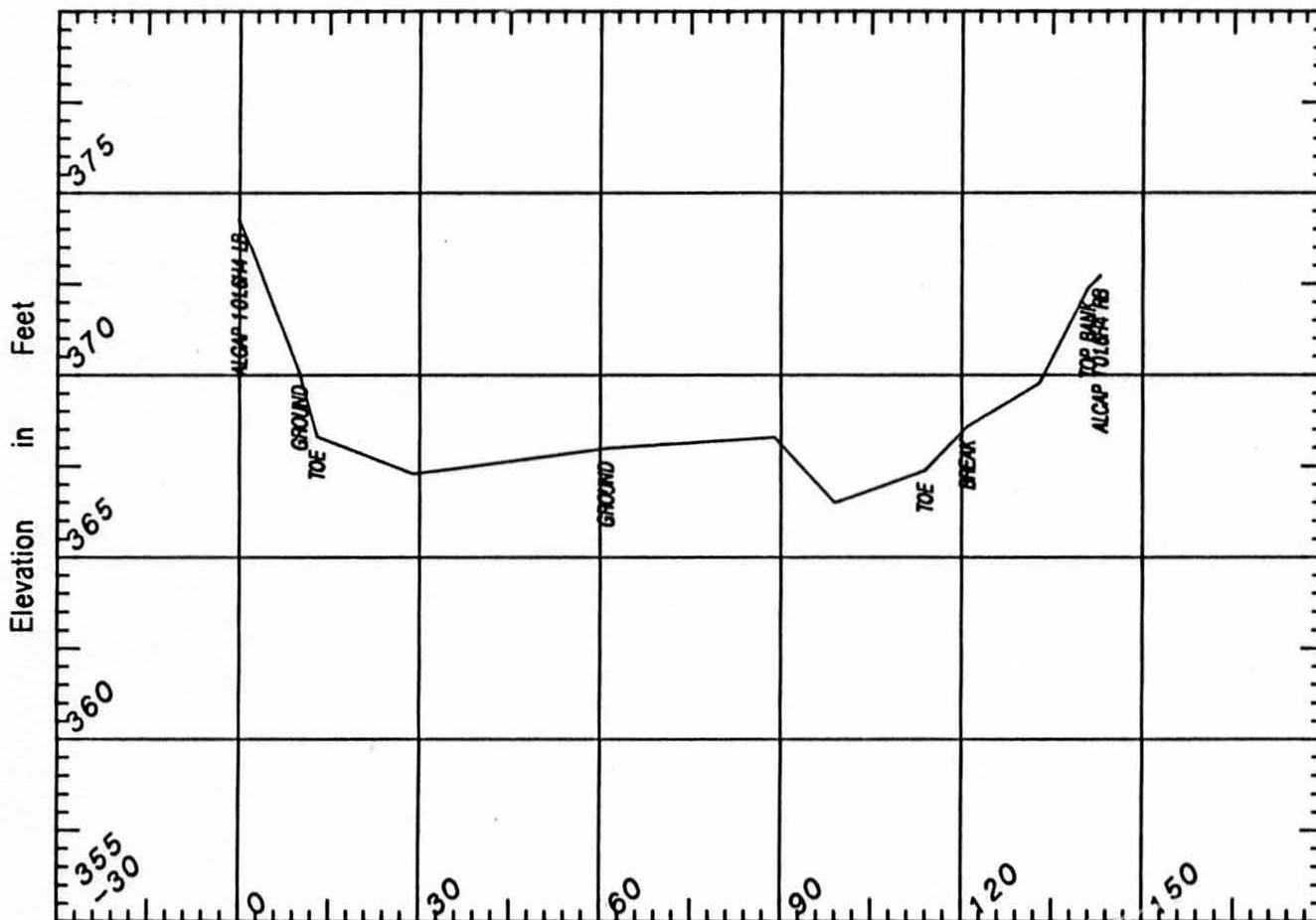


cross section WHISKERS 1 01.6H4  
Date of Survey: AUGUST 11, 1982



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# SUSITNA HYDROGRAPHIC SURVEYS



PREPARED BY:

PREPARED FOR:



cross section WHISKERS 101.6H4  
Date of Survey: AUGUST 11, 1982

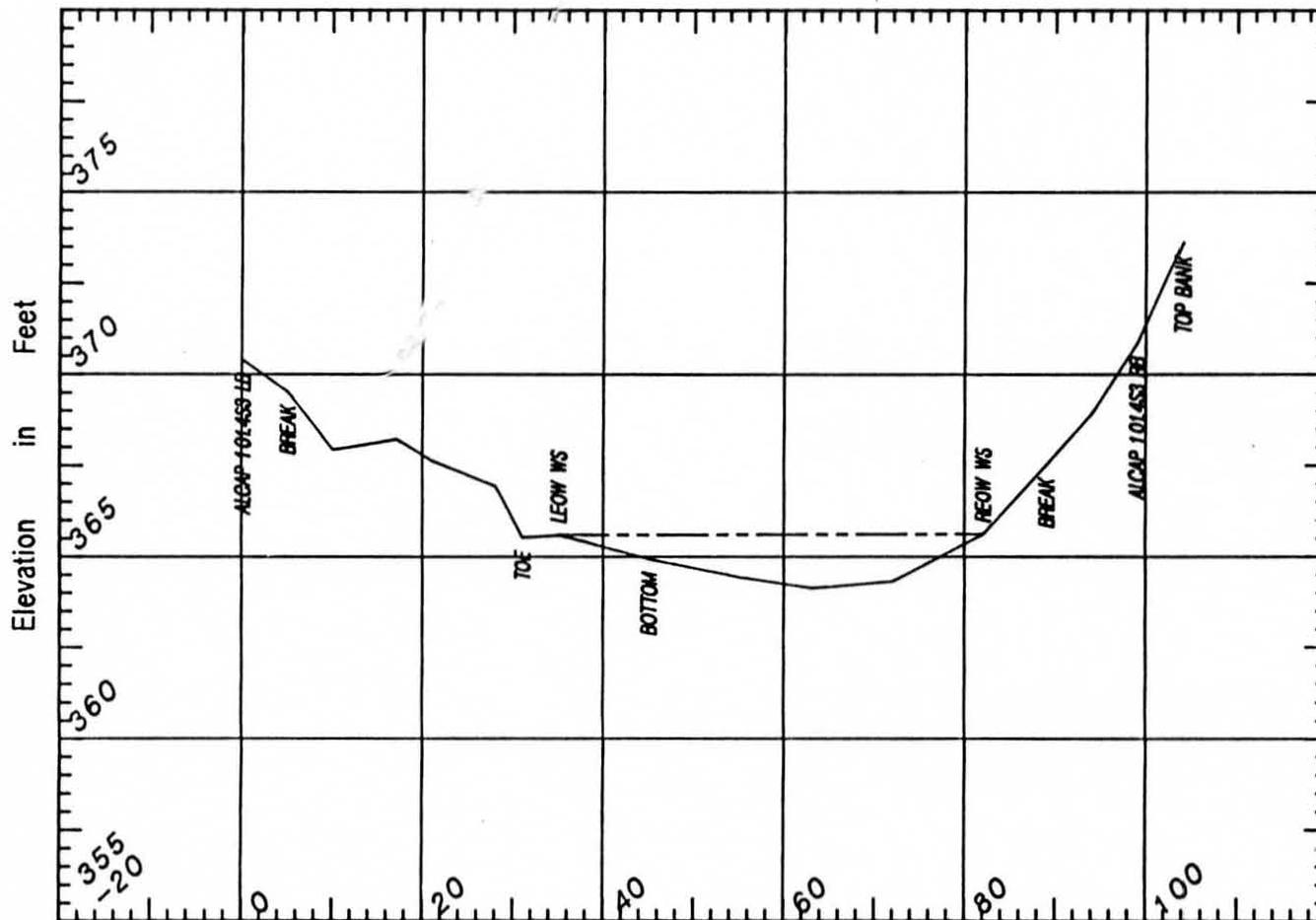


SUSITNA HYDROGRAPHIC SURVEYS  
 cross section WHISKERS 101.4S3

Date of Survey: AUGUST 11, 1982

POINT -----	'X' -----	'Y' -----	DESCRIPTION -----
Cross section data:			
1	0.000	370.380	ALCAP 101.4S3 LB
2	5.000	369.520	BREAK
3	10.000	367.920	
4	17.000	368.220	
5	21.000	367.620	
6	28.000	366.920	
7	31.000	365.520	TOE
8	35.000	365.590	
9	45.000	364.920	BOTTOM
10	55.000	364.420	
11	63.000	364.120	
12	72.000	364.320	
13	82.000	365.620	
14	89.000	367.520	BREAK
15	94.000	368.920	
16	99.000	370.850	ALCAP 101.4S3 RB
17	104.000	373.620	TOP BANK
Water surface data:			
1	35.000	365.590	LEOW WS
2	82.000	365.620	REOW WS
MIN	0.000	364.120	
MAX	104.000	373.620	

# SUSITNA HYDROGRAPHIC SURVEYS



PREPARED BY:

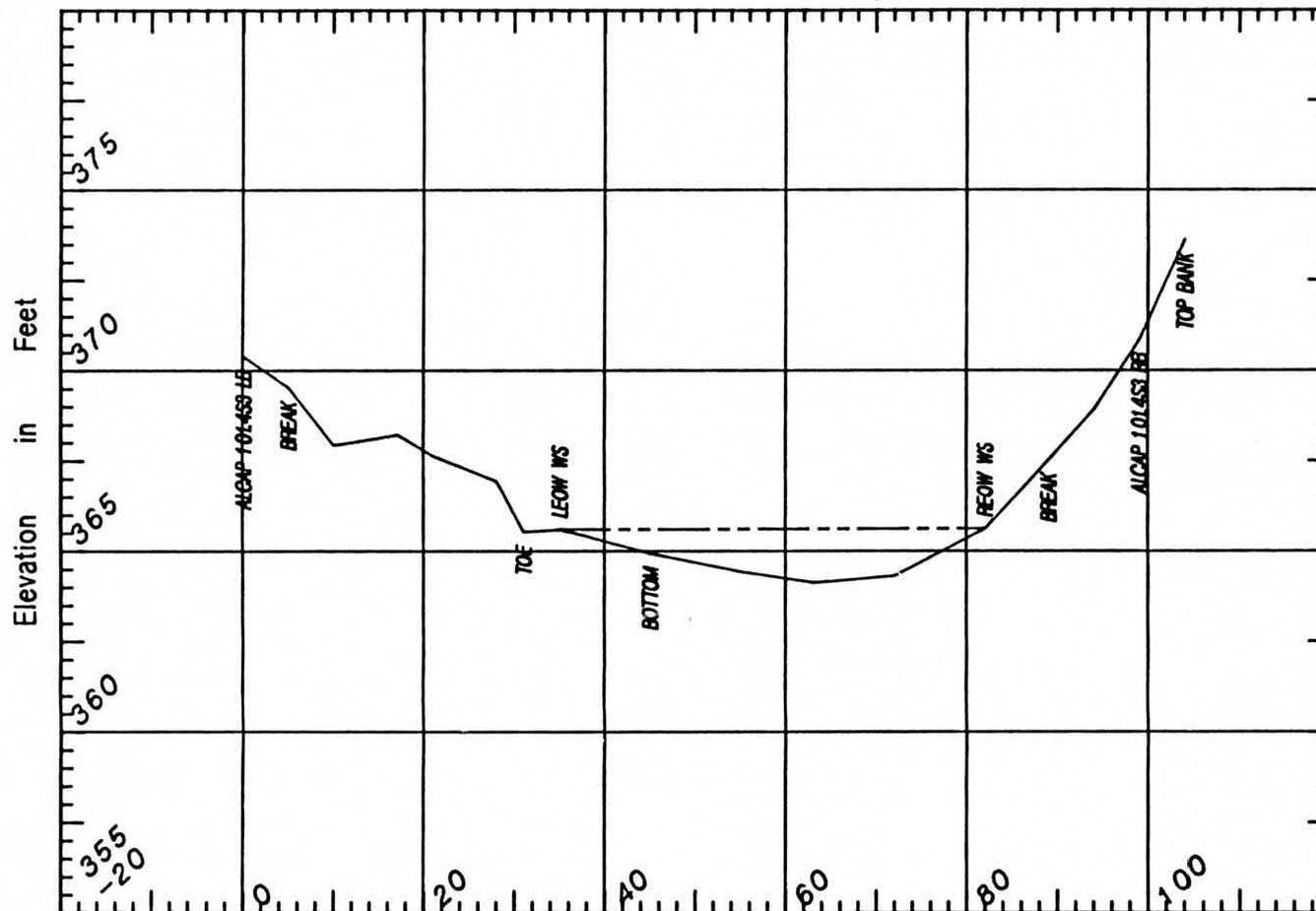


cross section WHISKERS 101.4S3  
Date of Survey: AUGUST 11, 1982

PREPARED FOR:



# SUSITNA HYDROGRAPHIC SURVEYS



PREPARED BY:



cross section WHISKERS 101.4S3  
Date of Survey: AUGUST 11, 1982

PREPARED FOR:

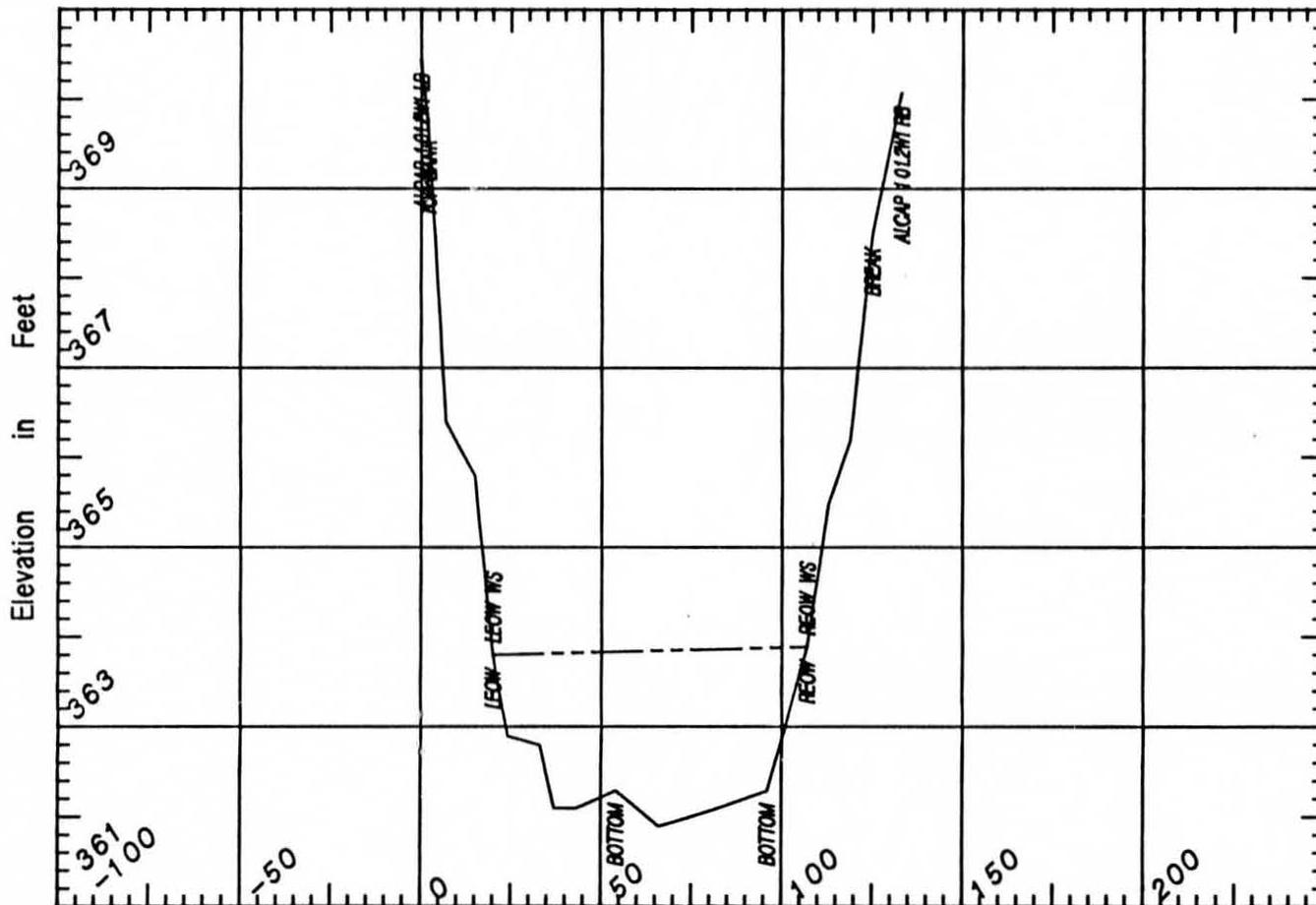


SUSITNA HYDROGRAPHIC SURVEYS  
cross section WHISKERS 101.2W1

Date of Survey: AUGUST 12, 1982

POINT	'X'	'Y'	DESCRIPTION
Cross section data:			
1	0.000	370.430	ALCAP 101.2W1 LB
2	2.000	369.690	TOP BANK
3	7.000	366.390	
4	15.000	365.790	
5	20.000	363.800	
6	24.000	362.890	
7	33.000	362.790	
8	37.000	362.090	
9	43.000	362.090	
10	54.000	362.290	BOTTOM
11	66.000	361.890	
12	82.000	362.090	
13	96.000	362.290	BOTTOM
14	107.000	363.890	
15	113.000	365.490	
16	119.000	366.190	
17	125.000	368.490	BREAK
18	133.000	370.070	ALCAP 101.2W1 RB
Water surface data:			
1	20.000	363.800	LEOW WS
2	107.000	363.890	REOW WS
MIN	0.000	361.890	
MAX	133.000	370.430	

# SUSITNA HYDROGRAPHIC SURVEYS



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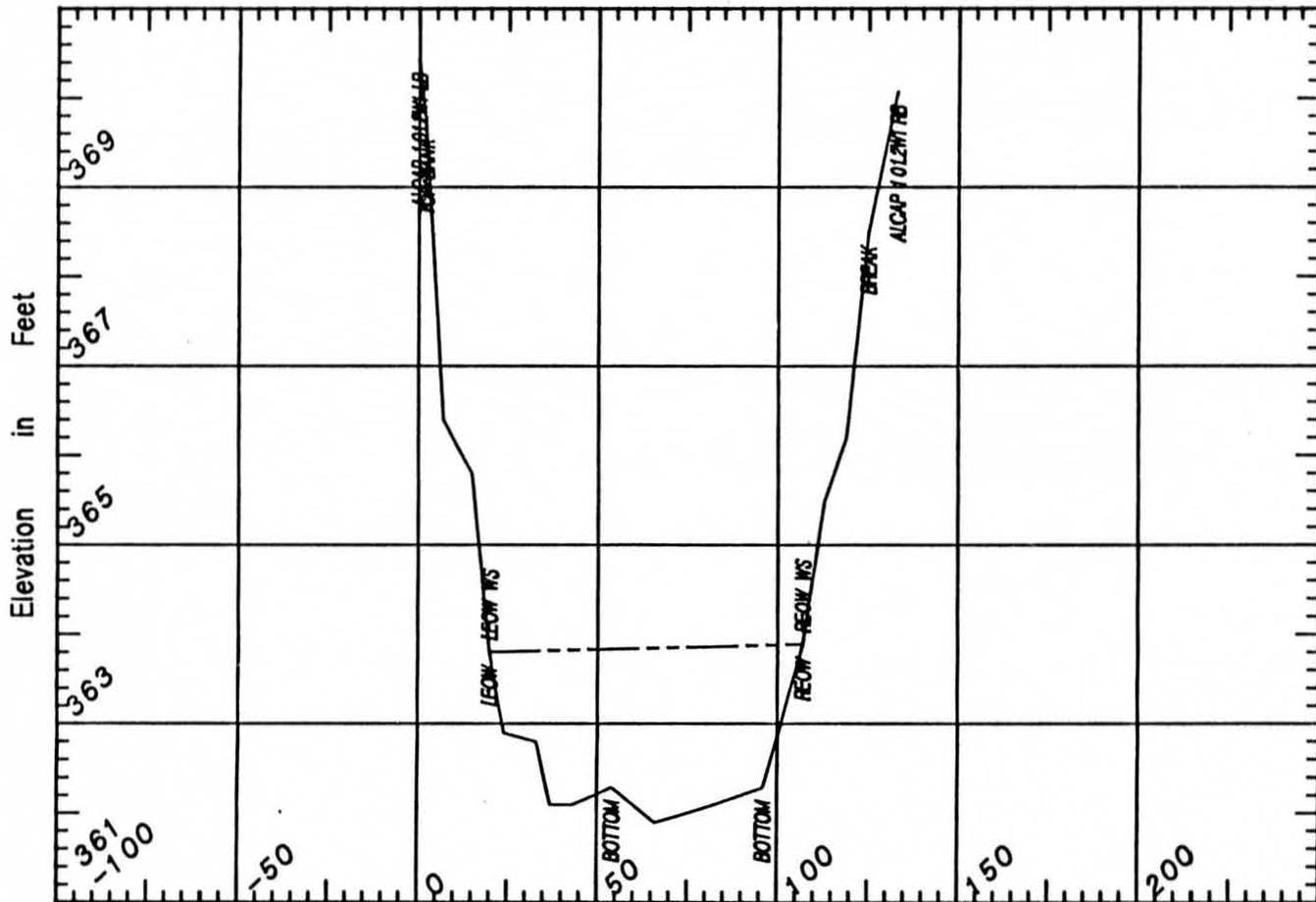
PREPARED FOR:



cross section WHISKERS 1 01.2W1



# SUSITNA HYDROGRAPHIC SURVEYS



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PREPARED FOR:



cross section WHISKERS 1 01.2W1

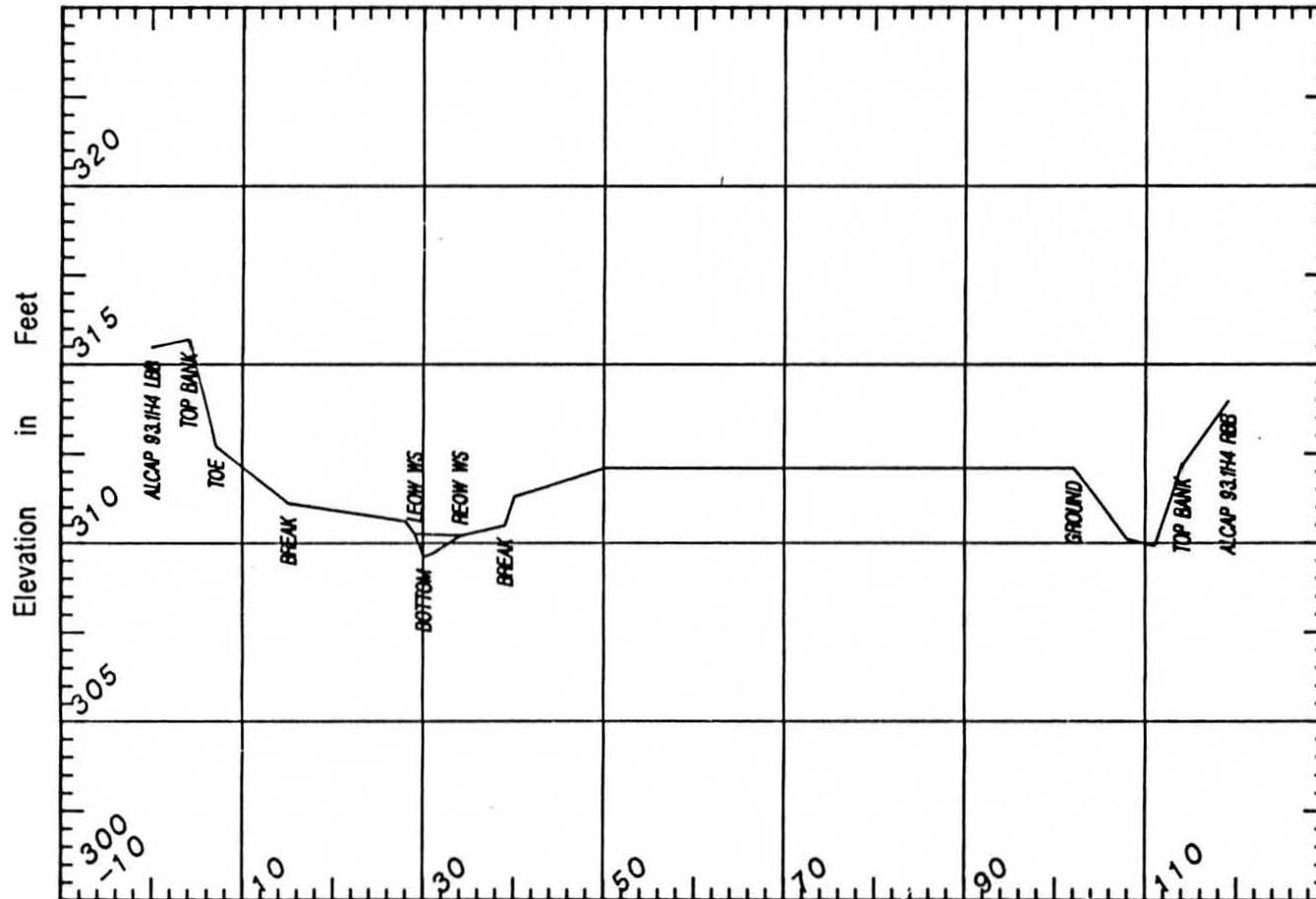


SUSITNA HYDROGRAPHIC SURVEYS  
 cross section BIRCH SLOUGH 93.1H4

Date of Survey: AUGUST 19, 1982

POINT	'X'	'Y'	DESCRIPTION
Cross section data:			
1	0.000	315.470	ALCAP 93.1H4 LBB
2	4.000	315.700	TOP BANK
3	7.000	312.700	TOE
4	15.000	311.100	BREAK
5	28.000	310.600	
6	29.000	310.250	
7	30.000	309.600	BOTTOM
8	31.000	309.700	
9	34.000	310.200	
10	39.000	310.500	BREAK
11	40.000	311.300	
12	50.000	312.100	
13	74.000	312.100	
14	102.000	312.100	GROUND
15	108.000	310.100	
16	111.000	309.900	
17	114.000	312.200	TOP BANK
18	119.000	313.960	ALCAP 93.1H4 RBB
Water surface data:			
1	29.000	310.250	LEOW WS
2	34.000	310.200	REOW WS
MIN	0.000	309.600	
MAX	119.000	315.700	

# SUSITNA HYDROGRAPHIC SURVEYS



PREPARED BY:

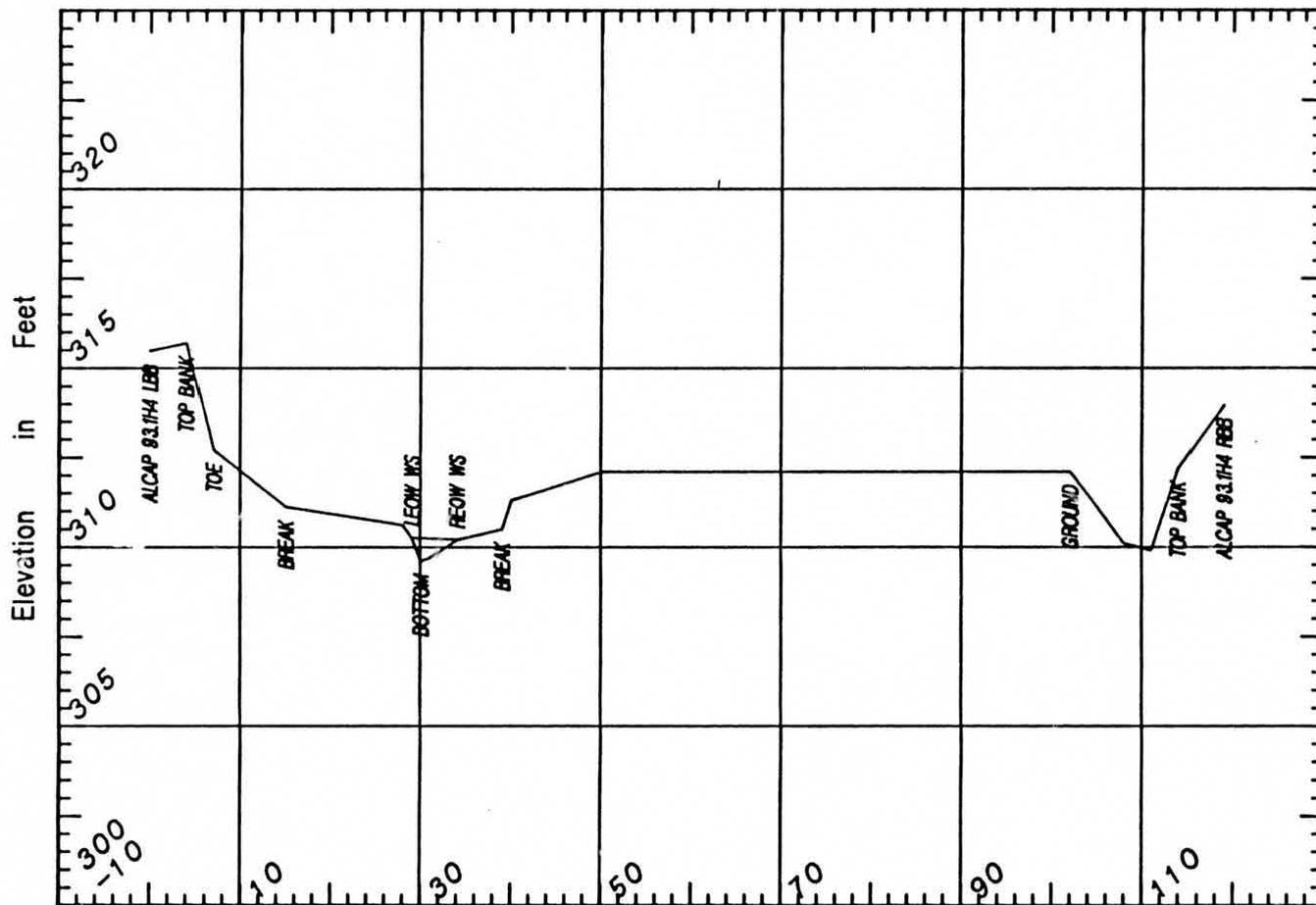


cross section BIRCH SLOUGH 93.1H4  
Date of Survey: AUGUST 19, 1982

PREPARED FOR:



# SUSITNA HYDROGRAPHIC SURVEYS



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cross section BIRCH SLOUGH 93.1H4  
Date of Survey: AUGUST 19, 1982

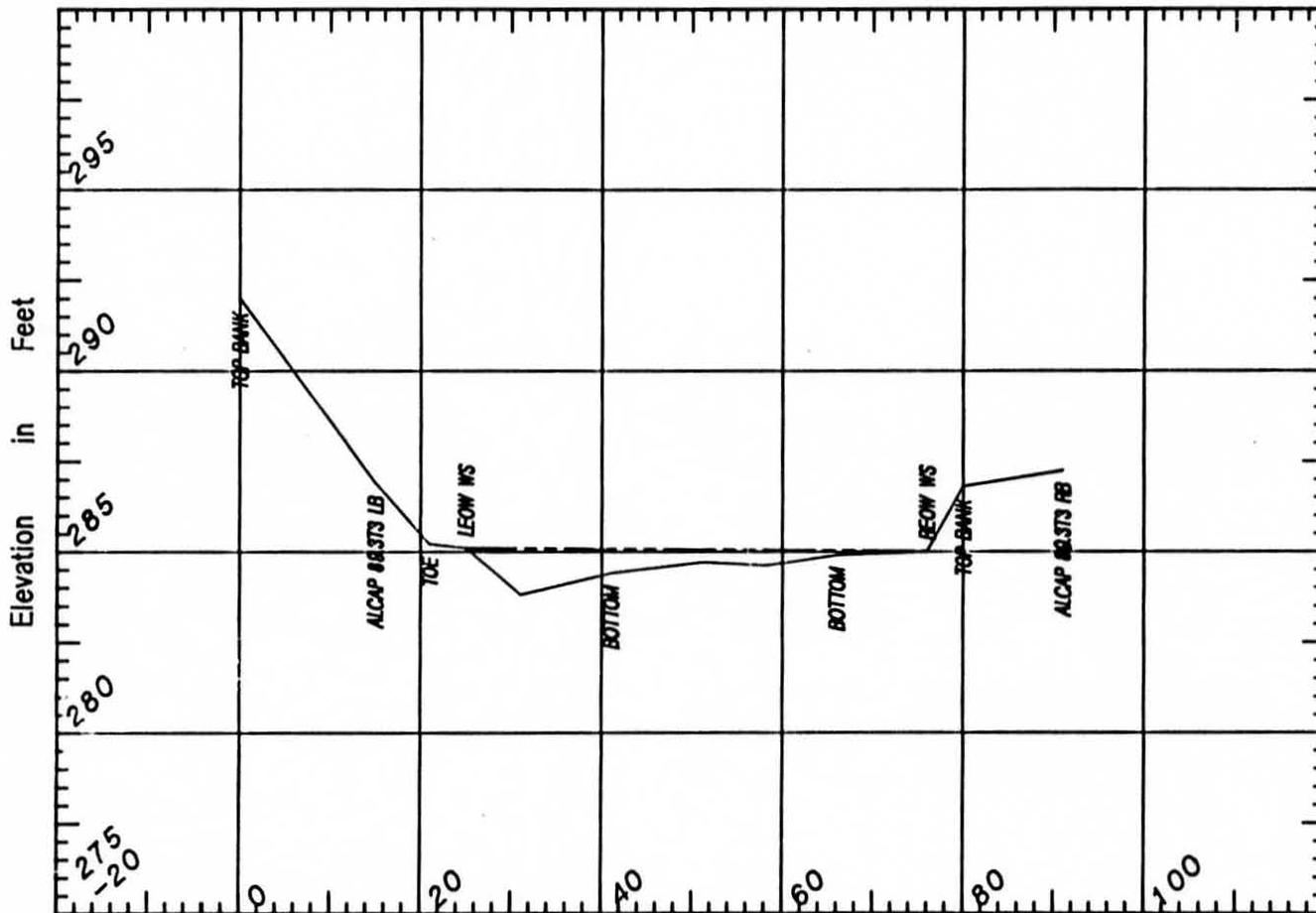


SUSITNA HYDROGRAPHIC SURVEYS  
 cross section BIRCH CREEK 89.3T3

Date of Survey: AUGUST 23, 1982

POINT	'X'	'Y'	DESCRIPTION
Cross section data:			
1	0.000	292.000	TOP BANK
2	15.000	286.900	ALCAP 89.3T3 LB
3	21.000	285.210	TOE
4	25.000	285.100	
5	31.000	283.810	
6	41.000	284.410	BOTTOM
7	51.000	284.710	
8	58.000	284.610	
9	66.000	284.910	BOTTOM
10	76.000	285.000	
11	80.000	286.810	TOP BANK
12	91.000	287.250	ALCAP 89.3T3 RB
Water surface data:			
1	25.000	285.100	LEOW WS
2	76.000	285.000	REOW WS
MIN	0.000	283.810	
MAX	91.000	292.000	

# SUSITNA HYDROGRAPHIC SURVEYS



PREPARED BY:

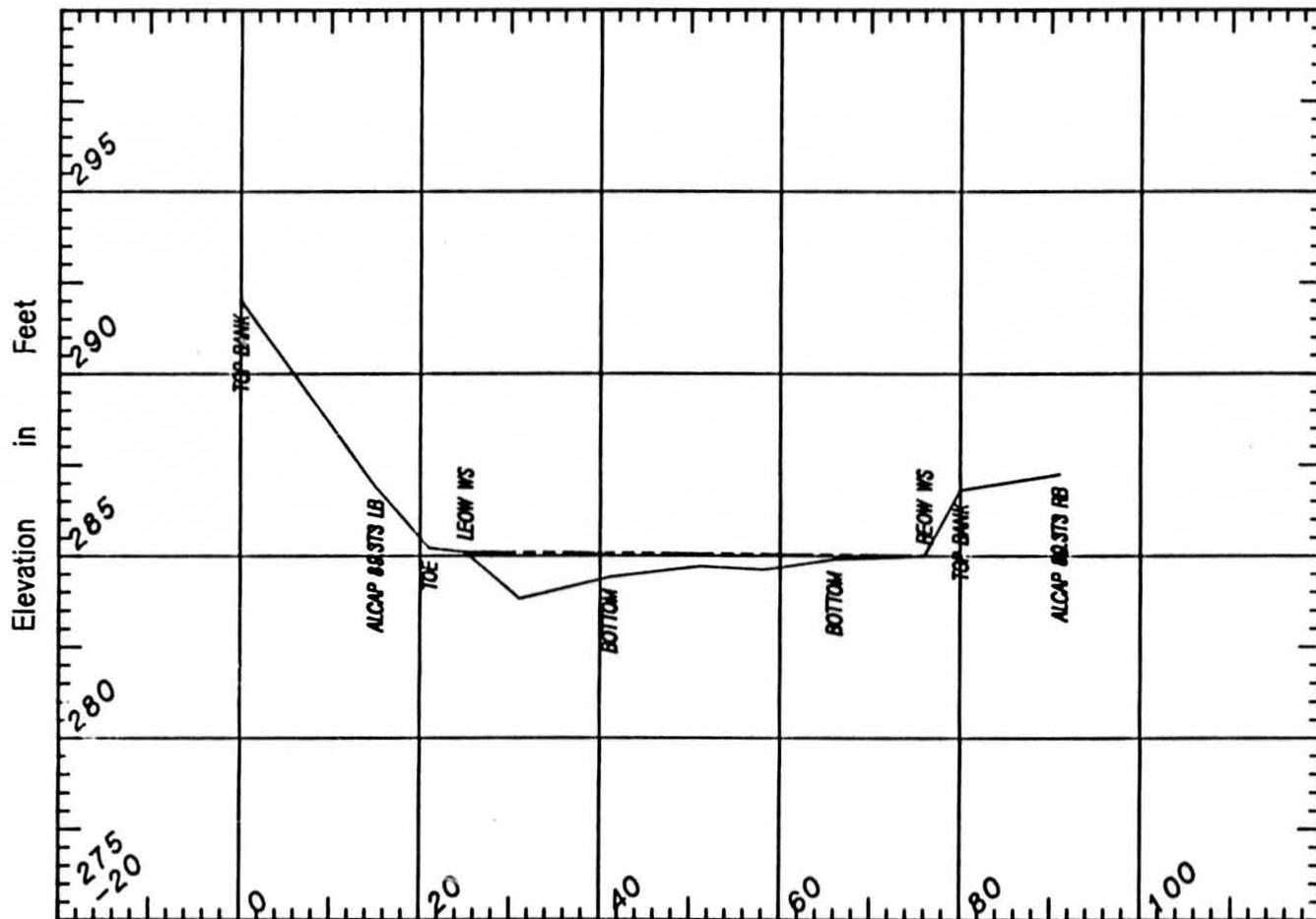
PREPARED FOR:



cross section BIRCH CREEK 89.3T3  
Date of Survey: AUGUST 23, 1982



# SUSITNA · HYDROGRAPHIC SURVEYS



PREPARED BY:

PREPARED FOR:



cross section BIRCH CREEK 89.3T3  
Date of Survey: AUGUST 23, 1982

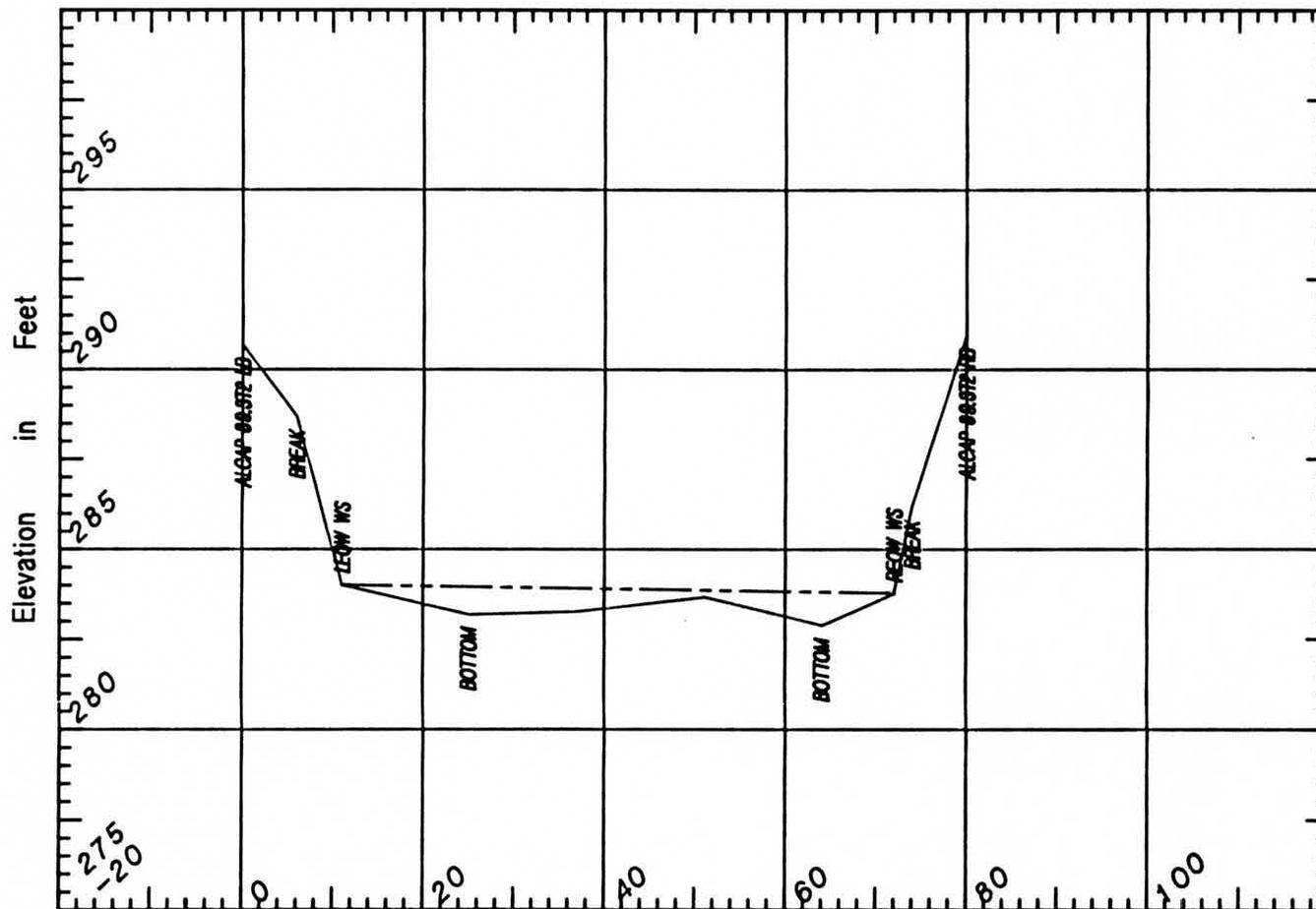


SUSITNA HYDROGRAPHIC SURVEYS  
cross section BIRCH SLOUGH 89.3T2

Date of Survey: AUGUST 23, 1982

POINT	'X'	'Y'	DESCRIPTION
Cross section data:			
1	0.000	290.680	ALCAP 89.3T2 LB
2	6.000	288.680	BREAK
3	11.000	284.000	
4	25.000	283.180	BOTTOM
5	37.000	283.280	
6	51.000	283.680	
7	64.000	282.880	BOTTOM
8	72.000	283.780	
9	74.000	286.180	BREAK
10	80.000	290.970	ALCAP 89.3T2 RB
Water surface data:			
1	11.000	284.000	LEOW WS
2	72.000	283.780	REOW WS
MIN	0.000	282.880	
MAX	80.000	290.970	

# SUSITNA HYDROGRAPHIC SURVEYS



PREPARED BY:

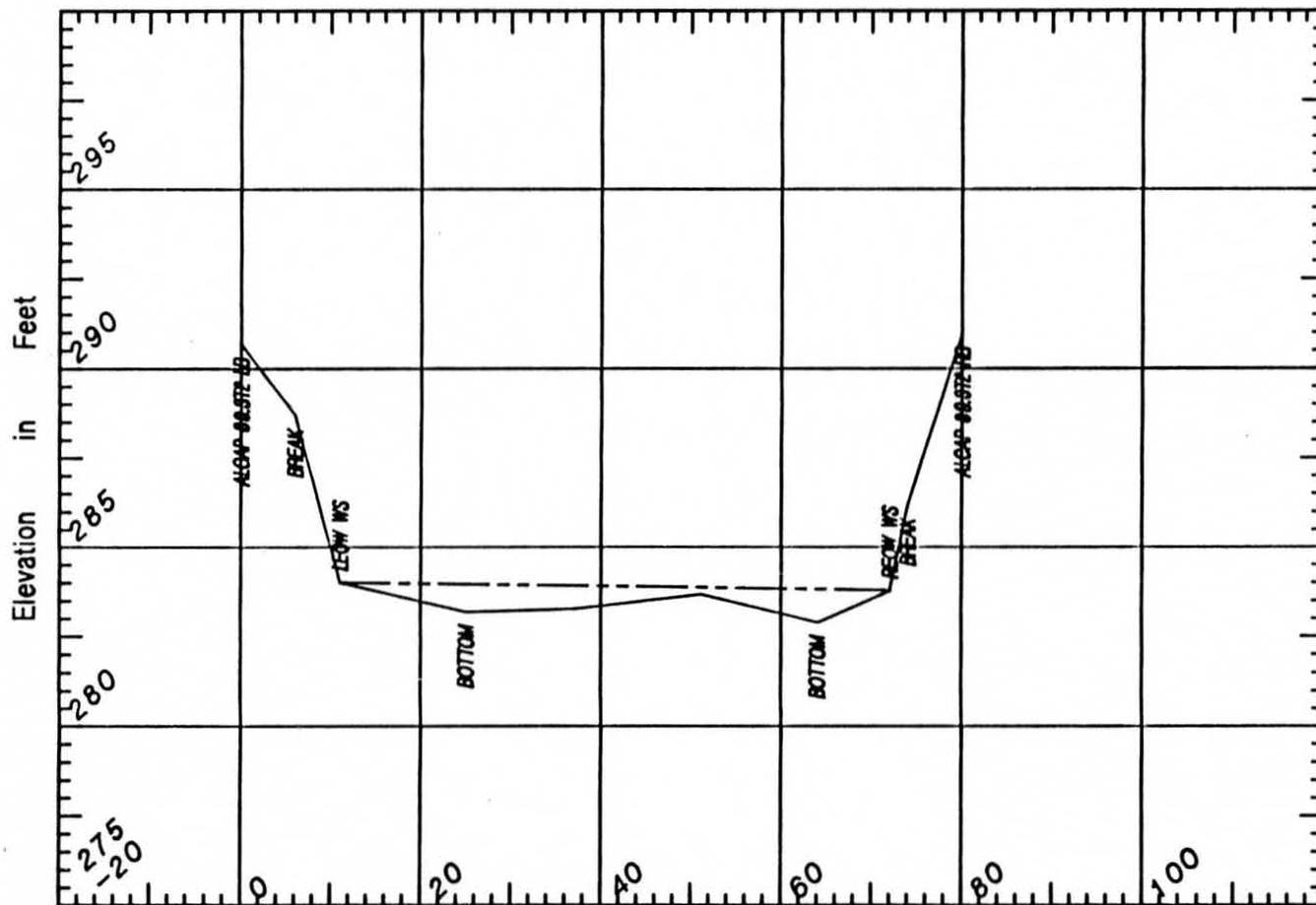


cross section BIRCH SLOUGH 89.3T2  
Date of Survey: AUGUST 23, 1982

PREPARED FOR:



# SUSITNA HYDROGRAPHIC SURVEYS



PREPARED BY:

PREPARED FOR:



cross section BIRCH SLOUGH 89.3T2  
Date of Survey: AUGUST 23, 1982

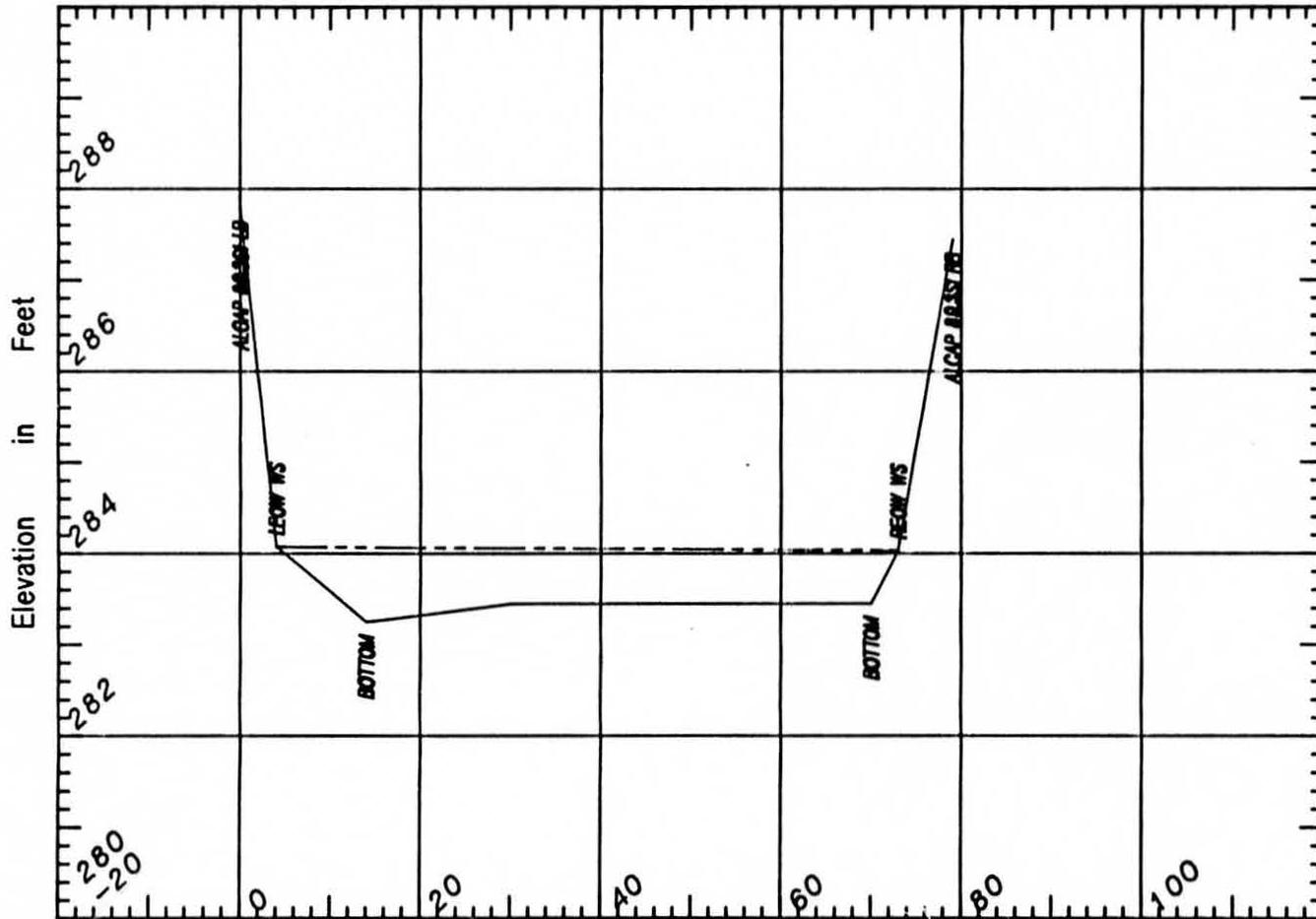


SUSITNA HYDROGRAPHIC SURVEYS  
 cross section BIRCH SLOUGH 89.351

Date of Survey: AUGUST 23, 1982

POINT -----	'X' -----	'Y' -----	DESCRIPTION -----
Cross section data:			
1	0.000	287.790	ALCAP 89.351 LB
2	4.000	284.070	
3	14.000	283.250	BOTTOM
4	30.000	283.450	
5	43.000	283.450	
6	58.000	283.450	
7	70.000	283.450	BOTTOM
8	73.000	284.030	
9	79.000	287.440	ALCAP 89.351 RB
Water surface data:			
1	4.000	284.070	LEOW WS
2	73.000	284.030	REOW WS
MIN	0.000	283.250	
MAX	79.000	287.790	

# SUSITNA HYDROGRAPHIC SURVEYS



PREPARED BY:

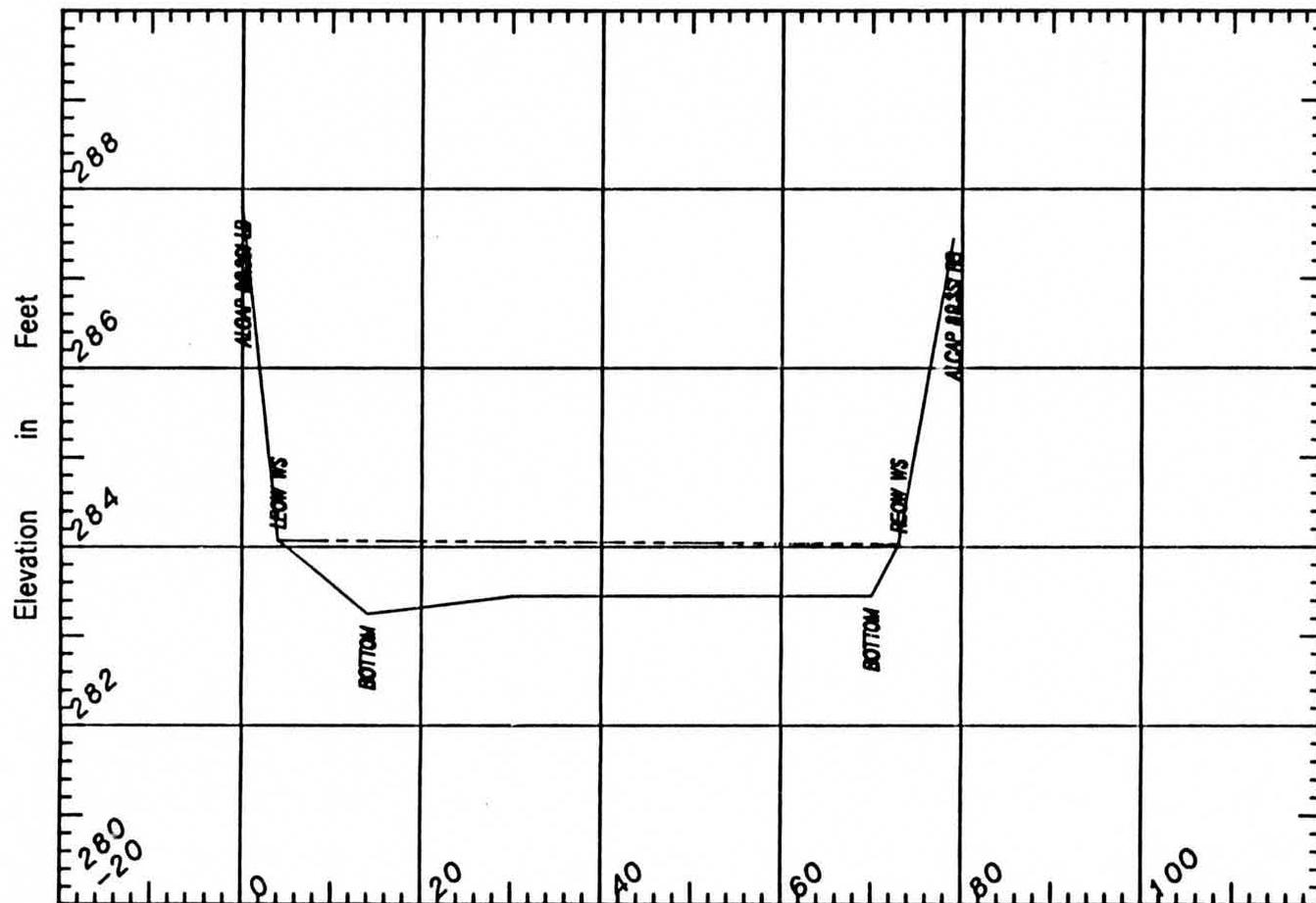


cross section BIRCH SLOUGH 89.3S1  
Date of Survey: AUGUST 23, 1982

PREPARED FOR:



# SUSITNA HYDROGRAPHIC SURVEYS



PREPARED BY:



cross section BIRCH SLOUGH 89.3S1  
Date of Survey: AUGUST 23, 1982

PREPARED FOR:

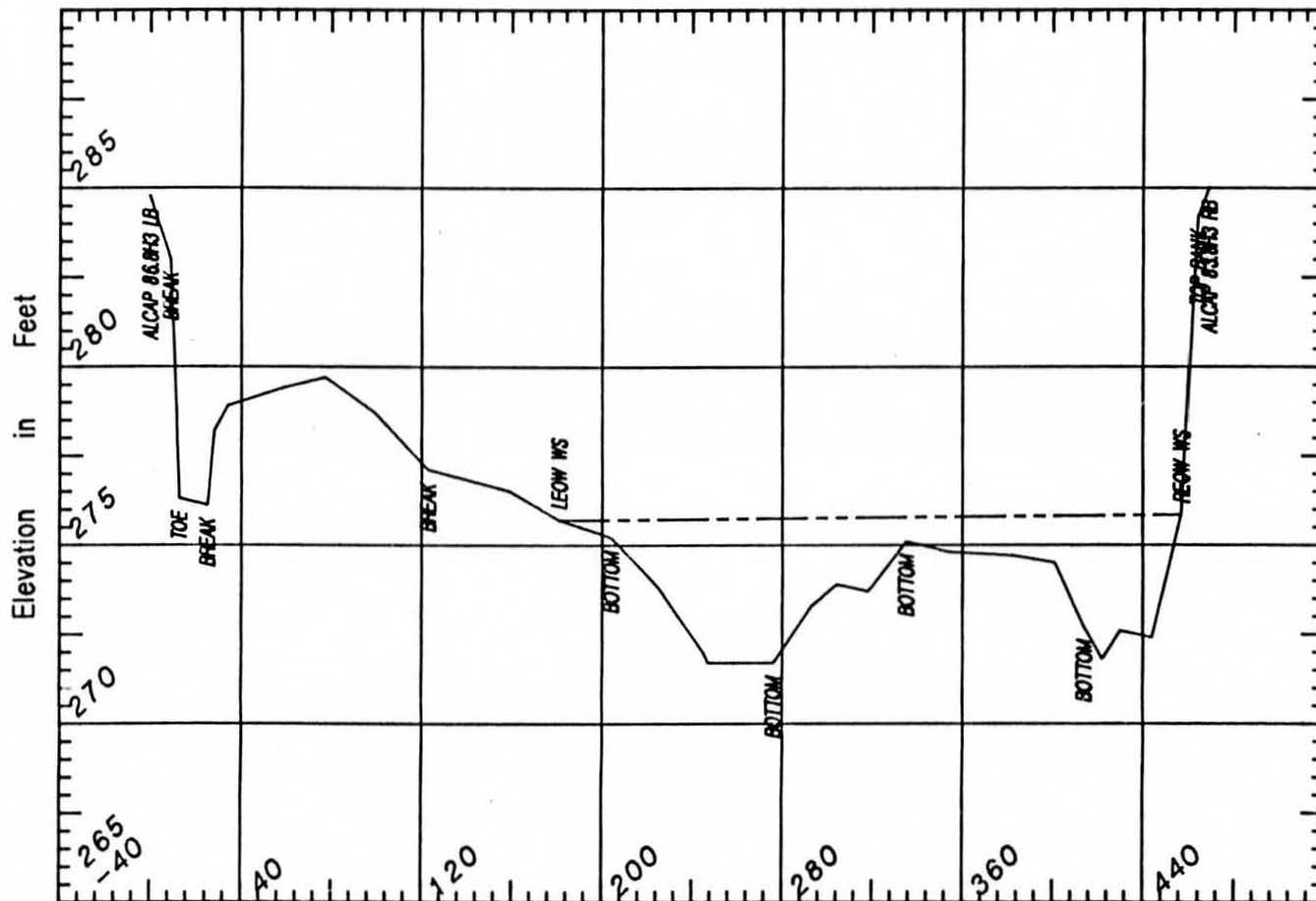


SUSITNA HYDROGRAPHIC SURVEYS  
cross section SUNSHINE 86.8H3

Date of Survey: AUGUST 28, 1982

POINT	'X'	'Y'	DESCRIPTION
Cross section data:			
1	0.000	284.770	ALCAP 86.8H3 LB
2	9.000	283.010	BREAK
3	11.000	280.010	
4	13.000	276.310	TOE
5	25.000	276.110	BREAK
6	28.000	278.210	
7	34.000	278.910	
8	58.000	279.410	
9	77.000	279.710	
10	99.000	278.710	
11	123.000	277.110	BREAK
12	159.000	276.510	
13	181.000	275.700	
14	204.000	275.210	BOTTOM
15	225.000	273.810	
16	245.000	271.970	
17	247.000	271.700	
18	276.000	271.700	BOTTOM
19	293.000	273.300	
20	304.000	273.900	
21	318.000	273.700	
22	335.000	275.100	BOTTOM
23	354.000	274.800	
24	382.000	274.700	
25	401.000	274.500	
26	414.000	272.700	BOTTOM
27	422.000	271.800	
28	430.000	272.600	
29	444.000	272.400	
30	457.000	275.850	
31	464.000	284.210	TOP BANK
32	469.000	285.020	ALCAP 83.8H3 RB
Water surface data:			
1	181.000	275.700	LEOW WS
2	457.000	275.850	REOW WS
MIN	0.000	271.700	
MAX	469.000	285.020	

# SUSITNA HYDROGRAPHIC SURVEYS



PREPARED BY:

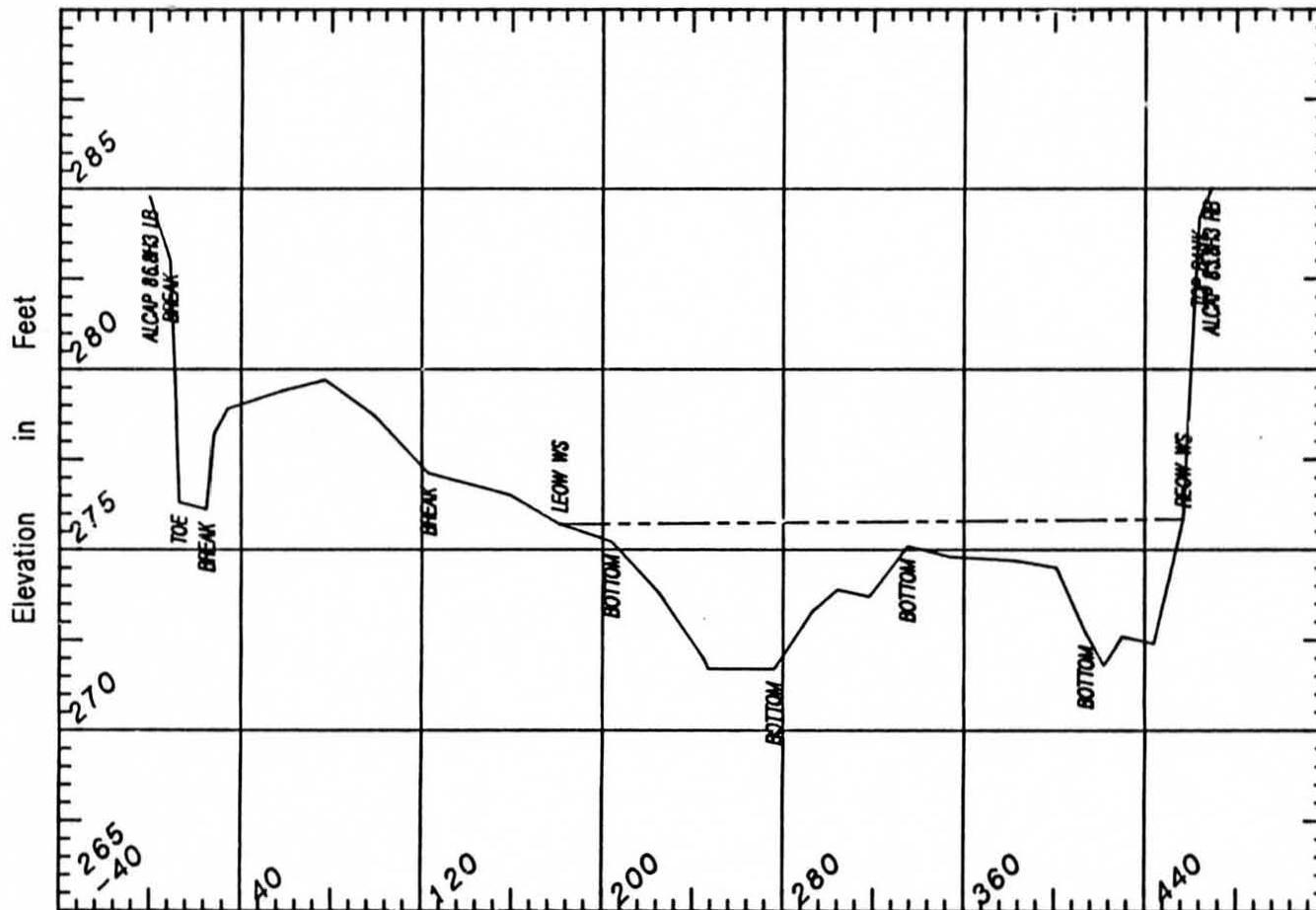


cross section SUNSHINE 86.8H3  
Date of Survey: AUGUST 28, 1982

PREPARED FOR:



# SUSITNA HYDROGRAPHIC SURVEYS



PREPARED BY:

PREPARED FOR:



cross section SUNSHINE 86.8H3  
Date of Survey: AUGUST 28, 1982

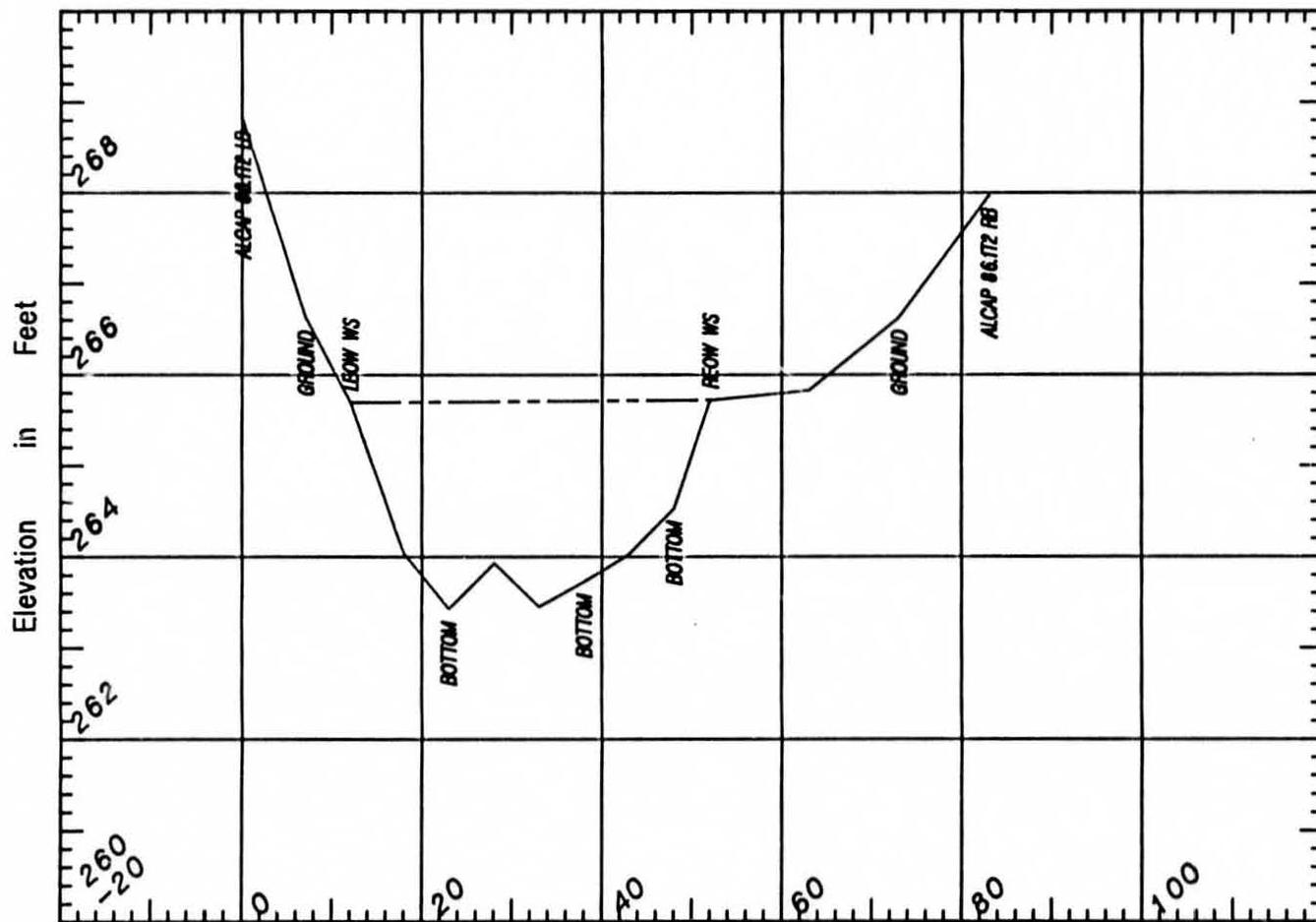


SUSITNA HYDROGRAPHIC SURVEYS  
cross section SUNSHINE 86.1T2

Date of Survey: AUGUST 28, 1982

POINT -----	'X' -----	'Y' -----	DESCRIPTION -----
Cross section data:			
1	0.000	268.820	ALCAP 86.1T2 LB
2	7.000	266.630	GROUND
3	12.000	265.690	
4	18.000	264.030	
5	23.000	263.430	BOTTOM
6	28.000	263.930	
7	33.000	263.450	
8	38.000	263.730	BOTTOM
9	43.000	264.030	
10	48.000	264.530	BOTTOM
11	52.000	265.720	
12	63.000	265.830	
13	73.000	266.630	GROUND
14	83.000	267.970	ALCAP 86.1T2 RB
Water surface data:			
1	12.000	265.690	LEOW WS
2	52.000	265.720	REOW WS
MIN	0.000	263.430	
MAX	83.000	268.820	

# SUSITNA HYDROGRAPHIC SURVEYS



PREPARED BY:

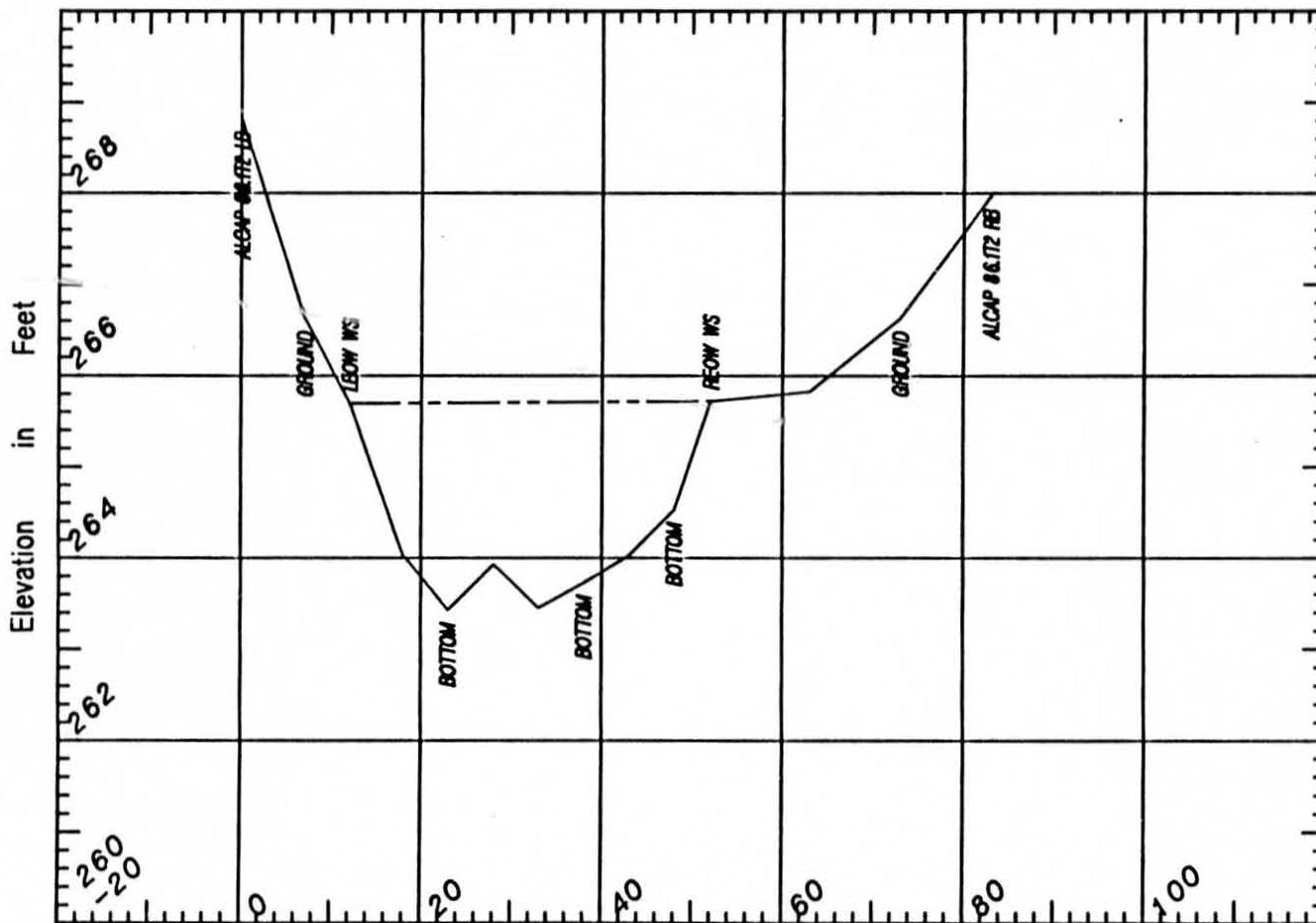


cross section SUNSHINE 86.1T2  
Date of Survey: AUGUST 28, 1982

PREPARED FOR:



# SUSITNA HYDROGRAPHIC SURVEYS



PREPARED BY:

PREPARED FOR:



cross section SUNSHINE 86.1T2  
Date of Survey: AUGUST 28, 1982

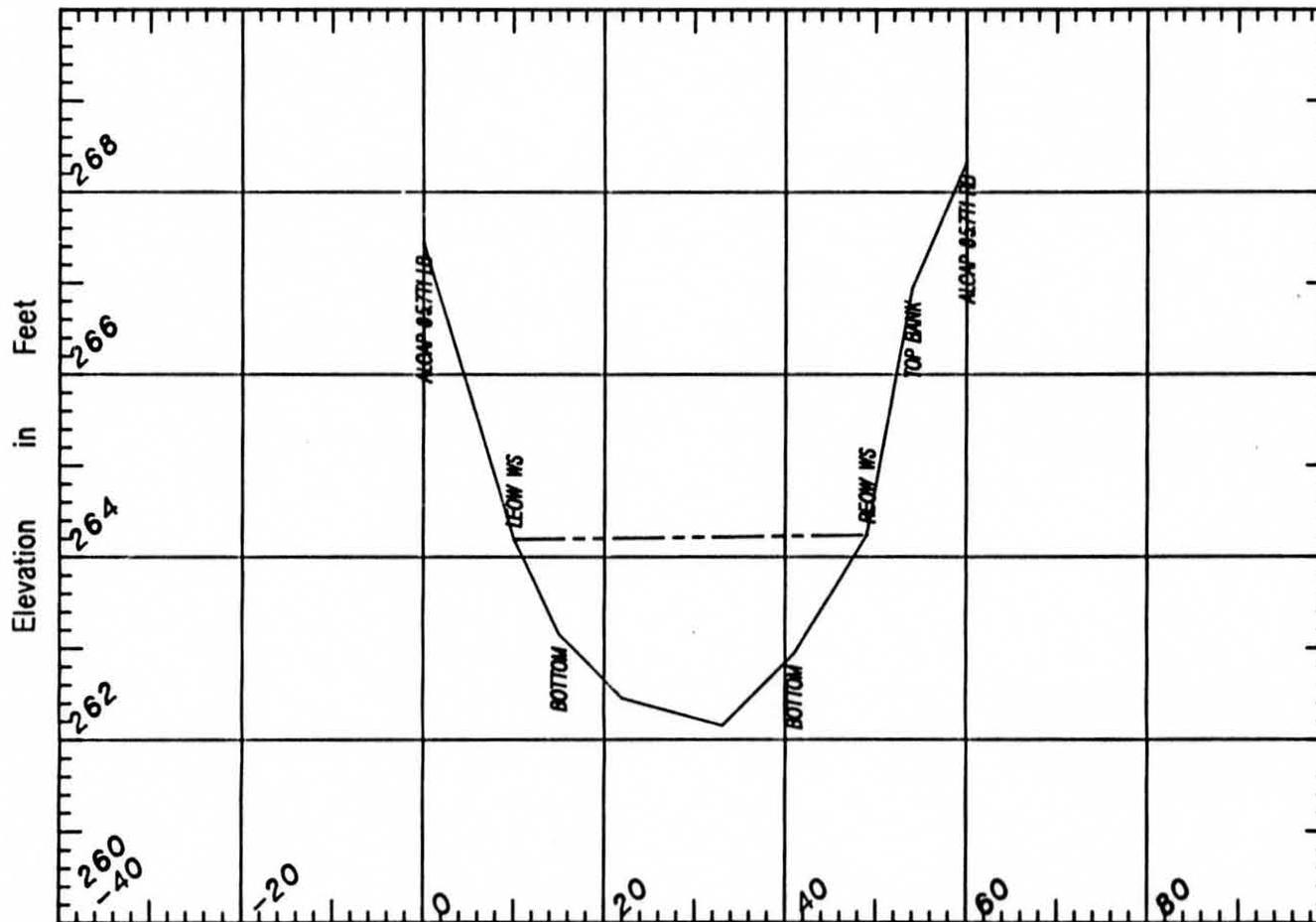


SUSITNA HYDROGRAPHIC SURVEYS  
cross section SUNSHINE 85.7T1

Date of Survey: AUGUST 26, 1982

POINT	'X'	'Y'	DESCRIPTION
Cross section data:			
1	0.000	267.440	ALCAP 85.7T1 LB
2	10.000	264.190	
3	15.000	263.150	BOTTOM
4	22.000	262.450	
5	33.000	262.150	
6	41.000	262.950	BOTTOM
7	49.000	264.240	
8	54.000	266.950	TOP BANK
9	60.000	268.330	ALCAP 85.7T1 RB
Water surface data:			
1	10.000	264.190	LEOW WS
2	49.000	264.240	REOW WS
MIN	0.000	262.150	
MAX	60.000	268.330	

# SUSITNA HYDROGRAPHIC SURVEYS



PREPARED BY:

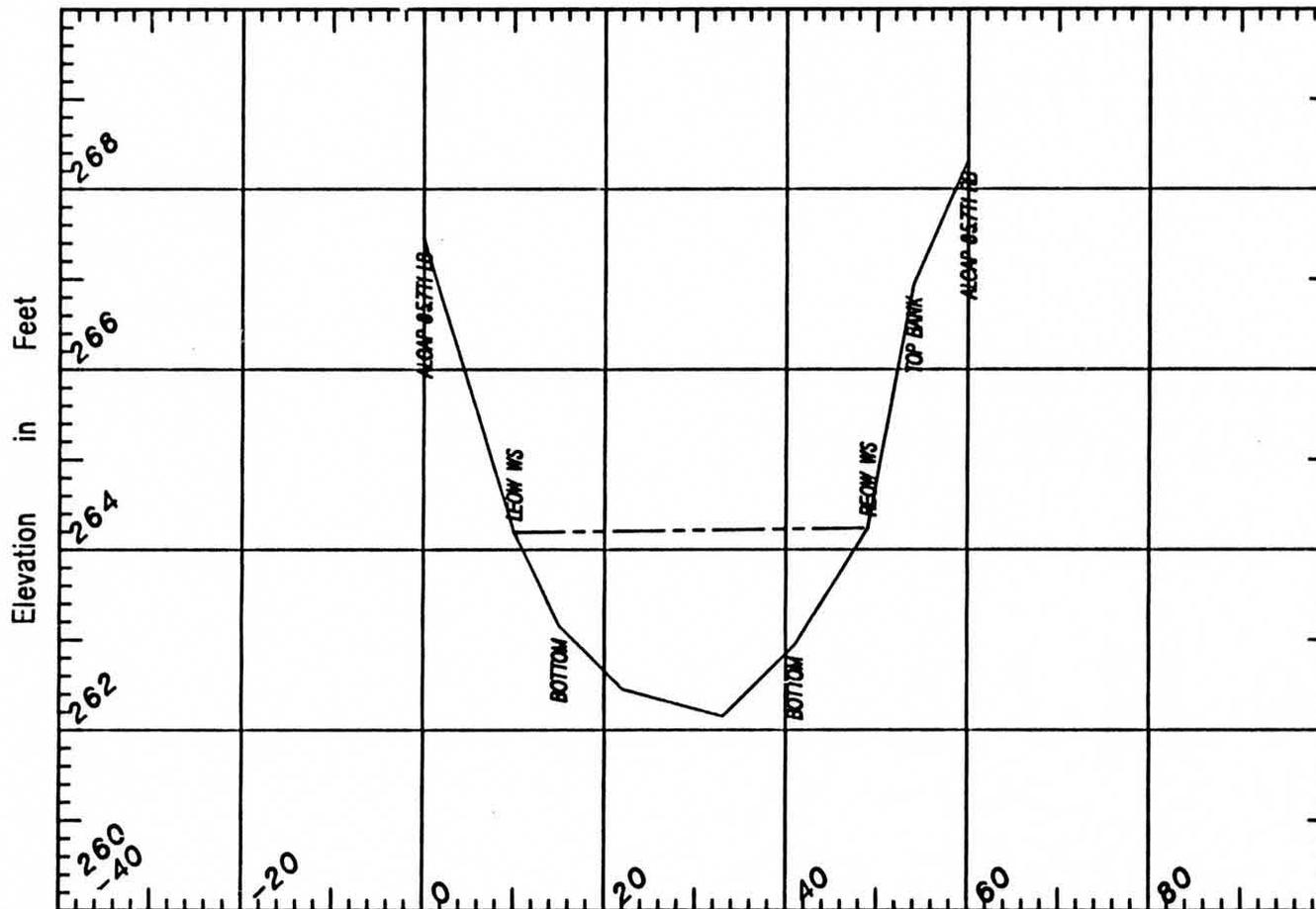
PREPARED FOR:



cross section SUNSHINE 85.7T1  
Date of Survey: AUGUST 26, 1982



# SUSITNA HYDROGRAPHIC SURVEYS



PREPARED BY:

PREPARED FOR:



cross section SUNSHINE 85.7T1  
Date of Survey: AUGUST 26, 1982

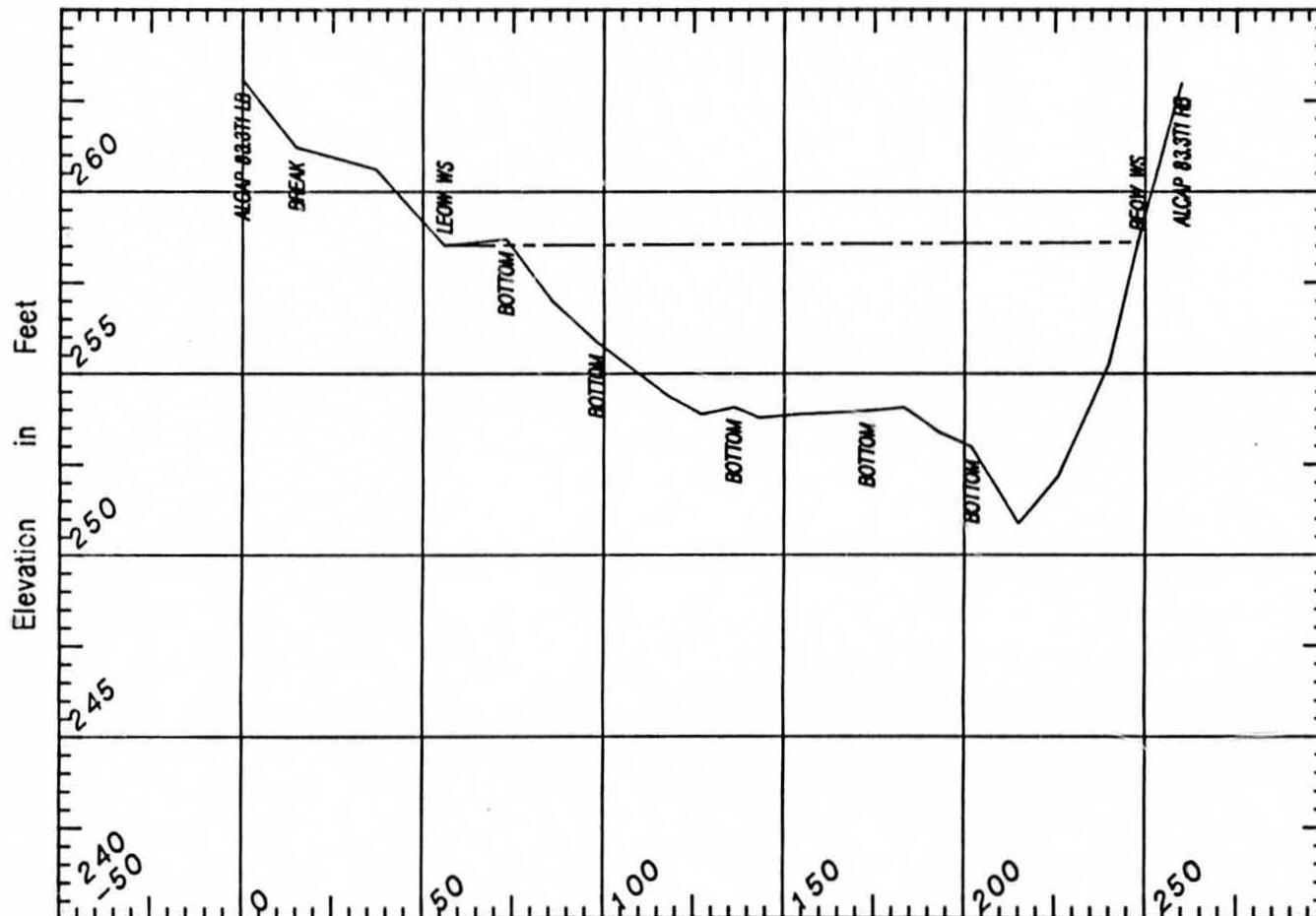


SUSITNA HYDROGRAPHIC SURVEYS  
 cross section RABIDEAUX 83.3T1

Date of Survey: AUGUST 26, 1982

POINT	'X'	'Y'	DESCRIPTION
Cross section data:			
1	0.000	263.080	ALCAP 83.3T1 LB
2	15.000	261.200	BREAK
3	37.000	260.600	
4	56.000	258.520	
5	73.000	258.700	BOTTOM
6	86.000	256.970	
7	98.000	255.870	BOTTOM
8	118.000	254.370	
9	127.000	253.870	
10	136.000	254.070	BOTTOM
11	143.000	253.770	
12	153.000	253.870	
13	173.000	253.970	BOTTOM
14	183.000	254.070	
15	193.000	253.370	
16	202.000	252.970	BOTTOM
17	215.000	250.870	
18	226.000	252.170	
19	240.000	255.270	
20	248.000	258.610	
21	260.000	262.970	ALCAP 83.3T1 RB
Water surface data:			
1	56.000	258.520	LEOW WS
2	248.000	258.610	REOW WS
MIN	0.000	250.870	
MAX	260.000	263.080	

# SUSITNA HYDROGRAPHIC SURVEYS



PREPARED BY:

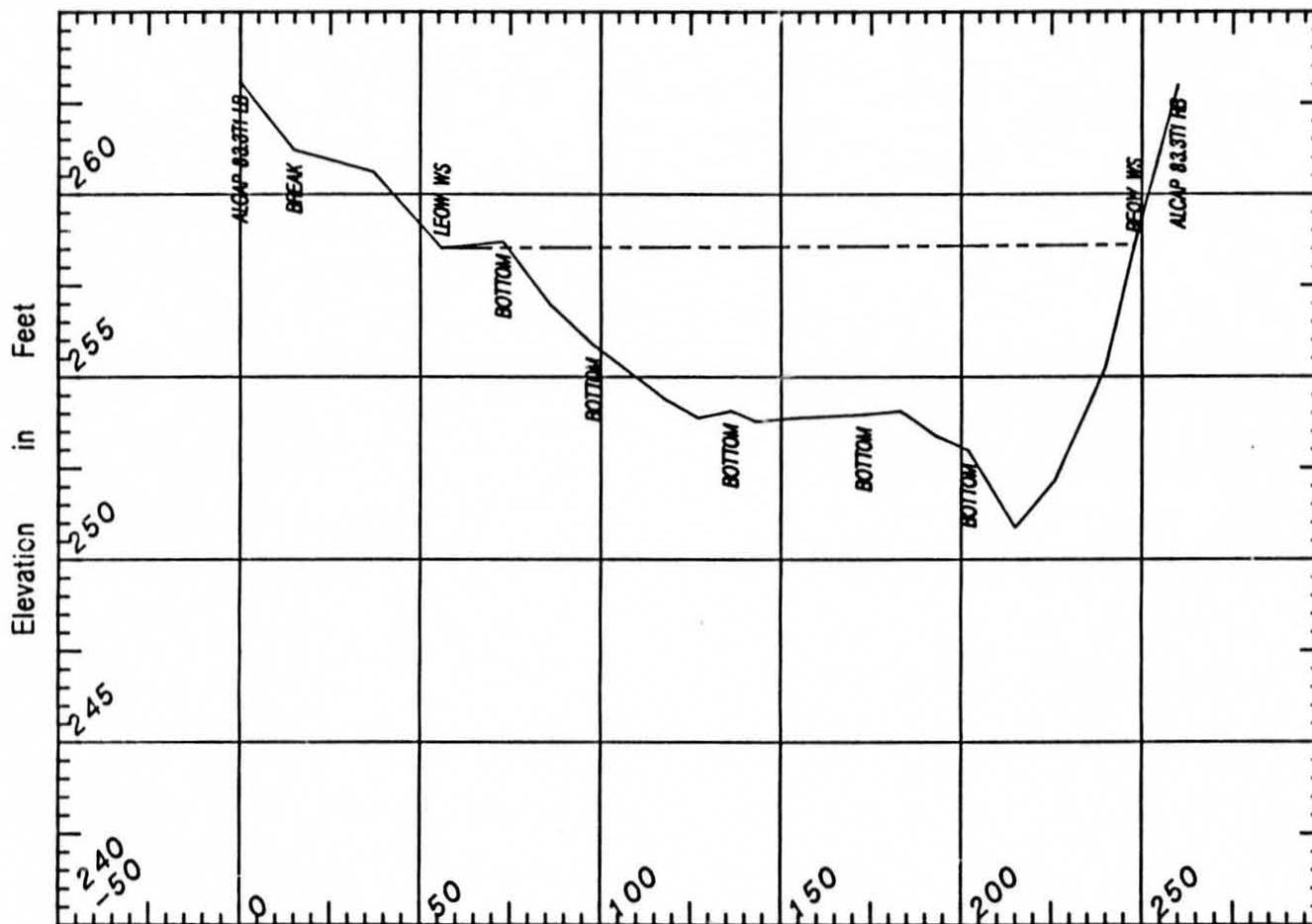
PREPARED FOR:



cross section RABIDEAUX 83.3T1  
Date of Survey: AUGUST 26, 1982



# SUSITNA HYDROGRAPHIC SURVEYS



PREPARED BY:

PREPARED FOR:



cross section RABIDEAUX 83.3T1  
Date of Survey: AUGUST 26, 1982

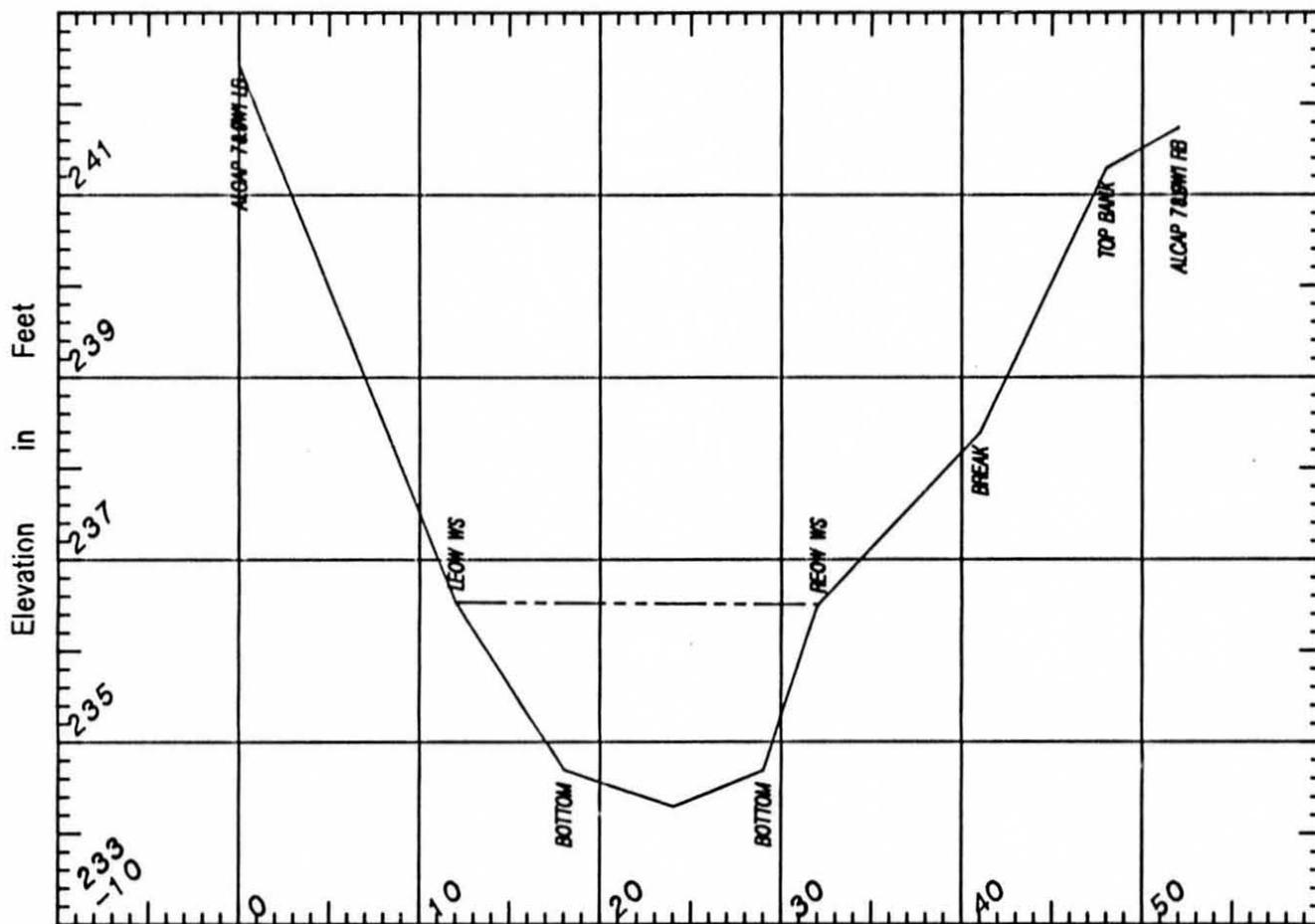


SUSITNA HYDROGRAPHIC SURVEYS  
cross section WHITEFISH 78.9W1

Date of Survey: AUGUST 27, 1982

POINT	'X'	'Y'	DESCRIPTION
Cross section data:			
1	0.000	242.420	ALCAP 78.9W1 LB
2	12.000	236.530	
3	18.000	234.690	BOTTOM
4	24.000	234.290	
5	29.000	234.690	BOTTOM
6	32.000	236.500	
7	41.000	238.390	BREAK
8	48.000	241.290	TOP BANK
9	52.000	241.740	ALCAP 78.9W1 RB
Water surface data:			
1	12.000	236.530	LEOW WS
2	32.000	236.500	REOW WS
MIN	0.000	234.290	
MAX	52.000	242.420	

# SUSITNA HYDROGRAPHIC SURVEYS



PREPARED BY:

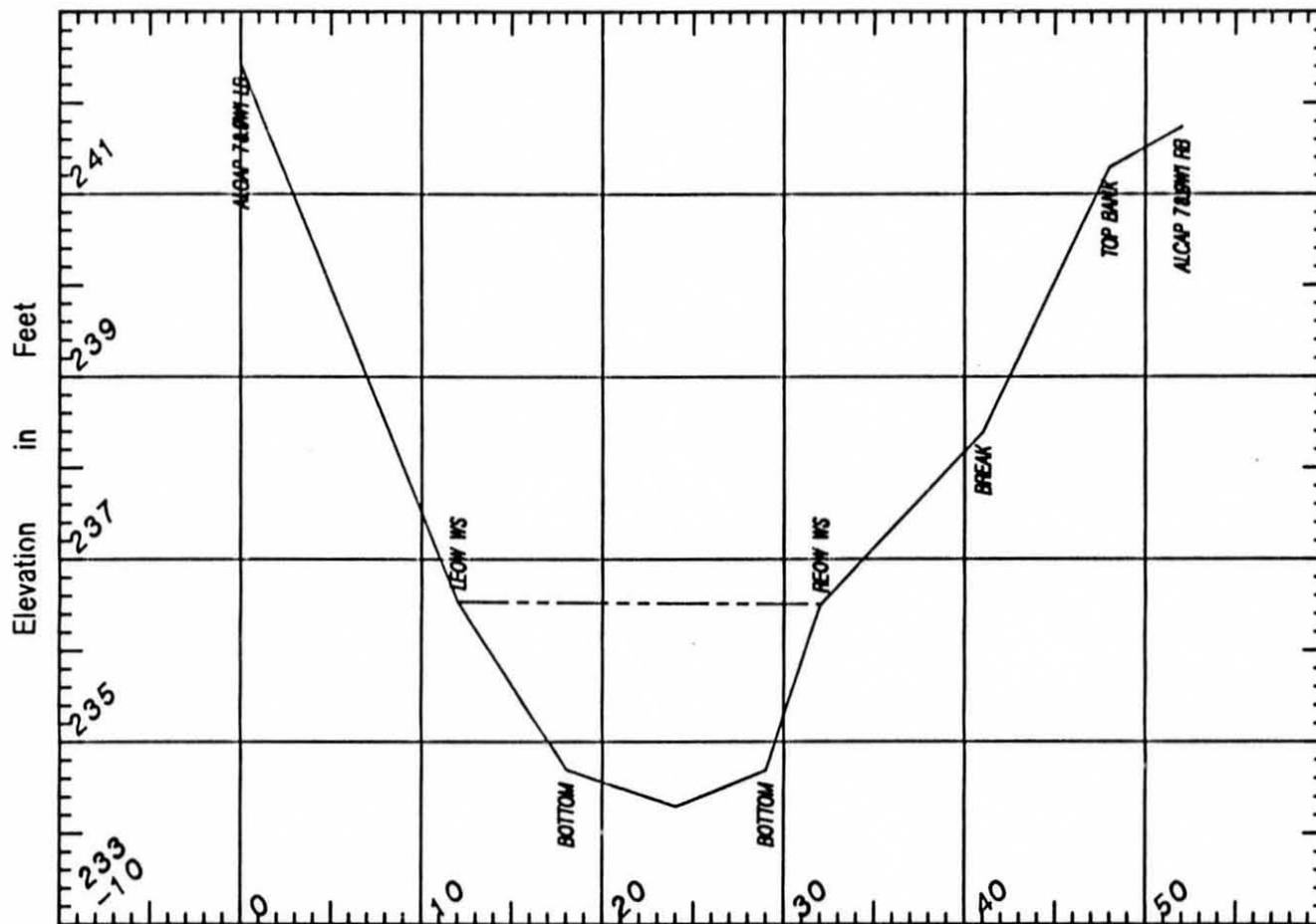


cross section WHITEFISH 78.9W1  
Date of Survey: AUGUST 27, 1982

PREPARED FOR:



# SUSITNA HYDROGRAPHIC SURVEYS



PREPARED BY:

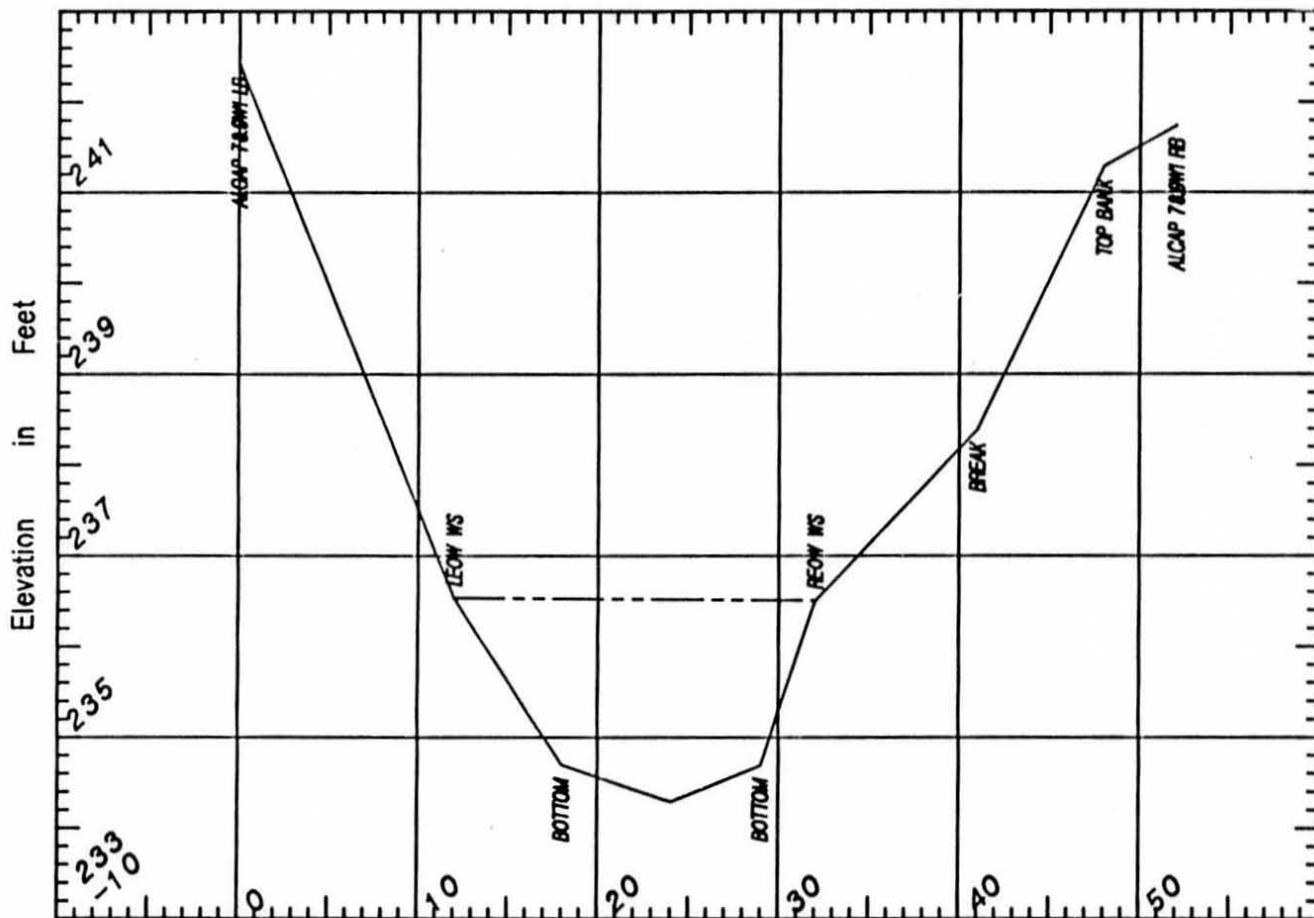


cross section WHITEFISH 78.9W1  
Date of Survey: AUGUST 27, 1982

PREPARED FOR:



# SUSITNA HYDROGRAPHIC SURVEYS



PREPARED BY:

PREPARED FOR:



cross section WHITEFISH 78.9W1  
Date of Survey: AUGUST 27, 1982

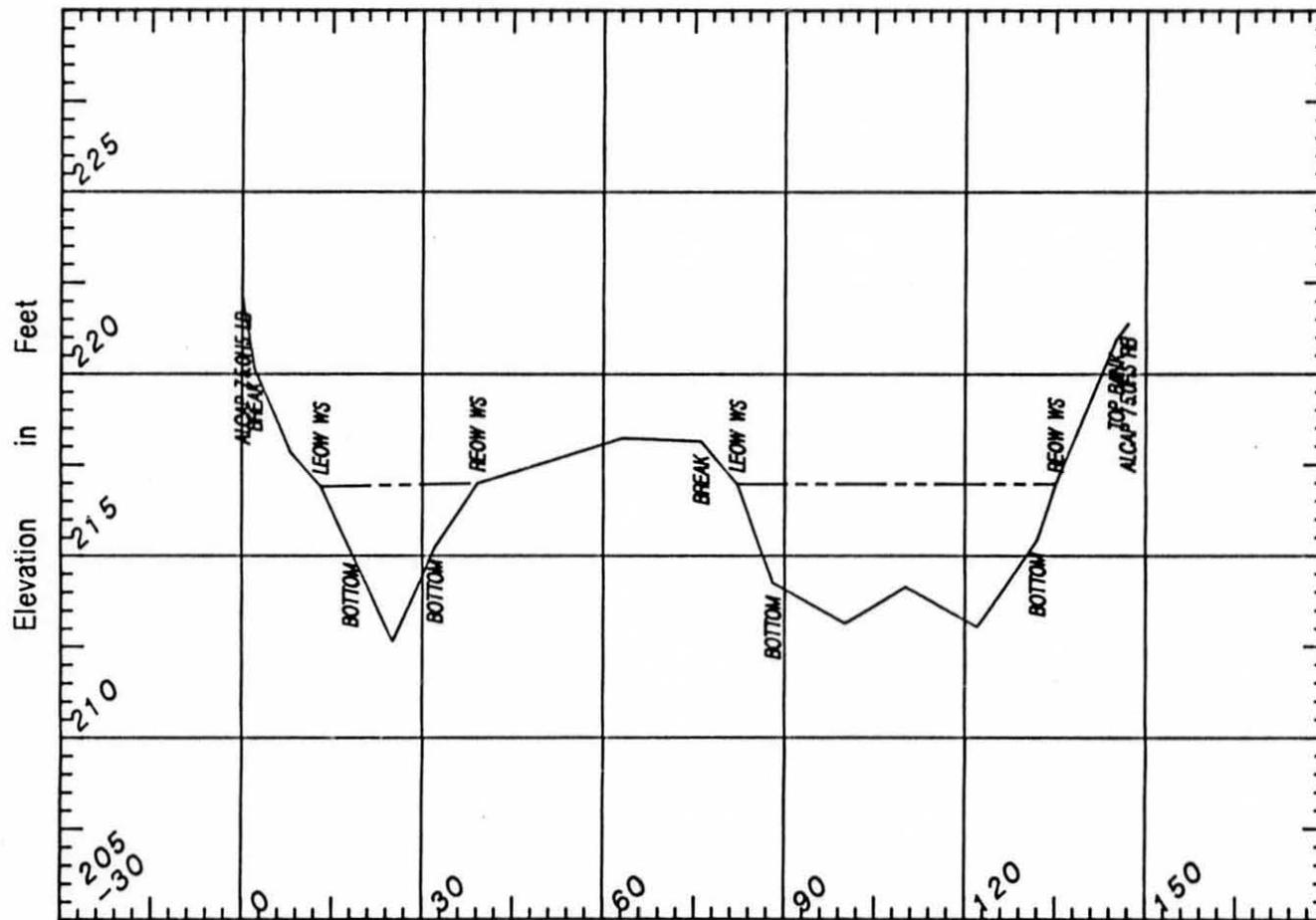


SUSITNA HYDROGRAPHIC SURVEYS  
cross section GOOSE CR 75.0H5

Date of Survey: AUGUST 28, 1982

POINT	'X'	'Y'	DESCRIPTION
Cross section data:			
1	0.000	222.060	ALCAP 75.0H5 LB
2	2.000	220.140	BREAK
3	8.000	217.840	
4	13.000	216.900	
5	18.000	215.140	BOTTOM
6	25.000	212.640	
7	32.000	215.240	BOTTOM
8	39.000	217.000	
9	63.000	218.240	
10	76.000	218.140	BREAK
11	82.000	216.970	
12	88.000	214.240	BOTTOM
13	100.000	213.140	
14	110.000	214.140	
15	122.000	213.040	
16	132.000	215.440	BOTTOM
17	135.000	216.970	
18	145.000	220.940	TOP BANK
19	147.000	221.380	ALCAP 75.0H5 RB
Water surface data:			
1	13.000	216.900	LEOW WS
2	39.000	217.000	REOW WS
			SPLIT
4	82.000	216.970	LEOW WS
5	135.000	216.970	REOW WS
MIN	0.000	212.640	
MAX	147.000	222.060	

# SUSITNA: HYDROGRAPHIC SURVEYS



PREPARED BY:

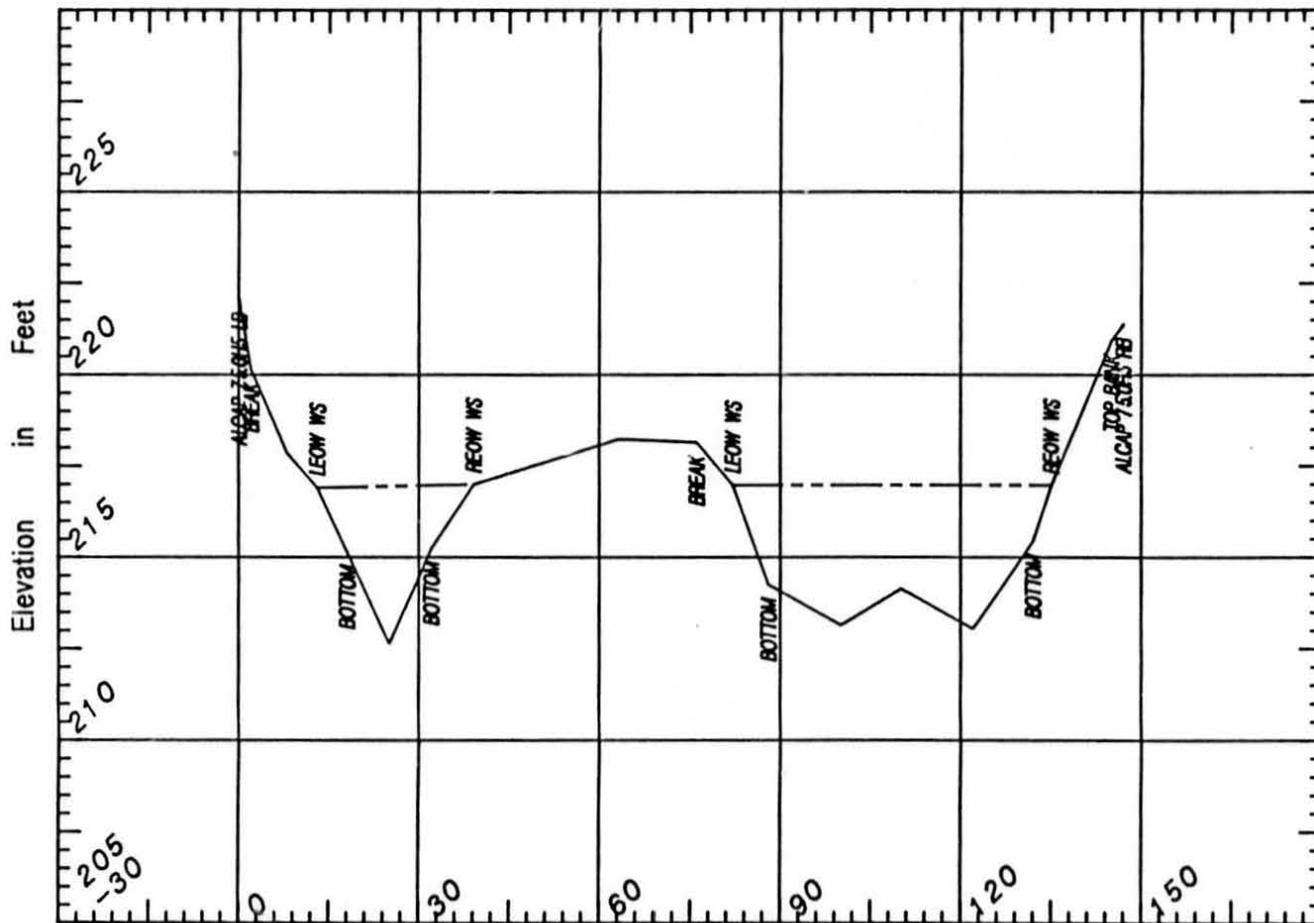


cross section GOOSE CR 75.0H5  
Date of Survey: AUGUST 28, 1982

PREPARED FOR:



# SUSITNA HYDROGRAPHIC SURVEYS



PREPARED BY:



cross section GOOSE CR 75.0H5  
Date of Survey: AUGUST 28, 1982

PREPARED FOR:

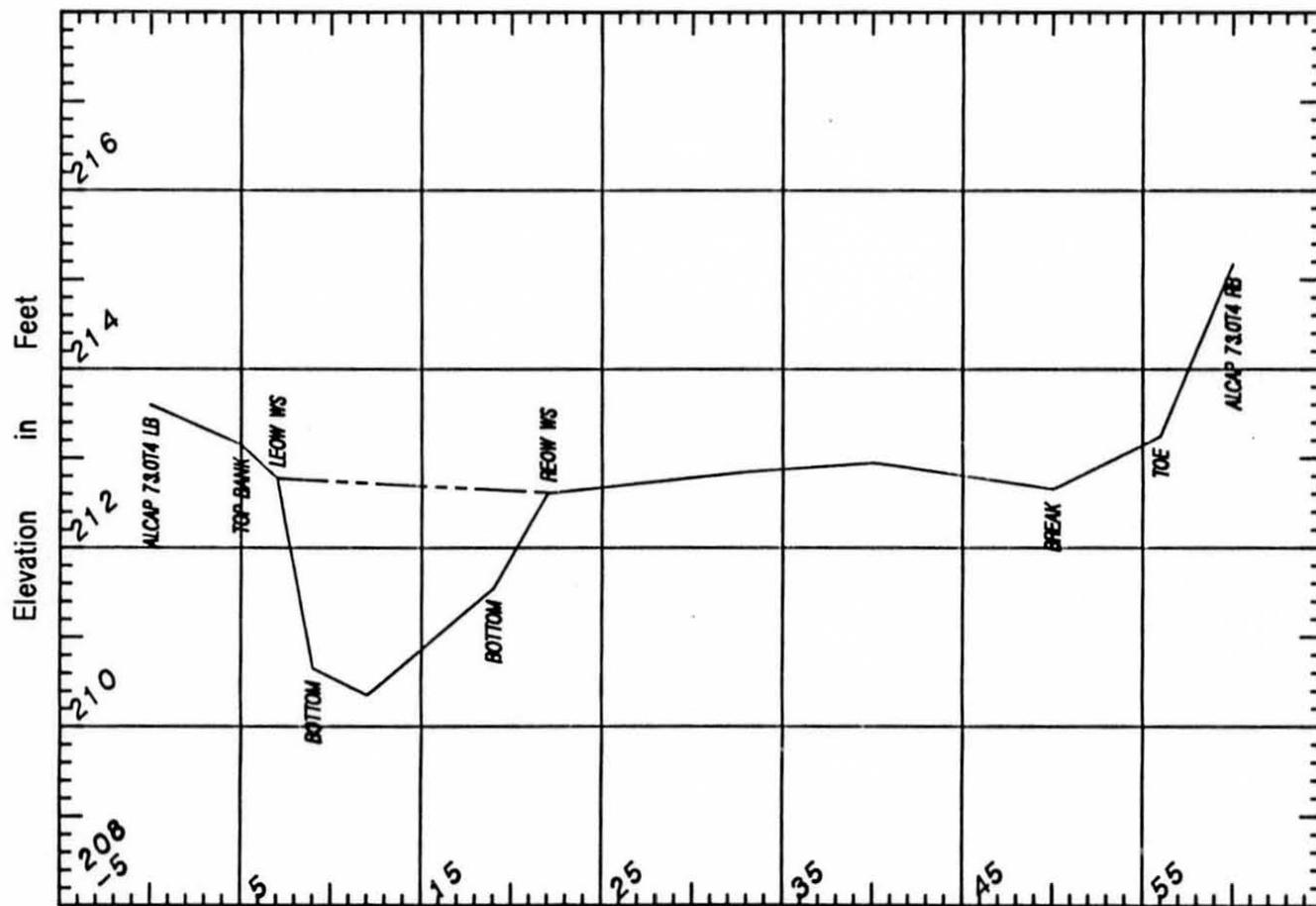


SUSITNA HYDROGRAPHIC SURVEYS  
cross section GOOSE CR 73.0T4

Date of Survey: AUGUST 27, 1982

POINT	'X'	'Y'	DESCRIPTION
Cross section data:			
1	0.000	213.590	ALCAP 73.0T4 LB
2	5.000	213.150	TOP BANK
3	7.000	212.770	
4	9.000	210.650	BOTTOM
5	12.000	210.350	
6	19.000	211.550	BOTTOM
7	22.000	212.610	
8	33.000	212.850	
9	40.000	212.950	
10	50.000	212.650	BREAK
11	56.000	213.250	TOE
12	60.000	215.170	ALCAP 73.0T4 RB
Water surface data:			
1	7.000	212.770	LEOW WS
2	22.000	212.610	REOW WS
MIN	0.000	210.350	
MAX	60.000	215.170	

# SUSITNA HYDROGRAPHIC SURVEYS



PREPARED BY:

PREPARED FOR:

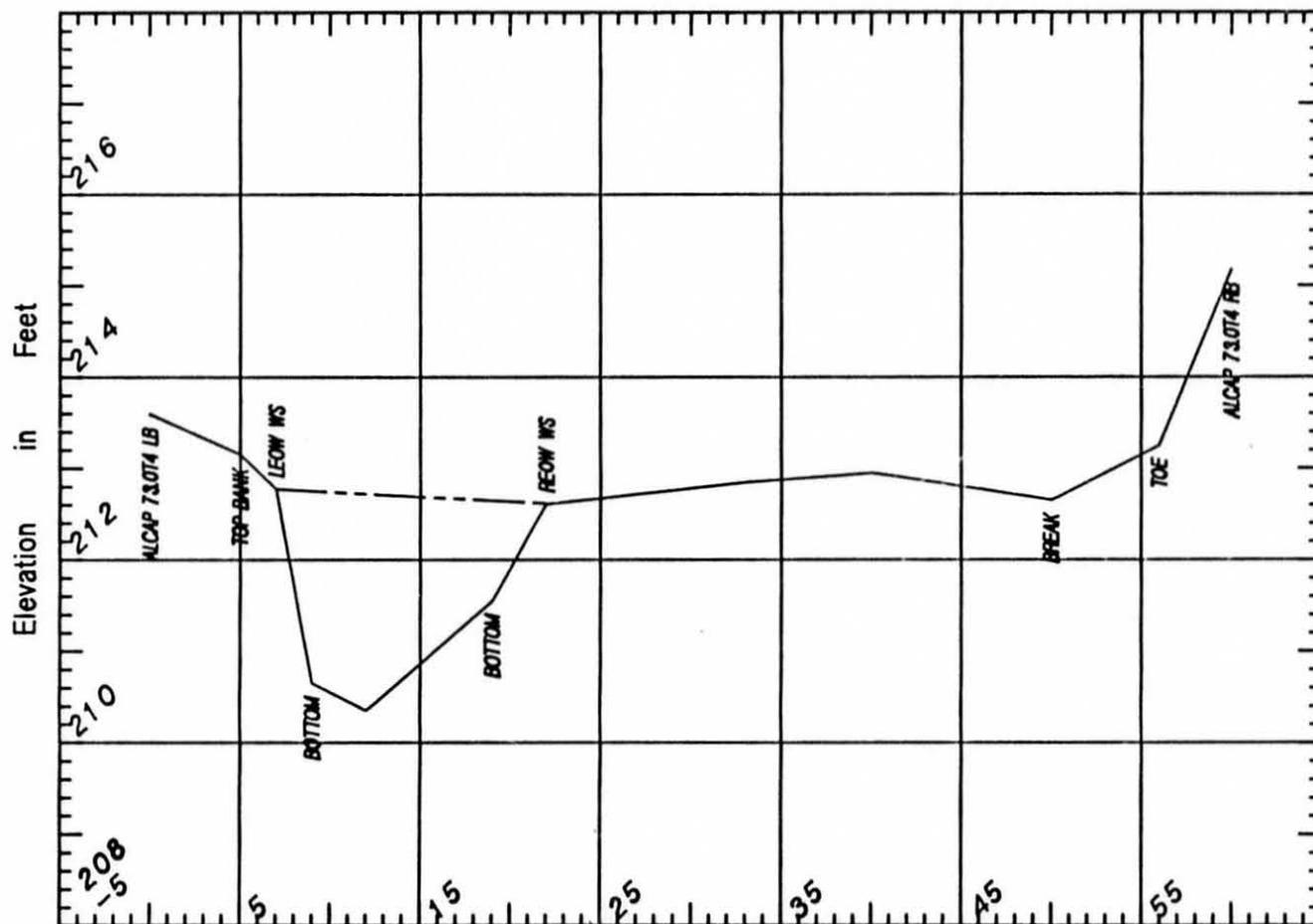


cross section GOOSE CR 73.0T4  
Date of Survey: AUGUST 27, 1982



P-130

# SUSITNA HYDROGRAPHIC SURVEYS



PREPARED BY:



cross section GOOSE CR 73.0T4  
Date of Survey: AUGUST 27, 1982

PREPARED FOR:

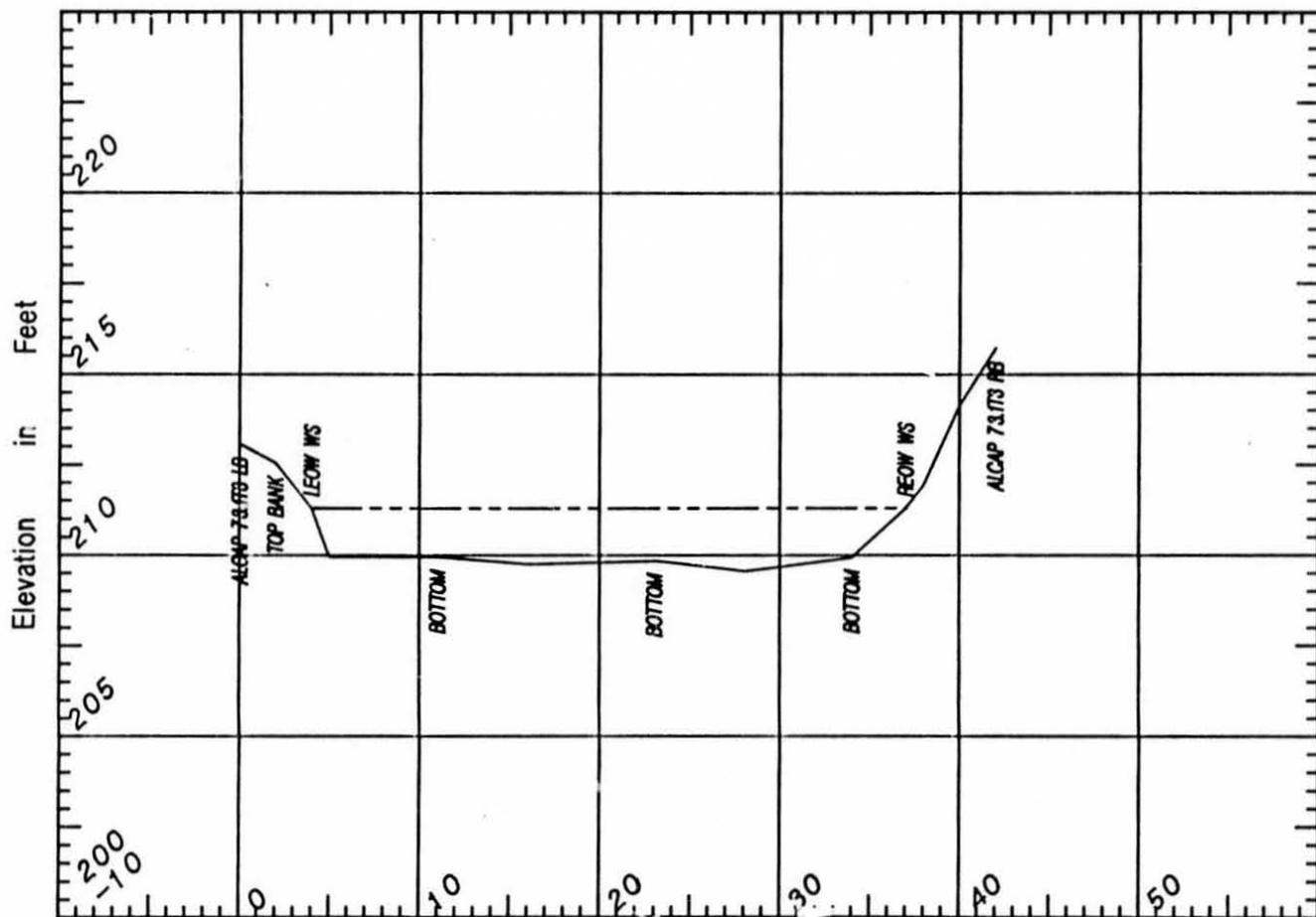


SUSITNA HYDROGRAPHIC SURVEYS  
cross section GOOSE CR 73.1T3

Date of Survey: AUGUST 27, 1982

POINT	'X'	'Y'	DESCRIPTION
Cross section data:			
1	0.000	213.060	ALCAP 73.1T3 LB
2	2.000	212.540	TOP BANK
3	4.000	211.280	
4	5.000	209.940	
5	11.000	209.940	BOTTOM
6	16.000	209.740	
7	23.000	209.840	BOTTOM
8	28.000	209.540	
9	34.000	209.940	BOTTOM
10	37.000	211.290	
11	38.000	211.940	
12	40.000	214.140	
13	42.000	215.710	ALCAP 73.1T3 RB
Water surface data:			
1	4.000	211.280	LEOW WS
2	37.000	211.290	REOW WS
MIN	0.000	209.540	
MAX	42.000	215.710	

# SUSITNA HYDROGRAPHIC SURVEYS



PREPARED BY:

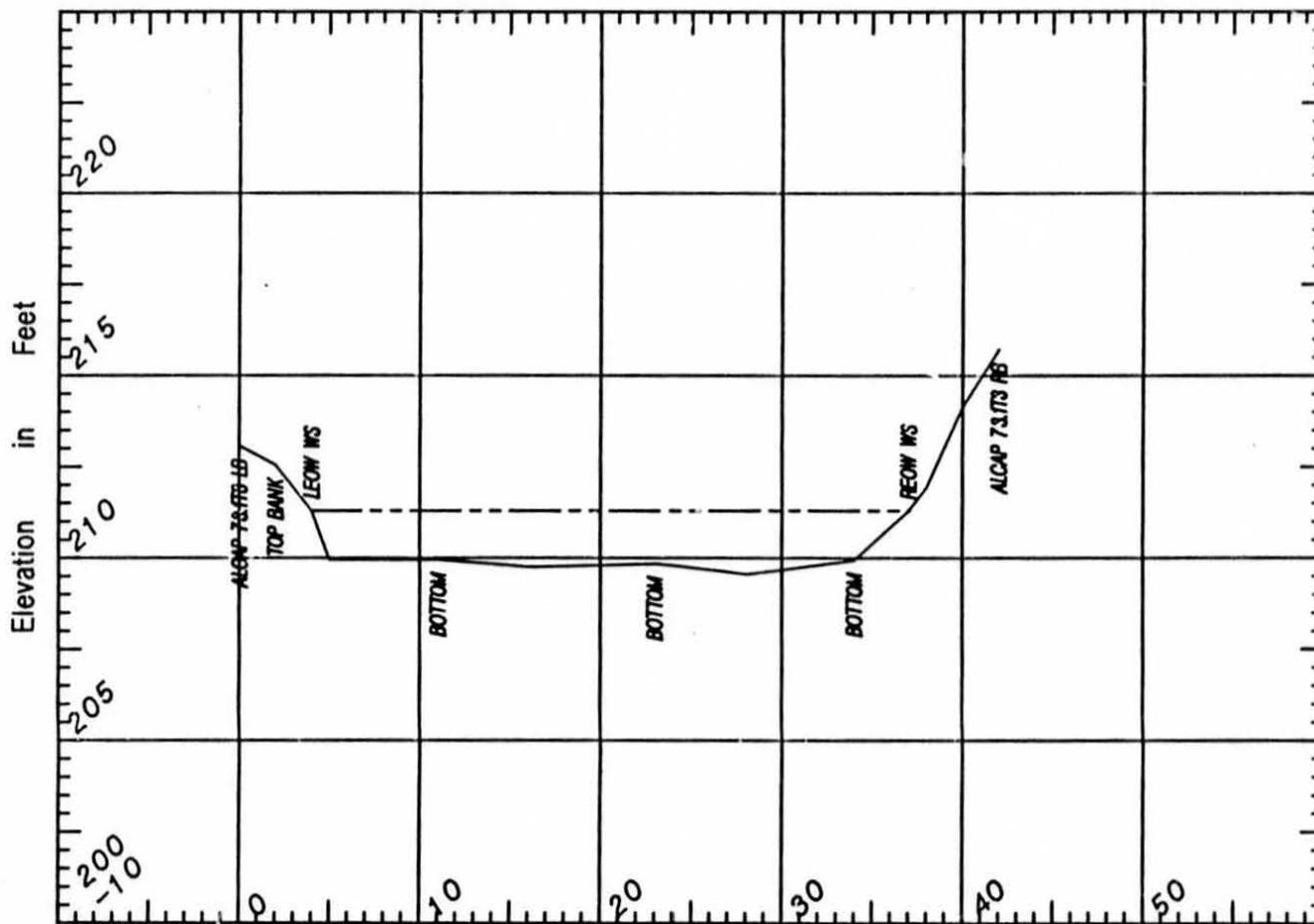
PREPARED FOR:



cross section GOOSE CR 73.1T3  
Date of Survey: AUGUST 27, 1982



# SUSITNA HYDROGRAPHIC SURVEYS



PREPARED BY:



cross section GOOSE CR 73.1T3  
Date of Survey: AUGUST 27, 1982

PREPARED FOR:

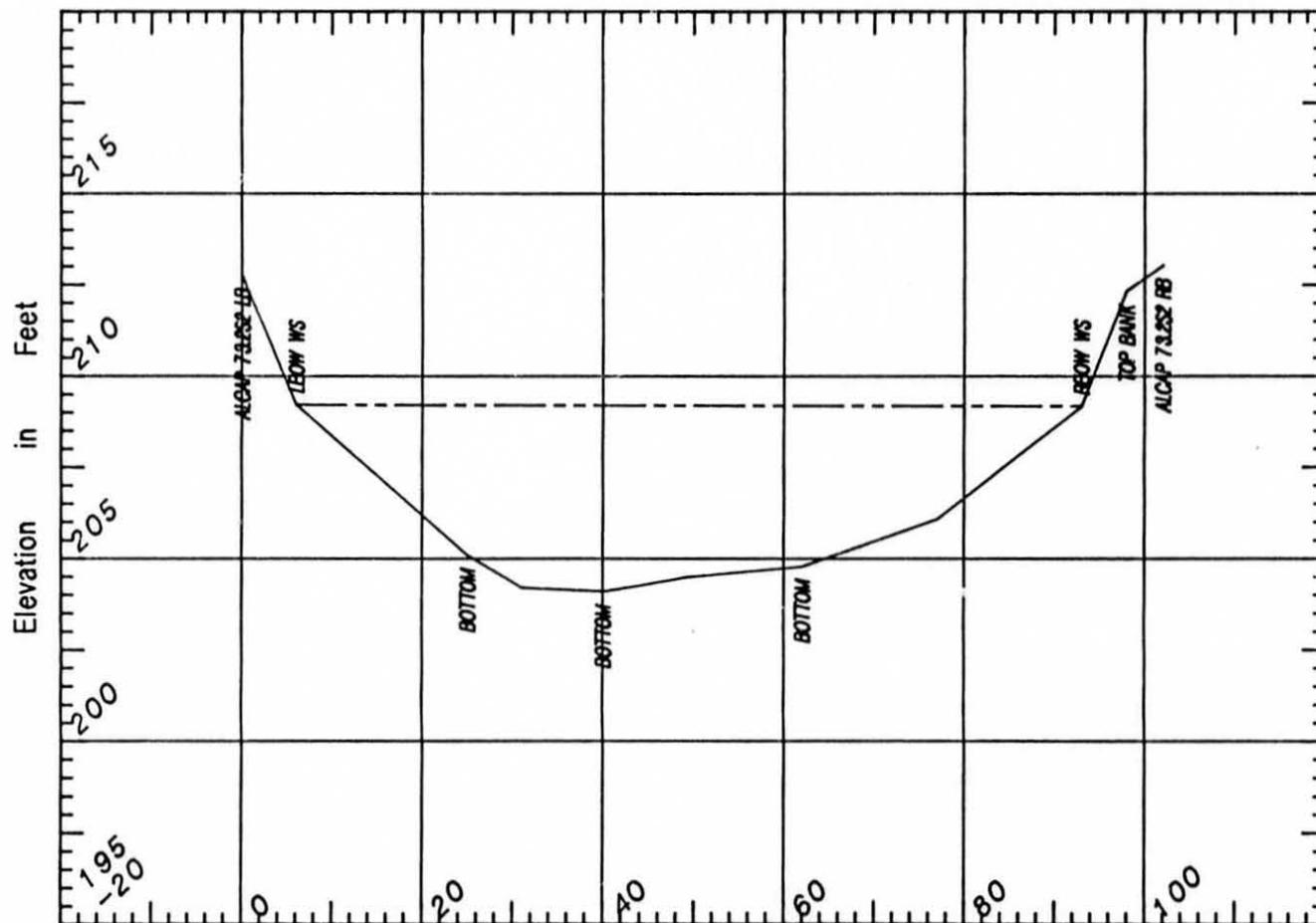


SUSITNA HYDROGRAPHIC SURVEYS  
 cross section GOOSE CR 73.2S2

Date of Survey: AUGUST 27, 1982

POINT	'X'	'Y'	DESCRIPTION
Cross section data:			
1	0.000	212.760	ALCAP 73.2S2 LB
2	6.000	209.210	
3	25.000	205.090	BOTTOM
4	31.000	204.190	
5	40.000	204.090	BOTTOM
6	49.000	204.490	
7	62.000	204.790	BOTTOM
8	77.000	206.090	
9	93.000	209.170	
10	98.000	212.340	TOP BANK
11	102.000	213.030	ALCAP 73.2S2 RB
Water surface data:			
1	6.000	209.210	LEOW WS
2	93.000	209.170	REOW WS
MIN	0.000	204.090	
MAX	102.000	213.030	

# SUSITNA HYDROGRAPHIC SURVEYS



PREPARED BY:

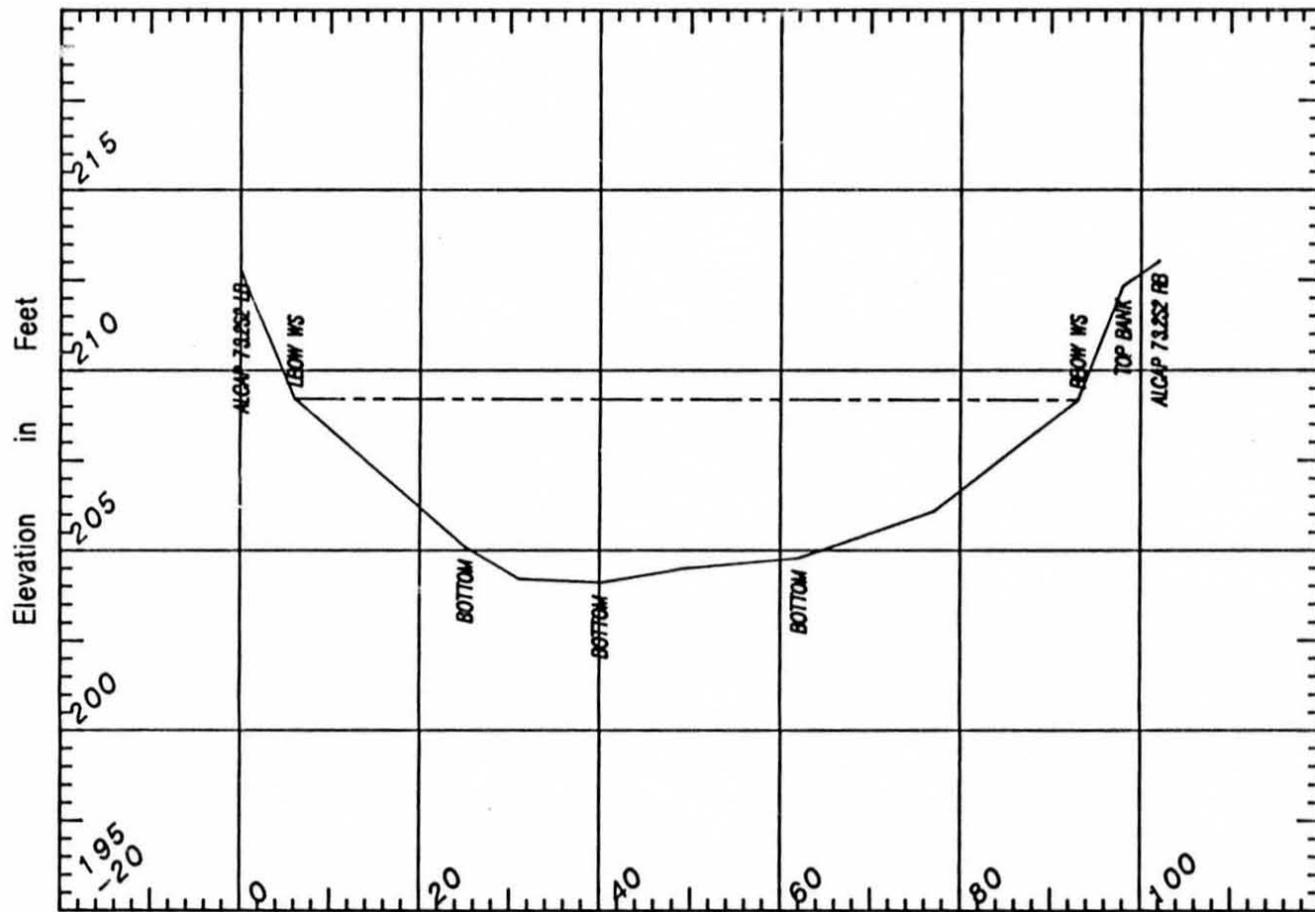


cross section GOOSE CR 73.2S2  
Date of Survey: AUGUST 27, 1982

PREPARED FOR:



# SUSITNA HYDROGRAPHIC SURVEYS



PREPARED BY:



cross section GOOSE CR 73.2S2  
Date of Survey: AUGUST 27, 1982

PREPARED FOR:

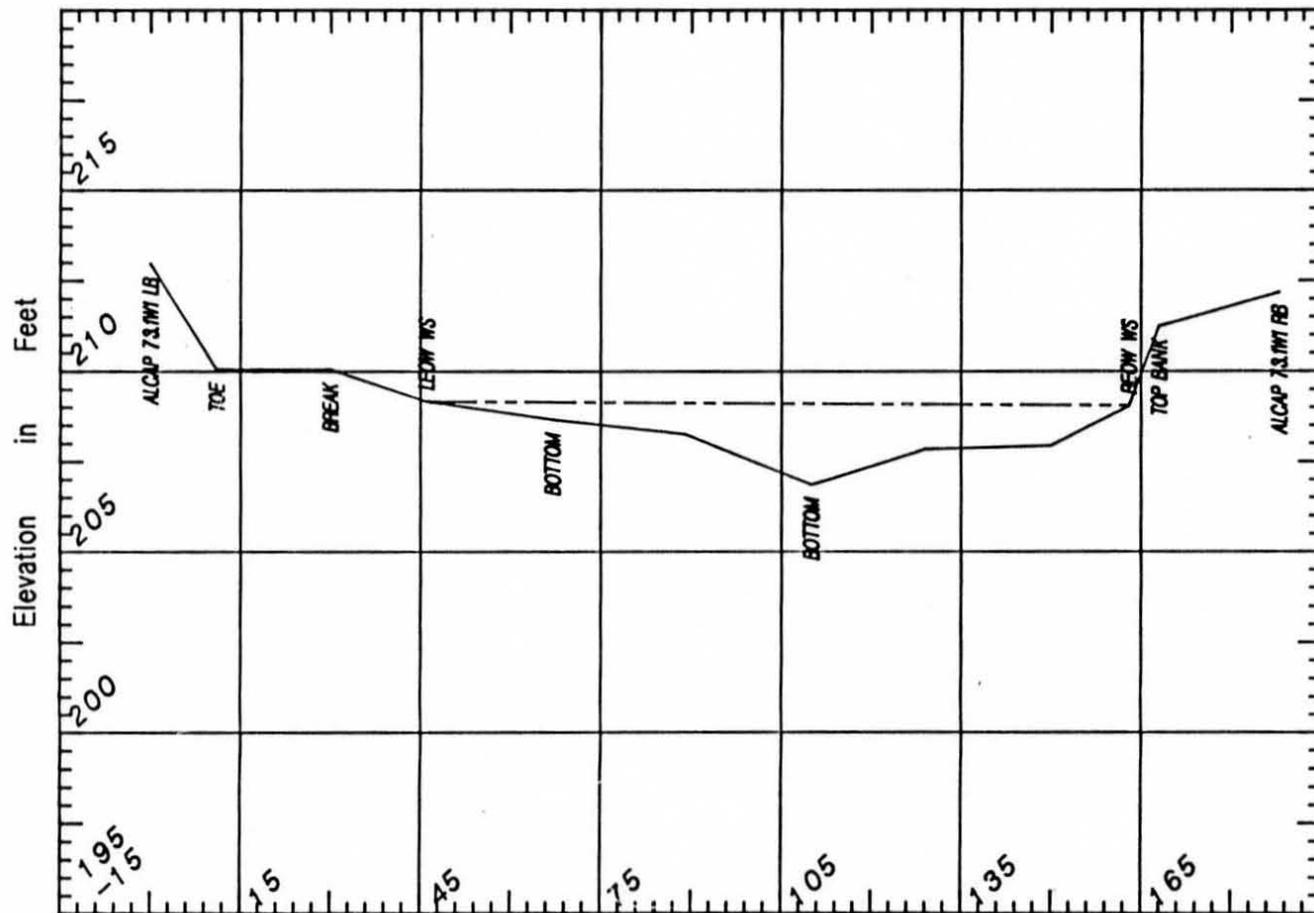


SUSITNA HYDROGRAPHIC SURVEYS  
cross section GOOSE CR 73.1W1

Date of Survey: AUGUST 27, 1982

POINT	'X'	'Y'	DESCRIPTION
Cross section data:			
1	0.000	212.960	ALCAP 73.1W1 LB
2	11.000	210.050	TOE
3	30.000	210.050	BREAK
4	46.000	209.160	
5	67.000	208.650	BOTTOM
6	89.000	208.250	
7	110.000	206.850	BOTTOM
8	129.000	207.850	
9	150.000	207.950	
10	163.000	209.040	
11	168.000	211.250	TOP BANK
12	188.000	212.180	ALCAP 73.1W1 RB
Water surface data:			
1	46.000	209.160	LEOW WS
2	163.000	209.040	REOW WS
MIN	0.000	206.850	
MAX	188.000	212.960	

# SUSITNA HYDROGRAPHIC SURVEYS



PREPARED BY:

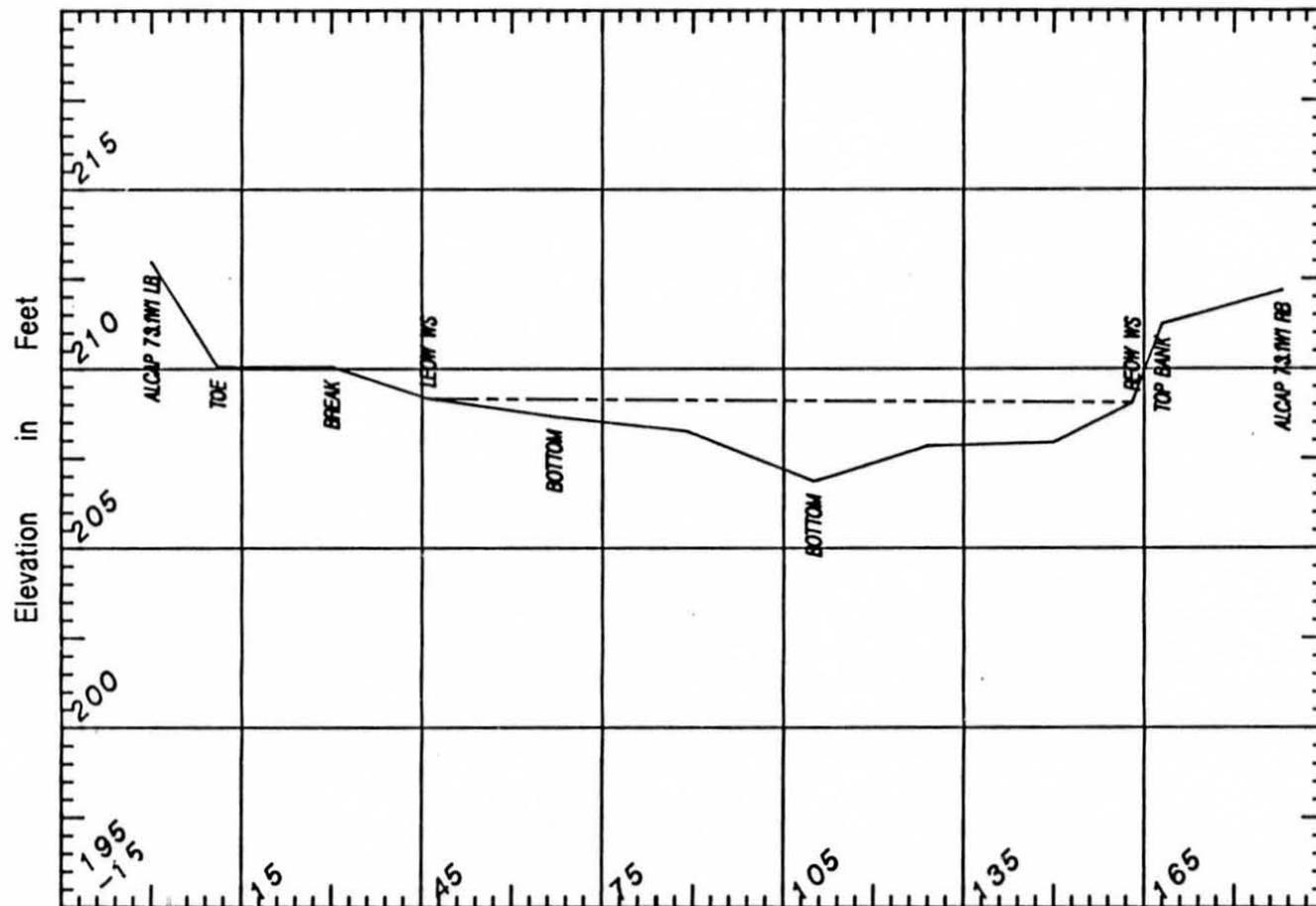


cross section GOOSE CR 73.1W1  
Date of Survey: AUGUST 27, 1982

PREPARED FOR:

ACRES

## SUSITNA HYDROGRAPHIC SURVEYS



PREPARED BY:

PREPARED FOR:



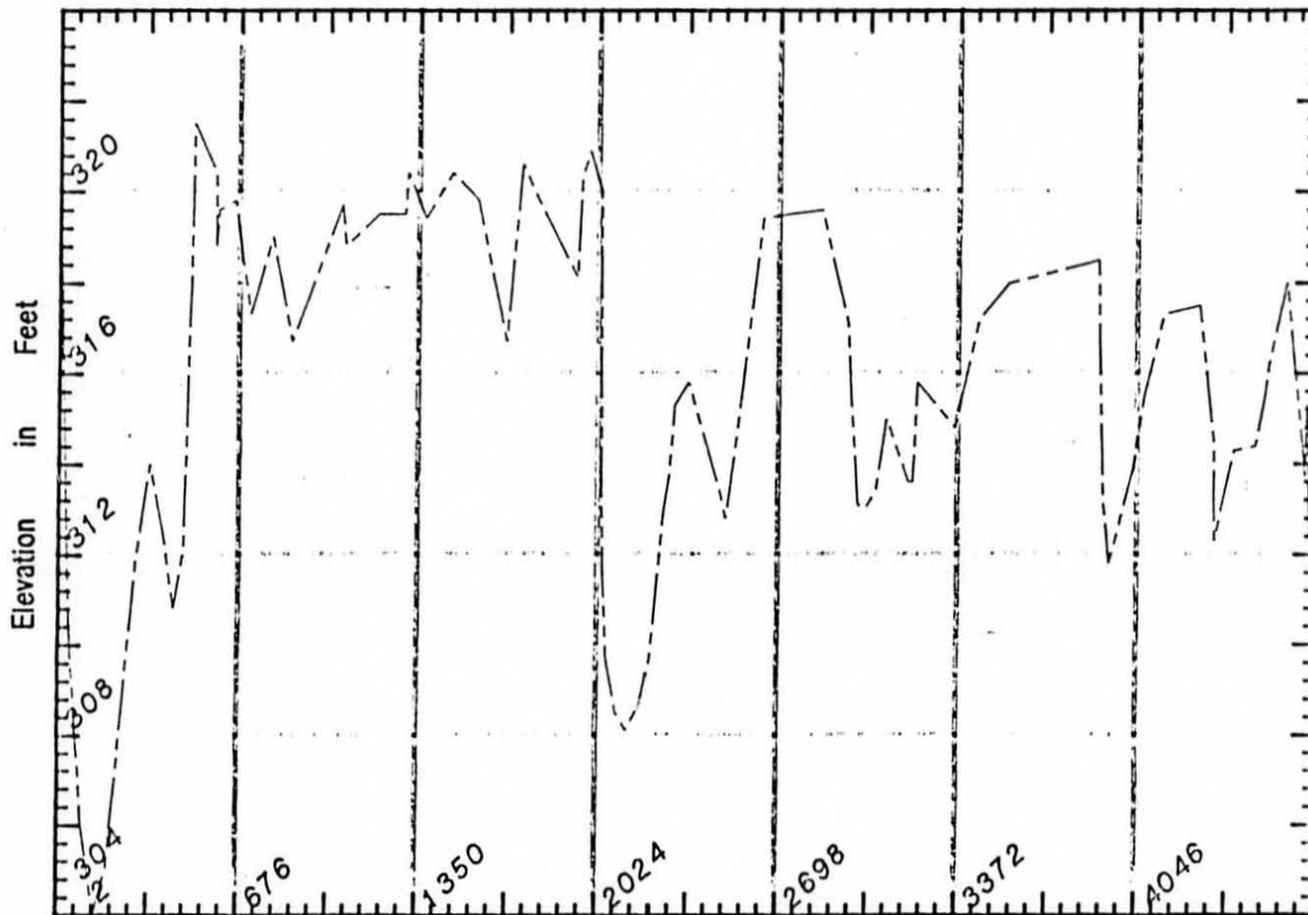
cross section GOOSE CR 73.1W1  
Date of Survey: AUGUST 27, 1982



ATTACHMENT C

1982 ICESIM Cross Section Plots  
and Updated HEC-2 File Printout

# SUSITNA HYDROGRAPHIC SURVEYS



PREPARED BY:

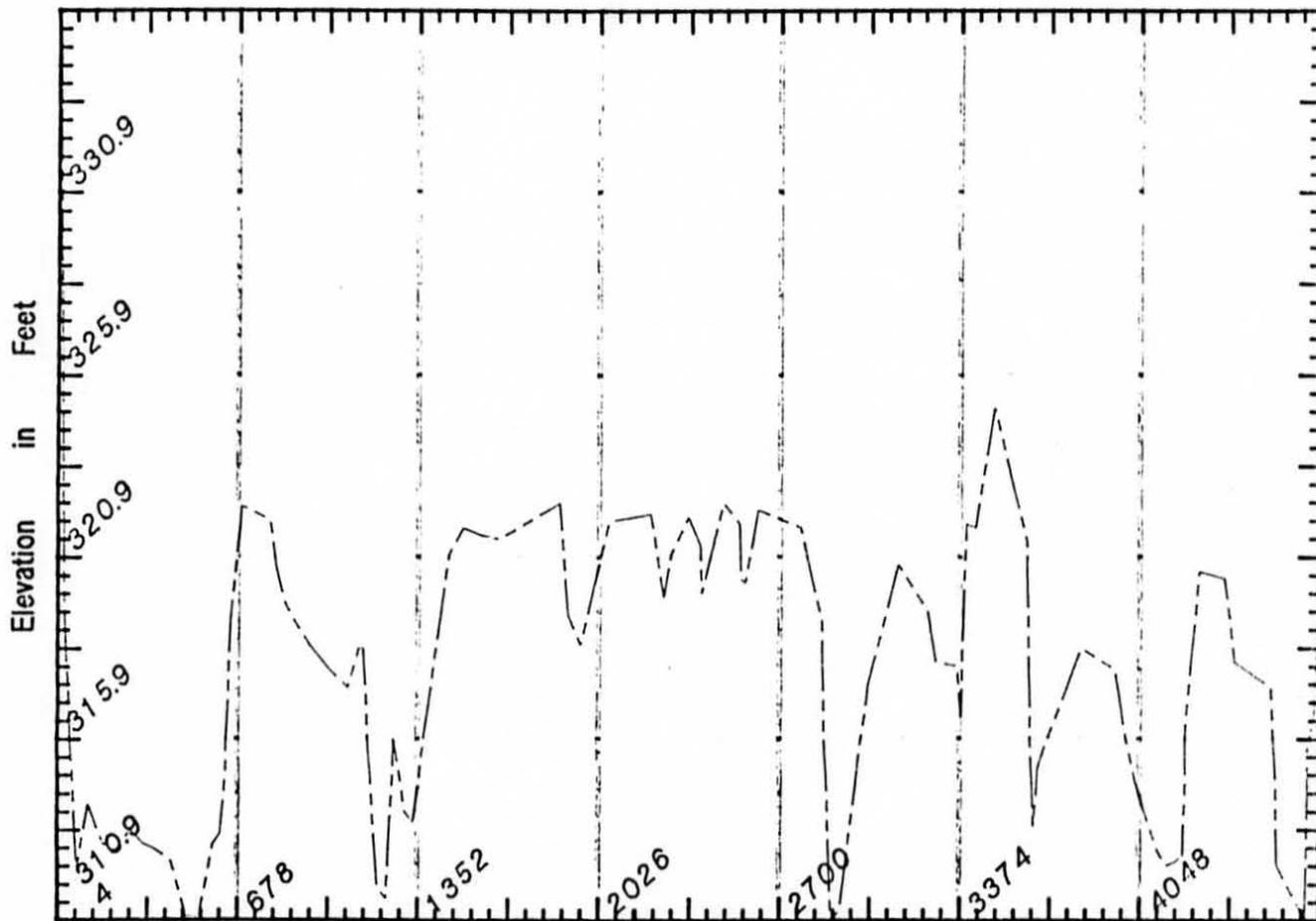


CROSS-SECTION Number 0.3

PREPARED FOR:



# SUSITNA HYDROGRAPHIC SURVEYS



PREPARED BY:

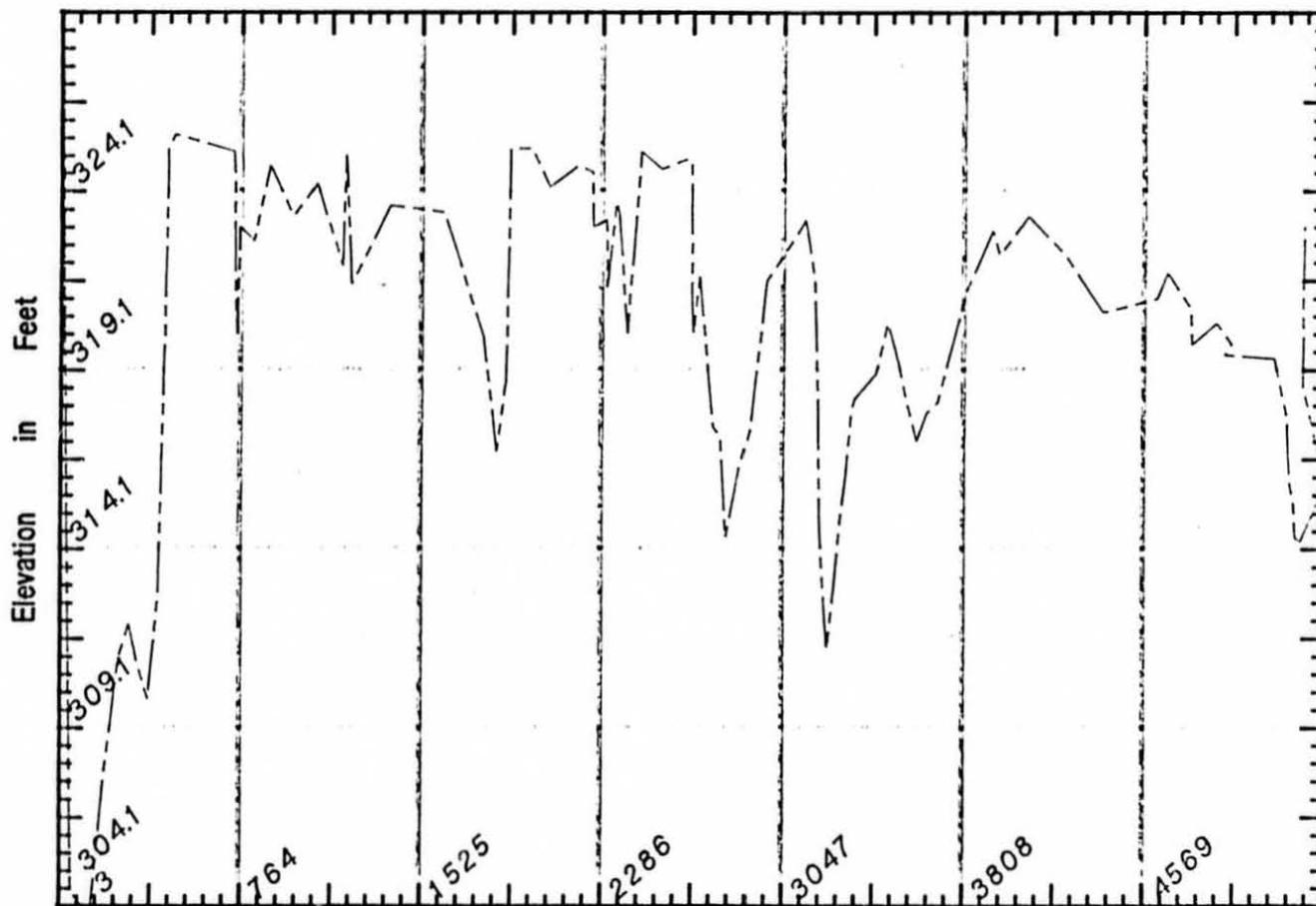


PREPARED FOR:

CROSS-SECTION Number 0.4



# SUSITNA HYDROGRAPHIC SURVEYS



PREPARED BY:

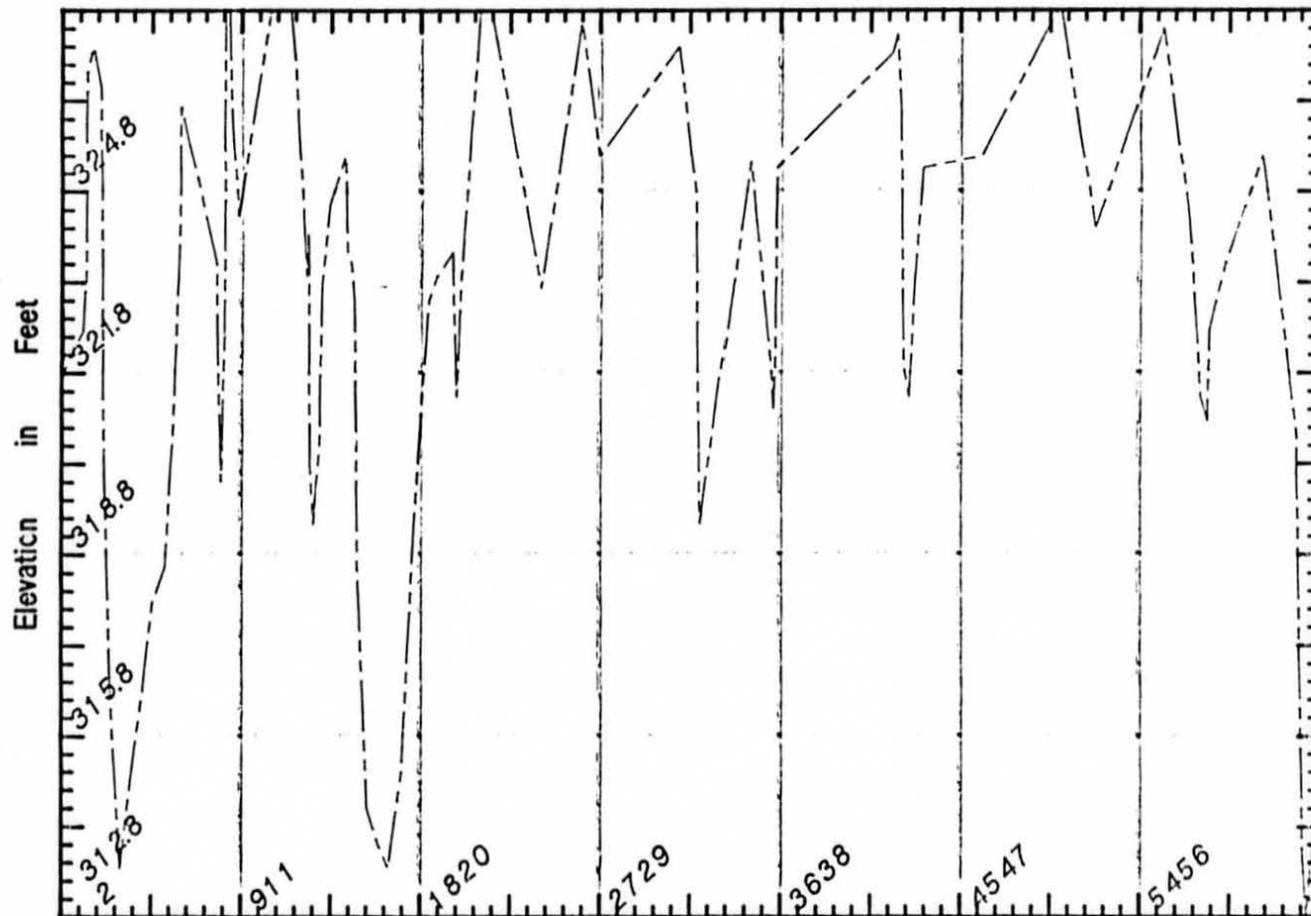


CROSS-SECTION Number 0.5

PREPARED FOR:



# SUSITNA HYDROGRAPHIC SURVEYS



PREPARED BY:

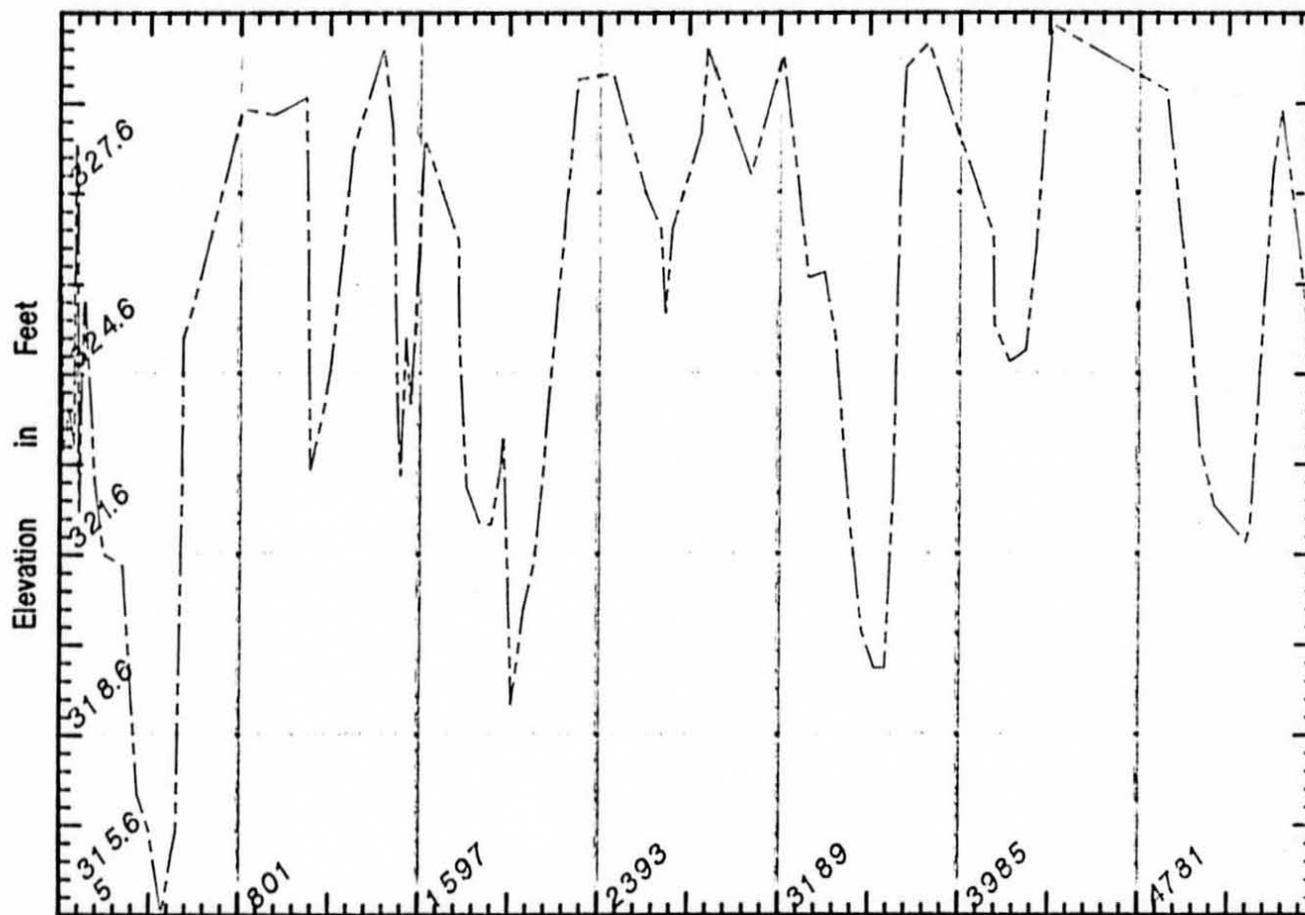


CROSS-SECTION Number 0.6

PREPARED FOR:



# SUSITNA HYDROGRAPHIC SURVEYS



PREPARED BY:

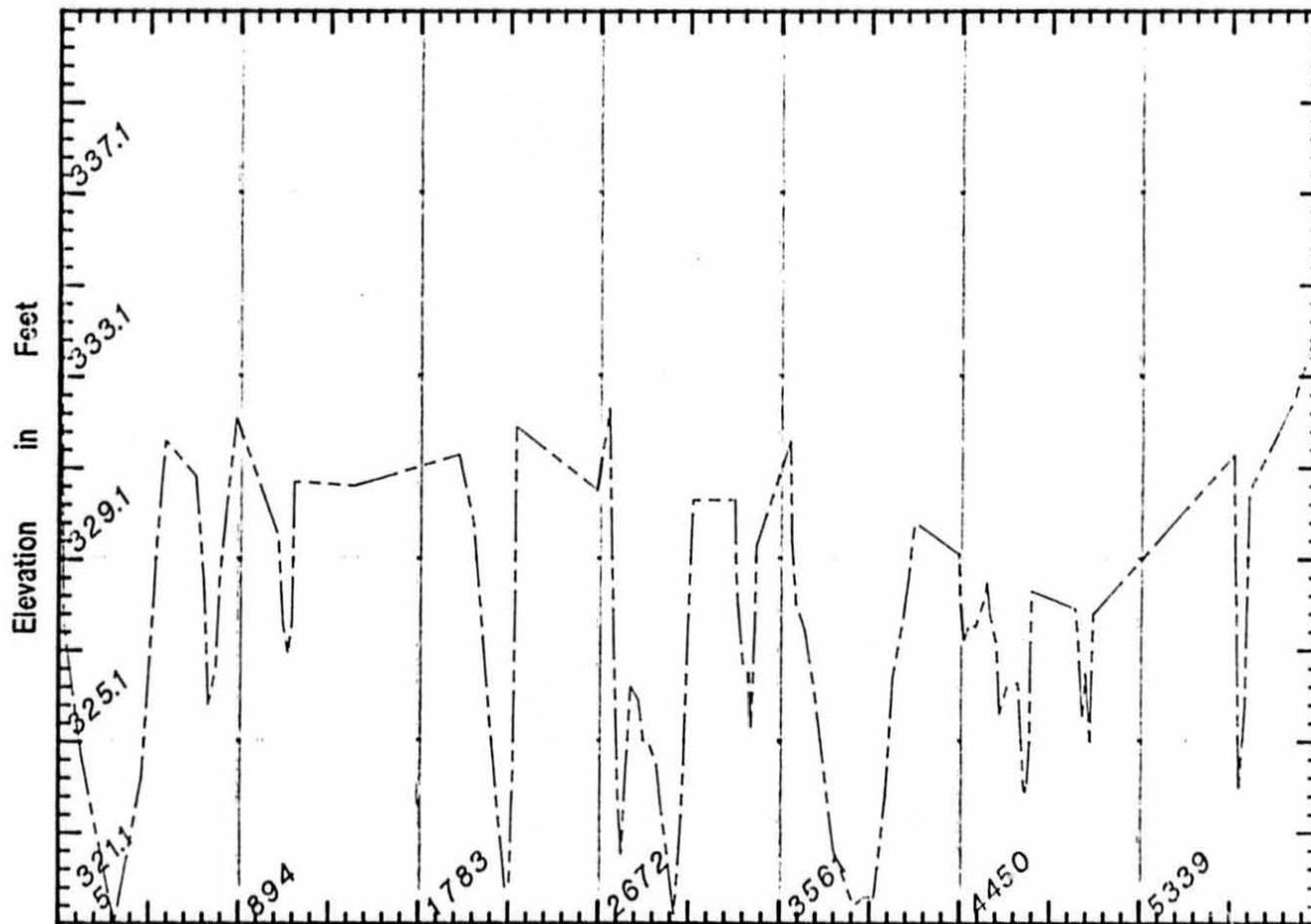


CROSS-SECTION Number 0.7

PREPARED FOR:



# SUSITNA HYDROGRAPHIC SURVEYS



PREPARED BY:

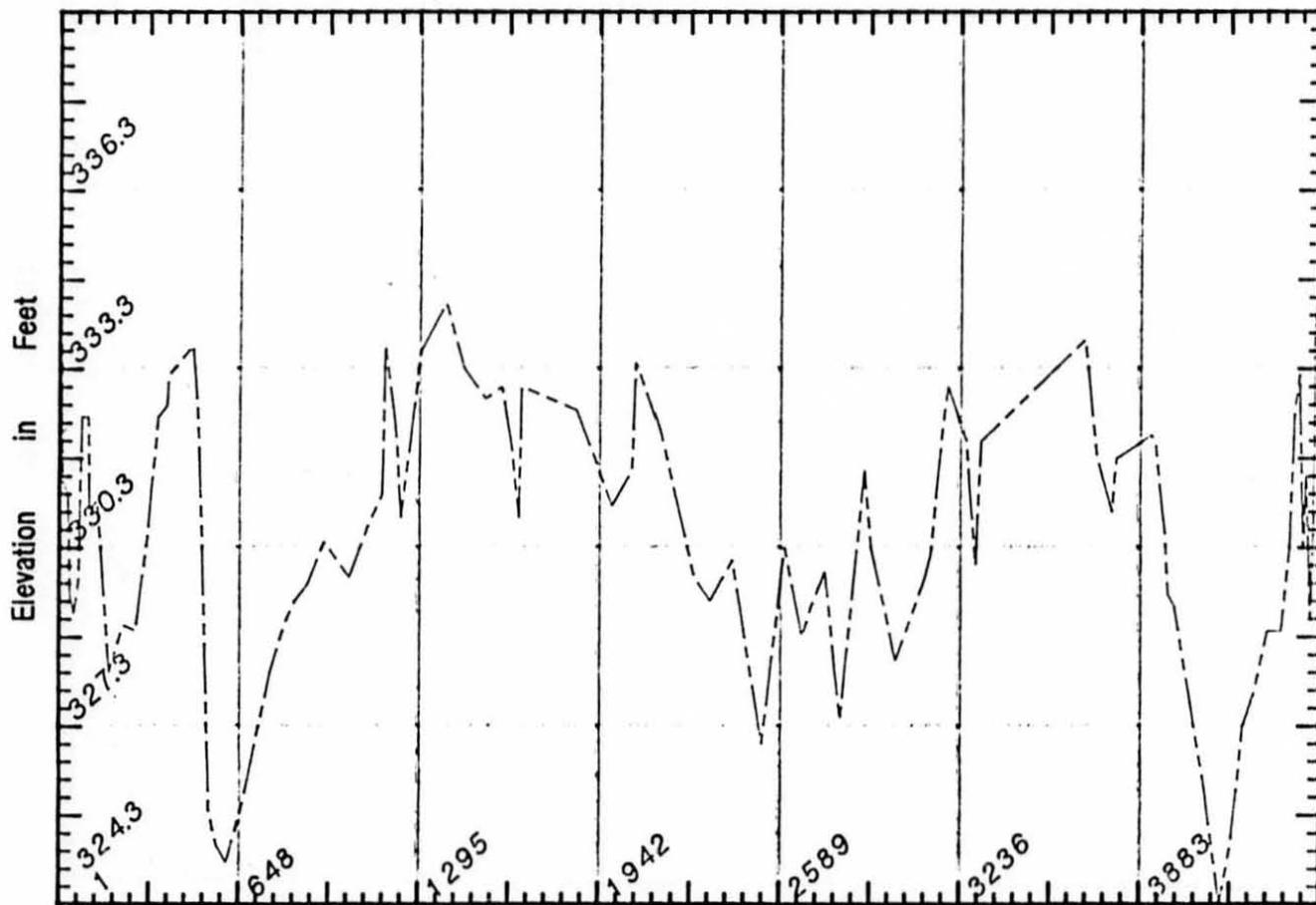


CROSS-SECTION Number 0.8

PREPARED FOR:



# SUSITNA HYDROGRAPHIC SURVEYS



PREPARED BY:

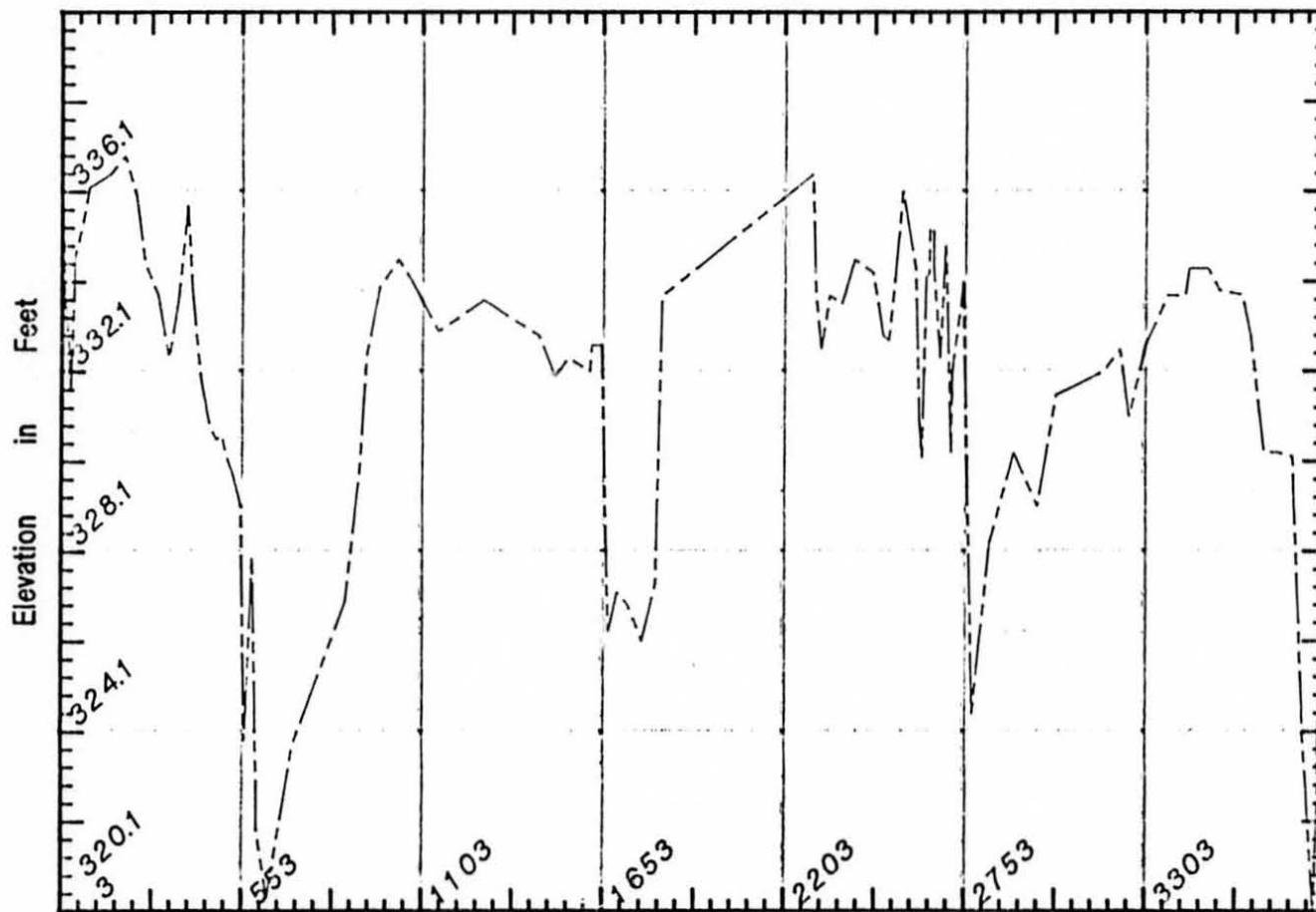


CROSS-SECTION Number 0.9

PREPARED FOR:



# SUSITNA HYDROGRAPHIC SURVEYS



PREPARED BY:

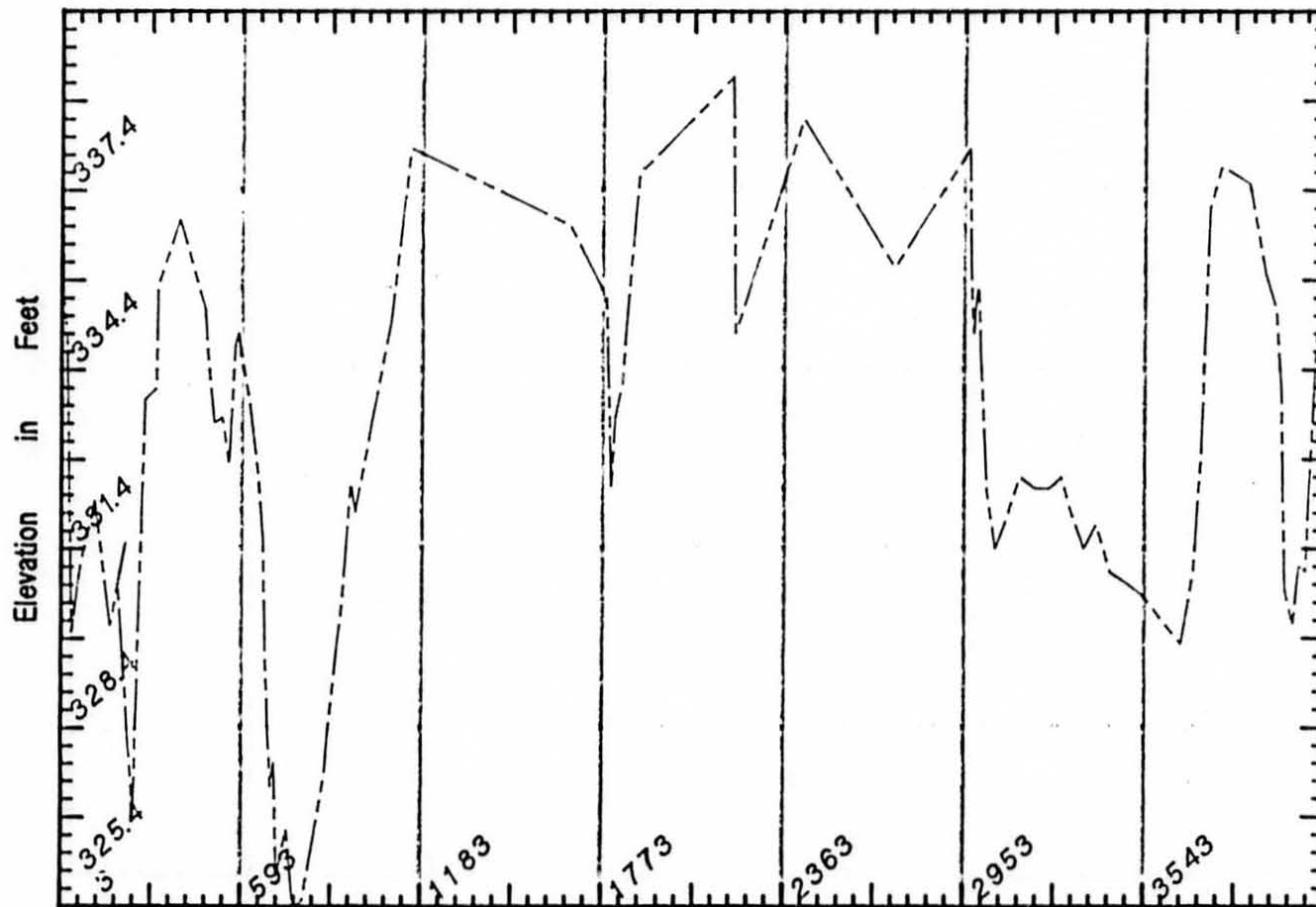


CROSS-SECTION Number 1

PREPARED FOR:



# SUSITNA HYDROGRAPHIC SURVEYS



PREPARED BY:

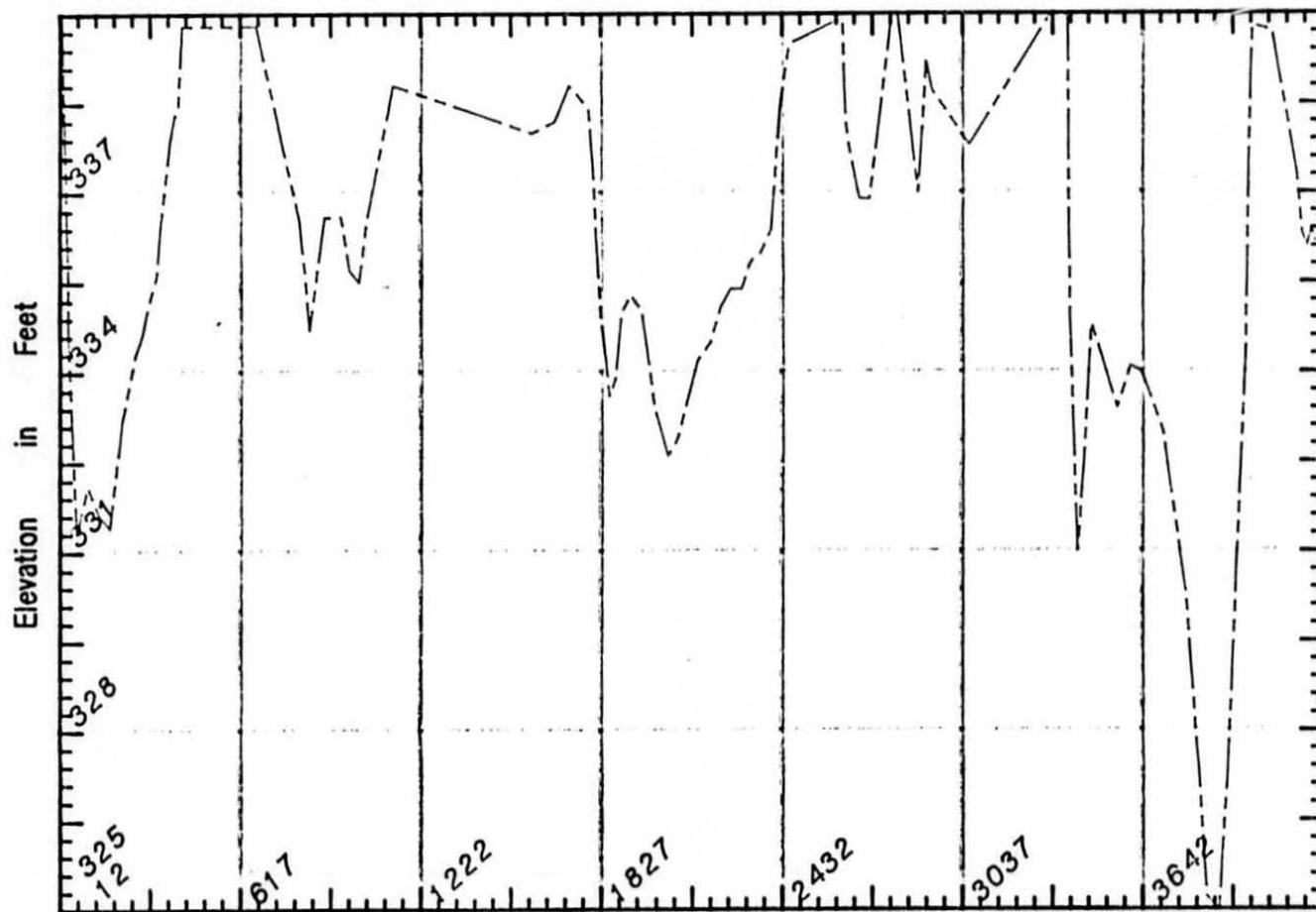


CROSS-SECTION Number 1.1

PREPARED FOR:



# SUSITNA HYDROGRAPHIC SURVEYS



PREPARED BY:

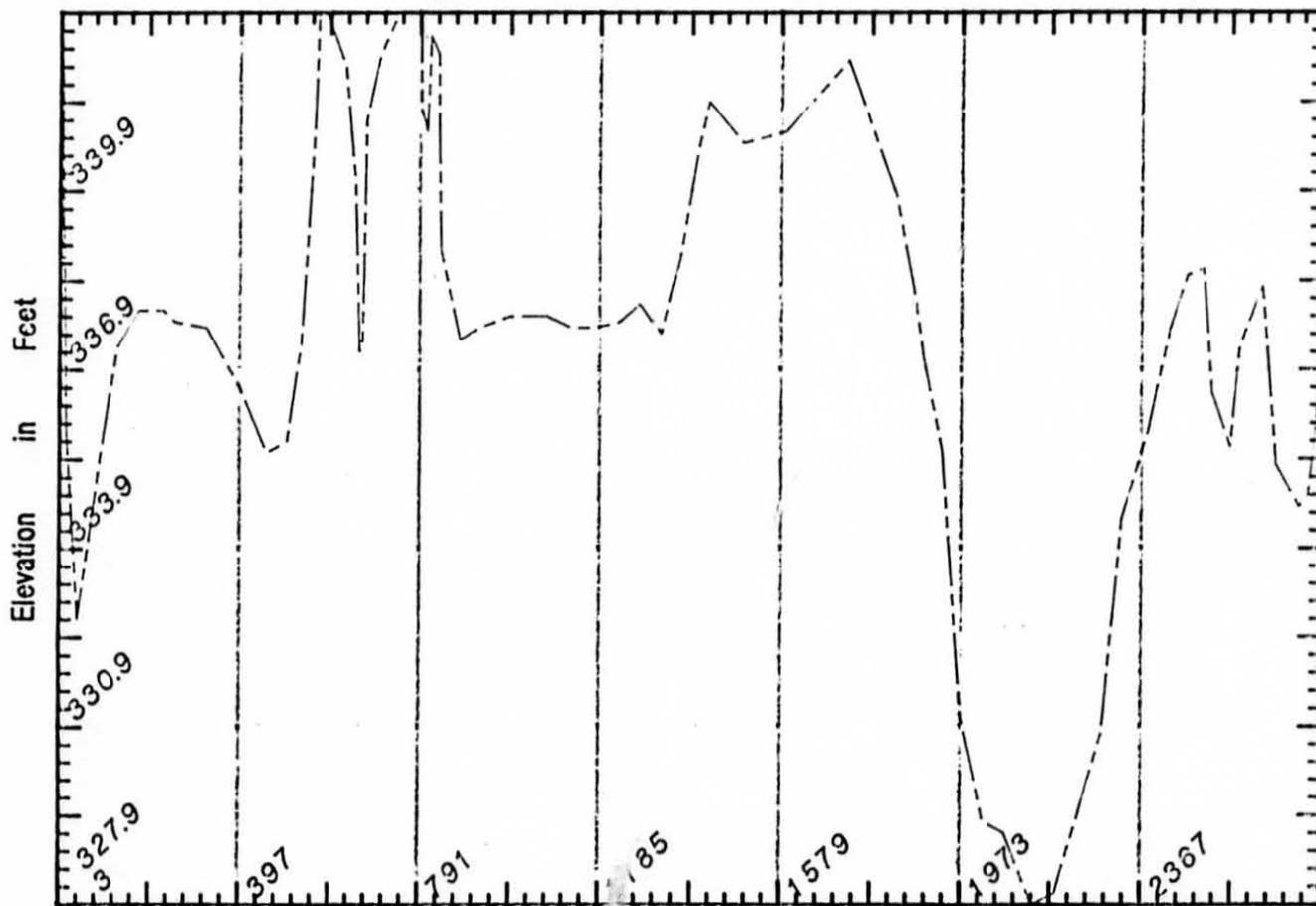


CROSS-SECTION Number 1.2

PREPARED FOR:



# SUSITNA HYDROGRAPHIC SURVEYS



PREPARED BY:

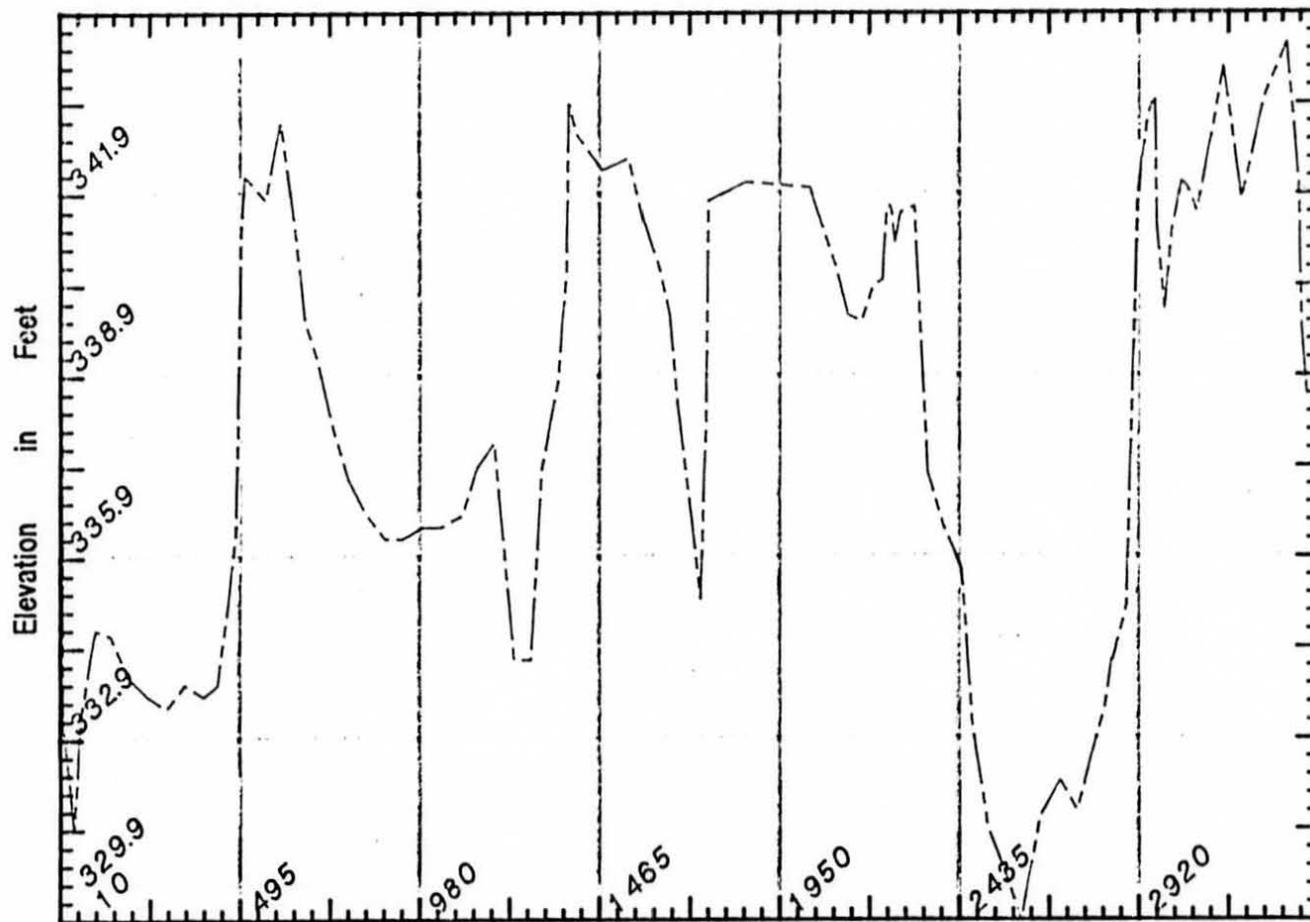


CROSS-SECTION Number 2

PREPARED FOR:



# SUSITNA HYDROGRAPHIC SURVEYS



PREPARED BY:

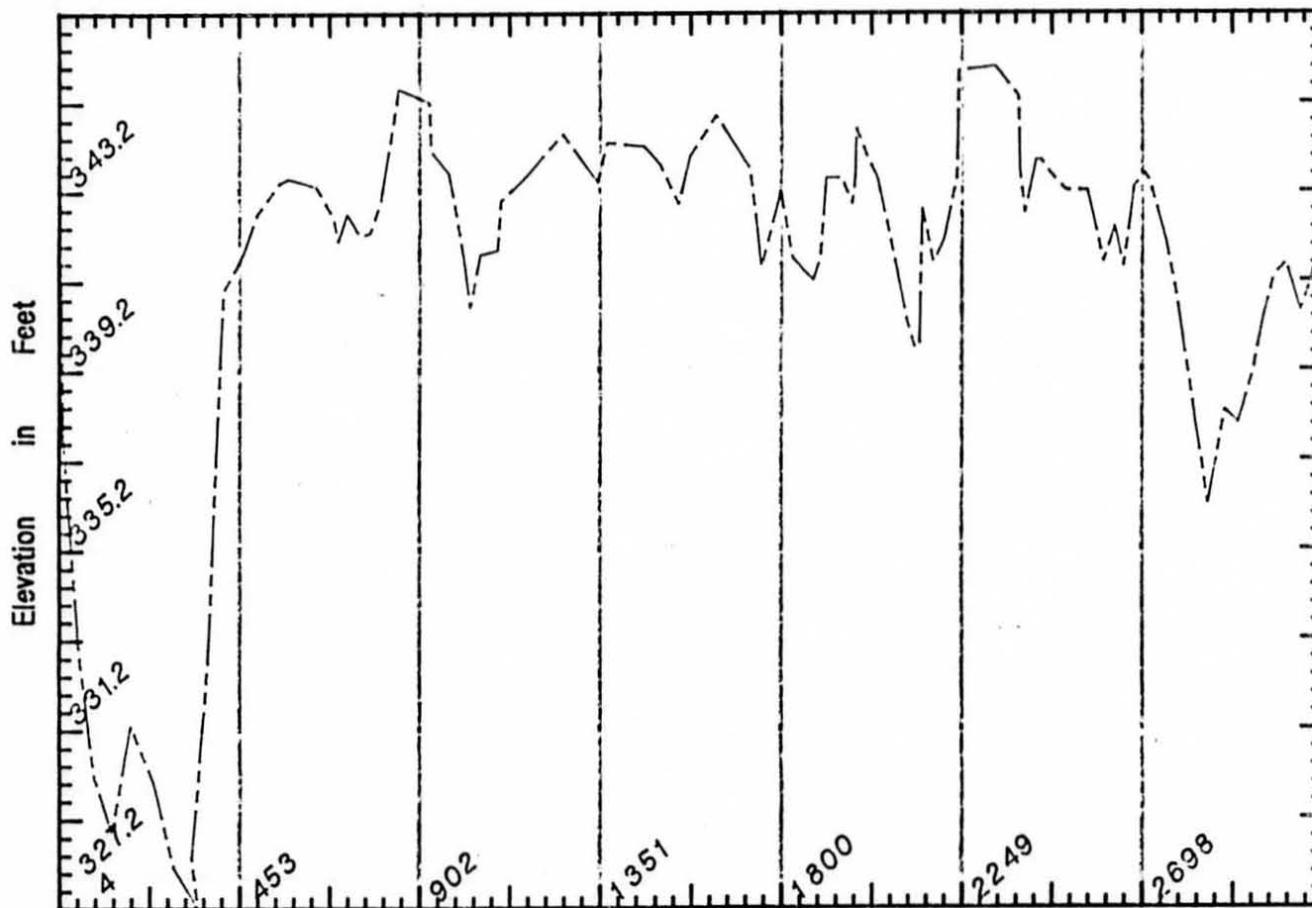


CROSS-SECTION Number 2.1

PREPARED FOR:



# SUSITNA HYDROGRAPHIC SURVEYS



PREPARED BY:

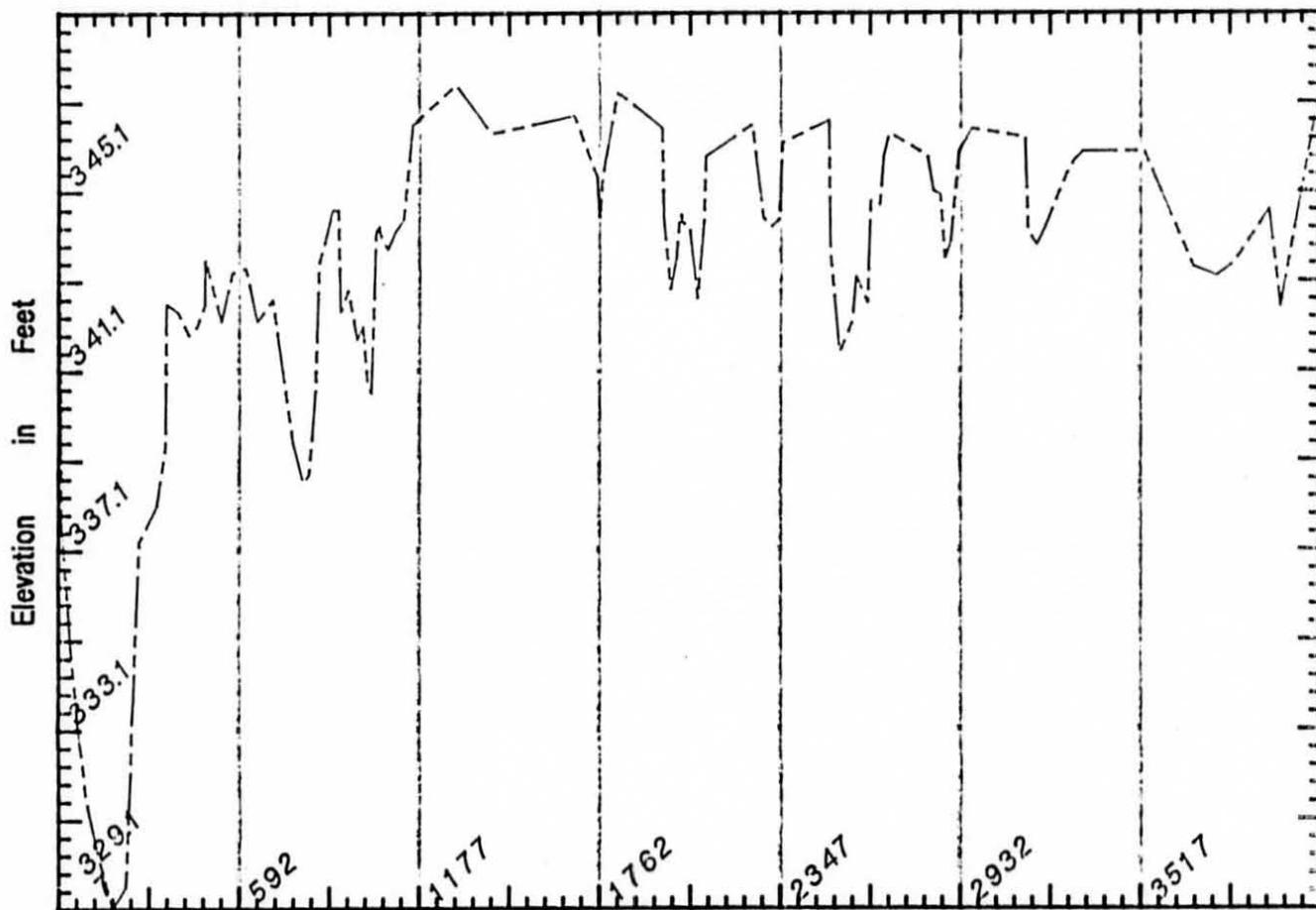


CROSS-SECTION Number 2.2

PREPARED FOR:



# SUSITNA HYDROGRAPHIC SURVEYS



C-14

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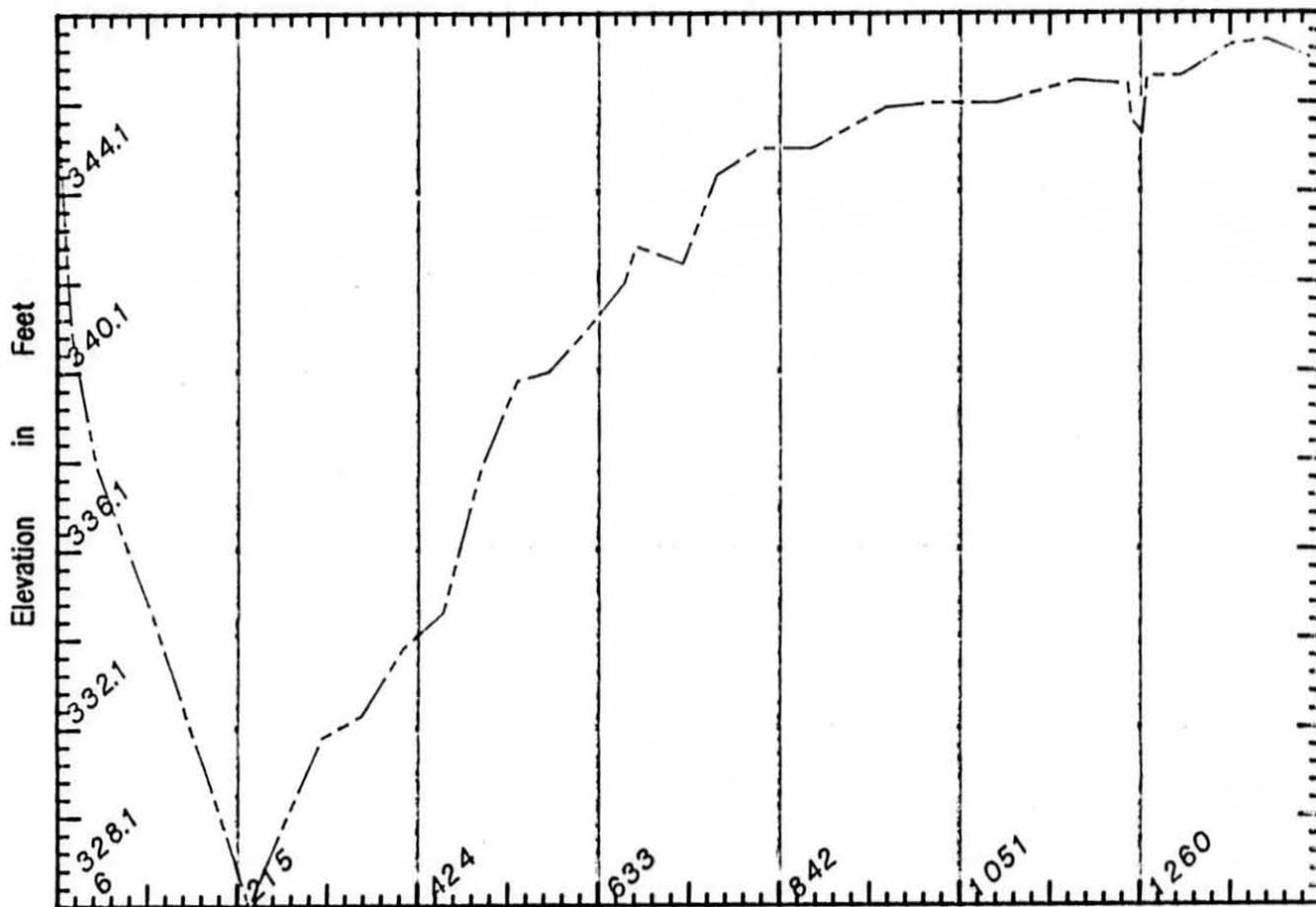


CROSS-SECTION Number 2.3

PREPARED FOR:



# SUSITNA HYDROGRAPHIC SURVEYS



PREPARED BY:

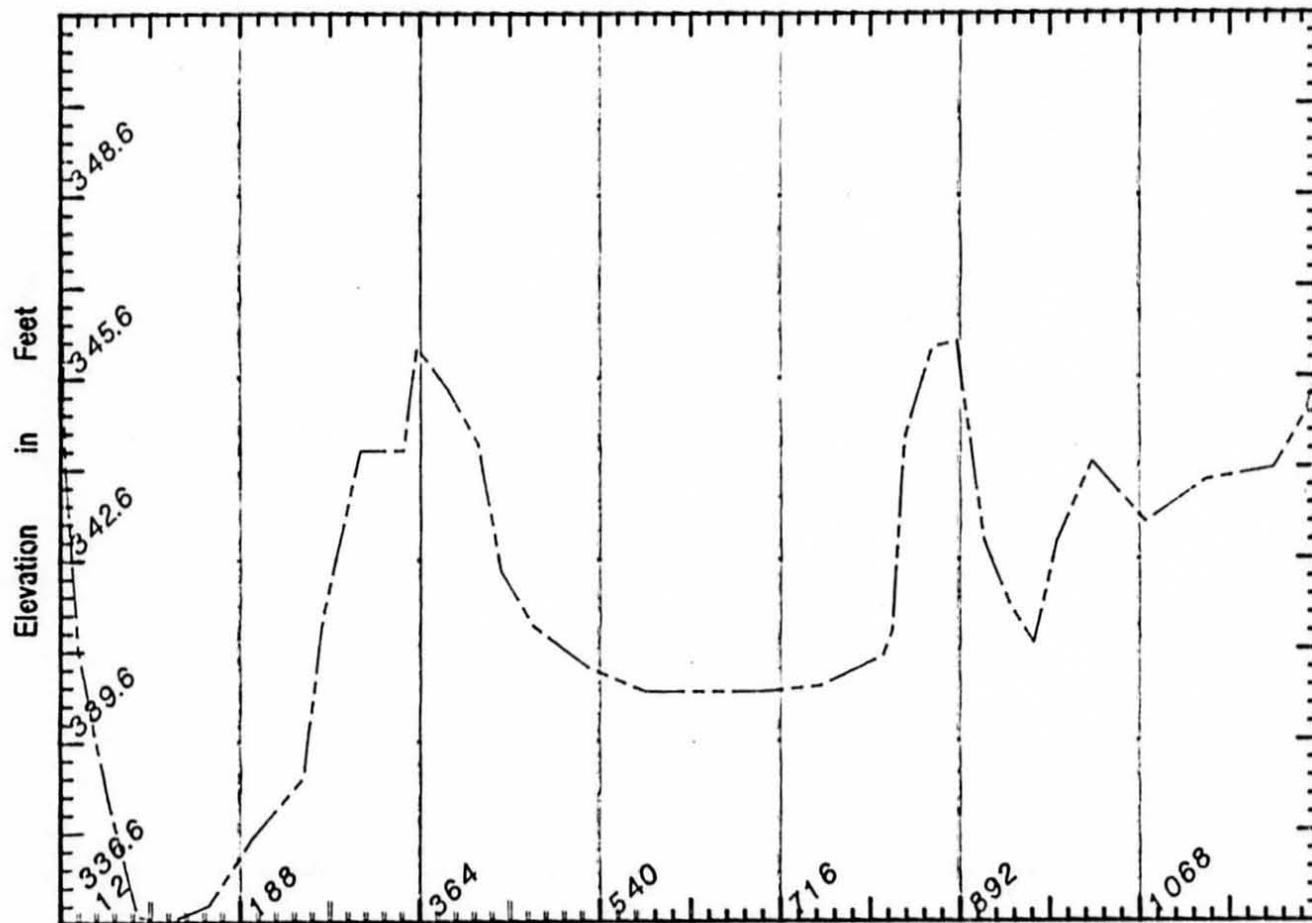


CROSS-SECTION Number 3

PREPARED FOR:



# SUSITNA HYDROGRAPHIC SURVEYS



PREPARED BY:

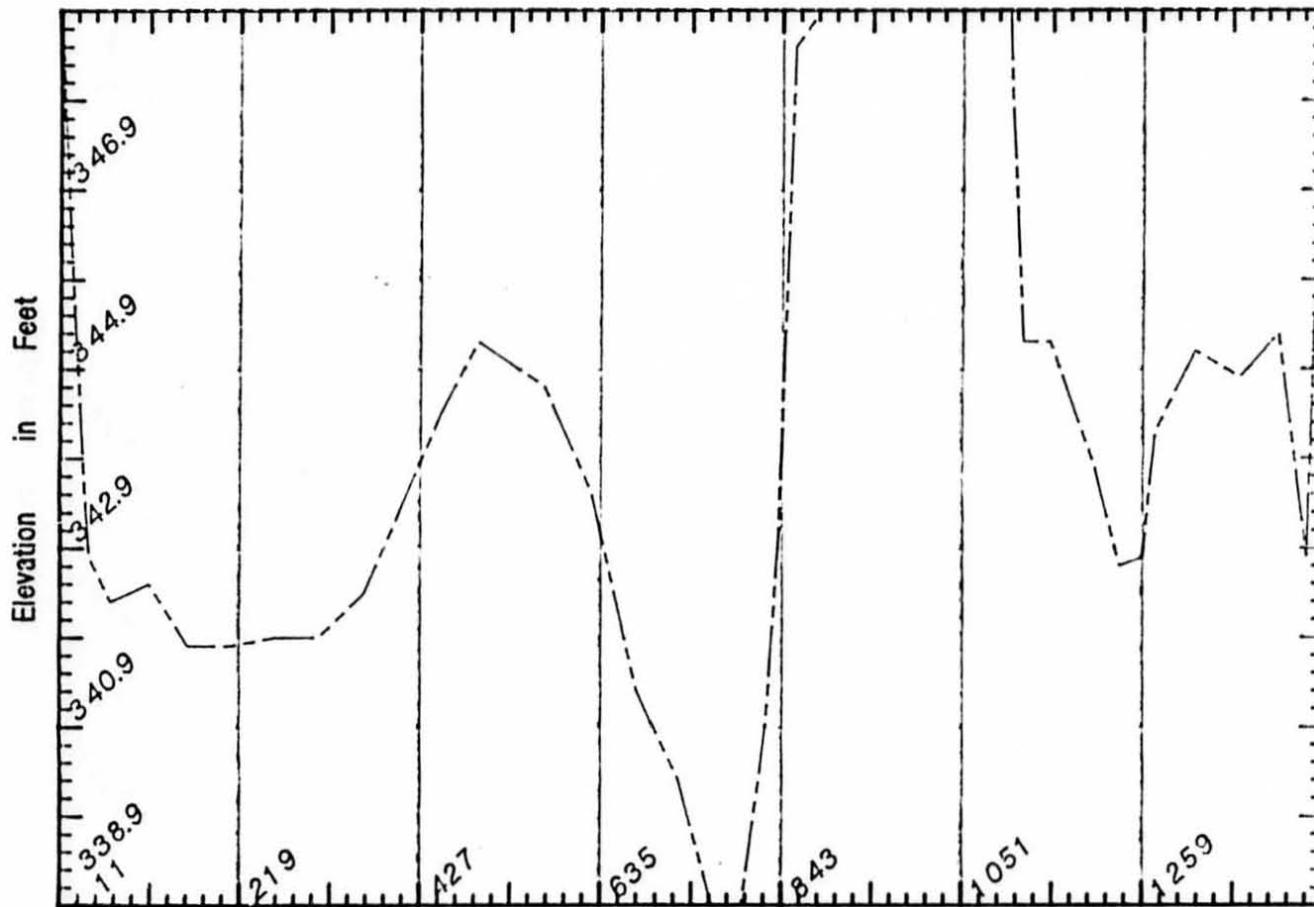


CROSS-SECTION Number 3.1

PREPARED FOR:



# SUSITNA HYDROGRAPHIC SURVEYS



PREPARED BY:

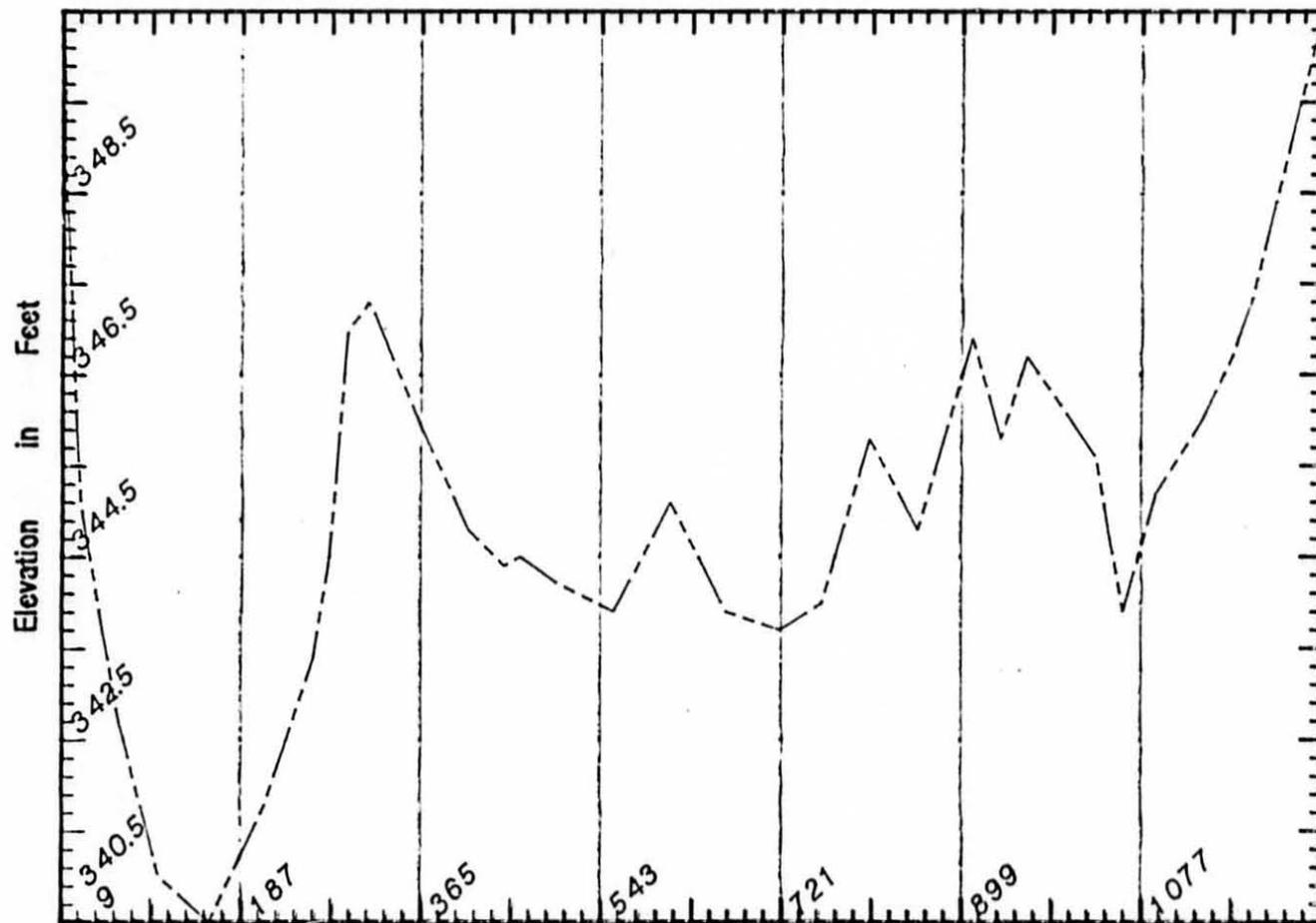


CROSS-SECTION Number 3.2

PREPARED FOR:



# SUSITNA HYDROGRAPHIC SURVEYS



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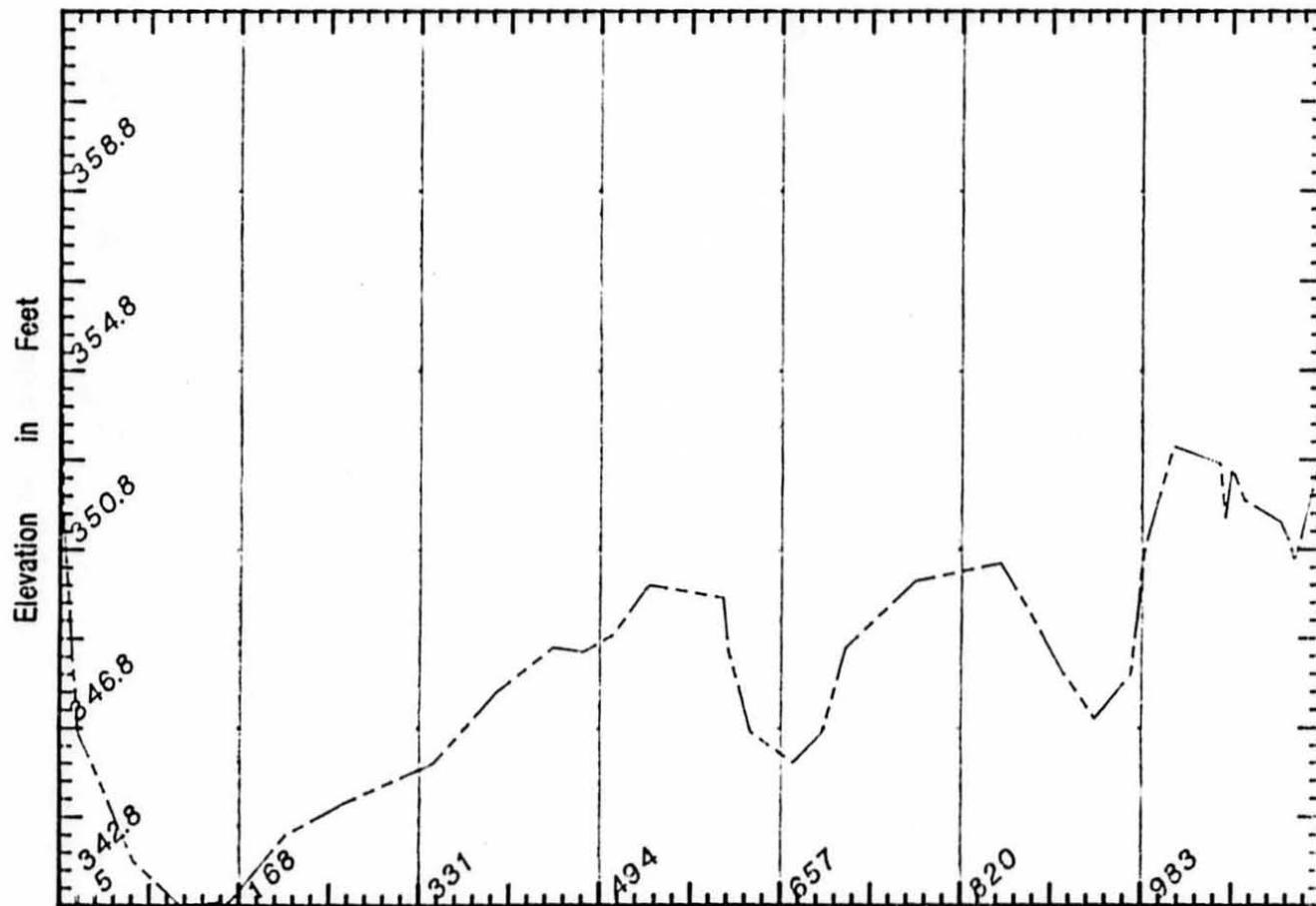


CROSS-SECTION Number 3.3

PREPARED FOR:



# SUSITNA HYDROGRAPHIC SURVEYS



PREPARED BY:

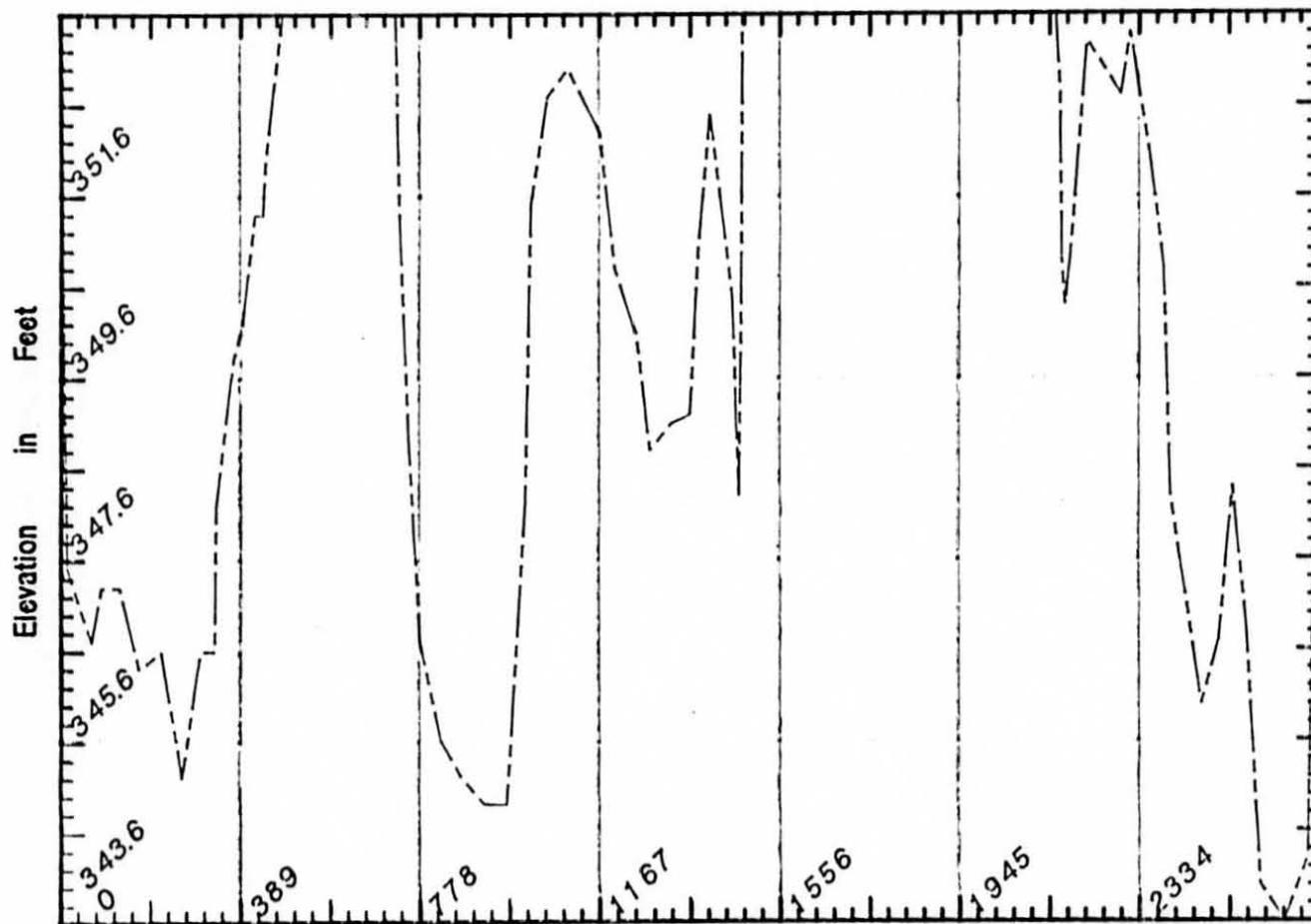


CROSS-SECTION Number 3.4

PREPARED FOR:



# SUSITNA HYDROGRAPHIC SURVEYS



PREPARED BY:

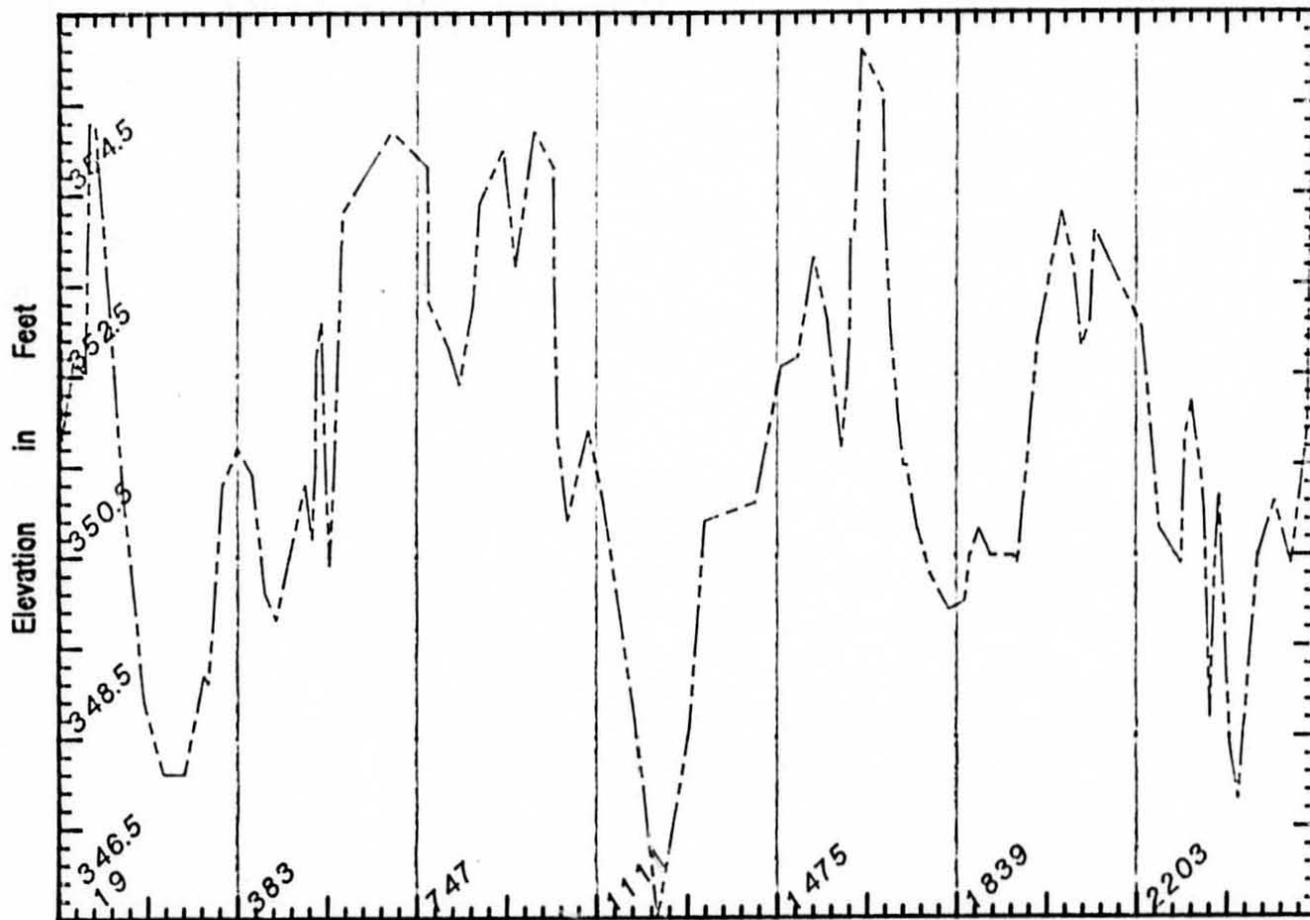


CROSS-SECTION Number 4

PREPARED FOR:



# SUSITNA HYDROGRAPHIC SURVEYS



PREPARED BY:

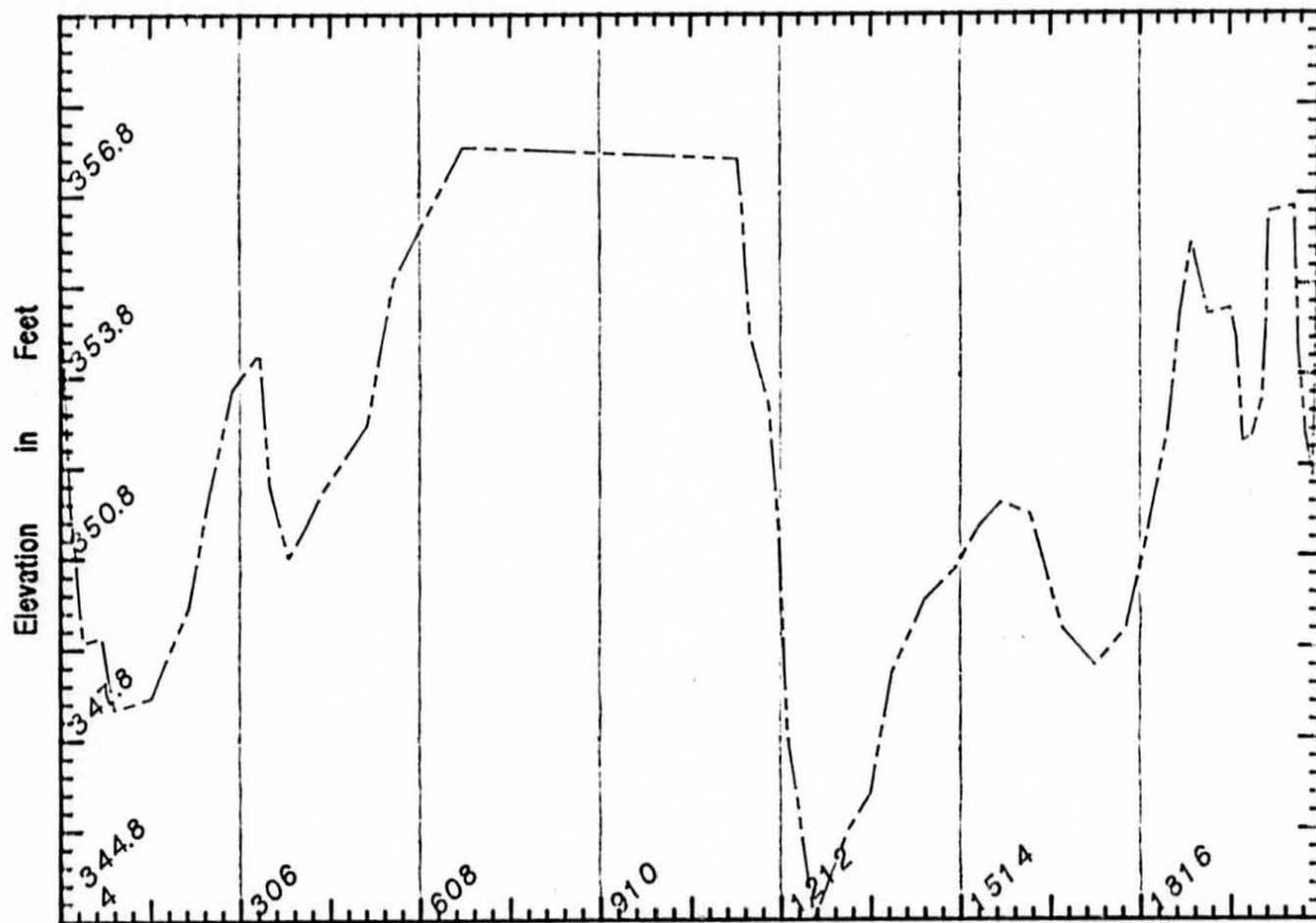


CROSS-SECTION Number 4.1

PREPARED FOR:



# SUSITNA HYDROGRAPHIC SURVEYS



PREPARED BY:

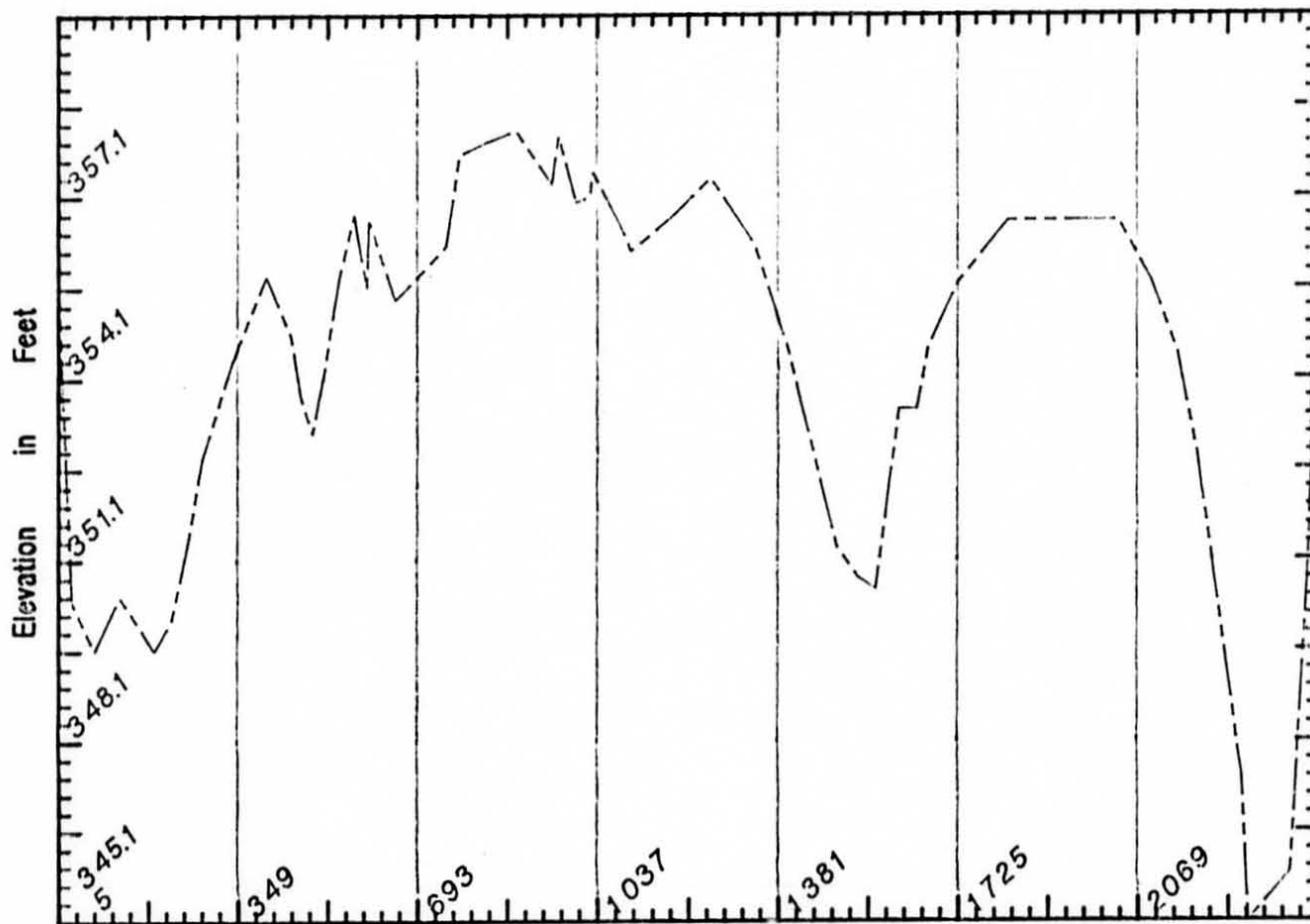


CROSS-SECTION Number 4.2

PREPARED FOR:



# SUSITNA HYDROGRAPHIC SURVEYS



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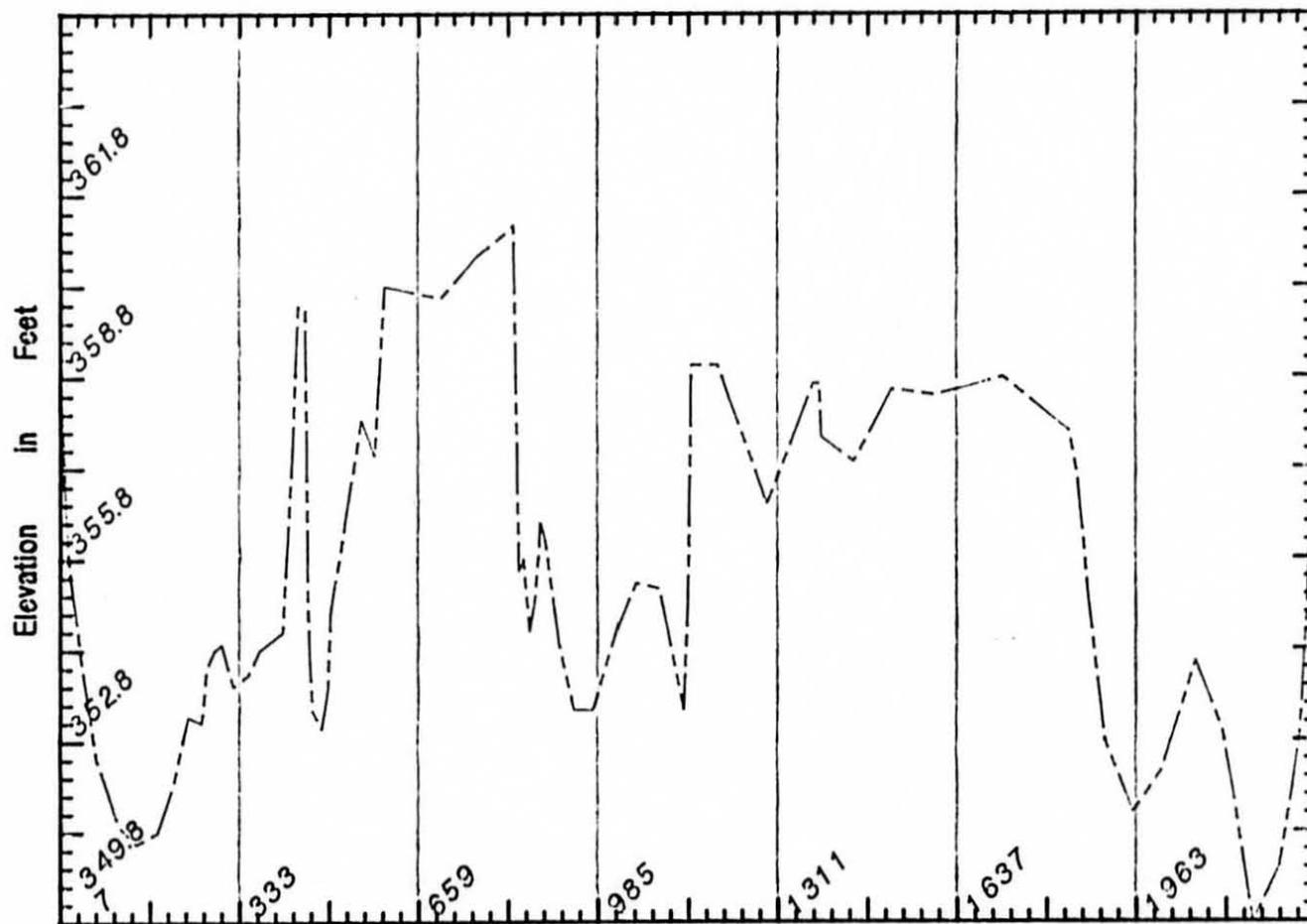


CROSS-SECTION Number 4.3

PREPARED FOR:



# SUSITNA HYDROGRAPHIC SURVEYS



C-24

PREPARED BY:

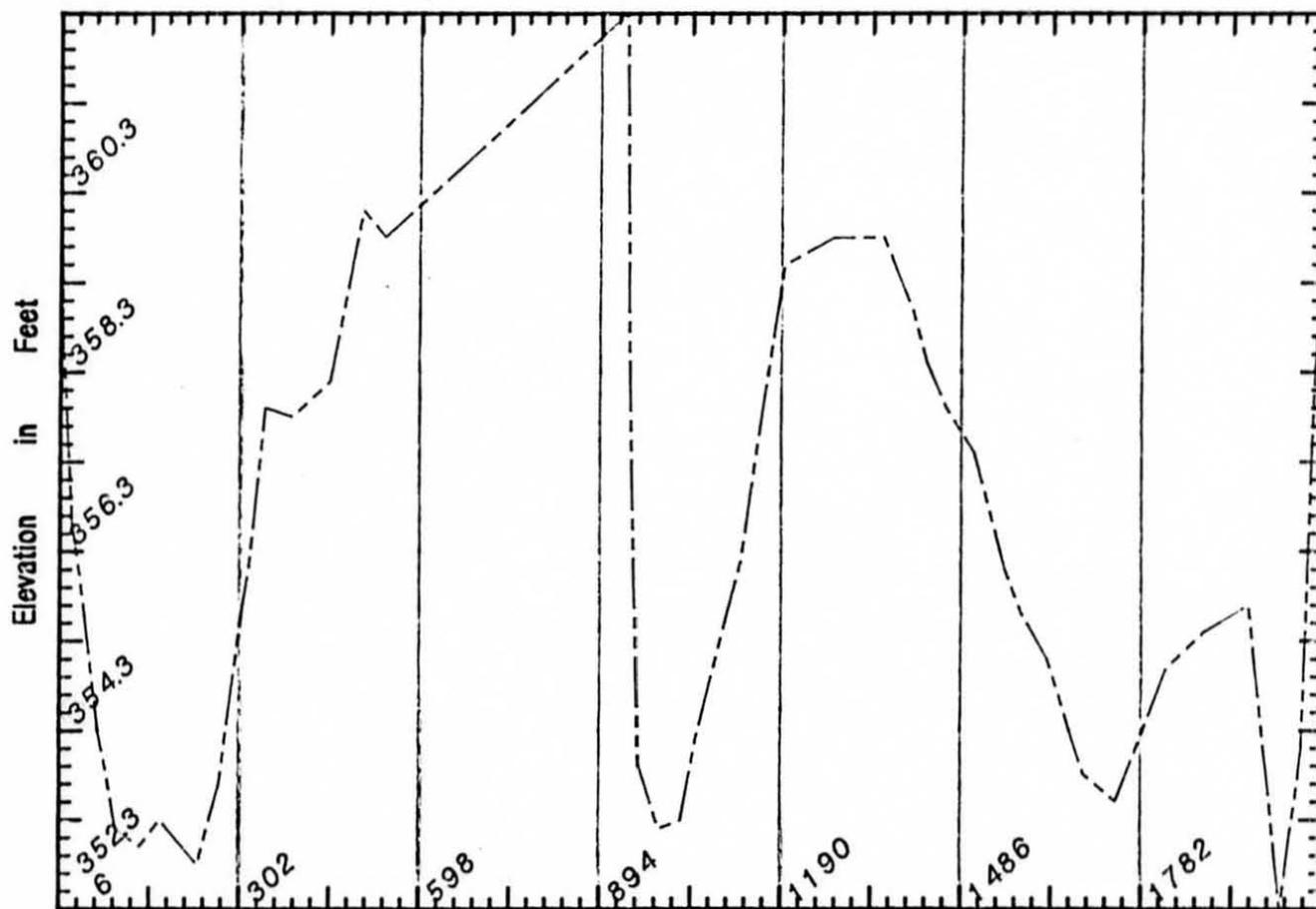


CROSS-SECTION Number 4.4

PREPARED FOR:



# SUSITNA HYDROGRAPHIC SURVEYS



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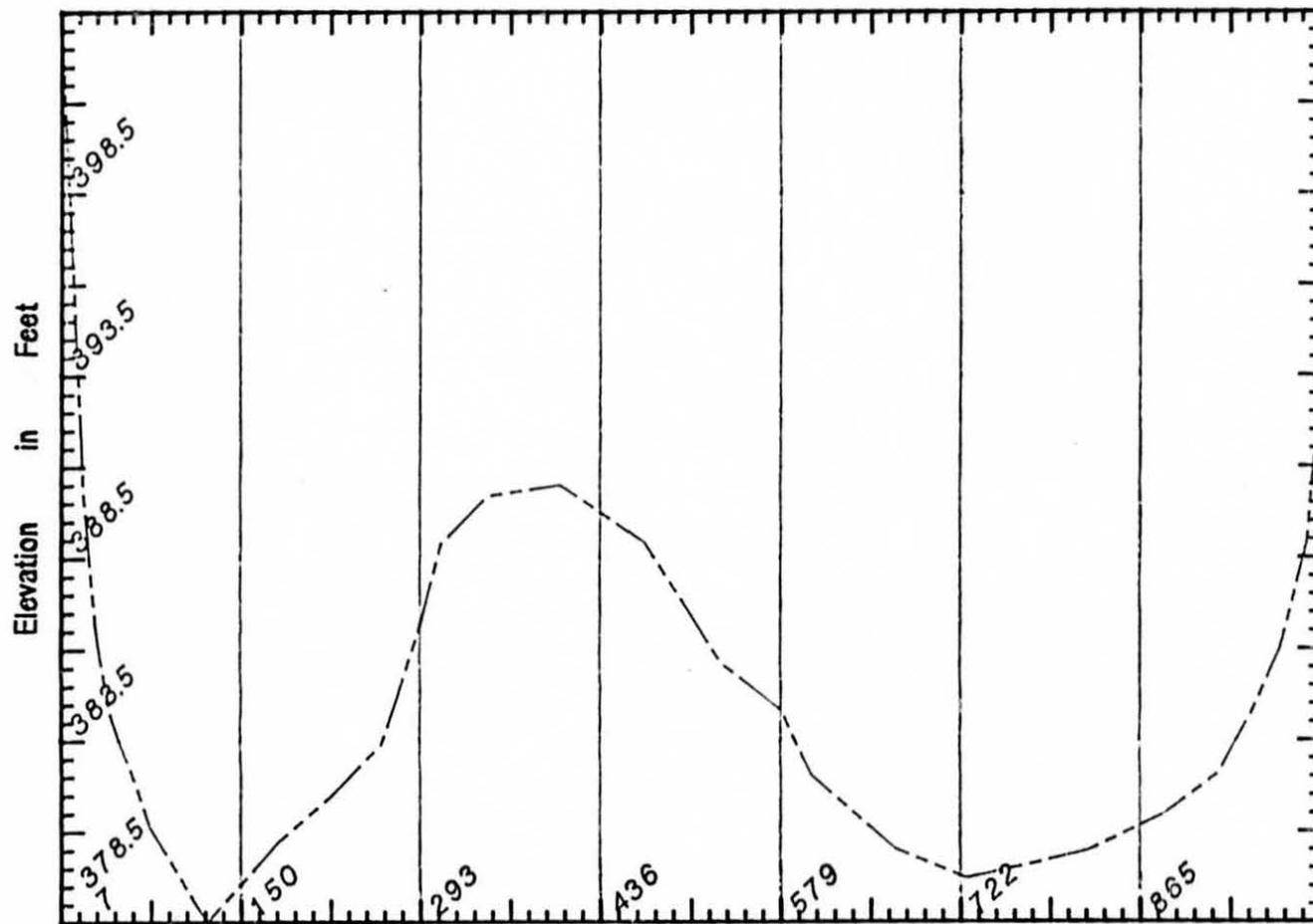


CROSS-SECTION Number 5

PREPARED FOR:



# SUSITNA HYDROGRAPHIC SURVEYS



C-26

PREPARED BY:

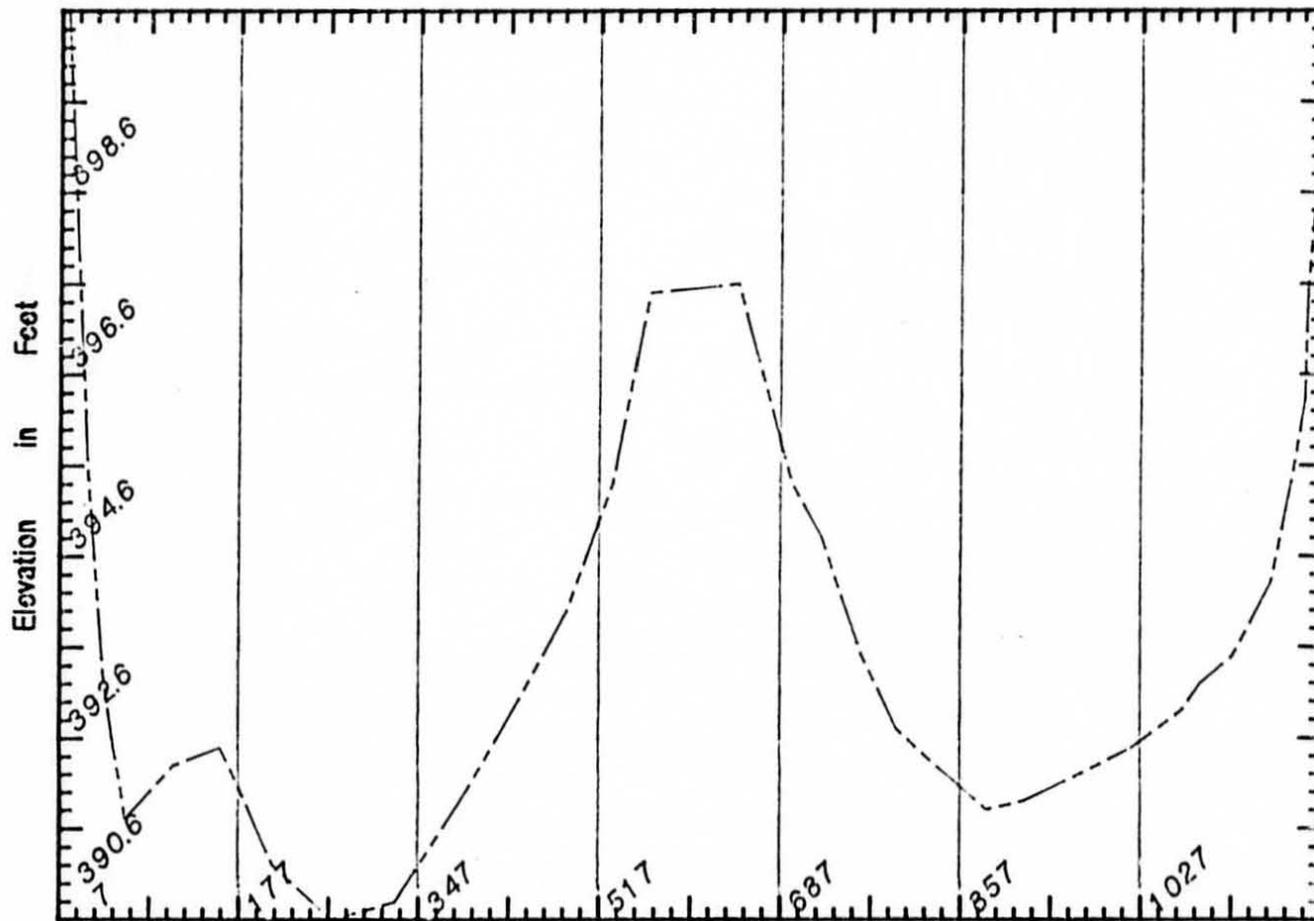


CROSS-SECTION Number 9.1

PREPARED FOR:



# SUSITNA HYDROGRAPHIC SURVEYS



PREPARED BY:

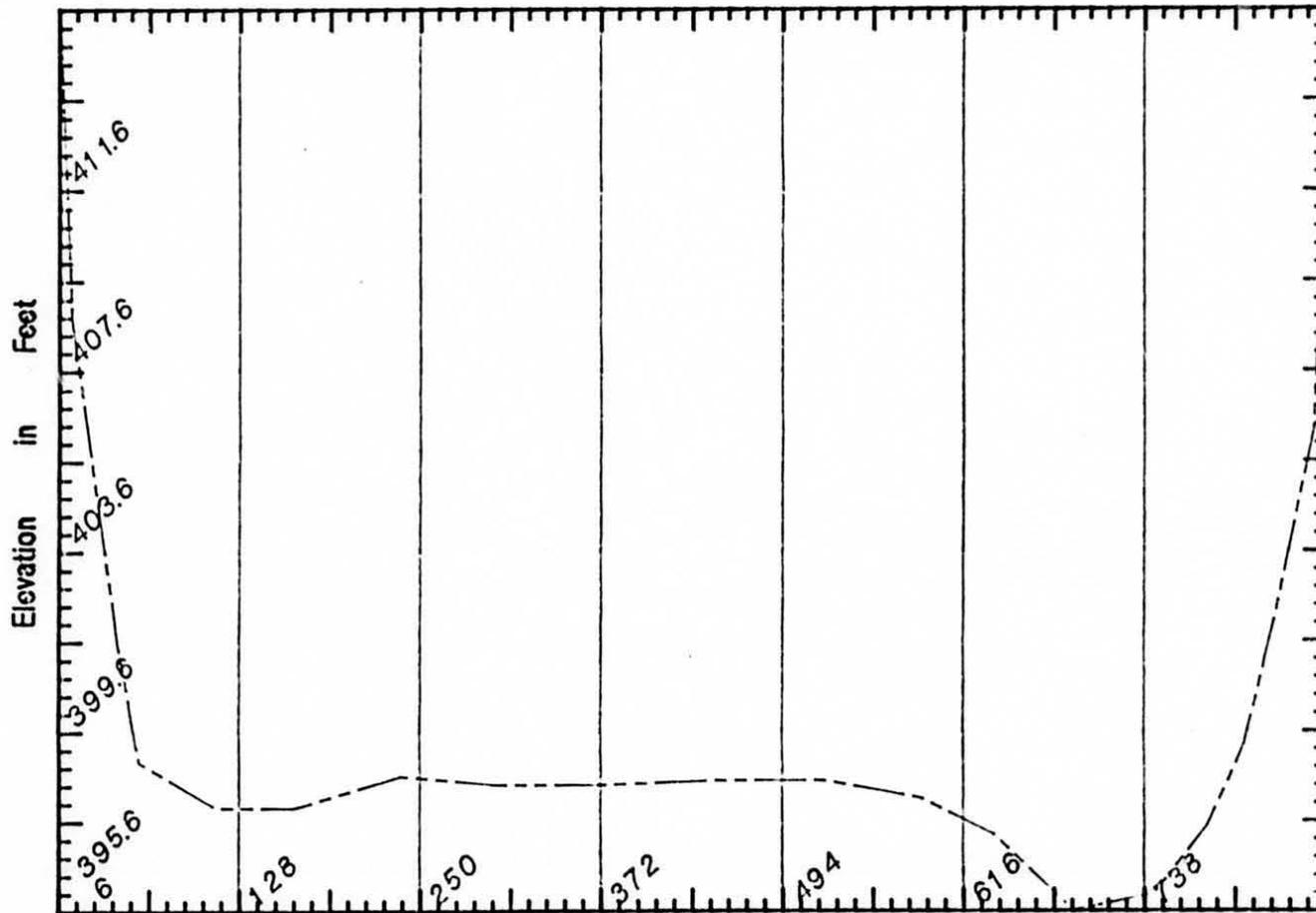


CROSS-SECTION Number 1 0.1

PREPARED FOR:



# SUSITNA HYDROELECTRIC PROJECT



PREPARED BY:

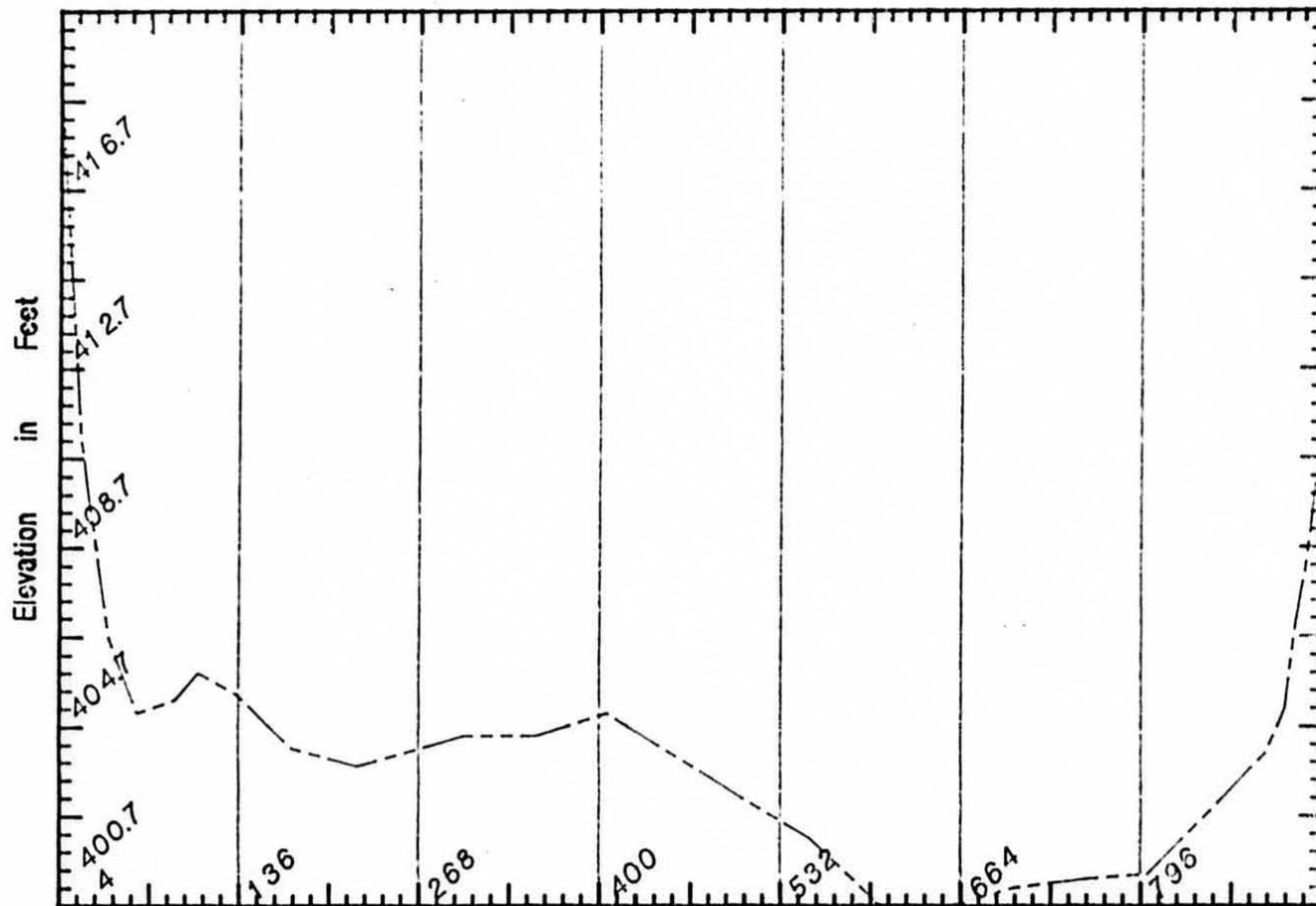


CROSS-SECTION Number 10.2

PREPARED FOR:



# SUSITNA HYDROELECTRIC PROJECT



PREPARED BY:



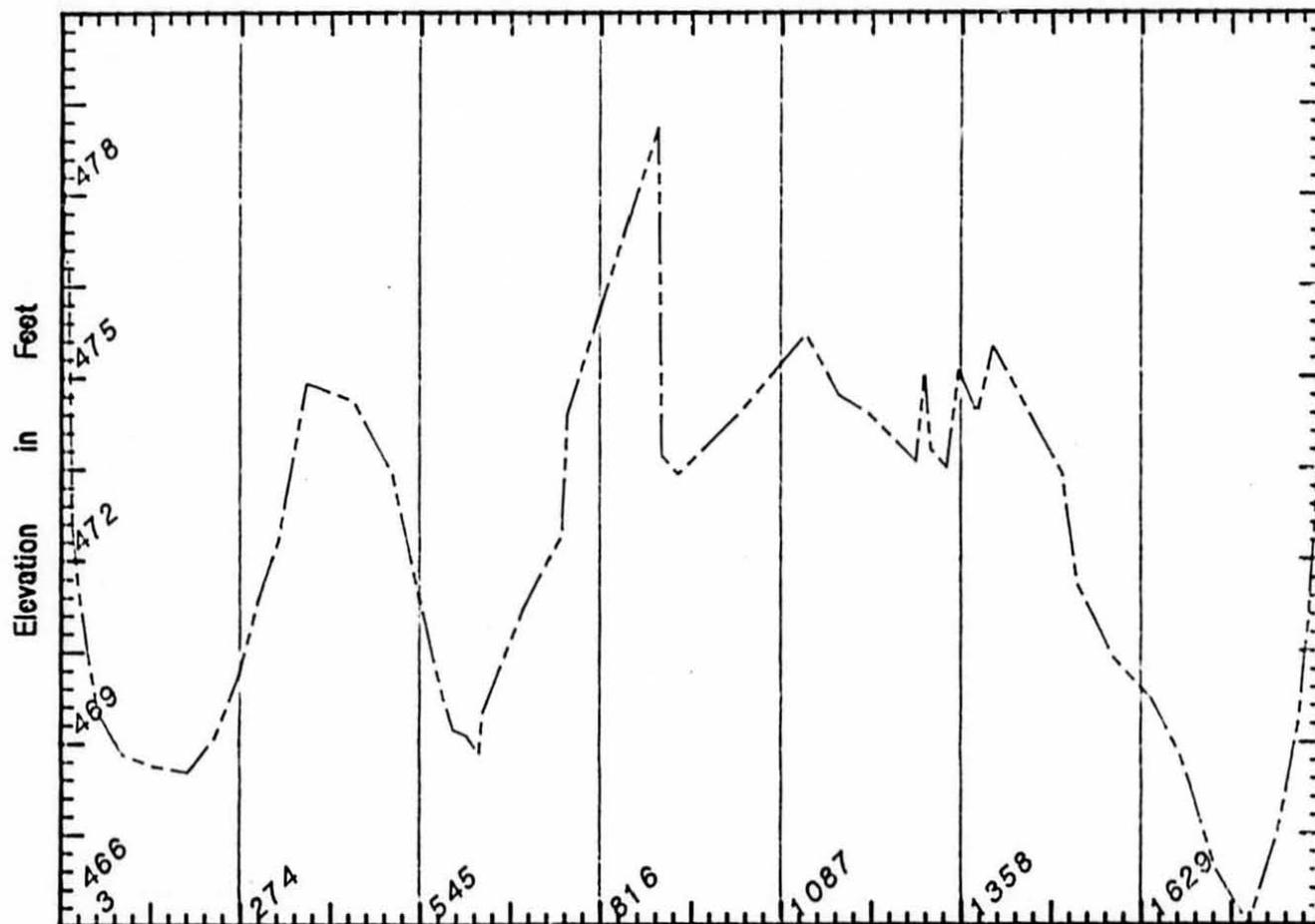
CROSS-SECTION Number 1 0.3

PREPARED FOR:



C-20

# SUSITNA HYDROELECTRIC PROJECT



PREPARED BY:

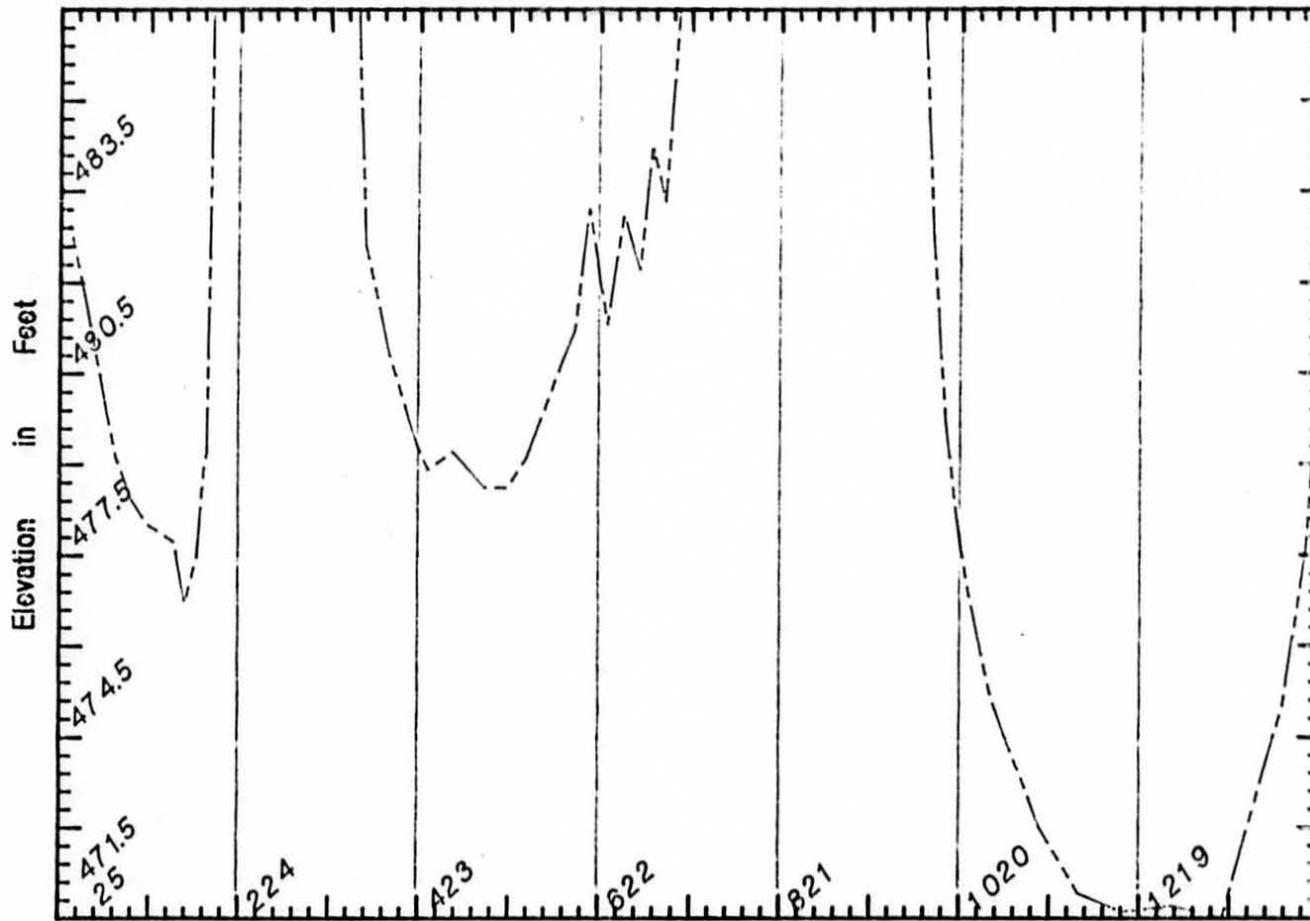


CROSS-SECTION Number 18.1

PREPARED FOR:



# SUSITNA HYDROELECTRIC PROJECT



PREPARED BY:

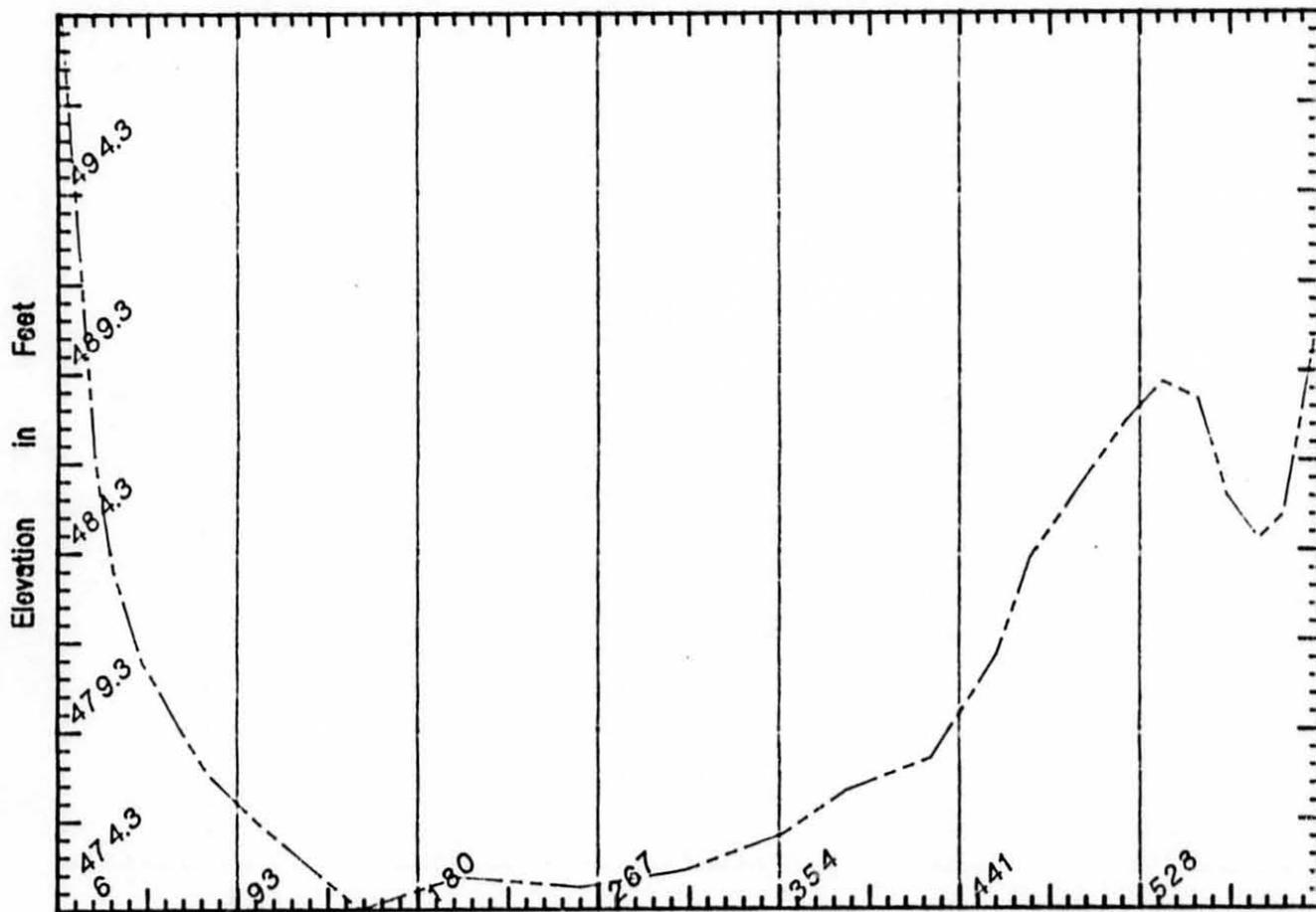


CROSS-SECTION Number 18.2

PREPARED FOR:



# SUSITNA HYDROGRAPHIC SURVEYS



C-32

PREPARED BY:

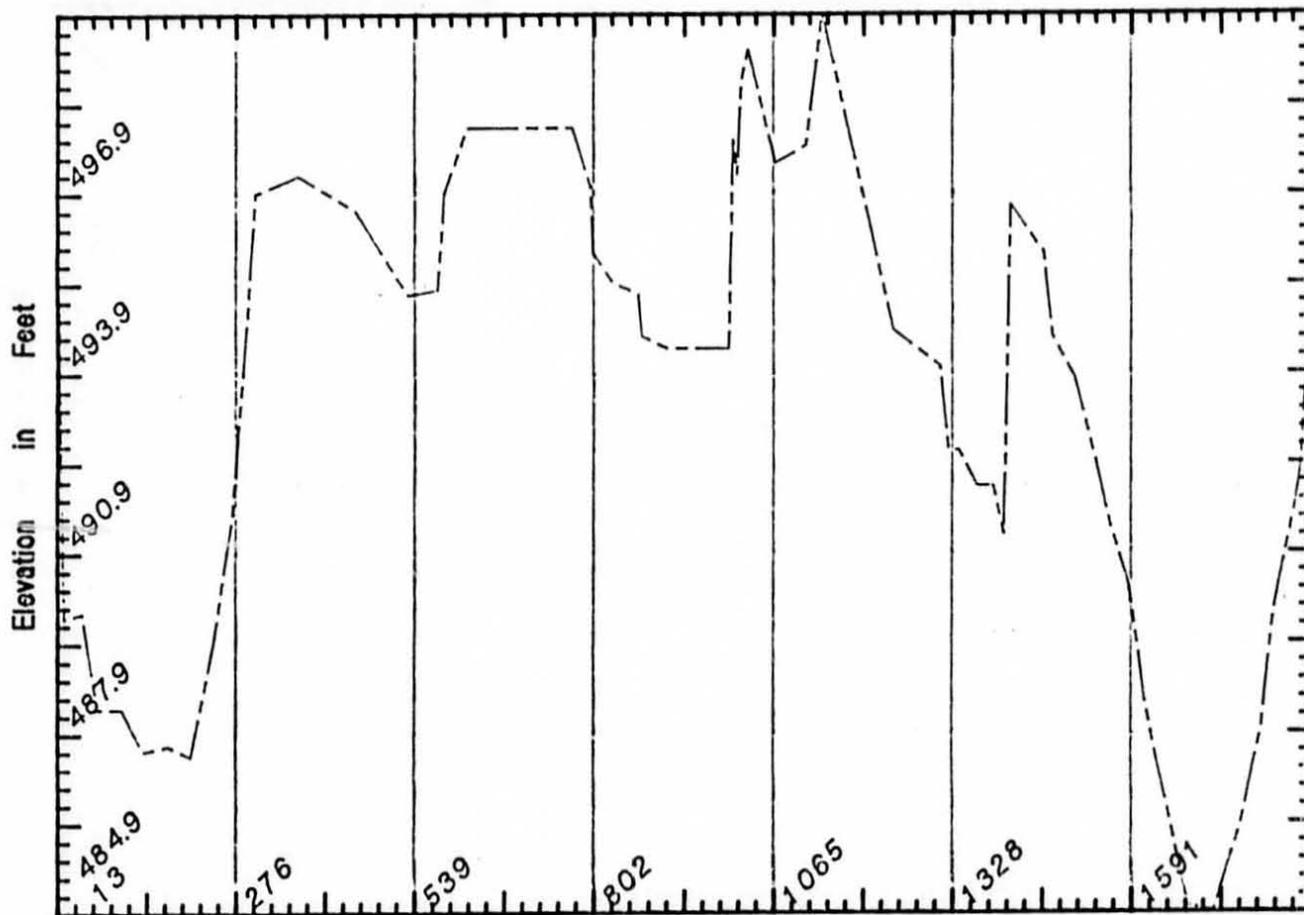


CROSS-SECTION Number 18.3

PREPARED FOR:



# SUSITNA HYDROGRAPHIC SURVEYS



PREPARED BY:

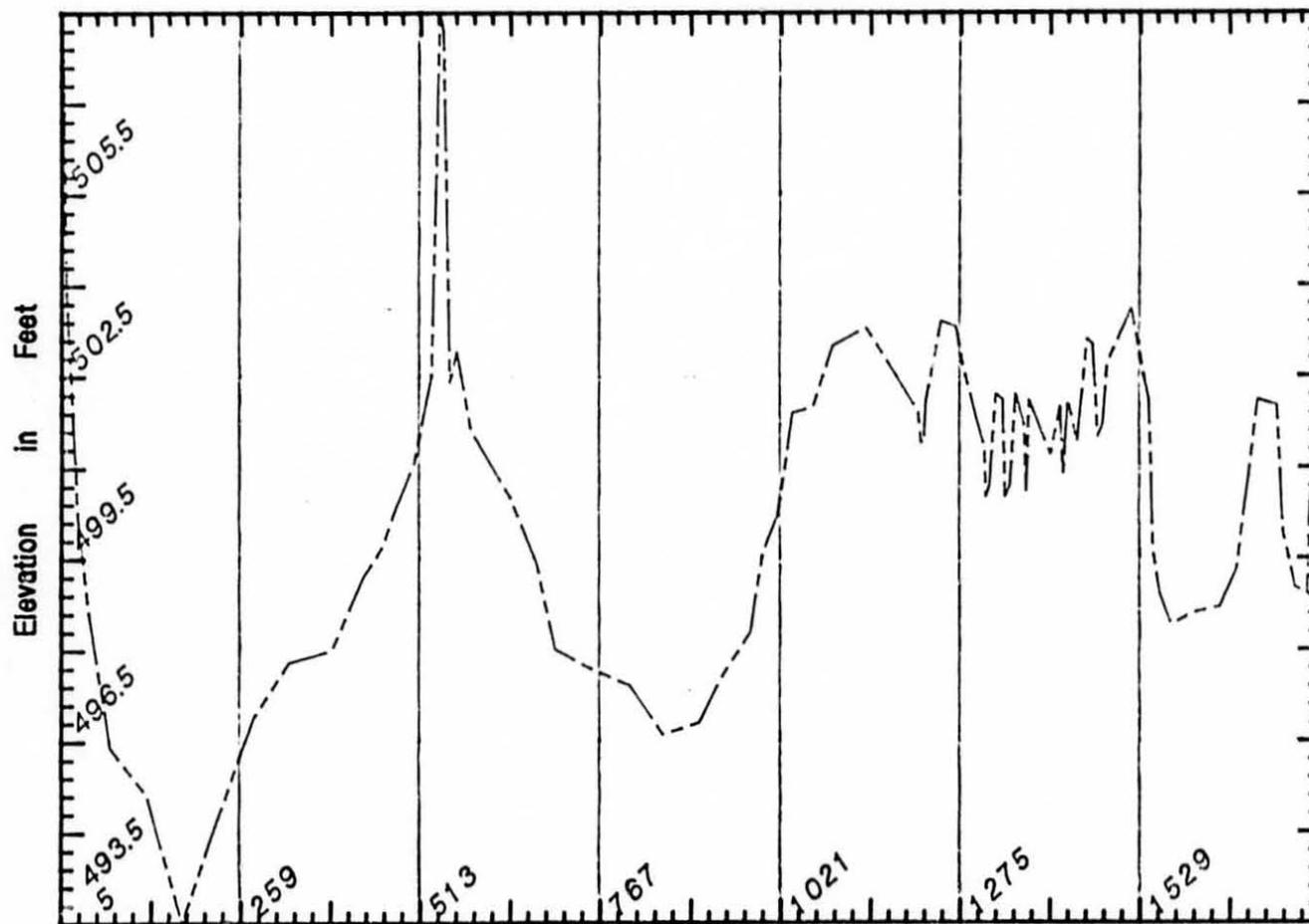


CROSS-SECTION Number 19.1

PREPARED FOR:



# SUSITNA HYDROGRAPHIC SURVEYS



C-34

PREPARED BY:

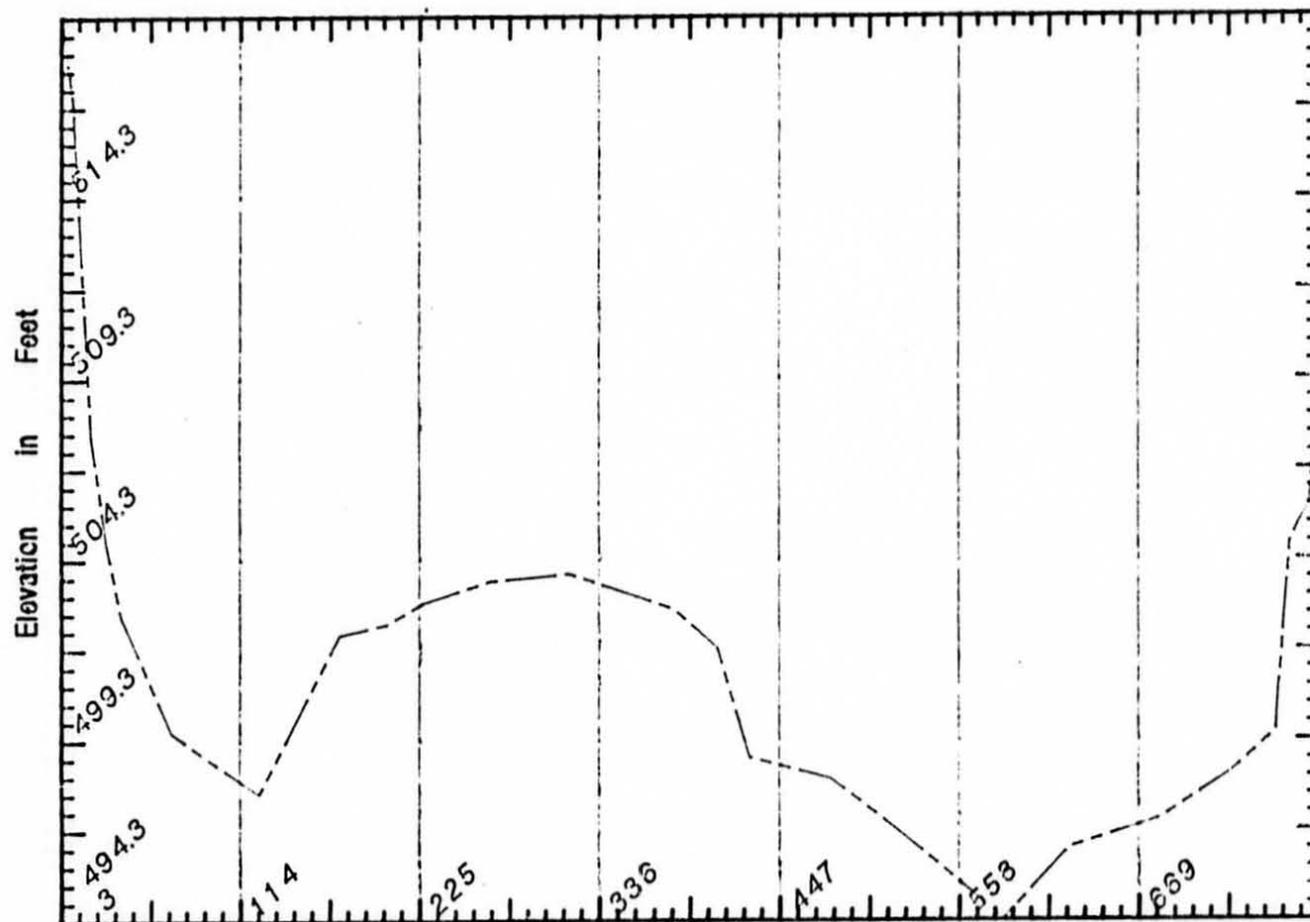


CROSS-SECTION Number 20.1

PREPARED FOR:



# SUSITNA HYDROGRAPHIC SURVEYS



PREPARED BY:

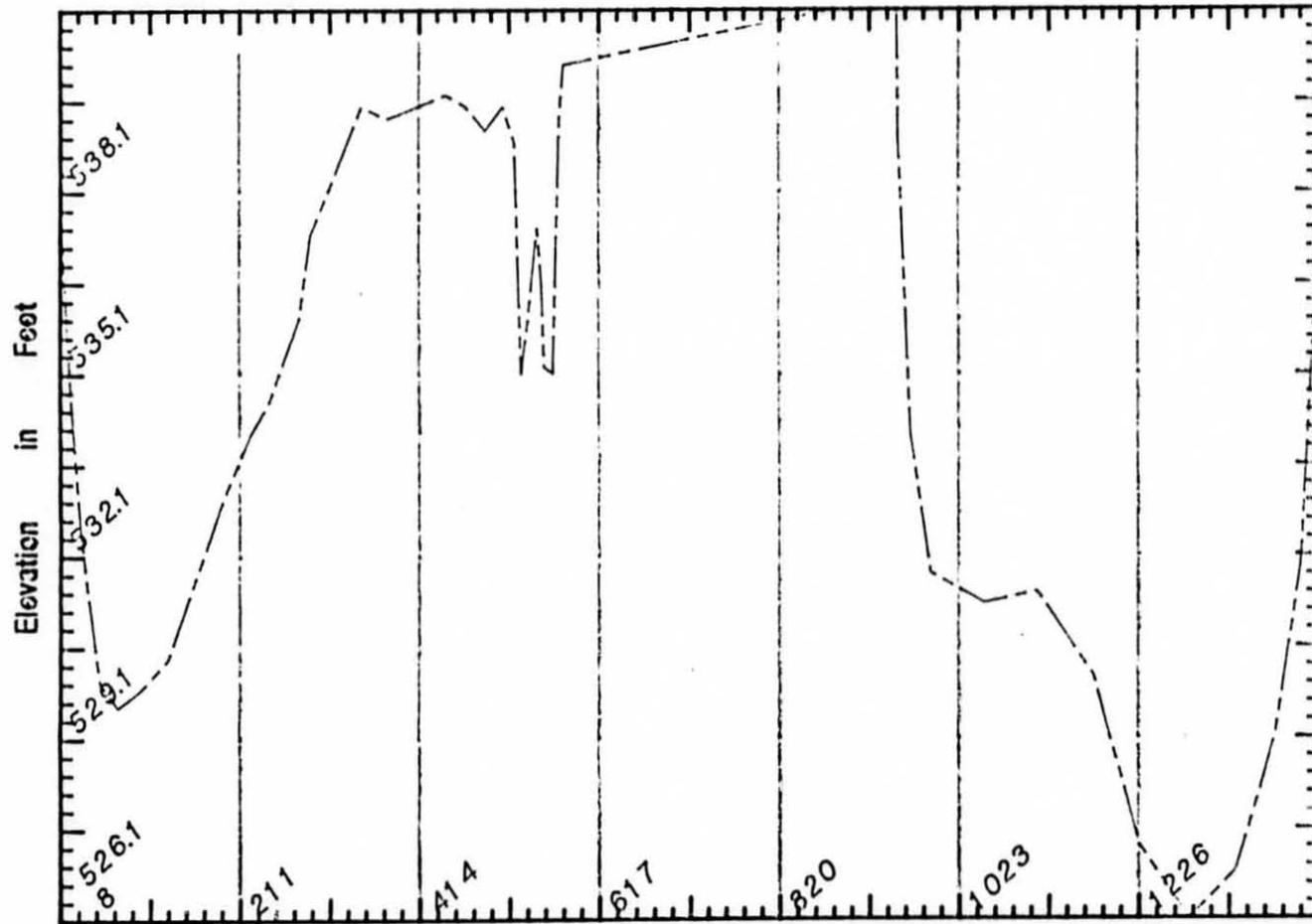


CROSS-SECTION Number 20.2

PREPARED FOR:



# SUSITNA HYDROGRAPHIC SURVEYS



PREPARED BY:

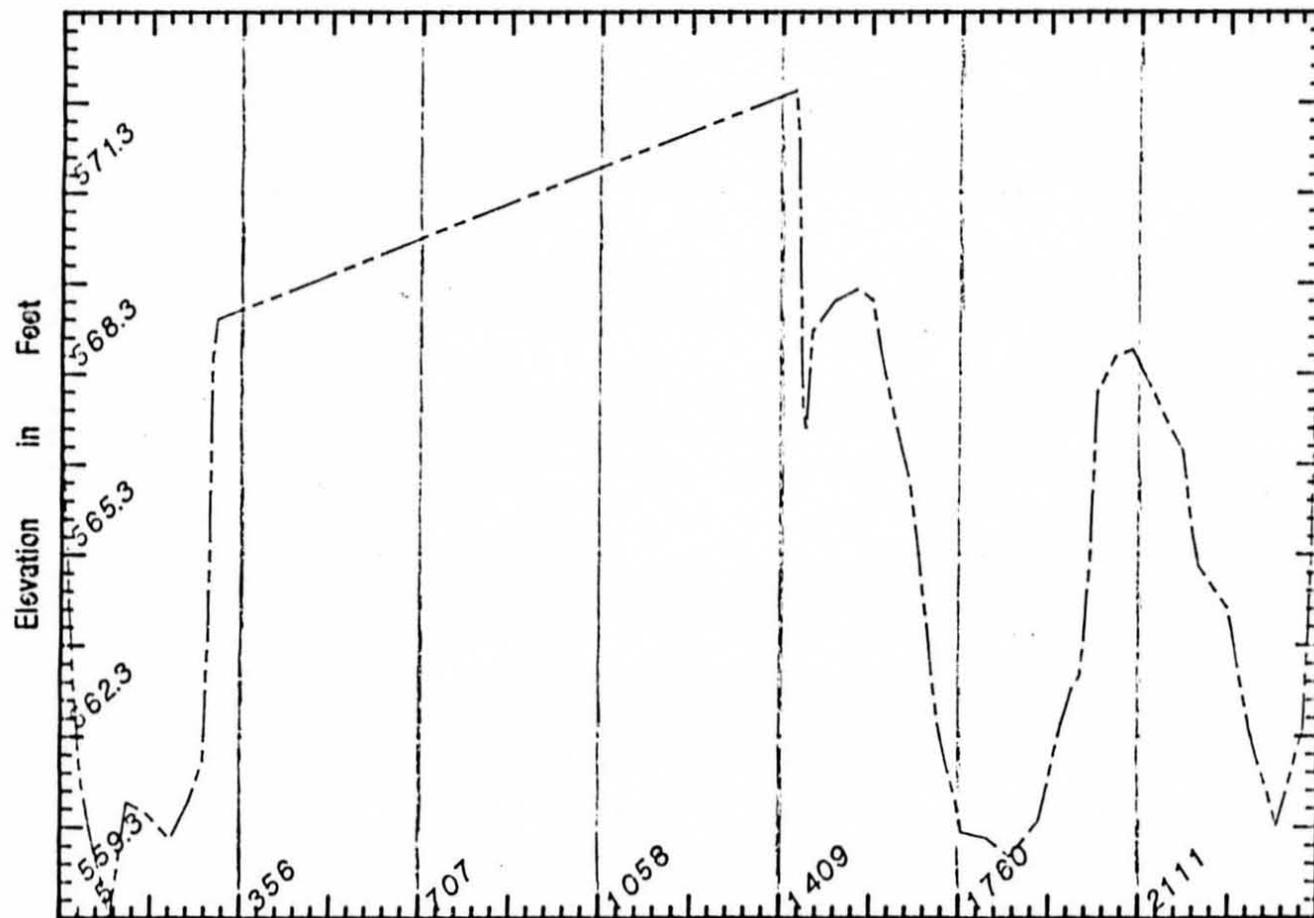


CROSS-SECTION Number 25.1

PREPARED FOR:



# SUSITNA HYDROGRAPHIC SURVEYS



PREPARED BY:



CROSS-SECTION Number 28.1

PREPARED FOR:



## DATA FILE FOR ICESIM

SUSITNA HYDROELECTRIC PROJECT										
SUBTASK 3.06 HYDRAULIC AND ICE STUDIES										
SUSITNA RIVER-LOWER REACH (DEVIL CANYON TO TALKEETNA)										
T1										
T2										
T3										
X1	0.3	90	02	4726	00	00	00	00	00	00
GR	321.8	2	318.8	7	317.3	15	315.0	23	310.5	43
GR	306.1	93	304.0	142	305.1	190	308.7	245	311.9	294
GR	314.0	345	312.5	395	310.8	435	312.1	472	317.2	492
GR	318.3	498	321.5	506	320.4	588	318.8	590	319.6	599
GR	319.8	660	317.3	719	319.0	802	316.7	875	319.7	1063
GR	318.8	1076	319.5	1198	319.5	1298	320.4	1308	319.4	1376
GR	320.4	1475	319.8	1571	318.8	1607	316.7	1682	320.6	1739
GR	319.9	1790	318.1	1946	320.3	1962	320.9	1991	320.0	2036
GR	313.7	2040	311.7	2045	309.7	2061	308.5	2098	308.1	2138
GR	308.7	2188	309.7	2222	311.4	2246	312.8	2267	313.7	2290
GR	315.3	2310	315.8	2361	313.3	2485	312.8	2503	313.3	2516
GR	319.4	2639	319.5	2731	319.6	2858	317.1	2958	315.4	2971
GR	313.1	2999	313.0	3025	313.4	3066	315.0	3104	313.6	3188
GR	313.6	3205	315.8	3219	314.8	3360	317.2	3451	318.0	3562
GR	318.5	3900	315.5	3910	313.2	3920	311.8	3942	313.8	4029
GR	315.5	4074	317.3	4147	317.5	4280	314.5	4334	312.3	4338
GR	314.3	4410	314.4	4491	315.5	4526	316.2	4541	318.0	4608
GR	313.7	4680	315.3	4687	311.1	4704	313.1	4714	319.5	4720
X1	0.4	100	04	4727	1700	1100	1700	00	00	00
GR	338.2	4	330.8	16	319.3	30	312.3	77	314.1	120
GR	313.0	175	312.8	225	313.4	277	313.0	325	312.8	379
GR	312.5	430	311.0	487	311.0	535	313.0	586	313.3	613
GR	315.2	632	319.2	650	322.3	691	321.9	796	320.6	821
GR	319.6	855	319.2	882	318.5	945	317.8	1021	317.3	1088
GR	318.2	1124	318.4	1130	318.4	1148	317.9	1151	315.3	1168
GR	311.8	1201	311.5	1233	315.9	1261	313.9	1301	313.6	1333
GR	316.3	1380	318.3	1417	321.0	1467	321.7	1518	321.5	1585
GR	321.4	1650	322.4	1879	319.3	1910	318.5	1957	321.9	2063
GR	322.1	2215	319.8	2265	321.0	2292	322.0	2356	321.2	2402
GR	319.9	2407	322.4	2488	321.8	2548	320.3	2554	320.2	2570
GR	322.2	2618	321.7	2777	319.1	2857	316.5	2864	310.9	2894
GR	311.2	2927	313.2	2958	315.3	2992	316.5	3015	317.4	3029
GR	320.7	3144	319.4	3252	318.0	3285	317.9	3363	316.5	3378
GR	321.8	3398	321.7	3433	325.0	3503	321.3	3626	315.0	3641
GR	313.5	3650	315.1	3665	315.9	3703	318.4	3831	317.8	3956
GR	316.5	3983	314.7	4030	313.5	4084	312.8	4116	312.4	4146
GR	312.5	4180	312.7	4211	316.5	4221	320.5	4271	320.3	4365
GR	318.0	4402	317.3	4537	315.4	4552	312.4	4562	310.9	4668
GR	312.9	4673	315.5	4674	316.5	4699	320.1	4720	323.0	4720
X1	0.5	100	03	5241	1900	1200	1920	00	00	00
GR	331.5	3	320.1	17	304.5	48	304.1	95	304.1	134
GR	307.8	187	311.1	248	312.0	290	310.9	326	309.9	372
GR	312.8	412	317.1	428	320.3	440	325.3	452	325.7	481
GR	325.2	728	324.5	732	321.8	734	320.1	743	323.1	753
GR	322.7	812	324.8	879	323.4	977	324.3	1078	322.0	1186
GR	325.1	1201	321.5	1225	323.7	1387	323.5	1615	320.0	1782
GR	318.3	1813	316.8	1840	318.5	1872	318.8	1879	325.3	1895
GR	325.3	1984	324.2	2058	324.8	2177	324.6	2240	323.1	2245
GR	323.3	2301	321.4	2305	323.8	2342	323.4	2355	320.1	2391
GR	325.2	2447	324.7	2531	325.0	2641	324.9	2660	321.3	2663
GR	320.1	2667	321.7	2696	317.5	2751	317.2	2783	314.4	2808
GR	316.4	2864	317.4	2905	321.6	2975	322.9	3101	323.3	3137
GR	322.6	3153	321.5	3178	318.0	3191	315.0	3199	313.5	3208
GR	311.3	3232	313.0	3260	315.1	3288	316.2	3310	318.0	3331
GR	318.3	3345	319.0	3436	320.4	3484	319.3	3529	318.2	3563

GR 317.1	3606	317.9	3648	318.2	3694	321.3	3816	323.0	3925
GR 322.3	3952	323.4	4075	322.3	4230	320.7	4392	321.1	4622
GR 321.8	4665	320.8	4764	319.8	4767	320.4	4871	319.8	4934
GR 319.5	4906	319.4	5116	317.7	5169	315.9	5181	315.3	5199
GR 314.4	5207	314.3	5229	315.9	5332	318.6	5237	323.1	5241
X1 0.6	98	02	6362	2250	3200	2380	00	00	00
GR 328.3	2	323.5	7	321.8	12	322.2	62	322.5	109
GR 323.4	125	326.8	129	327.2	159	326.5	201	323.7	206
GR 320.7	212	316.4	250	313.6	299	315.2	356	316.6	413
GR 318.0	461	318.6	525	321.4	571	324.1	597	326.2	606
GR 323.6	784	322.4	788	320.0	808	322.4	824	328.5	829
GR 328.8	840	326.2	861	324.4	894	329.1	1121	326.9	1185
GR 323.4	1239	324.1	1247	323.3	1251	320.3	1256	319.3	1275
GR 320.6	1305	323.3	1318	324.6	1357	325.4	1436	323.8	1445
GR 323.6	1465	323.0	1482	318.5	1499	314.6	1550	314.0	1605
GR 313.6	1657	315.2	1724	319.3	1785	321.6	1830	323.0	1860
GR 323.4	1900	323.8	1981	323.4	1982	321.4	2002	323.4	2025
GR 328.6	2139	328.2	2154	323.2	2428	327.6	2635	325.4	2725
GR 327.2	3127	324.7	3214	322.5	3219	319.3	3234	320.3	3274
GR 321.7	3330	322.4	3366	325.3	3486	321.8	3591	321.2	3601
GR 321.9	3609	325.2	3617	327.1	4204	327.4	4228	326.1	4248
GR 323.3	4253	321.9	4259	321.4	4287	323.4	4316	325.2	4358
GR 325.4	4657	327.9	5053	324.2	5230	327.5	5577	324.4	5705
GR 322.4	5745	321.4	5762	321.0	5797	322.5	5806	323.6	5886
GR 325.4	6078	320.8	6246	318.8	6255	313.8	6279	312.8	6301
GR 314.2	6335	320.7	6356	327.8	6362				
X1 0.7	99	05	5578	1700	2200	2050	00	00	00
GR 329.2	5	325.4	14	323.3	20	324.0	44	323.4	69
GR 325.4	71	328.4	76	328.4	81	327.2	85	325.3	86
GR 322.8	89	322.3	92	324.1	100	325.6	111	325.8	115
GR 325.8	118	325.2	125	323.8	147	322.8	159	321.6	199
GR 321.4	284	317.6	353	317.0	404	315.6	459	316.6	504
GR 317.0	525	322.8	548	325.2	552	325.7	593	329.0	815
GR 328.9	951	329.2	1096	325.0	1109	323.0	1116	324.0	1174
GR 324.7	1206	328.3	1300	330.0	1437	328.7	1478	325.5	1494
GR 324.0	1502	322.9	1516	325.2	1538	324.1	1560	325.8	1586
GR 328.5	1619	326.8	1770	325.1	1776	322.7	1809	322.1	1869
GR 322.1	1919	323.1	1963	323.6	1972	319.1	2008	320.7	2063
GR 321.5	2112	323.1	2153	323.9	2167	325.3	2201	329.5	2300
GR 329.6	2452	327.6	2600	327.0	2668	325.6	2691	327.0	2718
GR 328.6	2847	330.0	2872	327.9	3061	329.9	3203	327.7	3275
GR 326.2	3319	326.3	3390	325.2	3440	322.3	3500	320.3	3558
GR 319.7	3612	319.7	3660	322.6	3696	327.8	3725	329.7	3748
GR 330.1	3845	326.9	4136	326.6	4137	325.4	4143	324.8	4209
GR 325.0	4283	326.6	4324	330.4	4396	329.3	4906	325.7	5007
GR 323.4	5054	322.4	5119	321.8	5259	322.1	5279	325.8	5340
GR 328.0	5377	329.0	5416	324.5	5563	333.0	5578		
X1 0.8	100	05	6226	2700	2000	1950	00	00	00
GR 340.4	5	329.7	27	327.7	30	324.8	118	321.1	284
GR 324.3	416	329.5	490	331.7	530	330.9	681	328.6	721
GR 325.9	744	326.7	780	328.7	799	332.2	878	329.6	1087
GR 327.7	1110	327.0	1136	327.7	1156	330.8	1166	330.7	1454
GR 331.4	1980	329.9	2053	327.8	2092	325.6	2133	324.2	2163
GR 321.9	2213	321.9	2233	324.2	2249	327.9	2259	332.0	2263
GR 330.6	2664	332.4	2724	327.4	2746	324.1	2768	322.6	2787
GR 326.3	2831	326.0	2871	325.1	2895	325.1	2919	324.6	2958
GR 321.3	3049	323.6	3085	327.9	3117	330.4	3138	330.4	3347
GR 328.8	3353	328.1	3361	326.8	3388	326.6	3411	325.4	3422
GR 327.5	3440	328.9	3445	329.4	3448	331.7	3614	329.5	3622
GR 328.1	3642	327.5	3688	326.2	3733	322.7	3830	321.5	3930

GR	321.7	3980	321.7	4030	323.9	4085	326.5	4120	327.7	4167
GR	328.7	4199	329.4	4213	329.9	4228	329.2	4447	328.2	4453
GR	327.3	4473	327.7	4500	327.6	4530	328.3	4577	328.6	4586
GR	327.9	4600	327.2	4634	325.7	4649	326.3	4685	326.4	4740
GR	323.9	4770	324.2	4785	325.1	4797	327.9	4804	328.4	4805
GR	328.0	5022	327.4	5035	325.6	5058	326.6	5074	325.0	5097
GR	327.5	5109	327.9	5110	331.4	5802	330.6	5804	327.8	5816
GR	324.0	5829	325.8	5859	330.6	5878	332.6	6096	334.5	6226
X1	0.9	99	01	4531	2400	1450	2550	00	00	00
GR	338.0	1	332.2	8	331.4	13	331.2	31	329.5	39
GR	329.2	53	329.7	70	332.5	81	332.5	104	330.9	109
GR	331.1	136	328.2	182	329.0	230	328.9	275	330.5	318
GR	332.5	356	332.7	388	333.2	393	333.7	480	332.7	497
GR	330.7	513	325.9	540	325.3	568	325.0	603	325.9	655
GR	328.2	760	329.0	810	329.4	846	329.7	895	330.4	952
GR	330.1	999	329.8	1044	330.7	1113	331.2	1163	333.7	1171
GR	332.4	1208	331.9	1216	330.8	1230	333.6	1300	334.4	1390
GR	333.3	1456	332.8	1532	333.0	1592	332.0	1626	330.8	1655
GR	333.0	1662	332.6	1860	331.0	1988	331.6	2060	333.4	2072
GR	332.3	2156	329.8	2280	329.4	2337	330.1	2417	328.9	2458
GR	327.0	2524	330.3	2605	328.8	2668	329.3	2700	329.9	2750
GR	327.4	2805	331.6	2892	330.3	2915	328.4	3005	329.8	3110
GR	330.2	3131	332.3	3172	333.0	3191	332.1	3257	330.0	3292
GR	332.1	3311	333.8	3684	331.8	3728	330.9	3783	331.8	3797
GR	332.2	3924	332.0	3939	330.6	3971	329.5	3984	329.3	4006
GR	327.7	4063	326.3	4111	324.3	4171	325.3	4209	327.3	4253
GR	327.9	4295	328.9	4340	328.9	4389	330.3	4420	332.6	4438
GR	333.2	4455	332.1	4460	330.3	4468	331.5	4480	329.1	4494
GR	330.7	4505	332.1	4509	333.7	4510	336.2	4531		
X1	1	100	03	3851	1380	1300	2180	00	00	00
GR	336.3	3	333.7	11	332.7	24	331.7	30	333.7	39
GR	334.7	43	335.3	63	336.2	86	336.5	150	336.9	195
GR	336.0	229	334.5	255	333.8	295	332.6	324	332.4	330
GR	333.8	359	335.8	385	333.9	400	332.0	425	330.9	453
GR	330.6	472	330.7	489	330.2	504	329.8	524	329.1	547
GR	323.9	560	328.0	582	321.9	598	320.4	630	323.8	707
GR	327.0	867	329.8	910	332.5	933	334.0	972	334.5	1029
GR	334.1	1070	333.0	1150	333.7	1288	333.3	1368	332.9	1457
GR	332.0	1505	332.4	1545	332.1	1611	332.7	1618	332.7	1648
GR	326.3	1668	327.2	1696	326.9	1728	326.1	1768	327.4	1810
GR	333.8	1829	336.5	2288	333.8	2298	332.6	2314	333.8	2340
GR	333.6	2376	334.6	2416	334.3	2472	332.9	2503	332.8	2520
GR	334.3	2541	336.1	2562	334.4	2602	331.0	2614	330.2	2622
GR	334.2	2634	334.3	2643	335.3	2645	335.3	2656	334.4	2657
GR	332.4	2677	334.9	2693	334.3	2696	330.3	2711	332.1	2714
GR	334.1	2748	324.5	2776	328.3	2829	330.3	2902	329.1	2974
GR	331.6	3031	332.1	3174	332.6	3226	331.1	3254	332.7	3304
GR	333.8	3371	333.8	3425	334.4	3438	334.4	3493	333.9	3529
GR	333.8	3597	332.9	3624	330.3	3665	330.3	3704	330.2	3751
GR	323.8	3785	320.1	3817	322.3	3828	330.4	3845	337.9	3851
X1	1.1	92	03	4132	1620	1110	1540	00	00	00
GR	339.6	3	335.6	10	334.9	23	333.1	28	330.0	38
GR	331.2	69	332.2	114	330.1	164	331.5	214	330.8	189
GR	326.9	239	333.9	277	334.1	314	334.8	316	335.8	317
GR	336.9	389	335.4	472	334.7	481	333.5	503	333.6	529
GR	332.8	551	334.8	571	335.0	581	334.7	589	333.9	617
GR	332.6	647	331.5	664	329.3	674	327.4	689	327.8	700
GR	325.9	712	326.7	743	325.4	767	325.5	797	326.3	824
GR	327.6	865	328.8	886	330.5	923	332.5	951	332.0	966
GR	333.5	1018	335.2	1082	338.1	1146	336.8	1666	335.6	1785

GR 334.8	1790	332.4	1802	333.6	1815	334.2	1839	335.3	1854
GR 337.7	1894	339.3	2195	335.0	2205	338.6	2425	336.1	2724
GR 338.1	2970	336.2	2975	335.4	2980	335.0	2985	335.6	2993
GR 335.8	3000	334.6	3008	332.4	3028	331.4	3056	331.8	3086
GR 332.6	3136	332.4	3186	332.4	3232	332.6	3271	332.0	3305
GR 331.4	3346	331.8	3386	331.0	3432	330.8	3491	330.6	3541
GR 330.2	3599	329.8	3664	331.0	3704	333.0	3729	337.1	3756
GR 337.8	3793	337.5	3885	336.0	3939	335.4	3974	334.1	3990
GR 330.7	4003	330.1	4028	331.1	4049	331.0	4070	334.1	4097
GR 335.9	4120	339.6	4132						
X1 1.2	96	12	4249	2150	1380	1590	00	00	00
GR 342.2	12	340.6	16	338.6	25	335.6	40	334.3	43
GR 331.3	69	332.1	106	331.6	145	331.4	180	333.2	222
GR 334.3	265	334.6	287	335.2	314	335.6	336	336.8	359
GR 337.9	384	338.3	398	338.4	410	339.8	423	339.8	671
GR 336.5	817	334.7	850	335.7	875	336.6	901	336.6	956
GR 335.7	983	335.5	1015	336.6	1044	338.8	1130	338.0	1594
GR 338.2	1673	338.8	1722	338.4	1786	337.4	1802	335.7	1816
GR 335.1	1825	333.6	1856	333.9	1876	335.0	1898	335.3	1927
GR 335.0	1962	333.4	2005	332.6	2049	332.9	2082	333.6	2118
GR 334.2	2149	334.5	2192	335.1	2227	335.4	2260	335.4	2297
GR 335.8	2322	335.9	2333	336.0	2360	336.4	2397	338.4	2425
GR 339.5	2457	339.9	2622	339.9	2635	338.2	2646	337.8	2657
GR 336.9	2692	336.9	2727	340.4	2811	337.0	2890	339.2	2917
GR 338.7	2937	337.8	3061	340.2	3359	339.9	3392	337.8	3395
GR 335.0	3400	331.0	3426	332.3	3445	334.8	3472	333.4	3559
GR 334.1	3603	334.0	3641	333.0	3713	331.7	3749	330.3	3789
GR 327.5	3829	325.2	3859	325.0	3899	327.8	3934	330.8	3959
GR 334.3	3989	338.0	4001	339.8	4011	339.7	4077	337.4	4159
GR 336.3	4179	336.1	4196	336.4	4210	336.1	4227	335.8	4238
GR 341.4	4249								
X1 2	73	03	2762	1460	1080	1680	00	00	00
GR 343.7	3	340.3	10	335.8	18	332.7	43	335.3	90
GR 337.3	130	337.9	177	337.9	230	337.7	255	337.6	324
GR 336.6	397	335.5	456	335.7	500	337.3	530	340.9	559
GR 343.2	570	342.0	627	340.0	649	337.2	658	337.4	665
GR 340.0	671	341.1	673	342.2	703	343.4	772	343.1	792
GR 341.3	793	340.9	806	342.5	814	342.2	831	341.1	832
GR 338.9	837	337.4	879	337.6	917	337.7	952	337.8	987
GR 337.8	1022	337.8	1067	337.6	1122	337.6	1172	337.7	1227
GR 338.0	1272	337.5	1317	338.8	1357	340.6	1396	341.4	1419
GR 340.7	1494	340.9	1588	342.1	1724	339.8	1830	338.3	1867
GR 337.1	1890	335.5	1932	331.1	1972	329.3	2022	329.1	2069
GR 327.9	2130	328.1	2180	330.8	2281	334.4	2324	335.9	2382
GR 337.6	2429	338.5	2467	338.6	2502	336.5	2521	335.6	2561
GR 337.3	2581	338.3	2631	335.3	2661	334.6	2711	334.8	2731
GR 336.1	2750	338.1	2756	342.8	2762				
X1 2.1	100	10	3399	540	1675	515	00	00	00
GR 340.4	10	337.8	14	333.2	17	331.4	46	333.4	68
GR 334.7	105	334.6	145	333.9	195	333.6	245	333.4	295
GR 333.8	345	333.6	395	333.8	435	335.3	466	336.3	481
GR 341.2	496	342.2	508	341.8	563	343.1	605	341.4	641
GR 339.8	668	339.2	700	338.0	745	337.2	785	336.6	835
GR 336.2	885	336.2	930	336.4	985	336.4	1035	336.6	1095
GR 337.4	1135	337.8	1180	334.2	1235	334.2	1280	337.4	1310
GR 338.8	1353	340.7	1376	343.4	1383	342.9	1402	342.3	1472
GR 342.5	1544	341.5	1580	340.7	1623	339.9	1652	338.4	1673
GR 336.5	1712	335.2	1735	338.1	1750	341.4	1756	341.8	1757
GR 342.1	1858	342.0	2032	341.8	2040	340.7	2101	339.9	2134
GR 339.8	2170	340.4	2201	340.5	2227	341.7	2239	341.7	2247

GR 341.6	2251	341.1	2261	341.6	2276	341.7	2313	337.3	2349
GR 336.4	2392	335.7	2441	333.2	2469	331.4	2512	330.7	2557
GR 329.9	2602	331.6	2652	332.2	2707	331.7	2752	332.7	2797
GR 333.4	2827	334.2	2847	334.2	2850	335.1	2887	341.8	2916
GR 343.2	2943	343.5	2963	341.4	2968	340.0	2989	341.3	3009
GR 342.1	3035	342.0	3051	341.6	3075	342.1	3092	344.0	3148
GR 341.8	3197	343.5	3258	344.4	3319	342.0	3352	339.7	3359
GR 338.5	3374	338.5	3390	341.9	3395	345.4	3399	345.6	3403
X1 2.2	95	04	3149	835	680	1055	00	00	00
GR 345.1	4	341.7	7	337.8	13	333.2	49	330.1	90
GR 328.9	134	331.3	182	330.0	237	328.1	288	327.2	348
GR 328.3	333	332.7	373	337.0	393	341.0	413	341.8	461
GR 342.7	496	343.4	552	343.5	573	343.3	645	342.6	687
GR 342.1	698	342.7	721	342.2	754	342.3	779	343.0	805
GR 345.5	850	345.2	926	344.1	930	343.6	975	341.6	1014
GR 340.6	1027	341.8	1053	341.9	1096	343.0	1104	343.5	1162
GR 344.5	1257	343.4	1345	344.3	1368	344.2	1459	343.8	1498
GR 342.9	1544	344.0	1573	344.9	1637	343.7	1722	341.5	1751
GR 343.2	1798	341.7	1828	341.4	1857	341.2	1879	341.7	1897
GR 343.5	1912	343.5	1950	342.9	1976	343.5	1984	344.6	1986
GR 343.9	2016	343.5	2038	341.4	2088	340.3	2111	339.7	2131
GR 339.7	2143	342.8	2150	341.6	2178	342.1	2204	343.5	2236
GR 345.9	2241	346.0	2331	345.3	2391	343.7	2394	342.7	2406
GR 343.9	2434	343.9	2447	343.7	2459	343.2	2508	343.2	2562
GR 341.6	2601	342.4	2629	341.5	2651	343.3	2678	343.6	2704
GR 343.4	2717	342.0	2760	340.9	2783	336.2	2861	338.3	2903
GR 338.0	2936	339.2	2974	340.4	3000	341.3	3026	341.6	3056
GR 340.5	3091	341.0	3110	341.6	3129	343.5	3142	346.6	3149
X1 2.3	100	07	4101	945	1500	1015	00	00	00
GR 346.8	7	342.3	11	337.7	16	334.5	50	331.6	94
GR 330.2	138	329.1	181	329.6	224	337.3	268	338.1	325
GR 339.4	352	342.6	357	342.4	395	341.9	430	342.1	456
GR 342.6	482	343.6	482	342.2	535	343.3	570	343.4	614
GR 342.2	651	342.7	700	339.5	764	338.6	799	338.8	817
GR 340.7	838	343.5	851	344.1	875	344.7	896	344.7	915
GR 344.2	916	342.4	920	342.9	945	341.8	974	342.1	993
GR 340.8	1008	340.6	1020	344.1	1036	344.4	1044	344.1	1054
GR 343.8	1074	344.2	1098	344.5	1127	346.6	1155	347.5	1294
GR 346.4	1409	346.8	1679	345.4	1755	344.5	1763	345.5	1774
GR 347.3	1820	346.5	1963	344.5	1968	342.9	1989	343.6	2009
GR 344.4	2018	344.6	2024	344.4	2029	344.3	2052	342.7	2077
GR 344.4	2099	345.9	2105	346.6	2255	344.5	2292	344.3	2316
GR 344.5	2344	346.2	2354	346.7	2505	345.7	2506	343.7	2509
GR 341.5	2539	342.2	2579	343.2	2592	342.6	2629	344.9	2640
GR 344.8	2670	345.9	2682	346.4	2700	345.9	2824	345.1	2844
GR 345.0	2867	343.6	2881	344.0	2901	346.0	2926	346.5	2969
GR 346.3	3142	344.2	3152	343.9	3180	344.3	3208	345.5	3278
GR 345.8	3301	346.0	3330	346.0	3529	343.4	3690	343.2	3763
GR 343.5	3821	344.7	3935	343.2	3960	342.5	3970	347.4	4101
X1 3	34	06	1681	740	1550	880	00	00	00
GR 346.7	6	344.1	13	340.9	24	338.0	52	334.6	118
GR 330.9	182	328.1	229	330.1	273	331.9	314	332.4	360
GR 333.9	408	334.7	454	338.0	499	339.9	540	340.1	576
GR 341.0	618	342.1	664	342.9	677	342.5	730	344.5	770
GR 345.1	818	345.1	880	346.0	965	346.1	1016	346.1	1094
GR 346.6	1185	346.5	1246	345.7	1250	345.4	1263	346.7	1268
GR 346.7	1307	347.4	1366	347.5	1406	347.0	1467		
X1 3.1	40	12	1246	885	740	860	00	00	00
GR 349.1	12	344.2	17	341.1	30	338.7	58	336.7	88
GR 336.6	116	336.9	158	338.0	200	339.0	250	341.7	270

GR 343.5	294	344.4	306	344.4	348	346.1	361	345.4	392
GR 344.5	421	342.4	444	341.5	475	340.8	530	340.4	584
GR 340.4	650	340.4	695	340.5	755	341.0	817	341.4	826
GR 344.6	838	346.1	865	346.2	889	345.2	897	342.9	916
GR 341.8	942	341.2	965	342.9	988	344.2	1022	343.2	1074
GR 343.9	1134	344.1	1200	345.0	1231	345.8	1243	349.7	1246
X1 3.2	42	11	1467	970	750	950	00	00	00
GR 350.0	11	347.9	15	345.7	26	342.8	44	342.3	69
GR 342.5	113	341.8	159	341.8	204	341.9	259	341.9	309
GR 342.4	362	344.4	450	345.2	493	344.7	569	343.5	624
GR 341.3	676	340.3	723	338.9	763	338.9	797	340.9	824
GR 343.1	839	345.4	847	348.5	858	349.6	939	349.9	1008
GR 349.7	1040	350.4	1059	350.0	1104	348.1	1107	346.4	1115
GR 345.2	1121	345.2	1152	343.8	1203	342.7	1232	342.8	1259
GR 344.2	1273	345.1	1319	344.8	1370	345.3	1415	342.8	1448
GR 346.3	1459	351.0	1467						
X1 3.3	36	09	1258	905	890	890	00	00	00
GR 352.6	9	348.7	12	347.3	18	345.1	27	342.7	65
GR 341.0	105	340.5	155	341.8	210	343.4	257	344.5	273
GR 347.0	291	347.2	306	347.3	311	347.2	316	346.0	361
GR 344.8	411	344.4	446	344.5	462	344.2	500	343.9	555
GR 345.1	610	343.9	665	343.7	718	344.0	760	345.8	807
GR 344.8	855	346.9	909	345.8	937	346.7	963	345.6	1031
GR 343.9	1058	345.2	1091	346.0	1136	346.7	1166	347.3	1185
GR 350.6	1258								
X1 3.4	37	05	1634	1135	450	1100	00	00	00
GR 360.4	5	351.7	8	349.1	15	346.7	22	343.8	72
GR 342.8	115	342.9	160	344.4	210	345.1	262	346.0	344
GR 347.6	401	348.6	452	348.5	479	348.9	507	350.0	538
GR 349.7	605	348.5	610	346.7	630	346.0	668	346.7	695
GR 348.6	716	350.1	779	350.5	856	349.3	884	348.0	913
GR 347.0	941	348.0	974	350.8	986	353.1	1012	352.7	1054
GR 351.5	1059	352.6	1065	351.9	1076	351.4	1109	351.0	1116
GR 350.5	1122	353.1	1147						
X1 4	68	00	2722	1325	1350	1020	00	00	00
GR 352.3	0	349.8	7	347.5	15	347.1	40	346.7	67
GR 347.3	88	347.3	127	346.4	170	346.6	217	345.2	263
GR 346.6	303	346.6	333	348.2	336	349.8	373	350.2	393
GR 351.4	419	351.4	437	352.0	443	353.6	479	354.6	509
GR 354.7	718	353.8	724	352.1	730	351.4	733	348.8	754
GR 346.7	778	345.6	823	345.2	868	344.9	918	344.9	966
GR 348.2	1005	351.5	1018	352.7	1055	353.0	1098	352.3	1167
GR 350.8	1199	350.1	1243	348.8	1273	349.1	1319	349.2	1360
GR 351.0	1378	352.5	1404	350.5	1452	348.3	1466	350.2	1471
GR 354.2	1476	354.2	1483	354.2	2148	352.7	2163	350.9	2166
GR 350.4	2173	350.9	2184	353.3	2221	352.7	2294	353.4	2315
GR 352.0	2358	350.8	2387	348.3	2401	346.0	2468	346.7	2505
GR 348.4	2535	346.8	2566	344.0	2595	343.6	2647	344.3	2697
GR 347.2	2710	350.8	2717	354.9	2722				
X1 4.1	100	00	2568	1605	950	1270	00	00	00
GR 355.0	19	351.8	27	352.7	50	352.5	74	355.3	81
GR 355.3	92	353.3	121	351.4	147	350.1	172	348.9	193
GR 348.1	233	348.1	275	349.2	315	349.1	324	351.3	352
GR 351.7	382	351.4	412	350.1	438	349.8	460	351.3	519
GR 350.7	533	351.5	540	352.7	541	353.1	551	351.4	561
GR 350.4	569	351.4	578	354.3	594	355.2	694	354.8	767
GR 353.3	769	352.8	810	352.4	832	353.3	860	354.4	872
GR 355.0	920	353.7	945	355.2	983	354.8	1022	353.5	1024
GR 351.8	1031	350.9	1051	351.5	1075	351.9	1093	351.1	1124
GR 348.7	1188	346.5	1233	348.6	1297	350.9	1328	351.1	1430

GR 352.6	1483	352.7	1517	353.8	1548	353.1	1576	351.7	1605
GR 352.4	1617	353.0	1622	354.0	1623	354.1	1631	356.1	1645
GR 355.6	1690	354.3	1693	353.0	1705	351.5	1730	351.5	1737
GR 350.8	1759	350.3	1785	349.9	1823	350.0	1856	350.5	1866
GR 350.8	1884	350.5	1908	350.5	1919	350.5	1954	350.4	1962
GR 351.7	1984	352.9	2003	354.3	2051	353.7	2076	352.8	2092
GR 353.1	2109	354.1	2118	353.0	2215	352.2	2228	350.8	2250
GR 350.4	2294	351.8	2302	352.2	2315	351.4	2334	351.0	2341
GR 348.7	2352	350.5	2363	351.2	2371	348.4	2393	347.8	2409
GR 350.5	2450	351.1	2484	350.4	2517	351.9	2551	358.7	2568
X1 4.2	56	04	2117	310	1155	1020	00	00	00
GR 358.9	4	354.9	6	351.7	21	349.4	43	349.5	74
GR 348.3	95	348.5	157	349.2	186	350.0	220	351.3	244
GR 351.8	253	353.6	293	354.2	339	352.0	355	350.8	386
GR 351.3	415	351.9	444	353.0	519	355.4	564	357.6	680
GR 357.4	1140	356.5	1148	354.5	1160	353.3	1192	351.3	1208
GR 347.9	1223	344.8	1268	346.3	1325	346.9	1362	348.9	1399
GR 350.1	1454	350.6	1504	351.3	1545	351.7	1582	351.5	1631
GR 349.6	1685	349.0	1740	349.6	1791	351.0	1824	352.9	1862
GR 354.8	1882	356.0	1902	354.8	1929	354.9	1966	354.4	1977
GR 352.7	1988	352.8	2004	353.4	2020	354.4	2026	356.5	2032
GR 356.6	2075	354.2	2081	352.8	2093	352.1	2105	354.1	2110
GR 359.5	2117								
X1 4.3	57	05	2410	1030	1245	1240	00	00	00
GR 359.4	5	355.3	8	352.8	20	350.4	32	349.6	75
GR 350.5	123	349.6	190	350.1	222	351.3	252	352.8	282
GR 354.4	340	355.8	404	354.8	452	353.8	471	353.2	492
GR 354.2	515	354.9	527	355.8	544	356.8	572	355.6	596
GR 356.7	601	355.4	651	356.3	749	357.8	774	358.0	823
GR 358.2	881	357.3	951	358.1	964	357.0	997	357.1	1023
GR 357.5	1029	356.4	1094	356.2	1101	356.8	1183	357.4	1252
GR 356.3	1337	354.6	1400	353.2	1440	351.3	1494	350.8	1534
GR 350.6	1568	353.6	1613	353.6	1647	354.6	1668	355.7	1726
GR 356.7	1822	356.7	2032	355.7	2096	354.5	2147	352.8	2184
GR 351.2	2210	347.5	2267	345.1	2280	345.9	2360	351.1	2395
GR 352.7	2401	360.2	2410						
X1 4.4	75	07	2291	900	500	540	00	00	00
GR 363.8	7	358.9	8	355.9	22	354.0	48	352.5	74
GR 351.4	114	351.1	145	351.3	184	352.1	213	353.2	240
GR 353.1	264	354.0	274	354.3	288	354.4	301	353.7	321
GR 353.9	349	354.3	370	354.6	412	357.4	428	360.0	440
GR 359.9	452	357.2	455	354.9	458	353.3	465	353.0	482
GR 353.7	494	354.9	499	356.1	520	358.1	555	357.5	579
GR 360.3	598	360.1	699	360.8	766	361.1	808	361.3	832
GR 355.6	842	355.8	851	354.6	861	355.1	871	355.9	878
GR 356.4	881	356.1	890	354.4	915	353.3	942	353.3	976
GR 354.7	1022	355.4	1054	355.3	1096	353.3	1140	355.1	1148
GR 359.0	1154	359.0	1202	356.7	1292	358.7	1376	358.7	1387
GR 357.8	1391	357.4	1449	358.6	1519	358.5	1595	358.8	1721
GR 357.9	1842	357.1	1858	355.0	1879	352.8	1907	351.6	1957
GR 352.3	2010	354.1	2072	352.9	2122	349.8	2176	350.7	2224
GR 352.8	2260	355.1	2275	356.9	2282	357.8	2287	361.3	2291
X1 5	49	06	2076	955	850	870	00	00	00
GR 361.2	6	358.7	11	356.6	27	356.0	40	354.3	70
GR 353.2	100	353.0	139	353.3	172	352.8	234	353.7	269
GR 355.5	303	356.1	317	357.9	343	357.8	387	358.2	450
GR 360.1	504	359.8	540	362.3	936	362.1	938	358.5	942
GR 356.2	949	353.9	957	353.2	990	353.3	1026	354.2	1050
GR 355.5	1097	356.2	1124	357.6	1153	359.5	1195	359.8	1275
GR 359.8	1357	359.0	1405	358.4	1429	357.9	1460	357.4	1507

GR 356.1	1558	355.6	1585	355.1	1628	353.8	1688	353.5	1740
GR 354.1	1774	355.0	1824	355.4	1885	355.7	1958	352.3	2011
GR 354.1	2045	358.1	2065	358.9	2072	360.9	2076		
X1 6	44	6528	7696	3330	3190	3190	00	00	00
X3 10									
GR 381.2	0340	377.0	0345	377.6	1890	376.1	3000	374.3	4500
GR 369.2	6000	370.4	6104	364.4	6114	359.9	6177	364.3	6246
GR 364.2	6294	361.8	6350	360.1	6395	359.1	6413	360.1	6442
GR 361.9	6463	366.1	6471	366.4	6528	366.02	6624	364.89	6634
GR361.64	6642	360.69	6680	360.19	6711	359.89	6734	360.29	6758
GR361.89	6824	362.19	6871	361.19	6913	359.2	6992	358.0	7196
GR 357.1	7254	358.0	7362	357.3	7424	358.4	7494	358.9	7543
GR 360.0	7582	360.6	7625	358.5	7648	358.3	7667	360.79	7677
GR 370.6	7696	371.7	7746	371.0	7800	374.2	8500		
X1 7	57	1101	2465	2340	3500	2910			
X3 10					3765				
GR 375.3	1000	372.5	1010	374.2	1022	372.7	1060	366.5	1077
GR 365.9	1082	366.4	1086	368.5	1094	369.2	1101	366.4	1105
GR364.62	1126	362.8	1145	360.9	1185	359.8	1244	359.4	1275
GR 359.4	1330	359.8	1365	362.4	1416	364.59	1524	367.9	1667
GR 366.7	1698	366.7	1812	365.74	2012	363.9	2048	362.9	2100
GR 361.6	2170	362.5	2200	364.2	2210	365.90	2290	366.3	2311
GR365.69	2328	364.3	2334	366.02	2394	367.9	2458	371.1	2465
GR 374.8	2469	373.7	2555	368.7	2565	368.0	2745	372.9	2755
GR 375.5	2785	374.6	2905	376.9	2925	372.4	3035	377.9	3065
GR 378.7	3765	371.1	3795	367.3	3845	370.7	3895	371.3	3955
GR 369.0	3961	369.0	3976	372.2	3980	372.1	3995	376.8	4005
GR 376.8	4095	391.8	4105						
NC		.050							
X1 8	30	3103	3680	4500	5060	4590			
X3 10									
GR 392.4	0750	385.0	0760	387.1	0780	386.0	1500	384.0	2800
GR 386.7	3000	385.4	3103	375.6	3113	371.22	3126	367.5	3159
GR 366.5	3215	364.1	3310	366.2	3420	368.3	3480	369.1	3497
GR 367.9	3552	368.3	3589	371.09	3600	373.5	3640	373.9	3680
GR370.79	3691	368.8	3714	369.6	3733	370.89	3826	373.3	3960
GR 375.7	3969	383.0	4008	384.7	4035	383.4	4100	387.5	4570
NC		.055							
X1 9	38	1950	2673	4960	4450	4870			
GR402.95	0070	394.0	0090	388.2	0100	386.5	0160	391.7	0190
GR 391.6	0400	395.2	0500	395.0	0600	394.2	0900	393.2	1375
GR 397.0	1390	398.5	1470	393.2	1500	396.2	1800	390.7	1820
GR 393.7	1900	392.6	1950	388.7	1970	387.6	2003	384.1	2012
GR 383.5	2052	381.6	2083	378.01	2187	375.7	2228	371.5	2288
GR 369.3	2349	368.5	2390	366.6	2453	366.9	2500	368.7	2550
GR 370.1	2580	375.7	2591	378.07	2609	381.0	2638	386.1	2656
GR 392.1	2673	391.3	2718	395.0	4000				
X1 9.1	27	07	1007	4190	3885	3870			
GR 403.4	7	390.2	25	386.7	34	384.3	45	381.1	78
GR 378.5	123	380.7	179	382.0	222	383.4	262	386.5	291
GR 388.9	309	390.2	346	390.5	403	388.9	470	385.6	531
GR 384.3	579	382.5	603	380.5	670	379.7	726	380.1	778
GR 380.5	825	381.5	885	382.6	927	384.1	951	386.0	976
GR 388.9	997	392.9	1007						
X1 10	42	1100	3000	3350	2835	2900			
X3 10									
GR 407.8	922	407.3	1000	406.9	1035	404.7	1040	404.7	1060
GR 409.8	1070	411.8	1088	410.1	1100	395.0	1125	391.88	1149
GR390.42	1175	389.0	1216	387.8	1290	388.1	1345	389.0	1405
GR 388.7	1490	389.3	1572	389.7	1605	391.94	1630	395.8	1646

GR 402.7	1658	402.83	1660	397.4	1880	406.5	1910	403.2	2110
GR 403.7	2310	399.3	2434	402.65	2508	402.3	2512	394.4	2540
GR 390.40	2621	388.6	2674	387.9	2703	387.0	2740	386.2	2793
GR 386.2	2858	387.0	2900	388.3	2914	390.52	2935	395.5	2967
GR 425.7	3000	426.3	3170						
X1 10.1	34	00	1200	1585	1950	1790			
GR 402.4	7	395.5	34	393.2	49	391.7	69	392.3	115
GR 392.5	159	391.2	209	390.6	265	390.8	325	392.0	391
GR 393.0	440	394.0	486	395.4	529	397.5	563	397.6	646
GR 395.4	697	394.8	725	393.5	763	392.7	796	392.3	832
GR 391.8	881	391.9	916	392.2	969	392.5	1019	392.9	1065
GR 393.2	1083	393.2	1083	393.5	1113	394.3	1149	395.4	1168
GR 396.3	1181	397.6	1184	399.4	1197	402.5	1200		
X1 10.2	20	06	863	4160	4055	4250			
GR 416.4	6	408.7	15	401.5	46	398.9	60	397.9	112
GR 397.9	164	398.6	236	398.4	300	398.4	370	398.5	446
GR 398.5	520	398.1	587	397.3	636	395.6	690	396.0	745
GR 397.5	780	399.3	805	401.9	824	406.3	852	413.9	863
X1 10.3	27	04	939	2725	2800	2790			
GR 419.4	4	417.2	8	411.1	20	406.7	40	405.0	61
GR 405.3	89	405.9	106	405.4	134	404.2	175	403.8	222
GR 404.5	300	404.5	353	405.0	405	404.0	456	403.1	503
GR 402.2	553	400.7	605	400.7	656	401.1	703	401.3	755
GR 401.4	801	403.0	852	404.1	887	405.1	901	406.9	908
GR 408.3	916	410.8	926						
X1 11	26	2003	2775	1330	1385	1360			
X3 10									
GR 423.2	0120	418.1	0170	419.3	0450	421.3	1630	417.4	1650
GR 420.9	1900	420.8	2003	415.2	2010	410.9	2030	407.66	2074
GR 405.9	2112	405.6	2113	405.1	2180	404.9	2205	405.4	2290
GR 405.2	2335	405.1	2430	402.9	2500	401.2	2582	401.0	2640
GR 402.2	2700	404.8	2715	407.78	2746	411.6	2763	422.0	2775
GR 440.0	2794								
X1 12	22	1043	1686	8790	9220	9120			
GR 442.9	1000	442.7	1005	446.3	1020	446.0	1043	427.9	1071
GR 421.73	1093	419.6	1119	417.4	1153	415.6	1196	414.4	1258
GR 416.9	1313	415.7	1428	415.3	1503	416.1	1573	418.5	1618
GR 419.6	1635	421.78	1646	426.5	1670	432.6	1686	432.9	1691
GR 440.0	3355	447.0	3550						
X1 13	34	1039	2787	10450	9780	10275			
X3 10									
GR 453.7	1000	452.9	1008	456.3	1023	454.1	1039	436.41	1071
GR 432.7	1086	430.9	1128	426.5	1198	426.5	1238	428.4	1308
GR 431.7	1378	434.5	1428	436.47	1460	441.2	1528	445.4	1548
GR 445.90	1555	442.1	1685	444.5	1840	450.9	1898	449.5	2121
GR 449.3	2125	443.8	2148	449.0	2181	448.8	2355	446.12	2661
GR 445.7	2664	441.5	2676	440.5	2689	437.95	2702	434.0	2736
GR 438.3	2759	438.0	2776	440.7	2787	470.9	2822		
X1 14	34	1090	2585	2850	2160	2825			
X3 10			1000						
GR 454.7	1000	448.2	1015	451.0	1065	450.9	1090	442.49	1099
GR 439.3	1119	439.2	1169	440.4	1221	441.1	1263	440.5	1264
GR 442.2	1322	443.77	1452	447.0	1606	445.1	1656	448.7	1718
GR 450.63	1742	448.3	2017	448.3	2021	443.71	2028	440.8	2048
GR 440.8	2089	441.9	2179	442.4	2223	439.6	2367	438.8	2407
GR 437.2	2482	440.5	2527	441.8	2549	444.07	2565	447.6	2578
GR 453.4	2585	453.6	2635	456.8	3885	459.0	3890		
NC		.045							
X1 15	29	1035	2340	4630	5460	4970			
X3 10									

GR 468.5	1000	471.1	1016	468.3	1027	469.3	1035	452.39	1062
GR 449.3	1072	448.7	1112	449.5	1167	450.0	1202	451.0	1220
GR 452.39	1235	455.2	1298	456.7	1300	456.94	1306	457.7	1406
GR 458.2	1618	457.9	1621	453.5	1638	450.23	1685	447.6	1710
GR 446.1	1783	446.8	1843	447.1	2018	446.1	2138	448.1	2228
GR 450.23	2257	453.8	2312	457.5	2340	475.0	2430		
NC		.040							
X1 16	54	1033	2974	2530	2800	2710			
X3 10									
GR 469.6	1000	471.6	1016	469.5	1033	458.7	1049	455.13	1061
GR 451.0	1091	450.4	1115	450.5	1173	450.2	1213	449.7	1293
GR 450.0	1353	451.9	1463	455.24	1487	460.7	1505	463.9	1509
GR 463.38	1538	463.2	1919	455.6	1943	455.1	1968	457.0	2017
GR 458.1	2056	456.1	2064	456.6	2067	456.9	2072	461.1	2096
GR 462.6	2295	456.5	2301	457.3	2322	458.1	2327	458.2	2344
GR 460.6	2359	460.4	2380	460.0	2394	457.0	2437	455.52	2605
GR 453.1	2675	452.7	2766	453.1	2810	453.4	2878	454.1	2890
GR 455.49	2927	456.0	2951	458.6	2964	462.0	2974	461.5	3098
GR 455.34	3112	453.9	3155	453.9	3171	453.4	3210	453.2	3223
GR 455.34	3231	464.3	3259	462.9	3390	476.0	3450		
X1 17	42	1053	2226	1740	2650	1820			
X3 10					3103				
GR 470.1	1000	473.9	1020	471.6	1036	461.2	1053	458.41	1077
GR 457.4	1107	454.7	1157	454.0	1225	453.7	1275	453.4	1355
GR 455.4	1445	456.7	1487	458.39	1531	462.88	1683	459.05	1817
GR 457.6	1877	457.1	1921	456.5	1956	457.5	2007	458.3	2020
GR 458.4	2137	456.4	2158	456.5	2181	458.48	2200	463.3	2226
GR 469.9	2233	470.1	2268	467.8	2273	469.5	2283	468.6	2483
GR 466.0	2493	468.0	2503	465.8	3103	461.8	3113	461.8	3138
GR 466.6	3168	463.4	3248	466.7	3268	465.6	3618	467.9	4068
GR 473.1	4118	475.9	4148						
NC	0	0	0.1	0.3					
X1 18	23	1073	1689	1640	1530	1740			
X3 10									
GR 471.0	1000	474.0	1013	473.4	1027	469.7	1064	463.4	1073
GR 460.67	1082	458.5	1095	457.0	1116	456.0	1161	456.3	1235
GR 453.8	1326	452.9	1411	454.1	1516	457.1	1606	459.2	1646
GR 460.74	1661	462.9	1672	466.3	1686	470.1	1689	470.7	1739
GR 465.6	2890	467.9	3090	480.0	3097				
X1 18.1	53	03	1904	5660	6160	6200			
GR 481.5	3	477.0	8	476.8	14	472.5	20	471.3	32
GR 469.5	58	468.8	96	468.6	141	468.5	193	469.1	235
GR 470.2	273	471.3	298	472.3	329	474.9	372	474.6	443
GR 473.4	502	471.5	540	469.7	579	469.2	594	469.1	615
GR 468.8	633	469.5	638	471.2	699	472.0	737	472.4	757
GR 474.4	765	479.1	901	473.7	906	473.4	930	474.4	1022
GR 475.7	1123	474.7	1172	474.4	1217	473.6	1289	475.0	1301
GR 475.0	1302	473.8	1311	473.5	1335	475.1	1353	474.4	1381
GR 475.5	1405	473.4	1509	471.6	1532	470.4	1585	469.7	1643
GR 468.8	1686	466.9	1740	466.0	1790	467.5	1833	469.3	1864
GR 471.1	1880	473.3	1893	474.8	1900				
X1 18.2	50	25	1420	5560	5010	5140			
GR 483.7	25	481.8	52	479.1	87	478.4	105	478.0	122
GR 477.7	152	476.7	164	477.5	177	479.0	185	479.2	188
GR 486.4	194	488.2	350	487.9	354	485.4	356	484.5	359
GR 482.6	363	480.7	391	479.3	420	478.9	432	479.2	459
GR 478.6	495	478.6	520	479.1	541	480.6	578	481.2	594
GR 483.2	610	481.3	630	483.1	648	482.2	666	484.2	679
GR 483.3	693	485.2	702	488.3	717	487.4	973	486.8	978
GR 482.8	989	479.7	1003	477.9	1017	476.7	1031	475.1	1054

GR	473.0	1108	471.9	1152	471.6	1200	471.7	1253	471.5	1311
GR	473.7	1351	475.0	1376	477.5	1401	479.9	1413	482.7	1420
X1	18.3	22	06	625	3370	4230	4073			
GR	500.9	6	486.9	24	483.8	33	481.2	47	478.1	78
GR	476.7	103	474.3	152	475.2	199	474.9	258	475.4	309
GR	476.4	356	477.6	386	478.5	427	481.4	459	484.1	475
GR	487.9	521	489.0	539	488.5	556	485.8	570	484.6	585
GR	485.3	597	490.2	612						
X1	19	33	1583	2190	2860	2570	2640			
X3	10			1457						
GR	501.7	1140	496.7	1253	494.7	1313	498.4	1321	500.0	1344
GR	494.9	1406	492.9	1408	493.3	1430	501.4	1446	502.8	1457
GR	501.3	1468	496.2	1478	496.0	1485	493.4	1489	496.9	1508
GR	496.4	1568	496.4	1570	490.9	1583	485.1	1640	484.1	1658
GR	482.4	1711	481.7	1790	481.9	1865	482.4	2004	482.1	2081
GR	482.6	2104	483.9	2126	485.5	2136	491.8	2180	495.4	2190
GR	497.8	2500	500.0	2780	510.0	2785				
X1	19.1	64	00	1862	3000	2710	2810			
GR	495.9	13	495.2	15	489.8	23	489.9	49	488.3	72
GR	488.3	108	487.6	139	487.7	175	487.5	209	489.5	244
GR	491.5	270	494.9	293	496.9	304	497.2	366	496.6	451
GR	495.2	529	495.3	573	496.9	582	498.0	615	498.0	703
GR	498.0	770	497.0	797	495.9	801	495.4	830	495.2	866
GR	494.5	871	494.3	908	494.3	967	494.3	999	497.8	1005
GR	497.2	1011	498.8	1017	499.3	1027	497.4	1067	497.7	1112
GR	499.9	1136	494.6	1241	494.0	1310	492.6	1322	492.6	1337
GR	492.0	1364	492.0	1388	491.2	1403	492.5	1406	496.7	1413
GR	496.0	1454	495.9	1462	494.5	1475	493.8	1508	492.4	1539
GR	491.3	1561	490.4	1585	489.2	1601	488.4	1610	487.0	1635
GR	485.0	1674	484.9	1711	486.3	1749	487.9	1780	489.9	1799
GR	491.2	1822	491.8	1833	492.4	1840	495.3	1855		
X1	20	57	1312	3723	800	1430	1260			
X3	10									
GR	501.8	1000	503.0	1114	502.6	1250	500.9	1255	501.4	1271
GR	506.8	1295	504.0	1309	503.8	1312	492.3	1331	486.0	1342
GR	483.3	1362	484.8	1429	486.3	1472	488.7	1499	492.3	1512
GR	497.15	1609	498.1	1835	496.7	1840	496.5	1881	493.7	1927
GR	493.8	1972	494.7	1994	496.6	1998	499.9	2001	500.6	2151
GR	499.6	2509	498.6	2523	495.3	2532	496.4	2568	494.8	2602
GR	495.3	2620	495.1	2695	500.9	2704	500.9	2714	501.1	2880
GR	500.6	2890	498.4	2906	499.7	3012	497.6	3141	499.1	3160
GR	499.5	3194	499.1	3269	499.7	3269	494.0	3344	495.1	3357
GR	494.9	3399	493.9	3421	493.5	3429	492.5	3445	491.0	3478
GR	490.5	3555	490.0	3589	491.1	3627	492.1	3650	498.1	3700
GR	502.9	3723	507.0	3740						
NC	0	0	.040	0.1	0.3					
X1	20.1	84	05	1778	2730	2670	2540			
GR	510.1	5	503.9	12	500.2	28	498.6	44	496.4	74
GR	495.6	125	493.5	176	495.2	225	496.9	277	497.8	327
GR	498.0	387	499.2	432	499.7	459	500.2	474	501.1	504
GR	502.5	528	508.5	540	508.2	545	502.4	554	502.9	564
GR	501.6	584	500.5	639	499.4	677	498.0	703	497.7	750
GR	497.4	807	496.6	853	496.8	905	497.6	940	498.3	978
GR	499.6	995	500.2	1016	501.9	1037	502.0	1066	503.0	1094
GR	503.3	1140	501.9	1215	501.4	1219	501.4	1223	502.1	1226
GR	503.4	1247	503.3	1268	502.6	1279	501.3	1309	500.5	1311
GR	500.7	1316	502.2	1325	502.1	1335	500.5	1338	500.7	1345
GR	502.2	1353	501.7	1365	500.6	1368	502.1	1372	501.2	1402
GR	502.0	1416	500.9	1420	502.1	1427	501.4	1440	503.1	1454
GR	503.0	1462	501.5	1469	501.7	1476	502.7	1482	503.6	1516

GR 502.4	1535	502.1	1541	500.2	1546	499.6	1547	498.9	1557
GR 498.4	1573	498.6	1604	498.7	1642	499.3	1665	500.2	1675
GR 502.1	1695	502.0	1722	499.9	1731	499.0	1748	498.9	1765
GR 500.1	1768	501.1	1773	505.5	1778	506.0	1781		
X1 20.2	25	03	782	3550	3100	3690			
GR 519.3	3	517.0	10	507.7	21	504.7	31	502.7	40
GR 499.5	71	497.8	125	502.2	175	502.5	204	503.1	227
GR 503.7	268	503.9	316	502.9	381	501.8	408	498.8	428
GR 498.2	478	496.2	535	494.3	585	496.3	626	497.1	682
GR 498.4	726	499.5	753	504.8	762	505.8	774	511.3	782
X1 21	21	1457	2063	3790	3920	4030			
X3 10									
GR 523.7	1000	525.4	1014	523.8	1029	509.4	1058	508.4	1134
GR 508.1	1144	508.4	1155	512.8	1197	514.5	1319	514.31	1457
GR 508.4	1609	506.6	1646	504.9	1759	500.9	1886	504.4	1936
GR 505.9	1997	508.9	2020	512.0	2063	516.7	2082	517.2	2132
GR 524.0	2720								
NC		.030							
X1 22	34	1116	2465	930	380	900			
X3 10									
GR 523.8	1000	526.5	1013	525.4	1023	523.6	1063	523.3	1116
GR 511.3	1140	510.8	1242	509.0	1347	507.5	1382	506.5	1434
GR 504.9	1476	503.4	1532	505.8	1599	507.5	1643	515.0	1678
GR 519.7	1693	520.0	1887	520.4	1938	522.7	2056	520.3	2193
GR 514.3	2199	511.6	2230	509.4	2240	510.2	2245	510.5	2250
GR 510.3	2270	509.9	2296	511.4	2302	513.1	2305	515.4	2375
GR 518.0	2380	518.7	2465	522.0	2472	525.0	2780		
X1 23	45	1345	2743	5030	5550	4920			
X3 10									
GR 538.1	984	535.5	1000	531.3	1165	528.4	1201	529.9	1272
GR 526.5	1296	529.7	1311	530.53	1333	530.6	1337	523.5	1345
GR 519.13	1366	517.2	1384	516.0	1455	516.3	1508	516.4	1583
GR 516.0	1679	515.5	1782	515.9	1827	519.03	1906	521.0	1942
GR 521.2	1955	519.9	1959	520.4	1974	521.0	1976	524.5	2003
GR 528.2	2008	526.7	2115	528.7	2125	528.6	2275	526.6	2304
GR 527.7	2342	527.1	2383	526.7	2403	520.1	2430	519.75	2445
GR 517.0	2487	516.3	2530	516.6	2569	519.2	2602	519.78	2612
GR 523.0	2624	528.1	2632	522.2	2703	525.7	2743	545.0	2755
X1 24	15	1108	1586	1850	2470	2160			
X2 9700									
GR 534.2	1000	530.9	1108	524.7	1114	522.4	1134	523.11	115
GR 520.03	1247	515.8	1311	514.3	1375	507.6	1439	509.1	1481
GR 513.7	1502	515.6	1538	520.0	1568	526.5	1586	535.0	1592
X1 24.1	46	00	1200	1500	1500	1400			
GR 536.7	0	526.0	73	525.3	75	524.3	85	522.9	96
GR 517.6	151	516.6	201	517.5	246	520.9	308	522.1	351
GR 522.9	393	523.5	405	525.6	420	528.1	459	529.5	494
GR 531.8	529	530.6	590	530.0	645	528.4	667	527.8	680
GR 529.5	687	529.9	704	530.2	719	530.0	749	529.3	782
GR 529.4	848	529.3	873	528.0	878	528.6	894	529.2	902
GR 528.0	928	528.4	935	527.6	972	527.1	1008	526.4	1018
GR 525.0	1028	523.5	1038	521.5	1045	521.5	1050	521.0	1066
GR 522.5	1076	524.2	1082	526.5	1088	528.0	1023	528.7	1155
GR 533.7	1200								
X1 24.5	18	2300	4200	2400	2200	2200			
GR 537.5	1700	534.0	2300	532.0	2560	528.5	2700	524.0	2800
GR 527.5	2980	529.5	3000	530.5	3100	532.0	3200	531.0	3300
GR 528.0	3500	522.5	3900	518.0	4040	518.5	4140	525.0	4180
GR 530.0	4190	534.0	4200	540.0	4230				
NH 7	.080	1653	.043	2278	100.0	3581	.043	4085	.060

NH	4127	.043	4232	.080	4237					
X1	25	64	1653	4232	2100	1430	1870			
X3	10									
GR	544.5	1000	538.8	1113	538.4	1298	539.4	1517	534.2	1550
GR	540.67	1582	536.3	1606	536.6	1653	527.3	1667	526.9	1694
GR	526.9	1717	532.6	1917	533.7	1965	530.9	1980	531.7	2045
GR	532.9	2053	534.0	2142	531.4	2157	533.1	2215	531.7	2273
GR	534.9	2278	536.9	2428	535.2	2654	530.3	2658	533.0	2738
GR	530.9	2873	535.4	2921	534.4	3000	532.6	3071	531.2	3157
GR	535.5	3167	536.2	3313	529.6	3325	530.4	3387	534.2	3422
GR	536.0	3452	536.2	3571	536.2	3581	530.2	3586	529.7	3590
GR	528.2	3602	527.9	3619	526.4	3649	527.2	3681	528.5	3715
GR	529.7	3757	530.0	3769	532.4	3839	530.2	3861	529.6	3903
GR	529.6	3911	530.9	3920	531.8	3946	530.5	3974	530.2	3978
GR	529.1	3997	527.2	4044	526.3	4085	526.2	4127	527.3	4159
GR	528.61	4201	530.2	4211	536.6	4232	547.0	4237		
NC	.080	.080	.035							
X1	25.1	49	08	1437	3040	2270	2290			
GR	539.6	8	537.6	9	534.6	21	532.4	32	530.0	53
GR	529.6	73	529.9	99	530.4	130	532.0	168	532.9	189
GR	533.1	194	534.1	223	534.6	243	536.0	278	537.4	291
GR	538.9	332	539.5	348	539.3	376	539.5	410	539.7	443
GR	539.5	466	539.1	488	539.5	508	538.9	521	535.1	529
GR	535.9	536	537.5	547	536.6	552	535.2	555	535.1	565
GR	539.4	572	540.2	577	541.3	949	541.0	953	539.0	954
GR	536.3	962	534.1	968	531.8	991	531.3	1051	531.5	1111
GR	530.1	1175	527.3	1227	526.1	1283	526.9	1336	529.1	1380
GR	531.9	1409	534.8	1420	536.3	1426	537.4	1430		
X1	26	39	2507	3123	3360	2610	2700			
X3	10									
GR	550.7	0720	550.4	0721	550.1	0722	549.8	0723	547.0	0730
GR	547.23	1000	546.7	1140	544.3	1235	546.8	1245	546.7	1343
GR	544.6	1348	544.64	1664	545.0	1816	538.4	1833	537.4	1858
GR	537.9	1888	545.2	1906	543.3	1953	546.5	2021	544.5	2334
GR	547.80	2505	547.8	2507	542.4	2513	536.2	2538	534.7	2543
GR	532.3	2562	532.1	2609	533.7	2663	534.1	2749	534.0	2846
GR	533.0	2895	533.6	2928	533.5	2963	532.6	3007	532.8	3020
GR	534.4	3050	535.8	3063	541.85	3118	552.0	3123		
NC				0.1	0.3					
X1	27	31	2320	2835	3900	3900	3900			
X3	10									
GR	558.2	0440	554.7	0450	554.6	0650	554.5	0850	554.4	1050
GR	554.21	1400	553.11	1535	545.2	1545	545.3	1575	550.6	1600
GR	551.4	1800	550.16	2049	547.6	2071	551.0	2114	552.6	2230
GR	552.71	2318	552.7	2320	548.8	2323	542.89	2353	540.7	2435
GR	538.6	2497	536.1	2545	535.0	2585	533.8	2651	535.6	2700
GR	538.3	2724	542.8	2805	547.7	2832	551.5	2835	554.0	2975
GR	560.0	2978								
X1	28	48	1486	2726	5150	5610	5820			
X3	10									
GR	567.2	987	564.3	1000	559.5	1014	561.6	1028	561.7	1092
GR	561.8	1153	556.2	1178	556.0	1186	553.9	1196	551.81	1228
GR	549.8	1295	550.5	1327	551.81	1350	555.8	1381	557.6	1438
GR	557.6	1486	554.8	1494	554.1	1539	553.83	1588	553.3	1633
GR	554.12	1695	554.7	1726	553.86	1751	551.6	1781	550.7	1827
GR	549.8	1887	550.1	1925	550.9	1955	553.93	1978	557.0	2089
GR	556.1	2152	559.0	2272	559.7	2344	560.4	2390	559.9	2433
GR	558.7	2448	557.8	2503	558.5	2511	554.4	2566	553.95	2576
GR	552.1	2591	549.2	2623	548.0	2661	549.7	2692	553.93	2709
GR	555.0	2726	567.0	2732	577.0	2780				

X1	28.1	52	05	2473	6000	5990	6030			
GR	569.5	5	567.1	9	564.2	23	562.5	37	561.5	46
GR	560.8	62	559.3	103	561.2	135	561.0	175	560.6	221
GR	561.2	255	561.9	284	564.1	292	567.2	298	568.5	300
GR	569.2	309	573.0	1437	572.1	1443	567.7	1452	567.4	1458
GR	569.0	1470	569.5	1513	569.7	1558	569.5	1587	568.0	1619
GR	567.1	1644	566.5	1661	565.9	1671	562.5	1717	560.7	1767
GR	560.6	1817	560.3	1861	560.9	1917	562.5	1960	563.1	1982
GR	563.3	1997	565.2	2015	568.0	2028	568.6	2065	568.7	2097
GR	567.6	2159	567.0	2196	565.6	2216	565.1	2227	564.4	2284
GR	562.4	2327	560.8	2382	562.4	2433	565.0	2447	567.2	2453
GR	569.1	2458	570.4	2464						
X1	29	57	3449	4070	3160	2800	2940			
X3	10									
GR	581.05	927	583.1	940	582.1	953	574.9	1000	574.0	1015
GR	571.9	1019	571.9	1076	575.0	1080	573.2	1116	571.6	1120
GR	572.0	1200	573.4	1201	575.3	1238	578.2	1240	577.4	1400
GR	575.2	1510	577.7	1517	578.1	1590	571.6	1609	570.8	1620
GR	571.9	1631	575.2	1641	579.1	1859	579.1	1900	577.4	2008
GR	577.3	2128	577.3	2200	572.5	2219	574.9	2234	571.9	2268
GR	569.9	2280	571.9	2295	573.2	2303	573.97	2387	575.4	2658
GR	576.01	2797	577.9	2824	578.43	3449	577.8	3454	572.9	3466
GR	568.37	3532	565.5	3547	566.3	3578	566.6	3604	564.8	3635
GR	564.8	3673	568.0	3769	567.9	3837	566.7	3894	565.6	3934
GR	564.2	3962	563.3	3976	564.7	4018	567.0	4044	568.36	4052
GR	573.5	4070	591.0	4080						
NC			.038							
X1	30	70	1164	4456	7190	6130	7320			
X3	10			1150						
GR	589.4	1000	587.4	1025	589.4	1050	591.7	1075	591.9	1128
GR	597.4	1150	595.9	1164	582.18	1194	581.0	1203	579.4	1237
GR	578.4	1263	578.6	1292	579.6	1317	581.5	1336	582.1	1365
GR	581.7	1385	583.14	1497	584.4	1527	587.2	1725	586.3	1775
GR	584.7	1795	582.6	1917	586.5	1961	588.4	2037	587.7	2149
GR	584.8	2192	585.6	2339	586.3	2340	585.22	2425	584.2	2448
GR	583.5	2460	582.0	2510	585.67	2569	586.3	2578	589.9	2580
GR	589.6	2610	586.1	2613	585.1	2615	586.2	2705	586.0	2891
GR	587.1	2895	587.1	3011	585.7	3013	585.7	3023	591.9	3045
GR	589.6	3168	583.0	3188	583.0	3208	587.7	3219	591.0	3327
GR	587.6	3426	587.4	3501	591.1	3521	590.7	4014	585.50	4019
GR	582.4	4029	582.6	4059	583.6	4111	585.2	4158	585.40	4184
GR	586.8	4199	585.2	4220	588.7	4225	588.3	4311	586.9	4321
GR	586.5	4355	585.35	4360	584.8	4408	585.47	4456	596.0	4462
X1	31	49	3432	3940	5340	5060	6140			
X3	10			1105						
GR	598.2	1000	600.3	1090	608.7	1105	598.1	1141	599.4	1240
GR	597.2	1444	594.9	1494	594.1	1497	592.55	1581	592.2	1592
GR	592.55	1607	594.3	1622	599.9	1634	602.0	1708	600.6	1763
GR	601.3	1900	601.78	2073	596.3	2088	596.3	2150	593.7	2162
GR	594.2	2381	600.5	2391	600.1	2518	598.8	2548	601.0	2567
GR	600.1	2650	602.2	2658	601.68	2852	601.4	2903	599.7	2913
GR	598.7	2924	601.1	2943	599.9	2982	601.2	3002	602.1	3196
GR	602.3	3300	603.5	3432	599.8	3434	594.06	3463	588.5	3499
GR	587.9	3583	587.4	3640	586.8	3699	586.8	3756	588.6	3789
GR	590.7	3830	594.05	3898	599.1	3927	610.0	3940		
X1	32	34	3854	4721	5470	5450	5340			
X3	10									
GR	623.0	0000	619.0	0600	614.1	0602	613.6	1600	613.1	2600
GR	612.8	3100	612.9	3244	609.2	3260	611.4	3280	611.0	3391
GR	608.7	3433	604.7	3448	603.37	3493	603.2	3534	603.25	3575

GR 605.5	3611	604.6	3626	604.5	3676	605.2	3681	607.2	3790
GR 610.1	3854	607.2	3872	604.86	3895	604.9	3967	606.3	3980
GR 606.6	3993	605.6	4006	607.1	4046	608.7	4108	604.46	4213
GR601.95	4384	601.99	4644	608.9	4721	625.0	4800		
NC		.0361							
X1 33	67	2818	4134	2200	2540	2380			
X3 10									
GR 630.0	0400	627.5	0600	625.0	0800	618.5	0801	617.3	0900
GR 616.1	1000	615.2	1077	611.9	1084	610.6	1112	607.9	1133
GR 607.9	1172	607.9	1182	607.55	1205	606.6	1220	607.55	1241
GR 611.1	1372	611.6	1442	614.9	1488	618.1	1512	615.9	1715
GR 617.1	1838	612.9	1870	617.8	1906	615.8	1981	618.0	2003
GR 616.7	2086	616.5	2224	615.4	2358	614.7	2607	614.1	2608
GR 613.3	2692	617.0	2744	617.7	2818	617.1	2848	614.6	2853
GR 615.6	2872	612.4	2876	611.28	2881	609.6	2901	610.1	2937
GR 608.8	2986	607.0	3133	609.3	3192	611.35	3212	613.7	3278
GR 613.7	3298	612.5	3492	614.2	3580	611.9	3729	608.01	3793
GR 606.5	3857	606.51	3904	607.31	3930	608.46	3969	609.36	4012
GR 620.6	4134	619.5	4160	617.1	4250	618.5	4278	614.4	4296
GR 613.4	4309	611.1	4326	610.69	4337	610.4	4359	610.69	4383
GR 614.0	4406	627.5	4500						
X1 34	38	1883	2511	2840	2580	2130			
X3 10									
GR 647.3	0920	646.3	1020	645.0	1140	639.0	1145	627.0	1155
GR 621.0	1160	611.98	1197	610.58	1217	611.0	1237	611.98	1242
GR 616.7	1324	619.3	1494	618.4	1606	621.9	1640	623.6	1706
GR 623.7	1762	623.7	1779	623.9	1850	625.2	1883	619.1	1889
GR614.53	1905	611.7	1920	610.5	1935	608.9	1991	609.9	2025
GR 610.7	2060	611.4	2095	612.0	2147	613.0	2173	613.2	2237
GR 612.2	2305	613.4	2354	613.5	2409	614.98	2459	620.5	2504
GR 625.0	2511	625.4	2550	635.0	2987				
X1 35	32	1377	1804	1555	1700	1810			
GR 651.0	986	649.7	1000	636.7	1042	636.9	1109	634.3	1144
GR 637.4	1149	636.9	1189	631.9	1220	632.8	1233	628.3	1247
GR 627.3	1311	625.3	1317	625.5	1321	627.9	1330	625.6	1377
GR 622.4	1381	618.3	1396	615.73	1430	612.3	1438	611.5	1463
GR 609.7	1493	608.6	1528	605.5	1589	606.4	1637	610.3	1687
GR 612.8	1728	613.3	1731	615.86	1756	622.0	1794	626.1	1804
GR 627.3	1862	637.0	2316						
X1 36	55	1448	2868	1540	1430	1670			
X3 10									
GR 653.2	1000	653.4	1081	644.7	1255	647.9	1275	642.7	1295
GR 640.5	1361	637.1	1368	635.3	1415	630.7	1428	631.1	1448
GR 623.3	1461	618.48	1491	614.8	1517	615.6	1536	618.46	1558
GR 623.0	1588	622.5	1662	619.1	1677	618.93	1785	615.8	1834
GR 614.4	1874	614.0	1917	614.0	1950	614.0	1981	615.7	2029
GR 616.6	2067	616.9	2078	619.20	2100	619.5	2101	623.3	2116
GR 627.4	2122	626.3	2177	628.4	2227	627.0	2261	622.6	2274
GR 621.6	2388	621.3	2410	619.4	2422	617.02	2474	616.2	2490
GR617.02	2504	619.1	2515	619.6	2537	618.9	2557	619.0	2561
GR 621.5	2577	622.1	2610	622.3	2672	619.27	2767	618.9	2787
GR620.09	2844	621.5	2860	624.8	2868	626.4	2908	640.0	3230
X1 37	30	1009	1620	3520	4250	3270			
X3 10									
GR 654.5	990	653.2	1000	650.0	1009	631.6	1048	623.97	1064
GR 622.2	1130	619.8	1188	618.8	1222	619.5	1251	620.9	1271
GR 622.2	1286	623.6	1336	623.3	1361	623.1	1383	622.6	1407
GR 622.1	1448	622.6	1499	624.36	1528	631.5	1620	629.2	1774
GR 630.5	1903	627.96	1978	626.84	2078	628.8	2099	629.2	2312
GR 633.7	2316	636.2	4700	640.4	4780	641.0	4930	660.0	4942

X1	38	45	1199	2851	6840	5540	5790			
GR 681.5	0770	678.0	0800	669.7	0870	666.2	0900	657.9	0970	
GR 654.3	1000	650.9	1071	648.5	1130	647.7	1199	643.1	1205	
GR637.33	1311	636.2	1344	636.0	1389	635.9	1448	635.2	1512	
GR 635.2	1553	637.33	1602	642.8	1631	646.3	1634	648.5	2065	
GR 646.7	2070	643.6	2178	642.6	2221	644.0	2229	644.6	2289	
GR 644.9	2334	641.5	2366	639.56	2374	637.5	2397	635.3	2457	
GR 635.5	2493	634.9	2564	634.7	2603	637.2	2627	639.31	2657	
GR 641.3	2716	642.4	2767	642.3	2802	641.1	2809	641.0	2832	
GR 648.9	2851	649.5	3010	655.5	3190	661.3	4640	676.5	4650	
X1	39	46	1760	2935	2100	2280	2270			
X3	10									
GR 689.0	990	687.7	1000	682.1	1017	675.9	1102	651.4	1138	
GR 647.9	1156	650.6	1172	651.6	1284	651.5	1381	648.6	1389	
GR 648.5	1401	646.4	1408	644.67	1425	643.4	1440	644.67	1456	
GR 646.4	1472	653.2	1484	653.0	1535	648.6	1576	651.9	1594	
GR 652.1	1760	647.0	1766	642.86	1912	641.2	1978	641.2	2024	
GR 641.0	2066	642.65	2160	645.1	2373	650.3	2399	652.4	2477	
GR 652.2	2503	650.1	2506	647.6	2555	645.57	2600	643.5	2622	
GR 642.0	2677	641.5	2713	641.9	2757	642.7	2833	643.3	2863	
GR 644.2	2885	645.79	2899	656.4	2935	657.0	2980	675.0	2990	
GR 685.0	2995									
NC		.038								
X1	40	39	1058	1706	4470	4820	5010			
X3	10					3800				
GR 676.1	1000	676.1	1058	661.2	1074	653.84	1094	650.6	1114	
GR 650.5	1148	650.4	1166	650.3	1228	650.8	1276	652.7	1312	
GR 652.7	1339	652.0	1371	651.0	1415	650.7	1455	650.3	1534	
GR 650.0	1618	652.4	1653	654.34	1672	658.2	1689	656.5	1703	
GR 660.5	1706	661.8	1756	659.2	1820	662.8	1830	655.9	1950	
GR 663.9	2000	660.5	2100	659.2	2135	664.2	2190	661.4	2390	
GR 662.7	2465	663.8	3950	658.8	3965	660.3	3990	655.3	4000	
GR 655.3	4080	661.5	4090	661.8	4200	680.0	4210			
X1	41	46	2520	3043	2570	2340	2340			
GR 702.4	1000	703.0	1104	661.8	1157	655.38	1186	654.6	1203	
GR 652.8	1218	650.4	1250	653.5	1285	655.38	1298	660.2	131	
GR 661.4	1437	659.2	1475	658.4	1484	658.8	1500	662.6	1519	
GR 662.3	1675	663.2	1693	664.9	1712	664.8	2051	661.8	2060	
GR 660.9	2088	663.8	2147	665.5	2158	664.8	2238	661.6	2257	
GR 661.1	2373	661.5	2384	665.2	2397	662.6	2445	664.9	2520	
GR 663.1	2588	659.09	2610	657.0	2630	656.9	2635	656.3	2680	
GR 655.8	2758	655.3	2830	655.8	2927	656.5	2985	658.86	3011	
GR 662.2	3029	669.5	3043	669.3	3093	670.4	3500	672.3	4730	
GR 710.0	4750									
NC	0	0	0	0.5						
X1	42	46	1667	3023	3325	3275	3370			
GR 688.3	1000	688.1	1043	692.0	1059	692.1	1081	697.5	1099	
GR 703.3	1201	670.3	1242	670.1	1245	670.0	1249	668.0	1257	
GR666.84	1294	666.5	1311	666.84	1329	668.2	1359	667.79	1430	
GR 667.3	1546	667.4	1593	667.91	1607	670.4	1632	670.6	1667	
GR 669.1	1716	667.76	1812	665.6	1917	665.5	1967	665.2	2016	
GR667.87	2059	671.2	2166	671.5	2273	668.94	2284	666.3	2324	
GR 666.4	2463	667.2	2514	667.5	2569	668.3	2646	666.7	2729	
GR 666.0	2758	664.1	2808	663.9	2845	665.4	2916	666.1	2983	
GR668.53	3004	672.9	3017	676.6	3023	676.0	3073	678.0	3340	
GR 710.0	3358									
NC		.040								
X1	43	37	2423	3227	2000	1851	1900			
X3	10									
GR 701.4	965	681.9	1000	677.4	1010	677.4	1045	673.69	1054	

GR 674.6	1068	673.68	1077	677.5	1186	681.5	1204	682.0	1734
GR 679.4	1758	681.8	1782	683.5	2099	679.4	2115	688.1	2141
GR 681.1	2161	683.11	2420	682.9	2423	674.2	2440	673.2	2481
GR 674.7	2530	676.3	2717	674.6	2774	670.90	2900	669.6	2957
GR 668.2	2966	662.2	2999	658.4	3053	658.2	3075	657.6	3114
GR 658.7	3148	663.4	3179	670.1	3209	670.59	3212	672.4	3221
GR 675.6	3227	700.0	3240						
X1 43.5	24	2625	3436	1250	1450	1400			
X3 10									
GR 685.6	1300	685.6	2200	681.7	2450	681.3	2500	681.7	2530
GR 685.0	2580	685.2	2625	679.9	2645	679.9	2700	680.6	2730
GR 680.4	2800	678.7	2815	678.6	2900	675.7	3000	673.8	3100
GR 672.3	3160	667.5	3200	665.2	3250	664.5	3300	664.6	3315
GR 665.9	3350	674.8	3410	679.0	3427	692.0	3436		
X1 44	49	2793	3441	1050	2850	2200			
X3 10									
GR 727.1	960	725.8	970	705.5	1000	702.5	1101	697.9	1138
GR 702.1	1161	696.5	1457	690.7	1484	691.3	1568	691.7	1974
GR 688.8	2005	690.9	2047	689.4	2091	691.2	2110	691.5	2161
GR 686.6	2187	683.1	2238	682.0	2302	689.8	2323	688.67	2337
GR 682.5	2361	682.9	2425	680.76	2469	680.2	2497	680.79	2529
GR 683.0	2556	688.1	2579	690.3	2790	690.3	2793	686.1	2803
GR 683.6	2813	682.0	2914	679.92	3034	678.2	3082	677.7	3120
GR 675.8	3169	675.3	3235	674.6	3300	676.5	3373	680.06	3404
GR 686.0	3435	691.5	3441	692.8	3497	690.3	3631	693.9	3651
GR 689.5	4291	686.4	4301	687.0	4401	720.0	4425		
NC .080	.080	.040	0.1	0.3					
X1 45	25	1226	1620	1470	1500	1470			
X3 10									
GR 693.0	1000	695.7	1081	693.7	1115	692.2	1125	692.15	1126
GR 690.7	1160	690.60	1168	687.00	1176	683.25	1201	686.10	1226
GR 678.40	1232	678.2	1272	675.2	1331	673.5	1386	676.4	1440
GR 679.0	1495	680.7	1532	683.32	1564	688.20	1612	690.10	1620
GR 689.70	1651	692.0	1680	698.6	1692	699.1	1728	721.9	1775
NC		.045							
X1 46	26	1587	2065	2650	980	1500			
X3 10									
GR 718.6	0040	703.0	0072	701.3	0395	694.8	0400	697.0	0425
GR 698.7	1000	700.2	1100	699.8	1106	692.6	1123	686.6	1172
GR 686.7	1221	688.8	1521	692.7	1534	692.9	1581	694.1	1587
GR 693.89	1620	687.17	1666	685.2	1705	684.0	1774	682.6	1832
GR 682.0	1904	681.4	1955	683.0	2009	686.73	2052	690.2	2065
GR 728.8	2106								
NC		.040							
X1 47	38	2100	2541	820	1025	1025			
X3 10									
GR 719.8	0070	703.4	0100	699.7	0350	703.8	0465	699.1	0490
GR 701.8	0650	697.9	0710	696.1	0720	696.1	0740	698.2	0750
GR 699.8	1100	700.4	1200	693.3	1218	689.5	1286	687.7	1458
GR 692.3	1509	693.9	1552	696.8	1572	697.0	1795	696.3	1807
GR 696.3	1820	698.8	1843	692.5	1896	697.42	1942	696.9	2100
GR 695.6	2116	693.3	2135	688.47	2196	685.6	2254	685.0	2290
GR 684.3	2340	682.0	2378	681.9	2432	683.4	2475	684.9	2490
GR 689.02	2518	694.5	2541	728.6	2570				
X1 48	32	1740	2343	700	1760	1325	0.94		
X3 10									
GR 721.0	0000	705.0	0030	702.5	0570	698.0	0600	700.0	0620
GR 702.82	1000	700.02	1101	697.02	1110	695.12	1127	689.68	1153
GR 688.12	1160	689.57	1188	690.42	1232	689.57	1253	688.32	1274
GR 689.53	1300	692.22	1321	695.82	1532	697.92	1740	691.70	1815

GR 688.4	1891	685.3	1979	687.9	2069	688.7	2155	689.12	2214
GR 691.17	2279	696.62	2330	702.0	2343	691.7	2555	691.7	2570
GR 694.9	2585	739.1	2779						
X1 49	27	1206	2109	3770	4550	4325			
GR 727.9	1000	727.2	1046	730.7	1095	733.1	1168	704.3	1206
GR 701.0	1236	701.4	1272	699.01	1284	697.3	1303	694.8	1336
GR 694.3	1376	694.2	1438	694.8	1502	695.9	1537	698.88	1592
GR 704.5	1811	701.8	1971	701.3	2010	705.1	2109	708.3	2111
GR 713.1	2132	712.4	2182	712.2	2530	718.0	2540	717.0	3280
GR 714.0	3285	740.0	3350						
NC		.045							
X1 50	22	1008	1561	1345	1125	1350			
GR 720.3	0995	718.1	0996	715.9	0997	713.7	0998	711.5	0999
GR 705.9	1008	701.92	1021	696.8	1061	693.5	1082	697.0	1194
GR 696.7	1287	697.2	1387	698.4	1442	701.98	1478	707.5	1490
GR 709.9	1561	709.1	1935	715.3	1950	713.2	2050	714.7	2065
GR 713.1	2600	730.0	2670						
NC		.050							
X1 51	25	1005	1680	2140	2220	2140			
X2 9540									
GR 740.0	0990	735.6	0992	731.2	0994	726.7	0996	722.3	0998
GR 712.3	1005	707.04	1020	705.1	1035	704.5	1065	704.0	1129
GR 701.9	1175	702.5	1251	704.2	1290	706.5	1348	705.5	1414
GR 705.1	1493	703.7	1577	704.8	1612	705.6	1644	707.04	1657
GR 710.83	1670	713.3	1677	715.1	1680	715.7	1712	726.0	2295
X1 52	49	1000	2453	3000	3200	2910			
X3 10									
GR 735.0	1000	730.9	1006	726.7	1012	722.6	1018	718.5	1024
GR 715.3	1029	713.46	1051	712.9	1068	713.40	1088	715.0	1108
GR 716.8	1399	714.6	1496	716.9	1609	715.8	1703	713.79	1714
GR 711.3	1729	709.7	1786	708.0	1829	707.2	1900	707.4	1965
GR 711.1	2029	713.81	2050	716.2	2064	717.9	2111	716.8	2296
GR 714.8	2305	713.8	2319	714.5	2357	719.6	2366	721.6	2453
GR 721.1	2625	721.1	2629	716.9	2633	716.0	2655	716.17	2669
GR 715.2	2727	716.39	2779	716.5	2870	716.44	2939	714.4	3048
GR 714.3	3076	714.3	3099	714.8	3130	716.14	3165	718.1	3171
GR 722.0	3181	724.6	3209	746.0	4010	750.0	4013		
X1 53	32	1880	2488	4350	3300	3800			
X3 10									
GR 750.0	0485	736.4	0500	735.6	0700	735.1	0800	734.7	0900
GR 734.3	1000	731.3	1414	729.3	1571	728.9	1775	726.4	1796
GR 724.9	1801	724.03	1845	723.6	1856	724.02	1863	727.3	1872
GR 727.9	1873	731.0	1875	733.2	1880	728.4	1885	722.23	1908
GR 720.2	1929	718.9	1990	718.1	2048	717.2	2118	717.2	2198
GR 718.6	2291	718.8	2353	721.0	2381	722.28	2391	727.5	2447
GR 732.3	2488	740.0	2540						
NC		.055							
X1 54	30	1567	2138	3900	3500	3590			
X3 10									
GR 743.8	0500	743.4	0600	742.8	0750	742.1	0900	741.7	1000
GR 740.9	1138	736.4	1149	733.4	1159	734.0	1270	733.50	1334
GR 732.6	1408	731.7	1436	733.62	1480	734.8	1496	738.4	1505
GR 740.5	1567	740.3	1571	734.7	1578	731.82	1687	730.0	1722
GR 728.4	1771	726.8	1817	726.3	1869	727.0	1933	728.2	1996
GR 729.5	2080	731.70	2104	736.4	2131	744.0	2138	750.0	2144
X1 55	33	1637	2291	3350	3650	3490			
X3 10									
GR 764.0	0990	760.0	0992	756.0	0994	752.0	0996	750.0	0997
GR 743.9	1000	743.6	1150	743.3	1293	747.2	1313	747.5	1454
GR 748.5	1627	748.6	1630	746.5	1637	746.6	1646	744.0	1656

GR739.89	1665	736.7	1677	735.2	1711	735.4	1741	736.6	1769
GR739.90	1790	741.9	1802	743.4	1859	742.57	1915	740.4	1955
GR 738.9	2023	739.3	2083	739.1	2167	739.3	2216	740.1	2246
GR742.53	2277	746.6	2291	757.0	2300				
X1 56	36	1587	2293	3450	3450	3335			
X3 10									
GR 776.5	0490	756.5	0500	758.3	0560	753.8	0730	756.0	0820
GR 760.0	1000	755.8	1009	757.1	1020	755.7	1100	753.4	1111
GR 752.9	1131	755.4	1140	755.8	1249	753.7	1277	753.5	1315
GR 753.7	1345	756.0	1352	757.4	1415	759.30	1573	758.9	1587
GR 757.0	1601	754.8	1607	753.0	1627	756.4	1715	750.96	1832
GR 748.6	1893	747.3	1953	745.2	2021	744.4	2062	744.6	2116
GR 746.2	2189	747.1	2215	748.7	2247	750.94	2271	755.9	2293
GR 776.0	2310								
NC		.050							
X1 57	32	1110	1778	850	1250	1155			
X3 10									
GR 779.5	0030	759.5	0040	762.3	0140	756.7	0365	764.0	0565
GR 759.2	0605	758.7	0665	753.4	0675	753.4	0690	759.1	0700
GR 761.1	1000	761.4	1100	761.5	1110	756.0	1114	751.96	1126
GR 749.9	1146	748.8	1178	747.8	1226	747.9	1292	749.7	1355
GR 751.1	1405	752.2	1448	751.8	1555	748.7	1571	745.5	1600
GR 746.5	1629	747.3	1669	748.8	1710	750.4	1721	751.83	1741
GR 757.9	1778	768.0	1784						
X1 58	29	1322	1945	4000	4700	4435			
X3 10									
GR 782.7	0990	781.0	0991	779.3	0992	777.6	0993	776.0	0994
GR 765.7	1000	761.68	1012	761.00	1048	761.29	1092	764.7	1121
GR 766.2	1150	766.2	1188	768.9	1209	770.9	1322	769.2	1332
GR 767.5	1369	763.27	1399	760.7	1472	759.9	1522	759.4	1577
GR 756.9	1661	757.4	1725	758.8	1762	760.9	1795	763.23	1827
GR 767.7	1928	772.8	1945	772.9	1995	785.0	2002		
X1 59	19	1107	1599	8650	8350	8675			
X3 10									
GR 798.5	1000	796.6	1100	796.1	1107	790.1	1115	786.8	1135
GR784.54	1173	782.1	1212	779.1	1246	775.8	1301	778.3	1384
GR 780.8	1487	782.2	1505	782.1	1521	784.54	1564	789.6	1588
GR 795.5	1599	794.7	1649	794.2	1740	805.0	1745		
NC		.055							
X1 60	18	1119	1525	14410	14200	14430			
GR 834.4	1000	831.6	1022	832.6	1082	831.7	1100	828.3	1119
GR 823.5	1138	817.75	1184	815.3	1212	813.3	1297	811.1	1333
GR 808.5	1389	810.5	1400	812.8	1444	813.0	1474	814.7	1492
GR817.79	1511	823.2	1525	835.0	1540				
X1 61	17	996	1306	5975	6250	6190			
GR 850.5	0990	848.5	0992	844.5	0994	840.5	0996	836.5	0998
GR832.48	1000	827.6	1004	824.3	1016	819.5	1031	820.5	1073
GR 821.7	1119	826.3	1180	829.3	1224	831.3	1260	832.49	1287
GR 838.9	1306	848.0	1313						
X1 62	20	989	1326	1120	1120	1120			
X2 9140									
GR 864.0	0985	862.0	0986	860.0	0987	858.0	0988	856.0	0989
GR833.89	1000	826.2	1015	822.3	1039	826.3	1071	829.4	1103
GR 830.3	1159	827.7	1192	827.7	1223	830.2	1257	832.1	1290
GR833.90	1300	838.5	1316	843.0	1326	850.0	1330	860.0	1335
X1 63	13	998	1311	1160	1210	1110			
GR 859.1	998	839.1	1000	832.9	1009	827.2	1071	827.7	1129
GR 827.7	1147	831.7	1215	833.7	1259	835.9	1283	839.2	1290
GR 844.3	1305	847.1	1309	867.1	1311				
X1 64	12	998	1330	1020	1060	1040			

GR	860.7	998	840.7	1000	835.9	1006	825.9	1045	825.4	1085
GR	832.4	1145	835.4	1172	836.1	1255	837.1	1303	841.1	1316
GR	848.2	1330	868.2	1332						
X1	65	20	998	1684	610	600	560			
GR	862.8	998	842.8	1000	839.1	1015	836.1	1069	836.6	1110
GR	838.1	1175	839.6	1208	842.4	1241	847.3	1270	844.5	1280
GR	846.9	1347	846.4	1398	844.0	1487	841.2	1504	838.5	1544
GR	837.2	1584	838.5	1624	842.7	1664	852.7	1684	872.7	1704
X1	66	17	998	1667	300	350	290			
GR	863.2	998	843.2	1000	838.6	1008	837.2	1057	837.8	1107
GR	839.0	1180	842.8	1246	846.8	1322	844.4	1420	843.8	1452
GR	841.4	1504	839.8	1552	839.3	1597	840.3	1639	844.6	1649
GR	853.8	1667	873.8	1672						
X1	67	13	998	1404	1600	1620	1620			
GR	868.1	998	848.1	1000	843.7	1013	841.7	1076	842.2	1120
GR	841.2	1188	840.6	1239	840.9	1281	841.3	1323	842.6	1364
GR	848.4	1396	853.5	1404	873.5	1414				
X1	68	13	990	1349	2000	2000	2000			
GR	881.7	990	861.7	1000	852.2	1026	845.9	1042	834.9	1080
GR	829.9	1125	831.9	1140	845.4	1206	846.5	1234	846.9	1283
GR	846.5	1319	851.7	1349	871.7	1353				

EJ

T1 SUSITNA HYDROELECTRIC PROJECT (SUBTASK 3.06 HYDRAULIC AND ICE STUDIES)

T2 Q=13,400 CFS, STARTING W.S.E. @ LRX-3 = 344.5, NC CARDS USED

T3 MIDDLE SUSITNA RIVER--FOR FLOWS BELOW 20,000 CFS

J1	0	2	0	0	0	0	0	13400	344.5	1.3814
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J2	2	0	-1	0	0	-0.95	0	0	0	15
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T1 SUSITNA HYDRO PROJECT

T2 Q=17,000 CFS, STARTING W.S.E @ LRX-3 = 345.5, NC CARDS USED

T3 MIDDLE SUSITNA RIVER--FOR FLOWS BELOW 20,000 CFS

J1	-10	2	0	0	0	0	0	17000	345.5	1.7526
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J2	15	0	-1	0	0	-0.90	0	0	0	15
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ATTACHMENT D

Susitna River, Hydrographic Maps  
(Revised December 1982)