

APPENDICES

SKAGIT RIVER SALMON AND STEELHEAD FRY STRANDING STUDIES

SEATTLE CITY LIGHT ENVIRONMENTAL AFFAIRS DIVISION

March 1989

Prepared By

R.W. BECK
AND ASSOCIATES

SKF

1989

#2

2052

APPENDICES

SKAGIT RIVER
SALMON AND STEELHEAD FRY
STRANDING STUDIES

Prepared for:
Seattle City Light

Prepared by:
R.W. Beck and Associates
David E. Pflug

MOBRAND BIOMETRICS
Dr. Lars Mobrand

March, 1989

APPENDIX A

SKAGIT RIVER HYDROGRAPHS FOR MARBLEMOUNT AND NEWHALEN USGS STREAM GAGES

USGS discharge versus time hydrographs are presented showing the actual flows for each daily test for both Newhalen and Marblemount for the Summer 1985 and Spring 1986 gravel bar stranding tests. Please refer to figure I-1 for schematic definitions of the downramp beginning flow, amplitude fluctuation, ramp rate, and ending flow or see Section III of this report.

TESTING PARAMETERS

1. 1985 Summer Gravel Bar Stranding Study (August 1 - 28)

‡ Constant Beginning Flow = 5400 cfs

‡ Downramp Amplitude Fluctuation A1 = 2000 cfs
A2 = 4000 cfs

‡ Downramp Ramping Rate R1 = Accelerated Ramp Rate (See Section III)
R2 = 1000 cfs/hour
R3 = 5000 cfs/hour

‡ All testing levels were to be achieved at the Newhalen USGS Stream Gage

2. 1986 Spring Gravel Bar Stranding Study (March 12 - April 17)

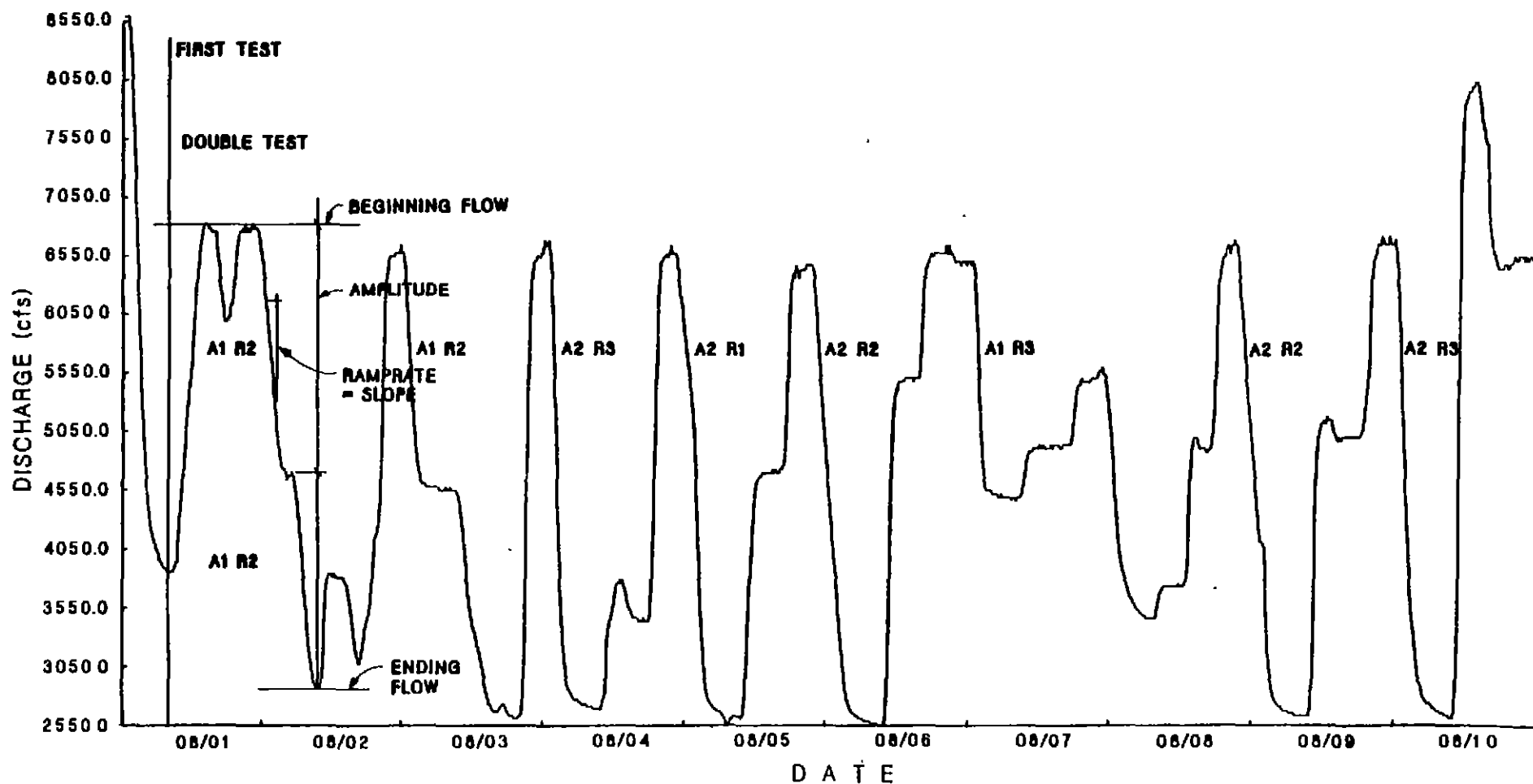
‡ Downramp Ending Flow E1 = 3000 cfs
E2 = 3500 cfs

‡ Downramp Amplitude Fluctuation A1 = 2000 cfs
A2 = 4000 cfs

‡ Downramping Rate R1 = 1000 cfs
R2 = 5000 cfs

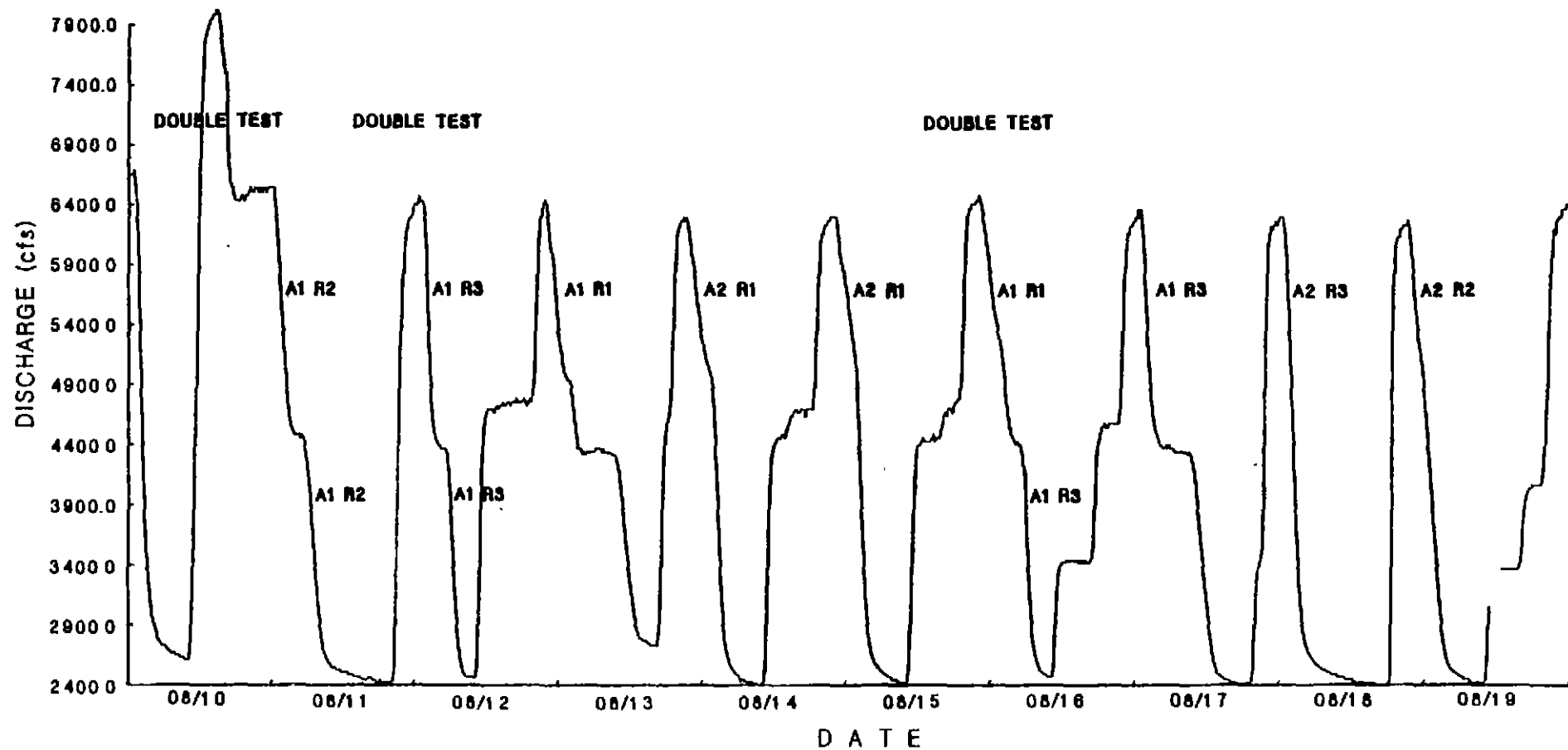
‡ All testing levels were to be achieved at the Newhalen USGS Stream Gage except the Ending Flow which was to occur at the Marblemount USGS Stream gage

DISCHARGE VS. TIME HYDROGRAPH
SKAGIT RIVER AT MARBLEMOUNT
August 1, 1985 - August 10, 1985
WATER YEAR 1985



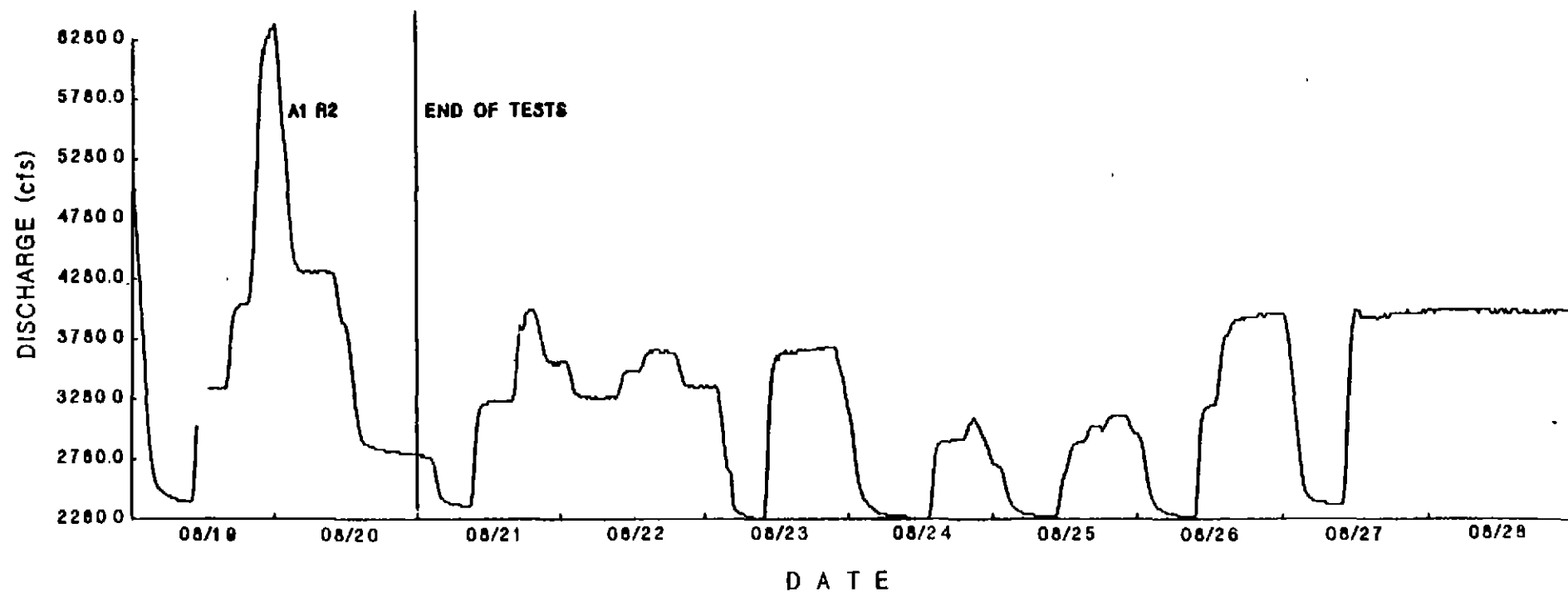
NOTE: BEGINNING FLOWS FROM NEWHALEM WERE CONSTANT AT APPROXIMATELY 5400 CFS.
 SEE HYDROLOGY SECTION OF REPORT FOR TEST DESCRIPTIONS.

DISCHARGE VS. TIME HYDROGRAPH
SKAGIT RIVER AT MARBLEMOUNT
August 10, 1985 - August 19, 1985
WATER YEAR 1985



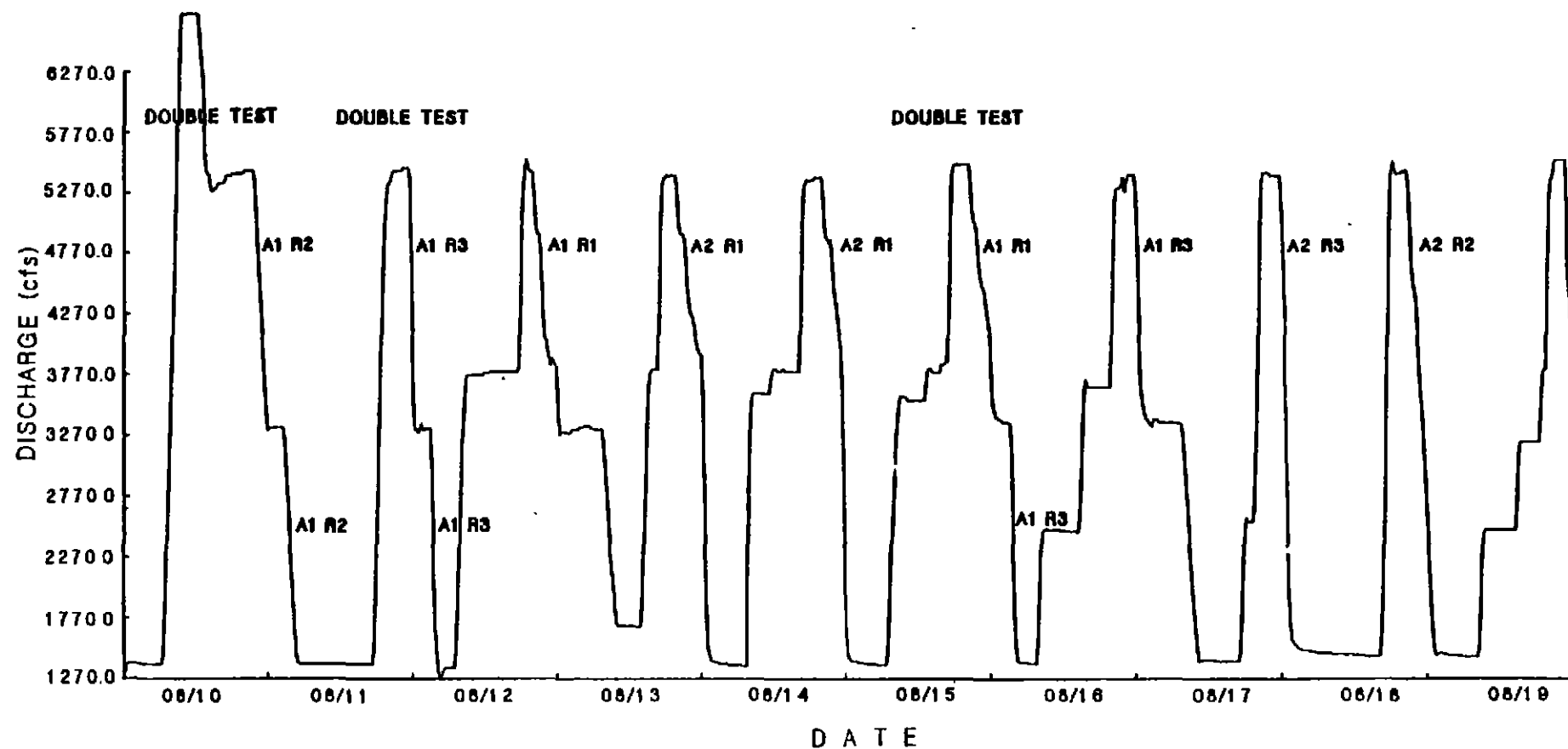
NOTE: BEGINNING FLOWS FROM NEWHALEM WERE CONSTANT AT APPROXIMATELY 5400 CFS.
 SEE HYDROLOGY SECTION OF REPORT FOR TEST DESCRIPTIONS.

DISCHARGE VS. TIME HYDROGRAPH
SKAGIT RIVER AT MARBLEMOUNT
August 19, 1985 - August 28, 1985
WATER YEAR 1985



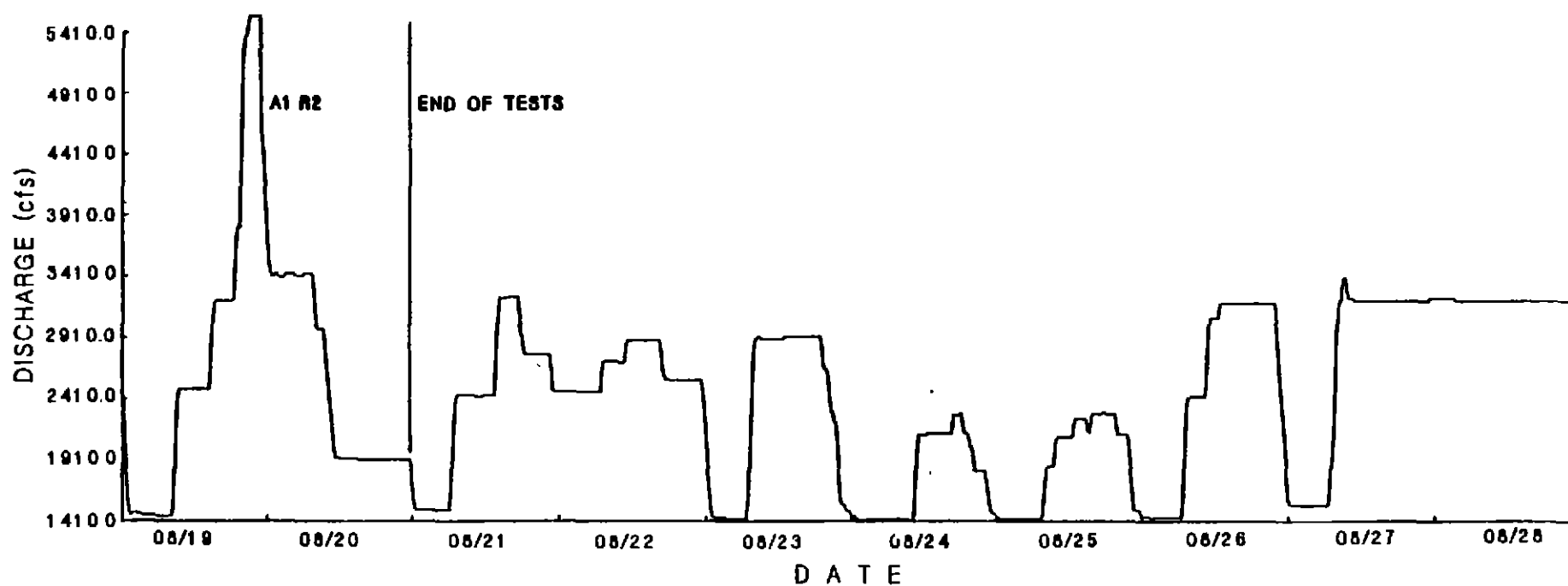
NOTE: BEGINNING FLOWS FROM NEWHALEM WERE CONSTANT AT APPROXIMATELY 5400 CFS.
SEE HYDROLOGY SECTION OF REPORT FOR TEST DESCRIPTIONS.

DISCHARGE VS. TIME HYDROGRAPH
SKAGIT RIVER AT NEWHALEM
August 10, 1985 - August 19, 1985
WATER YEAR 1985



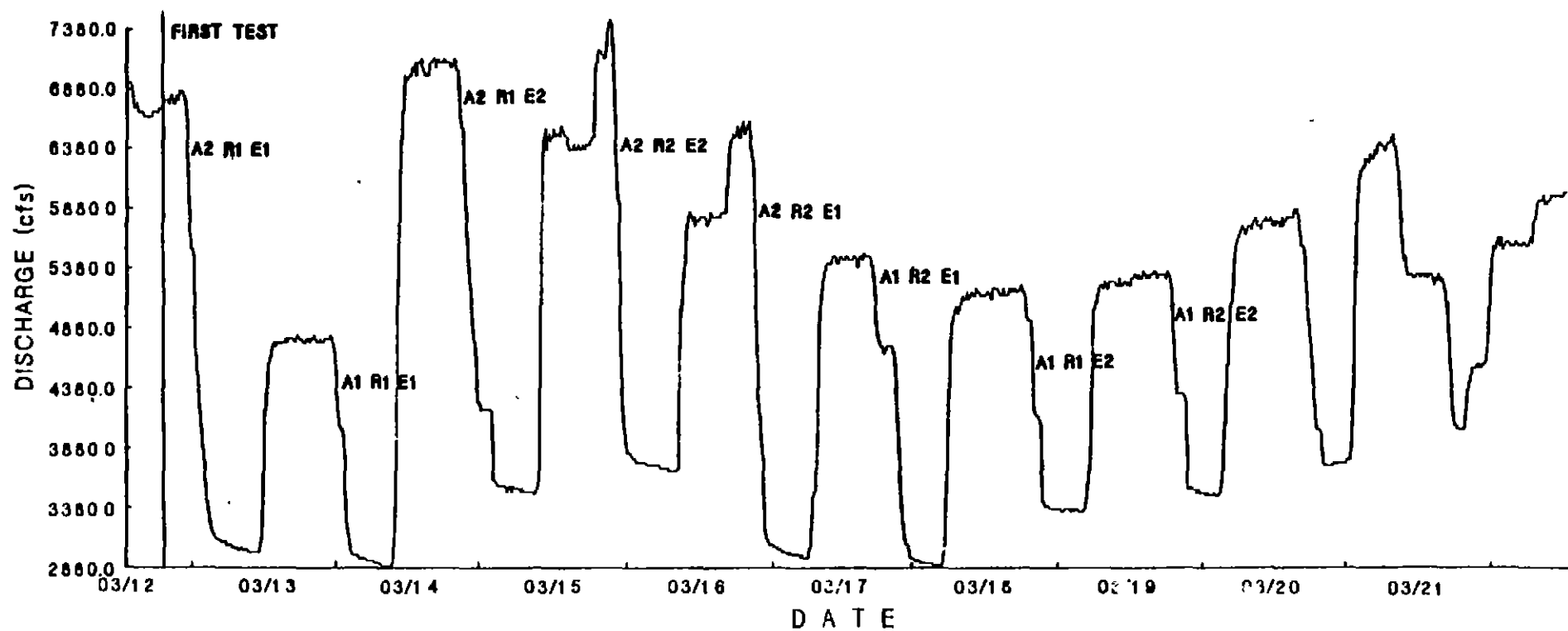
**NOTE: BEGINNING FLOWS FROM NEWHALEM WERE CONSTANT AT APPROXIMATELY 5400 CFS.
 SEE HYDROLOGY SECTION OF REPORT FOR TEST DESCRIPTIONS.**

DISCHARGE VS. TIME HYDROGRAPH
SKAGIT RIVER AT NEWHALEM
August 19, 1985 - August 28, 1985
WATER YEAR 1985



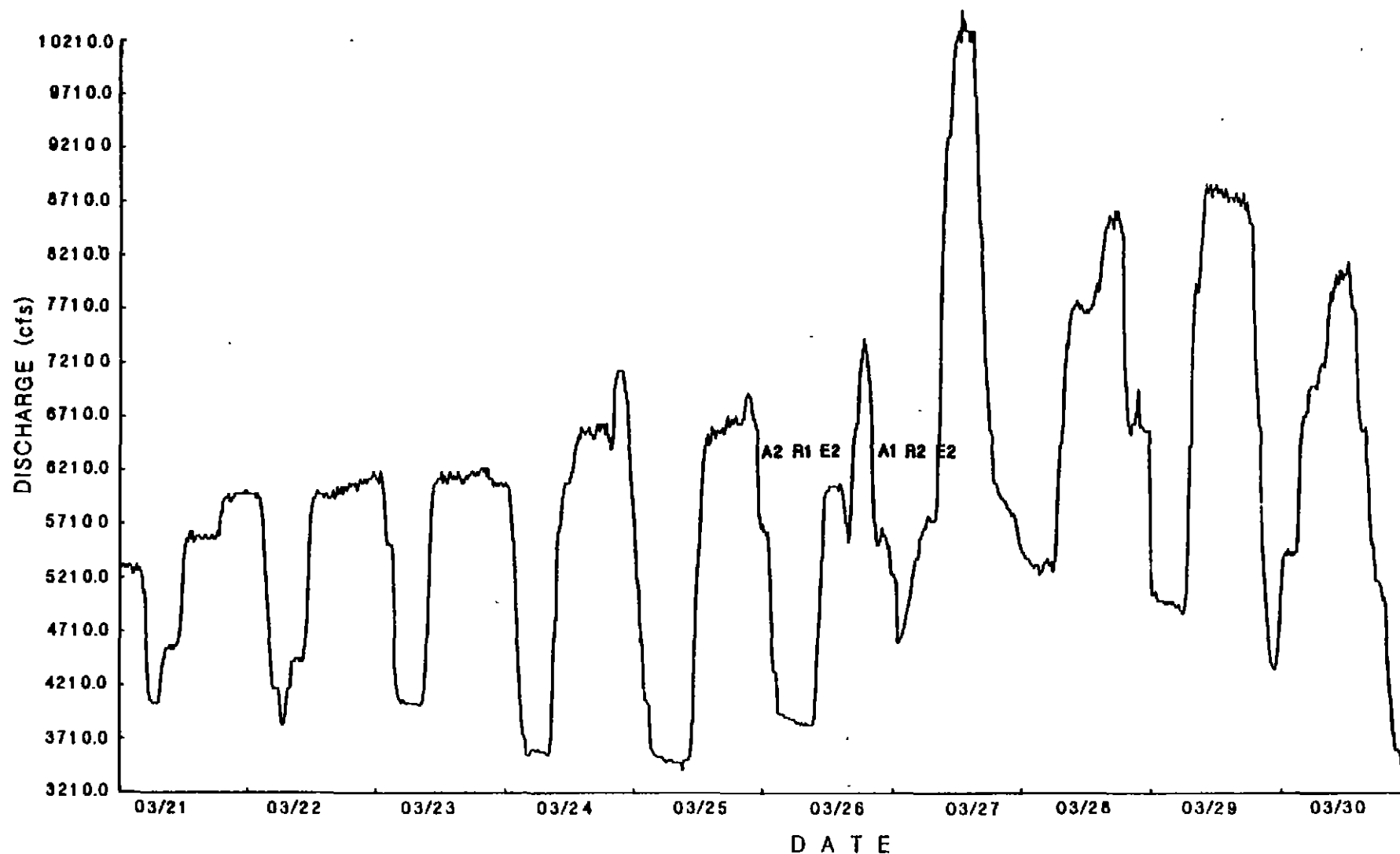
**NOTE: BEGINNING FLOWS FROM NEWHALEM WERE CONSTANT AT APPROXIMATELY 6400 CFS.
 SEE HYDROLOGY SECTION OF REPORT FOR TEST DESCRIPTIONS.**

DISCHARGE VS. TIME HYDROGRAPH
SKAGIT RIVER AT MARBLEMOUNT
March 12, 1986 - March 21, 1986
WATER YEAR 1986



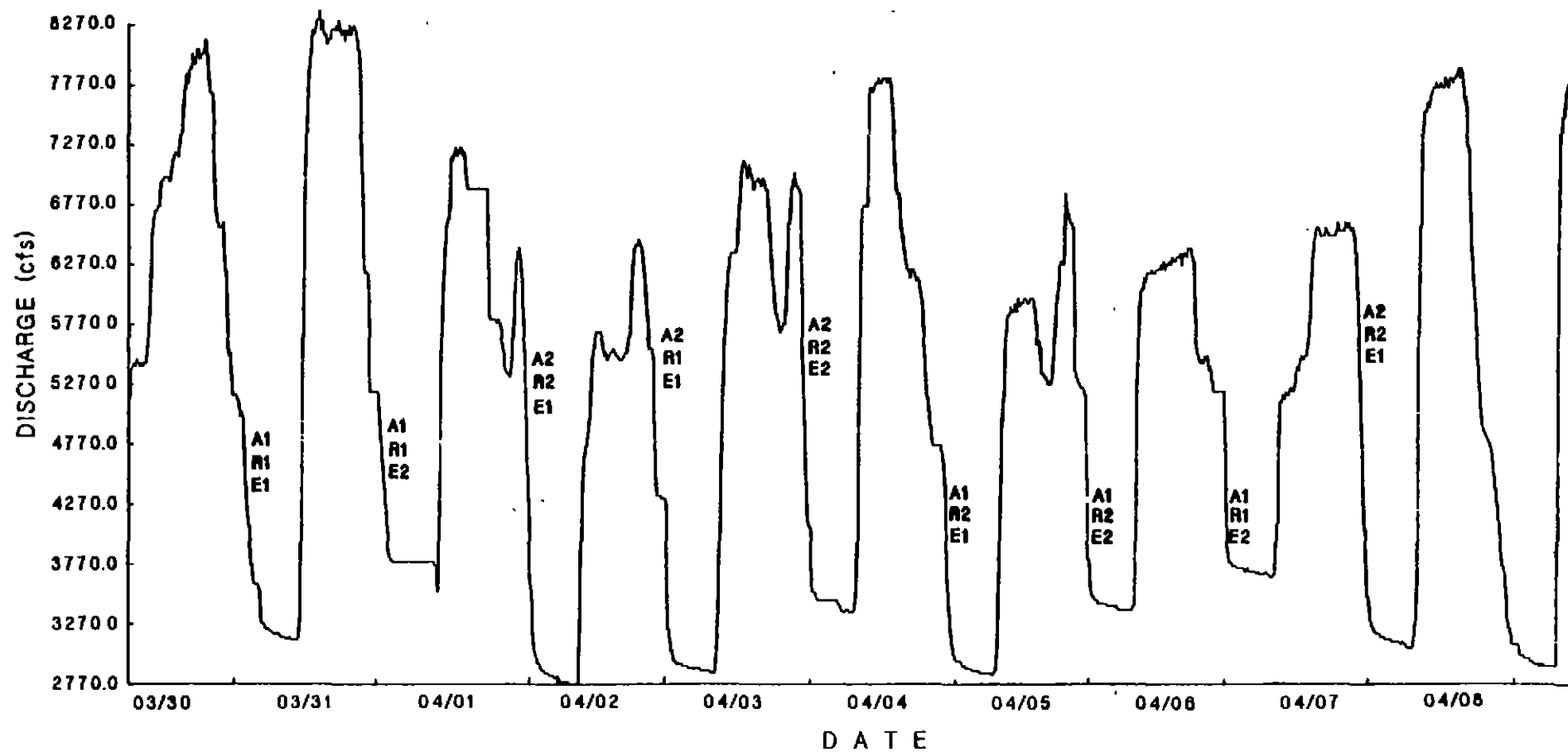
NOTE: ENDING FLOWS AT MARBLEMOUNT USGS GAGE WERE EITHER 3000 CFS OR 3500 CFS. SEE HYDROLOGY SECTION OF REPORT FOR TEST DESCRIPTIONS.

DISCHARGE VS. TIME HYDROGRAPH
SKAGIT RIVER AT MARBLEMOUNT
March 21, 1986 - March 30, 1986
WATER YEAR 1986



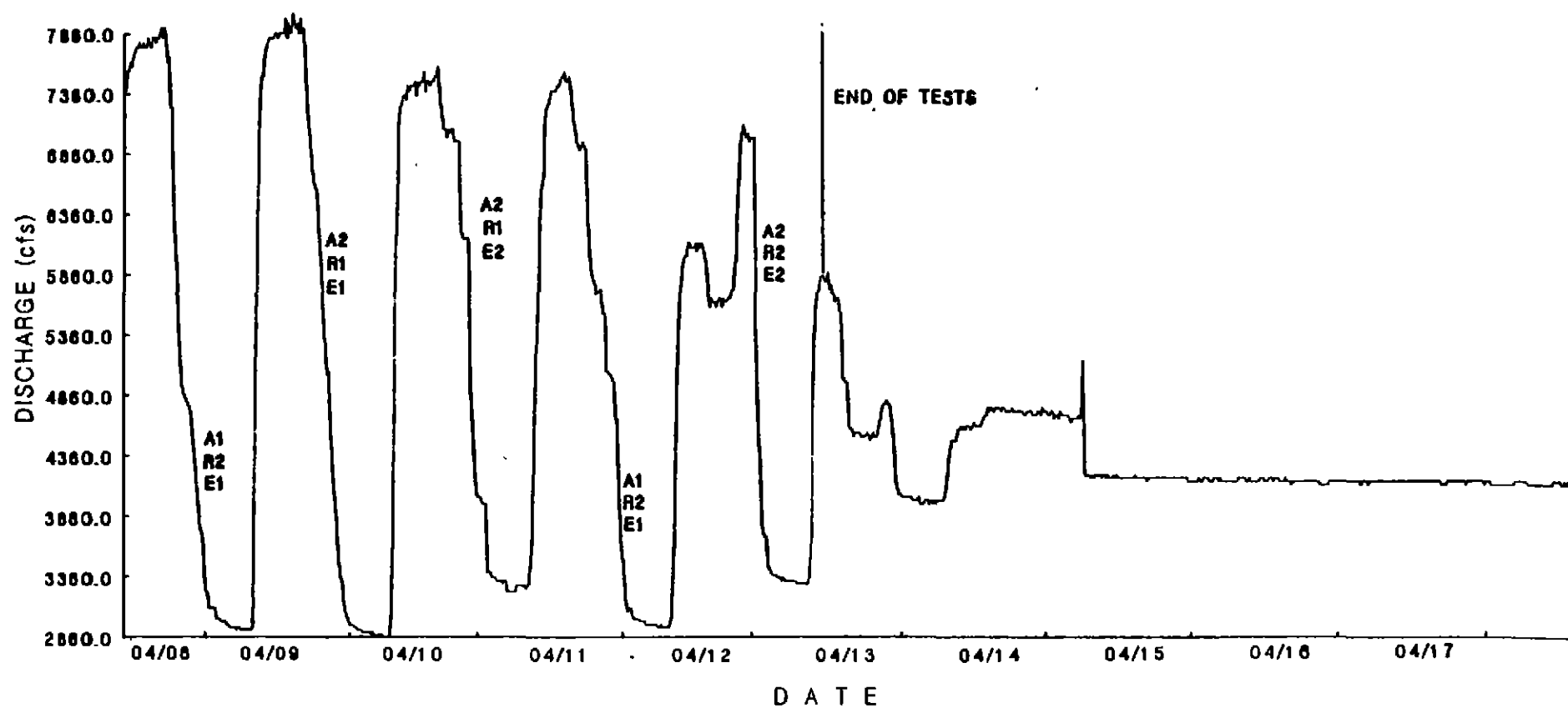
NOTE: ENDING FLOWS AT MARBLEMOUNT USGS GAGE WERE EITHER 3000 CFS OR 3500 CFS. SEE HYDROLOGY SECTION OF REPORT FOR TEST DESCRIPTIONS.

DISCHARGE VS. TIME HYDROGRAPH
SKAGIT RIVER AT MARBLEMOUNT
March 30, 1986 - April 8, 1986
WATER YEAR 1986



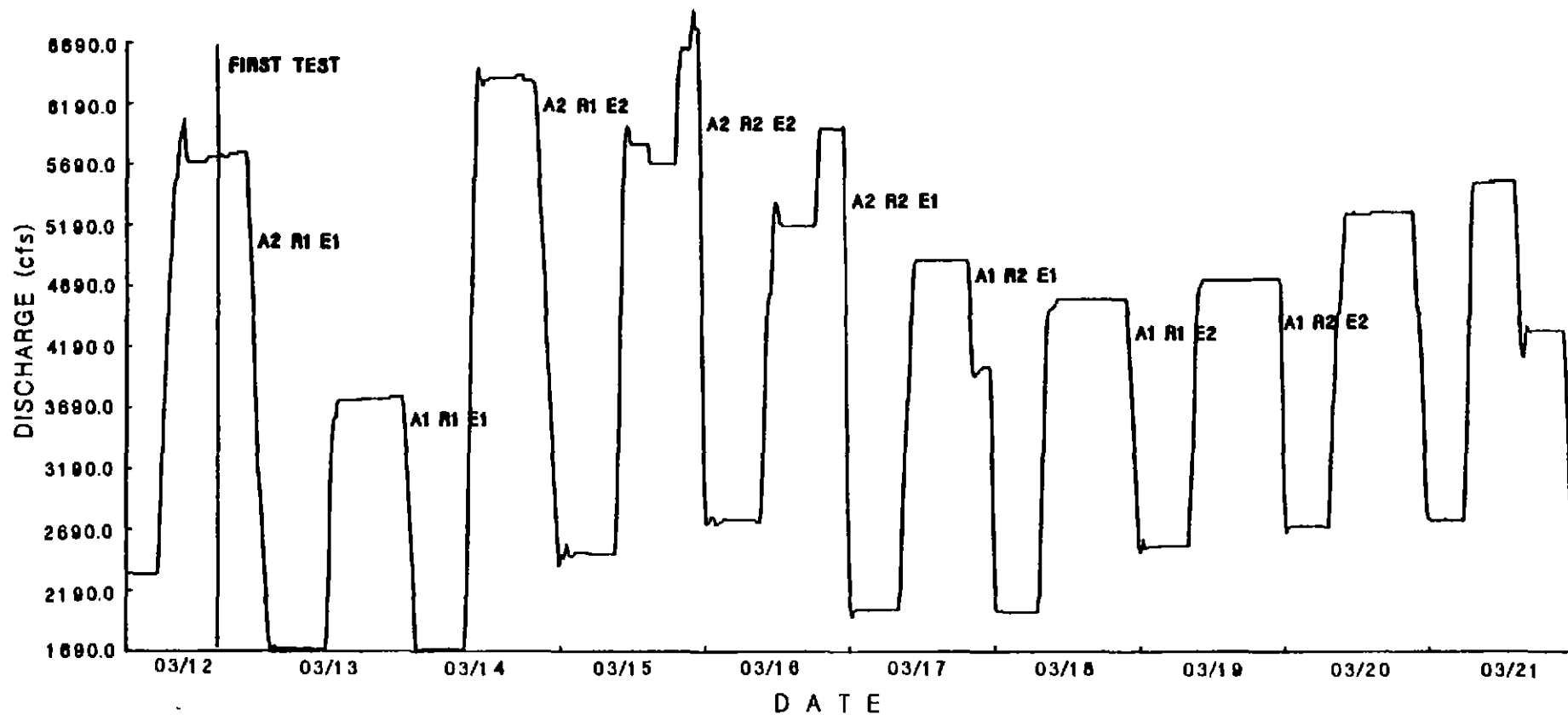
NOTE: ENDING FLOWS AT MARBLEMOUNT USGS GAGE WERE EITHER 3000 CFS OR 3500 CFS. SEE HYDROLOGY SECTION OF REPORT FOR TEST DESCRIPTIONS.

DISCHARGE VS. TIME HYDROGRAPH
SKAGIT RIVER AT MARBLEMOUNT
April 8, 1986 - April 17, 1986
WATER YEAR 1986



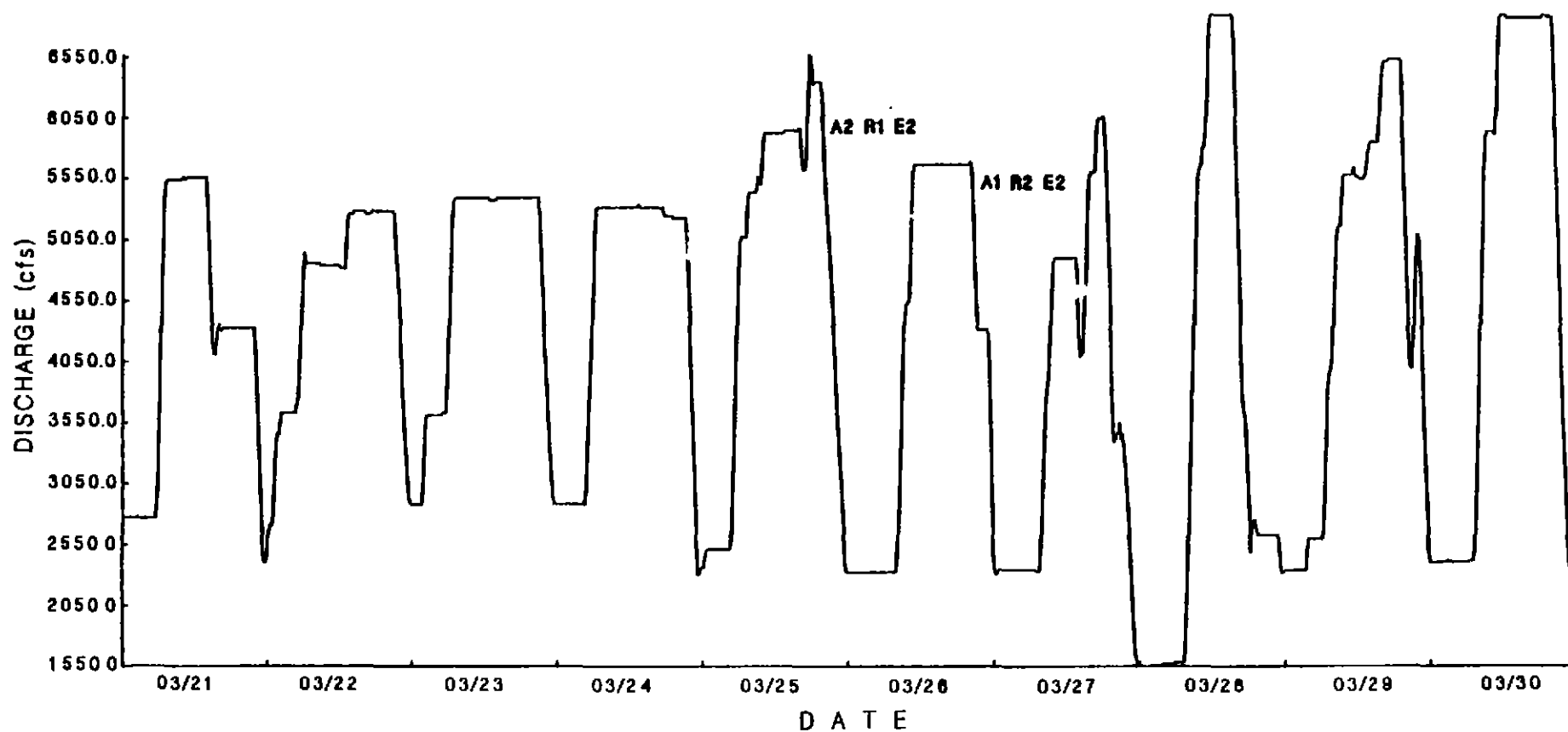
NOTE: ENDING FLOWS AT MARBLEMOUNT USGS GAGE WERE EITHER 3000 CFS OR 3500 CFS. SEE HYDROLOGY SECTION OF REPORT FOR TEST DESCRIPTIONS.

DISCHARGE VS. TIME HYDROGRAPH
SKAGIT RIVER AT NEWHALEM
March 12, 1986 - March 21, 1986
WATER YEAR 1986



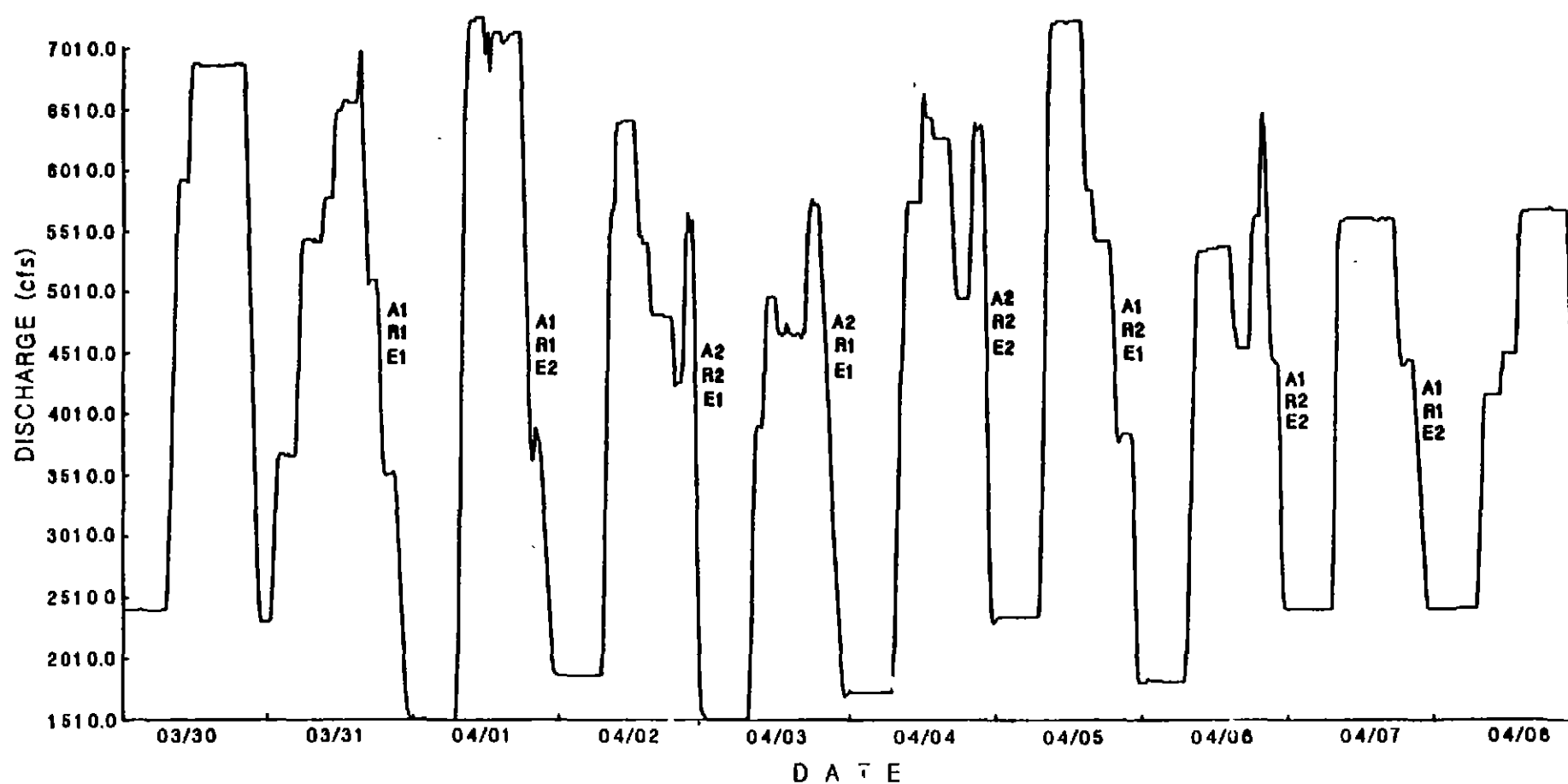
NOTE: ENDING FLOWS AT MARBLEMOUNT USGS GAGE WERE EITHER 3000 CFS OR 3500 CFS. SEE HYDROLOGY SECTION OF REPORT FOR TEST DESCRIPTIONS.

DISCHARGE VS. TIME HYDROGRAPH
SKAGIT RIVER AT NEWHALEM
March 21, 1966 - March 30, 1966
WATER YEAR 1966



NOTE: ENDING FLOWS AT MARBLEMOUNT USGS GAGE WERE EITHER 3000 CFS OR 3500 CFS. SEE HYDROLOGY SECTION OF REPORT FOR TEST DESCRIPTIONS.

DISCHARGE VS. TIME HYDROGRAPH
SKAGIT RIVER AT NEWHALEM
March 30, 1986 - April 8, 1986
WATER YEAR 1986



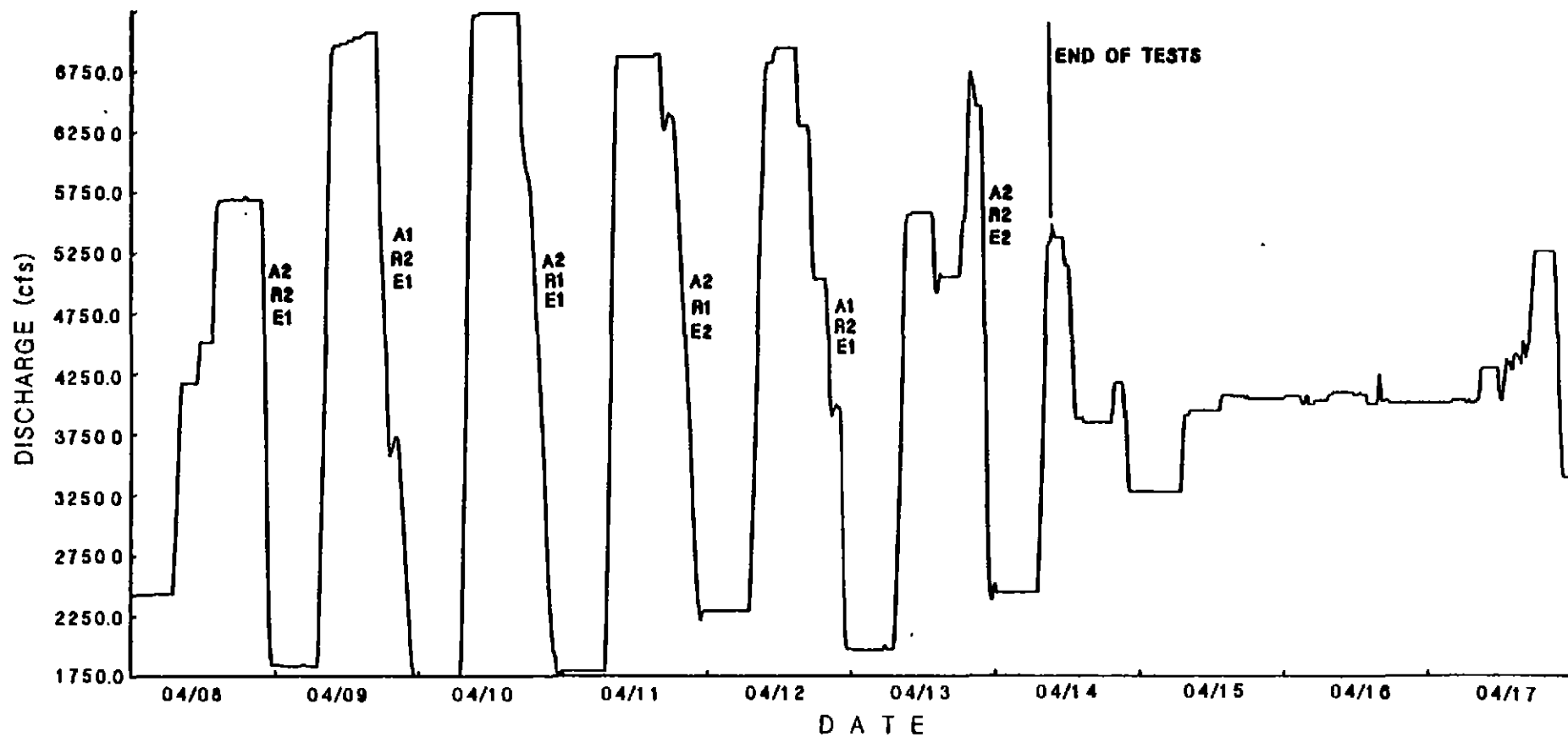
NOTE: ENDING FLOWS AT MARBLEMOUNT USGS GAGE WERE EITHER 3000 CFS OR 3500 CFS. SEE HYDROLOGY SECTION OF REPORT FOR TEST DESCRIPTIONS.

DISCHARGE VS. TIME HYDROGRAPH

SKAGIT RIVER AT NEWHALEM

April 8, 1986 - April 17, 1986

WATER YEAR 1986



NOTE: ENDING FLOWS AT MARBLEMOUNT USGS GAGE WERE EITHER 3000 CFS OR 3500 CFS. SEE HYDROLOGY SECTION OF REPORT FOR TEST DESCRIPTIONS.

Table A-15 Requested Versus Actual Daily Flow Parameters For The Spring 1985
Pothole Trapping And Stranding Study

Test Date	Downramp		Amplitude†		Downramp Rate	
	Starting Flow‡ (cfs)	Ending Flow‡ (cfs)	Scheduled (cfs)	Actual (cfs)	Scheduled (cfs)	Actual§ (cfs)
2/23	5,257	2,718	2,500	2,539	1,000	1,040
3/02	5,580	4,548	1,000	1,032	2,000	1,780
3/03	5,599	3,110	2,500	2,489	2,000	2,150
3/09	6,484	2,502	4,000	3,982	1,000	980
3/10	6,547	2,502	4,00	4,045	1,000	950
3/16	5,010	2,526	2,500	2,484	1,000	1,044
3/17	5,124	3,970	1,000	1,154	2,000 /a	1,270
3/23	6,358	2,370	4,000	3,988	2,000	2,040
3/24	6,400	3,805	2,500	2,595	2,000	2,060
3/30	6,379	3,880	2,500	2,499	2,000	1,770
3/31	6,379	2,370	4,000	4,009	2,000	2,050
4/06	3,835	2,802	1,000	1,033	1,000	1,073
4/07	3,835	2,766	1,000	1,069	1,000	1,190
5/15	4,055	1,720	1,000 /a	2,335	2,000 /a	960
5/16	4,140	1,720	4,000 /a	2,420	2,000 /a	1,014

‡ Starting and ending flows and amplitudes were taken from USGS 15-minute interval readings at Newhalen

§ Ramp rates are calculated from Gorge powerhouse strip charts which show instantaneous power output

/a Scheduled to actual deviations that were greater than 10% of requested

Table A-16 Requested Versus Actual Daily Flow Parameters For The Summer 1985
Steelhead Fry Gravel Bar Stranding Study

Test Date	Newhalen Flows§		Downramp Amplitude§		Downramping Rate§§	
	Starting	Ending	Scheduled	Actual	Scheduled	Actual
8/02 (night)	5,430	3,310	2,000	2,120	1,000	510/2,760
8/02 (day)	3,310	1,440	2,000	1,870	1,000	1,000
8/03	5,410	3,330	2,000	2,080	1,000	1,019
8/04	5,430	1,410	4,000	4,020	5,000	4,910
8/05	5,490	1,410	4,000	4,090	# 500/5,000	450/8,270
8/06	5,370	1,410	4,000	3,960	1,000	990
8/07	5,370	3,360	2,000	2,010	5,000	6,190
8/09	5,410	1,420	4,000	3,990	1,000	1,030
8/10	5,370	1,400	4,000	3,970	5,000	5,440
8/11 (night)	5,450	3,330	2,000	2,120	1,000	960
8/11 (day)	3,330	1,390	2,000	1,940	1,000	1,120
8/12 (night)	5,470	3,310	2,000	2,160	5,000	6,420
8/12 (day)	3,320	1,360	2,000	1,960	5,000	8,480
8/13	5,540	3,290	2,000	2,250	# 500/5,000	421/6,990
8/14	5,410	1,400	4,000	4,010	# 500/5,000	348/4,580
8/15	5,390	1,410	4,000	3,980	# 500/5,000	477/6,390
8/16 (night)	5,500	3,410	2,000	2,100	# 500/5,000	409/6,390
8/16 (day)	3,370	1,400	2,000	1,970	5,000	6,600
8/17	5,410	3,390	2,000	2,020	5,000	6,020
8/18	5,410	1,500	4,000	3,910	5,000	6,050
8/19	5,450	1,460	4,000	3,990	1,000	940
8/20	5,540	3,410	2,000	2,130	1,000	650

§ taken from USGS 15-minute intervals readings at Newhalen gauge

§§ calculated from strip charts unless otherwise specified

partially reconstructed from USGS 15-minute readings at Newhalen gauge

Table A-17 Requested Versus Actual Daily Flow Parameters For The Spring 1986
Gravel Bar Salmon Fry Stranding Study

Test Date	Newhalen Flows Starting†	Newhalen Flows Ending†	Marblemount Scheduled	Marblemount Endflows‡	Amplitude Scheduled	Amplitude Actual	Downramp Rate‡ Scheduled	Downramp Rate‡ Actual
3/13	5,790	1,720	3,000	3,050	4,000	4,070	1,000	1,044
3/14	3,780	1,690	3,000	2,940	2,000	2,090	1,000	1,090
3/15	6,360	2,490	3,500	3,540	4,000	3,870	1,000	970
3/16	6,800	2,730	3,500	3,730	4,000	4,070	5,000	5,390
3/17	5,980	2,030	3,000	3,010	4,000	3,950	5,000	5,340
3/18	4,020	2,020	3,000	2,920	2,000	2,000	5,000	5,820
3/19	4,580	2,550	3,500	3,370	2,000	2,030	1,000	1,020
3/20	4,750	2,720	3,500	3,510	2,000	2,030	5,000	4,950
3/26	6,340	2,320	3,500	3,490	4,000	4,020	1,000	960
3/27	4,400	2,400	3,500	3,830	2,000	2,000	5,000	5,940
4/01	3,520	1,520	3,000	3,160	2,000	2,000	1,000	1,000
4/02	3,900	1,870	3,500	3,780	2,000	2,030	1,000	960
4/03	5,600	1,520	3,000	2,790	4,000	4,080	5,000	5,340
4/04	5,730	1,730	3,000	2,900	4,000	4,000	1,000	980
4/05	6,380	2,350	3,500	3,440	4,000	4,030	5,000	4,540
4/06	3,850	1,810	3,000	2,880	2,000	2,040	5,000	7,720
4/07	4,430	2,420	3,500	3,420	2,000	2,010	5,000	4,760
4/08	4,450	2,420	3,500	3,690	2,000	2,030	1,000	940
4/09	5,690	1,840	3,000	3,120	4,000	3,850	5,000	4,410
4/10	3,730	1,750	3,000	2,940	2,000	1,980	1,000	960
4/11	5,850	1,790	3,000	2,890	4,000	4,060	1,000	1,100
4/12	6,360	2,290	3,500	3,320	4,000	4,070	1,000	1,100
4/13	5,030	1,960	3,000	no data	4,000	3,070	5,000	6,190
4/14	6,460	2,440	3,500	no data	4,000	4,020	5,000	3,990

† Taken from the USGS 15-minute flow records

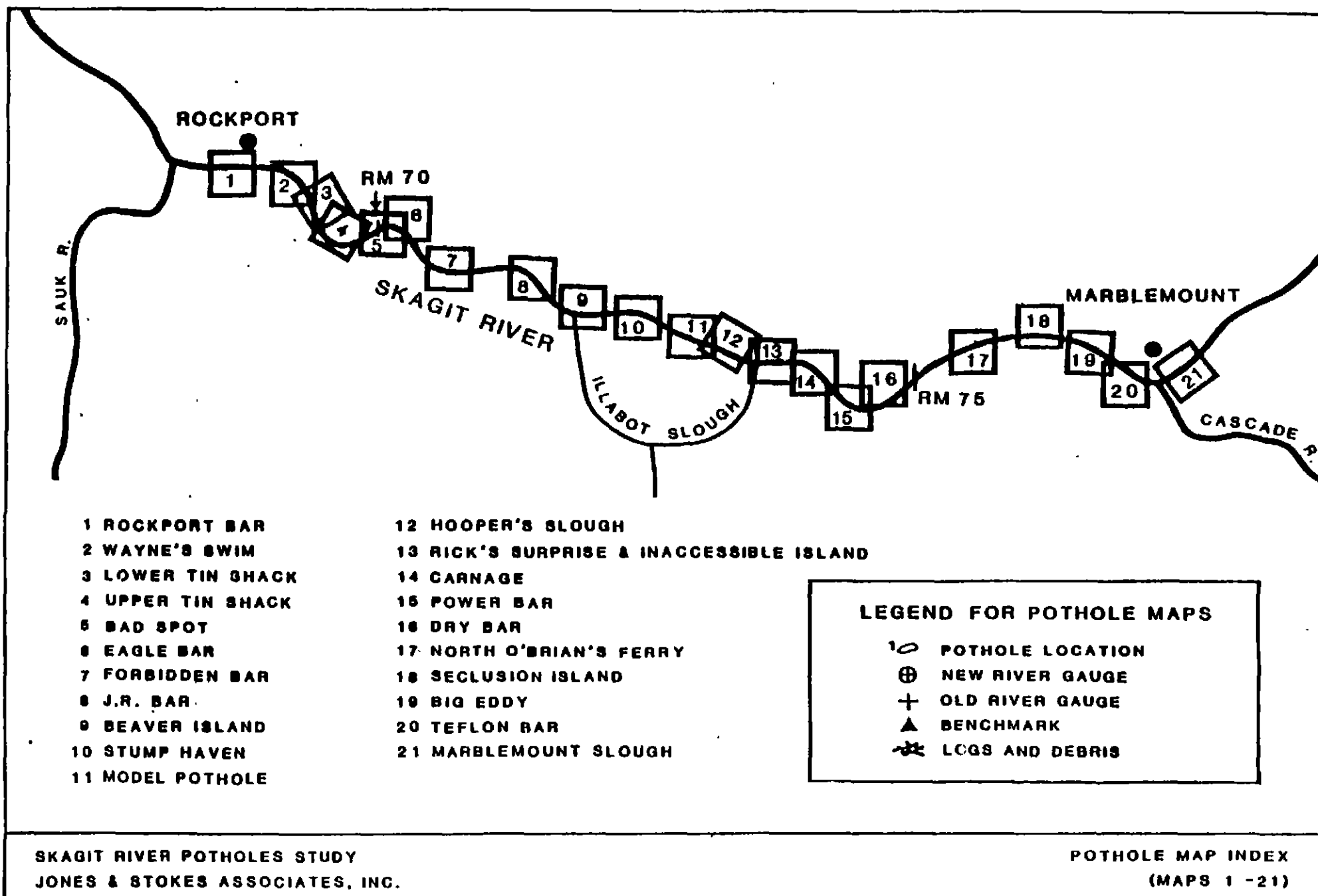
‡ Estimated from the Power Strip Charts

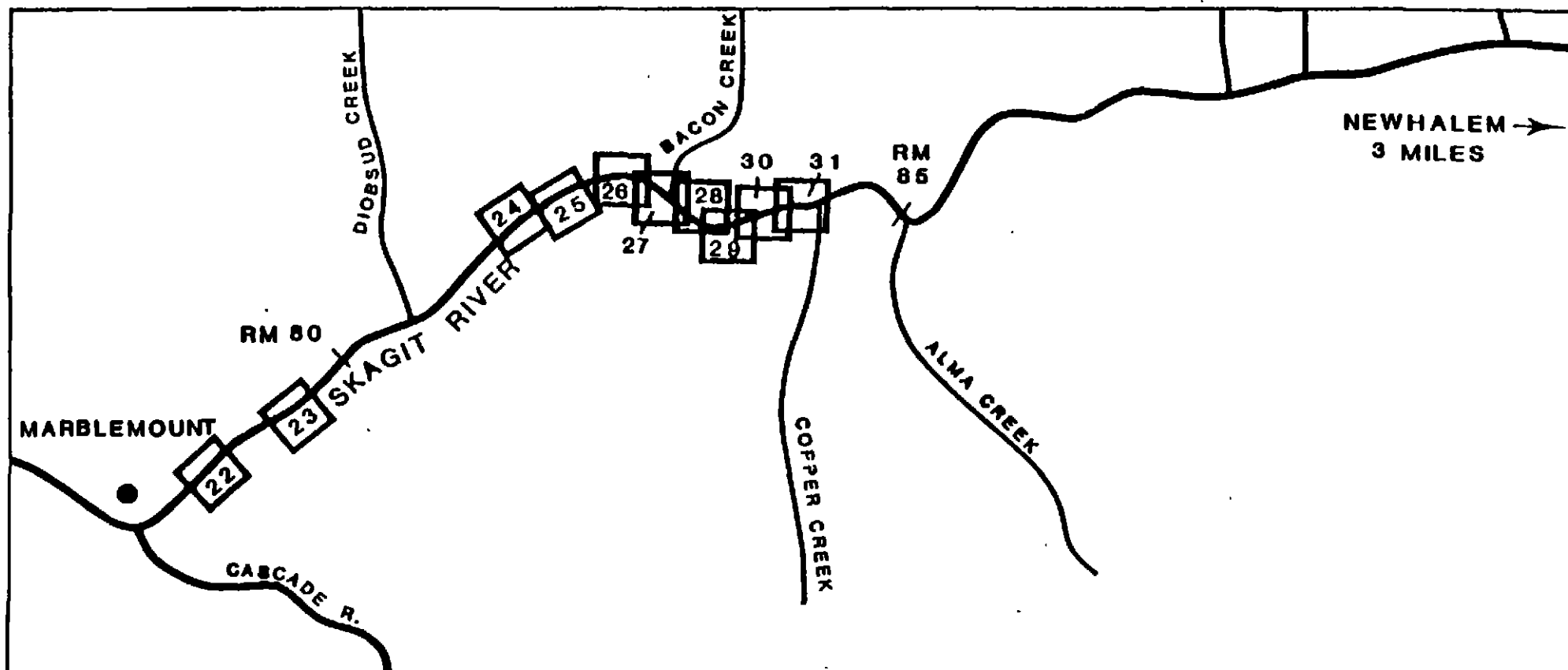
/a Scheduled to actual deviations that were greater than 10% of requested

APPENDIX 9

POTHOLE AND GRAVEL BAR STRANDING LOCATION MAPS

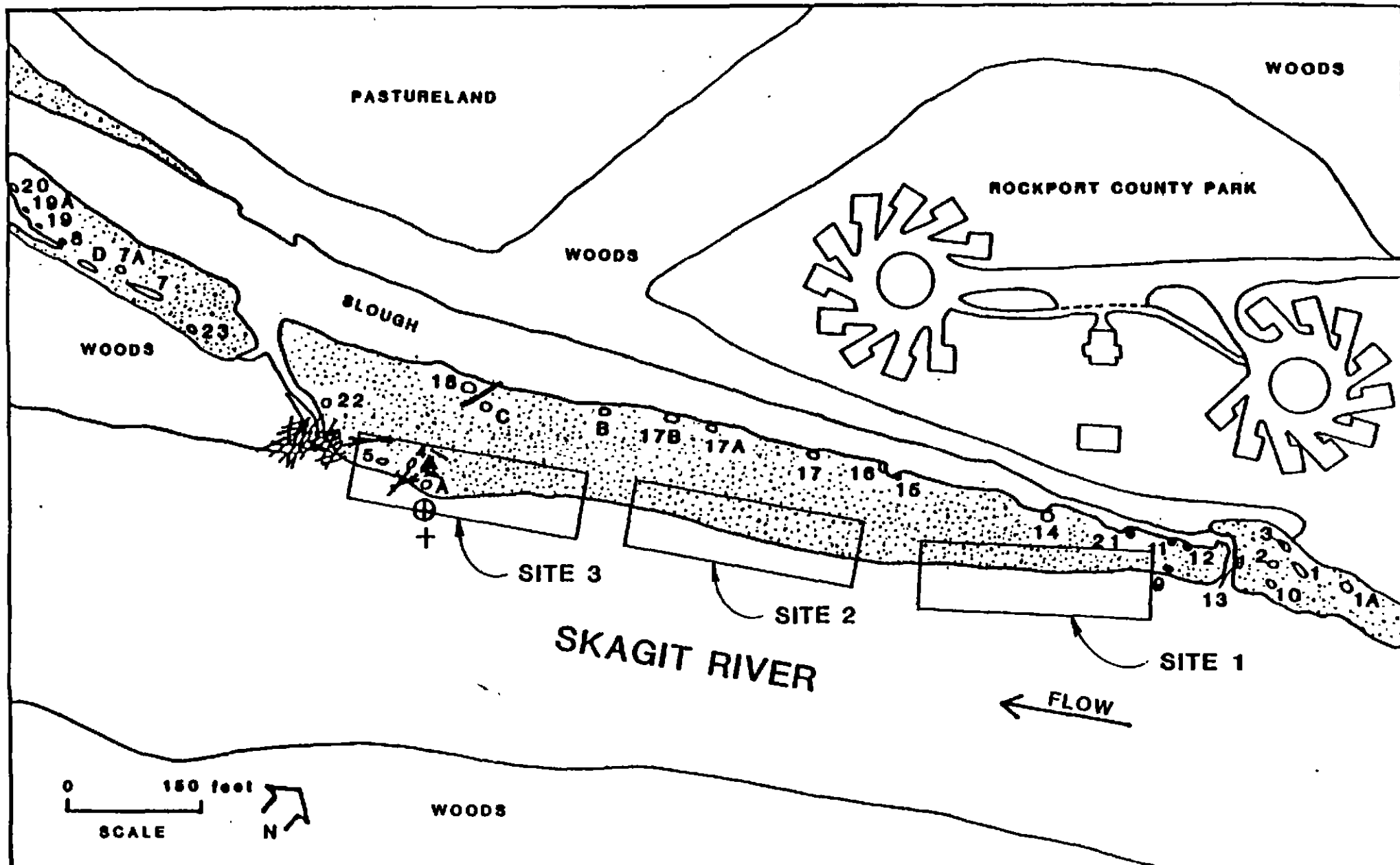
The following maps were originally produced by Jones and Stokes Associates, INC. and modified by R. W. Beck and Associates for our use. The first two pages of this appendix show the location and code number for the individual bar sites within the study area. The pages following these provide site specific details for each bar which include individual pothole locations and gravel bar stranding study sites.





22 RAINIER BAR
 23 FUNGUS BAR
 24 SAM'S BAR
 25 MAPLE BAR
 26 BACON CREEK

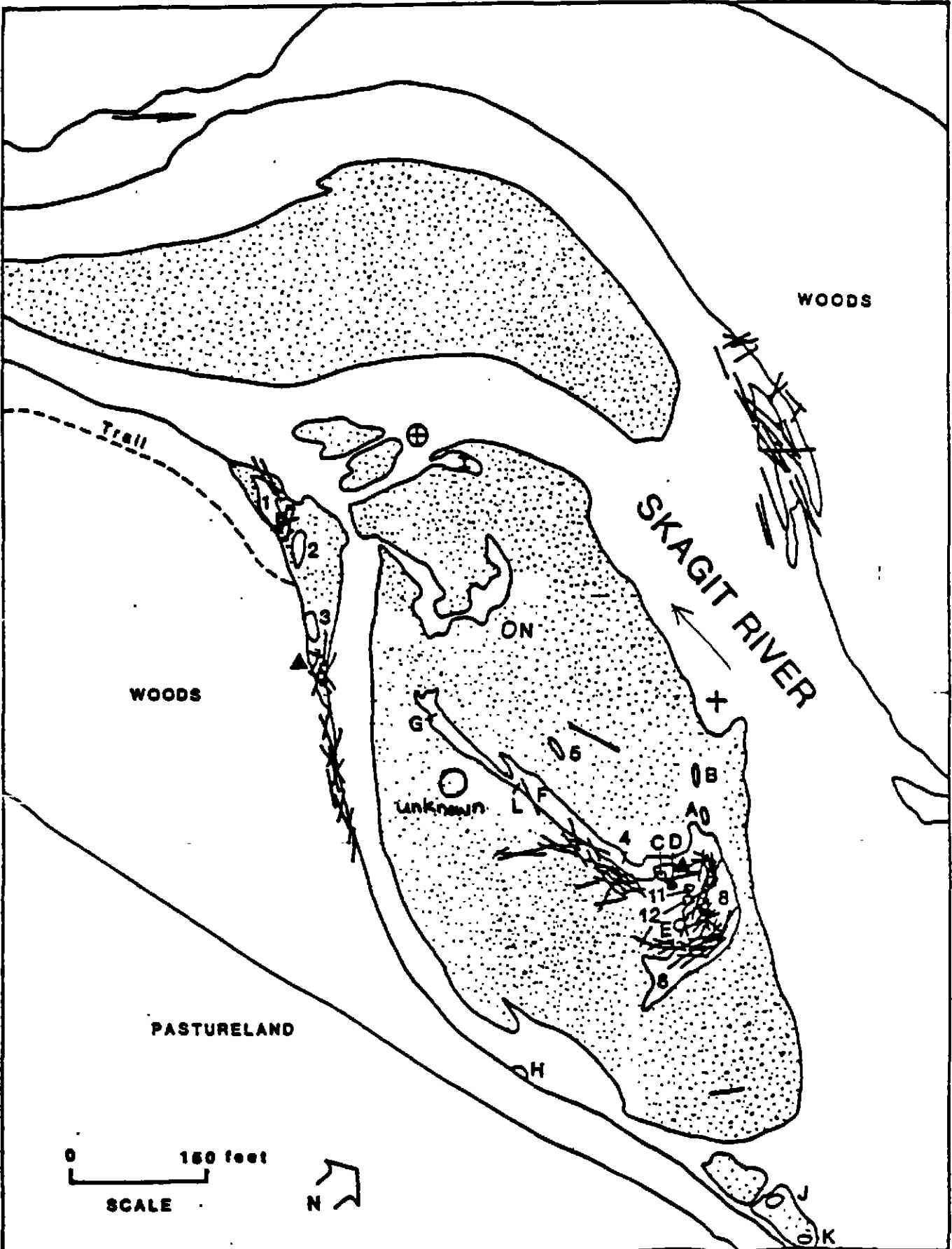
27 FACE BAR & OINK BAR
 28 DRIFTWOOD BAR
 29 MINIBAR
 30 FLOWER POTHOLE
 31 COPPER CREEK



SKAGIT RIVER POTHOLES STUDY
JONES & STOKES ASSOCIATES, INC.

ROCKPORT BAR
RM-67.6

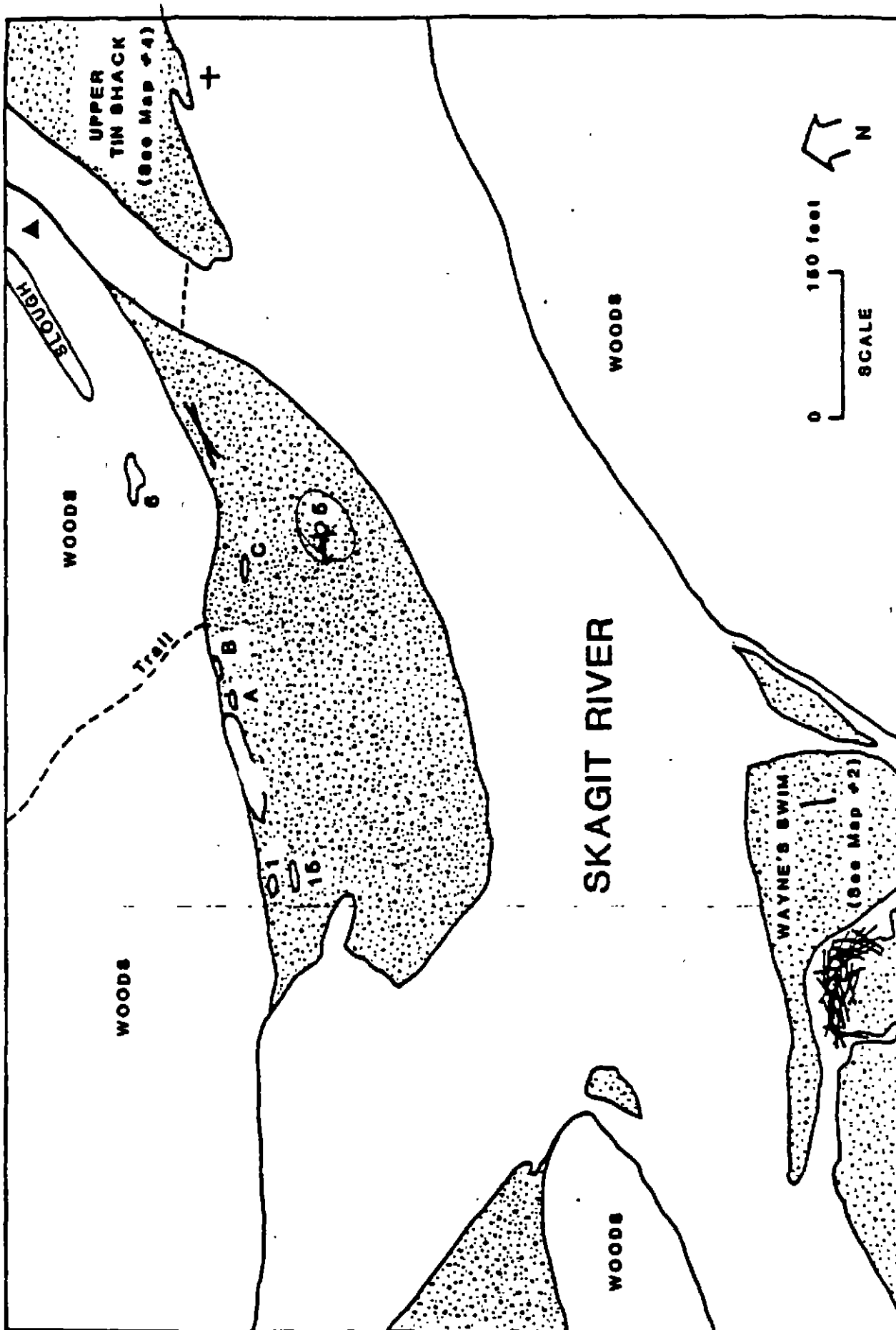
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SKAGIT RIVER POTHOLE STUDY
JONES & STOKES ASSOCIATES, INC.

WAYNE'S SWIM
RM-68.1

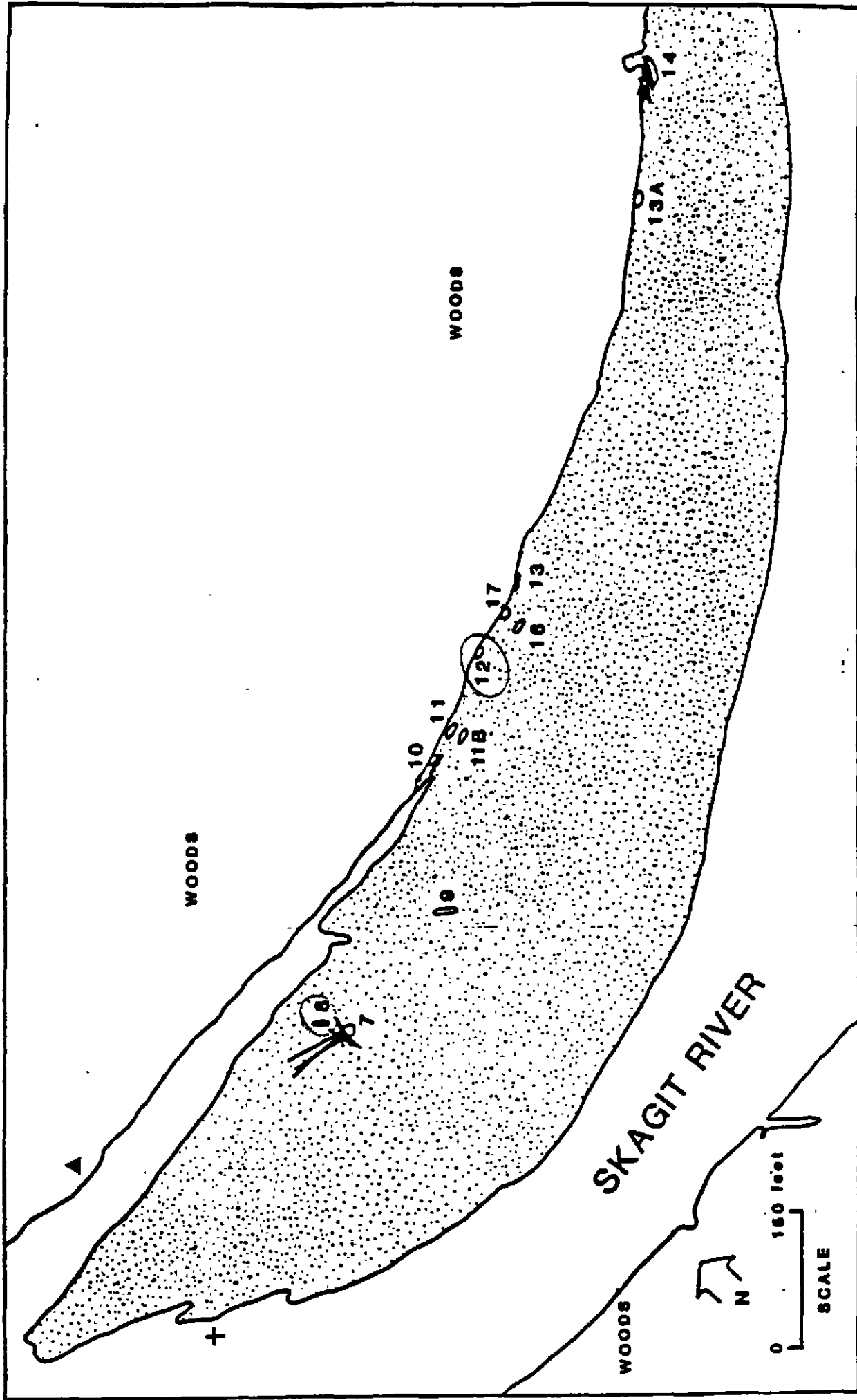
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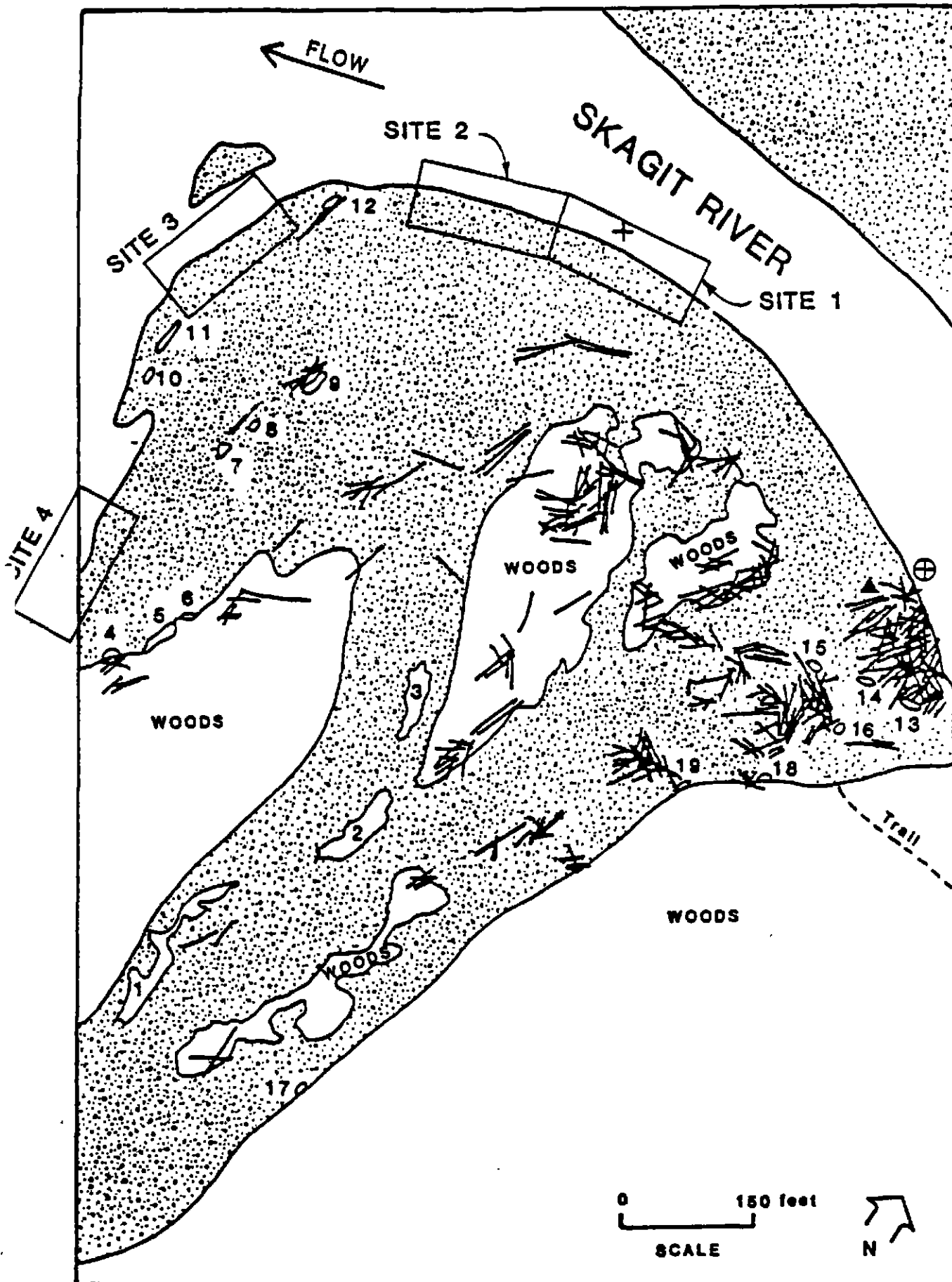
SKAGIT RIVER POTHOLES STUDY
JONES & STOKES ASSOCIATES, INC.

LOWER TIN SHACK
RM-88.3

3



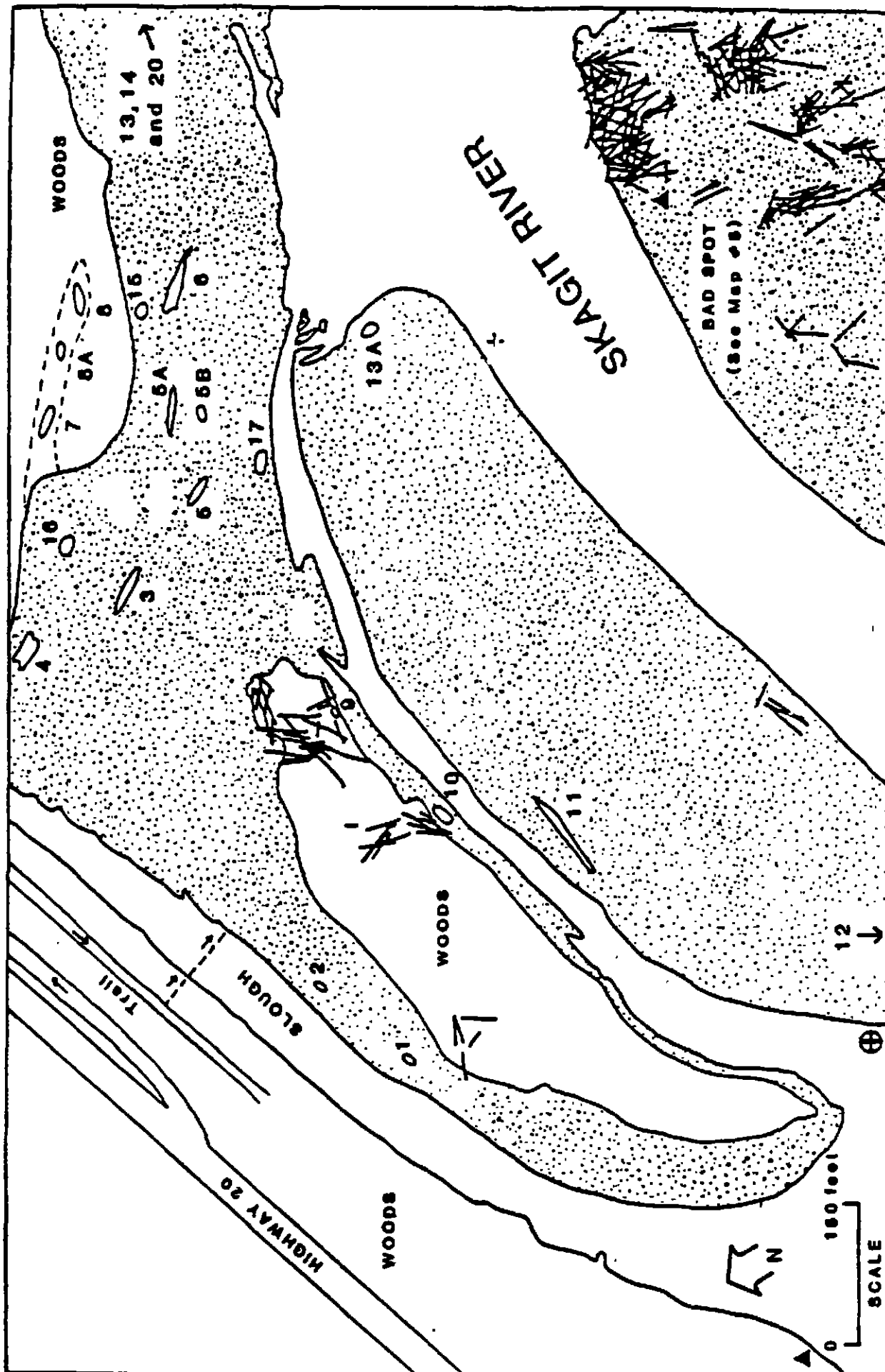
SKAGIT RIVER POTHOLES STUDY
JONES & STOKES ASSOCIATES, INC.



SKAGIT RIVER POTHOLES STUDY
JONES & STOKES ASSOCIATES, INC.

BAD SPOT
RM-70.0

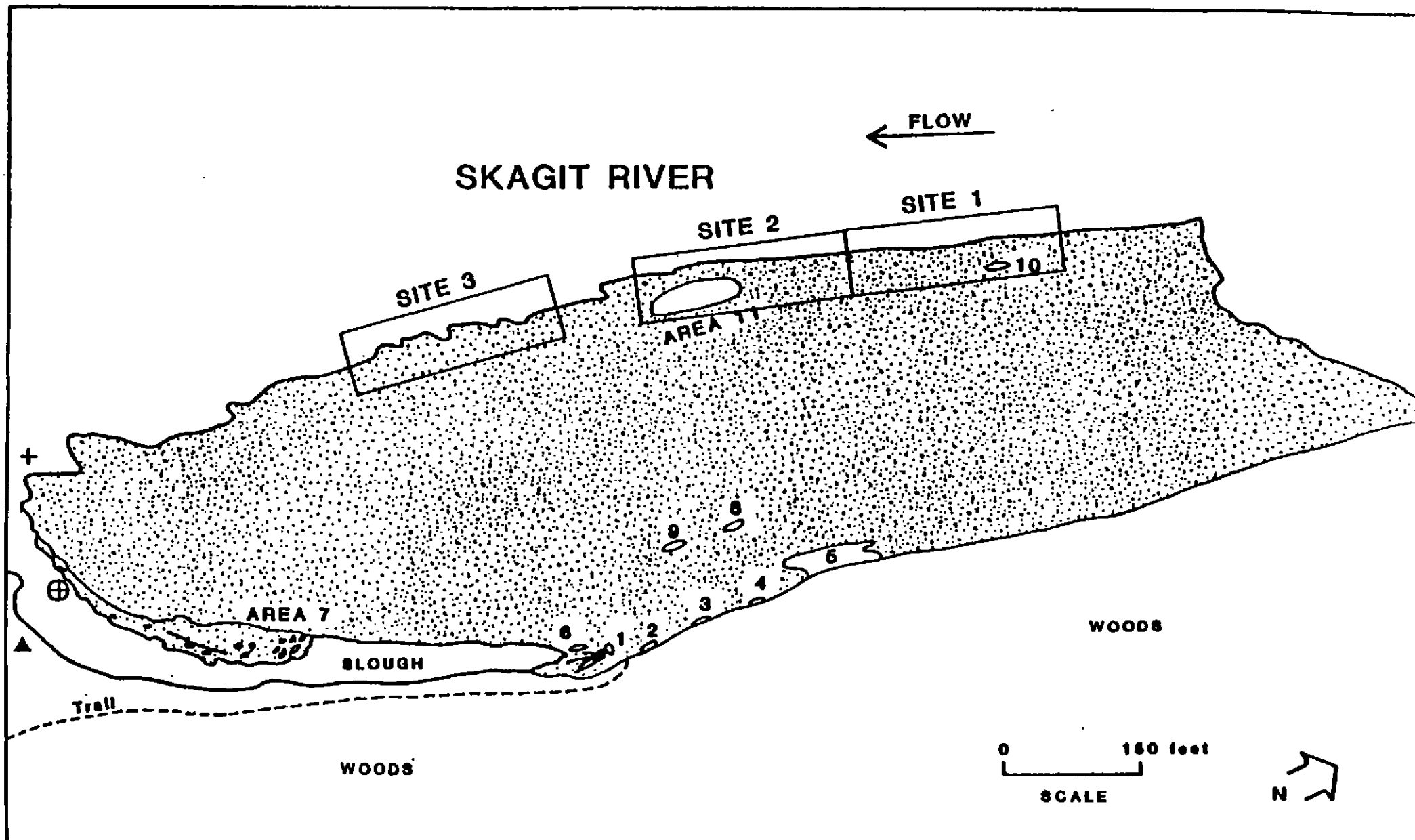
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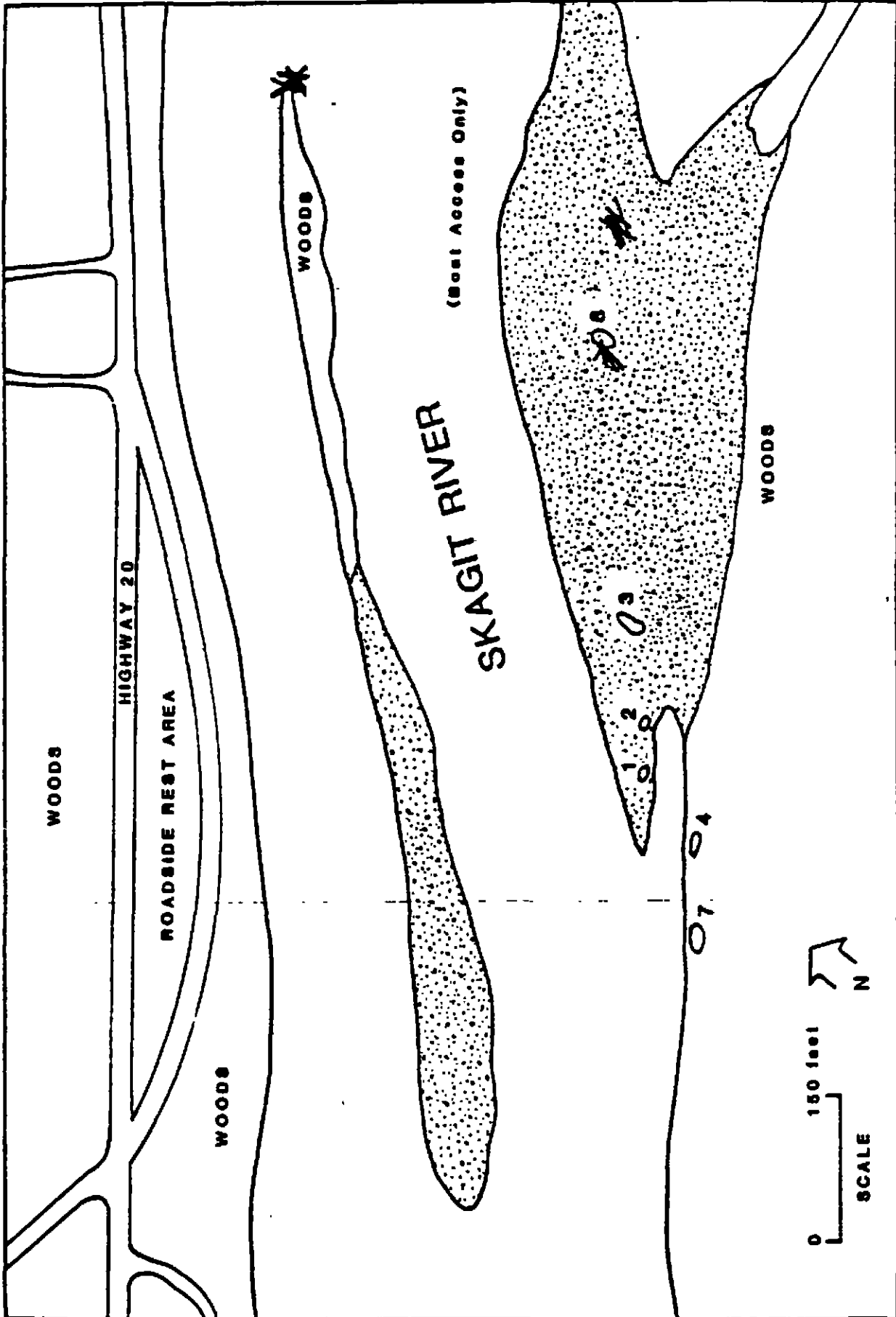


SKAGIT RIVER POTHOLES STUDY
JONES & STOKES ASSOCIATES, INC.

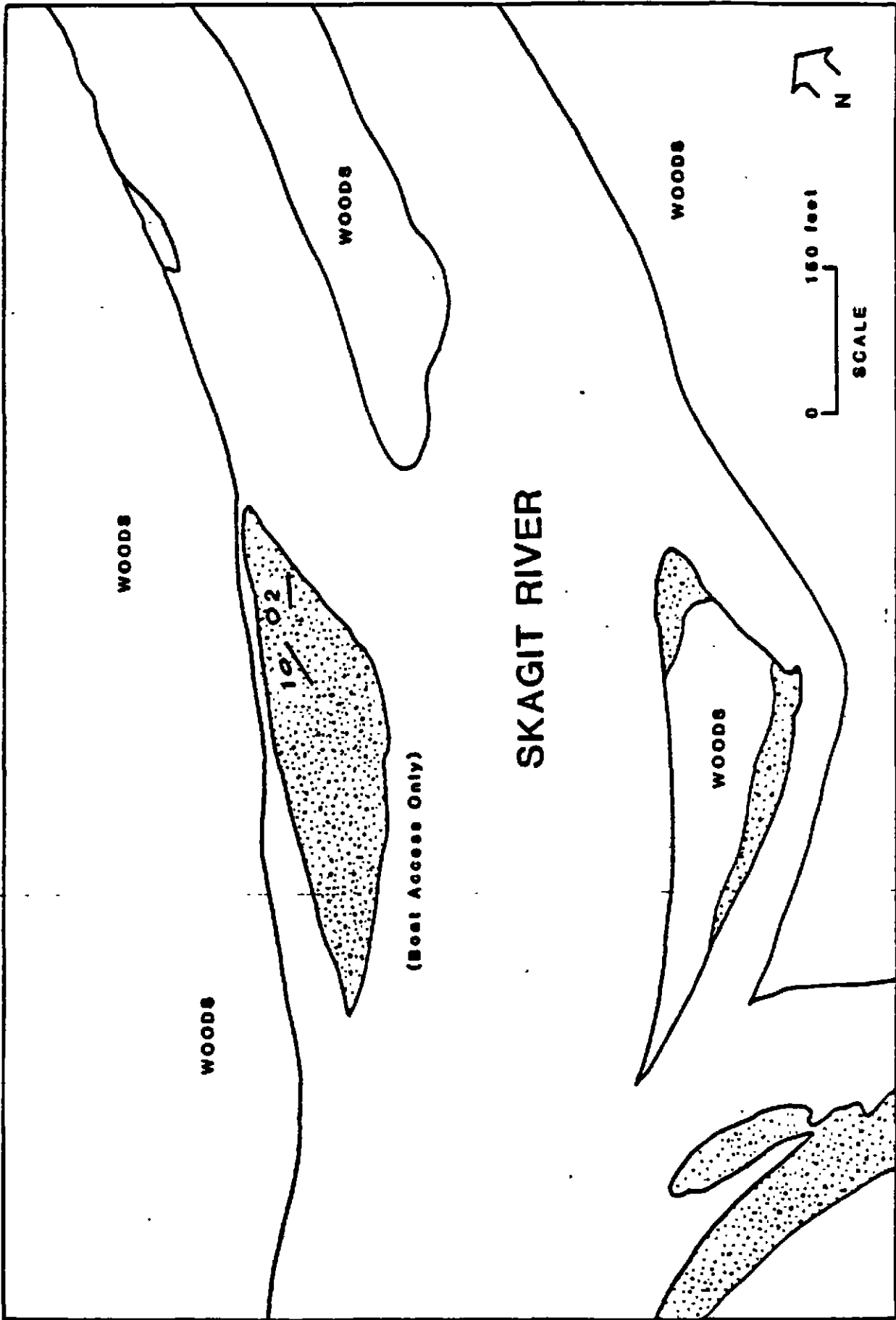
EAGLE BAR
RM-70.1

6





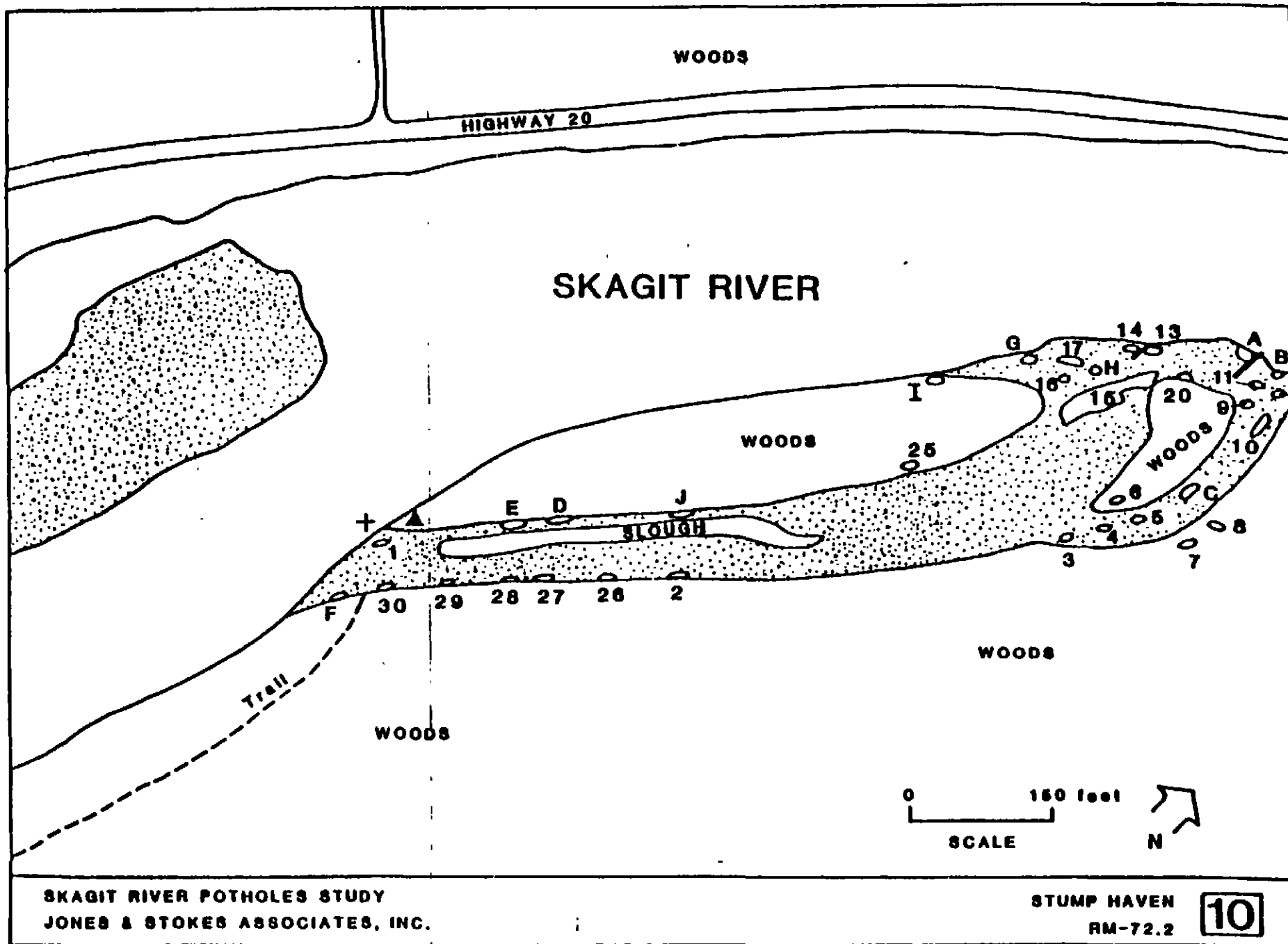
SKAGIT RIVER POTHOLES STUDY
JONES & STOKES ASSOCIATES, INC.



SKAGIT RIVER POTHOLES STUDY
JONES & STOKES ASSOCIATES, INC.

BEAVER ISLAND
RM-71.4

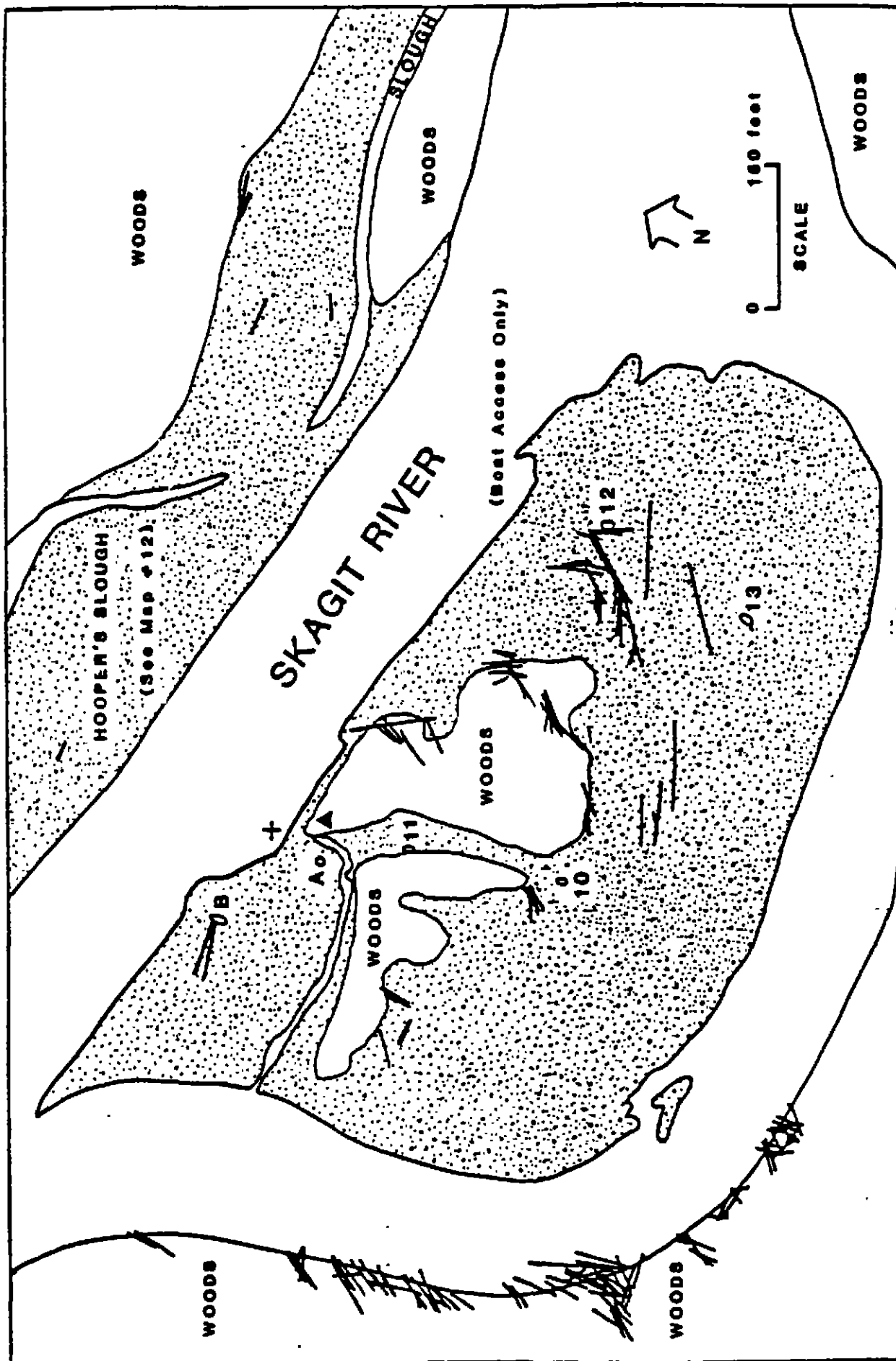
9



SKAGIT RIVER POTHOLES STUDY
JONES & STOKES ASSOCIATES, INC.

STUMP HAVEN
RM-72.2

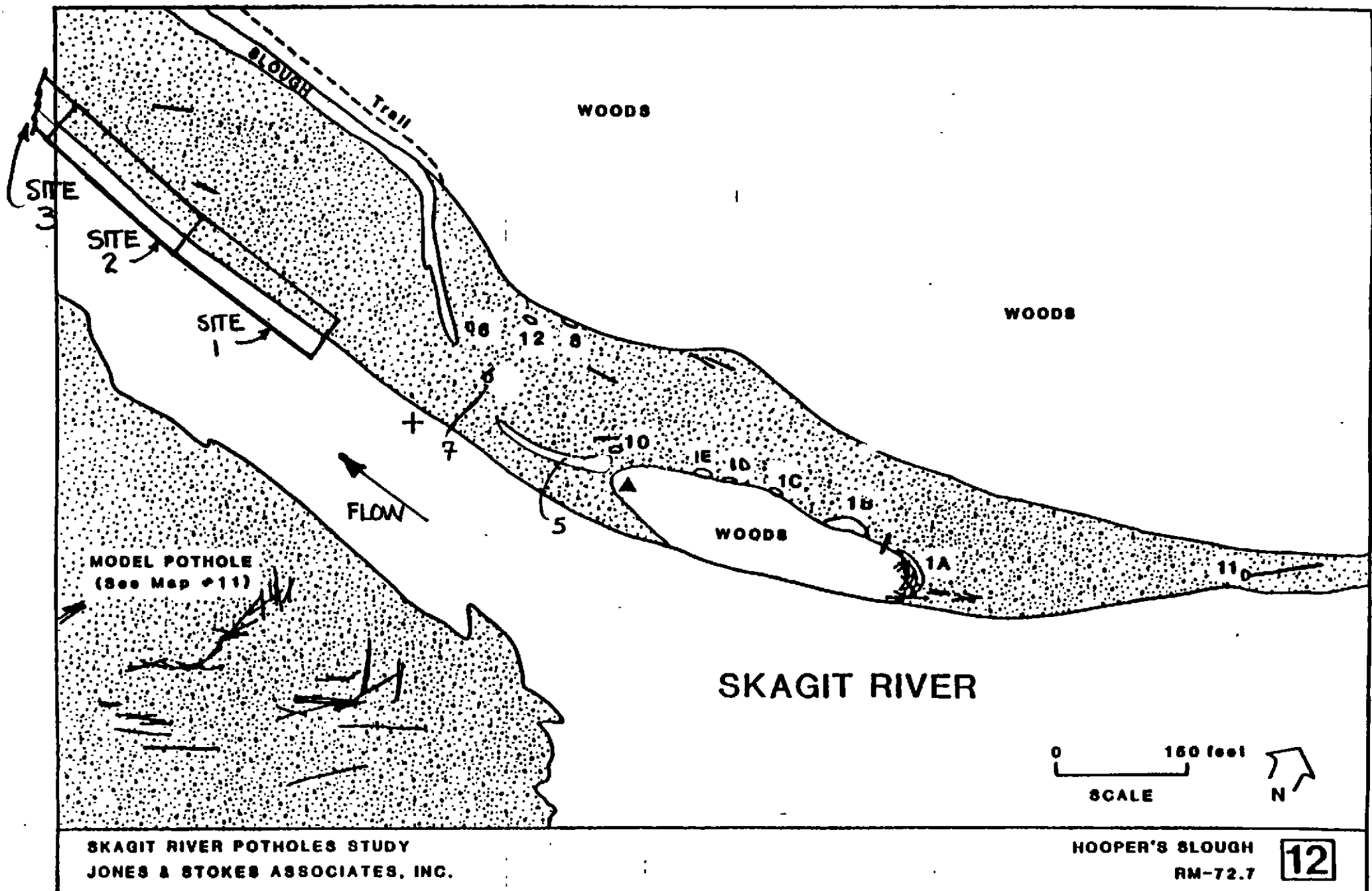
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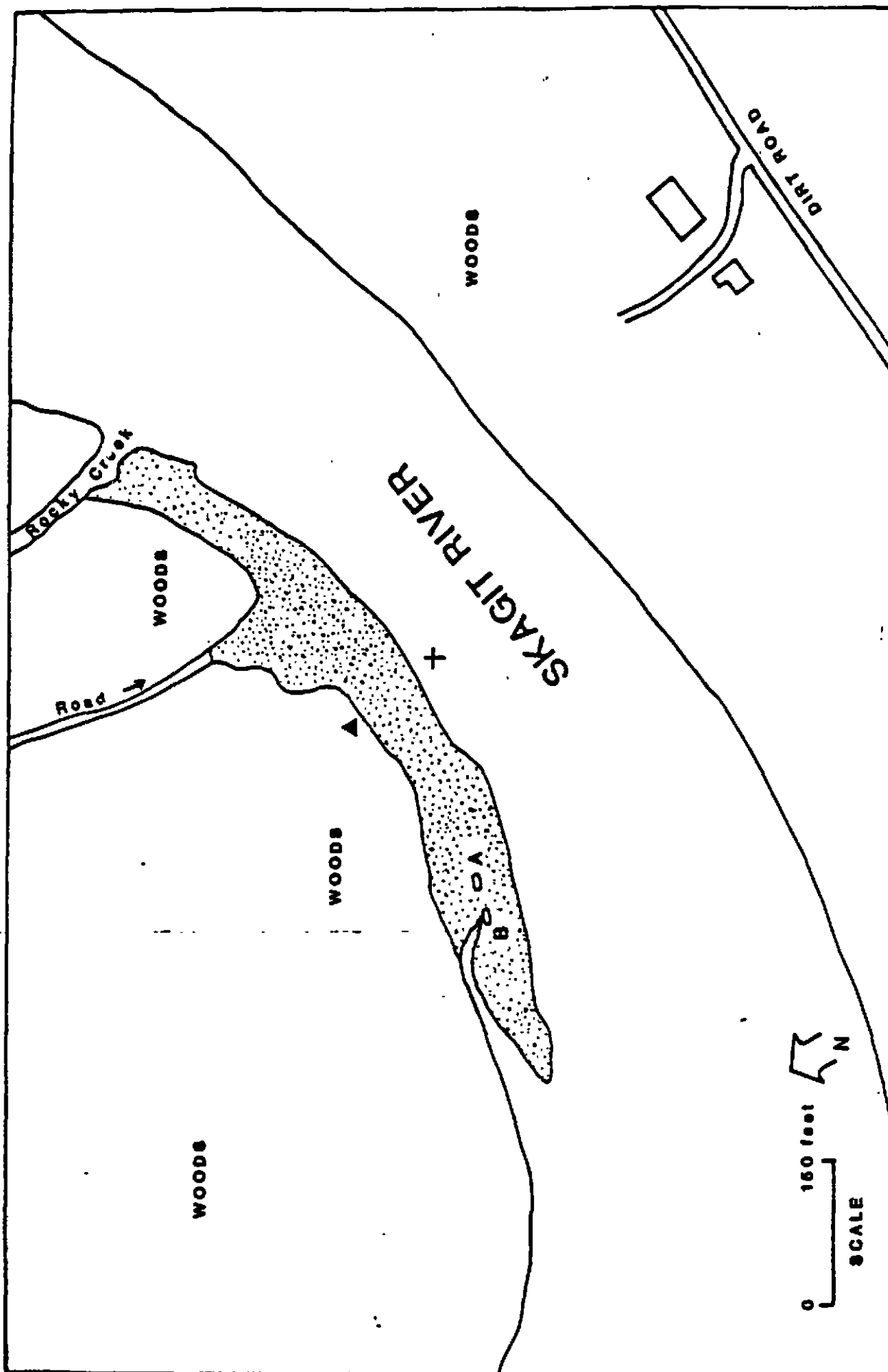


SKAGIT RIVER POTHOLE STUDY
JONES & STOKES ASSOCIATES, INC.

MODEL POTHOLE
RM-72.8

11

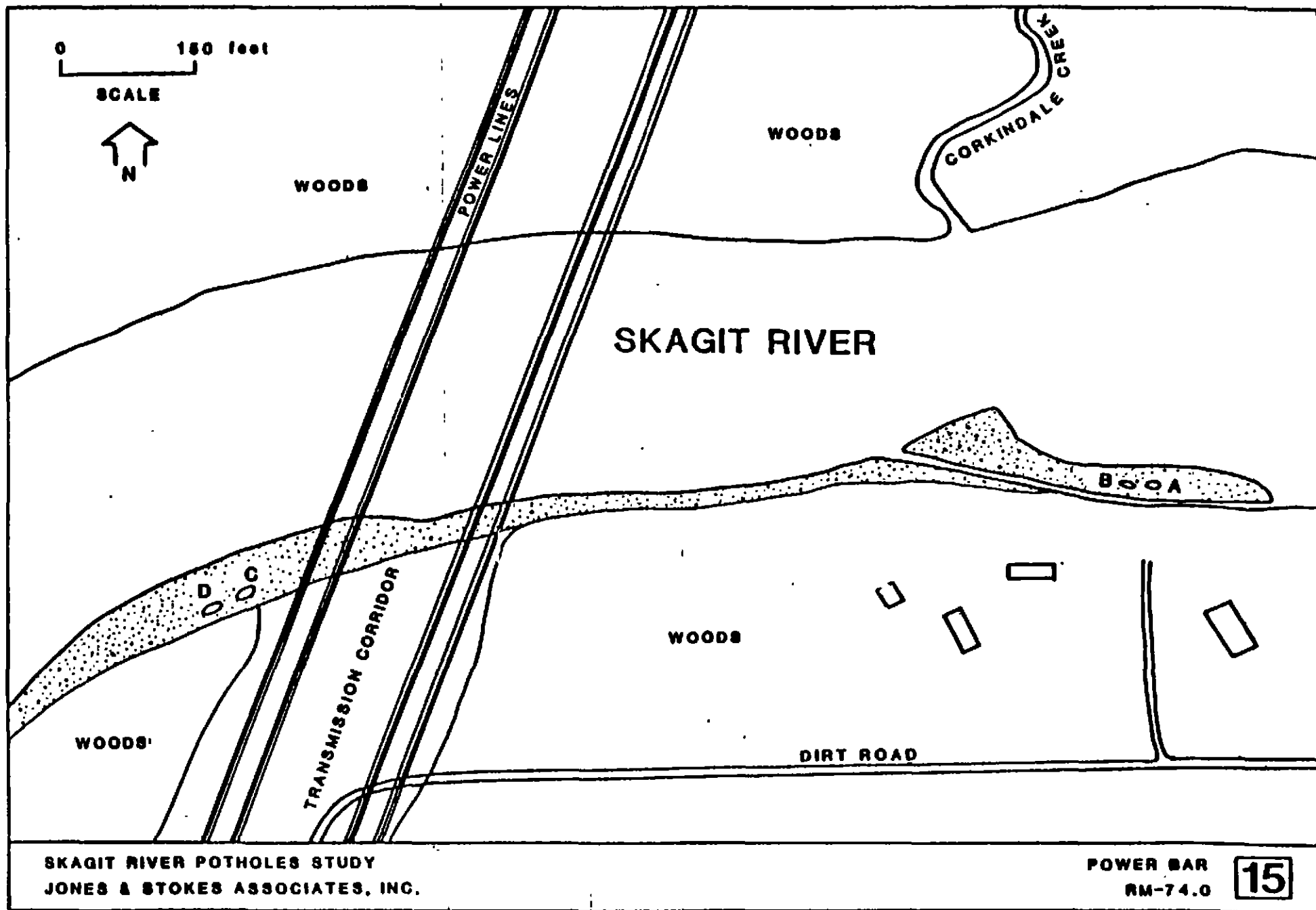


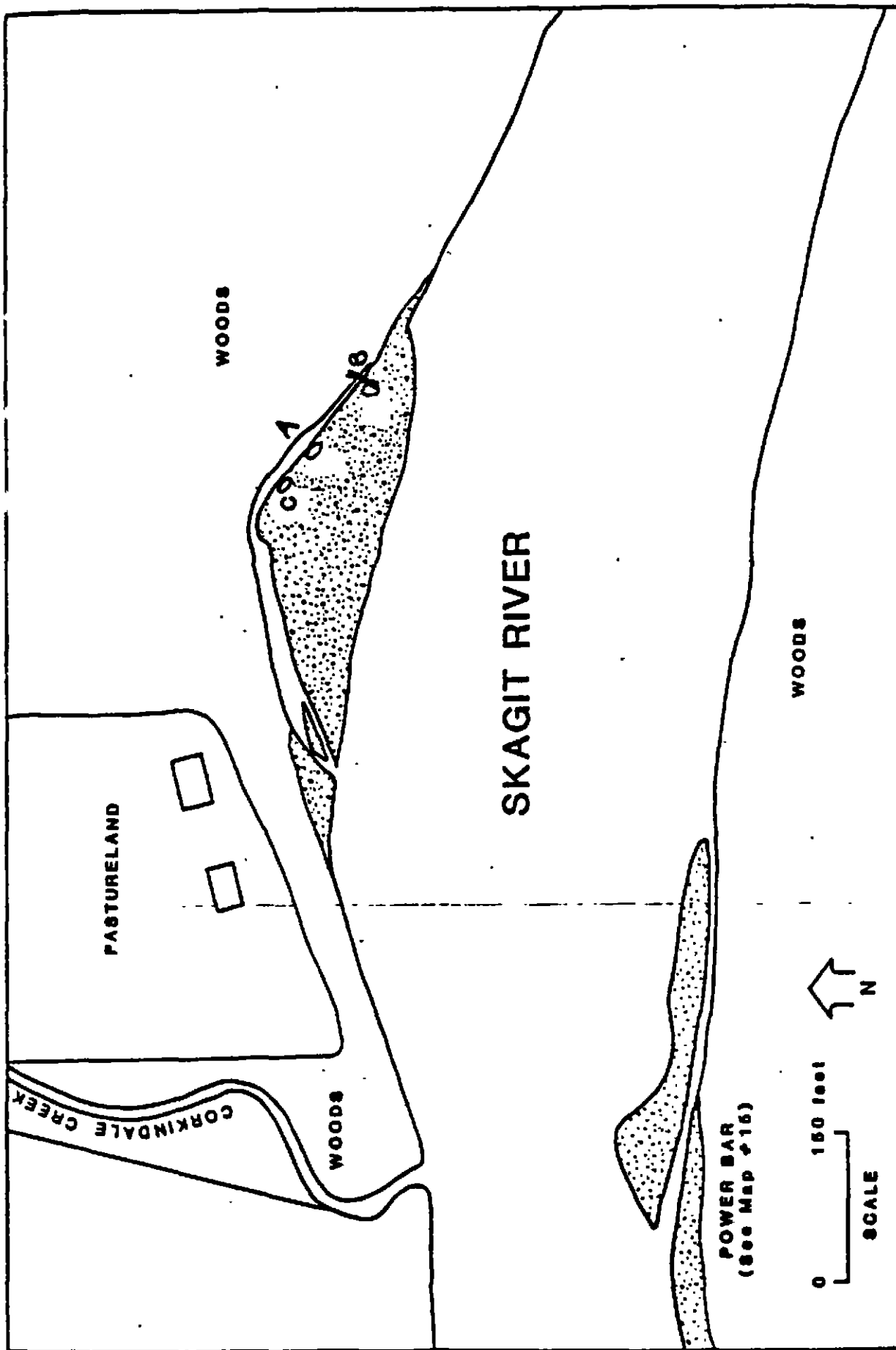


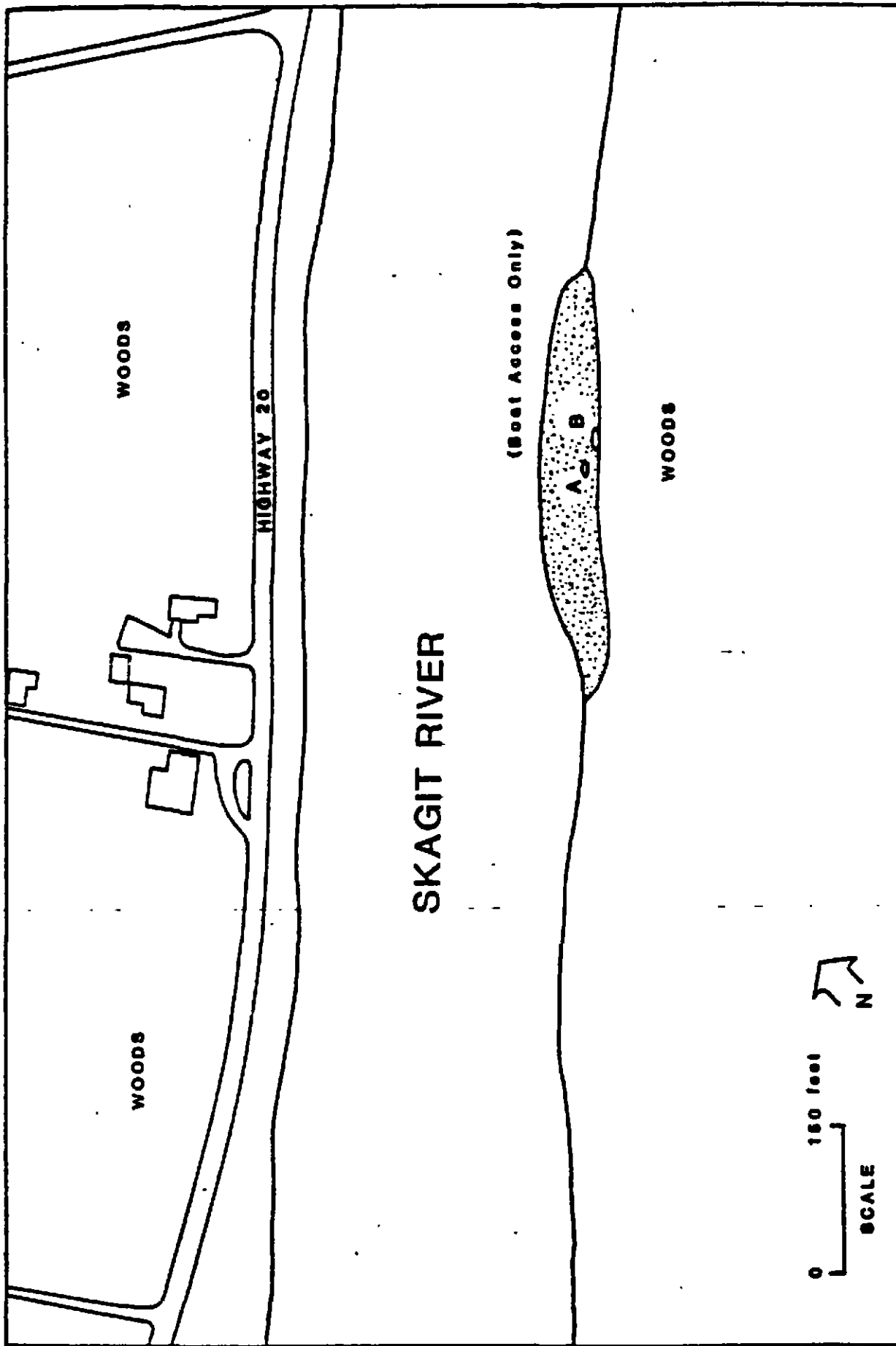
SKAGIT RIVER POTHOLES STUDY
JONES & STOKES ASSOCIATES, INC.

CARNAGE
RM-73.3

14



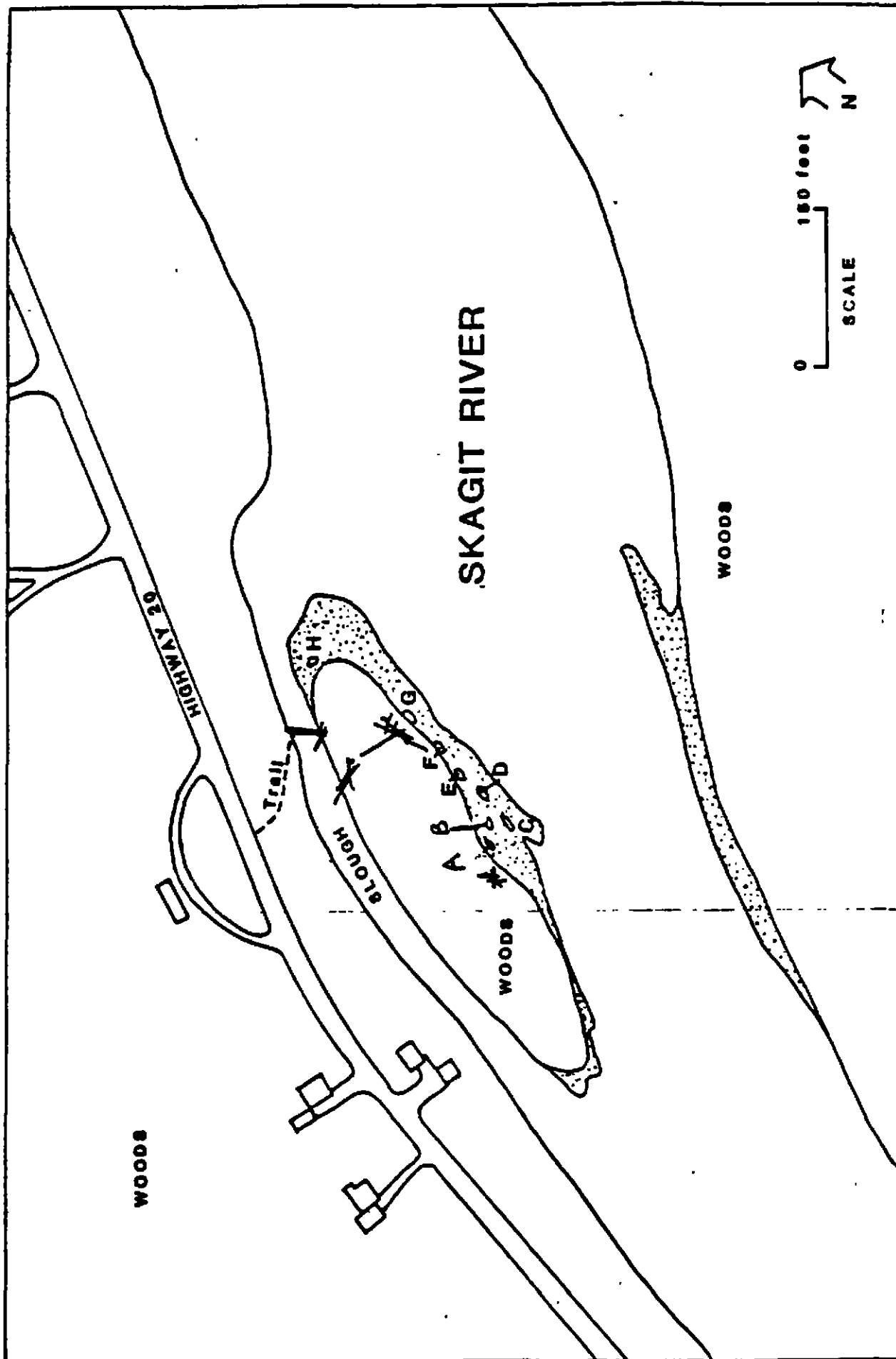




SKAGIT RIVER POTHoles STUDY
JONES & STOKES ASSOCIATES, INC.

NORTH O'BRIAN'S FERRY
RM-76.0

17

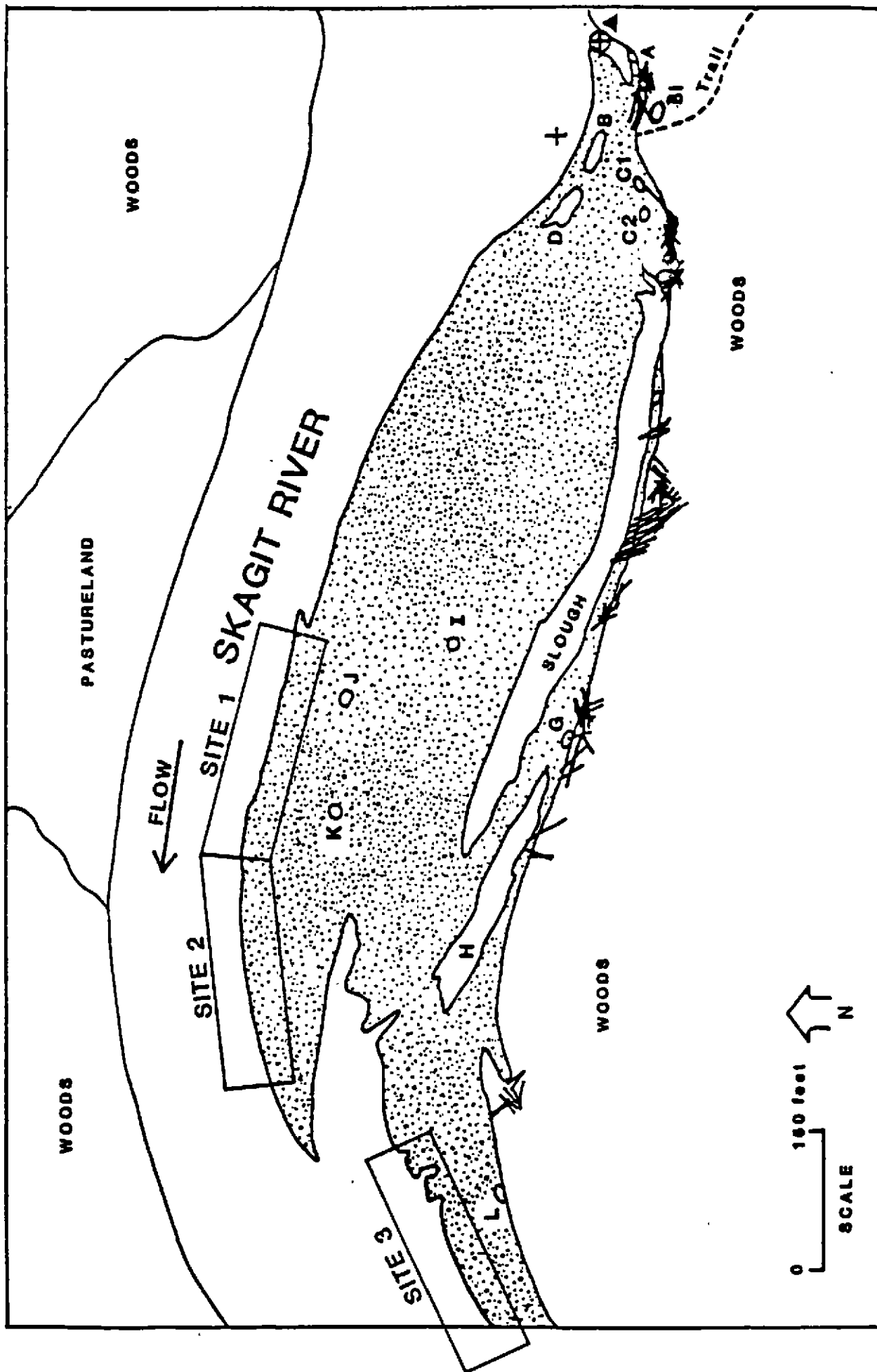


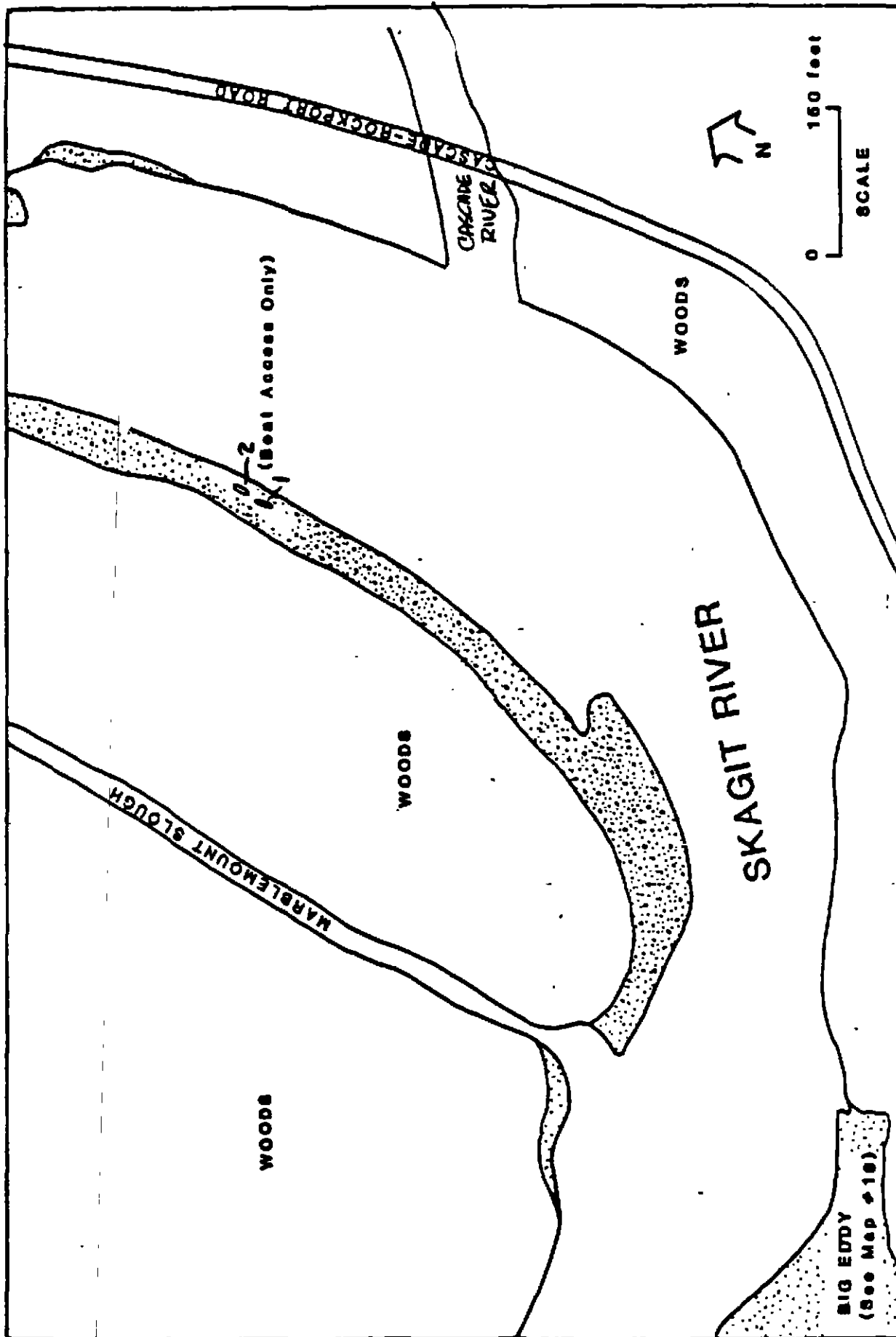
SKAGIT RIVER POTHOLE STUDY
JONES & STOKES ASSOCIATES, INC.

SECLUSION ISLAND

RM-76.3

18



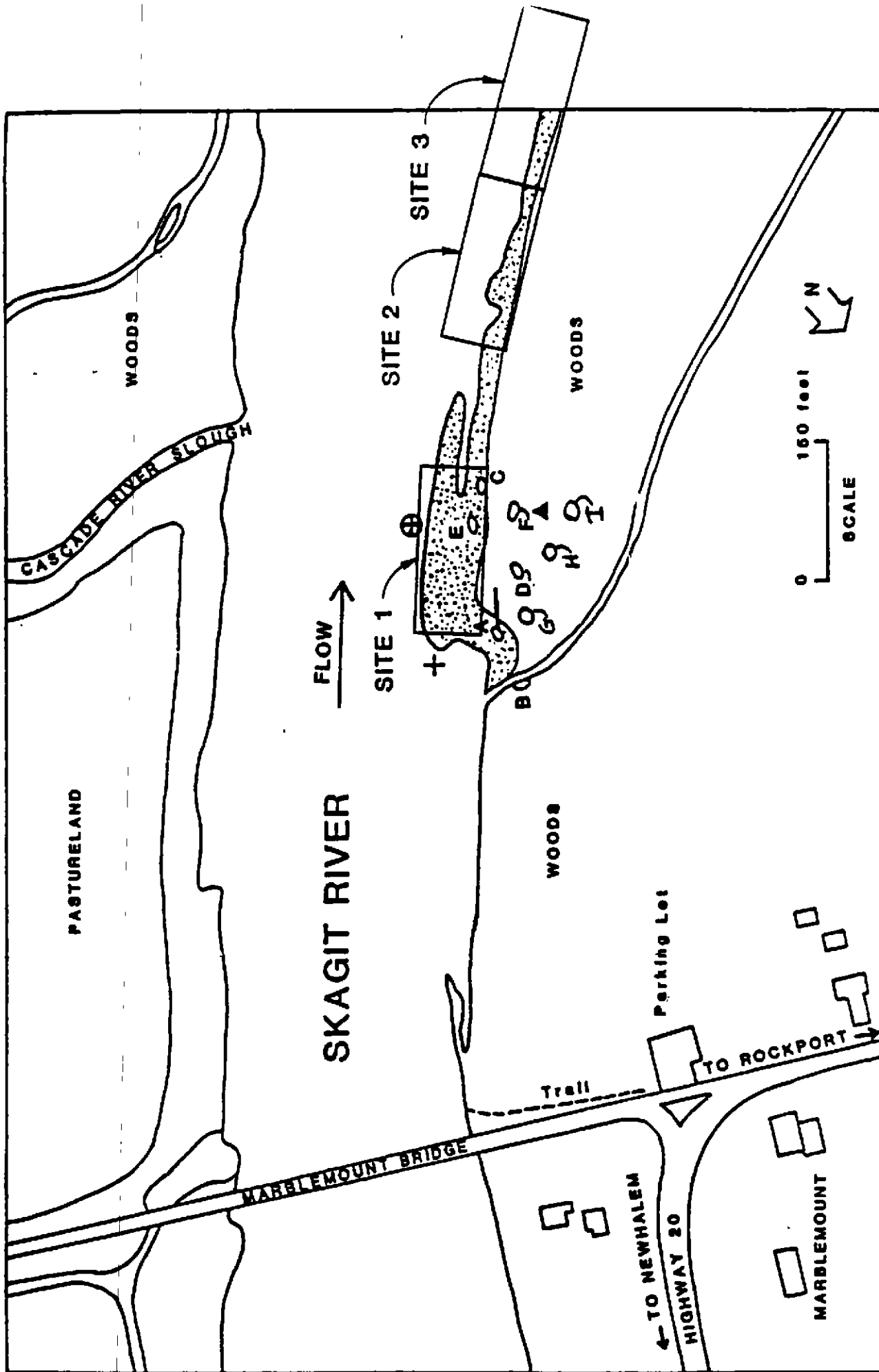


20

TEFLON BAR
RM-77.7

SKAGIT RIVER POTHOLE STUDY
JONES & STOKES ASSOCIATES, INC.

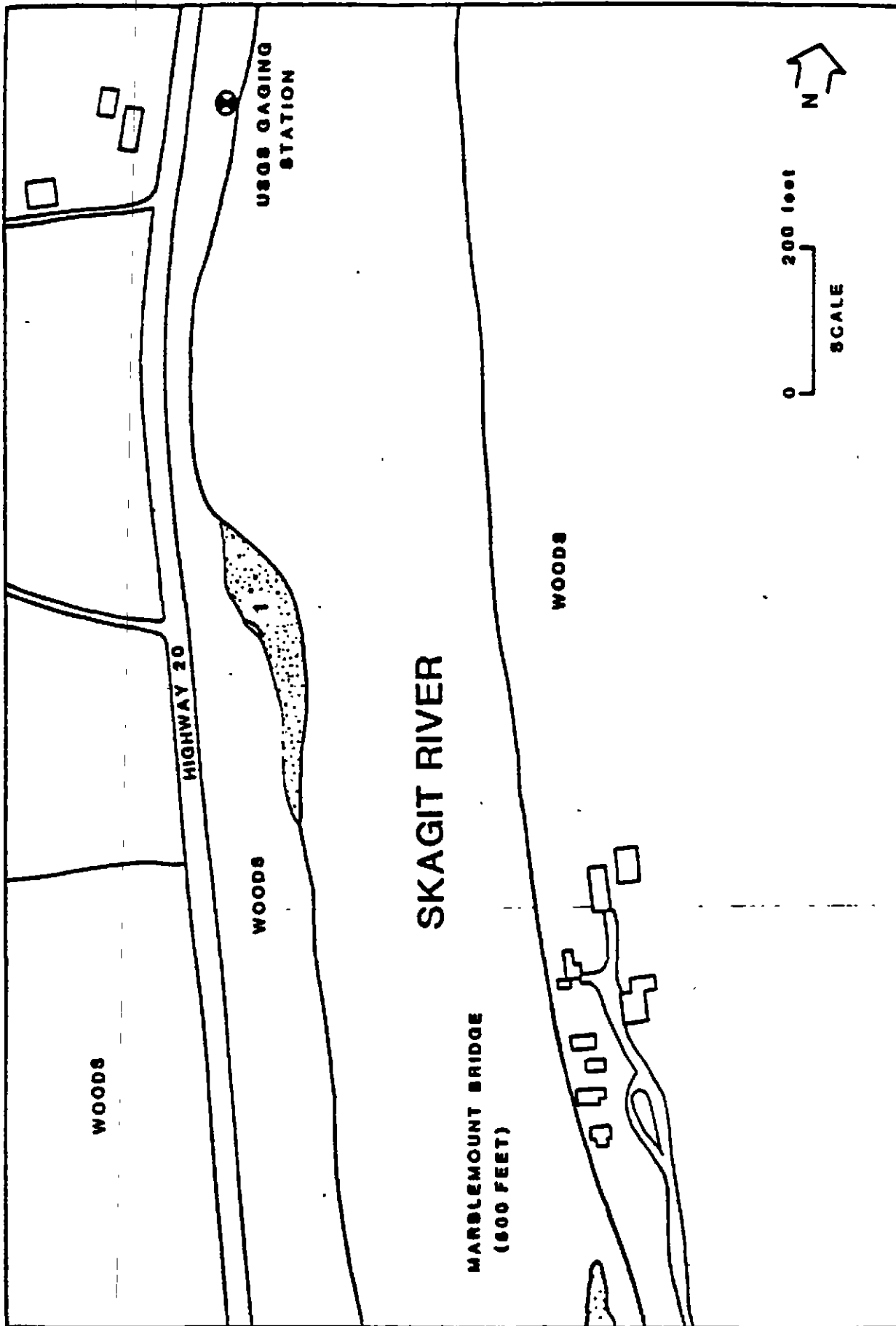
BIG EDDY
(See Map #18)



SKAGIT RIVER POTHOLE STUDY
JONES & STOKES ASSOCIATES, INC.

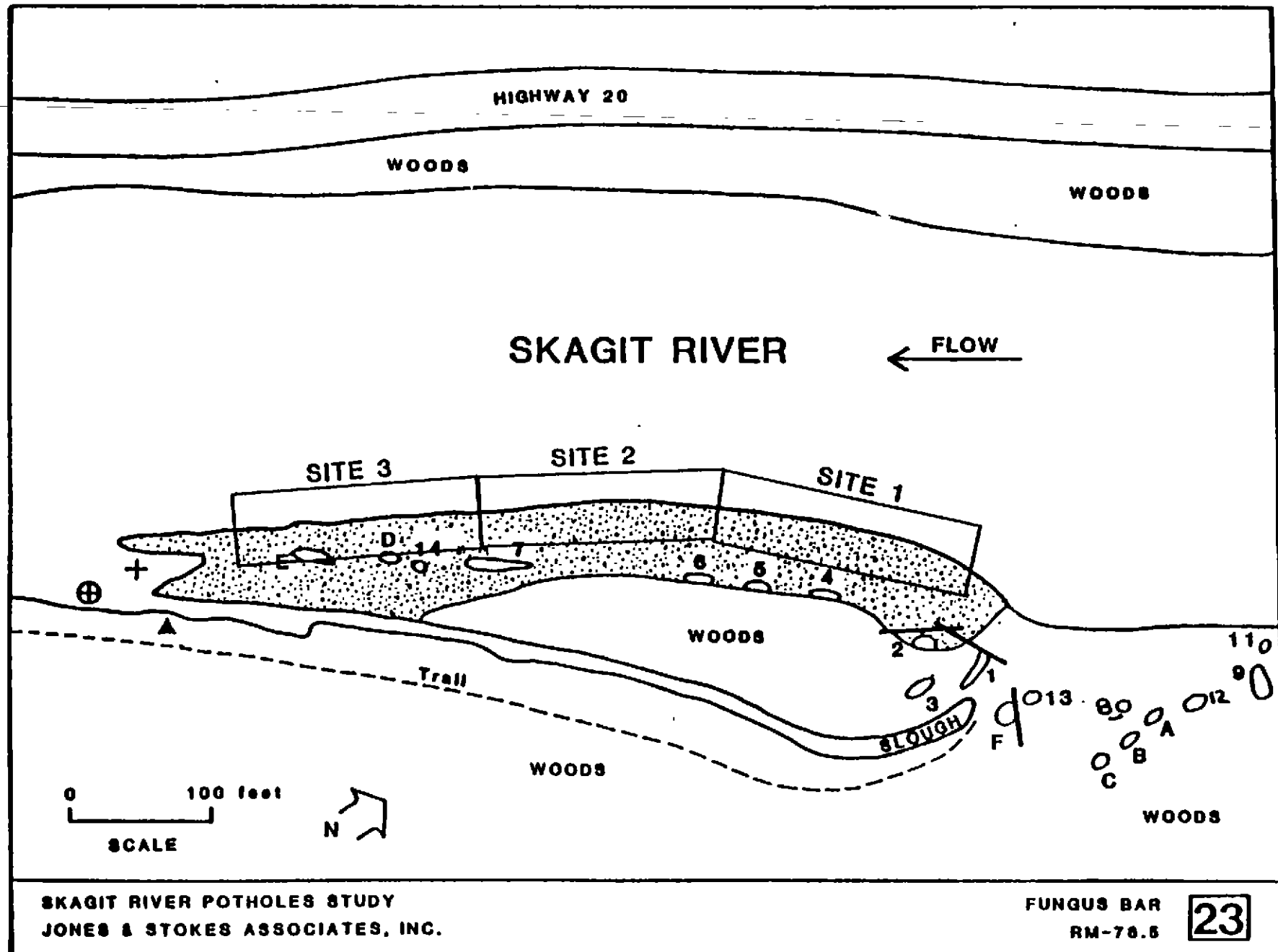
MARBLEMOUNT SLOUGH
RM-78.2

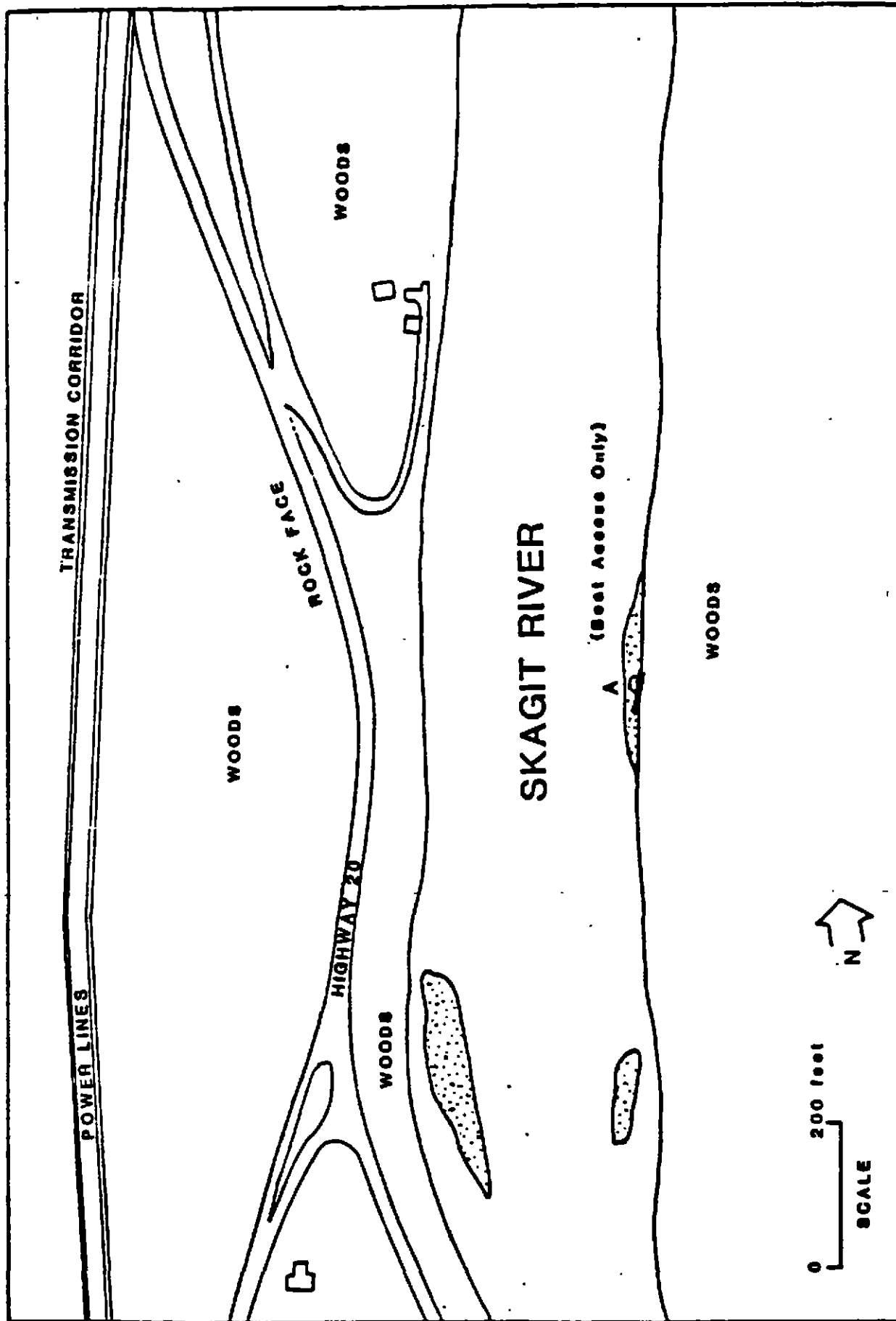
21

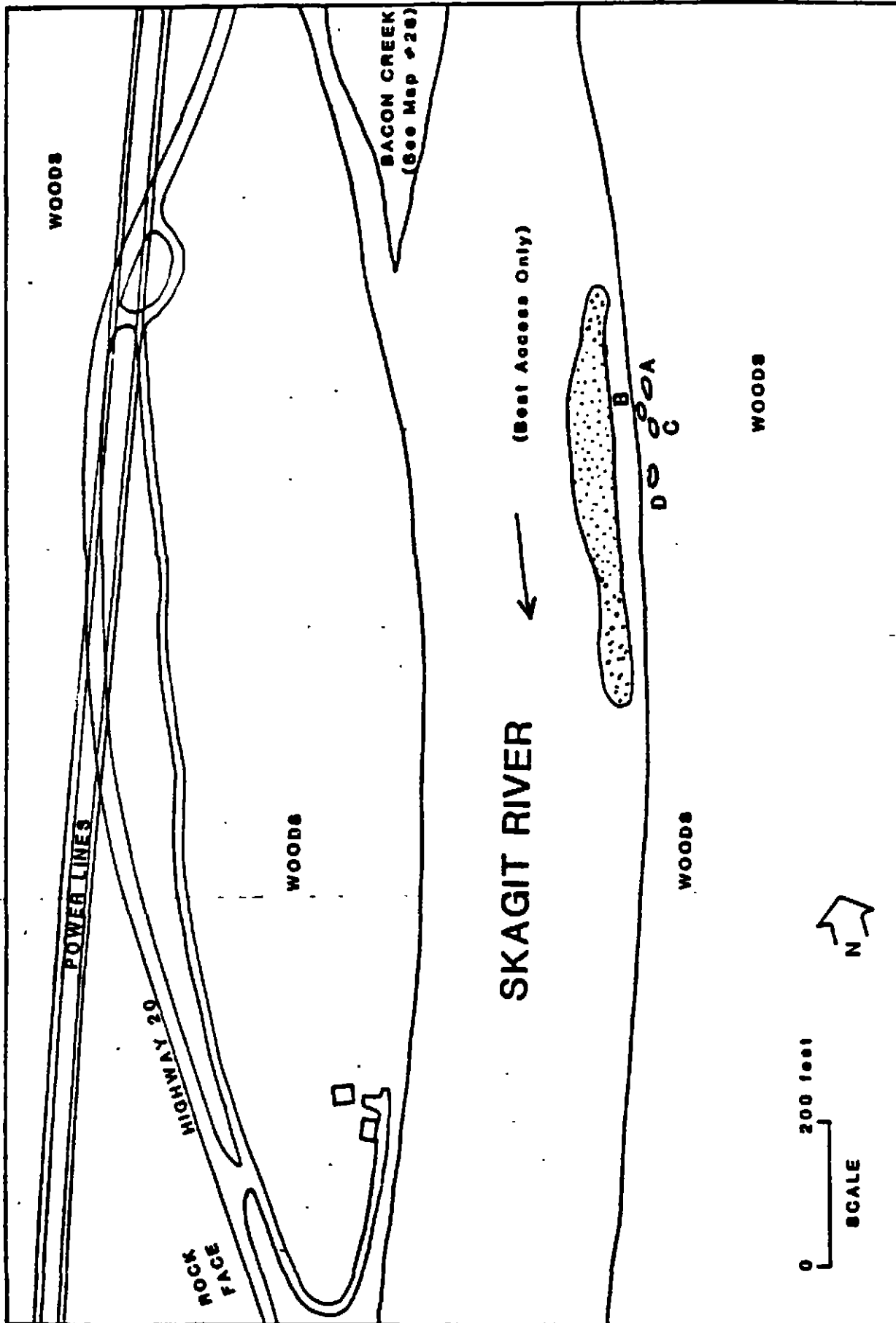


SKAGIT RIVER POTHoles STUDY
JONES & STOKES ASSOCIATES, INC.

RAINIER BAR
RM- 78.3



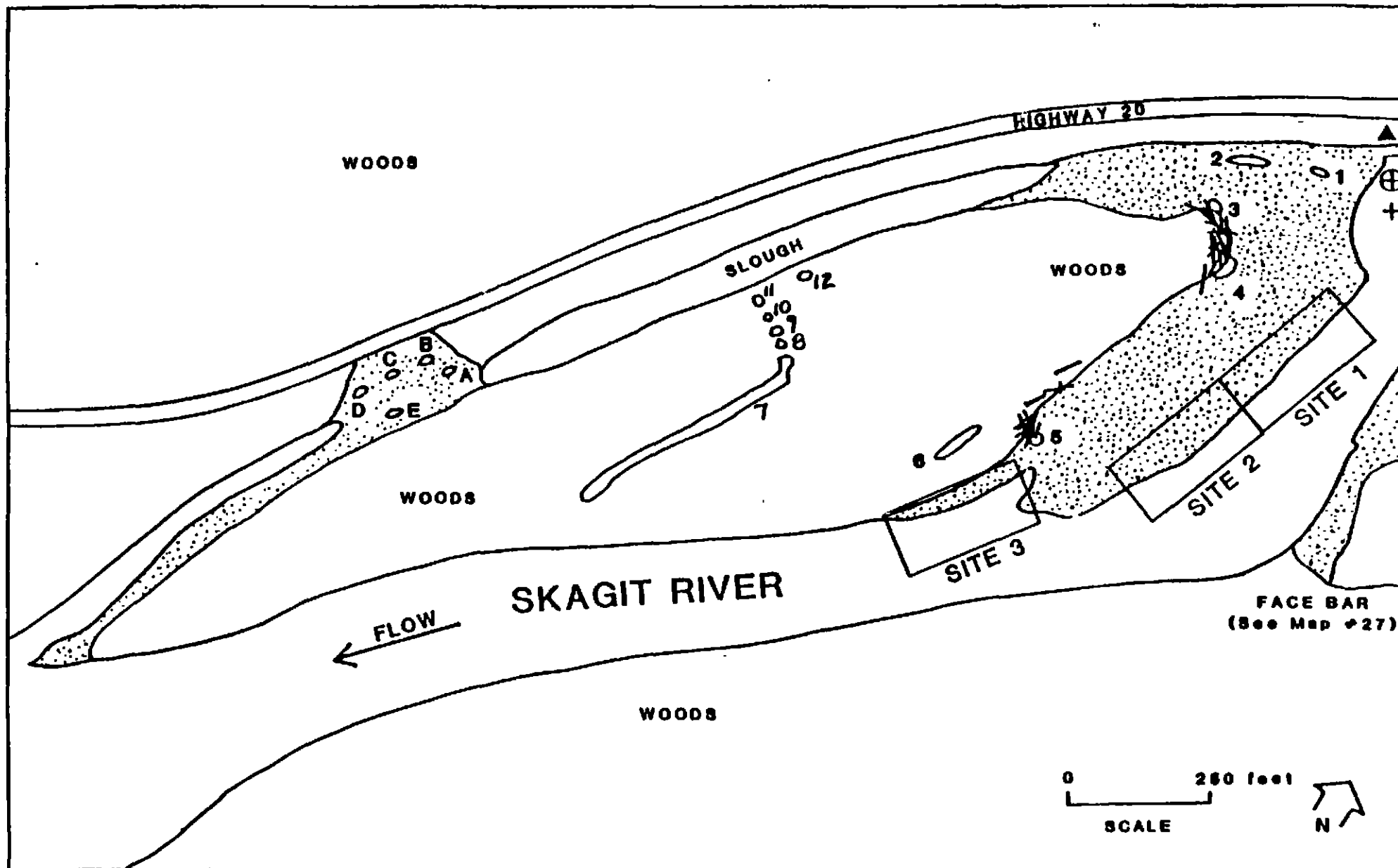


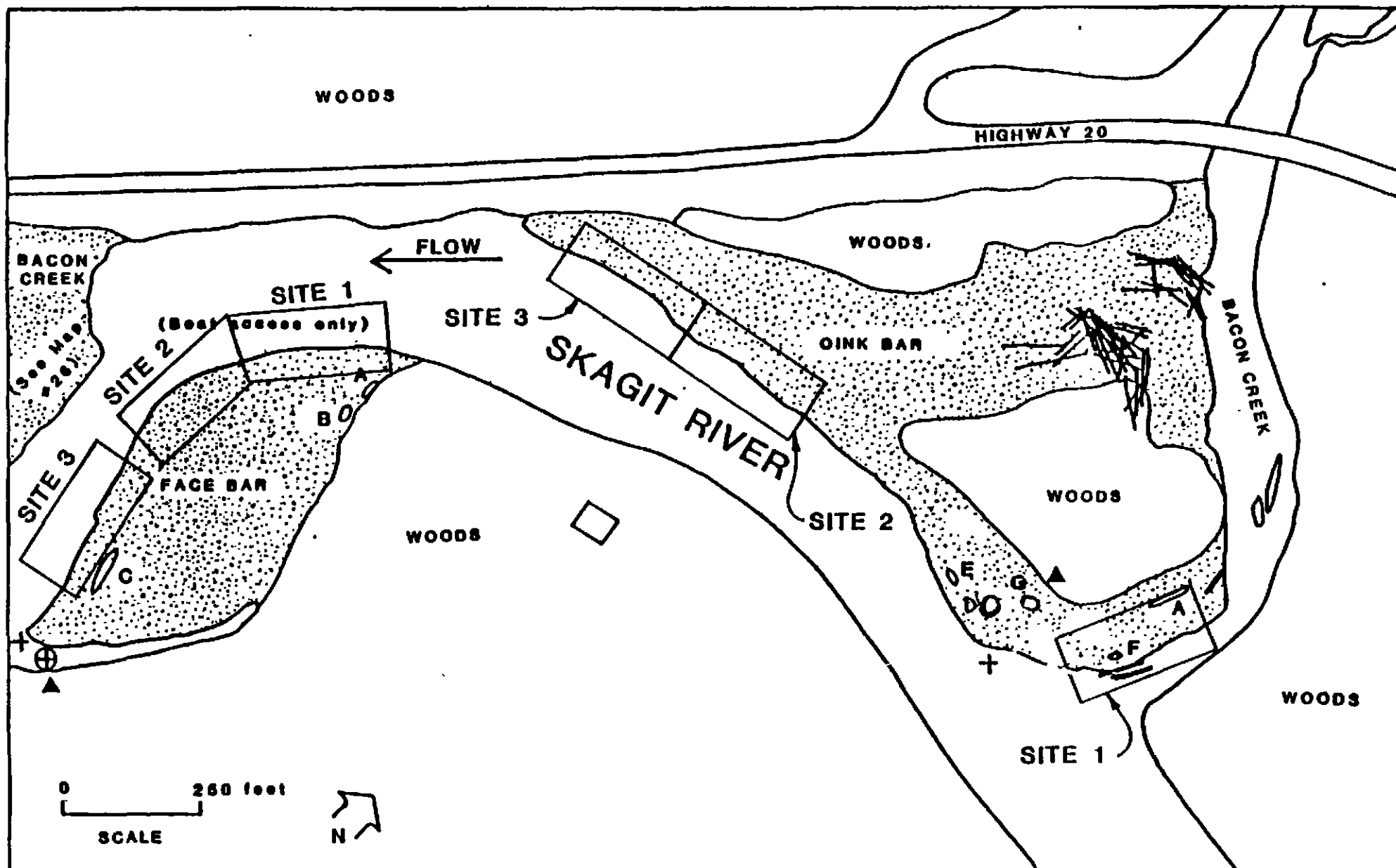


SKAGIT RIVER POTHOLES STUDY
JONES & STOKES ASSOCIATES, INC.

MAPLE BAR
RM-82.6

25

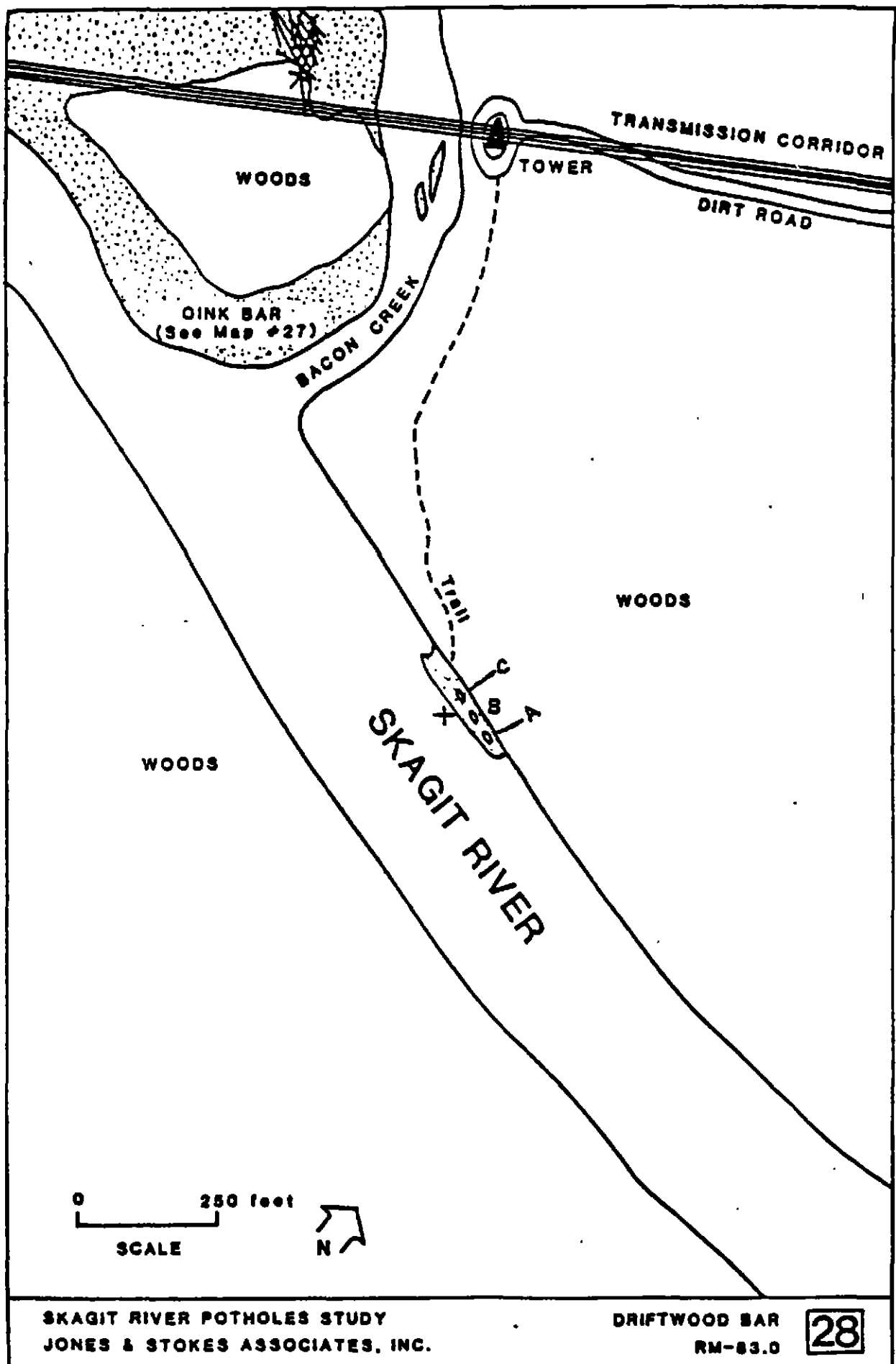


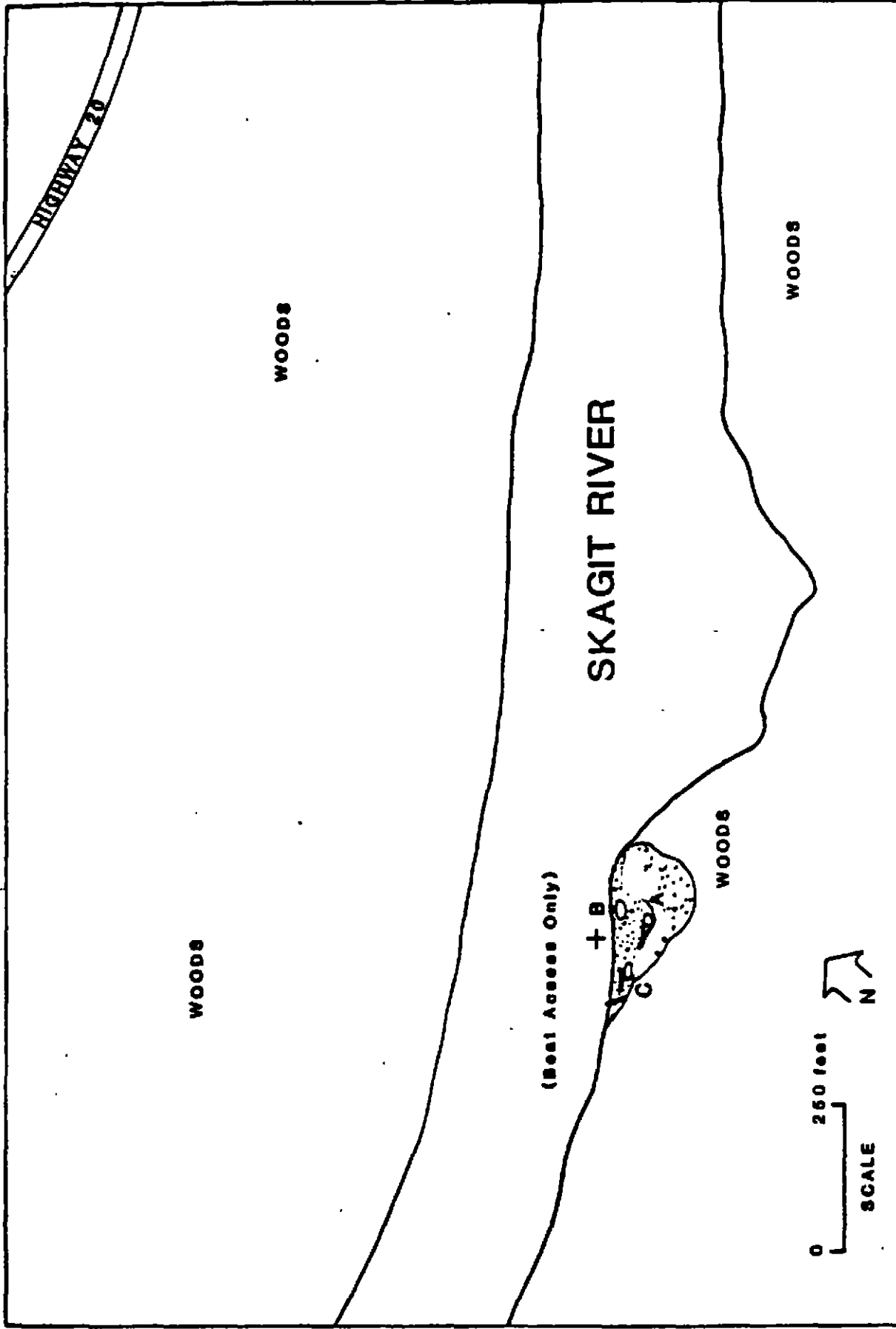


SKAGIT RIVER POTHOLES STUDY
JONES & STOKES ASSOCIATES, INC.

FACE BAR & OINK BAR
RM-82.7 RM-82.8

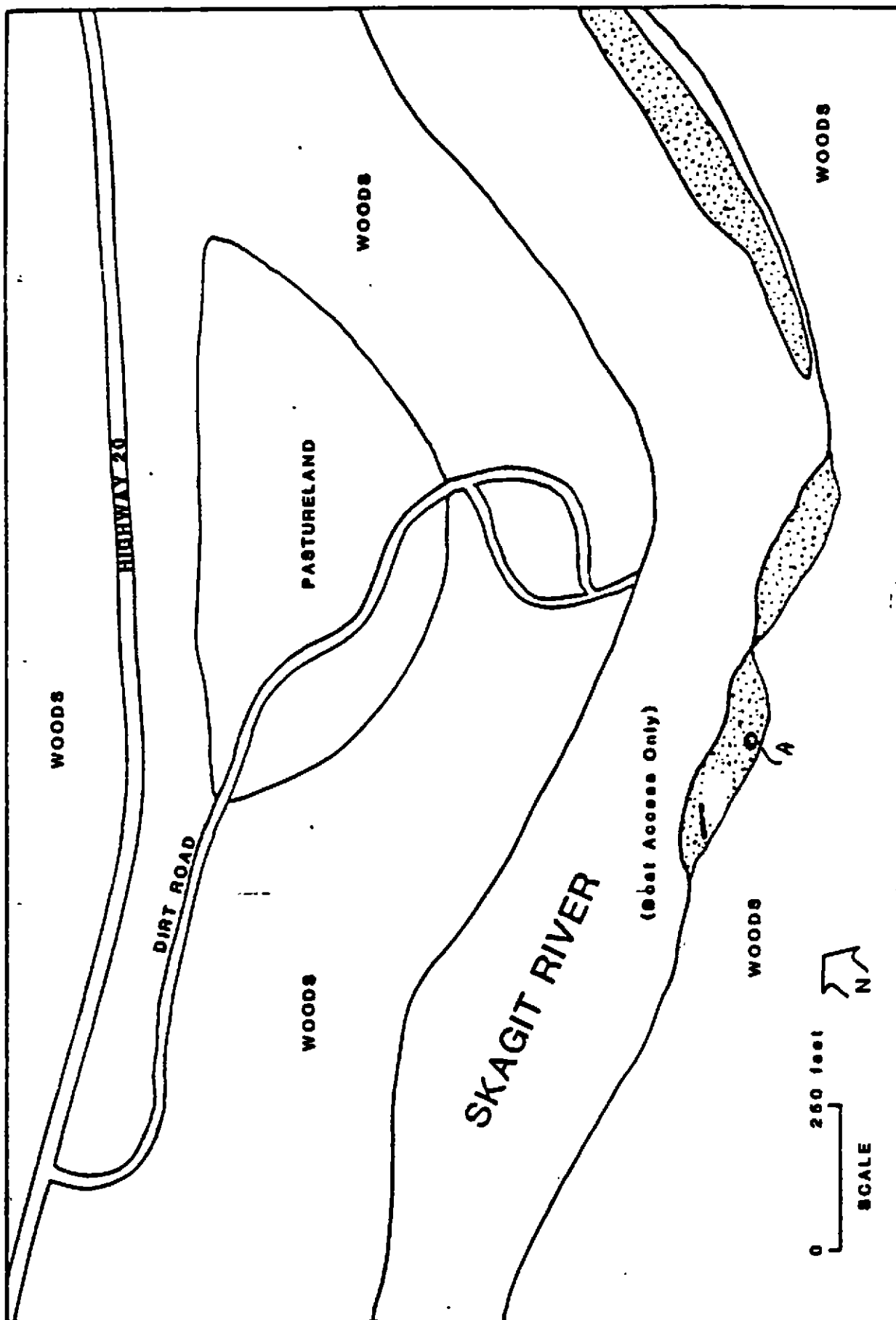
27

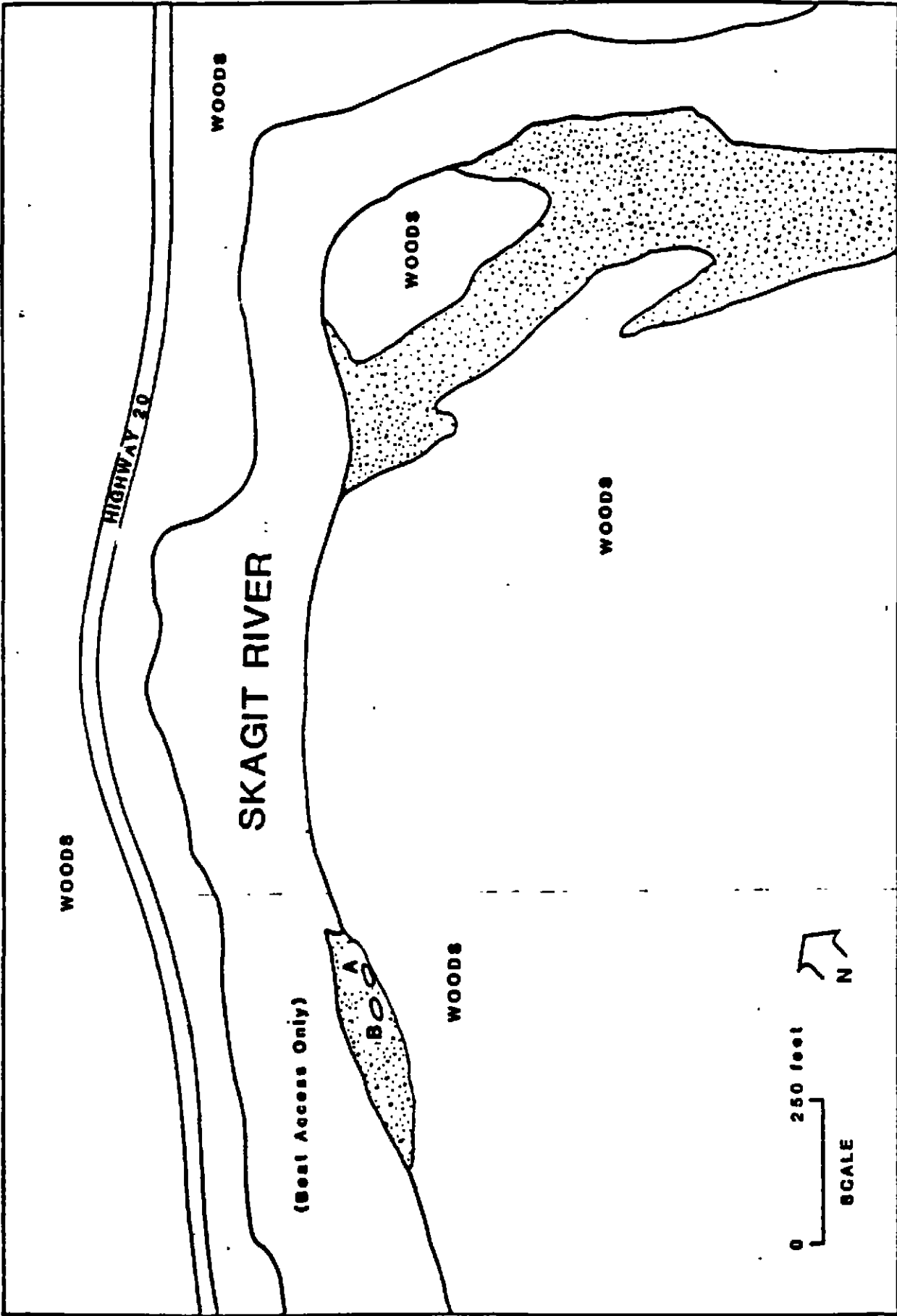




SKAGIT RIVER POTHOLES STUDY
JONES & STOKES ASSOCIATES, INC.

MINIBAR
RM- 83.3





SKAGIT RIVER POTHOLES STUDY
JONES & STOKES ASSOCIATES, INC.

COPPER CREEK
RM-84.0

APPENDIX C

DATA COLLECTION FORMS AND PROCEDURE MANUALS

Several collection forms and field procedure manuals were used through the course of this project. These forms and manuals are presented in the following order:

1. Data collection procedure manual for the Spring 1985 pothole stranding and trapping study.
2. Pothole trapping and stranding data work sheet (used during the 1985 spring pothole study)
3. Pothole trapping and stranding summary sheet (used during the 1985 spring pothole study)
4. Data collection procedure manual for the Summer/Fall 1985 gravel bar stranding study.
5. Gravel bar stranding data form used during the summer/fall 1985 steelhead and coho fry gravel bar stranding study.
6. Data collection procedure manual for the Spring 1986 salmon gravel bar stranding study.
7. Gravel bar "stranding location" data form used during the spring 1986 salmon gravel bar stranding study.
8. Gravel bar stranding "fish length" data form used during the spring 1986 salmon gravel bar stranding study.
9. Pothole trapping and stranding "work sheet" data form used during the spring 1986 salmon gravel bar stranding study.

OBSERVATIONS MANUAL
SKAGIT POTHOLE SURVEYS

General

Each observer is assigned a pothole area containing one or more pothole for which he/she will be responsible. Each notebook contains a set of maps explaining how to access each of the 33 pothole areas (Pothole Area Access Maps) and another set of pothole location maps showing the location of each pothole and its code identifier within each pothole area (Pothole Location Maps). Two data sheet types are also provided; the first "Data Sheet No. 1" is a work sheet form which information collected will periodically be transferred to "Data Sheet No. 2" which functions as a data summary sheet. The following shall describe the procedures used to complete these data sheets so that all data collected will be standardized throughout the study.

Contents of Data Notebook

Each notebook should contain the following items:

- a. Observation manual
- b. Pothole Area Access Maps
- c. Pothole Location Maps
- d. List of In-Sample Potholes
- e. Daily Assignment Sheet (one for each observer)
- f. List of Pothole Areas and Codes
- g. Standard to Military Conversion Table
- h. Pencils

Data Sheet No. 1

To clarify data entry locations an example of the data required is included in this manual. Each entry category has been identified by a number. The following will describe each data category separately. Each pothole should be visited at least once every 30 minutes. The following information should be recorded as indicated.

Entry No. 1 - Observer

- a. Supply Observer's name

Entry No. 2 - Date

- a. Month and Date should be numeric (i.e. 1=January, 12=December)

Entry No. 3 - Pothole Area Location

- a. First in Parenthesis, enter Pothole Area location as shown on coding list supplied in notebook.
- b. Second, enter pothole area location by name as shown on list provided.

Entry No. 4 - Pothole Number

- a. Each work sheet will contain data for only one pothole for each day. If an observer is responsible for eight (8) potholes, then eight (8) separate worksheets will be required, one for each pothole.
- b. Enter one pothole number from the assignment list.

Entry No. 5 - Time

- a. Time should be recorded in military time (24 hr. time) for each observation made.
- b. Conversion from standard to military time can be made using the conversion table supplied.

Entry No. 6 - Pothole Depth

- a. Pothole depth shall be recorded in one-tenth (1/10) foot increments. Each pothole has a temporary rebar staff gage with a 3 foot length of fiberglass tape affixed to it. The observer will record the water level each time the pothole is visited.

Entry No. 7 - Stream Gage Reading

- a. Stream gages are located at all of the major pothole areas. Refer to location maps to determine position(s) of each gage.
- b. The gage should be read and measured at least one every 30 minutes. During the period when potholes are connected and disconnected, it would be essential

to have a stream gage reading(s) taken more frequently.

- c. Yard sticks are affixed to fence posts. These measurements should be made to the closest inch.

Entry No. 8 - Pothole Water Temperature

- a. Pothole water temperature should be taken at least once every hour with the thermometers provided. Surface water temperature is adequate.

Entry No. 9 - Fry Trapped

- a. Two methods for counting fry will be used. Visual counts and electroshocking counts. Visual counts will be made for all potholes being observed. In addition to these visual observations, electroshocking counts will be made at selected potholes.
- b. Two accurate counts of fry trapped will be required for each pothole site. Counts should be made carefully when observation conditions are good. Good counts will take some time (5-10 minutes) and patience. Accuracy is critical! Once the two good counts have been made at a specific pothole no others will be required for the remainder of the day.

Entry No. 10 - Number Stranded

- a. When a pothole goes dry or nearly dry, fry stranding observations must be made. Only one good count of the fry stranded is required for each pothole, each day.
- b. Remove all fish counted as stranded so they are not recorded twice.
- c. If possible, identify fish species and record number of each fry type stranded in comments category.

Entry No. 11 - Connectivity/Disconnectivity Status

- a. Record the connectivity/disconnectivity status of each pothole every time the pothole is observed (once/30 minutes). There are four entry codes:
 - 1 = Connected (When pothole is connected to the main channel, it is considered connected.)
 - 2 = Almost Disconnected (When the pothole is close to becoming separated from the main channel water.)

- 3 = Disconnected (When pothole is not connected by river water, it is disconnected.)
- 4 = Almost Connected (When the pothole is nearly connected by water to main channel, it is almost connected.)

- b. When potholes are almost connected or disconnected it is essential that stream gage readings and pothole gage readings area made.
- c. When possible, observe and record connection and disconnection flows at potholes other than those assigned. However do not let this interfere with the assigned pothole observations.

Entry No. 12 - Comments

- a. Comment types are variable, but could include general site or pothole conditions, tape or rebar repair needs, trapping stranding comments, etc.

DATA SHEET NUMBER 2
SUMMARY SHEET

The Summary Data Sheet (Number 2) will have one entry per day for each of the assigned potholes and one line for any additional potholes for which observations were made in conjunction with the assigned potholes. The information entered on this data form will come from, in part, "work sheet" Number 1. The following describes in detail the procedure used to enter this data. Refer to the example data form attached.

Entry No. 1 - Date

- a. Observation month and date will be recorded with numerals (1=January, 12=December).

Entry No. 2 - Observer Initials

Entry No. 3 - Weather

- a. Use the following codes
 - 1 = sunny and clear
 - 2 = partial cloudy
 - 3 = cloudy
 - 4 = cloudy and raining

Entry No. 4 - Pothole Location

- a. Enter the pothole area location code (1-31) as shown on the code sheet supplied.

Entry No. 5 - Pothole Number

- a. Enter pothole alpha-numeric code shown on list supplied or from tape markers at pothole site.

Entry No. 6 - Fry Trapped

- a. Number Trapped - Take the average from the observed fry from the work sheet and enter this number on the data sheet.
- b. Method - Enter Code for method used 1 = visual
2 = electroshock

note: When pothole is shocked this figure will always be used rather than the visual observations.

Entry No. 7 - Number Stranded

- a. Enter the total number of fish from each pothole stranded.

Entry No. 8 - Disconnection (leave blank if not observed)

- a. Time - At disconnection record time from work sheet in military time (24 hour time).
- b. Gage Reading - Transfer gage reading at time of disconnection from work sheet, if disconnection is not observed, leave it blank.
- c. Pothole Depth - Transfer pothole water depth reading from work sheet for time of disconnection.

Entry No. 9 - Connection (leave blank if not observed)

- a. refer to 8a.
- b. refer to 8b.
- c. refer to 8c.

Entry No. 10 - Pothole Depth Minimum and Maximum

- a. Minimum Depth - From work sheet record minimum pothole depth observed.

- 6 -

- b. Time - Record from work sheet the military time of the minimum pothole depth observed.
- c. Stream Gage Reading - Record from the work sheet the stream gage reading observed at the pothole depth for the observation period.

- note: Follow same procedure for Maximum depth.

DATA WORK SHEET

[illegible]

* Comments should include general conditions, trapping/stranding comments, pothole repairs needed.

- 1 - Connected 3 - Disconnected
2 - Almost Disconnected 4 - Almost Connected

POTHOLO					
LOCATIC					
WEATHER					
OBSERV					
INITIALS					
DATE					

[illegible]

Gravel Bar Stranding Test Procedure

Purpose

Delete significance of various physical and hydraulic parameters on gravel bar stranding of steelhead fry.

Assumptions

Testing Approach

Six (6) combinations of gravel bar types will be selected for study under various combinations of amplitude fluctuation and ramping rate. Each test will begin at the same starting flow to maintain consistently in the gravel bars exposed downstream. Each of the twelve (12) study locations will have as many as three (3) study sites on them. Each site will be exactly 200 feet long. The width of the individual sites will be determined by amplitude fluctuation (i.e., the greater the fluctuation the larger the exposed area). Gravel bars with steep gradients will have shorter average widths than a gravel bar with a more gradual gradient. The high water and low water line created by the amplitude fluctuation tested must be established to determine exposed gravel bar area. To accomplish this, two (2) methods will be used. First, if the down ramp occurs overnight without precipitation the high water mark will be wetted on substrate. This line can then be better defined with markers. A second method will involve floats attached to each of the three (3) reference point rebars or secondary rebars. These floats will be slightly wetted so that the wind does not strand them above the high water mark. As water is ramped up the floats will move downstream on the waters edge. The floats will then be stranded at the high water mark when the water recedes during the subsequent down ramp. The location of the floats will represent high water edge. The low water mark can be determined by the observer each morning since the low water line will be established by the waters edge.

When an observer first begins work at a gravel bar site the following sequence will be followed.

Sampling Sequence

1. Initial Data Requirements
 - a. Record date, gravel bar location, gravel bar site, and observer initials.

2. Mark High Water and Low Water Line

- a. Flagging markers should be placed along waters edge approximately every 50 feet along entire waters edge. This is low waters edge.
- b. Flagging markers should then be placed along high water line. High water line can be identified two ways. First by position of float markers, and second by edge of wetted gravel. Marker flagging should be placed every 25 feet along this highwater line.
- c. Repeat for all stations (sites) on gravel bar area.

3. Search Gravel Bar Station (Site)

- a. Begin searching along high water edge searching approximately a three (3) foot wide band of gravel for stranded fry. Maintain a constant pace and search width. Do not turn over rocks or debris. If a stranded fry is observed, do not move. Place a flagging marker (with code) at fry location. Anchor marker with a rock. Continue to search and mark fry until low water is reached.
- b. Repeat for all stations (sites) on gravel bar area.

4. Measurement of Water Line and Fry Marker Locations

- a. Attach 200 foot tape to Reference Point 1 (upstream reference point) and measure distance to all high water, low water, and fry locations upstream of Reference Point 2. Record all data including codes on fry location markers.
- b. Next, repeat procedure from reference point 2 (middle reference point) for all markers within entire station (site). Record all data.
- c. Next, repeat procedure from Reference Point 3. Measure all markers downstream of Reference Point 2. Measure and record data in a similar fashion.
- d. Check data form to confirm that each measurement point has two (2) coordinates entered on data form. If data point is missing remeasure to complete data form.

5. Fry Collection

- a. Low water markers must be left in place on double test days.

- b. Place stranded fry from each station into one (1) plastic bag. (1 bag/station). Place a white in rain marker in each bag with station number and gravel bar location on it.
 - c. Flagging markers must be collected before site is left for day.
6. High Water Marker Bouys
- a. High water marker bouys must be placed near waters edge before leaving gravel bar area.
7. Double Tests Only
- a. Place a marker at waters edge.
 - b. Repeat "a." for each station every 30 minutes.
 - c. Repeat "3.a. and b." from previous low water line to the waters edge.
 - d. Confirm that test is complete. When no more gravel bar is exposed over a 30 minute period the test is over. (As indicated from step "7.a. and b.").
 - e. Repeat 4 and 5 above.

CONTROL TEST OUTLINE

Purpose

Determine sampling accuracy of our visual observation technique and to determine fry ability to escape into the subgravel areas rather than strand.

Assumptions

1. Fry stranded on gravel bar are all visible on the surface of the gravel bar.
2. Fry do not re-enter gravel once they have emerged. Thus a fry that is at risk of stranding does strand and can not move back into the sub-gravel.

Test Approach

The control test will be completed three (3) times, once during each third of the 18 test period (early, middle, and late). The general approach to this test assumes that each observer follows the same sequence of instructions each time the bar is searched (see approach to tests). We will assume that the last thing an observer does at each bar is to collect fish stranded. The importance of this assumption becomes evident.

At randomly selected gravel bars (two sites at each of three gravel bar locations) steelhead fry will be placed at known locations on the bar. Prior to placement, these fry will be selected from a group of live fry taken from potholes. These fish will be representative of the smallest fry available (most vulnerable size we assume). These fry will be marked with a fluorescent pigment for later verifications. These fry will be released with water to create a semi-natural situation that will allow fish to move sub-gravel or to strand normally. Once fry have been placed on bars, their locations will be identified to compare with observer coordinates and document release point. The observers will then be watched until their work is complete, with the exception of fish collection. At this point, a crew supervisor will check data to determine how accurately observers were able to locate stranded fish. Marked fish that were not located will then be recovered to verify presence. The supervisor will note which fry were located and which fry were missed. Differences between the actual number of planted fish and estimated will provide an adjustment factor for observer accuracy and may also allow for a better understanding of evasive behavior.

POTHOLE SURVEY PROCEDURE
(for in-sample potholes)

Materials Needed

Pothole data sheet, map, and pencil.

Steps

1. Locate pothole
 - Enter pothole number in column 1
2. Determine connection status
 - If pothole is DISCONNECTED enter "DIS" in column 2
 - If pothole is CONNECTED enter "CON" in column 2
3. Location of ping-pong ball
 - If inside pothole enter "IN" in column 3
 - If outside pothole enter "OUT" in column 3
4. Drainage status
 - If pothole is dry or nearly dry enter "DRY" in column 4
 - If pothole contains water enter "WET" in column 4
5. Time
 - Read watch enter time in column 5
6. Number trapped
 - Enter the number of live trapped fish in column 6
7. Number stranded
 - Enter the number of stranded fish in column 7
 - Collect dead fish in plastic bag (1 bag per bar) label bag
8. Comments
 - Altered conditions
 - Repairs needed
 - Functioning of ball
 - General comments

DATE _____ STATION # _____ GRAVEL BAR LOCATION _____

OBSERVER _____ WEATHER _____

		REFERENCE POINTS			TIME	
		NUMBER 1	NUMBER 2	NUMBER 3	MEASUREMENT 1	MEASUREMENT 2
HIGH WATER LINE						
LOW WATER LINE						
FISH	CODE #				LENGTH (cm)	SPECIES
1						
2						
3						
4						
5						
6						
7						
8						
9						
10						
11						
12						
13						
14						
15						
16						
17						
18						
19						
20						

GRAVEL BAR STRANDING TEST PROCEDURE

Purpose

Delete significance of various physical and hydraulic parameters on gravel bar stranding of salmon fry.

Testing Approach

Six (6) combinations of gravel bar types will be selected for study under various combinations of amplitude fluctuation and ramping rate. Each test will end at a pre-determined flow. Each of the twelve (12) study locations will have as many as three (3) study sites on them. Each site will be exactly 200 feet long. The width of the individual sites will be determined by amplitude fluctuation (i.e., the greater the fluctuation the larger the exposed area). Gravel bars with steep gradients will have shorter average widths than a gravel bar with a more gradual gradient. The high water and low water line created by the amplitude fluctuation tested must be established to determine exposed gravel bar area. To accomplish this, two (2) methods will be used. First, if the down ramp occurs overnight without precipitation, the high water mark will be wetted on the substrate. This line can then be better defined with markers. A second method will involve the use of wood chips placed on the tops of rocks in front of the three (3) reference point rebars. When an observer returns to the site the following day the high waterline will be established by noting where the wood chips are washed off the tops of the rocks. Each day as the observer finishes at a site, he or she will replace the wood chips on the rocks in front of the reference rebars. The low water mark can be determined by the observer each morning since the low water line will be established by the waters edge.

When an observer first begins work at a gravel bar site, the following sequence will be followed.

Sampling Sequence

1. Initial Data Requirements
 - a. Record date, gravel bar location, gravel bar site, and observer initials.
2. Mark High Water and Low Water Line
 - a. Flagging markers should be placed along waters edge approximately every 50 feet along entire waters edge. This is low waters edge.
 - b. Flagging markers should then be placed along the high water line. High water line can be identified two (2) ways. First by the wood chip method, and second, by edge or wetted gravel. Marker flagging should be placed every 25 feet along this high water line.

Sampling Sequence (Continued)

- c. Repeat for all sites on gravel bar area.
- 3. Search Gravel Bar Site
 - a. Begin searching along high water edge searching approximately a 3 feet wide band of gravel for stranded fry. Maintain a constant pace and search width. Do not turn over rocks or debris. If a stranded fry is observed, do not move. Place a flagging marker (with code) at fry location. Anchor marker with a rock. Continue to search and mark fry until low water line is reached.
 - b. Repeat for all sites on gravel bar area.
- 4. Measurement of Water Line and Fry Marker Locations
 - a. Attach 200 foot tape to Reference Point 1 (upstream reference point) and measure distance to all high water, low water, and fry locations upstream of Reference Point 2. Record all data including codes on fry location markers.
 - b. Next, repeat procedure from Reference Point 2 (middle reference point) for all markers within entire site. Record all data.
 - c. Next, repeat procedure from Reference Point 3. Measure all markers downstream of Reference Point 2. Measure and record data in a similar fashion.
 - d. Check data form to confirm that each measurement point has exactly two (2) coordinates entered on data form. If data point is missing remeasure to complete data form.
- 5. Fry Collection
 - a. Place stranded fry from each gravel bar into one (1) plastic bottle. Place a write-in-rain-marker in each bottle with the gravel bar location written on it.
 - b. Flagging markers must be collected before site is left for day.
- 6. High Water Marker Wood Chips/Bark
 - a. High water marker chips must be placed near the assumed high water edge before leaving gravel bar area for the day. Place a line of wood chips in a line out from the reference rebar on top of the gravel.

POTHOLE SURVEY PROCEDURE
(for in-sample potholes)

Materials Needed

Pothole data sheet, map and pencil.

Steps

1. Locate pothole
 - Enter pothole number in column 1
2. Determine connection status
 - If pothole is DISCONNECTED enter "DIS" in column 2
 - If pothole is CONNECTED enter "CON" in column 2
3. Drainage status
 - If pothole is dry or nearly dry enter "DRY" in column 4
 - If pothole contains water enter "WET" in column 4
4. Time
 - Read watch enter time in column 5
5. Number stranded
 - Enter the number of stranded fish in column 7
 - Collect dead fish in plastic bag (1 bag per bar) label bag
6. Comments
 - Altered condition
 - Repairs needed
 - General comments

NOTEBOOK CONTENTS
AND FIELD EQUIPMENT

Each notebook and observer should have this equipment.

1. Access Maps
2. Site Location Maps
3. Skagit River Maps
4. Project Calendar
5. Gravel Bar Stranding Forms
6. Pothole Sampling Forms and List of Potholes
7. Pencils
8. 100 Foot or 200 Foot Tape Measures
9. Fish Sample Bottle
10. Write-in-the-rain labels

GRAVEL BAR INVENTORY

<u>LOCATION</u>	<u>NO. BAR SITES</u>
Rockport	3
Bad Spot	4
Forbidden Bar	3
Inaccessible Island	3
Big Eddie	3
Hooper Slough	3
Fungus Bar	3
Bacon Creek	3
Face Bar	3
Oink Bar	3
Diobsud Creek	2
Marblemount	3

1986 Skagit Gravel Bar Stranding Study

Stranding Location Data Form

Post: _____

Page _____

Date _____ Gravel Bar (Code) _____ (____) Station # _____

Observer _____ A _____ R _____ E _____ Dry/Wet _____

Reference Points

			No. 1	No. 2	No. 3
High Water Line					
Low Water Line					
	No. of Fish	Fish Code			
1					
2					
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					

Codes

Gravel Bars

- 01 Rockport
- 05 Bad Spot
- 07 Forbidden
- 12 Hooper Slough
- 13 Inaccessible Is.
- 19 Big Eddy
- 21 Marblemount
- 23 Fungus Bar
- 40 Diobsud Creek
- 26 Bacon Creek
- 27 Face Bar
- 41 Oink Bar

Dry/Wet

- 1 = Dry
- 2 = Wet

1986 Skagit Gravel Bar Stranding Study

Fish Length Data Form

Test:

Page

Date Gravel Bar (Code) ()

Observer R R E

	Length (cm)	Species
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		
16		
17		
18		
19		
20		
21		
22		
23		
24		
25		

Codes

Gravel Bars

- 01 Rockport
- 05 Bad Spot
- 07 Forbidden
- 12 Hooper Slough
- 13 Inaccessible Is.
- 19 Big Eddy
- 21 Marblemount
- 23 Fungus Bar
- 40 Diobsud Creek
- 26 Bacon Creek
- 27 Face Bar
- 41 Oink Bar

Species Codes

- 1 chinook
- 2 steelhead
- 3 coho
- 4 chum
- 5 pink

DATA WORK SHEET

OBSERVER: _____ **DATE:** _____

POTHOLE LOCATION: _____ A ____ R ____ E ____

[illegible]

* Include general conditions, trapping/stranding comments, pothole repairs needed.

DATA WORK SHEET

OBSERVER: _____

DATE: _____

POTHOLE LOCATION: _____

A R E

[illegible]

* Include general conditions, trapping/stranding comments, pothole repairs needed.

APPENDIX D

SPRING 1985 SALMON FRY POTHOLE TRAPPING AND STRANDING STUDY DATA SUMMARY

This appendix includes a summary of the trapped and stranded fry from each pothole area studied for each of the fifteen tests completed (See Table D-1) followed by summary data for each pothole observation completed during the study (See Table D-2).

LEGEND FOR TABLE D-2

POTHOLE LOCATION - PLEASE SEE FIGURE 1-1

POTHOLE NUMBER - PLEASE REFER TO MAPS IN APPENDIX B

DATE OF OBSERVATION - AS DISPLAYED IN FIGURE D-2

ALL OTHER DATA TYPES ARE SELF-EXPLANATORY

TABLE D-1
NUMBER OF FRY TRAPPED AND STRANDED IN POTHOLE
BY SAMPLING DATE AND TEST TYPE FOR THE SUM OF ALL INDIVIDUAL
POTHOLE OBSERVATIONS DURING THE SPRING 1985 POTHOLE STUDY

D A T E	TEST TYPE	TOTAL FRY TRAPPED	TOTAL FRY STRANDED	NUMBER OF INDIVIDUAL POT HOLE OBSERVATIONS
FEBRUARY 23, 1985	A2/R1	24	0	40
MARCH 2	A1/R2	10	0	90
MARCH 3	A2/R''	144	29	118
MARCH 9	A3/R1	423	67	86
MARCH 10	A3/R1	796	57	84
MARCH 16	A2/R1	953	95	108
MARCH 17	A1/R2	417	5	84
MARCH 23	A3/R2	303	50	95
MARCH 24	A2/R2	242	6	67
MARCH 30	A2/R2	71	2	71
MARCH 31	A3/R2	904	90	98
APRIL 6	A1/R1	1690	7	96
APRIL 7	A1/R1	939	5	87
MAY 15 (1)	A1/R2	1363	17	108
MAY 16 (1)	A3/R2	750	2	77

Amplitude: A1 = 1000 cfs
A2 = 2500 cfs
A3 = 4000 cfs

Ramp Rate: R1 = 1000 cfs/hr
R2 = 2000 cfs/hr

(1). United States Geological Survey hydraulic flow data was not available for this sampling date.

TABLE D-2 SUMMARY DATA OF THE 1985 POTHOLE STUDY

POTHOLE LOCATION	POTHOLE NUMBER	DATE OF OBSERVATION	NUMBER OF TRAPPED FRY	NUMBER OF STRANDED FRY	DEPTH OF POTHOLE WHEN OBSERVED DISCONNECTED	DEPTH OF POTHOLE WHEN OBSERVED CONNECTED	MINIMUM DEPTH DURING OBSERVATION	MAXIMUM DEPTH DURING OBSERVATION
1 1	1	02/23/85	0	0	-1.0000	-1.0000	0.00000	0.00000
1 1	1	03/03/85	0	0	-1.0000	-1.0000	0.00000	0.00000
1 1	1	03/09/85	0	0	-1.0000	-1.0000	0.00000	0.70000
1 1	1	03/10/85	0	0	-1.0000	-1.0000	0.00000	0.00000
1 1	1	03/16/85	0	0	-1.0000	-1.0000	0.00000	0.00000
1 1	1	03/17/85	0	0	-1.0000	-1.0000	0.00000	0.00000
1 1	1	03/23/85	0	5	-1.0000	-1.0000	0.00000	0.00000
1 1	1	03/24/85	1	1	-1.0000	-1.0000	0.00000	0.20000
1 1	1	03/30/85	3	0	-1.0000	-1.0000	0.10000	0.20000
1 1	1	03/31/85	0	11	-1.0000	-1.0000	0.00000	0.00000
1 1	1	04/06/85	3	2	-1.0000	-1.0000	0.00000	0.20000
1 1	1	04/07/85	2	2	-1.0000	-1.0000	0.00000	0.20000
1 1	1	05/15/85	2	0	-1.0000	-1.0000	0.30000	0.50000
1 1	1	05/16/85	20	0	-1.0000	-1.0000	-1.00000	-1.00000
1 11	11	02/23/85	0	0	-1.0000	-1.0000	0.00000	0.00000
1 11	11	03/16/85	0	0	-1.0000	-1.0000	0.20000	0.20000
1 11	11	03/17/85	0	0	-1.0000	-1.0000	0.40000	0.50000
1 12	12	03/09/85	0	0	-1.0000	0.3000	0.20000	0.30000
1 12	12	03/10/85	0	0	-1.0000	-1.0000	0.20000	0.20000
1 12	12	05/15/85	0	1	-1.0000	-1.0000	0.20000	0.90000
1 13	13	02/23/85	0	0	-1.0000	-1.0000	0.30000	0.30000
1 13	13	03/03/85	0	0	0.3000	-1.0000	0.30000	0.30000
1 13	13	03/09/85	0	0	-1.0000	0.5000	0.30000	0.50000
1 13	13	03/10/85	1	0	-1.0000	-1.0000	0.30000	0.30000
1 13	13	03/16/85	0	0	-1.0000	-1.0000	0.30000	0.30000
1 13	13	03/23/85	0	0	-1.0000	-1.0000	0.30000	0.30000
1 13	13	03/24/85	0	0	-1.0000	-1.0000	0.40000	0.40000
1 13A	13A	03/16/85	0	0	-1.0000	-1.0000	0.30000	0.30000
1 13A	13A	03/23/85	0	0	-1.0000	-1.0000	0.30000	0.30000
1 13A	13A	03/24/85	0	0	-1.0000	-1.0000	0.30000	0.30000
1 14	14	02/23/85	15	0	-1.0000	-1.0000	1.10000	1.10000
1 14	14	03/03/85	10	0	1.2000	-1.0000	1.20000	1.20000
1 14	14	03/09/85	9	0	-1.0000	-1.0000	1.00000	1.00000
1 14	14	03/16/85	10	0	-1.0000	-1.0000	1.00000	0.90000
1 14	14	03/17/85	9	0	-1.0000	-1.0000	1.20000	1.20000
1 14	14	03/31/85	14	0	-1.0000	-1.0000	1.20000	1.20000
1 14	14	04/06/85	3	0	-1.0000	-1.0000	1.20000	1.20000

TABLE LEGEND

POTHOLE LOCATION - SEE FIGURE I-1
POTHOLE NUMBER - SEE APPENDIX B MAPS
DATE OF OBSERVATION - SEE FIGURE D-2

POTHOLE LOCATION	POTHOLE NUMBER	DATE OF OBSERVATION	NUMBER OF TRAPPED FRY	NUMBER OF STRANDED FRY	DEPTH OF POTHOLE WHEN OBSERVED DISCONNECTED	DEPTH OF POTHOLE WHEN OBSERVED CONNECTED	MINIMUM DEPTH DURING OBSERVATION	MAXIMUM DEPTH DURING OBSERVATION
1	14	05/15/85	20	0	-1.0000	-1.0000	1.20000	1.40000
1	15	02/23/85	0	0	-1.0000	-1.0000	0.40000	0.40000
1	15	03/03/85	20	0	0.4000	-1.0000	0.40000	0.40000
1	15	03/09/85	2	0	-1.0000	-1.0000	0.30000	0.50000
1	15	03/10/85	2	0	-1.0000	-1.0000	0.30000	0.40000
1	15	03/16/85	1	0	-1.0000	-1.0000	0.30000	0.30000
1	15	03/17/85	3	0	-1.0000	-1.0000	0.40000	0.40000
1	15	03/31/85	17	0	-1.0000	-1.0000	0.40000	0.40000
1	16A	02/23/85	1	0	-1.0000	-1.0000	0.10000	0.20000
1	16A	03/09/85	0	0	-1.0000	0.2000	0.20000	0.20000
1	16A	03/09/85	0	0	-1.0000	0.2000	0.20000	0.20000
1	16A	03/16/85	0	0	-1.0000	0.2000	0.00000	0.20000
1	17	03/03/85	1	1	0.7000	-1.0000	0.60000	0.70000
1	17	03/09/85	0	3	-1.0000	-1.0000	0.60000	0.70000
1	17	03/10/85	2	0	-1.0000	-1.0000	0.50000	0.60000
1	17	03/31/85	15	0	-1.0000	-1.0000	0.60000	0.60000
1	17	05/15/85	30	0	-1.0000	-1.0000	0.30000	0.90000
1	17A	02/23/85	0	0	-1.0000	-1.0000	0.00000	0.00000
1	17A	03/03/85	0	1	-1.0000	-1.0000	0.00000	0.00000
1	17A	03/09/85	0	1	-1.0000	0.0000	0.00000	0.00000
1	17A	03/23/85	0	2	-1.0000	-1.0000	0.00000	0.00000
1	17A	03/31/85	0	0	-1.0000	-1.0000	0.00000	0.00000
1	17A	04/06/85	0	0	-1.0000	-1.0000	0.00000	0.20000
1	17B	03/16/85	0	0	-1.0000	-1.0000	0.00000	0.00000
1	17B	03/17/85	0	0	-1.0000	-1.0000	0.00000	0.00000
1	17B	04/06/85	0	0	-1.0000	-1.0000	0.00000	0.20000
1	18	02/23/85	0	0	-1.0000	-1.0000	0.40000	0.40000
1	18	04/06/85	7	0	-1.0000	-1.0000	0.70000	0.70000
1	18	04/07/85	7	0	-1.0000	-1.0000	0.70000	0.70000
1	19	03/16/85	0	0	-1.0000	-1.0000	0.10000	0.10000
1	19	03/23/85	0	1	-1.0000	-1.0000	0.30000	0.30000
1	19A	03/03/85	0	4	-1.0000	-1.0000	0.00000	0.00000
1	19A	03/09/85	0	0	-1.0000	-1.0000	0.00000	0.00000
1	19A	03/10/85	1	1	-1.0000	-1.0000	0.00000	0.10000
1	19A	03/16/85	0	0	-1.0000	-1.0000	0.00000	0.00000
1	19A	03/17/85	0	0	-1.0000	-1.0000	0.10000	0.20000
1	19A	03/23/85	0	1	-1.0000	-1.0000	0.10000	0.10000
1	19A	03/24/85	0	0	-1.0000	-1.0000	0.30000	0.40000
1	19A	03/31/85	1	1	-1.0000	-1.0000	0.30000	0.30000
1	19A	04/06/85	0	0	-1.0000	-1.0000	0.40000	0.50000
1	1A	02/23/85	0	0	-1.0000	-1.0000	0.00000	0.00000
1	1A	03/02/85	0	0	-1.0000	-1.0000	0.00000	0.10000
1	1A	03/03/85	0	0	-1.0000	-1.0000	0.00000	0.00000
1	1A	03/16/85	0	0	-1.0000	-1.0000	0.00000	0.00000
1	1A	03/17/85	0	2	-1.0000	-1.0000	0.00000	0.00000
1	1A	03/23/85	0	0	-1.0000	0.1000	0.00000	0.10000
1	1A	03/24/85	0	0	-1.0000	-1.0000	0.00000	0.00000
1	1A	03/30/85	0	0	-1.0000	-1.0000	0.00000	0.00000
1	1A	03/31/85	0	0	-1.0000	-1.0000	0.00000	0.00000

TABLE LEGEND

POTHOLE LOCATION - SEE FIGURE I-1
POTHOLE NUMBER - SEE APPENDIX B MAPS
DATE OF OBSERVATION - SEE FIGURE D-2

POTHOLE LOCATION	POTHOLE NUMBER	DATE OF OBSERVATION	NUMBER OF TRAPPED FRY	NUMBER OF STRANDED FRY	DEPTH OF POTHOLE WHEN OBSERVED DISCONNECTED	DEPTH OF POTHOLE WHEN OBSERVED CONNECTED	MINIMUM DEPTH DURING OBSERVATION	MAXIMUM DEPTH DURING OBSERVATION
1	1A	04/06/85	0	0	-1.0000	-1.0000	0.00000	0.00000
1	2	04/06/85	0	0	-1.0000	-1.0000	0.00000	0.00000
1	20	02/23/85	0	0	-1.0000	-1.0000	1.20000	1.20000
1	20	03/09/85	2	0	-1.0000	-1.0000	0.20000	0.40000
1	20	03/10/85	1	0	-1.0000	0.4000	0.20000	0.40000
1	20	03/16/85	2	0	-1.0000	-1.0000	0.10000	0.10000
1	21	05/15/85	0	0	-1.0000	-1.0000	0.30000	0.90000
1	22	03/02/85	0	0	-1.0000	-1.0000	0.00000	0.00000
1	22	03/02/85	0	0	-1.0000	-1.0000	0.00000	0.00000
1	22	05/16/85	0	0	-1.0000	-1.0000	-1.00000	-1.00000
1	23	03/02/85	0	0	-1.0000	-1.0000	0.00000	0.00000
1	23	04/06/85	0	0	-1.0000	-1.0000	0.00000	0.00000
1	23	04/07/85	0	0	-1.0000	-1.0000	0.00000	0.00000
1	3	03/02/85	0	0	-1.0000	0.6000	0.60000	1.00000
1	3	03/03/85	2	1	-1.0000	-1.0000	0.20000	0.20000
1	3	03/03/85	2	1	-1.0000	-1.0000	0.20000	0.20000
1	3	03/23/85	0	5	-1.0000	0.1000	0.00000	0.10000
1	3	03/24/85	1	0	-1.0000	-1.0000	0.30000	0.40000
1	3	03/31/85	0	0	-1.0000	-1.0000	0.00000	0.60000
1	3	04/06/85	2	0	-1.0000	-1.0000	0.30000	0.40000
1	4	02/23/85	0	0	-1.0000	-1.0000	0.00000	0.00000
1	4	03/02/85	0	0	-1.0000	-1.0000	0.00000	0.00000
1	4	03/03/85	0	0	-1.0000	-1.0000	0.00000	0.00000
1	4	03/09/85	0	0	-1.0000	-1.0000	0.00000	0.00000
1	4	03/10/85	0	0	-1.0000	-1.0000	0.00000	0.00000
1	4	03/16/85	0	0	-1.0000	-1.0000	0.00000	0.00000
1	4	03/17/85	0	0	-1.0000	-1.0000	0.00000	0.00000
1	4	03/24/85	0	0	-1.0000	-1.0000	0.00000	0.00000
1	4	03/30/85	0	0	-1.0000	-1.0000	0.00000	0.00000
1	4	03/31/85	0	0	-1.0000	-1.0000	0.00000	0.00000
1	4	04/06/85	0	0	-1.0000	-1.0000	0.00000	0.00000
1	4	04/07/85	0	0	-1.0000	-1.0000	0.00000	0.00000
1	5	02/23/85	0	0	-1.0000	-1.0000	0.00000	0.00000
1	5	04/06/85	0	0	-1.0000	-1.0000	0.00000	0.00000
1	6	02/23/85	0	0	-1.0000	-1.0000	0.00000	0.00000
1	6	03/03/85	0	0	-1.0000	-1.0000	0.00000	0.00000
1	6	03/09/85	0	1	-1.0000	0.0000	0.00000	0.00000
1	6	03/16/85	0	0	-1.0000	-1.0000	0.00000	0.00000
1	6	03/17/85	0	0	-1.0000	-1.0000	0.00000	0.00000
1	6	03/24/85	0	0	-1.0000	-1.0000	0.00000	0.10000
1	6	03/30/85	0	0	-1.0000	-1.0000	0.00000	0.10000
1	6	03/31/85	0	2	-1.0000	-1.0000	0.00000	0.00000
1	6	04/06/85	0	0	-1.0000	-1.0000	0.10000	0.20000
1	6	04/07/85	0	0	-1.0000	-1.0000	0.10000	0.20000
1	6	05/15/85	0	0	-1.0000	-1.0000	0.00000	0.60000
1	7	03/09/85	0	0	-1.0000	-1.0000	0.00000	0.00000
1	7	03/16/85	0	0	-1.0000	-1.0000	0.00000	0.00000
1	7	03/17/85	0	0	-1.0000	-1.0000	0.00000	0.00000
1	7	04/06/85	0	0	-1.0000	-1.0000	0.00000	0.00000

TABLE LEGEND

POTHOLE LOCATION - SEE FIGURE I-1
POTHOLE NUMBER - SEE APPENDIX B MAPS
DATE OF OBSERVATION - SEE FIGURE Q-2

POTHOLE LOCATION	POTHOLE NUMBER	DATE OF OBSERVATION	NUMBER OF TRAPPED FRY	NUMBER OF STRANDED FRY	DEPTH OF POTHOLE WHEN OBSERVED DISCONNECTED	DEPTH OF POTHOLE WHEN OBSERVED CONNECTED	MINIMUM DEPTH DURING OBSERVATION	MAXIMUM DEPTH DURING OBSERVATION
1	7A	03/03/85	0	0	-1.0000	-1.0000	0.00000	0.00000
1	7A	03/16/85	0	0	-1.0000	-1.0000	0.00000	0.00000
1	7A	03/17/85	0	0	-1.0000	-1.0000	0.00000	0.00000
1	7A	03/30/85	0	0	-1.0000	0.0000	0.00000	0.00000
1	7A	03/31/85	0	0	-1.0000	-1.0000	0.00000	0.00000
1	7A	04/06/85	0	0	-1.0000	-1.0000	0.00000	0.00000
1	7A	04/07/85	0	0	-1.0000	-1.0000	0.00000	0.00000
1	8	03/03/85	0	0	0.3000	-1.0000	0.30000	0.30000
1	8	03/16/85	0	0	-1.0000	-1.0000	0.00000	0.10000
1	8	03/17/85	1	0	-1.0000	-1.0000	0.30000	0.30000
1	8	03/31/85	0	0	-1.0000	-1.0000	0.30000	0.30000
1	8	03/15/85	0	0	-1.0000	-1.0000	0.20000	0.70000
1	9	03/09/85	0	0	-1.0000	-1.0000	0.30000	0.30000
1	A	02/23/85	0	0	-1.0000	-1.0000	1.20000	1.30000
1	B	04/06/85	0	0	-1.0000	-1.0000	0.00000	0.10000
1	B	04/07/85	0	0	-1.0000	-1.0000	0.00000	0.10000
1	C	02/23/85	0	0	-1.0000	-1.0000	0.00000	0.00000
1	C	04/06/85	0	0	-1.0000	-1.0000	0.00000	0.00000
1	D	03/02/85	0	0	-1.0000	-1.0000	0.00000	0.00000
1	D	03/16/85	0	0	-1.0000	-1.0000	0.00000	0.00000
1	D	03/17/85	0	0	-1.0000	-1.0000	0.00000	0.00000
1	D	04/06/85	0	0	-1.0000	-1.0000	0.00000	0.00000
1	D	04/07/85	0	0	-1.0000	-1.0000	0.00000	0.00000
2	1	05/15/85	13	0	-1.0000	-1.0000	1.80000	1.80000
2	11	02/23/85	5	0	-1.0000	-1.0000	0.20000	0.20000
2	11	03/16/85	0	0	-1.0000	-1.0000	0.10000	0.10000
2	11	05/15/85	2	0	-1.0000	-1.0000	0.40000	0.40000
2	11	05/16/85	4	0	-1.0000	-1.0000	-1.00000	-1.00000
2	12	02/23/85	0	0	-1.0000	-1.0000	0.00000	0.10000
2	12	03/03/85	0	0	-1.0000	-1.0000	0.00000	0.40000
2	12	03/09/85	0	0	-1.0000	0.2000	0.00000	0.20000
2	12	03/10/85	0	0	-1.0000	-1.0000	0.00000	0.20000
2	12	03/16/85	0	0	-1.0000	0.5000	0.00000	0.50000
2	12	03/17/85	0	0	-1.0000	-1.0000	0.10000	0.30000
2	12	03/23/85	0	0	-1.0000	0.1000	0.00000	0.30000
2	12	03/24/85	0	0	-1.0000	-1.0000	0.30000	0.40000
2	12	03/30/85	0	0	-1.0000	1.1000	0.30000	0.40000
2	12	03/31/85	0	0	-1.0000	-1.0000	0.00000	0.30000
2	12	04/06/85	1	0	-1.0000	-1.0000	0.10000	0.40000
2	12	04/07/85	3	0	-1.0000	-1.0000	0.20000	0.30000
2	12	05/15/85	0	0	-1.0000	-1.0000	0.10000	0.10000
2	12	05/16/85	0	0	-1.0000	-1.0000	-1.00000	-1.00000
2	12	05/16/85	0	0	-1.0000	-1.0000	-1.00000	-1.00000
2	2	03/03/85	52	0	-1.0000	-1.0000	1.60000	1.80000
2	2	03/09/85	43	0	-1.0000	2.7000	1.40000	1.50000
2	2	03/10/85	31	0	-1.0000	-1.0000	1.30000	1.60000
2	2	03/16/85	21	0	-1.0000	1.7000	1.20000	1.70000
2	2	03/17/85	28	0	-1.0000	-1.0000	1.60000	1.70000
2	2	03/23/85	4	0	-1.0000	1.5000	1.40000	1.50000

TABLE LEGEND

POTHOLE LOCATION - SEE FIGURE I-1
POTHOLE NUMBER - SEE APPENDIX B MAPS
DATE OF OBSERVATION - SEE FIGURE D-2

POTHOLE LOCATION	POTHOLE NUMBER	DATE OF OBSERVATION	NUMBER OF TRAPPED FRY	NUMBER OF STRANDED FRY	DEPTH OF POTHOLE WHEN OBSERVED DISCONNECTED	DEPTH OF POTHOLE WHEN OBSERVED CONNECTED	MINIMUM DEPTH DURING OBSERVATION	MAXIMUM DEPTH DURING OBSERVATION
2 2	2	03/24/85	18	0	-1.0000	0.7000	1.80000	1.90000
2 2	2	03/30/85	1	0	-1.0000	2.5000	1.80000	1.90000
2 2	2	03/31/85	82	0	-1.0000	-1.0000	1.50000	1.60000
2 2	2	04/06/85	73	0	-1.0000	1.8000	1.70000	1.90000
2 2	2	04/07/85	42	0	-1.0000	-1.0000	1.80000	1.90000
2 2	2	05/15/85	35	0	-1.0000	-1.0000	1.60000	1.60000
2 2	2	05/16/85	30	0	1.8000	-1.0000	-1.00000	-1.00000
2 3	3	03/09/85	4	0	-1.0000	1.4000	0.80000	0.70000
2 3	3	03/10/85	47	0	-1.0000	-1.0000	0.80000	1.10000
2 3	3	03/16/85	80	0	-1.0000	0.8000	0.60000	0.80000
2 3	3	03/17/85	46	0	-1.0000	-1.0000	1.00000	1.10000
2 3	3	03/31/85	175	0	-1.0000	-1.0000	1.00000	1.00000
2 3	3	04/06/85	75	0	-1.0000	1.1000	1.10000	1.10000
2 3	3	04/07/85	64	0	-1.0000	-1.0000	1.10000	1.10000
2 3	3	05/15/85	100	0	-1.0000	-1.0000	0.90000	0.90000
2 3	3	05/16/85	40	0	1.1000	-1.0000	-1.00000	-1.00000
2 4	4	03/09/85	0	0	1.3000	1.7000	1.30000	1.70000
2 4	4	03/10/85	0	0	1.3000	1.5000	1.20000	1.50000
2 4	4	03/16/85	0	0	1.3000	-1.0000	1.20000	1.30000
2 4	4	03/23/85	0	0	1.3000	1.3000	1.30000	1.40000
2 5	5	02/23/85	0	0	-1.0000	-1.0000	0.30000	0.50000
2 5	5	03/02/85	0	0	-1.0000	-1.0000	1.00000	1.20000
2 5	5	03/03/85	0	0	-1.0000	-1.0000	0.50000	0.60000
2 5	5	03/09/85	0	0	-1.0000	-1.0000	0.30000	1.20000
2 5	5	03/10/85	0	0	-1.0000	-1.0000	0.20000	0.60000
2 5	5	03/10/85	0	0	-1.0000	-1.0000	0.20000	0.60000
2 5	5	03/16/85	0	0	-1.0000	-1.0000	0.00000	0.00000
2 5	5	03/17/85	0	0	-1.0000	-1.0000	0.60000	0.70000
2 5	5	03/23/85	0	0	-1.0000	-1.0000	0.30000	0.90000
2 5	5	03/24/85	0	0	-1.0000	-1.0000	0.60000	0.80000
2 5	5	03/30/85	0	0	-1.0000	-1.0000	0.70000	0.70000
2 5	5	03/31/85	0	0	-1.0000	-1.0000	0.40000	0.50000
2 5	5	04/06/85	0	0	-1.0000	-1.0000	0.60000	0.70000
2 5	5	04/07/85	0	0	-1.0000	-1.0000	0.60000	0.70000
2 5	5	05/15/85	7	0	-1.0000	-1.0000	0.40000	0.40000
2 5	5	05/15/85	7	0	-1.0000	-1.0000	0.40000	0.70000
2 5	5	05/16/85	13	2	-1.0000	-1.0000	-1.00000	-1.00000
2 A	A	03/09/85	0	0	-1.0000	0.2000	0.10000	0.20000
2 A	A	03/10/85	0	0	-1.0000	0.3000	0.10000	0.30000
2 A	A	03/16/85	1	1	-1.0000	0.1000	0.00000	0.10000
2 A	A	03/23/85	0	0	-1.0000	0.2000	0.10000	0.20000
2 A	A	05/15/85	0	0	-1.0000	-1.0000	0.10000	0.10000
2 B	B	05/15/85	1	0	-1.0000	-1.0000	0.20000	0.20000
2 C	C	02/23/85	0	0	-1.0000	-1.0000	0.60000	0.70000
2 C	C	03/16/85	0	0	-1.0000	-1.0000	0.40000	0.40000
2 C	C	05/15/85	0	0	-1.0000	-1.0000	0.70000	0.70000
2 F	F	03/09/85	0	0	0.7000	1.2000	0.60000	0.80000
2 F	F	03/10/85	13	0	0.6000	0.8000	0.50000	0.80000
2 F	F	03/16/85	0	0	0.6000	-1.0000	0.40000	0.60000

TABLE LEGEND

POTHOLE LOCATION - SEE FIGURE I-1
POTHOLE NUMBER - SEE APPENDIX B MAPS
DATE OF OBSERVATION - SEE FIGURE D-2

POTHOLE LOCATION	POTHOLE NUMBER	DATE OF OBSERVATION	NUMBER OF TRAPPED FRY	NUMBER OF STRANDED FRY	DEPTH OF POTHOLE WHEN OBSERVED DISCONNECTED	DEPTH OF POTHOLE WHEN OBSERVED CONNECTED	MINIMUM DEPTH DURING OBSERVATION	MAXIMUM DEPTH DURING OBSERVATION
2	6	02/23/85	0	0	1.4000	-1.0000	1.40000	1.50000
2	H	02/23/85	0	0	-1.0000	-1.0000	0.70000	0.70000
2	H	03/31/85	0	0	-1.0000	-1.0000	0.70000	0.80000
2	I	03/16/85	35	0	-1.0000	-1.0000	1.10000	1.10000
2	J	05/15/85	17	0	-1.0000	-1.0000	0.90000	0.90000
2	N	03/09/85	0	0	-1.0000	-1.0000	0.00000	0.00000
2	N	03/10/85	0	0	-1.0000	-1.0000	0.00000	0.00000
2	N	03/16/85	0	0	-1.0000	-1.0000	0.00000	0.00000
2	N	03/17/85	0	0	-1.0000	-1.0000	0.00000	0.00000
2	N	04/06/85	0	0	-1.0000	-1.0000	0.00000	0.00000
2	N	04/07/85	0	0	-1.0000	-1.0000	0.00000	0.00000
2	N	05/16/85	0	0	-1.0000	-1.0000	-1.00000	-1.00000
3	10	05/16/85	0	0	-1.0000	-1.0000	-1.00000	-1.00000
3	11	03/09/85	0	0	-1.0000	1.2000	1.00000	1.20000
3	11	05/16/85	4	0	-1.0000	-1.0000	-1.00000	-1.00000
3	11B	02/23/85	2	0	-1.0000	-1.0000	0.30000	0.30000
3	11B	03/09/85	0	0	-1.0000	0.6000	0.30000	0.60000
3	11B	05/16/85	30	0	-1.0000	-1.0000	-1.00000	-1.00000
3	12	02/23/85	0	0	-1.0000	-1.0000	0.00000	0.00000
3	12	03/02/85	0	0	-1.0000	-1.0000	0.20000	0.20000
3	12	03/09/85	0	0	-1.0000	-1.0000	0.00000	0.00000
3	12	05/16/85	0	0	-1.0000	-1.0000	-1.00000	-1.00000
3	15	02/23/85	0	0	-1.0000	-1.0000	0.00000	0.00000
3	5	02/23/85	0	0	-1.0000	-1.0000	0.90000	0.90000
3	5	03/02/85	0	0	-1.0000	-1.0000	1.30000	1.30000
3	5	03/09/85	0	0	-1.0000	-1.0000	0.80000	1.20000
3	5	03/23/85	0	0	-1.0000	-1.0000	0.90000	1.00000
3	5	05/16/85	0	0	-1.0000	-1.0000	-1.00000	-1.00000
3	6	02/23/85	0	0	-1.0000	-1.0000	3.00000	3.00000
3	7	02/23/85	0	0	-1.0000	-1.0000	1.10000	1.10000
3	7	03/09/85	0	0	-1.0000	-1.0000	1.00000	1.60000
3	7	05/16/85	0	0	-1.0000	-1.0000	-1.00000	-1.00000
3	8	02/23/85	0	0	-1.0000	-1.0000	0.00000	0.00000
3	8	03/02/85	0	0	-1.0000	-1.0000	0.00000	0.00000
3	8	03/09/85	0	0	-1.0000	-1.0000	0.00000	0.20000
3	8	05/16/85	0	0	-1.0000	-1.0000	-1.00000	-1.00000
3	9	05/16/85	0	0	-1.0000	-1.0000	-1.00000	-1.00000
4	1	03/30/85	0	0	-1.0000	-1.0000	1.10000	0.90000
4	1	03/31/85	0	0	-1.0000	-1.0000	0.90000	0.90000
4	1	05/15/85	0	0	-1.0000	-1.0000	0.80000	0.80000
4	10	03/10/85	0	0	-1.0000	-1.0000	0.00000	0.20000
4	10	03/16/85	0	0	-1.0000	-1.0000	0.00000	0.00000
4	10	03/17/85	0	0	-1.0000	-1.0000	0.10000	0.10000
4	10	03/23/85	0	0	-1.0000	-1.0000	0.20000	0.00000
4	10	03/24/85	0	0	-1.0000	-1.0000	0.40000	0.20000
4	10	03/30/85	0	0	-1.0000	-1.0000	0.40000	0.50000
4	10	03/31/85	0	0	-1.0000	-1.0000	0.10000	0.30000
4	10	04/06/85	0	0	-1.0000	-1.0000	0.20000	1.40000
4	10	04/07/85	0	0	-1.0000	-1.0000	0.20000	0.20000

TABLE LEGEND

POTHOLE LOCATION - SEE FIGURE I-1
POTHOLE NUMBER - SEE APPENDIX B MAPS
DATE OF OBSERVATION - SEE FIGURE D-2

POTHOLE LOCATION	POTHOLE NUMBER	DATE OF OBSERVATION	NUMBER OF TRAPPED FRY	NUMBER OF STRANDED FRY	DEPTH OF POTHOLE WHEN OBSERVED DISCONNECTED	DEPTH OF POTHOLE WHEN OBSERVED CONNECTED	MINIMUM DEPTH DURING OBSERVATION	MAXIMUM DEPTH DURING OBSERVATION
4	10	05/15/85	0	0	-1.0000	-1.0000	0.10000	0.20000
4	11	03/02/85	10	0	-1.0000	1.2000	1.20000	1.20000
4	11	03/03/85	0	0	-1.0000	-1.0000	0.20000	0.30000
4	11	03/10/85	0	0	-1.0000	-1.0000	0.90000	1.20000
4	11	03/16/85	0	0	-1.0000	-1.0000	0.60000	0.80000
4	11	03/17/85	0	0	-1.0000	-1.0000	1.00000	1.10000
4	11	03/23/85	0	0	-1.0000	-1.0000	1.10000	1.50000
4	11	03/24/85	0	0	-1.0000	-1.0000	1.20000	1.20000
4	11	03/30/85	0	0	-1.0000	1.2000	1.10000	1.20000
4	11	03/31/85	0	0	-1.0000	-1.0000	1.20000	1.00000
4	11	04/06/85	0	0	-1.0000	-1.0000	1.20000	1.00000
4	11	04/07/85	0	0	-1.0000	-1.0000	1.20000	1.10000
4	11	05/15/85	6	0	-1.0000	-1.0000	0.90000	1.00000
4	11B	03/10/85	4	1	-1.0000	-1.0000	0.20000	0.50000
4	11B	03/16/85	0	10	-1.0000	-1.0000	0.10000	0.20000
4	11B	03/17/85	0	0	-1.0000	-1.0000	0.40000	0.40000
4	11B	03/23/85	1	0	-1.0000	-1.0000	0.50000	0.40000
4	11B	03/24/85	4	0	-1.0000	-1.0000	0.50000	0.50000
4	11B	03/30/85	8	1	-1.0000	0.6000	0.60000	0.60000
4	11B	03/31/85	16	0	-1.0000	-1.0000	0.70000	0.50000
4	11B	04/06/85	25	0	-1.0000	-1.0000	0.70000	0.70000
4	11B	04/07/85	25	0	-1.0000	-1.0000	0.50000	0.50000
4	11B	05/15/85	25	0	-1.0000	-1.0000	0.50000	0.60000
4	12	03/02/85	0	0	-1.0000	-1.0000	0.00000	0.00000
4	12	03/03/85	0	0	-1.0000	-1.0000	0.00000	0.00000
4	12	03/03/85	0	0	-1.0000	-1.0000	0.00000	0.00000
4	12	03/10/85	0	0	-1.0000	-1.0000	0.00000	0.00000
4	12	03/16/85	0	0	-1.0000	-1.0000	0.00000	0.00000
4	12	03/17/85	0	0	-1.0000	-1.0000	0.00000	0.00000
4	12	03/23/85	0	0	-1.0000	-1.0000	0.00000	0.00000
4	12	03/24/85	0	0	-1.0000	-1.0000	0.00000	0.00000
4	12	03/30/85	0	0	-1.0000	-1.0000	0.00000	0.20000
4	12	03/31/85	0	0	-1.0000	-1.0000	0.00000	0.00000
4	12	04/06/85	0	0	-1.0000	-1.0000	0.00000	0.00000
4	12	04/07/85	0	0	-1.0000	-1.0000	0.00000	0.00000
4	12	05/15/85	0	0	-1.0000	-1.0000	0.00000	0.00000
4	13	03/02/85	0	0	-1.0000	-1.0000	0.00000	0.00000
4	13	03/30/85	0	0	-1.0000	-1.0000	0.00000	0.20000
4	13	03/31/85	0	0	-1.0000	-1.0000	0.00000	0.00000
4	13	04/06/85	0	0	-1.0000	-1.0000	0.00000	0.00000
4	13	04/07/85	0	0	-1.0000	-1.0000	0.00000	0.00000
4	13A	03/02/85	0	0	-1.0000	-1.0000	0.30000	1.60000
4	13A	03/03/85	0	0	-1.0000	-1.0000	0.00000	0.00000
4	13A	04/06/85	0	0	-1.0000	-1.0000	0.00000	0.00000
4	13A	04/07/85	0	0	-1.0000	-1.0000	0.00000	0.00000
4	14	03/02/85	0	0	-1.0000	-1.0000	0.00000	0.00000
4	14	03/03/85	0	0	-1.0000	-1.0000	0.00000	0.00000
4	14	04/06/85	0	0	-1.0000	-1.0000	0.00000	0.00000
4	14	04/06/85	0	0	-1.0000	-1.0000	0.00000	0.00000

TABLE LEGEND

POTHOLE LOCATION - SEE FIGURE I-1
POTHOLE NUMBER - SEE APPENDIX B MAPS
DATE OF OBSERVATION - SEE FIGURE D-2

POTHOLE LOCATION	POTHOLE NUMBER	DATE OF OBSERVATION	NUMBER OF TRAPPED FRY	NUMBER OF STRANDED FRY	DEPTH OF POTHOLE WHEN OBSERVED DISCONNECTED	DEPTH OF POTHOLE WHEN OBSERVED CONNECTED	MINIMUM DEPTH DURING OBSERVATION	MAXIMUM DEPTH DURING OBSERVATION
4	14	04/07/85	0	0	-1.0000	-1.0000	0.00000	0.00000
4	15	03/03/85	0	0	-1.0000	-1.0000	0.00000	0.00000
4	16	03/02/85	0	0	-1.0000	-1.0000	0.00000	0.00000
4	16	03/03/85	0	0	-1.0000	-1.0000	0.00000	0.00000
4	17	03/02/85	0	0	-1.0000	-1.0000	0.00000	0.00000
4	17	03/03/85	0	0	-1.0000	-1.0000	0.00000	0.00000
4	5	03/02/85	0	0	-1.0000	-1.0000	1.30000	1.30000
4	5	03/03/85	0	0	-1.0000	-1.0000	1.00000	1.20000
4	5	03/10/85	0	0	-1.0000	-1.0000	0.80000	1.00000
4	5	03/16/85	0	0	-1.0000	-1.0000	0.60000	0.70000
4	5	03/17/85	0	0	-1.0000	-1.0000	0.90000	1.00000
4	5	03/17/85	0	0	-1.0000	-1.0000	0.90000	1.00000
4	5	03/24/85	0	0	-1.0000	-1.0000	1.80000	1.00000
4	5	03/30/85	0	0	-1.0000	-1.0000	1.20000	1.40000
4	5	03/31/85	0	0	-1.0000	-1.0000	1.10000	0.90000
4	5	05/15/85	0	0	-1.0000	-1.0000	0.90000	0.90000
4	7	03/02/85	0	0	-1.0000	-1.0000	1.50000	1.50000
4	7	03/03/85	0	0	-1.0000	-1.0000	1.20000	1.30000
4	7	03/10/85	0	0	-1.0000	-1.0000	1.00000	1.50000
4	7	03/16/85	0	0	-1.0000	-1.0000	0.80000	1.10000
4	7	03/16/85	0	0	-1.0000	-1.0000	0.80000	1.10000
4	7	03/17/85	0	0	-1.0000	-1.0000	1.20000	1.20000
4	7	03/23/85	0	0	-1.0000	-1.0000	1.10000	1.30000
4	7	03/24/85	0	0	-1.0000	-1.0000	1.40000	1.30000
4	7	03/30/85	0	0	-1.0000	-1.0000	1.40000	1.60000
4	7	03/31/85	0	0	-1.0000	-1.0000	1.20000	1.10000
4	7	04/06/85	0	0	-1.0000	-1.0000	1.30000	1.20000
4	7	04/07/85	0	0	-1.0000	-1.0000	1.30000	1.30000
4	7	05/15/85	2	0	-1.0000	-1.0000	1.10000	1.70000
4	8	03/02/85	0	0	-1.0000	-1.0000	0.00000	0.00000
4	8	03/03/85	0	0	-1.0000	-1.0000	0.00000	0.00000
4	8	03/03/85	0	0	-1.0000	-1.0000	0.00000	0.00000
4	8	03/10/85	0	0	-1.0000	-1.0000	0.00000	0.00000
4	8	03/16/85	0	0	-1.0000	-1.0000	0.00000	0.00000
4	8	03/17/85	0	0	-1.0000	-1.0000	0.00000	0.00000
4	8	03/23/85	0	0	-1.0000	-1.0000	0.00000	0.00000
4	8	03/24/85	0	0	-1.0000	-1.0000	0.00000	0.00000
4	8	03/30/85	0	0	-1.0000	-1.0000	0.00000	0.20000
4	8	03/31/85	0	0	-1.0000	-1.0000	0.00000	0.00000
4	8	04/06/85	0	0	-1.0000	-1.0000	0.00000	0.00000
4	8	04/07/85	0	0	-1.0000	-1.0000	0.00000	0.00000
4	8	05/15/85	0	0	-1.0000	-1.0000	0.00000	0.00000
4	9	03/03/85	0	0	-1.0000	-1.0000	0.10000	0.30000
4	9	04/07/85	0	0	-1.0000	-1.0000	0.30000	0.20000
4	9	05/15/85	0	0	-1.0000	-1.0000	0.00000	0.00000
4	C	03/02/85	0	0	-1.0000	-1.0000	3.00000	3.00000
5	1	02/23/85	0	0	-1.0000	-1.0000	2.30000	2.40000
5	1	03/02/85	0	0	-1.0000	-1.0000	2.70000	2.80000
5	1	03/03/85	7	0	-1.0000	-1.0000	1.60000	1.70000

TABLE LEGEND

POTHOLE LOCATION - SEE FIGURE I-1
POTHOLE NUMBER - SEE APPENDIX B MAPS
DATE OF OBSERVATION - SEE FIGURE D-2

POTHOLE LOCATION	POTHOLE NUMBER	DATE OF OBSERVATION	NUMBER OF TRAPPED FRY	NUMBER OF STRANDED FRY	DEPTH OF POTHOLE WHEN OBSERVED DISCONNECTED	DEPTH OF POTHOLE WHEN OBSERVED CONNECTED	MINIMUM DEPTH DURING OBSERVATION	MAXIMUM DEPTH DURING OBSERVATION
5 1	03/09/85	9	0	-1.0000	-1.0000	1.50000	1.80000	
5 1	03/10/85	16	0	-1.0000	-1.0000	1.40000	1.50000	
5 1	03/16/85	15	0	-1.0000	-1.0000	1.10000	1.40000	
5 1	03/17/85	14	0	-1.0000	-1.0000	1.50000	1.60000	
5 1	03/23/85	10	0	-1.0000	-1.0000	1.40000	1.40000	
5 1	03/24/85	1	0	-1.0000	-1.0000	1.90000	1.90000	
5 1	03/30/85	8	0	-1.0000	-1.0000	1.70000	1.80000	
5 1	03/31/85	7	0	-1.0000	-1.0000	1.70000	1.70000	
5 1	04/06/85	33	0	-1.0000	-1.0000	1.60000	1.60000	
5 1	04/07/85	17	0	-1.0000	-1.0000	1.60000	1.60000	
5 1	05/15/85	70	0	-1.0000	-1.0000	1.40000	1.40000	
5 1	05/16/85	0	0	-1.0000	-1.0000	-1.00000	-1.00000	
5 10	03/03/85	0	0	1.0000	-1.0000	1.00000	1.00000	
5 10	03/09/85	0	0	-1.0000	1.0000	0.40000	1.00000	
5 10	03/10/85	0	0	-1.0000	-1.0000	0.50000	1.20000	
5 10	03/16/85	0	0	-1.0000	1.1000	1.10000	1.10000	
5 10	03/17/85	0	0	-1.0000	-1.0000	1.10000	1.20000	
5 10	03/23/85	0	0	-1.0000	-1.0000	0.70000	0.70000	
5 10	05/15/85	0	0	0.9000	-1.0000	0.90000	0.90000	
5 11	03/09/85	0	0	-1.0000	-1.0000	0.00000	0.00000	
5 11	03/10/85	0	0	-1.0000	-1.0000	0.00000	1.20000	
5 11	03/16/85	0	0	-1.0000	0.2000	0.00000	0.20000	
5 11	03/17/85	0	0	-1.0000	-1.0000	0.00000	0.00000	
5 11	03/30/85	0	0	-1.0000	-1.0000	0.10000	0.10000	
5 11	03/31/85	0	0	-1.0000	-1.0000	0.00000	0.00000	
5 11	04/06/85	1	0	-1.0000	-1.0000	0.10000	0.10000	
5 11	05/15/85	0	0	-1.0000	-1.0000	0.00000	0.00000	
5 12	02/23/85	1	0	-1.0000	-1.0000	0.80000	0.80000	
5 12	03/02/85	0	0	-1.0000	-1.0000	0.30000	0.30000	
5 12	03/03/85	18	0	-1.0000	-1.0000	0.90000	1.00000	
5 12	03/09/85	40	0	-1.0000	1.6000	0.70000	1.60000	
5 12	03/10/85	52	0	-1.0000	-1.0000	0.70000	1.10000	
5 12	03/16/85	32	0	-1.0000	-1.0000	0.60000	1.10000	
5 12	03/17/85	23	0	-1.0000	-1.0000	1.00000	1.00000	
5 12	03/23/85	3	0	-1.0000	-1.0000	0.80000	0.80000	
5 12	03/24/85	17	0	-1.0000	-1.0000	1.10000	1.10000	
5 12	03/30/85	3	0	-1.0000	1.4000	1.00000	1.40000	
5 12	03/31/85	0	0	-1.0000	-1.0000	0.80000	0.80000	
5 12	04/06/85	49	0	-1.0000	-1.0000	1.00000	1.00000	
5 12	04/07/85	54	0	-1.0000	-1.0000	1.00000	1.00000	
5 12	05/15/85	58	0	-1.0000	-1.0000	0.80000	1.30000	
5 12	05/16/85	7	0	-1.0000	-1.0000	-1.00000	-1.00000	
5 13	03/02/85	0	0	-1.0000	-1.0000	0.00000	0.00000	
5 13	03/03/85	0	0	-1.0000	-1.0000	0.00000	0.00000	
5 13	03/09/85	0	0	-1.0000	0.2000	0.00000	0.20000	
5 13	03/10/85	0	0	-1.0000	-1.0000	0.00000	0.00000	
5 13	03/16/85	0	0	-1.0000	-1.0000	0.00000	0.00000	
5 13	03/17/85	0	0	-1.0000	-1.0000	0.00000	0.00000	
5 13	03/23/85	0	0	-1.0000	-1.0000	0.00000	0.00000	

TABLE LEGEND

POTHOLE LOCATION - SEE FIGURE 1-1
POTHOLE NUMBER - SEE APPENDIX B MAPS
DATE OF OBSERVATION - SEE FIGURE D-2

POTHOLE LOCATION	POTHOLE NUMBER	DATE OF OBSERVATION	NUMBER OF TRAPPED FRY	NUMBER OF STRANDED FRY	DEPTH OF POTHOLE WHEN OBSERVED DISCONNECTED	DEPTH OF POTHOLE WHEN OBSERVED CONNECTED	MINIMUM DEPTH DURING OBSERVATION	MAXIMUM DEPTH DURING OBSERVATION
5	13	03/24/85	0	0	-1.0000	-1.0000	0.00000	0.00000
5	13	03/30/85	0	1	-1.0000	0.1000	0.00000	0.00000
5	13	03/31/85	0	0	-1.0000	-1.0000	0.00000	0.00000
5	13	04/06/85	2	4	-1.0000	-1.0000	0.00000	0.00000
5	13	04/07/85	0	0	-1.0000	-1.0000	0.00000	0.00000
5	14	02/23/85	0	0	-1.0000	-1.0000	0.00000	0.00000
5	14	03/02/85	0	0	-1.0000	-1.0000	0.40000	0.60000
5	14	03/03/85	0	0	-1.0000	-1.0000	0.00000	0.00000
5	14	03/09/85	0	0	-1.0000	-1.0000	0.00000	0.70000
5	14	03/10/85	0	0	-1.0000	-1.0000	0.00000	0.00000
5	14	03/16/85	0	0	-1.0000	-1.0000	0.00000	0.00000
5	14	03/17/85	0	0	-1.0000	-1.0000	0.00000	0.00000
5	14	03/23/85	0	0	-1.0000	-1.0000	0.00000	0.00000
5	14	03/24/85	0	0	-1.0000	-1.0000	0.10000	0.10000
5	14	03/30/85	1	0	-1.0000	-1.0000	0.10000	0.70000
5	14	03/31/85	0	0	-1.0000	-1.0000	0.00000	0.00000
5	14	04/06/85	13	0	-1.0000	-1.0000	0.10000	0.10000
5	14	04/07/85	7	0	-1.0000	-1.0000	0.20000	0.20000
5	14	05/16/85	0	0	-1.0000	-1.0000	-1.00000	-1.00000
5	15	03/02/85	0	0	-1.0000	-1.0000	0.30000	0.40000
5	15	03/02/85	0	0	-1.0000	-1.0000	0.60000	1.60000
5	15	03/03/85	0	0	-1.0000	-1.0000	1.00000	1.20000
5	15	03/09/85	1	0	-1.0000	-1.0000	0.80000	1.50000
5	15	03/10/85	0	0	-1.0000	-1.0000	0.70000	1.00000
5	15	03/16/85	0	0	-1.0000	-1.0000	0.60000	0.80000
5	15	03/17/85	1	0	-1.0000	-1.0000	1.00000	1.10000
5	15	03/23/85	0	0	-1.0000	-1.0000	0.80000	0.80000
5	15	03/24/85	0	0	-1.0000	-1.0000	1.30000	1.40000
5	15	03/30/85	0	0	-1.0000	-1.0000	1.20000	1.60000
5	15	03/31/85	0	0	-1.0000	-1.0000	1.00000	1.00000
5	15	04/06/85	0	0	-1.0000	-1.0000	1.10000	1.10000
5	15	04/07/85	30	0	-1.0000	-1.0000	1.10000	1.10000
5	15	05/16/85	100	0	-1.0000	-1.0000	-1.00000	-1.00000
5	16	03/02/85	0	0	-1.0000	-1.0000	0.30000	0.40000
5	16	03/03/85	0	0	-1.0000	-1.0000	0.00000	0.00000
5	17	02/23/85	0	0	-1.0000	-1.0000	0.10000	0.20000
5	17	03/02/85	0	0	0.3000	-1.0000	0.30000	0.30000
5	17	03/03/85	0	0	-1.0000	-1.0000	0.20000	0.30000
5	17	03/09/85	1	0	-1.0000	-1.0000	0.20000	0.30000
5	17	03/10/85	0	0	-1.0000	-1.0000	0.10000	0.20000
5	17	03/16/85	0	0	-1.0000	-1.0000	0.00000	0.00000
5	17	03/17/85	0	0	-1.0000	-1.0000	0.10000	0.10000
5	17	03/23/85	0	0	-1.0000	-1.0000	0.10000	0.10000
5	17	03/31/85	5	0	-1.0000	-1.0000	0.20000	0.20000
5	17	04/06/85	0	0	-1.0000	-1.0000	0.20000	0.20000
5	17	04/07/85	0	0	-1.0000	-1.0000	0.10000	0.10000
5	17	05/16/85	0	0	-1.0000	-1.0000	-1.00000	-1.00000
5	18	03/02/85	0	0	-1.0000	-1.0000	0.00000	0.00000
5	18	03/23/85	0	0	-1.0000	-1.0000	0.00000	0.00000

TABLE LEGEND

POTHOLE LOCATION - SEE FIGURE I-1
POTHOLE NUMBER - SEE APPENDIX B MAPS
DATE OF OBSERVATION - SEE FIGURE D-2

POTHOLE LOCATION	POTHOLE NUMBER	DATE OF OBSERVATION	NUMBER OF TRAPPED FRY	NUMBER OF STRANDED FRY	DEPTH OF POTHOLE WHEN OBSERVED DISCONNECTED	DEPTH OF POTHOLE WHEN OBSERVED CONNECTED	MINIMUM DEPTH DURING OBSERVATION	MAXIMUM DEPTH DURING OBSERVATION
5 18		03/24/85	0	0	-1.0000	-1.0000	0.00000	0.00000
5 19		03/02/85	0	0	-1.0000	-1.0000	0.00000	0.00000
5 19		03/02/85	0	0	-1.0000	-1.0000	0.60000	1.60000
5 19		03/03/85	0	0	-1.0000	-1.0000	0.00000	0.00000
5 19		04/06/85	0	0	-1.0000	-1.0000	0.00000	0.00000
5 19		04/07/85	0	0	-1.0000	-1.0000	0.00000	0.10000
5 2		02/23/85	0	0	-1.0000	-1.0000	1.50000	1.60000
5 2		03/02/85	0	0	-1.0000	-1.0000	1.70000	1.80000
5 2		03/03/85	5	0	-1.0000	-1.0000	1.50000	1.80000
5 2		03/09/85	14	0	-1.0000	-1.0000	1.50000	1.70000
5 2		03/10/85	8	0	-1.0000	-1.0000	1.30000	1.70000
5 2		03/16/85	17	0	-1.0000	-1.0000	1.00000	1.20000
5 2		03/17/85	0	0	-1.0000	-1.0000	1.30000	1.40000
5 2		03/23/85	8	0	-1.0000	-1.0000	1.30000	1.30000
5 2		03/24/85	1	0	-1.0000	-1.0000	1.60000	1.70000
5 2		03/30/85	6	0	-1.0000	-1.0000	1.60000	1.60000
5 2		03/31/85	9	0	-1.0000	-1.0000	1.50000	1.50000
5 2		04/06/85	14	0	-1.0000	-1.0000	1.40000	1.40000
5 2		04/07/85	9	0	-1.0000	-1.0000	1.40000	1.40000
5 2		05/15/85	80	0	-1.0000	-1.0000	1.30000	1.30000
5 2		05/16/85	15	0	-1.0000	-1.0000	-1.00000	-1.00000
5 3		02/23/85	0	0	-1.0000	-1.0000	0.80000	0.90000
5 3		03/02/85	0	0	-1.0000	-1.0000	1.10000	1.10000
5 3		03/03/85	0	0	-1.0000	-1.0000	0.90000	1.10000
5 3		03/09/85	0	0	-1.0000	-1.0000	0.80000	1.00000
5 3		03/10/85	0	0	-1.0000	-1.0000	0.60000	1.00000
5 3		03/16/85	0	0	-1.0000	-1.0000	0.40000	0.60000
5 3		03/17/85	0	0	-1.0000	-1.0000	0.70000	0.80000
5 3		03/23/85	0	0	-1.0000	-1.0000	0.70000	0.70000
5 3		03/24/85	0	0	-1.0000	-1.0000	1.10000	1.10000
5 3		03/30/85	0	0	-1.0000	-1.0000	0.90000	1.00000
5 3		03/31/85	0	0	-1.0000	-1.0000	0.90000	0.90000
5 3		04/06/85	0	0	-1.0000	-1.0000	0.80000	0.80000
5 3		04/07/85	0	0	-1.0000	-1.0000	0.80000	0.80000
5 3		05/15/85	2	0	-1.0000	-1.0000	0.70000	0.70000
5 3		05/16/85	0	0	-1.0000	-1.0000	-1.00000	-1.00000
5 4		02/23/85	0	0	-1.0000	-1.0000	0.40000	0.50000
5 4		03/02/85	0	0	-1.0000	-1.0000	0.80000	0.80000
5 4		03/03/85	0	0	-1.0000	-1.0000	0.50000	0.70000
5 4		03/09/85	0	0	-1.0000	-1.0000	0.40000	0.50000
5 4		03/10/85	1	0	-1.0000	-1.0000	0.30000	0.50000
5 4		03/16/85	0	0	-1.0000	-1.0000	0.20000	0.40000
5 4		03/17/85	0	0	-1.0000	-1.0000	0.50000	0.60000
5 4		03/23/85	0	0	-1.0000	-1.0000	0.40000	0.40000
5 4		03/24/85	0	0	-1.0000	-1.0000	0.70000	0.70000
5 4		03/30/85	0	0	-1.0000	-1.0000	0.60000	0.70000
5 4		03/31/85	0	0	-1.0000	-1.0000	0.50000	0.50000
5 4		04/06/85	0	0	-1.0000	-1.0000	0.60000	0.60000
5 4		04/07/85	0	0	-1.0000	-1.0000	0.60000	0.60000

TABLE LEGEND

POTHOLE LOCATION - SEE FIGURE I-1
POTHOLE NUMBER - SEE APPENDIX B MAPS
DATE OF OBSERVATION - SEE FIGURE D-2

POTHOLE LOCATION	POTHOLE NUMBER	DATE OF OBSERVATION	NUMBER OF TRAPPED FRY	NUMBER OF STRANDED FRY	DEPTH OF POTHOLE WHEN OBSERVED DISCONNECTED	DEPTH OF POTHOLE WHEN OBSERVED CONNECTED	MINIMUM DEPTH DURING OBSERVATION	MAXIMUM DEPTH DURING OBSERVATION
5	4	05/15/85	0	1	-1.0000	-1.0000	0.60000	0.60000
5	4	05/16/85	1	0	-1.0000	-1.0000	-1.00000	-1.00000
5	5	03/02/85	0	0	-1.0000	-1.0000	1.80000	1.80000
5	5	03/03/85	2	0	-1.0000	-1.0000	1.40000	1.60000
5	5	03/09/85	6	0	-1.0000	-1.0000	1.30000	1.40000
5	5	03/10/85	5	0	-1.0000	-1.0000	1.30000	1.50000
5	5	03/16/85	3	0	-1.0000	-1.0000	1.10000	1.20000
5	5	03/17/85	3	0	-1.0000	-1.0000	1.40000	1.40000
5	5	03/23/85	3	0	-1.0000	-1.0000	1.20000	1.20000
5	5	03/24/85	2	0	-1.0000	-1.0000	1.60000	1.10000
5	5	03/30/85	1	0	-1.0000	-1.0000	1.50000	1.80000
5	5	03/31/85	2	0	-1.0000	-1.0000	1.40000	1.40000
5	5	04/06/85	3	0	-1.0000	-1.0000	1.50000	1.50000
5	5	04/07/85	3	0	-1.0000	-1.0000	1.50000	1.50000
5	5	05/15/85	2	0	-1.0000	-1.0000	1.60000	1.60000
5	5	05/16/85	6	0	-1.0000	-1.0000	-1.00000	-1.00000
5	6	02/23/85	0	0	-1.0000	-1.0000	0.40000	0.50000
5	6	03/02/85	0	0	-1.0000	-1.0000	0.90000	0.90000
5	6	03/03/85	0	0	-1.0000	-1.0000	0.50000	0.70000
5	6	03/09/85	1	0	-1.0000	-1.0000	0.40000	0.90000
5	6	03/10/85	0	0	-1.0000	-1.0000	0.40000	0.50000
5	6	03/16/85	0	0	-1.0000	-1.0000	0.20000	0.30000
5	6	03/17/85	0	0	-1.0000	-1.0000	0.50000	0.60000
5	6	03/23/85	0	0	-1.0000	-1.0000	0.30000	0.30000
5	6	03/24/85	0	0	-1.0000	-1.0000	0.70000	0.80000
5	6	03/30/85	0	0	-1.0000	-1.0000	0.60000	0.80000
5	6	03/31/85	0	0	-1.0000	-1.0000	0.50000	0.50000
5	6	04/06/85	0	0	-1.0000	-1.0000	0.60000	0.60000
5	6	04/07/85	0	0	-1.0000	-1.0000	0.60000	0.60000
5	6	05/15/85	6	0	-1.0000	-1.0000	0.70000	1.60000
5	6	05/16/85	2	0	-1.0000	-1.0000	-1.00000	-1.00000
5	7	03/16/85	0	0	-1.0000	-1.0000	0.90000	0.90000
5	7	03/30/85	0	0	-1.0000	-1.0000	1.30000	1.70000
5	7	03/31/85	0	0	-1.0000	-1.0000	1.10000	1.10000
5	7	05/15/85	30	0	-1.0000	-1.0000	1.40000	1.40000
5	8	03/16/85	0	0	-1.0000	-1.0000	0.00000	0.00000
5	8	03/30/85	0	0	-1.0000	-1.0000	0.40000	0.80000
5	8	03/31/85	0	0	-1.0000	-1.0000	0.30000	0.30000
5	8	05/15/85	0	0	-1.0000	-1.0000	0.60000	0.60000
5	9	05/15/85	4	0	-1.0000	-1.0000	-1.00000	-1.00000
6	1	02/23/85	0	0	-1.0000	-1.0000	0.00000	0.00000
6	1	03/02/85	0	0	-1.0000	0.2000	0.10000	0.30000
6	1	03/03/85	0	0	-1.0000	-1.0000	0.00000	0.00000
6	1	03/09/85	0	0	-1.0000	0.5000	0.00000	0.60000
6	1	03/10/85	0	1	-1.0000	-1.0000	0.00000	0.00000
6	1	03/16/85	0	0	-1.0000	-1.0000	0.00000	0.00000
6	1	03/17/85	0	0	-1.0000	-1.0000	0.00000	0.00000
6	1	03/23/85	0	2	-1.0000	0.4000	0.00000	0.00000
6	1	03/24/85	0	5	-1.0000	-1.0000	0.00000	0.10000

TABLE LEGEND

POTHOLE LOCATION - SEE FIGURE I-1
POTHOLE NUMBER - SEE APPENDIX B MAPS
DATE OF OBSERVATION - SEE FIGURE D-2

POTHOLE LOCATION	POTHOLE NUMBER	DATE OF OBSERVATION	NUMBER OF TRAPPED FRY	NUMBER OF STRANDED FRY	DEPTH OF POTHOLE WHEN OBSERVED DISCONNECTED	DEPTH OF POTHOLE WHEN OBSERVED CONNECTED	MINIMUM DEPTH DURING OBSERVATION	MAXIMUM DEPTH DURING OBSERVATION
6 1		03/30/85	0	0	-1.0000	0.5000	0.00000	0.10000
6 1		03/31/85	0	1	-1.0000	-1.0000	0.00000	0.00000
6 1		04/07/85	0	0	-1.0000	-1.0000	0.00000	0.00000
6 1		05/15/85	0	0	-1.0000	-1.0000	0.00000	0.00000
6 1		05/16/85	0	0	-1.0000	-1.0000	-1.00000	-1.00000
6 10		03/02/85	0	0	-1.0000	-1.0000	1.80000	2.20000
6 10		03/09/85	60	17	0.7000	1.3000	0.70000	2.40000
6 10		03/10/85	200	2	0.7000	0.6000	0.60000	0.60000
6 10		03/16/85	150	0	-1.0000	0.6000	0.60000	0.60000
6 10		03/23/85	100	2	0.7000	0.7000	0.70000	0.70000
6 10		03/31/85	200	10	0.7000	-1.0000	0.70000	0.70000
6 10		05/15/85	250	0	-1.0000	-1.0000	0.70000	0.70000
6 11		03/09/85	0	32	-1.0000	0.6000	0.00000	0.60000
6 11		03/10/85	0	20	-1.0000	-1.0000	0.00000	0.30000
6 11		03/16/85	0	0	-1.0000	-1.0000	0.00000	0.20000
6 11		03/17/85	9	0	-1.0000	-1.0000	0.20000	0.30000
6 11		03/23/85	0	27	-1.0000	0.9000	0.00000	0.10000
6 11		03/24/85	4	0	0.3000	0.2000	0.20000	0.30000
6 11		03/30/85	5	0	0.2000	0.4000	0.20000	0.30000
6 11		03/31/85	0	25	-1.0000	-1.0000	0.00000	0.10000
6 11		04/06/85	25	0	-1.0000	0.5000	0.20000	0.20000
6 11		05/15/85	0	0	-1.0000	-1.0000	0.10000	0.10000
6 11		05/16/85	89	0	-1.0000	-1.0000	-1.00000	-1.00000
6 12		03/23/85	0	0	-1.0000	0.5000	0.10000	0.10000
6 13		03/24/85	0	0	-1.0000	0.1000	0.00000	0.00000
6 13		03/30/85	0	0	-1.0000	-1.0000	0.10000	0.10000
6 13		03/31/85	0	0	-1.0000	-1.0000	0.00000	0.10000
6 13		04/06/85	0	0	-1.0000	-1.0000	0.10000	0.20000
6 13		04/07/85	0	0	-1.0000	-1.0000	0.10000	0.20000
6 13		05/15/85	0	0	-1.0000	-1.0000	0.00000	0.00000
6 13A		03/09/85	100	0	-1.0000	0.9000	0.60000	0.90000
6 13A		03/10/85	31	0	-1.0000	0.6000	0.60000	0.60000
6 13A		03/23/85	50	0	-1.0000	0.7000	0.60000	0.90000
6 13A		05/15/85	0	0	1.4000	-1.0000	1.40000	1.40000
6 14		03/31/85	0	9	-1.0000	-1.0000	0.00000	0.10000
6 14		04/06/85	0	0	-1.0000	-1.0000	0.30000	0.30000
6 14		04/07/85	0	0	-1.0000	-1.0000	0.20000	0.30000
6 14		05/15/85	2	0	-1.0000	-1.0000	0.20000	0.20000
6 15		03/02/85	0	0	-1.0000	-1.0000	0.00000	0.00000
6 15		03/03/85	0	0	-1.0000	-1.0000	0.00000	0.00000
6 16		03/03/85	0	0	-1.0000	-1.0000	0.00000	0.00000
6 16		03/09/85	0	0	-1.0000	-1.0000	0.00000	0.00000
6 16		03/10/85	0	0	-1.0000	-1.0000	0.00000	0.00000
6 16		03/30/85	0	0	-1.0000	-1.0000	0.00000	0.00000
6 16		03/31/85	0	0	-1.0000	-1.0000	0.00000	0.00000
6 16		04/06/85	0	0	-1.0000	-1.0000	0.00000	0.00000
6 16		04/07/85	0	0	-1.0000	-1.0000	0.00000	0.00000
6 16		05/15/85	0	0	-1.0000	-1.0000	0.00000	0.00000
6 16		05/16/85	0	0	-1.0000	-1.0000	-1.00000	-1.00000

TABLE LEGEND

POTHOLE LOCATION - SEE FIGURE I-1
POTHOLE NUMBER - SEE APPENDIX B MAPS
DATE OF OBSERVATION - SEE FIGURE D-2

POTHOLE LOCATION	POTHOLE NUMBER	DATE OF OBSERVATION	NUMBER OF TRAPPED FRY	NUMBER OF STRANDED FRY	DEPTH OF POTHOLE WHEN OBSERVED DISCONNECTED	DEPTH OF POTHOLE WHEN OBSERVED CONNECTED	MINIMUM DEPTH DURING OBSERVATION	MAXIMUM DEPTH DURING OBSERVATION
6	17	03/16/85	0	0	-1.0000	-1.0000	0.00000	0.00000
6	17	03/17/85	0	0	-1.0000	-1.0000	0.00000	0.00000
6	17	05/15/85	0	0	-1.0000	-1.0000	0.00000	0.00000
6	19	04/06/85	0	0	-1.0000	-1.0000	0.00000	0.00000
6	2	03/02/85	0	0	-1.0000	-1.0000	0.50000	0.50000
6	2	03/03/85	0	0	-1.0000	-1.0000	0.00000	0.00000
6	2	03/23/85	0	0	-1.0000	0.8000	0.00000	0.00000
6	2	03/24/85	0	0	-1.0000	-1.0000	0.10000	0.30000
6	2	05/15/85	0	0	-1.0000	-1.0000	0.00000	0.00000
6	2	05/16/85	0	0	-1.0000	-1.0000	-1.00000	-1.00000
6	20	04/06/85	0	0	-1.0000	-1.0000	0.00000	0.00000
6	20	04/07/85	0	0	-1.0000	-1.0000	0.00000	0.00000
6	3	02/23/85	0	0	-1.0000	-1.0000	0.00000	0.00000
6	3	03/02/85	0	0	-1.0000	-1.0000	0.30000	0.50000
6	3	03/03/85	0	0	-1.0000	-1.0000	0.00000	0.20000
6	3	03/09/85	0	0	-1.0000	0.3000	0.00000	0.30000
6	3	03/10/85	0	0	-1.0000	-1.0000	0.00000	0.00000
6	3	03/16/85	0	0	-1.0000	-1.0000	0.00000	0.00000
6	3	03/17/85	0	0	-1.0000	-1.0000	0.00000	0.00000
6	3	03/23/85	0	0	-1.0000	-1.0000	0.00000	0.10000
6	3	03/24/85	0	0	-1.0000	-1.0000	0.10000	0.40000
6	3	03/30/85	0	0	-1.0000	-1.0000	0.20000	0.40000
6	3	03/31/85	0	0	-1.0000	-1.0000	0.00000	0.00000
6	3	04/06/85	0	0	-1.0000	-1.0000	0.00000	0.10000
6	3	04/07/85	0	0	-1.0000	-1.0000	0.00000	0.00000
6	3	05/15/85	0	0	-1.0000	-1.0000	0.00000	0.40000
6	3	05/16/85	0	0	-1.0000	-1.0000	-1.00000	-1.00000
6	4	03/02/85	0	0	-1.0000	-1.0000	0.80000	1.00000
6	4	03/03/85	2	0	0.7000	-1.0000	0.50000	0.70000
6	4	03/16/85	0	0	-1.0000	-1.0000	0.10000	0.40000
6	4	03/17/85	1	0	-1.0000	-1.0000	0.70000	0.70000
6	4	03/30/85	0	0	-1.0000	0.8000	0.10000	0.30000
6	4	03/31/85	0	0	-1.0000	-1.0000	0.50000	0.70000
6	4	04/06/85	15	0	0.7000	0.7000	0.70000	0.70000
6	4	04/07/85	2	0	-1.0000	0.7000	0.70000	0.70000
6	4	05/15/85	5	0	-1.0000	0.7000	0.50000	0.70000
6	4	05/16/85	4	0	-1.0000	-1.0000	-1.00000	-1.00000
6	5	02/23/85	0	0	-1.0000	-1.0000	1.70000	4.00000
6	5	03/02/85	0	0	-1.0000	-1.0000	0.90000	1.00000
6	5	03/03/85	0	0	-1.0000	-1.0000	0.30000	0.70000
6	5	03/09/85	0	0	-1.0000	-1.0000	0.20000	0.70000
6	5	03/09/85	0	0	-1.0000	-1.0000	0.20000	0.70000
6	5	03/10/85	0	0	-1.0000	-1.0000	0.20000	0.50000
6	5	03/16/85	0	0	-1.0000	-1.0000	0.00000	0.10000
6	5	03/17/85	0	0	-1.0000	-1.0000	0.30000	0.40000
6	5	03/23/85	0	0	-1.0000	-1.0000	0.20000	0.60000
6	5	03/24/85	0	0	-1.0000	-1.0000	0.60000	1.00000
6	5	03/30/85	0	0	-1.0000	-1.0000	0.60000	0.90000
6	5	03/31/85	0	0	-1.0000	-1.0000	0.40000	0.70000

TABLE LEGEND

POTHOLE LOCATION - SEE FIGURE I-1
POTHOLE NUMBER - SEE APPENDIX B MAPS
DATE OF OBSERVATION - SEE FIGURE D-2

POTHOLE LOCATION	POTHOLE NUMBER	DATE OF OBSERVATION	NUMBER OF TRAPPED FRY	NUMBER OF STRANDED FRY	DEPTH OF POTHOLE WHEN OBSERVED DISCONNECTED	DEPTH OF POTHOLE WHEN OBSERVED CONNECTED	MINIMUM DEPTH DURING OBSERVATION	MAXIMUM DEPTH DURING OBSERVATION
6 5		04/06/85	2	0	-1.0000	-1.0000	0.40000	0.50000
6 5		04/07/85	2	0	-1.0000	-1.0000	0.40000	0.50000
6 5		05/15/85	0	0	-1.0000	-1.0000	0.10000	0.10000
6 5		05/16/85	0	0	-1.0000	-1.0000	-1.00000	-1.00000
6 5A		02/23/85	0	0	-1.0000	-1.0000	0.00000	0.00000
6 5A		03/02/85	0	0	-1.0000	-1.0000	0.20000	0.30000
6 5A		03/03/85	0	0	-1.0000	-1.0000	0.00000	0.00000
6 5A		03/09/85	0	0	-1.0000	-1.0000	0.00000	0.10000
6 5A		03/10/85	0	0	-1.0000	-1.0000	0.00000	0.00000
6 5A		03/16/85	0	0	-1.0000	-1.0000	0.00000	0.00000
6 5A		03/17/85	0	0	-1.0000	-1.0000	0.00000	0.00000
6 5A		03/23/85	0	0	-1.0000	-1.0000	0.00000	0.00000
6 5A		03/24/85	0	0	-1.0000	-1.0000	0.00000	0.40000
6 5A		03/30/85	0	0	-1.0000	-1.0000	0.10000	0.30000
6 5A		03/31/85	0	0	-1.0000	-1.0000	0.00000	0.00000
6 5A		04/06/85	0	0	-1.0000	-1.0000	0.00000	0.00000
6 5A		04/07/85	0	0	-1.0000	-1.0000	0.00000	0.00000
6 5A		05/15/85	0	0	-1.0000	-1.0000	0.00000	0.00000
6 5A		05/16/85	0	0	-1.0000	-1.0000	-1.00000	-1.00000
6 5B		05/15/85	0	0	-1.0000	-1.0000	0.00000	0.00000
6 5B		05/16/85	0	0	-1.0000	-1.0000	-1.00000	-1.00000
6 6		03/02/85	0	0	-1.0000	-1.0000	0.80000	0.80000
6 6		03/03/85	0	0	-1.0000	-1.0000	0.40000	0.70000
6 6		03/09/85	0	0	-1.0000	-1.0000	0.30000	0.70000
6 6		03/10/85	0	0	-1.0000	-1.0000	0.20000	0.60000
6 6		03/16/85	0	0	-1.0000	-1.0000	0.00000	0.10000
6 6		03/17/85	0	0	-1.0000	-1.0000	0.30000	0.60000
6 6		04/06/85	15	0	-1.0000	-1.0000	0.40000	0.60000
6 6		04/06/85	15	0	-1.0000	-1.0000	0.40000	0.60000
6 6		04/07/85	16	0	-1.0000	-1.0000	0.40000	0.60000
6 6		05/15/85	0	0	-1.0000	-1.0000	0.30000	0.30000
6 6		05/16/85	0	0	-1.0000	-1.0000	-1.00000	-1.00000
6 7		03/02/85	0	0	-1.0000	-1.0000	0.30000	0.50000
6 7		03/03/85	0	0	-1.0000	-1.0000	0.00000	0.20000
6 7		03/09/85	0	0	-1.0000	-1.0000	0.00000	0.70000
6 7		03/10/85	0	0	-1.0000	-1.0000	0.00000	0.00000
6 7		03/16/85	0	0	-1.0000	-1.0000	0.00000	0.00000
6 7		03/17/85	0	0	-1.0000	-1.0000	0.00000	0.00000
6 7		03/23/85	0	0	-1.0000	-1.0000	0.00000	0.00000
6 7		03/24/85	0	0	-1.0000	-1.0000	0.10000	0.40000
6 7		03/31/85	0	0	-1.0000	-1.0000	0.00000	0.10000
6 7		04/06/85	0	0	-1.0000	-1.0000	0.00000	0.00000
6 7		04/07/85	0	0	-1.0000	-1.0000	0.00000	0.00000
6 7		05/15/85	0	0	-1.0000	-1.0000	0.00000	0.00000
6 7		05/16/85	0	0	-1.0000	-1.0000	-1.00000	-1.00000
6 8		03/02/85	0	0	-1.0000	-1.0000	0.70000	0.70000
6 8		03/03/85	0	0	-1.0000	-1.0000	0.50000	0.50000
6 8		03/16/85	0	0	-1.0000	-1.0000	0.00000	0.10000
6 8		04/06/85	0	0	-1.0000	-1.0000	0.40000	0.50000

TABLE LEGEND

POTHOLE LOCATION - SEE FIGURE I-1
POTHOLE NUMBER - SEE APPENDIX B MAPS
DATE OF OBSERVATION - SEE FIGURE D-2

POTHOLE LOCATION	POTHOLE NUMBER	DATE OF OBSERVATION	NUMBER OF TRAPPED FRY	NUMBER OF STRANDED FRY	DEPTH OF POTHOLE WHEN OBSERVED DISCONNECTED	DEPTH OF POTHOLE WHEN OBSERVED CONNECTED	MINIMUM DEPTH DURING OBSERVATION	MAXIMUM DEPTH DURING OBSERVATION
6	8	04/07/85	0	0	-1.0000	-1.0000	0.40000	0.40000
6	8	05/15/85	0	0	-1.0000	-1.0000	0.20000	0.40000
6	8	05/16/85	0	0	-1.0000	-1.0000	-1.00000	-1.00000
6	8A	03/03/85	0	0	-1.0000	-1.0000	0.60000	0.60000
6	8A	03/16/85	0	0	-1.0000	-1.0000	0.00000	0.10000
6	8A	05/15/85	0	0	-1.0000	-1.0000	0.20000	0.30000
6	8A	05/16/85	0	0	-1.0000	-1.0000	-1.00000	-1.00000
6	9	03/02/85	0	0	-1.0000	-1.0000	1.40000	1.40000
6	9	03/09/85	0	3	-1.0000	0.4000	0.40000	0.40000
6	9	03/10/85	0	1	0.4000	0.5000	0.40000	0.40000
6	9	03/16/85	0	0	-1.0000	0.6000	0.30000	0.60000
6	9	03/23/85	1	3	0.4000	0.4000	0.40000	0.40000
6	9	05/15/85	0	0	0.3000	-1.0000	0.30000	1.60000
7	1	03/03/85	0	0	-1.0000	-1.0000	1.10000	1.10000
7	1	03/09/85	0	0	-1.0000	-1.0000	0.90000	0.90000
7	1	03/17/85	0	0	-1.0000	-1.0000	0.90000	0.90000
7	1	03/23/85	0	0	-1.0000	-1.0000	0.80000	1.00000
7	1	03/24/85	0	0	-1.0000	-1.0000	1.10000	1.20000
7	1	03/30/85	0	0	-1.0000	-1.0000	1.00000	1.00000
7	1	04/06/85	0	0	-1.0000	-1.0000	1.00000	1.00000
7	1	05/15/85	0	0	-1.0000	-1.0000	0.80000	0.90000
7	1	05/16/85	0	0	-1.0000	-1.0000	-1.00000	-1.00000
7	10	03/23/85	0	0	-1.0000	-1.0000	0.00000	0.00000
7	10	03/24/85	0	0	-1.0000	-1.0000	0.00000	0.00000
7	10	03/30/85	0	0	-1.0000	-1.0000	0.00000	0.00000
7	10	03/31/85	0	0	-1.0000	-1.0000	0.00000	0.00000
7	10	04/06/85	0	0	-1.0000	-1.0000	0.00000	0.00000
7	10	04/07/85	0	0	-1.0000	-1.0000	0.00000	0.00000
7	10	05/15/85	0	0	-1.0000	-1.0000	0.00000	0.00000
7	10	05/16/85	0	0	-1.0000	-1.0000	-1.00000	-1.00000
7	11	03/03/85	0	0	-1.0000	-1.0000	0.00000	0.00000
7	11	03/10/85	0	0	-1.0000	-1.0000	0.00000	0.00000
7	11	03/30/85	0	0	-1.0000	-1.0000	0.00000	0.00000
7	11	03/31/85	0	0	-1.0000	-1.0000	0.00000	0.00000
7	11	04/06/85	0	0	-1.0000	-1.0000	0.00000	0.00000
7	11	05/15/85	0	0	-1.0000	-1.0000	0.00000	0.00000
7	11	05/16/85	0	0	-1.0000	-1.0000	-1.00000	-1.00000
7	2	03/02/85	0	0	-1.0000	-1.0000	1.30000	1.30000
7	2	03/03/85	0	0	-1.0000	-1.0000	0.70000	0.90000
7	2	03/09/85	0	0	-1.0000	-1.0000	0.60000	0.80000
7	2	03/10/85	0	0	-1.0000	-1.0000	0.60000	0.80000
7	2	03/16/85	0	0	-1.0000	-1.0000	0.30000	0.40000
7	2	03/17/85	0	0	-1.0000	-1.0000	0.60000	0.70000
7	2	03/23/85	0	0	-1.0000	-1.0000	0.50000	0.70000
7	2	03/24/85	0	0	-1.0000	-1.0000	0.80000	1.00000
7	2	03/30/85	0	0	-1.0000	-1.0000	0.90000	1.10000
7	2	03/31/85	0	0	-1.0000	-1.0000	0.70000	0.90000
7	2	04/06/85	0	0	-1.0000	-1.0000	0.80000	0.80000
7	2	04/07/85	0	0	-1.0000	-1.0000	0.80000	0.80000

TABLE LEGEND

POTHOLE LOCATION - SEE FIGURE I-1
POTHOLE NUMBER - SEE APPENDIX B MAPS
DATE OF OBSERVATION - SEE FIGURE D-2

POTHOLE LOCATION	POTHOLE NUMBER	DATE OF OBSERVATION	NUMBER OF TRAPPED FRY	NUMBER OF STRANDED FRY	DEPTH OF POTHOLE WHEN OBSERVED DISCONNECTED	DEPTH OF POTHOLE WHEN OBSERVED CONNECTED	MINIMUM DEPTH DURING OBSERVATION	MAXIMUM DEPTH DURING OBSERVATION
7 2		05/15/85	10	0	-1.0000	-1.0000	0.60000	0.60000
7 2		05/16/85	20	0	-1.0000	-1.0000	-1.00000	-1.00000
7 3		03/09/85	0	0	-1.0000	-1.0000	0.00000	0.00000
7 3		03/16/85	0	0	-1.0000	-1.0000	0.00000	0.00000
7 3		03/17/85	0	0	-1.0000	-1.0000	0.00000	0.00000
7 3		03/23/85	0	0	-1.0000	-1.0000	0.00000	0.00000
7 3		03/24/85	0	0	-1.0000	-1.0000	0.00000	0.00000
7 3		03/30/85	0	0	-1.0000	-1.0000	0.00000	0.00000
7 3		03/31/85	0	0	-1.0000	-1.0000	0.00000	0.00000
7 3		04/06/85	0	0	-1.0000	-1.0000	0.00000	0.00000
7 3		05/15/85	0	0	-1.0000	-1.0000	0.00000	0.00000
7 3		05/16/85	0	0	-1.0000	-1.0000	-1.00000	-1.00000
7 4		03/16/85	0	0	-1.0000	-1.0000	0.00000	0.00000
7 4		03/17/85	0	0	-1.0000	-1.0000	0.00000	0.00000
7 4		03/30/85	0	0	-1.0000	-1.0000	0.00000	0.00000
7 4		04/06/85	0	0	-1.0000	-1.0000	0.00000	0.00000
7 4		05/16/85	0	0	-1.0000	-1.0000	-1.00000	-1.00000
7 5		03/02/85	0	0	-1.0000	-1.0000	1.50000	1.50000
7 5		03/03/85	0	0	-1.0000	-1.0000	1.30000	1.30000
7 5		03/09/85	0	0	-1.0000	-1.0000	0.90000	1.20000
7 5		03/10/85	0	0	-1.0000	-1.0000	0.80000	1.10000
7 5		03/16/85	0	0	-1.0000	-1.0000	0.60000	0.70000
7 5		03/17/85	0	0	-1.0000	-1.0000	0.90000	1.00000
7 5		03/23/85	0	0	-1.0000	-1.0000	0.80000	1.10000
7 5		03/24/85	0	0	-1.0000	-1.0000	1.20000	1.40000
7 5		03/30/85	0	0	-1.0000	-1.0000	1.20000	1.30000
7 5		03/31/85	0	0	-1.0000	-1.0000	1.10000	1.30000
7 5		04/06/85	0	0	-1.0000	-1.0000	1.10000	1.20000
7 5		04/07/85	0	0	-1.0000	-1.0000	1.10000	1.20000
7 5		05/15/85	0	0	-1.0000	-1.0000	0.90000	0.90000
7 5		05/16/85	0	0	-1.0000	-1.0000	-1.00000	-1.00000
7 6		03/02/85	0	0	-1.0000	-1.0000	0.30000	0.30000
7 6		03/03/85	0	0	-1.0000	-1.0000	0.20000	0.20000
7 6		03/09/85	0	0	-1.0000	0.3000	0.20000	0.30000
7 6		03/10/85	0	0	-1.0000	0.2000	0.20000	0.20000
7 6		03/16/85	0	0	-1.0000	-1.0000	0.00000	0.10000
7 6		03/17/85	0	0	-1.0000	0.2000	0.20000	0.30000
7 6		03/23/85	0	0	-1.0000	0.4000	0.20000	0.20000
7 6		03/31/85	0	0	-1.0000	-1.0000	0.20000	0.30000
7 6		05/15/85	0	0	-1.0000	-1.0000	0.20000	0.30000
7 7		03/03/85	0	0	-1.0000	-1.0000	0.30000	0.40000
7 7		03/09/85	0	0	-1.0000	-1.0000	-1.00000	-1.00000
7 7		03/10/85	0	0	-1.0000	0.3000	0.20000	0.40000
7 7		03/16/85	5	0	-1.0000	0.9000	-1.00000	-1.00000
7 7		03/17/85	0	0	0.8000	-1.0000	0.80000	0.80000
7 7		03/23/85	3	2	0.7000	0.9000	0.70000	0.80000
7 7		03/31/85	0	0	-1.0000	-1.0000	-1.00000	-1.00000
7 7		04/06/85	0	0	-1.0000	-1.0000	-1.00000	-1.00000
7 7		04/07/85	0	0	-1.0000	-1.0000	-1.00000	-1.00000

TABLE LEGEND

POTHOLE LOCATION - SEE FIGURE I-1
POTHOLE NUMBER - SEE APPENDIX B MAPS
DATE OF OBSERVATION - SEE FIGURE D-2

POTHOLE LOCATION	POTHOLE NUMBER	DATE OF OBSERVATION	NUMBER OF TRAPPED FRY	NUMBER OF STRANDED FRY	DEPTH OF POTHOLE WHEN OBSERVED DISCONNECTED	DEPTH OF POTHOLE WHEN OBSERVED CONNECTED	MINIMUM DEPTH DURING OBSERVATION	MAXIMUM DEPTH DURING OBSERVATION
7	7	05/16/85	0	0	-1.0000	-1.0000	-1.00000	-1.00000
7	8	03/02/85	0	0	-1.0000	-1.0000	0.00000	0.00000
7	8	03/03/85	0	0	-1.0000	-1.0000	0.00000	0.00000
7	8	03/09/85	0	0	-1.0000	-1.0000	0.00000	0.00000
7	8	03/10/85	0	0	-1.0000	-1.0000	0.00000	0.00000
7	8	03/16/85	0	0	-1.0000	-1.0000	0.00000	0.00000
7	8	03/17/85	0	0	-1.0000	-1.0000	0.00000	0.00000
7	8	03/23/85	0	0	-1.0000	-1.0000	0.00000	0.00000
7	8	03/24/85	0	0	-1.0000	-1.0000	0.00000	0.00000
7	8	03/30/85	0	0	-1.0000	-1.0000	0.00000	0.00000
7	8	03/31/85	0	0	-1.0000	-1.0000	0.00000	0.00000
7	8	04/06/85	0	0	-1.0000	-1.0000	0.00000	0.00000
7	8	04/07/85	0	0	-1.0000	-1.0000	0.00000	0.00000
7	8	05/15/85	0	0	-1.0000	-1.0000	0.00000	0.00000
7	8	05/16/85	0	0	-1.0000	-1.0000	-1.00000	-1.00000
7	9	03/09/85	0	0	-1.0000	-1.0000	0.00000	0.00000
7	9	03/17/85	0	0	-1.0000	-1.0000	0.00000	0.00000
7	9	03/23/85	0	0	-1.0000	-1.0000	0.00000	0.00000
7	9	03/24/85	0	0	-1.0000	-1.0000	0.00000	0.00000
7	9	04/06/85	0	0	-1.0000	-1.0000	0.00000	0.00000
7	9	04/07/85	0	0	-1.0000	-1.0000	0.00000	0.00000
7	9	05/15/85	0	0	-1.0000	-1.0000	0.00000	0.00000
7	9	05/16/85	0	0	-1.0000	-1.0000	-1.00000	-1.00000
7	X	03/16/85	5	42	-1.0000	0.2000	0.10000	0.20000
7	X	03/17/85	0	0	-1.0000	-1.0000	0.70000	0.70000
7	X	03/23/85	0	0	-1.0000	0.3000	0.10000	0.20000
7	Y	03/16/85	0	7	-1.0000	-1.0000	0.00000	0.30000
7	Y	03/31/85	1	0	-1.0000	-1.0000	0.20000	0.20000
7	Z	03/31/85	0	14	-1.0000	-1.0000	0.00000	0.00000
8	1	03/17/85	0	0	-1.0000	-1.0000	0.00000	0.00000
8	2	03/17/85	0	0	-1.0000	-1.0000	0.00000	0.00000
8	3	03/17/85	0	0	-1.0000	-1.0000	0.00000	0.00000
8	4	03/17/85	0	0	-1.0000	-1.0000	0.00000	0.00000
8	7	03/17/85	0	0	-1.0000	-1.0000	0.00000	0.00000
8	8	03/17/85	0	0	-1.0000	-1.0000	0.00000	0.00000
10	1	03/09/85	0	0	-1.0000	0.2000	0.00000	0.20000
10	1	03/10/85	0	0	-1.0000	-1.0000	0.00000	0.00000
10	1	03/16/85	0	0	-1.0000	-1.0000	0.00000	0.00000
10	1	03/17/85	0	0	-1.0000	-1.0000	0.70000	0.70000
10	1	03/23/85	0	0	-1.0000	-1.0000	0.80000	1.30000
10	1	04/07/85	12	0	-1.0000	-1.0000	0.90000	0.90000
10	1	05/15/85	15	0	-1.0000	0.7000	0.60000	0.70000
10	10	03/03/85	0	0	-1.0000	-1.0000	1.70000	1.70000
10	10	03/30/85	0	0	-1.0000	1.7000	1.70000	1.70000
10	10	03/31/85	0	0	-1.0000	-1.0000	1.50000	1.50000
10	10	04/06/85	40	0	-1.0000	1.7000	1.70000	1.90000
10	12	03/03/85	0	0	-1.0000	-1.0000	1.10000	1.10000
10	12	05/15/85	3	0	-1.0000	1.5000	1.00000	1.50000
10	12	05/16/85	0	0	-1.0000	-1.0000	-1.00000	-1.00000

TABLE LEGEND

POTHOLE LOCATION - SEE FIGURE I-1
POTHOLE NUMBER - SEE APPENDIX B MAPS
DATE OF OBSERVATION - SEE FIGURE D-2

POTHOLE LOCATION	POTHOLE NUMBER	DATE OF OBSERVATION	NUMBER OF TRAPPED FRY	NUMBER OF STRANDED FRY	DEPTH OF POTHOLE WHEN OBSERVED DISCONNECTED	DEPTH OF POTHOLE WHEN OBSERVED CONNECTED	MINIMUM DEPTH DURING OBSERVATION	MAXIMUM DEPTH DURING OBSERVATION
10 13	13	03/03/85	0	0	0.8000	-1.0000	0.80000	0.80000
10 13	13	03/03/85	0	0	-1.0000	0.5000	0.50000	0.50000
10 13	13	03/09/85	3	0	-1.0000	1.1000	0.20000	1.10000
10 13	13	03/10/85	0	0	-1.0000	0.7000	0.40000	0.70000
10 13	13	03/16/85	6	0	-1.0000	0.6000	0.20000	0.30000
10 13	13	03/17/85	0	0	-1.0000	-1.0000	0.10000	0.10000
10 13	13	03/31/85	8	0	-1.0000	-1.0000	0.50000	0.50000
10 14	14	03/03/85	0	0	-1.0000	0.5000	0.50000	0.50000
10 14	14	03/03/85	0	0	-1.0000	-1.0000	0.00000	0.00000
10 14	14	03/09/85	15	1	-1.0000	1.0000	0.30000	1.00000
10 14	14	03/10/85	1	0	-1.0000	0.6000	0.30000	0.60000
10 14	14	03/16/85	4	4	-1.0000	0.5000	0.00000	0.10000
10 14	14	03/17/85	0	0	0.8000	-1.0000	0.80000	0.80000
10 14	14	03/31/85	10	0	-1.0000	-1.0000	0.40000	0.40000
10 15	15	03/03/85	9	0	-1.0000	-1.0000	1.30000	1.30000
10 15	15	03/03/85	1	0	-1.0000	-1.0000	1.30000	1.30000
10 15	15	03/09/85	59	0	-1.0000	2.0000	2.00000	2.00000
10 15	15	03/10/85	1	0	-1.0000	-1.0000	2.20000	2.20000
10 15	15	03/16/85	70	0	-1.0000	1.9000	1.70000	1.90000
10 15	15	03/17/85	70	0	-1.0000	-1.0000	2.20000	2.20000
10 15	15	03/23/85	0	0	-1.0000	-1.0000	2.00000	2.80000
10 15	15	03/24/85	70	0	-1.0000	-1.0000	2.30000	2.30000
10 15	15	03/30/85	0	0	-1.0000	-1.0000	2.30000	2.30000
10 15	15	03/31/85	50	0	-1.0000	-1.0000	1.80000	1.80000
10 15	15	04/06/85	1000	0	-1.0000	-1.0000	2.20000	2.20000
10 15	15	04/07/85	208	0	-1.0000	-1.0000	2.20000	2.20000
10 15	15	05/15/85	50	0	-1.0000	2.3000	2.20000	2.30000
10 15	15	05/16/85	150	0	-1.0000	-1.0000	-1.00000	-1.00000
10 16	16	03/03/85	0	0	-1.0000	-1.0000	0.30000	0.30000
10 16	16	03/10/85	0	0	-1.0000	-1.0000	0.00000	0.00000
10 16	16	03/23/85	0	0	-1.0000	-1.0000	0.00000	0.00000
10 16	16	03/31/85	1	1	-1.0000	-1.0000	0.20000	0.20000
10 16	16	05/15/85	0	2	-1.0000	-1.0000	0.00000	0.10000
10 16	16	05/16/85	1	0	-1.0000	-1.0000	-1.00000	-1.00000
10 17	17	03/03/85	0	0	0.5000	-1.0000	0.50000	0.50000
10 17	17	03/03/85	0	0	0.5000	-1.0000	0.50000	0.50000
10 17	17	03/23/85	0	0	-1.0000	-1.0000	0.80000	1.50000
10 2	2	03/03/85	0	0	-1.0000	-1.0000	1.10000	1.10000
10 26	26	03/03/85	0	0	-1.0000	-1.0000	0.60000	0.60000
10 27	27	03/03/85	0	0	-1.0000	-1.0000	0.00000	0.00000
10 3	3	03/03/85	0	0	-1.0000	-1.0000	0.80000	0.80000
10 3	3	03/03/85	0	0	-1.0000	0.8000	0.80000	0.80000
10 4	4	03/03/85	0	0	-1.0000	-1.0000	1.70000	1.70000
10 4	4	03/03/85	0	0	-1.0000	-1.0000	1.80000	1.80000
10 4	4	03/17/85	0	0	-1.0000	-1.0000	1.80000	1.80000
10 4	4	05/15/85	15	0	-1.0000	-1.0000	1.48000	1.40000
10 4	4	05/16/85	20	0	-1.0000	-1.0000	-1.00000	-1.00000
10 5	5	03/03/85	0	0	-1.0000	-1.0000	1.80000	1.80000
10 5	5	03/03/85	0	0	-1.0000	-1.0000	1.70000	1.70000

TABLE LEGEND

POTHOLE LOCATION - SEE FIGURE I-1
POTHOLE NUMBER - SEE APPENDIX B MAPS
DATE OF OBSERVATION - SEE FIGURE D-2

POTHOLE LOCATION	POTHOLE NUMBER	DATE OF OBSERVATION	NUMBER OF TRAPPED FRY	NUMBER OF STRANDED FRY	DEPTH OF POTHOLE WHEN OBSERVED DISCONNECTED	DEPTH OF POTHOLE WHEN OBSERVED CONNECTED	MINIMUM DEPTH DURING OBSERVATION	MAXIMUM DEPTH DURING OBSERVATION
10	6	03/03/85	0	0	-1.0000	-1.0000	1.00000	1.00000
10	6	03/03/85	0	0	-1.0000	-1.0000	1.10000	1.10000
10	7	03/03/85	0	0	-1.0000	-1.0000	0.70000	0.70000
10	8	03/03/85	0	0	-1.0000	-1.0000	0.00000	0.00000
10	B	04/07/85	0	0	-1.0000	-1.0000	1.30000	1.30000
10	9	03/03/85	0	0	-1.0000	-1.0000	0.60000	0.60000
10	9	03/23/85	0	0	-1.0000	-1.0000	0.70000	1.10000
10	9	03/24/85	0	0	-1.0000	-1.0000	0.10000	0.10000
10	A	03/10/85	0	1	-1.0000	0.5000	0.30000	0.50000
10	A	03/16/85	0	0	-1.0000	1.0000	0.30000	0.30000
10	A	03/23/85	0	0	-1.0000	-1.0000	0.30000	1.40000
10	A	03/24/85	3	0	-1.0000	-1.0000	0.30000	0.30000
10	A	05/15/85	0	0	-1.0000	-1.0000	0.70000	0.70000
10	B	03/03/85	0	0	-1.0000	-1.0000	1.20000	1.20000
10	B	03/09/85	0	0	-1.0000	1.5000	0.90000	1.50000
10	B	03/23/85	0	0	-1.0000	-1.0000	1.10000	1.70000
10	C	03/03/85	0	0	-1.0000	-1.0000	0.00000	0.00000
10	D	03/23/85	0	0	-1.0000	-1.0000	1.40000	1.80000
10	D	03/23/85	0	0	-1.0000	-1.0000	1.40000	1.80000
10	E	03/23/85	0	0	-1.0000	-1.0000	1.00000	1.40000
10	E	05/15/85	50	0	-1.0000	0.3000	0.40000	0.30000
10	F	03/03/85	0	0	-1.0000	-1.0000	0.00000	0.00000
10	F	03/09/85	0	3	-1.0000	0.5000	0.00000	0.50000
10	F	03/10/85	0	1	-1.0000	-1.0000	0.00000	0.00000
10	F	03/16/85	0	0	-1.0000	-1.0000	0.00000	0.00000
10	F	03/17/85	0	0	-1.0000	-1.0000	0.00000	0.00000
10	F	03/30/85	0	0	-1.0000	-1.0000	0.00000	0.00000
10	F	05/15/85	0	0	-1.0000	-1.0000	0.00000	0.00000
10	G	03/03/85	0	0	0.7000	-1.0000	0.70000	0.70000
10	G	03/09/85	0	0	-1.0000	1.1000	0.50000	1.10000
10	G	03/10/85	1	0	-1.0000	0.7000	0.50000	0.70000
10	G	03/16/85	1	0	-1.0000	1.0000	0.40000	0.60000
10	G	03/31/85	0	0	-1.0000	-1.0000	0.70000	0.70000
10	G	05/15/85	6	0	-1.0000	0.9000	0.60000	0.90000
10	H	03/03/85	0	0	-1.0000	-1.0000	0.00000	0.00000
10	H	05/15/85	0	0	-1.0000	-1.0000	0.30000	0.50000
10	H	05/16/85	1	0	-1.0000	-1.0000	-1.00000	-1.00000
10	I	05/15/85	0	0	-1.0000	-1.0000	0.50000	0.50000
10	J	03/16/85	0	5	-1.0000	-1.0000	0.70000	0.70000
11	10	04/06/85	0	0	-1.0000	-1.0000	0.00000	0.00000
11	10	04/07/85	0	0	-1.0000	-1.0000	0.00000	0.00000
11	A	03/09/85	18	0	-1.0000	-1.0000	0.60000	0.60000
11	A	03/10/85	19	0	-1.0000	-1.0000	0.60000	0.60000
11	A	03/16/85	0	0	-1.0000	-1.0000	0.80000	0.80000
11	A	04/06/85	30	0	-1.0000	1.1000	1.00000	1.10000
11	A	04/07/85	30	0	-1.0000	-1.0000	0.80000	0.80000
11	B	03/16/85	150	0	-1.0000	-1.0000	2.30000	2.30000
11	B	03/17/85	150	0	-1.0000	-1.0000	2.70000	2.70000
11	B	04/06/85	64	0	-1.0000	2.5000	1.30000	1.30000

TABLE LEGEND

POTHOLE LOCATION - SEE FIGURE I-1
POTHOLE NUMBER - SEE APPENDIX B MAPS
DATE OF OBSERVATION - SEE FIGURE D-2

POTHOLE LOCATION	POTHOLE NUMBER	DATE OF OBSERVATION	NUMBER OF TRAPPED FRY	NUMBER OF STRANDED FRY	DEPTH OF POTHOLE WHEN OBSERVED DISCONNECTED	DEPTH OF POTHOLE WHEN OBSERVED CONNECTED	MINIMUM DEPTH DURING OBSERVATION	MAXIMUM DEPTH DURING OBSERVATION
11	B	04/07/85	64	0	-1.0000	-1.0000	2.60000	2.60000
12	10	03/09/85	0	0	-1.0000	-1.0000	0.00000	0.00000
12	10	03/10/85	0	0	-1.0000	-1.0000	0.00000	0.00000
12	10	03/16/85	0	0	-1.0000	-1.0000	0.00000	0.00000
12	10	03/17/85	0	0	-1.0000	-1.0000	0.10000	0.20000
12	10	03/23/85	0	0	-1.0000	0.6000	0.00000	0.60000
12	10	03/24/85	0	0	-1.0000	-1.0000	0.20000	0.30000
12	10	03/30/85	0	0	-1.0000	-1.0000	0.30000	0.00000
12	10	03/31/85	0	0	-1.0000	-1.0000	0.00000	0.00000
12	10	04/06/85	0	0	-1.0000	-1.0000	0.50000	0.50000
12	10	04/07/85	0	0	-1.0000	-1.0000	0.30000	0.30000
12	10	05/15/85	0	0	-1.0000	-1.0000	0.00000	0.00000
12	11	03/16/85	20	0	-1.0000	1.5000	1.30000	1.50000
12	11	03/23/85	1	0	-1.0000	1.2000	1.10000	1.70000
12	11	03/31/85	50	0	-1.0000	-1.0000	1.20000	1.20000
12	11	05/15/85	0	0	-1.0000	-1.0000	1.40000	1.40000
12	11	05/16/85	0	0	-1.0000	-1.0000	-1.00000	-1.00000
12	12	03/31/85	0	0	-1.0000	-1.0000	0.00000	0.00000
12	12	04/07/85	0	0	-1.0000	-1.0000	0.00000	0.00000
12	13	04/06/85	0	0	-1.0000	-1.0000	0.00000	0.00000
12	14	04/06/85	0	0	-1.0000	-1.0000	0.00000	0.00000
12	16	04/06/85	0	0	-1.0000	-1.0000	0.00000	0.00000
12	1A	03/31/85	100	0	-1.0000	-1.0000	0.80000	0.80000
12	1B	03/16/85	108	0	1.2000	1.2000	1.20000	1.20000
12	1B	03/31/85	15	0	-1.0000	-1.0000	1.80000	1.80000
12	1C	03/10/85	0	0	-1.0000	-1.0000	1.60000	1.60000
12	1C	03/16/85	20	0	1.3000	1.3000	1.20000	1.30000
12	1C	03/31/85	0	0	-1.0000	-1.0000	1.90000	1.90000
12	1D	03/09/85	0	0	-1.0000	1.0000	0.00000	1.20000
12	1D	03/10/85	0	0	-1.0000	0.3000	0.00000	0.30000
12	1D	03/16/85	0	0	-1.0000	0.4000	0.00000	0.40000
12	1D	03/17/85	0	2	-1.0000	-1.0000	0.10000	0.00000
12	1D	03/23/85	0	0	-1.0000	0.3000	0.00000	0.90000
12	1D	03/24/85	1	0	-1.0000	-1.0000	0.10000	0.20000
12	1D	03/30/85	0	0	-1.0000	-1.0000	0.10000	0.30000
12	1D	03/31/85	0	0	-1.0000	-1.0000	0.00000	0.00000
12	1D	04/07/85	0	3	-1.0000	-1.0000	0.00000	0.20000
12	1D	05/15/85	0	0	-1.0000	-1.0000	0.00000	0.00000
12	1E	03/09/85	23	0	-1.0000	-1.0000	1.80000	2.20000
12	1E	03/10/85	41	0	-1.0000	-1.0000	0.70000	0.80000
12	1E	03/16/85	58	0	-1.0000	1.8000	1.60000	1.80000
12	1E	03/17/85	59	1	-1.0000	-1.0000	1.90000	2.00000
12	1E	03/23/85	3	0	-1.0000	1.8000	1.70000	2.00000
12	1E	03/24/85	10	0	-1.0000	-1.0000	2.20000	2.10000
12	1E	03/30/85	21	0	-1.0000	-1.0000	2.00000	2.10000
12	1E	03/31/85	30	0	-1.0000	-1.0000	1.90000	1.90000
12	1E	04/07/85	50	0	-1.0000	-1.0000	2.00000	2.00000
12	1E	05/15/85	75	0	-1.0000	-1.0000	1.70000	1.70000
12	5	03/10/85	0	8	-1.0000	-1.0000	0.10000	0.10000

TABLE LEGEND

POTHOLE LOCATION - SEE FIGURE I-1
POTHOLE NUMBER - SEE APPENDIX B MAPS
DATE OF OBSERVATION - SEE FIGURE D-2

POTHOLE LOCATION	POTHOLE NUMBER	DATE OF OBSERVATION	NUMBER OF TRAPPED FRY	NUMBER OF STRANDED FRY	DEPTH OF POTHOLE WHEN OBSERVED DISCONNECTED	DEPTH OF POTHOLE WHEN OBSERVED CONNECTED	MINIMUM DEPTH DURING OBSERVATION	MAXIMUM DEPTH DURING OBSERVATION
12	5	03/16/85	0	1	-1.0000	-1.0000	0.10000	0.10000
12	5	03/17/85	0	0	-1.0000	-1.0000	0.20000	0.20000
12	5	03/31/85	10	0	-1.0000	-1.0000	0.20000	0.20000
12	5	04/07/85	10	0	-1.0000	-1.0000	0.20000	0.20000
12	6	03/02/85	0	0	-1.0000	-1.0000	0.80000	0.90000
12	6	03/30/85	0	0	-1.0000	-1.0000	0.70000	0.70000
12	6	03/31/85	0	0	-1.0000	-1.0000	0.70000	0.70000
12	6	05/15/85	15	0	-1.0000	-1.0000	0.10000	0.70000
12	6	05/16/85	6	0	-1.0000	-1.0000	-1.00000	-1.00000
12	8	03/02/85	0	0	-1.0000	-1.0000	0.20000	0.40000
12	8	03/30/85	0	0	-1.0000	-1.0000	0.00000	0.00000
12	8	03/31/85	0	0	-1.0000	-1.0000	0.00000	0.00000
12	8	04/07/85	0	0	-1.0000	-1.0000	0.00000	0.00000
12	A	03/10/85	50	8	-1.0000	1.0000	1.00000	0.90000
12	D	03/09/85	1	1	-1.0000	0.1000	0.10000	0.10000
13	10	03/09/85	0	0	-1.0000	-1.0000	0.30000	0.30000
13	10	03/10/85	0	0	-1.0000	-1.0000	0.00000	0.30000
13	10	03/16/85	0	0	-1.0000	-1.0000	0.00000	0.30000
13	10	03/17/85	0	0	-1.0000	-1.0000	0.50000	0.50000
13	10	03/24/85	0	0	-1.0000	-1.0000	0.50000	0.50000
13	10	04/06/85	0	0	-1.0000	-1.0000	0.50000	0.50000
13	10	04/07/85	0	0	-1.0000	-1.0000	0.50000	0.50000
13	10	05/15/85	0	0	-1.0000	-1.0000	0.20000	0.50000
13	10	05/16/85	0	0	-1.0000	-1.0000	-1.00000	-1.00000
13	11	03/03/85	0	14	-1.0000	-1.0000	0.00000	0.10000
13	11	03/09/85	0	0	-1.0000	0.7000	0.00000	0.20000
13	11	03/10/85	0	0	-1.0000	0.7000	0.00000	0.70000
13	11	03/16/85	0	10	-1.0000	0.1000	0.00000	0.10000
13	11	03/23/85	0	0	-1.0000	-1.0000	0.00000	0.00000
13	11	03/31/85	0	2	-1.0000	-1.0000	0.00000	0.00000
13	11	05/15/85	0	0	-1.0000	-1.0000	0.00000	0.00000
13	12	03/02/85	0	0	-1.0000	-1.0000	0.70000	0.80000
13	12	03/03/85	0	0	-1.0000	-1.0000	0.00000	0.00000
13	12	03/09/85	0	0	-1.0000	-1.0000	0.40000	0.40000
13	12	03/10/85	0	0	-1.0000	-1.0000	0.20000	0.30000
13	12	03/16/85	0	0	-1.0000	-1.0000	0.20000	0.20000
13	12	03/17/85	0	0	-1.0000	-1.0000	0.50000	0.50000
13	12	03/23/85	0	0	-1.0000	-1.0000	0.30000	0.30000
13	12	03/24/85	0	0	-1.0000	-1.0000	0.60000	0.60000
13	12	03/30/85	0	0	-1.0000	-1.0000	0.70000	0.70000
13	12	03/31/85	0	0	-1.0000	-1.0000	0.50000	0.50000
13	12	04/07/85	0	0	-1.0000	-1.0000	0.50000	0.50000
13	12	05/15/85	0	0	-1.0000	-1.0000	0.00000	0.20000
13	12	05/16/85	17	0	-1.0000	-1.0000	-1.00000	-1.00000
13	13	03/02/85	0	0	-1.0000	-1.0000	0.00000	0.10000
13	13	04/07/85	0	0	-1.0000	-1.0000	0.00000	0.00000
13	13	05/15/85	0	0	-1.0000	-1.0000	0.00000	0.00000
13	13	05/16/85	0	0	-1.0000	-1.0000	-1.00000	-1.00000
13	14	04/07/85	0	0	-1.0000	-1.0000	0.00000	0.00000

TABLE LEGEND

POTHOLE LOCATION - SEE FIGURE I-1
POTHOLE NUMBER - SEE APPENDIX B MAPS
DATE OF OBSERVATION - SEE FIGURE D-2

POTHOLE LOCATION	POTHOLE NUMBER	DATE OF OBSERVATION	NUMBER OF TRAPPED FRY	NUMBER OF STRANDED FRY	DEPTH OF POTHOLE WHEN OBSERVED DISCONNECTED	DEPTH OF POTHOLE WHEN OBSERVED CONNECTED	MINIMUM DEPTH DURING OBSERVATION	MAXIMUM DEPTH DURING OBSERVATION
13	14	05/15/85	0	0	-1.0000	-1.0000	0.00000	0.00000
13	14	05/16/85	0	0	-1.0000	-1.0000	-1.00000	-1.00000
13	16	03/24/85	0	0	-1.0000	-1.0000	0.00000	0.00000
13	16	03/30/85	0	0	-1.0000	-1.0000	0.00000	0.00000
13	16	03/31/85	0	0	-1.0000	-1.0000	0.00000	0.00000
13	16	04/07/85	0	0	-1.0000	-1.0000	0.00000	0.00000
13	16	05/15/85	0	0	-1.0000	-1.0000	0.00000	0.00000
13	16	05/16/85	0	0	-1.0000	-1.0000	-1.00000	-1.00000
13	3	03/03/85	0	0	-1.0000	-1.0000	0.40000	0.50000
13	3	05/15/85	0	0	-1.0000	-1.0000	0.20000	0.20000
13	3	05/16/85	6	0	-1.0000	-1.0000	-1.00000	-1.00000
13	4	03/02/85	0	0	-1.0000	-1.0000	0.60000	0.60000
13	4	03/03/85	0	0	-1.0000	-1.0000	0.00000	0.00000
13	4	05/15/85	0	0	-1.0000	-1.0000	0.00000	0.10000
13	4	05/16/85	0	0	-1.0000	-1.0000	-1.00000	-1.00000
13	5	03/02/85	0	0	-1.0000	-1.0000	0.80000	1.00000
13	5	03/03/85	0	0	-1.0000	-1.0000	0.40000	0.40000
13	5	03/09/85	0	0	-1.0000	-1.0000	0.20000	0.40000
13	5	03/10/85	0	0	-1.0000	-1.0000	0.00000	0.40000
13	5	03/16/85	0	0	-1.0000	-1.0000	0.00000	0.20000
13	5	03/17/85	0	0	-1.0000	-1.0000	0.40000	0.40000
13	5	03/23/85	0	0	-1.0000	-1.0000	0.00000	0.00000
13	5	03/24/85	0	0	-1.0000	-1.0000	0.50000	0.50000
13	5	03/30/85	0	0	-1.0000	-1.0000	0.60000	0.60000
13	5	03/31/85	0	0	-1.0000	-1.0000	0.30000	0.30000
13	5	04/06/85	0	0	-1.0000	-1.0000	0.40000	0.50000
13	5	04/07/85	0	0	-1.0000	-1.0000	0.50000	0.50000
13	5	05/15/85	2	0	-1.0000	-1.0000	0.20000	0.40000
13	5	05/16/85	0	0	-1.0000	-1.0000	-1.00000	-1.00000
13	6	05/15/85	0	0	-1.0000	-1.0000	0.20000	0.40000
13	6	05/16/85	8	0	0.5000	-1.0000	-1.00000	-1.00000
13	7	03/02/85	0	0	-1.0000	-1.0000	1.30000	1.40000
13	7	03/09/85	0	0	-1.0000	-1.0000	0.80000	0.80000
13	7	03/10/85	0	0	-1.0000	-1.0000	0.60000	0.80000
13	7	03/23/85	0	0	-1.0000	-1.0000	0.70000	0.70000
13	7	03/24/85	0	0	-1.0000	-1.0000	1.00000	1.00000
13	7	03/30/85	0	0	-1.0000	-1.0000	1.10000	1.10000
13	7	03/31/85	0	0	-1.0000	-1.0000	0.90000	0.90000
13	7	04/06/85	18	1	-1.0000	-1.0000	1.00000	1.00000
13	7	04/07/85	18	0	-1.0000	-1.0000	1.00000	1.00000
13	7	05/15/85	47	0	-1.0000	-1.0000	0.80000	1.00000
13	7	05/16/85	109	0	1.0000	-1.0000	-1.00000	-1.00000
13	8	03/02/85	0	0	-1.0000	-1.0000	1.10000	1.20000
13	8	05/15/85	3	0	-1.0000	-1.0000	0.30000	0.70000
13	8	05/16/85	1	0	0.7000	-1.0000	-1.00000	-1.00000
13	9	03/02/85	0	0	-1.0000	-1.0000	1.00000	1.00000
13	9	03/30/85	0	0	-1.0000	-1.0000	0.70000	0.70000
13	9	03/31/85	0	0	-1.0000	-1.0000	0.70000	0.70000
13	9	05/15/85	58	0	-1.0000	-1.0000	0.30000	0.60000

TABLE LEGEND

POTHOLE LOCATION - SEE FIGURE I-1
POTHOLE NUMBER - SEE APPENDIX B MAPS
DATE OF OBSERVATION - SEE FIGURE D-2

POTHOLE LOCATION	POTHOLE NUMBER	DATE OF OBSERVATION	NUMBER OF TRAPPED FRY	NUMBER OF STRANDED FRY	DEPTH OF POTHOLE WHEN OBSERVED DISCONNECTED	DEPTH OF POTHOLE WHEN OBSERVED CONNECTED	MINIMUM DEPTH DURING OBSERVATION	MAXIMUM DEPTH DURING OBSERVATION
13	9	05/16/85	6	0	0.6000	-1.0000	-1.00000	-1.00000
13	9.9	05/15/85	0	0	-1.0000	-1.0000	0.10000	0.40000
13	9.9	05/16/85	0	0	-1.0000	-1.0000	-1.00000	-1.00000
13	A	03/10/85	0	0	-1.0000	0.6000	0.60000	0.60000
13	A	03/16/85	5	3	-1.0000	0.9000	0.90000	0.90000
13	A	03/23/85	3	0	-1.0000	1.0000	1.00000	1.00000
13	B	03/10/85	30	3	-1.0000	0.9000	0.90000	0.90000
13	B	03/16/85	14	12	-1.0000	0.9000	0.90000	0.90000
13	B	03/23/85	9	0	-1.0000	1.0000	1.00000	1.00000
13	C	03/31/85	8	1	-1.0000	-1.0000	0.80000	0.80000
13	C	03/31/85	8	1	-1.0000	-1.0000	0.40000	0.40000
13	D	03/31/85	0	5	-1.0000	-1.0000	0.00000	0.00000
14	A	03/03/85	1	0	-1.0000	-1.0000	0.00000	0.10000
14	A	03/10/85	0	8	-1.0000	-1.0000	0.30000	0.30000
14	A	03/24/85	3	0	-1.0000	-1.0000	0.30000	0.30000
14	A	03/24/85	3	0	-1.0000	-1.0000	0.30000	0.30000
14	A	03/30/85	14	0	-1.0000	-1.0000	0.20000	0.20000
14	A	03/31/85	0	1	-1.0000	-1.0000	0.00000	0.00000
14	A	03/31/85	0	1	-1.0000	-1.0000	0.00000	0.00000
14	A	04/06/85	0	0	-1.0000	0.4000	0.10000	0.40000
14	A	04/07/85	0	0	-1.0000	-1.0000	0.20000	0.40000
14	A	05/15/85	0	12	-1.0000	-1.0000	0.00000	0.60000
14	B	03/03/85	0	0	-1.0000	-1.0000	0.90000	0.90000
14	B	03/30/85	0	0	0.6000	-1.0000	0.60000	0.60000
14	B	03/31/85	1	0	-1.0000	-1.0000	0.50000	0.50000
14	B	03/31/85	1	0	-1.0000	-1.0000	0.50000	0.50000
14	B	05/15/85	0	0	-1.0000	-1.0000	0.40000	0.40000
16	A	03/03/85	0	0	-1.0000	-1.0000	0.00000	0.00000
16	B	03/03/85	0	0	0.5000	-1.0000	0.50000	0.50000
16	C	03/03/85	0	0	-1.0000	0.2000	0.20000	0.20000
17	A	03/10/85	75	0	-1.0000	0.4000	0.40000	0.40000
17	B	03/10/85	125	2	-1.0000	0.3000	0.30000	0.30000
18	7	03/02/85	0	0	-1.0000	-1.0000	1.90000	1.90000
18	A	03/02/85	0	0	-1.0000	-1.0000	0.90000	0.90000
18	A	03/02/85	0	0	-1.0000	-1.0000	1.00000	1.00000
18	A	03/03/85	0	0	-1.0000	-1.0000	1.80000	1.80000
18	B	03/02/85	0	0	-1.0000	-1.0000	1.90000	1.90000
18	B	03/03/85	0	0	-1.0000	-1.0000	1.70000	1.70000
18	C	03/02/85	0	0	-1.0000	-1.0000	0.00000	0.00000
18	C	03/03/85	0	0	-1.0000	-1.0000	0.00000	0.00000
18	D	03/02/85	0	0	-1.0000	-1.0000	0.00000	0.00000
18	D	03/03/85	0	0	-1.0000	-1.0000	0.00000	0.00000
18	E	03/02/85	0	0	-1.0000	-1.0000	0.00000	0.00000
18	E	03/03/85	0	0	-1.0000	-1.0000	0.00000	0.00000
18	F	03/02/85	0	0	-1.0000	-1.0000	0.00000	0.00000
18	F	03/03/85	0	0	-1.0000	-1.0000	0.00000	0.00000
18	G	03/02/85	0	0	-1.0000	-1.0000	0.00000	0.00000
18	G	03/03/85	0	0	-1.0000	-1.0000	0.00000	0.00000
18	H	03/02/85	0	0	-1.0000	-1.0000	0.00000	0.00000

TABLE LEGEND

POTHOLE LOCATION - SEE FIGURE I-1
POTHOLE NUMBER - SEE APPENDIX B MAPS
DATE OF OBSERVATION - SEE FIGURE D-2

POTHOLE LOCATION	POTHOLE NUMBER	DATE OF OBSERVATION	NUMBER OF TRAPPED FRY	NUMBER OF STRANDED FRY	DEPTH OF POTHOLE WHEN OBSERVED DISCONNECTED	DEPTH OF POTHOLE WHEN OBSERVED CONNECTED	MINIMUM DEPTH DURING OBSERVATION	MAXIMUM DEPTH DURING OBSERVATION
18	H	03/03/85	0	0	-1.0000	-1.0000	0.00000	0.00000
19	H	04/06/85	0	0	-1.0000	-1.0000	0.00000	0.00000
19	I	04/06/85	0	0	-1.0000	-1.0000	0.00000	0.00000
19	J	04/06/85	0	0	-1.0000	-1.0000	0.00000	0.00000
19	K	03/02/85	0	0	-1.0000	-1.0000	0.00000	0.00000
19	K	03/03/85	0	0	-1.0000	-1.0000	0.00000	0.00000
19	K	04/06/85	0	0	-1.0000	-1.0000	0.00000	0.00000
21	A	03/09/85	0	0	-1.0000	-1.0000	1.90000	1.90000
21	A	03/10/85	29	0	-1.0000	-1.0000	1.80000	1.80000
21	B	03/09/85	0	0	1.3000	-1.0000	1.30000	1.30000
21	B	03/23/85	0	0	-1.0000	0.4000	0.40000	0.40000
21	C	03/02/85	0	0	-1.0000	-1.0000	0.00000	0.00000
21	D	03/02/85	0	0	-1.0000	-1.0000	0.00000	0.00000
21	D	03/23/85	0	0	-1.0000	-1.0000	0.00000	0.00000
21	D	03/24/85	0	0	-1.0000	-1.0000	0.00000	0.00000
21	E	03/02/85	0	0	-1.0000	-1.0000	0.00000	0.00000
21	E	03/23/85	0	0	-1.0000	-1.0000	1.40000	1.30000
21	F	03/02/85	0	0	-1.0000	-1.0000	0.00000	0.00000
21	G	03/02/85	0	0	2.5000	-1.0000	2.50000	2.50000
21	H	03/02/85	0	0	1.0000	-1.0000	1.00000	1.00000
21	I	03/02/85	0	0	1.6000	-1.0000	1.60000	1.60000
22	I	03/24/85	0	0	-1.0000	-1.0000	0.00000	0.00000
22	B	03/23/85	35	0	-1.0000	-1.0000	0.90000	0.90000
22	C	03/23/85	0	0	-1.0000	0.6000	0.60000	0.60000
23	I	03/23/85	7	0	-1.0000	-1.0000	0.60000	0.60000
23	I	03/24/85	0	0	-1.0000	-1.0000	0.50000	0.70000
23	11	03/02/85	0	0	-1.0000	-1.0000	0.00000	0.00000
23	12	03/02/85	0	0	-1.0000	-1.0000	0.30000	0.30000
23	14	03/02/85	0	0	-1.0000	-1.0000	0.00000	0.00000
23	2	03/02/85	0	0	-1.0000	-1.0000	0.60000	0.60000
23	3	03/23/85	0	0	-1.0000	-1.0000	0.10000	0.10000
23	3	03/24/85	0	0	-1.0000	-1.0000	0.30000	0.30000
23	3	03/30/85	0	0	-1.0000	-1.0000	0.30000	0.30000
23	3	03/30/85	0	0	-1.0000	-1.0000	0.30000	0.30000
23	3	03/30/85	0	0	-1.0000	-1.0000	0.30000	0.30000
23	3	04/06/85	0	0	-1.0000	-1.0000	0.30000	0.30000
23	3	04/07/85	0	0	-1.0000	-1.0000	0.30000	0.30000
23	4	03/02/85	0	0	1.7000	-1.0000	1.70000	1.70000
23	4	03/23/85	30	0	-1.0000	-1.0000	1.20000	1.20000
23	4	03/24/85	97	0	-1.0000	1.6000	1.60000	1.60000
23	4	04/07/85	132	0	-1.0000	-1.0000	1.50000	1.50000
23	5	03/02/85	0	0	0.3000	-1.0000	0.30000	0.30000
23	5	03/23/85	0	0	-1.0000	-1.0000	0.00000	0.00000
23	5	03/24/85	1	0	-1.0000	-1.0000	0.20000	0.30000
23	5	04/07/85	0	0	-1.0000	-1.0000	0.40000	0.40000
23	5	04/07/85	0	0	-1.0000	-1.0000	0.40000	0.40000
23	6	03/02/85	0	0	0.7000	-1.0000	0.70000	0.70000
23	6	03/23/85	0	0	-1.0000	-1.0000	0.00000	0.00000
23	6	03/24/85	0	0	-1.0000	-1.0000	0.40000	0.40000

TABLE LEGEND

POTHOLE LOCATION - SEE FIGURE I-1
POTHOLE NUMBER - SEE APPENDIX B MAPS
DATE OF OBSERVATION - SEE FIGURE D-2

POTHOLE LOCATION	POTHOLE NUMBER	DATE OF OBSERVATION	NUMBER OF TRAPPED FRY	NUMBER OF STRANDED FRY	DEPTH OF POTHOLE WHEN OBSERVED DISCONNECTED	DEPTH OF POTHOLE WHEN OBSERVED CONNECTED	MINIMUM DEPTH DURING OBSERVATION	MAXIMUM DEPTH DURING OBSERVATION
23	6	03/30/85	0	0	-1.0000	-1.0000	0.30000	0.30000
23	6	03/30/85	0	0	-1.0000	-1.0000	0.30000	0.30000
23	6	04/07/85	0	0	-1.0000	-1.0000	0.10000	0.10000
23	7	03/02/85	0	0	0.7000	-1.0000	0.70000	0.70000
23	7	03/30/85	0	0	-1.0000	-1.0000	0.50000	0.50000
23	7	03/30/85	0	0	-1.0000	-1.0000	0.50000	0.50000
23	7	04/06/85	0	0	-1.0000	-1.0000	0.30000	0.30000
23	7	04/07/85	0	0	-1.0000	-1.0000	0.30000	0.30000
23	9	03/02/85	0	0	1.5000	-1.0000	1.50000	1.50000
23	B	04/06/85	137	0	-1.0000	-1.0000	0.90000	0.90000
23	C	04/06/85	0	0	-1.0000	-1.0000	1.40000	1.40000
23	C	04/07/85	57	0	-1.0000	-1.0000	1.40000	1.40000
23	E	03/23/85	0	0	-1.0000	0.1000	0.10000	0.10000
24	1	03/23/85	0	0	-1.0000	-1.0000	0.00000	0.00000
26	1	03/03/85	0	0	-1.0000	1.4000	1.30000	1.40000
26	1	03/03/85	12	7	-1.0000	-1.0000	0.80000	0.80000
26	1	03/09/85	12	5	-1.0000	0.6000	0.40000	0.60000
26	1	03/10/85	9	0	-1.0000	-1.0000	0.40000	2.30000
26	1	03/16/85	0	0	-1.0000	-1.0000	0.00000	0.60000
26	1	03/17/85	0	0	-1.0000	-1.0000	0.40000	0.60000
26	1	03/23/85	3	0	-1.0000	0.3000	0.30000	0.30000
26	1	03/24/85	2	0	-1.0000	0.8000	0.80000	1.00000
26	1	03/30/85	0	0	-1.0000	-1.0000	2.40000	2.40000
26	1	03/31/85	10	0	-1.0000	-1.0000	0.50000	0.20000
26	1	04/06/85	0	0	-1.0000	-1.0000	0.50000	0.70000
26	1	04/07/85	0	0	-1.0000	-1.0000	0.40000	0.40000
26	1	05/15/85	0	0	-1.0000	-1.0000	0.10000	0.10000
26	11	04/06/85	0	0	-1.0000	-1.0000	0.00000	0.00000
26	11	04/07/85	0	0	-1.0000	-1.0000	0.00000	0.00000
26	12	04/06/85	0	0	-1.0000	-1.0000	0.00000	0.00000
26	12	04/07/85	0	0	-1.0000	-1.0000	0.00000	0.00000
26	2	03/16/85	50	0	-1.0000	-1.0000	0.50000	0.60000
26	2	03/17/85	0	0	-1.0000	-1.0000	0.80000	0.80000
26	2	03/30/85	0	0	-1.0000	-1.0000	1.20000	0.90000
26	2	03/31/85	0	0	-1.0000	-1.0000	1.00000	0.90000
26	2	04/07/85	50	0	0.9000	-1.0000	0.90000	0.80000
26	2	05/15/85	65	0	-1.0000	-1.0000	0.60000	0.60000
26	2	05/15/85	70	0	-1.0000	-1.0000	0.40000	0.50000
26	3	03/23/85	0	0	-1.0000	-1.0000	0.70000	1.00000
26	3	03/24/85	0	0	-1.0000	-1.0000	1.00000	1.10000
26	3	03/30/85	0	0	-1.0000	-1.0000	1.20000	1.30000
26	3	03/31/85	0	0	-1.0000	-1.0000	0.60000	0.90000
26	4	03/03/85	0	0	-1.0000	-1.0000	2.20000	2.20000
26	4	03/03/85	0	0	2.7000	-1.0000	2.70000	2.80000
26	4	03/09/85	0	0	-1.0000	2.1000	2.10000	3.70000
26	4	03/10/85	0	0	-1.0000	-1.0000	2.00000	2.00000
26	4	03/16/85	60	0	-1.0000	-1.0000	1.50000	1.90000
26	4	03/17/85	0	0	-1.0000	-1.0000	1.80000	2.00000
26	4	03/23/85	2	0	-1.0000	-1.0000	2.00000	2.20000

TABLE LEGEND

POTHOLE LOCATION - SEE FIGURE I-1
POTHOLE NUMBER - SEE APPENDIX B MAPS
DATE OF OBSERVATION - SEE FIGURE D-2

POTHOLE LOCATION	POTHOLE NUMBER	DATE OF OBSERVATION	NUMBER OF TRAPPED FRY	NUMBER OF STRANDED FRY	DEPTH OF POTHOLE WHEN OBSERVED DISCONNECTED	DEPTH OF POTHOLE WHEN OBSERVED CONNECTED	MINIMUM DEPTH DURING OBSERVATION	MAXIMUM DEPTH DURING OBSERVATION
26	4	03/23/85	2	0	-1.0000	-1.0000	2.00000	2.20000
26	4	03/24/85	3	0	-1.0000	-1.0000	2.30000	2.70000
26	4	03/31/85	0	0	-1.0000	-1.0000	1.80000	1.80000
26	4	04/06/85	25	0	-1.0000	-1.0000	0.80000	1.00000
26	4	04/07/85	25	0	-1.0000	-1.0000	1.80000	1.80000
26	4	05/15/85	50	0	-1.0000	-1.0000	1.50000	1.50000
26	4	05/15/85	50	1	-1.0000	-1.0000	1.60000	1.60000
26	5	04/06/85	0	0	-1.0000	-1.0000	0.00000	0.00000
26	5	04/07/85	0	0	-1.0000	-1.0000	0.00000	0.00000
26	6	03/09/85	0	0	-1.0000	-1.0000	0.40000	0.50000
26	6	03/10/85	0	0	-1.0000	-1.0000	0.00000	0.00000
26	6	03/16/85	0	0	-1.0000	-1.0000	0.00000	0.00000
26	6	03/17/85	0	0	-1.0000	-1.0000	0.00000	0.10000
26	7	03/09/85	0	0	-1.0000	-1.0000	0.70000	1.10000
26	7	03/10/85	0	0	-1.0000	-1.0000	0.90000	0.70000
26	7	03/16/85	0	0	-1.0000	-1.0000	0.20000	0.40000
26	7	03/17/85	0	0	-1.0000	-1.0000	0.60000	0.80000
26	A	03/31/85	0	0	-1.0000	-1.0000	0.50000	0.60000
26	A	03/31/85	58	5	-1.0000	-1.0000	0.50000	0.50000
26	A	04/07/85	0	0	-1.0000	-1.0000	0.10000	0.20000
26	A	05/16/85	0	0	-1.0000	-1.0000	-1.00000	-1.00000
26	B	05/16/85	0	0	-1.0000	-1.0000	-1.00000	-1.00000
26	C	03/16/85	0	0	-1.0000	-1.0000	1.00000	1.00000
26	C	03/17/85	0	0	-1.0000	-1.0000	1.10000	1.20000
26	C	05/16/85	15	0	-1.0000	-1.0000	-1.00000	-1.00000
26	D	03/31/85	0	0	-1.0000	-1.0000	0.50000	0.80000
26	D	05/16/85	25	0	-1.0000	-1.0000	-1.00000	-1.00000
27	A	03/16/85	10	0	-1.0000	-1.0000	0.30000	0.30000
27	A	03/23/85	25	0	-1.0000	-1.0000	0.40000	0.40000
27	A	05/15/85	3	0	-1.0000	-1.0000	0.40000	0.40000
27	A	05/16/85	0	0	-1.0000	-1.0000	-1.00000	-1.00000
27	B	05/15/85	0	0	-1.0000	-1.0000	0.40000	0.40000
27	D	05/15/85	0	0	-1.0000	-1.0000	0.20000	0.20000
27	D	05/16/85	0	0	-1.0000	-1.0000	-1.00000	-1.00000
27	E	05/15/85	0	0	-1.0000	-1.0000	0.90000	0.90000
27	F	03/16/85	0	0	0.2000	-1.0000	0.20000	0.20000
27	F	05/16/85	0	0	-1.0000	-1.0000	-1.00000	-1.00000
27	G	03/09/85	0	0	-1.0000	-1.0000	0.00000	0.30000
27	G	03/16/85	0	0	-1.0000	-1.0000	0.00000	0.00000
27	G	03/23/85	0	0	-1.0000	-1.0000	0.20000	0.50000
27	G	03/23/85	0	0	-1.0000	-1.0000	0.00000	0.30000
29	B	03/23/85	0	0	-1.0000	1.3000	1.30000	1.30000
29	C	03/23/85	0	0	-1.0000	1.0000	1.00000	1.00000

TABLE LEGEND

POTHOLE LOCATION - SEE FIGURE I-1
POTHOLE NUMBER - SEE APPENDIX B MAPS
DATE OF OBSERVATION - SEE FIGURE D-2

RESIDENCE TIME OF JUVENILE SALMONIDS
IN POTHOLES ALONG THE SKAGIT RIVER

by

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Final Report
for
R.W. Beck and Associates
Seattle, Washington
1986

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ABSTRACT

The residence time of juvenile salmonids in potholes in the upper Skagit River was studied at river flows ranging from 1700 to 4500 cfs. At maximum flows, potholes were connected to the river, allowing salmonid fry to immigrate and emigrate freely. Fish residence time was determined from the declining recapture of marked fish over 3-day time intervals. Factors suspected of influencing the residence time were 1) species of fish, 2) amount of cover in the pothole, 3) location of the pothole with respect to the main channel, and 4) time of year. The study was performed during spring (March to May) and summer (August and September) to coincide with times of highest juvenile salmonid abundance in the river. The study focused on 28 of 150 known potholes located between the mouths of the Sauk River and Bacon Creek.

Chinook salmon (Oncorhynchus tshawytscha), coho salmon (O. kisutch), and chum salmon (O. keta) were captured in the spring. Chinook salmon were the most abundant species during this season. Steelhead trout (Salmo gairdneri) and coho salmon were numerically dominant in the summer. Mean fry lengths during the spring were 43.2 mm for chinook salmon, 39.5 for coho salmon, and 40.8 mm for chum salmon. Mean fry lengths during the summer were 46.2 mm for coho salmon and 35.7 mm for steelhead trout.

Pothole residence time averaged 2.5 days for chinook salmon, 1.3 days for coho salmon, and less than 1 day for chum salmon in spring. Chinook salmon residence time was significantly longer ($\alpha = 0.05$) than that of other species. Pothole residence time averaged 1.4 days for coho salmon and 1.6 days for steelhead trout during the summer.

Chinook salmon and coho salmon fry residence tended to be longer in potholes with more cover. Significant differences in residence time occurred between potholes with low and moderate cover for chinook salmon

fry in spring, and between potholes with high density cover and those with low or medium density cover for coho salmon fry in the summer ($\alpha = 0.05$).

Coho salmon fry resided longer, on average, in potholes associated with side channels than in main stream potholes ($\alpha = 0.05$).

1.0 INTRODUCTION

The Skagit River originates in the Cascade Mountains of British Columbia and flows through Whatcom and Skagit counties before entering Puget Sound near the town of LaConner (Figure 1). There are presently three hydroelectric dams on the Skagit River, all operated by the City of Seattle. Gorge Dam, the farthest downstream of three dams, is located at river mile (RM) 96.6. It is a relatively small dam with 6,600 acre-feet of usable storage. Diablo, the second dam, is located 4.3 miles upstream from Gorge Dam and contains a usable storage of nearly 50,000 acre-feet. The third and largest hydroelectric structure on the Skagit River is Ross Dam, located at RM 105 with 1,053,000 acre-feet of usable storage.

Flow fluctuates on a daily basis in direct proportion to electrical demand during routine operations. Early observations made by the Washington State Department of Fisheries (WDF) suggested that fry stranded in dewatered areas of the river might incur significant mortality. The WDF has required studies to estimate the mortality suffered by stranded salmonid fry.

A minimum flow release of 1000 cfs from Gorge Dam was required since 1947. Subsequently, the WDF and Seattle City Light conducted a cooperative study in 1969 to determine a flow regime that would minimize mortality of salmonids present in the Skagit River (Thompson, 1970). Primary concern centered on juvenile chinook salmon and chum salmon. Thompson (1970) found that under certain conditions large numbers of chinook were stranded and killed on gravel bars as water levels receded. This finding prompted Thompson (1970) to recommend a minimum flow of 2800 cfs at Marblemount to potentially reduce mortality of juvenile chinook salmon throughout the river. Unfortunately, during the following year the minimum flow allowed

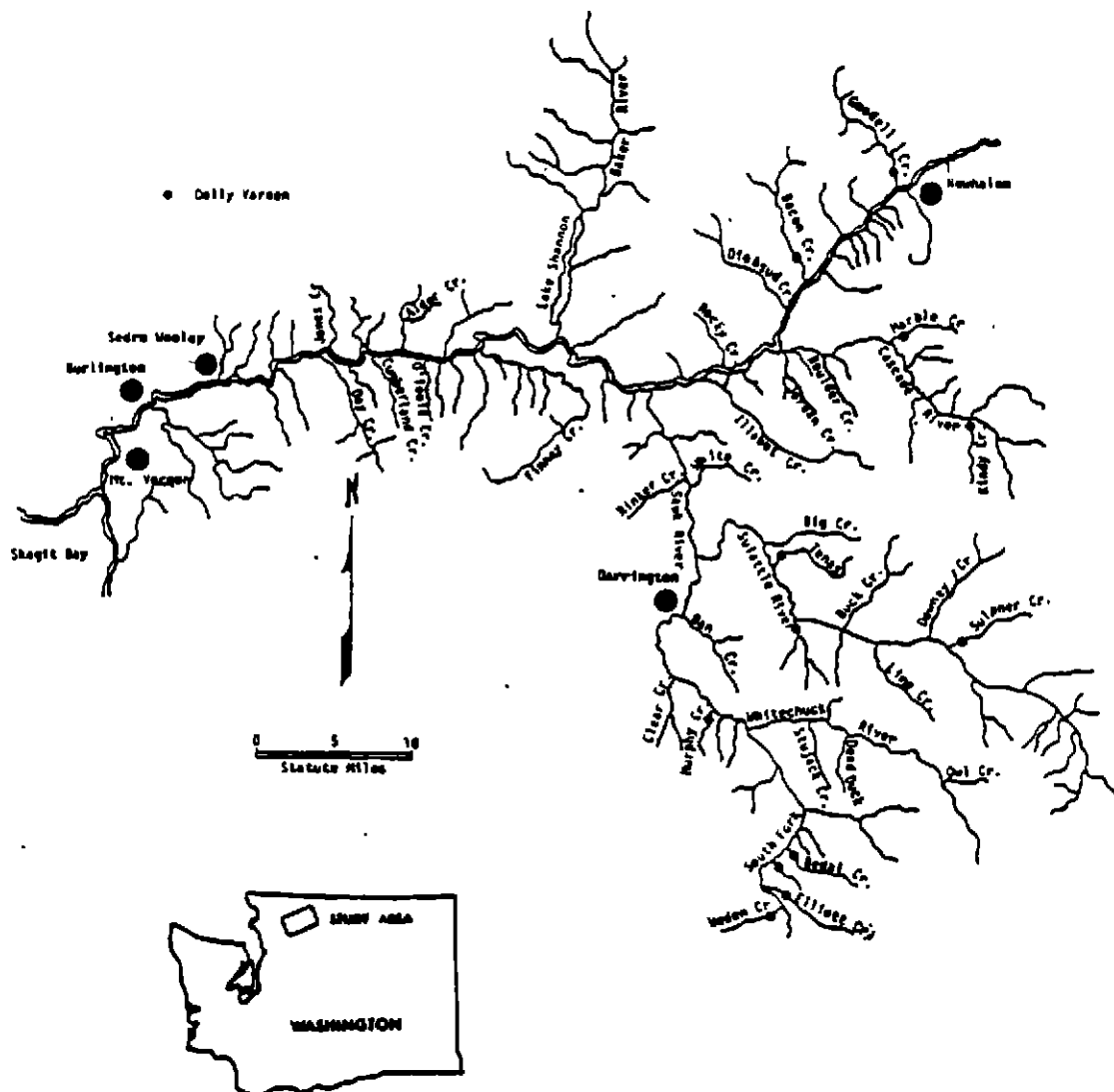


Figure 1. Skagit Basin study area.

at Gorge Dam declined from 2500 cfs in February to 1700 cfs in May because of low runoff to tributary streams. In 1972, Seattle City Light requested that the Department of Fisheries conduct additional studies on fry stranding to reevaluate Thompson's flow recommendations.

Phinney (1974) estimated the average number of fry stranded per square foot of gravel bar on 5 different gravel bars along the Skagit River and combined this with aerial photographs of the Skagit River upstream from the confluence of the Baker River to estimate that 33,500 fry were killed on March 17 and 239,000 fry were killed on March 18 under operating conditions outlined by Thompson (1970). Subsequently, Phinney concluded that Thompson's 1970 operating recommendations were not offering adequate protection for the juvenile salmon. Phinney suggested that both magnitude and rate of change of the water level fluctuations needed to be regulated to protect salmonid fry from stranding.

Studies designed to assess the effects of flow fluctuations on spawning behavior, egg deposition efficiency, incubation, fry survival to emergence, and bar stranding of steelhead trout, chinook salmon and chum salmon juveniles were conducted by Stober et al. (1982) and Woodin et al. (1984). Stober et al. (1982) found that after steelhead trout reached 40 mm in length they became less susceptible to stranding. Woodin et al. (1984) also found that the diel timing of water level fluctuation greatly affected juvenile chinook salmon stranding, and concluded that mortality could be greatly reduced if the river flow was maintained at a high level just before dawn.

The previously mentioned studies of flow fluctuations in the Skagit River have focused on salmonid fry stranded on gravel bars with little attention to those trapped in potholes (Woodin et al. 1984). Potholes are formed when the river recedes and leaves small water-filled depressions

that are isolated from the main river. Juvenile salmonids, entrapped in potholes may be subjected to increased mortality as are those stranded on the gravel bars.

The objective of this study was to evaluate pothole residence time of chinook salmon (O. tshawytscha), coho salmon (O. kisutch), chum salmon (O. keta), and steelhead trout (S. gairdneri) fry in relation to amount of cover, river location, and season.

2.0 MATERIALS AND METHODS

2.1 Selection of Study Sites

A study was performed during spring 1984 to document the location and number of potholes on the upper Skagit River, between the mouths of the Sauk and the Newhalem Rivers (Jones and Stokes 1984). A preliminary survey was performed prior to the 1985 study, to select a sample of representative potholes. Of 150 known potholes, 28 were selected. All test potholes regularly contained water and were known to have trapped fish during previous low flow periods.

The test potholes represented substrate, cover, and location conditions common to the majority of potholes located along this reach of the Skagit River. Maps illustrating pothole locations are provided in Appendix I. The potholes were classified into groups according to channel location and cover characteristics (Table 1). The two categories for channel location were: (1) potholes that were isolated from the main

Table 1. Pothole sampling locations and descriptions on the Skagit River.

<u>Pothole Number</u>	<u>Pothole Name</u>	<u>Mile</u>	<u>Channel Location</u>	¹ <u>Cover Level</u>	² <u>Relative Size</u>
1	Oink Bar B	82.9	main	low	small
2	Oink Bar A	82.9	main	medium	small
3	Oink Bar D	82.9	main	low	small
4	Oink Bar E	82.9	main	low	small
5	Oink Bar F	82.9	main	low	small
6	Hooper Slough 1-E	72.7	side	high	large
7	Hooper Slough 1B	72.7	side	high	medium
8	Hooper Slough 11	72.7	main	medium	medium
9	Carnage Bar A	73.3	main	low	small
10	Carnage Bar B	73.3	main	low	small
11	Rockport Bar 14	67.5	side	low	medium
12	Rockport Bar 15	67.5	side	medium	medium
13	Rockport Bar 17	67.5	side	medium	medium
14	Inaccessible Island 7	73.1	side	medium	small
15	Model Pothole A	72.6	main	medium	medium
16	Model Pothole B	72.6	main	high	medium
17	Stumphaven 15	72.2	main	high	large
18	Bad Spot 2	70.0	side	high	large
19	Waynes Swim A	68.1	main	low	small
20	Upper Tin Shack 11-B	68.3	side	low	small
21	Upper Tin Shack	68.3	side	low	small
22	Big Eddy A	77.5	main	low	large
23	Upper Tin Shack S.S.	68.3	side	low	large
24	Upper Tin Shack 11A&B	68.3	side	low	medium
25	Marblemount Slough A	78.2	side	high	large
26	Waynes Swim 3	68.1	main	low	medium
27	Waynes Swim 2	68.1	main	low	medium
28	Waynes Swim 1	68.1	main	medium	large

¹

Low cover = Sand or mud without any associated vegetation or cover.

Medium cover = Wide range of substrate often with cobble, with grass, logs and other types of cover.

High cover = Deep potholes with cobble and large rocks with multiple cover combinations such as undercut banks, logs, root wads and brush.

²

Small size = less than 3 feet in diameter

Medium size = 3 to 8 feet in diameter

Large size = over 8 feet in diameter

river on a side channel by a distance of 10-100 m and, (2) potholes that were adjacent to and confluent with the main river during high flows exceeding 4200 cfs. The side channel potholes chosen, as shown in Table 1, were: Rockport Bar (14, 15, 17), Upper Tin Shack (11-B, S.S, 11 A and B) Hooper Slough (1 E and 1B), Marblemount Slough (A), and Bad Spot (Z). The main channel potholes, as shown in Table 1 were: Oink Bar (A,B,D,E,F), Carnage Bar (A,B), Model Pothole (A,B), Stumphaven (15), Waynes Swim (A,1,2,3), Big Eddy (A), and Hooper Slough (11).

Potholes were classified into three cover categories: low, medium, or heavy cover (Table 1). Potholes with low cover had a sand or mud bottom that provided no place for fish to hide. Oink Bar (B,D,E,F), Carnage Bar (A,B), Rockport Bar (14), Upper Tin Shack (11-B, SS, 11 A and B) and Waynes Swim (A,2,3) were the low cover potholes used for this analysis. Medium cover consisted of large cobble substrate, often with small amounts of grass and sticks, or mud or sand bottoms with some grass, logs, leaves, or other type of cover. This category included a wide range of substrate and cover combinations. Oink Bar A, Hooper Slough II, Rockport 15 and 17, Model Pothole A, and Waynes Swim 1 were potholes with medium cover. High cover consisted of large, deep potholes with a bottom composed primarily of cobble and large stones and with some additional form of cover such as logs, deep undercut banks, root wad systems, alone or in combination. Marblemount Slough A, Model Pothole B, Stumphaven 15, Hooper Slough 1 E and 1B, and Bad Spot were potholes of this type.

Potholes were divided into three size groups relative to their approximate diameter. Small potholes less than 3 feet; medium potholes were 3-8 feet; and large potholes were larger than 8 feet in diameter. Potholes in most locations appeared to be of similar size. Small potholes included all the potholes on Oink Bar, Carnage Bar, Inaccessible Island #7,

Waynes Swim A, Upper Tin Shack 11B, and Lower Tin Shack. Medium potholes included those in Hooper Slough 1B and 11, and all of the potholes on the Rockport Bar, Model Potholes A and B, Upper Tin Shack 11A, and Waynes Swim 2 and 3. Large potholes were found in Hooper Slough 1E, Stumphaven 15, Bad Spot 2, Big Eddy A, and Waynes Swim 1.

2.2 Stream Flow Conditions

This study was designed to take advantage of stream flow conditions which were being regulated for other ongoing experiments. Seattle City Light regulated flow levels and discharge rates for the first two days of each 3-day experiment during the spring schedule, while continuous daily regulation occurred throughout the summer schedule. This enabled us to predict which sampling scenario could be initiated at the pothole furthest upstream. In general, the daily discharge pattern was regulated so that the downramp occurred at night and the minimum river flow would occur during early morning darkness. Typically, river flows were increased from a minimum in the early morning darkness hours to a maximum in the early morning daylight hours. The increased flow at Rockport Bar occurred about 6 hours after the release of water at Gorge Dam (Stober et al. 1982). Therefore, certain potholes remained isolated from the river for 6 hours during daylight. This interval provided sufficient time to capture and process fish before the rising water reconnected the potholes with the river. Sampling in the experimental potholes was accomplished by working in a downstream direction which allowed maximum coverage of the exposed potholes. Flow conditions were not predictable on the third day of each test so sampling was initiated at the upstream site when flow conditions were favorable for completing the downstream sampling scenario. Minimum mainstream flows were 2300 cfs in the spring and 1700 cfs in the summer,

and maximum flow was 4500 cfs during both seasons. Tributary inflow was monitored by Seattle City Light. High tributary inflow (>1500 cfs) often resulted in the potholes becoming connected with the main body of water which prevented residence time studies. This condition occurred frequently in March, April and October.

2.3 Study Techniques

The sampling routine was uniform throughout the study. Spring experiments (March through May) were limited by flow conditions to three consecutive days between Friday and Monday. Summer experiments (August and September) involved daily sampling for the first three weeks of August, and sampling three days a week during September.

Fish were removed from each pothole using a Smith-Root type VII electroshocker. Three passes were made through each pothole to assure complete fry removal. Stunned fish were dip netted into a recovery bucket for observation. Mortalities (less than 1%) were removed and the remaining fish were anaesthetized with MS-222. The species and total length of each fish was recorded, each fish was dye marked, and then released back into the pothole from which it had been captured.

Fish were marked with powdered fluorescent dye applied with a #4 acrylic artist's brush. The dye particles, ranging from 30-350 microns in size, were brushed in a tail to head direction on the rear third of the fish, resulting in the creation of a small but readily visible mark on the caudal peduncle. Red, blue, orange, and chartreuse dye were used for this study. Dye applied in this manner was visible on 100% of the fish for 20 days after application (Appendix 2). One exception to this paint brush technique was when chinook were marked on April 27, 1986 in four potholes. These fish were marked using a multicolored fluorescent pigment dye

propelled by a 100 psi air jet (Jackson 1959). This technique was not continued because of the poor condition of the post-marked fry.

Each pothole was electrofished again using the same routine at 24 and 48 hours after the initial release of marked fish. The number of fry of each species and the number of marked fish were recorded and rereleased into the pothole after each sampling. Finally, the potholes were checked once more 7 days after the initial test. In the interval between consecutive samples, the river level rose allowing the marked fish to move freely from the pothole area.

2.4 Data Analysis

Data were collected and analyzed as a single mark with multiple recapture design. Basically, this method uses the declining percent of marked fish remaining in a pothole to estimate fish residence time. Since all fish in a pothole were originally marked (m), the average of the ratio of the number of marked recaptures at time $i+1$ to the number of marks at time i provided an estimate of emigration rate from the pothole. A test was performed on the data using a least squares approximation to determine whether the residency phenomenon best fits a declining linear model or a natural log model. In only three instances were the r values higher for the linear model. The average r value for the log model was 0.98. Therefore, to be consistent, we chose to represent all of the data using a log model. This method was adapted from Ricker's (1975) procedure to estimate survival. These estimates were considered emigration rates based on the assumption that mortality of fish in the study area was negligible. The equation used for this analysis was,

$$E = [\text{SUM}(M_{i+1} / M_i) / n] \quad (1)$$

where: E = emigration rate
M = # marked fish
i = day 0,1,2
n = 2

The natural log of this emigration rate (E) gives the instantaneous rate of emigration (v).

$$E = e^{-v} \quad \text{or,} \quad (2)$$

and it follows that,

$$-\ln E = V \quad (3)$$

The length of residency (R) was then derived by doubling the inverse of the instantaneous emigration rate.

$$R = 2/V \quad (4)$$

This calculation was based on the assumptions that fish enter and emigrate from potholes at a uniform rate through time, and that, on average, fish were at the midpoint of their stay at the time of capture. Doubling this midpoint value gives an average length of stay (Robson 1960, 1961, Hinton 1982).

Statistical comparisons of mean residence times employed t-tests for two sample cases or one way analysis of variance (ANOVA) and Student Newman Keuls multiple range tests (SNK) for multi-sample cases. All test were performed using alpha=0.05 as the significance level for rejection of the null hypothesis.

Three factors were tested for effect on mean residence time. Tests were performed individually for each species (chinook salmon, coho salmon, chum salmon and steelhead trout) and each season (spring and summer). Interactions between main factors were not evaluated in this analysis. The hypotheses tested are summarized below:

- 1) Ho: Mean residence time did not differ between months.
Ha: Mean residence time differed between months.
- 2) Ho: Mean residence time did not differ between potholes with low, medium, or high cover densities.
Ha: Mean residence time differed between potholes depending on cover density.
- 3) Ho: Mean residence time did not differ between potholes depending on their proximity to the main river (main river versus side channel locations).
Ha: Mean residence time differed between potholes depending on their proximity to the main river.

If the null hypothesis was rejected by a two-way test $\alpha = 0.05$) then the one-way alternate hypothesis was tested to provide directionality at $\alpha = 0.025$.

3.0 RESULTS

3.1 Spring Data

A total of 2822 fish were captured (766, 1065 and 981 on days 1,2,3) and released between March 1 and May 16 (Table 2). A total of 776 fry were marked, measured and released. A total of 222 and 125 of the marked fry were recaptured on the second and third consecutive days of sampling over the course of the study. Chinook salmon fry dominated catches in early spring, with coho salmon and chum salmon occurring in lesser numbers (Fig. 2). Although the chinook salmon fry were still dominant in late spring the chum salmon fry catches were higher than the coho salmon captures, reversing the order of the early spring relative abundance. The mean lengths of the fry captured in the spring were: 43.2 mm for chinook salmon, 39.5 mm for coho salmon, and 40.8 mm for chum salmon.

The average residence times of all three species captured in the spring are presented in Figure 3. Chinook salmon fry averaged 2.5 days as pothole residents, which was a significantly longer period than for coho or

Table 2. Average residence times for salmonid fry in potholes along the Skagit River. The pothole codes are presented in Table 1. The species encountered in the pothole were: 1) chinook salmon, 2) coho salmon, 3) chum salmon, and 4) steelhead trout.

<u>Date</u>	<u>Pot-hole</u>	<u>Species</u>	<u>Number Marked</u>	<u>Day 2</u>		<u>Day 3</u>		<u>Av. Res. (days)</u>
				<u>Caught</u>	<u>Recap.</u>	<u>Caught</u>	<u>Recap.</u>	
3-16-85	2	1	9	2	1	3	1	3.403
3-16-85	3	1	1	0	0	0	0	0.000
3-16-85	6	1	55	52	18	47	12	2.860
3-16-85	6	4	3	2	2	3	2	10.970
3-16-85	7	1	51	49	13	44	9	2.676
3-16-85	8	1	8	14	2	12	2	4.255
3-30-85	9	1	14	0	0	0	0	0.000
3-30-85	10	1	6	12	2	10	1	2.284
3-30-85	11	1	50	23	14	21	10	2.862
3-30-85	12	1	31	20	13	22	8	3.035
3-30-85	13	1	25	18	13	21	10	4.555
4-06-85	15	1	31	35	17	31	13	4.753
4-06-85	16	1	60	57	14	51	10	2.678
4-27-85	20	2	9	22	2	19	1	1.964
4-27-85	20	3	1	9	0	10	0	0.000
4-27-85	23	1	16	33	6	27	2	1.927
4-27-85	23	2	27	23	6	17	0	0.910
5-10-85	2	1	42	12	11	14	4	1.721
5-10-85	2	2	8	14	0	11	0	0.000
5-10-85	2	3	10	12	1	15	0	0.668
5-10-85	13	1	37	68	27	53	14	4.243
5-10-85	13	2	6	12	4	15	1	2.564
5-10-85	13	3	4	46	1	28	1	4.255
5-10-85	12	1	13	64	11	51	6	5.514
5-10-85	12	2	5	10	2	9	1	2.505
5-10-85	12	3	5	51	0	44	0	0.000
5-10-85	11	1	16	51	10	53	4	2.992
5-10-85	11	3	3	5	2	4	1	3.711
5-10-85	11	3	2	10	0	11	0	0.000
5-15-85	11	1	25	21	6	18	4	2.528
5-15-85	11	2	6	5	1	5	0	0.805
5-15-85	11	3	15	8	0	11	0	0.000
5-15-85	22	1	13	13	2	12	1	1.789
5-15-85	22	2	2	3	0	4	0	0.000
5-15-85	22	3	5	7	0	12	0	0.000
5-15-85	25	1	29	43	11	37	4	2.020
5-15-85	25	2	7	25	3	29	1	2.072
5-15-85	25	3	7	100	0	99	0	0.000
5-15-85	2	1	10	6	3	7	1	1.739
5-15-85	2	2	13	28	1	24	0	0.614
5-15-85	2	3	10	8	0	11	0	0.614

Table 2 (continued)

<u>Date</u>	<u>Pot-hole</u>	<u>Species</u>	<u>Number Marked</u>	<u>Day 2</u>		<u>Day 3</u>		<u>Av. Res. (days)</u>
				<u>Caught</u>	<u>Recap.</u>	<u>Caught</u>	<u>Recap.</u>	
5-16-85	9	1	29	3	0	12	0	0.000
5-16-85	9	2	7	0	0	0	0	0.000
5-16-85	9	3	7	15	0	11	0	0.614
5-16-85	10	1	29	20	2	18	1	1.591
5-16-85	10	2	7	12	1	11	0	0.758
5-16-85	10	3	7	22	0	14	0	0.000
8-03-85	13	2	10	7	2	9	1	1.905
8-03-85	13	4	15	14	4	12	2	2.086
8-03-85	11	2	13	12	2	11	1	1.789
8-03-85	11	4	16	12	3	13	1	1.486
8-03-85	6	2	10	12	2	11	0	0.369
8-03-85	6	4	18	17	4	15	1	1.386
8-03-85	10	2	9	10	2	12	0	0.910
8-03-85	10	4	13	14	4	13	1	1.566
8-06-85	25	4	36	66	12	48	5	2.039
8-06-85	25	2	23	11	3	17	2	2.174
8-06-85	16	4	27	38	5	17	3	2.139
8-06-85	16	2	6	18	3	19	3	6.952
8-06-85	17	4	36	56	10	45	3	1.611
8-06-85	17	2	20	29	6	20	2	1.739
8-09-85	10	4	12	10	1	9	0	0.629
8-09-85	11	4	20	11	2	18	1	1.661
8-09-85	11	2	44	13	4	7	1	1.130
8-09-85	26	4	4	5	17	0	0	0.962
8-09-85	26	2	2	3	0	3	0	0.000
8-09-85	27	4	28	26	4	5	1	1.229
8-09-85	27	2	4	7	2	4	0	1.443
8-09-85	28	4	30	20	5	22	1	1.179
8-09-85	28	2	12	10	3	11	1	1.623
8-13-85	25	4	103	16	7	99	2	1.154
8-13-85	25	2	32	24	4	39	4	3.476
8-13-85	16	2	18	47	8	35	6	3.880
8-13-85	16	4	13	10	2	13	1	1.789
8-13-85	17	4	30	52	4	28	3	2.447
8-13-85	17	2	23	35	7	18	1	1.335
8-16-85	10	2	4	2	0	3	0	0.000
8-16-85	10	4	8	10	2	7	0	0.962
8-16-85	26	4	4	11	1	11	0	0.962
8-16-85	26	2	2	4	1	4	0	1.443
8-16-85	27	4	11	13	3	12	0	1.004
8-16-85	27	2	5	6	1	6	0	0.869
8-16-85	28	4	15	12	4	9	0	0.993
8-16-85	28	2	8	5	2	4	0	0.962
8-16-85	11	2	8	2	1	3	0	0.721
8-16-85	11	4	8	6	2	8	0	0.962
9-09-85	10	4	7	8	2	5	1	2.141
9-09-85	25	4	20	18	4	13	1	1.341
9-09-85	25	2	50	36	7	35	2	1.293

Table 2 (continued):

<u>Date</u>	<u>Pot- hole</u>	<u>Species</u>	<u>Number Marked</u>	<u>Day 2</u>		<u>Day 3</u>		<u>Av. Res. (days)</u>
				<u>Caught</u>	<u>Recap.</u>	<u>Caught</u>	<u>Recap.</u>	
9-09-85	28	4	6	8	3	7	1	2.284
9-09-85	28	2	2	1	0	5	0	0.000
9-09-85	27	4	8	9	3	6	1	1.927
9-09-85	27	2	3	4	0	3	0	0.000
9-09-85	26	4	4	6	2	4	1	2.885
9-09-85	26	2	1	3	0	1	0	0.000
9-09-85	11	4	5	6	2	6	1	2.505
9-09-85	11	2	8	9	3	8	1	1.927
9-16-85	25	4	7	7	2	6	1	2.141
9-16-85	25	2	25	24	6	21	3	2.012
9-16-85	10	4	5	5	1	5	0	0.869
9-16-85	26	4	3	4	1	2	0	1.116
9-16-85	26	2	1	2	0	1	0	0.000
9-16-85	27	4	6	7	2	6	1	2.284
9-16-85	27	2	2	2	0	2	0	0.000
9-16-85	28	4	6	6	2	7	1	2.284
9-16-85	28	2	3	2	0	3	0	0.000
9-16-85	11	4	2	2	0	4	1	0.000
9-16-85	11	2	6	11	3	11	1	2.284

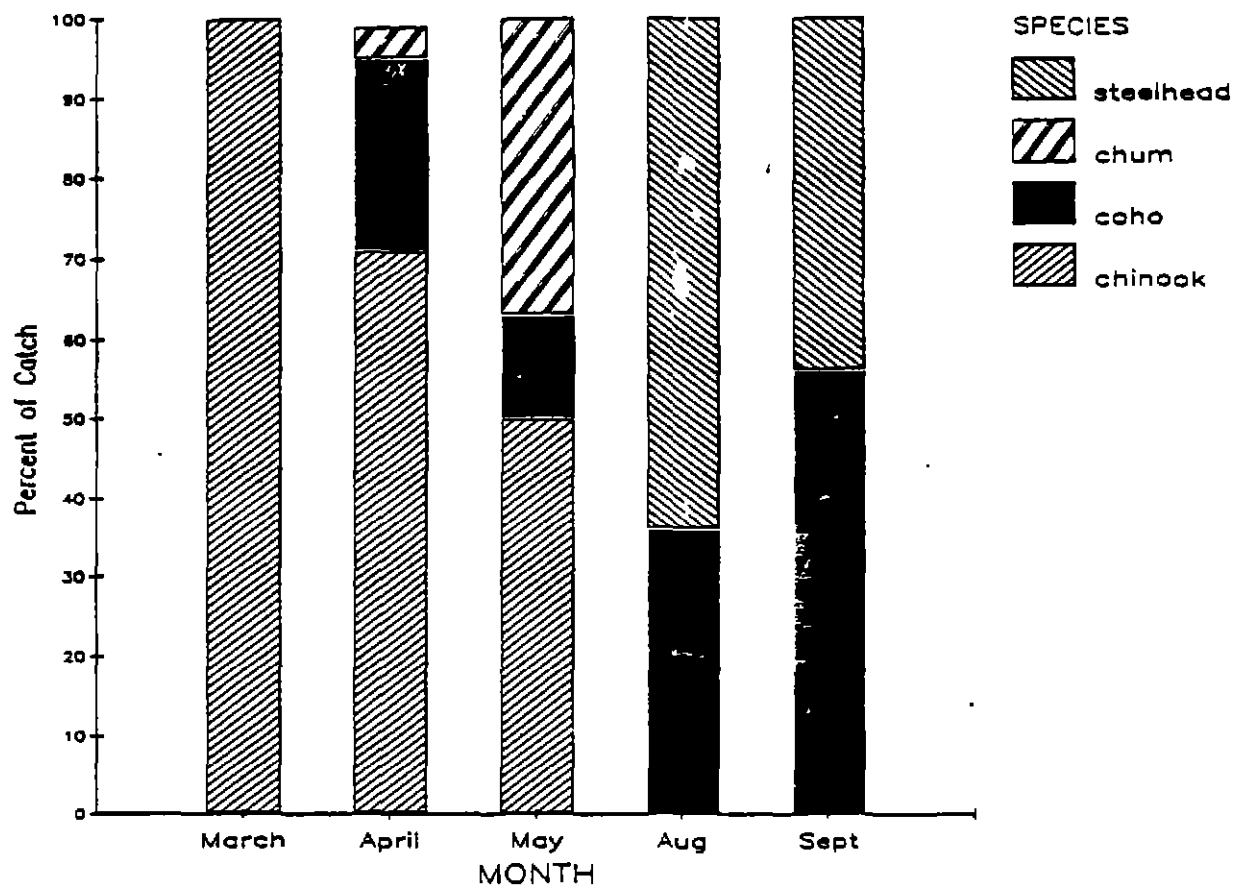


Figure 2. Species composition as percent of salmonid fry captured from Skagit River potholes, March through September 1985.

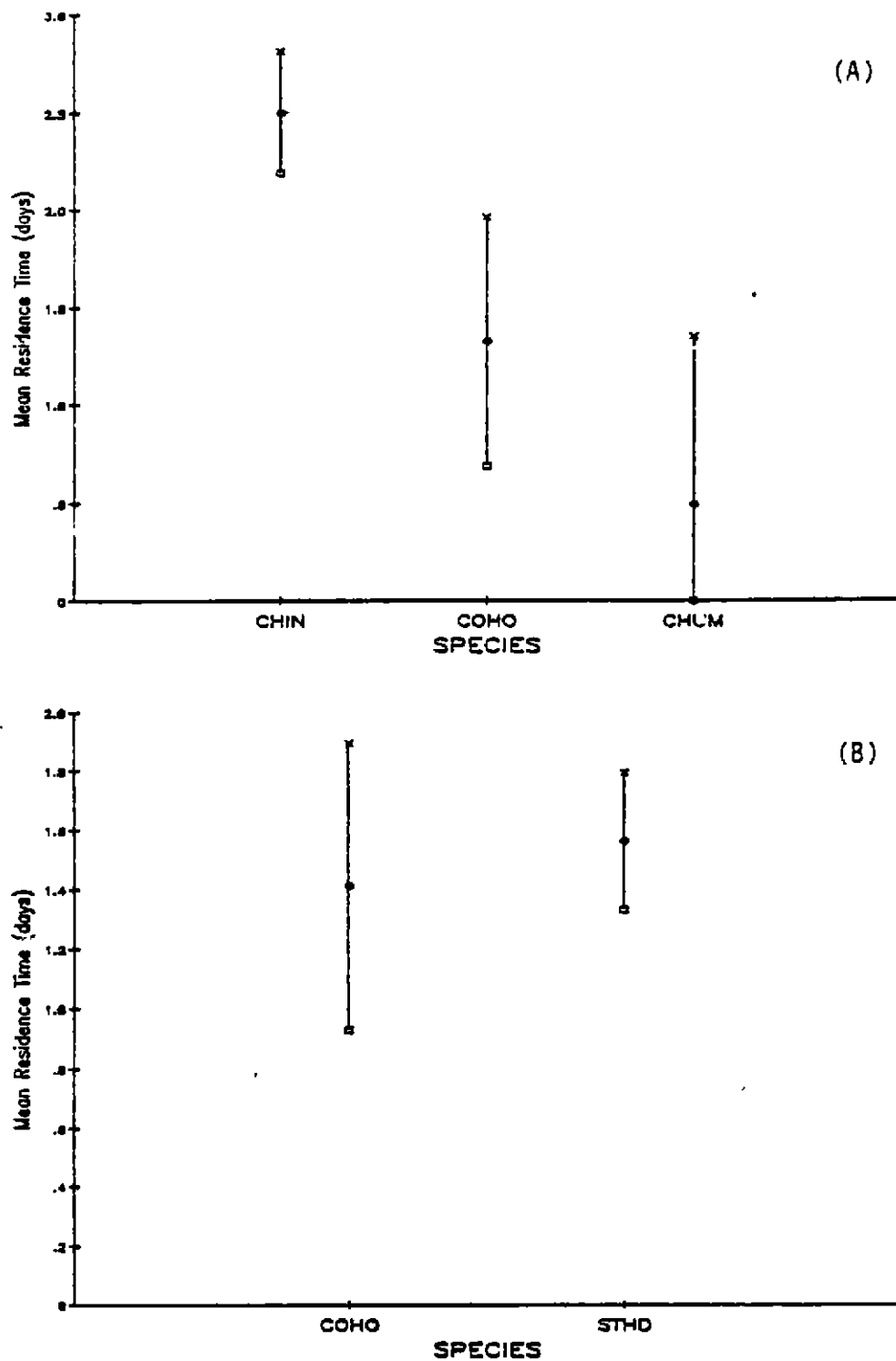


Figure 3. Average and 95% confidence interval for residence time of salmonid fry in Skagit River potholes during (A) March through May, and (B) August through September 1985.

chum, ($\alpha = 0.05$). Coho salmon fry spent an average of 1.4 days in potholes; and chum salmon fry spent less than a day in potholes.

No clear relationship existed between month of the year and fry residence time. Chinook salmon fry averaged nearly 2.6 days of pothole residency in March, 2.3 days in April, and 2.4 days in May (Fig. 4). Coho salmon fry spent an average of 1.4 days in the pothole during April, and 1.3 days in May. Average residence time for chum salmon fry was less than a day in April and May. Mean residence times did not differ significantly ($\alpha = 0.025$) between months for any of the species. Associated standard deviations, ranges, and number of potholes used for these tests are presented in Table 3.

Visual inspection of mean residence times suggested that chinook salmon and coho salmon fry tended to reside longer in potholes with more cover (Table 4). Chinook salmon fry spent an average of 1.6 days in potholes with low cover, 3.32 days in medium cover and 2.56 days high cover (Fig. 5). Mean residence times for chinook salmon were significantly longer ($\alpha = 0.025$) in potholes with medium cover than in those with low cover density. However, the mean residence time of 2.56 at high cover was not significantly different from that of low cover (1.60). Coho salmon fry residence times averaged 1.16 days in potholes with low cover and 2.0 days in potholes with high cover but this difference was insignificant. Mean residence times for chum salmon suggested they spent less than one day in potholes, but data was insufficient for comparison of residence time between cover density.

Chinook salmon, coho salmon, and chum salmon fry mean residence times in side channels and mainstream potholes are presented in Table 5. Chinook salmon fry averaged 1.9 and 3.2 days in main channel and side channel

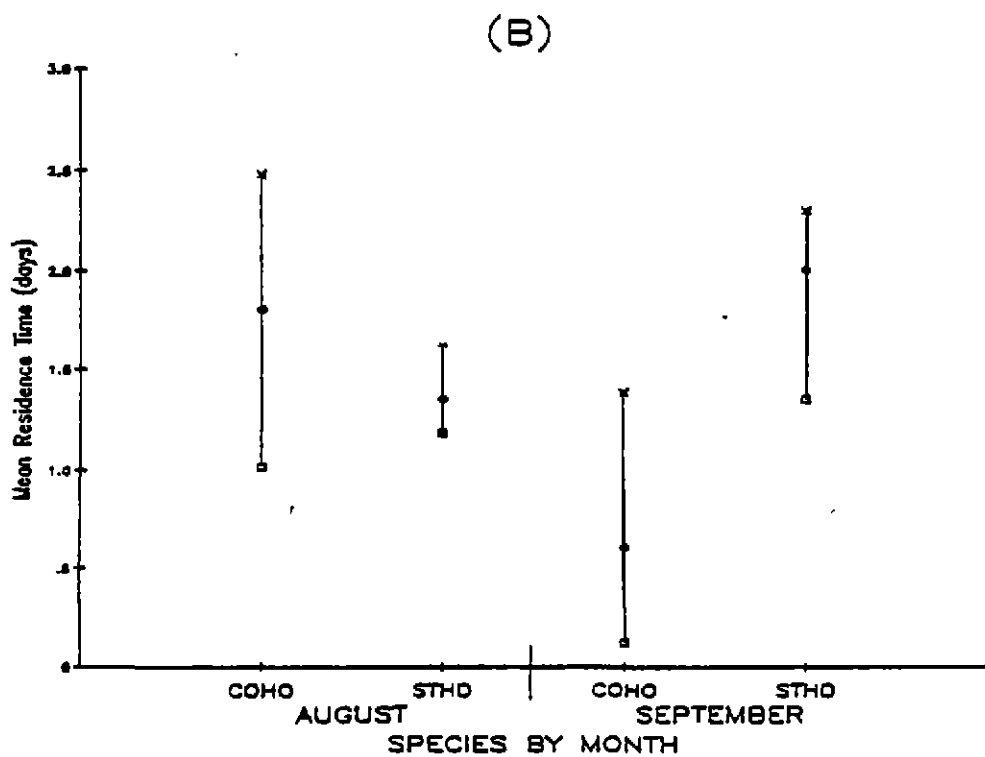
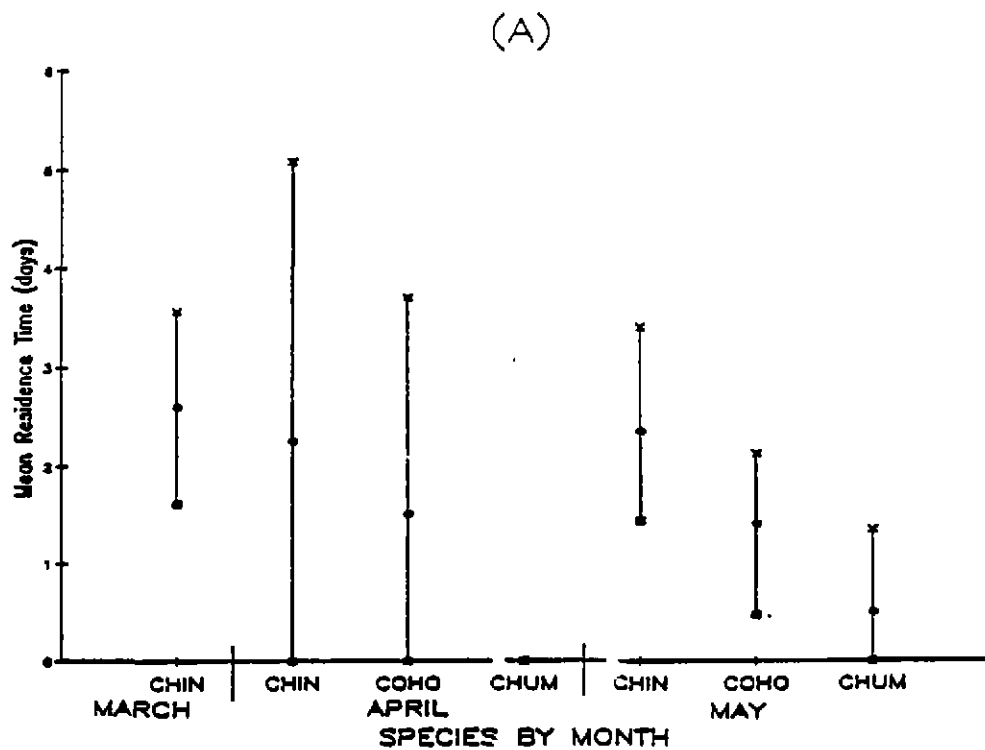


Figure 4. Average and 95% confidence interval for residence time of salmonid fry in Skagit River potholes by month: (A) March through May, and (B) August and September 1985. CHIN = chinook, STHD = steelhead.

Table 3. The average residence times in potholes along the Skagit River for chinook salmon, coho salmon and chum salmon fry from March to May, 1986.

<u>Date</u>	<u>Species</u>	<u>Mean</u>	<u>SD</u>	<u>n</u>	<u>Number of fish</u>
March	Chinook	2.59	1.53	10	620
April	Chinook	2.34	1.96	4	342
	Coho	1.44	0.74	2	117
	Chum	<1.00	0.00	1	20
May	Chinook	2.41	1.54	10	829
	Coho	1.30	1.31	10	290
	Chum	<1.00	1.34	10	607
August	Coho	<1.00	1.59	19	747
	Steelhead	1.41	0.50	20	1390
September	Coho	0.75	0.99	10	285
	Steelhead	1.82	0.82	12	236

Table 4. Pothole residence time for chinook salmon, coho salmon, chum salmon, and steelhead trout fry in potholes containing high, medium and low cover.

<u>Cover Density</u>	<u>Species</u>	<u>Mean</u>	<u>SD</u>	<u># potholes sampled</u>	<u># of fish Captured</u>
High	Chinook	2.56	0.37	4	575
	Coho (spring)	2.07	0.00	1	61
	(summer)	2.64	1.90	9	659
	Chum	0.00	0.00	1	206
	Steelhead	1.78	0.44	9	956
Medium	Chinook	3.32	1.71	10	670
	Coho (spring)	1.42	1.31	4	155
	(summer)	0.63	0.76	13	167
	Chum	1.23	7.04	5	244
	Steelhead	1.76	0.63	5	956
Low	Chinook	1.60	1.19	10	546
	Coho (spring)	1.16	1.30	7	191
	(summer)	1.25	0.79	7	206
	Chum	0.00	0.00	5	157
	Steelhead	1.40	0.73	18	481

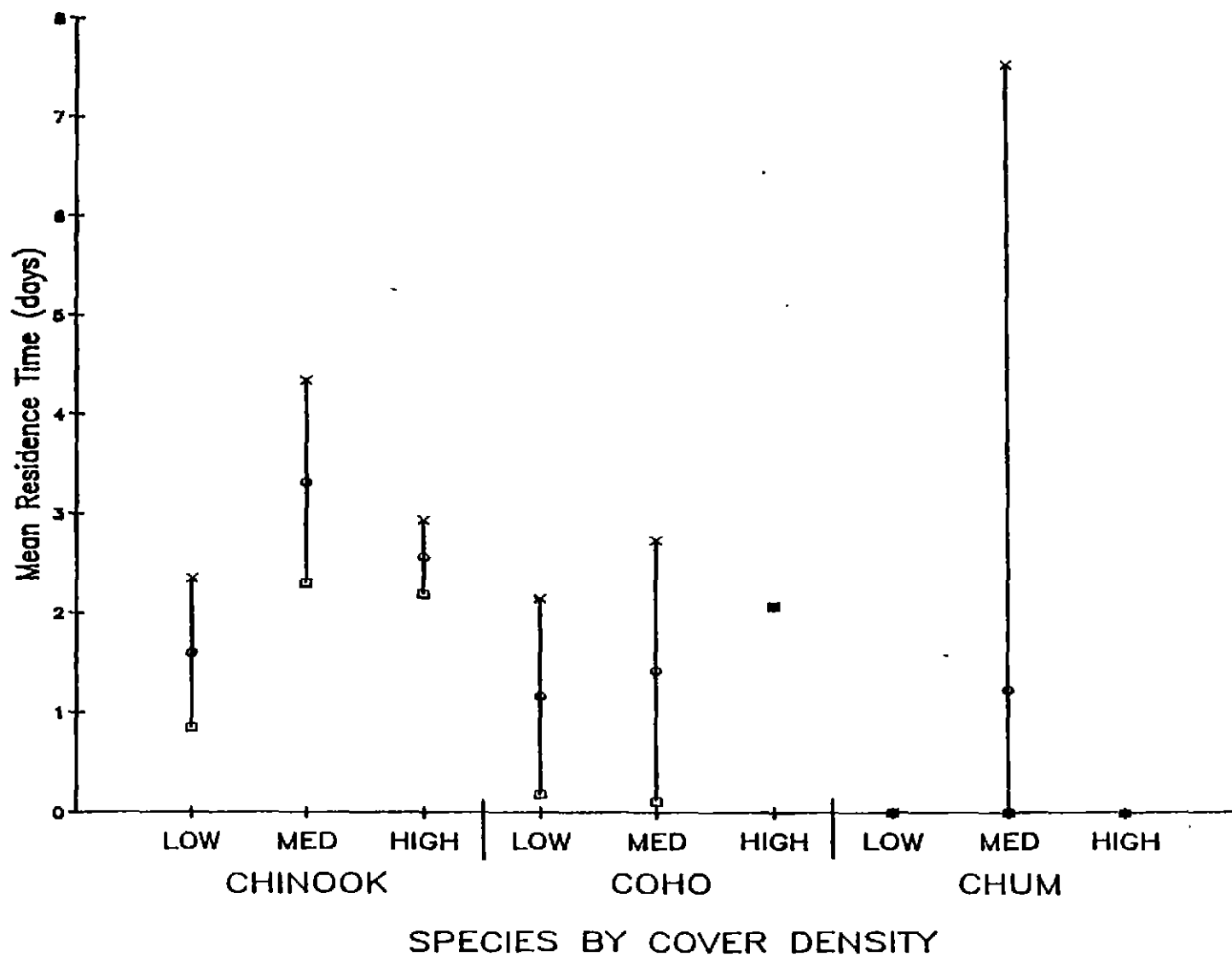


Figure 5. Average and 95% confidence interval for residence time of salmonid fry in Skagit River potholes characterized by cover density, March through May 1985.

Table 5. Pothole residence time for chinook salmon, coho salmon, chum salmon and steelhead trout fry in mainstream and side channel areas of the Skagit River in the spring and summer of 1986.

<u>Area</u>	<u>Species</u>	<u>Season</u>	<u>Mean</u>	<u>SD</u>	<u># of potholes</u>	<u># of fish Captured</u>
Main Channel	Chinook	Spring	1.86	1.61	13	607
	Coho	Spring	0.27	0.37	5	144
	Chum	Spring	0.13	0.30	5	166
	Steelhead	Summer	1.58	0.65	21	859
	Coho	Summer	1.18	1.75	18	471
Side Channel	Chinook	Spring	3.20	1.11	11	1184
	Coho	Spring	2.08	1.00	7	263
	Chum	Spring	0.85	1.91	5	441
	Steelhead	Summer	1.52	0.69	11	767
	Coho	Summer	1.78	0.77	11	561

potholes in the spring, respectively (Fig. 6). Coho salmon fry residence times were 0.27 and 1.80 days in main channel and side channels in the spring, respectively. Although chum salmon fry spent very little time in potholes, their residence times suggest a similar trend. Differences in residence times between mainstream and side channel potholes were not significant.

3.2 Summer Data

The summer sampling season, conducted during August and September, dealt primarily with coho salmon and steelhead trout fry. A total of 2658 fish were captured and marked during this part of the study. The species composition in potholes for the month of August was 64% steelhead trout and 36% coho salmon (Fig. 2). In September, coho salmon fry made up the majority of fish encountered in the potholes (56%), while steelhead trout comprised the remaining 44%. Mean fry lengths were 46.2 mm for coho salmon and 35.7 mm for steelhead trout.

The average residence time was 1.61 days for steelhead trout and 1.4 days for coho salmon during the summer sampling season (Fig. 3). A breakdown of the average length of stay on a monthly basis is presented in Figure 4. Residence time averaged 1.40 days for steelhead trout and 1.75 days for coho salmon in August, while steelhead trout averaged 1.80 days and coho salmon averaged 0.75 days in September. Mean residence times did not differ significantly between months for either species.

Coho salmon and steelhead trout tended to reside longer in potholes with cover than in those without. Coho salmon averaged 1.25 days in potholes with low cover, 0.60 days in potholes with medium cover, and 2.64 days in potholes with heavy cover (Fig. 7). Steelhead trout averaged 1.40 days in potholes with low cover, and 1.80 days in potholes with medium and

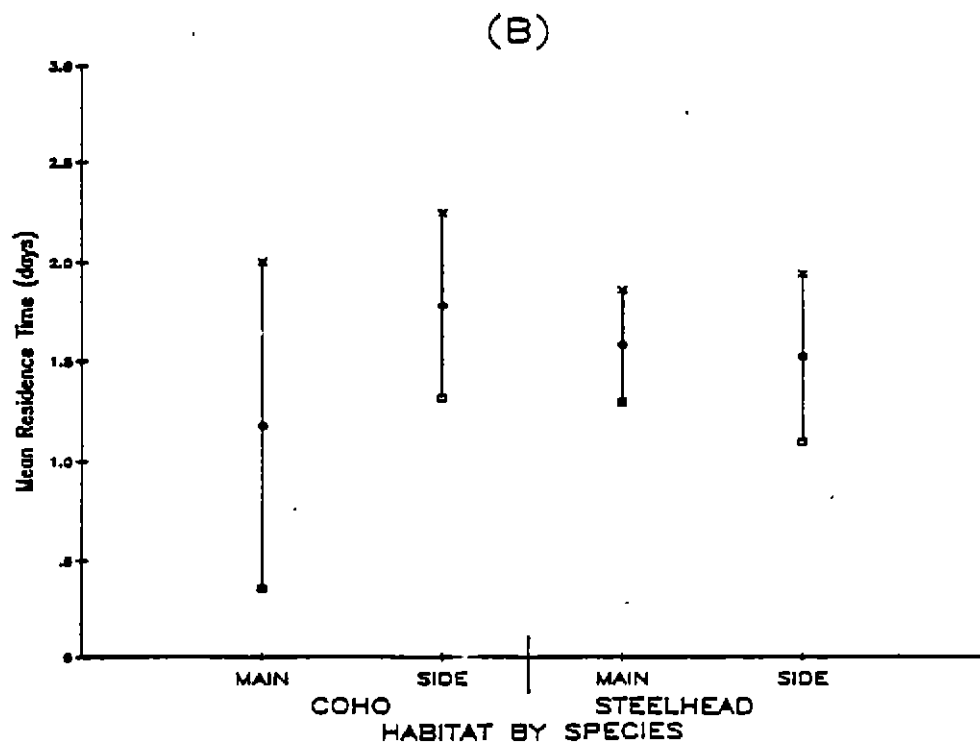
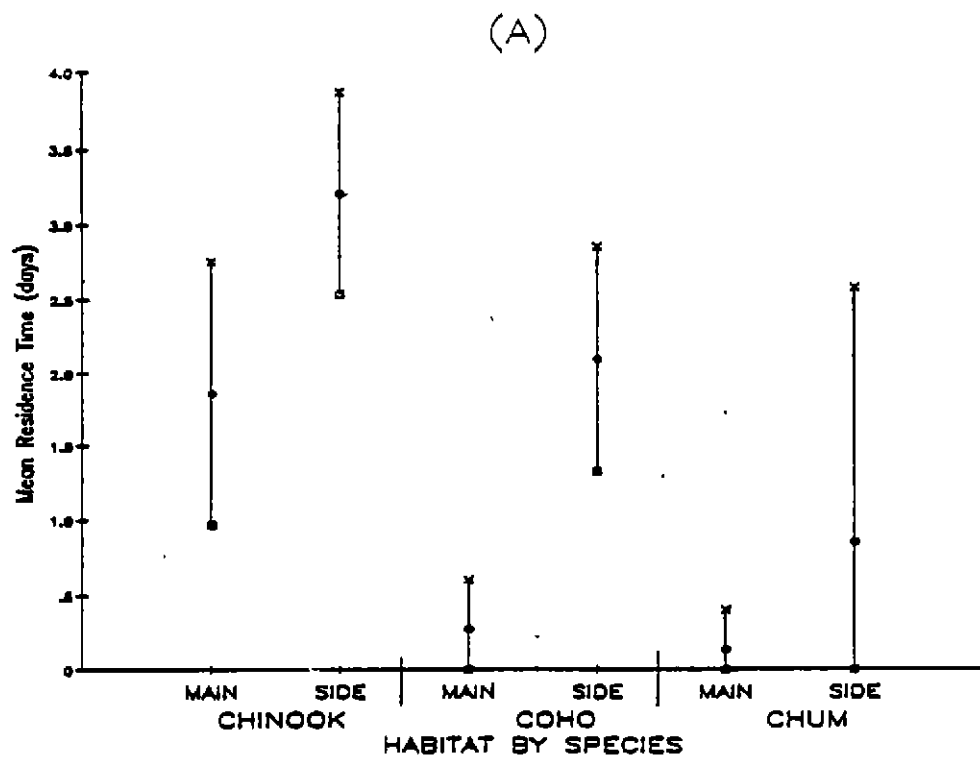


Figure 6. Average and 95% confidence intervals for residence time of salmonid fry in Skagit River potholes characterized by habitat. (A) March through May 1985, and (B) August through September 1985. MAIN = mainstream, SIDE = side channel.

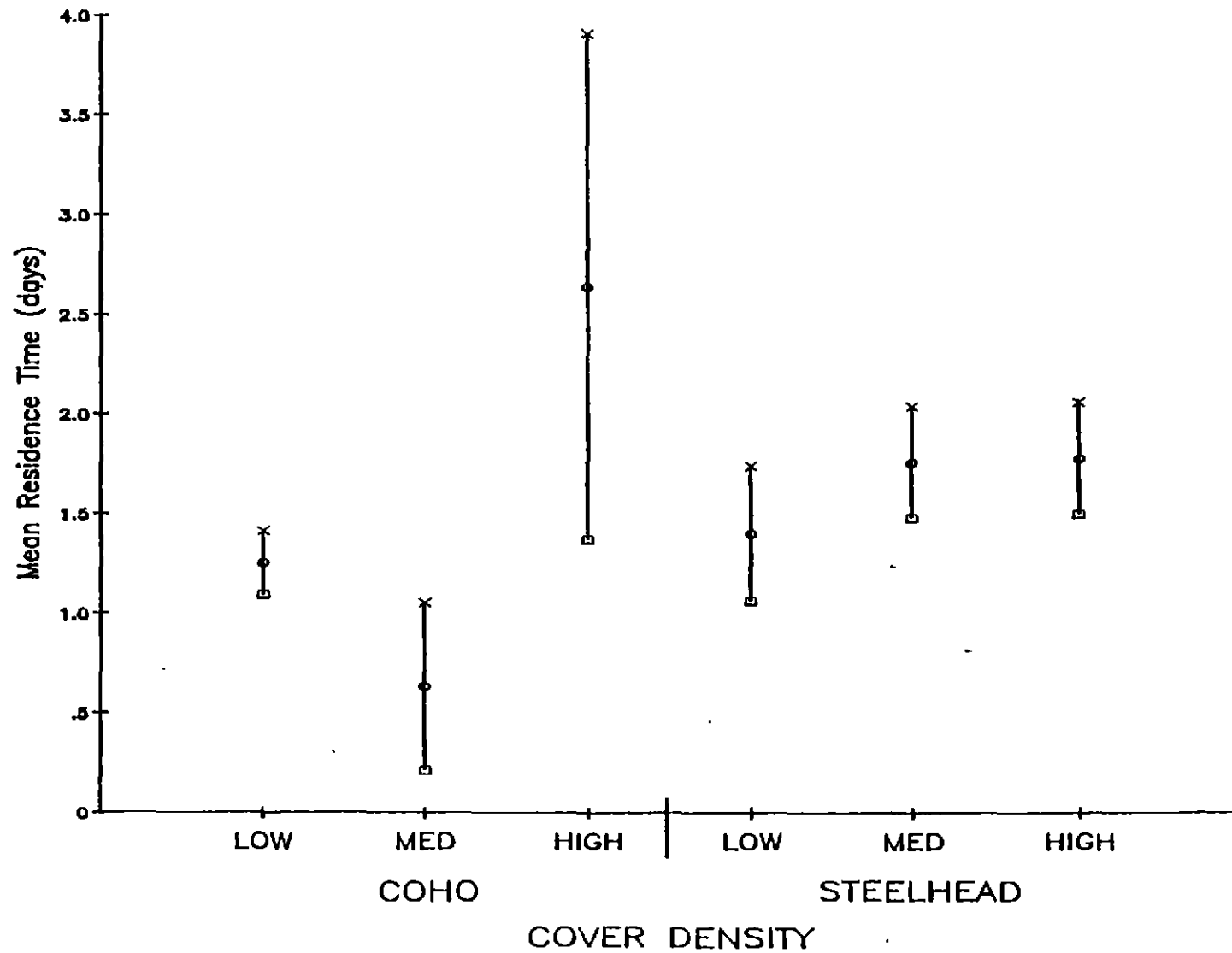


Figure 7. Average and 95% confidence intervals for residence time of salmonid fry in Skagit River potholes characterized by cover density, August through September 1985.

high cover (Fig. 4). Mean residence times for coho salmon only, differed significantly ($\alpha = 0.05$) between cover densities. Multiple range tests ($\alpha=0.05$) indicated that coho salmon fry resided significantly longer in potholes with high cover than in those with either medium or low density cover.

Coho salmon fry resided longer in potholes associated with side channels than in mainstream potholes whereas steelhead fry exhibited no preference. Coho salmon residency time averaged 1.18 days in the main-channel versus 1.78 days in sidechannel potholes (Fig. 6). Steelhead trout fry averaged 1.58 days for both side and mainchannel locations, respectively. Mean residence times did not differ significantly ($\alpha = 0.05$) between main river and side channel potholes for either species.

4.0 DISCUSSION

Near-bank depressions in the bottom substrate of a river provide habitat for rearing salmonid fry. Such depressions offer juvenile salmonids an area of reduced flow, protection from predators, preferred rearing habitat, and a food supply that may be better than in other areas of the river. However, as river flows are reduced and the river level drops, these areas become potholes where young salmonids can become entrapped and isolated from the main river. If these potholes remain detached from the main river for prolonged periods of time, the entrapped fish may suffer increased mortalities from a variety of causes. This determination requires some information on the residence time of fry in the potholes. The following text discusses the residence time of salmonid fry in the vicinity of potholes that periodically connect and disconnect with the Skagit river.

4.1 Seasonal Abundance

Results of the mark-recapture study in the spring of 1985 suggest that chinook fry spend more time in individual potholes than other species. Chinook salmon fry were by far the most commonly captured species during the spring study. These fish were the offspring of adults that returned to the upper Skagit River in 1984. Adult fish spawn in September and October in the tailouts of the larger pools in the main river. Chinook salmon fry normally emerge from the gravel in the Skagit River from January through April and the young spend the next 90-110 days in the river before migrating out to Puget Sound (Neave 1955). It is during this period of freshwater residence that chinook salmon fry are susceptible to entrapment in potholes.

Coho salmon fry were unique among the species studied because they were present in the potholes during both the spring and summer phases of this study. These fry were the offspring of coho salmon that spawned the previous fall. Adult coho spawn primarily in tributaries of the Skagit River above its confluence with the Sauk River. Coho salmon fry emerge in April and May and many move down the tributaries into the Skagit River at that time. Coho salmon fry rear in freshwater for a year or more (Neave 1955).

Steelhead trout fry trapped in potholes in the summer of 1985 were the progeny of adults returning to the upper Skagit and its tributaries in the summer, fall, and winter of 1984. Adult steelhead spawn between December and May, and fry emerge from June through August. Some emergent fry make their way down to the Skagit River from August through October, although many steelhead fry spend most of their freshwater residence in the tributaries where they were spawned.

Species composition in potholes shifted from predominately steelhead in August to a majority of coho in September. Behavior and habitat studies (Chapman 1965; Frasier 1969; Lister and Genoe 1970; Reiser and Bjornn 1979; Allee 1981) suggest that emergent coho favor slower water and tend to seek out areas such as potholes. As they increase in size, juvenile coho prefer faster water and move into riffles (Lister and Genoe 1970). Young coho of 60 mm or more in length revert back to preferring slower water and move into the pools and side channels (Allee 1981).

Initially emerging steelhead fry seek out slowly moving water; but, as they grow, the steelhead fry prefer faster moving water. Changes in species composition could occur as a result of the following: steelhead fry choosing to move out of potholes; a size induced preference of habitat by one or both species; or from steelhead being forced out by the coho fry through competitive interaction (Allee 1981).

4.2 Pothole Residence Times

Spring study results showed that chinook salmon fry spent an average of 2.5 days in the pothole of original capture. These fry experienced 2 or 3 cycles of discharge once they entered a pothole. If they entered other potholes after leaving the pothole where they were marked, they would have experienced additional discharge events. Recaptures from a release of 235 fish marked with fluorescent dye using the traditional high pressure spray technique of Jackson (1959), indicated that chinook fry tended to become trapped again in potholes downstream from the point where they had been marked. Five of these fish were found a week later in a pothole approximately 2 miles downstream. The vulnerability to entrapment of fry in downstream potholes was not addressed in this experiment, but this initial data suggests it should be evaluated.

The mean residence times of 1.30 and 1.40 days in the spring and summer, respectively, for coho salmon fry exposes them to 1 or 2 discharging cycles before they move out of a pothole. Whether or not coho fry move into other potholes after leaving their initial pothole is not clear. In an experiment at Rockport Bar where coho salmon from three adjacent potholes were marked with different colors, none were recaptured in other potholes suggesting that repeated use did not occur. The same experiment with chinook fry resulted in the recapture of chinook salmon in different potholes, some of which were upstream from the original pothole.

Steelhead trout fry spent an average of 1.60 days in potholes, and experienced 1 or 2 discharge cycles during this time. Steelhead trout residence time may be affected by the presence of the more aggressive coho salmon (Allee 1981; Reiser and Bjornn 1979). This behavior may be a size-related phenomenon as the coho salmon fry are larger than the steelhead trout fry at this stage of their development. Previous fry stranding studies on the Skagit River (Stober et al. 1982) found that there were few steelhead trout fry in the nearshore area once they reached 47 mm. In fact, once they reached 40 mm, even though they were still present in the nearshore areas, they became less susceptible to gravel bar stranding (Stober et al. 1982). Stober et al. (1982) also found that by October 1, steelhead trout fry had grown to sufficient size to avoid gravel bar stranding. Our study also found that the number of steelhead entrapped in potholes dropped substantially from August to September and reached almost zero by the second week of October. No steelhead over 45 mm were found in any potholes during our study.

Hoar (1956) found that after emerging from the gravel chum salmon fry move immediately downstream toward salt water, with the peak out migration

occurring somewhere between the end of April and the middle of May. Between high flow periods when the potholes were connected to the main river, the mean residence time of 0.50 days is the approximate duration that marked chum salmon were trapped in the potholes by low water. This corroborates the fact that chum salmon fry are moving rapidly through the system. Of 73 chum salmon marked and released during the spring season, only 3 were recaptured in potholes where marked. Thus, chum salmon appear to experience only one discharging event cycle before leaving a pothole.

4.3 Cover and Channel Location Effects

Whether salmonid fry may become trapped in potholes is a function of the quantity and/or quality of the pothole location and cover. Increase in cover and distance away from the main channel were expected to result in increased residence times for all the salmonid fry. Inspection of the mean residence time suggests this trend exists for all species examined. However, few of the increases in mean residence time were statistically significant. We attribute this to the limited sample size available for testing purposes.

Coho fry residence times displayed significant trends with respect to channel location and cover. First, the residency times for coho fry in the spring and summer periods were higher on side channels than for main channel potholes. This finding agrees with Lister and Genoe (1979) who observed that emerging coho fry seek out the slower water found in back eddies and side sloughs. Second, the coho fry captured in the summer had longer residence times in potholes containing heavy cover. This behavior agrees with information concerning habitat selection by coho fry gathered by other investigators (Lister and Genoe 1970; Reiser and Bjornn 1979).

The only other significant trend detected was that the chinook fry residence time in moderate cover potholes was higher than for the low-cover potholes. Chinook fry were also shown to reside in areas which had high cover (Lister and Genoe, 1970; Reiser and Bjornn, 1979). These authors suggested the combination of an abundance of cover and slow water may be optimal rearing habitat for chinook fry. In addition, Lister and Genoe (1970) also demonstrated that chinook fry prefer the relatively slow waters found in back eddies and side sloughs, which was also corroborated by this study, although they were also found in the main channel potholes. Location in a natural pool will vary depending the size of the fish and the other fish present in the pool. In general, coho and chinook do not occupy the same part of the pool at the same time.

5.0 SYNOPSIS

Only the chinook fry residence time in potholes was significantly different from that of other species tested. Chinook resided in the potholes for longer periods of time than the other species. In addition, only the chinook fry were recaptured in more than one pothole, although additional sampling may have shown this to be true of other species as well. Longer duration of stay and more frequent use of potholes is expected to increase the chance of mortality related to entrapment. Thus, of the species examined, chinook fry appear to be the most vulnerable of the to mortality associated with repeated pothole entrapment.

Statistical inference on pothole residence time was limited to chinook and coho fry because these were the species most frequently recaptured. We feel that the small sample sizes and the high degree of variation in the emigration statistic were responsible for the lack of statistical support for several suspected trends in the data. We feel that

future experimentation could provide the sample sizes necessary for statistical support of these hypotheses. Additional analyses that could be performed with a larger data set are: 1) an evaluation of flow and water level characteristics (such as ramping rate effect) on fry residence times, 2) a more accurate evaluation of the cover and channel location interaction effect (better classification routine and a two-way ANOVA design) on fry residence times, 3) an evaluation of the species co-occurrence (especially the coho-steelhead interaction) on the fry residence times and, 4) an evaluation of the propagation of error in the residence time estimator, E. Because of the limited sample size, the observed residence time may be longer than it actually is. Increased sampling frequency would give a more accurate estimation of the actual residence time also.

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APPENDIX F

SUMMER/FALL 1985 STEELHEAD AND COHO FRY GRAVEL BAR STRANDING DATA SUMMARY

This appendix includes a summary of the stranded fry from each of the twelve (12) gravel bar locations studied for each of the eighteen (18) tests completed (See Table F-1) followed by summary data for each gravel bar observation completed during the study (See Table F-2).

TABLE F-1 NUMBER OF FRY STRANDED ON THE THIRTY-FIVE (35)
GRAVEL BAR TEST-SITES BY DATE AND TEST TYPE DURING THE
SUMMER 1985 GRAVEL BAR STEELHEAD STRANDING STUDY

D A T E	TOTAL FRY STRANDED	-----EVENT DESCRIPTION-----			
		AMP	RAMP	Double Test AMP	RAMP
AUGUST 2, 1985	292	A1	R2	A1	R2
AUGUST 3	21	A1	R2		
AUGUST 4	209	A2	R3		
AUGUST 5	176	A2	R1		
AUGUST 6	217	A2	R2		
AUGUST 7	66	A1	R3		
AUGUST 9	166	A2	R2		
AUGUST 10	233	A2	R3		
AUGUST 11	59	A1	R2	A1	R2
AUGUST 12	113	A1	R3	A1	R3
AUGUST 13	22	A1	R1		
AUGUST 14	192	A2	R1		
AUGUST 15	145	A2	R1		
AUGUST 16	41	A1	R1	A1	R3
AUGUST 17	39	A1	R3		
AUGUST 18	82	A2	R3		
AUGUST 19	76	A2	R2		
AUGUST 20	22	A1	R2		

Amplitude: A1 = 2000 cfs
A2 = 4000 cfs

Ramp Rate: R1 = 500 cfs/hr for 1/2 hour then 5000 cfs/hr (1).
R2 = 1000 cfs/hr
R3 = 5000 cfs/hr

(1). The accelerated ramprate for the A2 = 4000 cfs tests had an actual downramp of 500 cfs/hr for 1.5 hours rather than 0.5 hours.

1

TABLE F-2[illegible]

NOTE: FOR EACH STRANDED FRY THERE IS ONE LINE OF DATA.

DATE OF STRAND	GRAVEL BAR LOCATION NAME	STATION NUMBER	WEATHER	FISH COORDINATE REFERENCE POINT 1 (FT)	FISH COORDINATE REFERENCE POINT 2 (FT)	FISH COORDINATE REFERENCE POINT 3 (FT)	FISH LENGTH (CM)	SPECIES STRANDED
08/02/85	DIOBSUD CR	1	rainy	-0-	22.000	87.000	-0-	-0-
08/02/85	DIOBSUD CR	1	rainy	-0-	22.000	87.000	-0-	-0-
08/02/85	DIOBSUD CR	1	rainy	-0-	22.000	87.000	-0-	-0-
08/02/85	DIOBSUD CR	1	rainy	-0-	16.500	92.000	-0-	-0-
08/02/85	DIOBSUD CR	1	rainy	-0-	16.500	92.000	-0-	-0-
08/02/85	DIOBSUD CR	1	rainy	-0-	16.500	92.000	-0-	-0-
08/02/85	DIOBSUD CR	1	rainy	-0-	16.500	92.000	-0-	-0-
08/02/85	DIOBSUD CR	1	rainy	-0-	16.500	92.000	-0-	-0-
08/02/85	DIOBSUD CR	1	rainy	-0-	16.500	92.000	-0-	-0-
08/02/85	DIOBSUD CR	1	rainy	-0-	16.500	92.000	-0-	-0-
08/02/85	DIOBSUD CR	1	rainy	-0-	11.500	95.600	-0-	-0-
08/02/85	DIOBSUD CR	1	rainy	-0-	11.500	95.600	-0-	-0-
08/02/85	DIOBSUD CR	1	rainy	-0-	11.500	95.600	-0-	-0-
08/02/85	DIOBSUD CR	1	rainy	-0-	11.500	95.600	-0-	-0-
08/02/85	DIOBSUD CR	1	rainy	-0-	40.000	75.000	-0-	-0-
08/02/85	DIOBSUD CR	1	rainy	-0-	40.000	75.000	-0-	-0-
08/02/85	DIOBSUD CR	1	rainy	-0-	8.0000	98.600	-0-	-0-
08/02/85	DIOBSUD CR	1	rainy	-0-	8.0000	98.600	-0-	-0-
08/02/85	DIOBSUD CR	1	rainy	-0-	8.0000	98.600	-0-	-0-
08/02/85	DIOBSUD CR	1	rainy	-0-	8.0000	98.600	-0-	-0-
08/02/85	DIOBSUD CR	1	rainy	-0-	8.0000	98.600	-0-	-0-
08/02/85	DIOBSUD CR	1	rainy	-0-	8.0000	98.600	-0-	-0-
08/02/85	DIOBSUD CR	1	rainy	-0-	8.0000	98.600	-0-	-0-
08/02/85	DIOBSUD CR	1	rainy	99.000	6.4000	-0-	-0-	-0-
08/02/85	DIOBSUD CR	1	rainy	98.000	6.0000	-0-	-0-	-0-
08/02/85	DIOBSUD CR	1	rainy	98.000	6.0000	-0-	-0-	-0-
08/02/85	DIOBSUD CR	1	rainy	98.000	6.0000	-0-	-0-	-0-
08/02/85	DIOBSUD CR	1	rainy	95.000	7.0000	-0-	-0-	-0-
08/02/85	DIOBSUD CR	1	rainy	95.000	7.0000	-0-	-0-	-0-
08/02/85	DIOBSUD CR	1	rainy	94.000	7.5000	-0-	-0-	-0-
08/02/85	DIOBSUD CR	1	rainy	94.000	7.5000	-0-	-0-	-0-
08/02/85	DIOBSUD CR	1	rainy	94.000	7.5000	-0-	-0-	-0-
08/02/85	DIOBSUD CR	1	rainy	94.000	7.5000	-0-	-0-	-0-
08/02/85	DIOBSUD CR	1	rainy	-0-	78.500	52.200	-0-	-0-
08/02/85	DIOBSUD CR	1	rainy	-0-	42.600	93.500	-0-	-0-
08/02/85	DIOBSUD CR	1	rainy	-0-	43.000	95.000	-0-	-0-
08/02/85	DIOBSUD CR	1	rainy	-0-	65.000	71.400	-0-	-0-
08/02/85	DIOBSUD CR	1	rainy	-0-	81.700	49.300	-0-	-0-
08/02/85	DIOBSUD CR	1	rainy	-0-	89.000	40.000	-0-	-0-
08/02/85	DIOBSUD CR	1	rainy	-0-	25.000	85.000	-0-	-0-
08/02/85	DIOBSUD CR	1	rainy	-0-	25.000	85.000	-0-	-0-
08/02/85	DIOBSUD CR	1	rainy	-0-	25.000	85.000	-0-	-0-
08/02/85	DIOBSUD CR	2	rainy	-0-	37.500	68.000	-0-	-0-
08/02/85	DIOBSUD CR	2	rainy	34.600	74.500	-0-	-0-	-0-
08/02/85	DIOBSUD CR	2	rainy	-0-	38.800	69.000	-0-	-0-
08/02/85	DIOBSUD CR	2	rainy	-0-	22.900	96.500	-0-	-0-
08/02/85	DIOBSUD CR	2	rainy	34.000	74.000	-0-	-0-	-0-
08/02/85	FACE BAR	1	rainy	-0-	79.200	24.800	2.40	STH
08/02/85	FACE BAR	1	rainy	-0-	79.300	20.700	2.90	STH
08/02/85	FACE BAR	1	rainy	-0-	84.000	17.400	3.00	STH
08/02/85	FACE BAR	1	rainy	-0-	62.500	39.700	2.50	STH
08/02/85	FACE BAR	1	rainy	-0-	32.900	70.100	2.80	STH
08/02/85	FACE BAR	1	rainy	92.400	15.500	-0-	3.00	STH

NOTE: FOR EACH STRANDED FRY THERE IS ONE LINE OF DATA.

DATE OF STRAND	GRAVEL BAR LOCATION NAME	STATION NUMBER	WEATHER	FISH COORDINATE REFERENCE POINT 1 (FT)	FISH COORDINATE REFERENCE POINT 2 (FT)	FISH COORDINATE REFERENCE POINT 3 (FT)	FISH LENGTH (CM)	SPECIES STRANDED
08/02/85	FACE BAR	2	rainy	-0-	-0-	-0-	-0-	-0-
08/02/85	FACE BAR	3	rainy	-0-	-0-	-0-	3.10	STH
08/02/85	FUNGUS BAR	1	cloudy	-0-	93.600	56.000	-0-	STH
08/02/85	FUNGUS BAR	1	cloudy	-0-	92.900	70.600	-0-	STH
08/02/85	FUNGUS BAR	1	cloudy	-0-	92.900	70.800	-0-	STH
08/02/85	FUNGUS BAR	1	cloudy	-0-	75.300	86.300	-0-	STH
08/02/85	FUNGUS BAR	1	cloudy	-0-	61.300	99.800	-0-	STH
08/02/85	FUNGUS BAR	1	cloudy	60.200	60.200	-0-	3.00	STH
08/02/85	FUNGUS BAR	1	cloudy	59.500	62.400	-0-	3.70	STH
08/02/85	FUNGUS BAR	1	cloudy	53.500	62.700	-0-	3.70	STH
08/02/85	FUNGUS BAR	1	cloudy	82.500	48.300	-0-	11.0	STH
08/02/85	FUNGUS BAR	1	cloudy	73.000	60.200	-0-	3.20	STH
08/02/85	FUNGUS BAR	1	cloudy	66.100	60.200	-0-	3.00	STH
08/02/85	FUNGUS BAR	1	cloudy	63.300	58.300	-0-	3.50	STH
08/02/85	FUNGUS BAR	1	cloudy	62.000	58.500	-0-	3.70	STH
08/02/85	FUNGUS BAR	1	cloudy	-0-	106.90	31.000	-0-	STH
08/02/85	FUNGUS BAR	1	cloudy	-0-	98.490	53.700	-0-	STH
08/02/85	FUNGUS BAR	1	cloudy	58.100	49.300	-0-	3.00	STH
08/02/85	FUNGUS BAR	2	rainy	-0-	-0-	-0-	4.00	STH
08/02/85	FUNGUS BAR	2	rainy	-0-	-0-	-0-	2.80	STH
08/02/85	FUNGUS BAR	2	rainy	-0-	-0-	-0-	3.00	STH
08/02/85	FUNGUS BAR	2	rainy	-0-	-0-	-0-	2.90	STH
08/02/85	FUNGUS BAR	2	rainy	-0-	58.100	82.500	3.20	STH
08/02/85	FUNGUS BAR	2	rainy	-0-	61.400	78.300	3.00	STH
08/02/85	FUNGUS BAR	2	rainy	-0-	61.500	76.500	-0-	-0-
08/02/85	FUNGUS BAR	2	rainy	10.000	61.800	65.300	-0-	-0-
08/02/85	FUNGUS BAR	2	rainy	-0-	68.900	65.700	-0-	-0-
08/02/85	FUNGUS BAR	2	rainy	-0-	72.000	65.400	-0-	-0-
08/02/85	FUNGUS BAR	2	rainy	-0-	74.500	98.500	-0-	-0-
08/02/85	FUNGUS BAR	2	rainy	-0-	74.700	67.500	-0-	-0-
08/02/85	FUNGUS BAR	2	rainy	-0-	67.000	58.400	-0-	-0-
08/02/85	FUNGUS BAR	2	rainy	-0-	76.800	48.500	-0-	-0-
08/02/85	FUNGUS BAR	2	rainy	-0-	81.400	50.400	-0-	-0-
08/02/85	FUNGUS BAR	2	rainy	-0-	85.000	46.200	-0-	-0-
08/02/85	FUNGUS BAR	2	rainy	-0-	83.900	45.800	-0-	-0-
08/02/85	FUNGUS BAR	2	rainy	-0-	82.400	45.400	-0-	-0-
08/02/85	FUNGUS BAR	2	rainy	-0-	97.400	43.700	-0-	-0-
08/02/85	FUNGUS BAR	2	rainy	-0-	97.300	41.600	-0-	-0-
08/02/85	FUNGUS BAR	2	rainy	-0-	107.40	38.400	-0-	-0-
08/02/85	FUNGUS BAR	2	rainy	-0-	18.600	32.300	-0-	-0-
08/02/85	FUNGUS BAR	2	rainy	-0-	19.000	36.100	-0-	-0-
08/02/85	FUNGUS BAR	2	rainy	-0-	100.80	36.300	-0-	-0-
08/02/85	FUNGUS BAR	2	rainy	-0-	76.100	43.300	-0-	-0-
08/02/85	FUNGUS BAR	2	rainy	100.00	15.300	-0-	4.00	STH
08/02/85	FUNGUS BAR	2	rainy	98.300	56.000	-0-	3.50	STH
08/02/85	FUNGUS BAR	2	rainy	96.900	62.700	-0-	3.60	STH
08/02/85	FUNGUS BAR	2	rainy	98.900	43.500	-0-	3.20	STH
08/02/85	FUNGUS BAR	2	rainy	99.100	41.900	-0-	3.00	STH
08/02/85	FUNGUS BAR	2	rainy	99.400	41.500	-0-	3.00	STH
08/02/85	FUNGUS BAR	2	rainy	-0-	51.400	-0-	3.10	STH
08/02/85	FUNGUS BAR	2	RAINY	63.200	94.900	-0-	7.50	STH

NOTE: FOR EACH STRANDED FRY THERE IS ONE LINE OF DATA.

DATE OF STRAND	GRAVEL BAR LOCATION NAME	STATION NUMBER	WEATHER	FISH COORDINATE REFERENCE POINT 1 (FT)	FISH COORDINATE REFERENCE POINT 2 (FT)	FISH COORDINATE REFERENCE POINT 3 (FT)	FISH LENGTH (CM)	SPECIES STRANDED
08/02/85	FUNGUS BAR	2	RAINY	62.500	99.900	-0-	7.10	STH
08/02/85	FUNGUS BAR	2	RAINY	76.400	68.400	-0-	5.40	STH
08/02/85	FUNGUS BAR	2	RAINY	77.000	66.400	-0-	3.00	STH
08/02/85	FUNGUS BAR	2	RAINY	69.500	65.500	-0-	3.10	STH
08/02/85	FUNGUS BAR	2	RAINY	68.300	65.800	-0-	3.80	STH
08/02/85	FUNGUS BAR	2	rainy	69.500	65.500	-0-	3.10	STH
08/02/85	FUNGUS BAR	2	rainy	68.300	65.800	-0-	3.80	STH
08/02/85	FUNGUS BAR	2	rainy	70.000	53.600	-0-	3.50	STH
08/02/85	FUNGUS BAR	2	RAINY	88.400	32.000	-0-	-0-	STH
08/02/85	FUNGUS BAR	2	RAINY	68.700	100.00	-0-	7.00	STH
08/02/85	FUNGUS BAR	2	RAINY	66.500	88.900	-0-	5.50	STH
08/02/85	FUNGUS BAR	3	rainy	31.600	79.900	-0-	3.00	STH
08/02/85	FUNGUS BAR	3	rainy	-0-	60.300	58.700	-0-	-0-
08/02/85	FUNGUS BAR	3	rainy	34.400	73.900	-0-	3.20	STH
08/02/85	FUNGUS BAR	3	rainy	36.700	74.400	-0-	2.90	STH
08/02/85	FUNGUS BAR	3	rainy	70.300	-0-	-0-	2.70	STH
08/02/85	FUNGUS BAR	3	rainy	41.000	74.100	-0-	3.40	STH
08/02/85	FUNGUS BAR	3	rainy	39.300	101.90	-0-	2.90	STH
08/02/85	FUNGUS BAR	3	rainy	40.500	100.30	-0-	3.20	STH
08/02/85	FUNGUS BAR	3	rainy	42.900	86.030	-0-	3.20	STH
08/02/85	FUNGUS BAR	3	rainy	36.300	81.100	-0-	-0-	-0-
08/02/85	FUNGUS BAR	3	rainy	68.200	51.700	-0-	-0-	-0-
08/02/85	FUNGUS BAR	3	rainy	66.800	50.900	-0-	-0-	-0-
08/02/85	FUNGUS BAR	3	rainy	-0-	78.500	50.900	-0-	-0-
08/02/85	FUNGUS BAR	3	rainy	-0-	17.500	92.400	5.80	CDHO
08/02/85	FUNGUS BAR	3	rainy	25.900	92.100	-0-	3.30	STH
08/02/85	FUNGUS BAR	3	rainy	-0-	74.900	31.900	3.10	STH
08/02/85	FUNGUS BAR	3	rainy	25.600	91.900	-0-	2.80	STH
08/02/85	MARBLE MT	1	cloudy	66.000	48.000	-0-	-0-	-0-
08/02/85	MARBLE MT	1	cloudy	66.000	48.000	-0-	-0-	-0-
08/02/85	MARBLE MT	1	cloudy	66.000	48.000	-0-	-0-	-0-
08/02/85	MARBLE MT	1	cloudy	75.000	40.200	-0-	-0-	-0-
08/02/85	MARBLE MT	1	cloudy	75.000	40.200	-0-	-0-	-0-
08/02/85	MARBLE MT	1	cloudy	-0-	32.000	79.000	3.10	STH
08/02/85	MARBLE MT	1	cloudy	-0-	74.700	38.600	3.20	STH
08/02/85	MARBLE MT	1	cloudy	52.300	65.600	-0-	-0-	-0-
08/02/85	MARBLE MT	1	cloudy	91.500	29.600	-0-	-0-	-0-
08/02/85	MARBLE MT	1	cloudy	77.700	40.400	-0-	-0-	-0-
08/02/85	MARBLE MT	1	cloudy	77.700	40.400	-0-	-0-	-0-
08/02/85	MARBLE MT	1	cloudy	77.700	40.400	-0-	-0-	-0-
08/02/85	MARBLE MT	2	cloudy	-0-	-0-	-0-	-0-	-0-
08/02/85	MARBLE MT	3	cloudy	68.000	36.600	-0-	3.20	STH
08/02/85	MARBLE MT	3	cloudy	68.000	36.600	-0-	3.00	STH
08/02/85	MARBLE MT	3	cloudy	68.000	36.600	-0-	3.00	STH
08/02/85	MARBLE MT	3	cloudy	68.000	36.600	-0-	3.70	STH
08/02/85	MARBLE MT	3	cloudy	68.000	36.600	-0-	3.20	STH
08/02/85	MARBLE MT	3	cloudy	68.000	36.600	-0-	0.00	STH
08/02/85	MARBLE MT	3	cloudy	68.000	36.600	-0-	0.00	STH
08/02/85	MARBLE MT	3	cloudy	68.000	36.600	-0-	0.00	STH
08/02/85	MARBLE MT	3	cloudy	68.000	36.600	-0-	3.40	STH
08/02/85	MARBLE MT	3	cloudy	68.000	36.600	-0-	3.10	STH

NOTE: FOR EACH STRANDED FRY THERE IS ONE LINE OF DATA.

DATE OF STRAND	GRAVEL BAR LOCATION NAME	STATION NUMBER	WEATHER	FISH COORDINATE REFERENCE POINT 1 (FT)	FISH COORDINATE REFERENCE POINT 2 (FT)	FISH COORDINATE REFERENCE POINT 3 (FT)	FISH LENGTH (CM)	SPECIES STRANDED
08/02/85	MARBLE MT	3	cloudy	68.000	36.600	-0-	3.60	STH
08/02/85	MARBLE MT	3	cloudy	68.000	36.600	-0-	3.50	STH
08/02/85	MARBLE MT	3	cloudy	68.000	36.600	-0-	3.40	STH
08/02/85	MARBLE MT	3	cloudy	68.000	36.600	-0-	3.30	STH
08/02/85	MARBLE MT	3	cloudy	68.000	36.600	-0-	3.60	STH
08/02/85	MARBLE MT	3	cloudy	68.000	36.600	-0-	3.50	STH
08/02/85	MARBLE MT	3	cloudy	68.000	36.600	-0-	3.30	STH
08/02/85	MARBLE MT	3	cloudy	68.000	36.600	-0-	3.80	STH
08/02/85	MARBLE MT	3	cloudy	68.000	36.600	-0-	2.90	STH
08/02/85	MARBLE MT	3	cloudy	68.000	36.600	-0-	3.30	STH
08/02/85	MARBLE MT	3	cloudy	68.000	36.600	-0-	3.10	STH
08/02/85	MARBLE MT	3	cloudy	68.000	36.600	-0-	3.10	STH
08/02/85	MARBLE MT	3	cloudy	68.000	36.600	-0-	3.50	STH
08/02/85	MARBLE MT	3	cloudy	68.000	36.600	-0-	2.90	STH
08/02/85	MARBLE MT	3	cloudy	68.000	36.600	-0-	3.40	STH
08/02/85	MARBLE MT	3	cloudy	68.000	36.600	-0-	3.30	STH
08/02/85	MARBLE MT	3	cloudy	68.000	36.600	-0-	3.20	STH
08/02/85	MARBLE MT	3	cloudy	68.000	36.600	-0-	3.10	STH
08/02/85	MARBLE MT	3	cloudy	68.000	36.600	-0-	3.20	STH
08/02/85	MARBLE MT	3	cloudy	-0-	16.000	106.00	3.30	STH
08/02/85	MARBLE MT	3	cloudy	-0-	25.000	79.000	3.20	STH
08/02/85	MARBLE MT	3	cloudy	-0-	25.000	79.000	3.50	STH
08/02/85	MARBLE MT	3	cloudy	-0-	25.000	79.000	3.30	STH
08/02/85	MARBLE MT	3	cloudy	-0-	92.400	92.400	-0-	STH
08/02/85	MARBLE MT	3	cloudy	68.000	36.600	-0-	3.20	STH
08/02/85	MARBLE MT	3	cloudy	68.000	36.600	-0-	3.50	STH
08/02/85	MARBLE MT	3	cloudy	68.000	36.600	-0-	3.60	STH
08/02/85	MARBLE MT	3	cloudy	68.000	36.600	-0-	3.10	STH
08/02/85	MARBLE MT	3	cloudy	68.000	36.600	-0-	3.20	STH
08/02/85	MARBLE MT	3	cloudy	68.000	36.600	-0-	3.90	STH
08/02/85	MARBLE MT	3	cloudy	68.000	36.600	-0-	3.70	STH
08/02/85	MARBLE MT	3	cloudy	68.000	36.600	-0-	3.20	STH
08/02/85	MARBLE MT	3	cloudy	68.000	36.600	-0-	4.20	STH
08/02/85	MARBLE MT	3	cloudy	68.000	36.600	-0-	3.60	STH
08/02/85	MARBLE MT	3	cloudy	68.000	36.600	-0-	3.00	STH
08/02/85	MARBLE MT	3	cloudy	68.000	36.600	-0-	4.20	STH
08/02/85	MARBLE MT	3	cloudy	68.000	36.600	-0-	3.40	STH
08/02/85	MARBLE MT	3	cloudy	68.000	36.600	-0-	3.20	STH
08/02/85	MARBLE MT	3	cloudy	68.000	36.600	-0-	3.50	STH
08/02/85	MARBLE MT	3	cloudy	68.000	36.600	-0-	3.70	STH
08/02/85	MARBLE MT	3	cloudy	68.000	36.600	-0-	3.20	STH
08/02/85	MARBLE MT	3	cloudy	68.000	36.600	-0-	3.30	STH
08/02/85	MARBLE MT	3	cloudy	68.000	36.600	-0-	3.20	STH
08/02/85	MARBLE MT	3	cloudy	68.000	36.600	-0-	2.50	STH
08/02/85	MARBLE MT	3	cloudy	68.000	36.600	-0-	3.10	STH
08/02/85	MARBLE MT	3	cloudy	68.000	36.600	-0-	3.70	STH
08/02/85	MARBLE MT	3	cloudy	68.000	36.600	-0-	3.30	STH
08/02/85	MARBLE MT	3	cloudy	68.000	36.600	-0-	2.90	STH
08/02/85	MARBLE MT	3	cloudy	68.000	36.600	-0-	3.50	STH
08/02/85	MARBLE MT	3	cloudy	68.000	36.600	-0-	0.00	STH
08/02/85	MARBLE MT	3	cloudy	68.000	36.600	-0-	0.00	STH

NOTE: FOR EACH STRANDED FRY THERE IS ONE LINE OF DATA.

DATE OF STRAND	GRAVEL BAR LOCATION NAME	STATION NUMBER	WEATHER	FISH COORDINATE REFERENCE POINT 1 (FT)	FISH COORDINATE REFERENCE POINT 2 (FT)	FISH COORDINATE REFERENCE POINT 3 (FT)	FISH LENGTH (CM)	SPECIES STRANDED
08/02/85	OINK BAR	1	rainy	-0-	-0-	-0-	-0-	-0-
08/02/85	OINK BAR	2	rainy	-0-	-0-	-0-	-0-	-0-
08/02/85	OINK BAR	3	wet	-0-	-0-	-0-	-0-	-0-
08/02/85	ROCKPORT	1	RAINEY	-0-	78.200	30.400	-0-	-0-
08/02/85	ROCKPORT	1	RAINEY	-0-	93.100	16.300	-0-	-0-
08/02/85	ROCKPORT	1	RAINEY	-0-	81.800	23.400	-0-	-0-
08/02/85	ROCKPORT	1	RAINEY	-0-	70.400	33.600	-0-	-0-
08/02/85	ROCKPORT	1	RAINEY	-0-	65.600	37.000	-0-	-0-
08/02/85	ROCKPORT	1	RAINEY	-0-	57.600	42.800	-0-	-0-
08/02/85	ROCKPORT	1	RAINEY	-0-	53.800	46.700	-0-	-0-
08/02/85	ROCKPORT	1	RAINEY	-0-	51.800	99.000	-0-	-0-
08/02/85	ROCKPORT	1	RAINEY	-0-	50.000	50.600	-0-	-0-
08/02/85	ROCKPORT	1	RAINEY	-0-	44.800	56.900	-0-	-0-
08/02/85	ROCKPORT	1	RAINEY	-0-	42.200	59.000	-0-	-0-
08/02/85	ROCKPORT	1	RAINEY	-0-	41.600	60.000	-0-	-0-
08/02/85	ROCKPORT	1	RAINEY	-0-	41.700	60.000	-0-	-0-
08/02/85	ROCKPORT	1	RAINEY	-0-	38.400	63.700	-0-	-0-
08/02/85	ROCKPORT	1	RAINEY	-0-	34.500	66.400	-0-	-0-
08/02/85	ROCKPORT	1	RAINEY	-0-	33.200	68.300	-0-	-0-
08/02/85	ROCKPORT	1	RAINEY	-0-	27.300	74.700	-0-	-0-
08/02/85	ROCKPORT	1	RAINEY	-0-	9.8300	89.900	-0-	-0-
08/02/85	ROCKPORT	1	RAINEY	-0-	10.000	96.000	-0-	-0-
08/02/85	ROCKPORT	1	RAINEY	-0-	10.000	96.000	-0-	-0-
08/02/85	ROCKPORT	1	RAINEY	-0-	93.100	16.300	-0-	-0-
08/02/85	ROCKPORT	1	RAINEY	-0-	90.900	17.900	-0-	-0-
08/02/85	ROCKPORT	1	RAINEY	-0-	90.700	18.700	-0-	-0-
08/02/85	ROCKPORT	1	RAINEY	-0-	84.300	21.300	-0-	-0-
08/02/85	ROCKPORT	1	RAINEY	-0-	83.500	21.000	-0-	-0-
08/02/85	ROCKPORT	1	RAINEY	-0-	82.400	21.800	-0-	-0-
08/02/85	ROCKPORT	1	RAINEY	-0-	78.200	30.400	-0-	-0-
08/02/85	ROCKPORT	1	RAINEY	-0-	81.800	23.400	-0-	-0-
08/02/85	ROCKPORT	1	RAINEY	-0-	82.500	22.500	-0-	-0-
08/02/85	ROCKPORT	2	RAINEY	27.800	76.600	-0-	-0-	-0-
08/02/85	ROCKPORT	2	RAINEY	15.600	91.800	-0-	-0-	-0-
08/02/85	ROCKPORT	2	RAINEY	32.600	70.900	-0-	-0-	-0-
08/02/85	ROCKPORT	2	RAINEY	34.500	68.500	-0-	-0-	-0-
08/02/85	ROCKPORT	2	RAINEY	49.000	57.600	-0-	-0-	-0-
08/02/85	ROCKPORT	2	RAINEY	28.100	76.300	-0-	-0-	-0-
08/02/85	ROCKPORT	2	RAINEY	-0-	23.700	92.300	-0-	-0-
08/02/85	ROCKPORT	2	RAINEY	-0-	30.900	81.800	-0-	-0-
08/02/85	ROCKPORT	2	RAINEY	-0-	54.900	53.700	-0-	-0-
08/02/85	ROCKPORT	2	RAINEY	-0-	54.900	53.700	-0-	-0-
08/02/85	ROCKPORT	2	RAINEY	84.000	26.900	-0-	-0-	-0-
08/02/85	ROCKPORT	2	RAINEY	85.500	25.400	-0-	-0-	-0-
08/02/85	ROCKPORT	2	RAINEY	96.200	22.900	-0-	-0-	-0-
08/02/85	ROCKPORT	2	RAINEY	49.300	57.100	-0-	-0-	-0-
08/02/85	ROCKPORT	2	RAINEY	49.700	56.200	-0-	-0-	-0-
08/02/85	ROCKPORT	2	RAINEY	50.000	56.000	-0-	-0-	-0-
08/02/85	ROCKPORT	2	RAINEY	50.000	53.800	-0-	-0-	-0-
08/02/85	ROCKPORT	2	RAINEY	79.300	30.800	-0-	-0-	-0-
08/02/85	ROCKPORT	2	RAINEY	100.60	23.200	-0-	-0-	-0-

NOTE: FOR EACH STRANDED FRY THERE IS ONE LINE OF DATA.

DATE OF STRAND	GRAVEL BAR LOCATION NAME	STATION NUMBER	WEATHER	FISH COORDINATE REFERENCE POINT 1 (FT)	FISH COORDINATE REFERENCE POINT 2 (FT)	FISH COORDINATE REFERENCE POINT 3 (FT)	FISH LENGTH (CM)	SPECIES STRANDED
08/02/85	ROCKPORT	3	RAINEY	21.900	92.000	-0-	-0-	STH
08/02/85	ROCKPORT	3	RAINEY	-0-	74.400	47.100	-0-	STH
08/02/85	ROCKPORT	3	RAINEY	-0-	71.500	49.700	-0-	STH
08/03/85	BACON CR	1	rainy	-0-	98.700	23.800	3.10	STH
08/03/85	BACON CR	2	rainy	-0-	-0-	-0-	-0-	-0-
08/03/85	BACON CR	3	rainy	-0-	-0-	-0-	-0-	-0-
08/03/85	BAD SPOT	1	rainy	-0-	30.200	91.500	2.50	STH
08/03/85	BAD SPOT	2	rainy	-0-	91.500	37.600	2.80	STH
08/03/85	BAD SPOT	3	rainy	-0-	-0-	-0-	-0-	-0-
08/03/85	BAD SPOT	4	rainy	-0-	-0-	-0-	-0-	-0-
08/03/85	BIG EDDY	1	rainy	-0-	-0-	-0-	-0-	-0-
08/03/85	BIG EDDY	2	rainy	-0-	-0-	-0-	-0-	-0-
08/03/85	BIG EDDY	3	rainy	-0-	-0-	-0-	-0-	-0-
08/03/85	DIOBSUD CR	1	rainy	-0-	-0-	-0-	-0-	-0-
08/03/85	DIOBSUD CR	2	rainy	-0-	30.700	73.600	3.10	STH
08/03/85	FACE BAR	1	rainy	86.500	16.700	-0-	-0-	-0-
08/03/85	FACE BAR	1	rainy	-0-	17.100	87.800	-0-	-0-
08/03/85	FACE BAR	1	rainy	66.700	36.600	-0-	-0-	-0-
08/03/85	FACE BAR	1	rainy	71.800	30.800	-0-	-0-	-0-
08/03/85	FACE BAR	1	rainy	57.600	47.600	-0-	-0-	-0-
08/03/85	FACE BAR	1	rainy	59.000	42.200	-0-	-0-	-0-
08/03/85	FACE BAR	1	rainy	28.300	75.800	-0-	-0-	-0-
08/03/85	FACE BAR	1	rainy	24.300	76.600	-0-	-0-	-0-
08/03/85	FACE BAR	2	rainy	-0-	-0-	-0-	-0-	-0-
08/03/85	FACE BAR	3	rainy	-0-	-0-	-0-	-0-	-0-
08/03/85	FORBIDDEN	1	rainy	52.900	59.400	-0-	3.20	STH
08/03/85	FORBIDDEN	2	rainy	-0-	-0-	-0-	-0-	-0-
08/03/85	FORBIDDEN	3	CLEAR	0.0000	-0-	-0-	-0-	-0-
08/03/85	FUNGUS BAR	1	rainy	-0-	-0-	-0-	-0-	-0-
08/03/85	FUNGUS BAR	2	rainy	61.300	38.300	-0-	3.30	STH
08/03/85	FUNGUS BAR	2	rainy	68.900	30.900	-0-	4.40	STH
08/03/85	FUNGUS BAR	2	rainy	20.700	85.400	-0-	3.20	STH
08/03/85	FUNGUS BAR	2	rainy	57.200	42.600	-0-	3.30	STH
08/03/85	FUNGUS BAR	3	rainy	-0-	-0-	-0-	-0-	-0-
08/03/85	INACCESSIB	1	rainy	-0-	-0-	-0-	-0-	-0-
08/03/85	INACCESSIB	2	rainy	98.000	12.500	-0-	2.30	STH
08/03/85	INACCESSIB	3	rainy	-0-	-0-	-0-	-0-	-0-
08/03/85	MARBLE MT	1	CLEAR	0.0000	-0-	-0-	-0-	-0-
08/03/85	MARBLE MT	2	rainy	-0-	-0-	-0-	-0-	-0-
08/03/85	MARBLE MT	3	rainy	-0-	-0-	-0-	-0-	-0-
08/03/85	OINK BAR	1	rainy	-0-	-0-	-0-	-0-	-0-
08/03/85	OINK BAR	2	rainy	-0-	-0-	-0-	-0-	-0-
08/03/85	OINK BAR	3	rainy	-0-	-0-	-0-	-0-	-0-
08/03/85	ROCKPORT	1	CLOUDY	39.700	58.500	-0-	2.90	STH
08/03/85	ROCKPORT	2	CLOUDY	85.000	29.700	-0-	2.90	STH
08/03/85	ROCKPORT	3	CLOUDY	-0-	-0-	-0-	-0-	-0-
08/03/85	WAYNE SWIM	1	rainy	35.800	66.000	-0-	-0-	sth
08/03/85	WAYNE SWIM	2	rainy	-0-	-0-	-0-	-0-	-0-
08/04/85	BACON CR	1	RAINY	78.700	50.700	-0-	3.10	STH
08/04/85	BACON CR	2	RAINY	-0-	-0-	-0-	-0-	-0-
08/04/85	BACON CR	3	RAINY	-0-	-0-	-0-	-0-	-0-

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DATE OF STRAND	GRAVEL BAR LOCATION NAME	STATION NUMBER	WEATHER	FISH COORDINATE REFERENCE POINT 1 (FT)	FISH COORDINATE REFERENCE POINT 2 (FT)	FISH COORDINATE REFERENCE POINT 3 (FT)	FISH LENGTH (CM)	SPECIES STRANDED
08/04/85	BAD SPOT	1	RAINY	-0-	30.700	90.000	2.90	STH
08/04/85	BAD SPOT	1	RAINY	-0-	51.500	59.000	2.70	STH
08/04/85	BAD SPOT	1	RAINY	50.300	84.500	-0-	3.00	STH
08/04/85	BAD SPOT	1	RAINY	-0-	37.300	88.000	3.20	STH
08/04/85	BAD SPOT	2	RAINY	-0-	30.300	100.00	2.90	STH
08/04/85	BAD SPOT	2	RAINY	97.000	42.000	-0-	3.00	STH
08/04/85	BAD SPOT	2	RAINY	-0-	74.000	37.700	2.90	STH
08/04/85	BAD SPOT	2	RAINY	-0-	29.800	96.600	3.10	STH
08/04/85	BAD SPOT	2	RAINY	-0-	30.300	100.00	3.10	STH
08/04/85	BAD SPOT	2	RAINY	-0-	61.900	57.600	-0-	STH
08/04/85	BAD SPOT	3	RAINY	-0-	85.600	47.000	2.80	STH
08/04/85	BAD SPOT	3	RAINY	-0-	95.500	44.200	-0-	STH
08/04/85	BAD SPOT	3	RAINY	-0-	85.600	47.000	3.10	STH
08/04/85	BAD SPOT	3	RAINY	-0-	85.600	47.000	2.80	STH
08/04/85	BAD SPOT	3	RAINY	-0-	99.200	39.300	-0-	STH
08/04/85	BAD SPOT	3	RAINY	-0-	85.600	47.000	-0-	STH
08/04/85	BAD SPOT	4	RAINY	-0-	-0-	-0-	-0-	-0-
08/04/85	BIG EDDY	1	RAINY	52.300	66.900	-0-	3.00	STH
08/04/85	BIG EDDY	1	RAINY	-0-	41.400	75.000	3.20	STH
08/04/85	BIG EDDY	1	RAINY	66.900	45.700	-0-	3.00	STH
08/04/85	BIG EDDY	1	RAINY	75.500	46.100	-0-	3.20	STH
08/04/85	BIG EDDY	1	RAINY	50.700	72.500	-0-	3.00	STH
08/04/85	BIG EDDY	1	RAINY	79.600	40.900	-0-	2.90	STH
08/04/85	BIG EDDY	2	RAINY	79.400	33.200	-0-	3.10	STH
08/04/85	BIG EDDY	2	RAINY	68.700	43.600	-0-	3.30	STH
08/04/85	BIG EDDY	2	RAINY	-0-	31.600	83.400	3.30	STH
08/04/85	BIG EDDY	3	RAINY	-0-	-0-	-0-	-0-	-0-
08/04/85	DIOBSUD CR	1	RAINY	42.500	105.00	-0-	3.30	STH
08/04/85	DIOBSUD CR	1	RAINY	-0-	73.000	53.600	3.20	STH
08/04/85	DIOBSUD CR	1	RAINY	-0-	76.000	53.000	-0-	STH
08/04/85	DIOBSUD CR	1	RAINY	-0-	79.000	53.000	-0-	STH
08/04/85	DIOBSUD CR	1	RAINY	-0-	79.000	55.000	-0-	STH
08/04/85	DIOBSUD CR	1	RAINY	-0-	79.000	55.000	-0-	STH
08/04/85	DIOBSUD CR	1	RAINY	60.000	57.700	-0-	2.90	STH
08/04/85	DIOBSUD CR	1	RAINY	40.800	102.00	-0-	2.80	STH
08/04/85	DIOBSUD CR	1	RAINY	45.000	103.00	-0-	3.10	STH
08/04/85	DIOBSUD CR	1	RAINY	45.000	103.00	-0-	-0-	STH
08/04/85	DIOBSUD CR	1	RAINY	-0-	79.000	55.000	3.00	STH
08/04/85	DIOBSUD CR	1	RAINY	42.500	105.00	-0-	3.50	STH
08/04/85	DIOBSUD CR	1	RAINY	42.500	105.00	-0-	3.40	STH
08/04/85	DIOBSUD CR	1	RAINY	42.500	105.00	-0-	2.70	STH
08/04/85	DIOBSUD CR	1	RAINY	42.500	105.00	-0-	3.00	STH
08/04/85	DIOBSUD CR	1	RAINY	-0-	73.000	53.600	-0-	STH
08/04/85	DIOBSUD CR	1	RAINY	-0-	70.000	53.800	2.70	STH
08/04/85	DIOBSUD CR	1	RAINY	-0-	70.000	53.800	2.90	STH
08/04/85	DIOBSUD CR	1	RAINY	-0-	76.000	53.000	-0-	STH
08/04/85	DIOBSUD CR	1	RAINY	-0-	76.000	53.000	-0-	STH
08/04/85	DIOBSUD CR	1	RAINY	-0-	76.000	53.000	-0-	STH
08/04/85	DIOBSUD CR	1	RAINY	-0-	76.000	53.000	-0-	STH
08/04/85	DIOBSUD CR	1	RAINY	-0-	76.000	53.000	-0-	STH
08/04/85	DIOBSUD CR	1	RAINY	-0-	79.000	55.000	-0-	STH
08/04/85	DIOBSUD CR	1	RAINY	-0-	76.000	53.000	2.70	STH

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DATE OF STRAND	GRAVEL BAR LOCATION NAME	STATION NUMBER	WEATHER	FISH COORDINATE REFERENCE POINT 1 (FT)	FISH COORDINATE REFERENCE POINT 2 (FT)	FISH COORDINATE REFERENCE POINT 3 (FT)	FISH LENGTH (CM)	SPECIES STRANDED
08/04/85	DIOBSUD CR	1	RAINY	40.800	102.00	-0-	3.20	STH
08/04/85	DIOBSUD CR	1	RAINY	40.800	102.00	-0-	3.10	STH
08/04/85	DIOBSUD CR	1	RAINY	42.500	105.00	-0-	3.20	STH
08/04/85	DIOBSUD CR	1	RAINY	-0-	73.000	53.600	-0-	STH
08/04/85	DIOBSUD CR	2	RAINY	31.000	89.700	-0-	2.80	STH
08/04/85	DIOBSUD CR	2	RAINY	30.500	78.000	-0-	3.40	STH
08/04/85	DIOBSUD CR	2	RAINY	20.500	81.000	-0-	2.90	STH
08/04/85	DIOBSUD CR	2	RAINY	36.500	77.000	-0-	3.20	STH
08/04/85	DIOBSUD CR	2	RAINY	27.000	87.600	-0-	3.50	STH
08/04/85	DIOBSUD CR	2	RAINY	31.000	78.000	-0-	2.80	STH
08/04/85	FACE BAR	1	RAINY	-0-	47.000	53.600	3.10	STH
08/04/85	FACE BAR	1	RAINY	89.500	23.000	-0-	3.00	STH
08/04/85	FACE BAR	1	RAINY	-0-	43.800	56.000	3.00	STH
08/04/85	FACE BAR	1	RAINY	101.90	25.600	-0-	2.90	STH
08/04/85	FACE BAR	1	RAINY	101.10	23.10	-0-	3.00	STH
08/04/85	FACE BAR	1	RAINY	77.100	25.800	-0-	3.50	STH
08/04/85	FACE BAR	1	RAINY	77.400	29.600	-0-	3.50	STH
08/04/85	FACE BAR	1	RAINY	78.300	31.300	-0-	3.50	STH
08/04/85	FACE BAR	1	RAINY	85.000	23.500	-0-	3.20	STH
08/04/85	FACE BAR	1	RAINY	26.400	77.400	-0-	3.10	STH
08/04/85	FACE BAR	1	RAINY	42.600	62.900	-0-	3.50	STH
08/04/85	FACE BAR	1	RAINY	51.700	54.000	-0-	3.10	STH
08/04/85	FACE BAR	1	RAINY	71.200	35.500	-0-	3.40	STH
08/04/85	FACE BAR	1	RAINY	-0-	69.600	47.100	3.40	STH
08/04/85	FACE BAR	1	RAINY	-0-	76.600	23.500	3.10	STH
08/04/85	FACE BAR	1	RAINY	-0-	35.400	65.700	3.50	STH
08/04/85	FACE BAR	1	RAINY	-0-	40.600	63.500	3.00	STH
08/04/85	FACE BAR	1	RAINY	-0-	38.200	62.900	3.50	STH
08/04/85	FACE BAR	1	RAINY	-0-	35.100	65.700	3.40	STH
08/04/85	FACE BAR	1	RAINY	-0-	12.000	97.900	2.70	STH
08/04/85	FACE BAR	1	RAINY	102.50	21.100	-0-	3.20	STH
08/04/85	FACE BAR	1	RAINY	-0-	47.500	53.300	3.00	STH
08/04/85	FACE BAR	2	RAINY	-0-	-0-	-0-	-0-	-0-
08/04/85	FACE BAR	3	RAINY	-0-	-0-	-0-	-0-	-0-
08/04/85	FORBIDDEN	1	RAINY	66.800	59.800	-0-	3.00	STH
08/04/85	FORBIDDEN	1	RAINY	64.200	47.900	-0-	3.30	STH
08/04/85	FORBIDDEN	1	RAINY	33.100	98.500	-0-	3.30	STH
08/04/85	FORBIDDEN	2	RAINY	-0-	-0-	-0-	-0-	-0-
08/04/85	FORBIDDEN	3	RAINY	-0-	25.100	85.200	4.60	STH
08/04/85	FORBIDDEN	3	RAINY	-0-	94.600	15.600	3.50	STH
08/04/85	FORBIDDEN	3	RAINY	28.400	78.600	-0-	3.30	STH
08/04/85	FUNGUS BAR	1	RAINY	-0-	98.000	37.900	-0-	-0-
08/04/85	FUNGUS BAR	1	RAINY	-0-	78.700	45.500	-0-	-0-
08/04/85	FUNGUS BAR	1	RAINY	-0-	40.500	75.500	-0-	-0-
08/04/85	FUNGUS BAR	1	RAINY	-0-	67.400	31.100	-0-	-0-
08/04/85	FUNGUS BAR	1	RAINY	-0-	35.100	95.500	-0-	-0-
08/04/85	FUNGUS BAR	1	RAINY	-0-	36.000	96.300	-0-	-0-
08/04/85	FUNGUS BAR	1	RAINY	-0-	77.400	34.800	-0-	-0-
08/04/85	FUNGUS BAR	2	RAINY	-0-	60.400	41.700	-0-	-0-
08/04/85	FUNGUS BAR	2	RAINY	83.000	44.900	-0-	-0-	-0-
08/04/85	FUNGUS BAR	2	RAINY	24.800	75.100	-0-	-0-	-0-

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DATE OF STRAND	GRAVEL BAR LOCATION NAME	STATION NUMBER	WEATHER	FISH COORDINATE REFERENCE POINT 1 (FT)	FISH COORDINATE REFERENCE POINT 2 (FT)	FISH COORDINATE REFERENCE POINT 3 (FT)	FISH LENGTH (CM)	SPECIES STRANDED
08/04/85	FUNGUS BAR	2	RAINY	102.10	31.900	-0-	-0-	-0-
08/04/85	FUNGUS BAR	2	RAINY	-0-	43.500	58.000	-0-	-0-
08/04/85	FUNGUS BAR	2	RAINY	83.000	39.900	-0-	-0-	-0-
08/04/85	FUNGUS BAR	2	RAINY	92.900	42.500	-0-	-0-	-0-
08/04/85	FUNGUS BAR	2	RAINY	-0-	80.600	32.800	-0-	-0-
08/04/85	FUNGUS BAR	2	RAINY	60.100	58.800	-0-	-0-	-0-
08/04/85	FUNGUS BAR	2	RAINY	39.600	64.800	-0-	-0-	-0-
08/04/85	FUNGUS BAR	2	RAINY	64.300	41.600	-0-	-0-	-0-
08/04/85	FUNGUS BAR	2	RAINY	32.900	73.400	-0-	-0-	-0-
08/04/85	FUNGUS BAR	2	RAINY	28.600	76.800	-0-	-0-	-0-
08/04/85	FUNGUS BAR	2	RAINY	28.800	76.800	-0-	-0-	-0-
08/04/85	FUNGUS BAR	2	RAINY	81.200	24.600	-0-	-0-	-0-
08/04/85	FUNGUS BAR	2	RAINY	23.900	90.100	-0-	-0-	-0-
08/04/85	FUNGUS BAR	2	RAINY	-0-	34.000	73.000	-0-	-0-
08/04/85	FUNGUS BAR	2	RAINY	-0-	33.400	72.800	-0-	-0-
08/04/85	FUNGUS BAR	2	RAINY	-0-	33.400	72.800	-0-	-0-
08/04/85	FUNGUS BAR	2	RAINY	-0-	43.900	65.100	-0-	-0-
08/04/85	FUNGUS BAR	2	RAINY	-0-	93.500	75.800	-0-	-0-
08/04/85	FUNGUS BAR	2	RAINY	23.900	100.20	-0-	-0-	-0-
08/04/85	FUNGUS BAR	2	RAINY	-0-	71.800	31.500	-0-	-0-
08/04/85	FUNGUS BAR	2	RAINY	15.000	85.200	-0-	-0-	-0-
08/04/85	FUNGUS BAR	2	RAINY	42.500	64.200	-0-	-0-	-0-
08/04/85	FUNGUS BAR	2	RAINY	20.100	87.700	-0-	-0-	-0-
08/04/85	FUNGUS BAR	3	RAINY	-0-	90.200	27.000	-0-	-0-
08/04/85	FUNGUS BAR	3	RAINY	28.000	103.60	-0-	-0-	-0-
08/04/85	FUNGUS BAR	3	RAINY	-0-	49.400	63.200	-0-	-0-
08/04/85	FUNGUS BAR	3	RAINY	-0-	87.000	28.100	-0-	-0-
08/04/85	FUNGUS BAR	3	RAINY	49.600	64.600	-0-	-0-	-0-
08/04/85	INACCESSIB	1	RAINY	15.000	85.000	-0-	-0-	-0-
08/04/85	INACCESSIB	1	RAINY	-0-	80.300	22.800	-0-	-0-
08/04/85	INACCESSIB	1	RAINY	-0-	10.200	101.20	-0-	-0-
08/04/85	INACCESSIB	1	RAINY	-0-	80.400	22.700	-0-	-0-
08/04/85	INACCESSIB	1	RAINY	-0-	79.200	23.700	-0-	-0-
08/04/85	INACCESSIB	2	RAINY	-0-	28.300	99.100	-0-	-0-
08/04/85	INACCESSIB	2	RAINY	-0-	42.200	103.00	-0-	-0-
08/04/85	INACCESSIB	2	RAINY	-0-	15.800	99.400	-0-	-0-
08/04/85	INACCESSIB	3	RAINY	-0-	-0-	-0-	-0-	-0-
08/04/85	MARBLE MT	1	RAINY	-0-	68.400	50.700	-0-	-0-
08/04/85	MARBLE MT	1	RAINY	65.200	48.300	-0-	-0-	-0-
08/04/85	MARBLE MT	1	RAINY	51.700	62.200	-0-	-0-	-0-
08/04/85	MARBLE MT	1	RAINY	79.800	23.200	-0-	-0-	-0-
08/04/85	MARBLE MT	1	RAINY	88.600	14.800	-0-	-0-	-0-
08/04/85	MARBLE MT	1	RAINY	-0-	20.000	105.00	-0-	-0-
08/04/85	MARBLE MT	1	RAINY	-0-	19.800	102.40	-0-	-0-
08/04/85	MARBLE MT	1	RAINY	-0-	18.400	100.70	-0-	-0-
08/04/85	MARBLE MT	1	RAINY	-0-	15.400	97.500	-0-	-0-
08/04/85	MARBLE MT	1	RAINY	-0-	53.700	80.300	-0-	-0-
08/04/85	MARBLE MT	1	RAINY	-0-	43.000	74.800	-0-	-0-
08/04/85	MARBLE MT	1	RAINY	-0-	49.700	71.400	-0-	-0-
08/04/85	MARBLE MT	1	RAINY	-0-	50.100	69.400	-0-	-0-
08/04/85	MARBLE MT	1	RAINY	-0-	47.300	65.600	-0-	-0-

NOTE: FOR EACH STRANDED FRY THERE IS ONE LINE OF DATA.

DATE OF STRAND	GRAVEL BAR LOCATION NAME	STATION NUMBER	WEATHER	FISH COORDINATE REFERENCE POINT 1 (FT)	FISH COORDINATE REFERENCE POINT 2 (FT)	FISH COORDINATE REFERENCE POINT 3 (FT)	FISH LENGTH (CM)	SPECIES STRANDED
08/04/85	MARBLE MT	1	RAINY	62.600	43.500	-0-	-0-	-0-
08/04/85	MARBLE MT	1	RAINY	75.600	24.400	-0-	-0-	-0-
08/04/85	MARBLE MT	1	RAINY	76.500	24.000	-0-	-0-	-0-
08/04/85	MARBLE MT	1	RAINY	80.200	21.400	-0-	-0-	-0-
08/04/85	MARBLE MT	1	RAINY	78.800	23.700	-0-	-0-	-0-
08/04/85	MARBLE MT	1	RAINY	-0-	51.400	62.400	-0-	-0-
08/04/85	MARBLE MT	2	RAINY	35.800	66.400	-0-	-0-	-0-
08/04/85	MARBLE MT	2	RAINY	-0-	45.200	58.600	-0-	-0-
08/04/85	MARBLE MT	2	RAINY	-0-	17.800	84.200	-0-	-0-
08/04/85	MARBLE MT	2	RAINY	-0-	63.500	36.700	-0-	-0-
08/04/85	MARBLE MT	2	RAINY	-0-	63.500	36.700	-0-	-0-
08/04/85	MARBLE MT	2	RAINY	7.4000	94.400	-0-	-0-	-0-
08/04/85	MARBLE MT	2	RAINY	28.700	73.600	-0-	-0-	-0-
08/04/85	MARBLE MT	2	RAINY	5.0000	99.800	-0-	-0-	-0-
08/04/85	MARBLE MT	2	RAINY	-0-	45.200	58.600	-0-	-0-
08/04/85	MARBLE MT	3	RAINY	-0-	19.700	81.000	-0-	-0-
08/04/85	MARBLE MT	3	RAINY	-0-	23.200	77.300	-0-	-0-
08/04/85	MARBLE MT	3	RAINY	-0-	34.900	65.300	-0-	-0-
08/04/85	MARBLE MT	3	RAINY	-0-	22.400	78.400	-0-	-0-
08/04/85	MARBLE MT	3	RAINY	20.300	80.300	-0-	-0-	-0-
08/04/85	MARBLE MT	3	RAINY	25.800	73.800	-0-	-0-	-0-
08/04/85	MARBLE MT	3	RAINY	-0-	32.300	67.600	-0-	-0-
08/04/85	OINK BAR	1	RAINY	-0-	61.200	59.800	3.50	STH
08/04/85	OINK BAR	1	RAINY	-0-	38.800	90.300	3.30	STH
08/04/85	OINK BAR	1	RAINY	-0-	50.000	72.500	3.00	STH
08/04/85	OINK BAR	1	RAINY	-0-	34.200	93.600	3.60	STH
08/04/85	OINK BAR	1	RAINY	-0-	24.500	94.800	3.10	STH
08/04/85	OINK BAR	1	RAINY	94.000	31.800	-0-	3.00	STH
08/04/85	OINK BAR	1	RAINY	72.700	49.500	-0-	3.40	STH
08/04/85	OINK BAR	1	RAINY	-0-	43.000	96.700	3.20	STH
08/04/85	OINK BAR	2	RAINY	-0-	73.000	45.500	3.50	STH
08/04/85	OINK BAR	2	RAINY	-0-	40.500	86.800	3.00	STH
08/04/85	OINK BAR	2	RAINY	-0-	66.700	40.800	3.30	STH
08/04/85	OINK BAR	2	RAINY	88.000	18.000	-0-	3.60	STH
08/04/85	OINK BAR	2	RAINY	91.500	32.500	-0-	3.80	STH
08/04/85	OINK BAR	2	RAINY	89.000	30.600	-0-	3.20	STH
08/04/85	OINK BAR	2	RAINY	43.400	117.50	-0-	3.70	STH
08/04/85	OINK BAR	2	RAINY	-0-	20.600	95.500	3.20	STH
08/04/85	OINK BAR	3	RAINY	-0-	26.600	76.300	3.50	STH
08/04/85	OINK BAR	3	RAINY	93.500	30.800	-0-	2.30	STH
08/04/85	OINK BAR	3	RAINY	93.200	29.000	-0-	3.20	STH
08/04/85	OINK BAR	3	RAINY	88.700	30.400	-0-	3.20	STH
08/04/85	OINK BAR	3	RAINY	89.700	30.000	-0-	3.50	STH
08/04/85	OINK BAR	3	RAINY	87.500	38.000	-0-	3.60	STH
08/04/85	OINK BAR	3	RAINY	86.400	33.100	-0-	3.50	STH
08/04/85	OINK BAR	3	RAINY	82.400	34.700	-0-	3.40	STH
08/04/85	OINK BAR	3	RAINY	81.700	35.200	-0-	3.10	STH
08/04/85	OINK BAR	3	RAINY	76.900	38.800	-0-	3.70	STH
08/04/85	OINK BAR	3	RAINY	91.700	30.500	-0-	3.30	STH
08/04/85	OINK BAR	3	RAINY	40.000	82.900	-0-	3.20	STH
08/04/85	OINK BAR	3	RAINY	38.400	89.000	-0-	3.10	STH

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DATE OF STRAND	GRAVEL BAR LOCATION NAME	STATION NUMBER	WEATHER	FISH COORDINATE REFERENCE POINT 1 (FT)	FISH COORDINATE REFERENCE POINT 2 (FT)	FISH COORDINATE REFERENCE POINT 3 (FT)	FISH LENGTH (CM)	SPECIES STRANDED
08/04/85	DINK BAR	3	RAINY	71.300	40.600	-0-	3.10	STH
08/04/85	ROCKPORT	1	CLOUDY	31.100	75.200	-0-	3.50	STH
08/04/85	ROCKPORT	1	CLOUDY	96.800	29.900	-0-	3.20	STH
08/04/85	ROCKPORT	1	CLOUDY	-0-	56.500	52.900	3.60	STH
08/04/85	ROCKPORT	1	CLOUDY	73.400	41.200	-0-	3.60	STH
08/04/85	ROCKPORT	2	CLOUDY	38.100	101.30	-0-	3.50	STH
08/04/85	ROCKPORT	2	CLOUDY	-0-	99.600	40.600	2.80	STH
08/04/85	ROCKPORT	2	CLOUDY	42.900	88.700	-0-	3.20	STH
08/04/85	ROCKPORT	3	CLOUDY	60.700	70.200	-0-	3.10	STH
08/04/85	ROCKPORT	3	CLOUDY	40.300	92.800	-0-	3.50	STH
08/04/85	WAYNE SWIM	1	RAINY	0.0000	-0-	-0-	-0-	-0-
08/04/85	WAYNE SWIM	2	RAINY	0.0000	-0-	-0-	-0-	-0-
08/05/85	BACON CR	1	CLEAR DRY	-0-	-0-	-0-	-0-	-0-
08/05/85	BACON CR	2	CLEAR DRY	-0-	-0-	-0-	-0-	-0-
08/05/85	BACON CR	3	CL AR DRY	-0-	-0-	-0-	-0-	-0-
08/05/85	BAD SPOT	1	SUN / DRY	75.000	46.500	-0-	3.30	STH
08/05/85	BAD SPOT	1	SUN / DRY	95.000	37.300	-0-	3.00	STH
08/05/85	BAD SPOT	2	SUN / DRY	-0-	29.500	101.00	3.10	STH
08/05/85	BAD SPOT	2	SUN / DRY	-0-	63.900	50.800	2.90	STH
08/05/85	BAD SPOT	2	SUN / DRY	-0-	50.000	69.800	3.20	STH
08/05/85	BAD SPOT	3	SUN / DRY	-0-	-0-	-0-	-0-	-0-
08/05/85	BAD SPOT	4	SUN / DRY	-0-	-0-	-0-	-0-	-0-
08/05/85	BIG EDDY	1	SUN / DRY	59.300	72.700	-0-	3.20	STH
08/05/85	BIG EDDY	1	SUN / DRY	37.200	99.700	-0-	3.20	STH
08/05/85	BIG EDDY	2	SUN / DRY	-0-	-0-	-0-	-0-	-0-
08/05/85	BIG EDDY	3	SUN / DRY	-0-	-0-	-0-	-0-	-0-
08/05/85	DIOBSUD CR	1	CLEAR DRY	47.900	106.60	-0-	3.20	STH
08/05/85	DIOBSUD CR	1	CLEAR DRY	47.900	106.60	-0-	3.10	STH
08/05/85	DIOBSUD CR	1	CLEAR DRY	46.700	109.00	-0-	3.10	STH
08/05/85	DIOBSUD CR	1	CLEAR DRY	40.700	107.70	-0-	3.10	STH
08/05/85	DIOBSUD CR	1	CLEAR DRY	38.800	106.20	-0-	3.20	STH
08/05/85	DIOBSUD CR	1	CLEAR DRY	48.100	105.70	-0-	3.30	STH
08/05/85	DIOBSUD CR	1	CLEAR DRY	43.000	106.80	-0-	3.20	STH
08/05/85	DIOBSUD CR	1	CLEAR DRY	32.600	94.200	-0-	3.50	STH
08/05/85	DIOBSUD CR	1	CLEAR DRY	42.300	96.400	-0-	3.00	STH
08/05/85	DIOBSUD CR	1	CLEAR DRY	36.500	92.300	-0-	3.20	STH
08/05/85	DIOBSUD CR	1	CLEAR DRY	35.700	104.30	-0-	2.90	STH
08/05/85	DIOBSUD CR	1	CLEAR DRY	42.700	106.40	-0-	2.90	STH
08/05/85	DIOBSUD CR	1	CLEAR DRY	42.400	105.60	-0-	3.20	STH
08/05/85	DIOBSUD CR	1	CLEAR DRY	42.400	105.60	-0-	3.10	STH
08/05/85	DIOBSUD CR	1	CLEAR DRY	42.400	106.70	-0-	3.20	STH
08/05/85	DIOBSUD CR	1	CLEAR DRY	57.700	65.900	-0-	3.20	STH
08/05/85	DIOBSUD CR	1	CLEAR DRY	59.100	63.800	-0-	3.20	STH
08/05/85	DIOBSUD CR	1	CLEAR DRY	53.800	60.700	-0-	2.80	STH
08/05/85	DIOBSUD CR	1	CLEAR DRY	54.600	67.500	-0-	3.30	STH
08/05/85	DIOBSUD CR	1	CLEAR DRY	44.500	-0-	-0-	3.20	STH
08/05/85	DIOBSUD CR	1	CLEAR DRY	-0-	-0-	-0-	3.00	STH
08/05/85	DIOBSUD CR	1	CLEAR DRY	41.200	107.90	-0-	2.90	STH
08/05/85	DIOBSUD CR	1	CLEAR DRY	62.300	50.900	-0-	3.50	STH
08/05/85	DIOBSUD CR	1	CLEAR DRY	72.800	57.200	-0-	3.30	STH
08/05/85	DIOBSUD CR	1	CLEAR DRY	52.500	111.10	-0-	3.20	STH

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DATE OF STRAND	GRAVEL BAR LOCATION NAME	STATION NUMBER	WEATHER	FISH COORDINATE REFERENCE POINT 1 (FT)	FISH COORDINATE REFERENCE POINT 2 (FT)	FISH COORDINATE REFERENCE POINT 3 (FT)	FISH LENGTH (CM)	SPECIES STRANDED
08/05/85	DIOBSUD CR	1	CLEAR DRY	42.200	99.900	-0-	3.20	STH
08/05/85	DIOBSUD CR	1	CLEAR DRY	40.800	100.80	-0-	3.50	STH
08/05/85	DIOBSUD CR	1	CLEAR DRY	40.100	102.90	-0-	3.20	STH
08/05/85	DIOBSUD CR	1	CLEAR DRY	35.700	100.20	-0-	3.00	STH
08/05/85	DIOBSUD CR	1	CLEAR DRY	46.200	94.000	-0-	3.20	STH
08/05/85	DIOBSUD CR	1	CLEAR DRY	74.500	94.800	-0-	3.60	STH
08/05/85	DIOBSUD CR	1	CLEAR DRY	48.700	76.000	-0-	-0-	STH
08/05/85	DIOBSUD CR	1	CLEAR DRY	51.000	75.300	-0-	-0-	STH
08/05/85	DIOBSUD CR	1	CLEAR DRY	47.100	77.300	-0-	-0-	STH
08/05/85	DIOBSUD CR	1	CLEAR DRY	49.400	70.900	-0-	3.30	STH
08/05/85	DIOBSUD CR	1	CLEAR DRY	41.100	89.430	-0-	3.00	STH
08/05/85	DIOBSUD CR	1	CLEAR DRY	50.700	77.300	-0-	-0-	STH
08/05/85	DIOBSUD CR	1	CLEAR DRY	49.300	77.300	-0-	-0-	STH
08/05/85	DIOBSUD CR	1	CLEAR DRY	49.300	77.300	-0-	-0-	STH
08/05/85	DIOBSUD CR	1	CLEAR DRY	50.100	105.00	-0-	3.50	STH
08/05/85	DIOBSUD CR	1	CLEAR DRY	72.800	57.200	-0-	-0-	STH
08/05/85	DIOBSUD CR	1	CLEAR DRY	74.800	51.600	-0-	3.10	STH
08/05/85	DIOBSUD CR	1	CLEAR DRY	70.200	51.000	-0-	3.20	STH
08/05/85	DIOBSUD CR	1	CLEAR DRY	51.000	70.300	-0-	3.10	STH
08/05/85	DIOBSUD CR	1	CLEAR DRY	55.500	72.800	-0-	3.20	STH
08/05/85	DIOBSUD CR	1	CLEAR DRY	60.100	73.300	-0-	3.20	STH
08/05/85	DIOBSUD CR	1	CLEAR DRY	50.600	66.200	-0-	3.50	STH
08/05/85	DIOBSUD CR	1	CLEAR DRY	42.400	106.40	-0-	3.30	STH
08/05/85	DIOBSUD CR	1	CLEAR DRY	42.500	106.80	-0-	3.50	STH
08/05/85	DIOBSUD CR	1	CLEAR DRY	42.800	106.00	-0-	3.30	STH
08/05/85	DIOBSUD CR	1	CLEAR DRY	42.700	106.40	-0-	3.00	STH
08/05/85	DIOBSUD CR	1	CLEAR DRY	58.000	54.000	-0-	3.50	STH
08/05/85	DIOBSUD CR	1	CLEAR DRY	58.000	54.000	-0-	-0-	STH
08/05/85	DIOBSUD CR	1	CLEAR DRY	63.400	48.800	-0-	3.20	STH
08/05/85	DIOBSUD CR	1	CLEAR DRY	50.200	105.00	-0-	3.00	STH
08/05/85	DIOBSUD CR	1	CLEAR DRY	75.700	39.500	-0-	3.20	STH
08/05/85	DIOBSUD CR	1	CLEAR DRY	74.500	44.000	-0-	3.30	STH
08/05/85	DIOBSUD CR	1	CLEAR DRY	-0-	-0-	-0-	3.00	STH
08/05/85	DIOBSUD CR	2	CLEAR DRY	-0-	-0-	-0-	-0-	-0-
08/05/85	FACE BAR	1	CLEAR DRY	74.400	48.500	-0-	3.60	STH
08/05/85	FACE BAR	1	CLEAR DRY	92.200	45.300	-0-	3.50	STH
08/05/85	FACE BAR	1	CLEAR DRY	94.700	39.000	-0-	3.40	STH
08/05/85	FACE BAR	1	CLEAR DRY	98.500	31.700	-0-	3.40	STH
08/05/85	FACE BAR	1	CLEAR DRY	47.600	68.200	-0-	3.70	STH
08/05/85	FACE BAR	1	CLEAR DRY	-0-	50.100	61.200	3.60	STH
08/05/85	FACE BAR	1	CLEAR DRY	78.100	43.100	-0-	3.70	STH
08/05/85	FACE BAR	1	CLEAR DRY	-0-	32.700	89.000	3.20	STH
08/05/85	FACE BAR	1	CLEAR DRY	-0-	29.500	95.400	3.70	STH
08/05/85	FACE BAR	1	CLEAR DRY	46.300	68.300	-0-	3.30	STH
08/05/85	FACE BAR	1	CLEAR DRY	-0-	45.100	69.400	3.50	STH
08/05/85	FACE BAR	1	CLEAR DRY	99.200	29.900	-0-	3.70	STH
08/05/85	FACE BAR	1	CLEAR DRY	99.700	28.700	-0-	3.30	STH
08/05/85	FACE BAR	1	CLEAR DRY	49.000	78.200	-0-	3.30	STH
08/05/85	FACE BAR	2	CLEAR DRY	56.700	60.700	-0-	3.20	STH
08/05/85	FACE BAR	2	CLEAR DRY	33.000	73.400	-0-	3.70	STH
08/05/85	FACE BAR	3	CLEAR DRY	-0-	-0-	-0-	-0-	-0-

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DATE OF STRAND	GRAVEL BAR LOCATION NAME	STATION NUMBER	WEATHER	FISH COORDINATE REFERENCE POINT 1 (FT)	FISH COORDINATE REFERENCE POINT 2 (FT)	FISH COORDINATE REFERENCE POINT 3 (FT)	FISH LENGTH (CM)	SPECIES STRANDED
08/05/85	FORBIDDEN	1	SUN / DRY	45.300	72.000	-0-	2.50	STH
08/05/85	FORBIDDEN	1	SUN / DRY	44.000	78.000	-0-	2.70	STH
08/05/85	FORBIDDEN	1	SUN / DRY	42.000	65.000	-0-	3.20	STH
08/05/85	FORBIDDEN	2	SUN / DRY	-0-	-0-	-0-	-0-	-0-
08/05/85	FORBIDDEN	3	SUN / DRY	-0-	-0-	-0-	-0-	-0-
08/05/85	FUNGUS BAR	1	SUN / DRY	30.700	71.000	-0-	3.50	STH
08/05/85	FUNGUS BAR	2	CLEAR DRY	-0-	72.100	42.500	4.00	STH
08/05/85	FUNGUS BAR	2	CLEAR DRY	-0-	33.700	96.300	3.20	STH
08/05/85	FUNGUS BAR	2	CLEAR DRY	37.800	68.400	-0-	3.30	STH
08/05/85	FUNGUS BAR	2	CLEAR DRY	-0-	101.80	24.700	3.30	STH
08/05/85	FUNGUS BAR	2	CLEAR DRY	-0-	71.200	40.900	3.10	STH
08/05/85	FUNGUS BAR	2	CLEAR DRY	-0-	72.400	43.000	3.00	STH
08/05/85	FUNGUS BAR	2	CLEAR DRY	-0-	69.800	44.600	3.20	STH
08/05/85	FUNGUS BAR	2	CLEAR DRY	-0-	109.40	35.300	-0-	STH
08/05/85	FUNGUS BAR	3	CLEAR DRY	-0-	-0-	-0-	-0-	-0-
08/05/85	INACCESSIB	1	SUN / DRY	-0-	73.700	36.500	-0-	-0-
08/05/85	INACCESSIB	2	SUN / DRY	-0-	-0-	-0-	-0-	-0-
08/05/85	INACCESSIB	3	SUN / DRY	-0-	-0-	-0-	-0-	-0-
08/05/85	MARBLE MT	1	CLEAR DRY	-0-	-0-	-0-	3.20	STH
08/05/85	MARBLE MT	1	CLEAR DRY	-0-	56.300	58.100	3.10	STH
08/05/85	MARBLE MT	1	CLEAR DRY	-0-	51.200	70.000	3.70	STH
08/05/85	MARBLE MT	1	CLEAR DRY	-0-	79.000	24.200	3.50	STH
08/05/85	MARBLE MT	1	CLEAR DRY	-0-	72.100	46.100	3.30	STH
08/05/85	MARBLE MT	1	CLEAR DRY	-0-	-0-	-0-	3.30	STH
08/05/85	MARBLE MT	2	CLEAR DRY	-0-	49.000	50.900	3.50	STH
08/05/85	MARBLE MT	2	CLEAR DRY	53.500	83.500	-0-	3.60	STH
08/05/85	MARBLE MT	2	CLEAR DRY	18.000	96.360	-0-	3.40	STH
08/05/85	MARBLE MT	2	CLEAR DRY	29.400	88.400	-0-	3.50	STH
08/05/85	MARBLE MT	2	CLEAR DRY	37.800	91.800	-0-	3.40	STH
08/05/85	MARBLE MT	2	CLEAR DRY	-0-	78.200	24.000	3.50	STH
08/05/85	MARBLE MT	2	CLEAR DRY	-0-	89.700	59.400	3.60	STH
08/05/85	MARBLE MT	2	CLEAR DRY	-0-	49.500	55.000	3.30	STH
08/05/85	MARBLE MT	2	CLEAR DRY	-0-	62.600	40.100	3.20	STH
08/05/85	MARBLE MT	2	CLEAR DRY	14.300	100.60	-0-	3.10	STH
08/05/85	MARBLE MT	2	CLEAR DRY	9.8000	95.000	-0-	3.50	STH
08/05/85	MARBLE MT	3	CLEAR DRY	51.300	54.000	-0-	3.20	STH
08/05/85	MARBLE MT	3	CLEAR DRY	-0-	31.600	74.300	3.70	STH
08/05/85	MARBLE MT	3	CLEAR DRY	-0-	16.600	83.900	3.60	STH
08/05/85	MARBLE MT	3	CLEAR DRY	82.400	20.000	-0-	3.20	STH
08/05/85	OINK BAR	1	CLEAR DRY	69.500	53.500	-0-	2.70	STH
08/05/85	OINK BAR	1	CLEAR DRY	68.000	55.000	-0-	2.60	STH
08/05/85	OINK BAR	1	CLEAR DRY	69.500	53.500	-0-	3.20	STH
08/05/85	OINK BAR	1	CLEAR DRY	46.500	78.000	-0-	3.20	STH
08/05/85	OINK BAR	1	CLEAR DRY	69.500	53.500	-0-	3.20	STH
08/05/85	OINK BAR	1	CLEAR DRY	69.500	53.500	-0-	2.90	STH
08/05/85	OINK BAR	1	CLEAR DRY	91.000	50.000	-0-	3.70	STH
08/05/85	OINK BAR	1	CLEAR DRY	103.00	46.000	-0-	2.80	STH
08/05/85	OINK BAR	1	CLEAR DRY	66.000	58.000	-0-	3.20	STH
08/05/85	OINK BAR	1	CLEAR DRY	69.500	53.500	-0-	2.90	STH
08/05/85	OINK BAR	1	CLEAR DRY	69.500	53.500	-0-	2.30	STH
08/05/85	OINK BAR	1	CLEAR DRY	69.500	53.500	-0-	2.50	STH

NOTE: FOR EACH STRANDED FRY THERE IS ONE LINE OF DATA.

DATE OF STRAND	GRAVEL BAR LOCATION NAME	STATION NUMBER	WEATHER	FISH COORDINATE REFERENCE POINT 1 (FT)	FISH COORDINATE REFERENCE POINT 2 (FT)	FISH COORDINATE REFERENCE POINT 3 (FT)	FISH LENGTH (CM)	SPECIES STRANDED
08/05/85	OINK BAR	1	CLEAR DRY	46.500	78.000	-0-	2.50	STH
08/05/85	OINK BAR	1	CLEAR DRY	66.000	58.000	-0-	2.80	STH
08/05/85	OINK BAR	2	CLEAR DRY	26.500	109.00	-0-	3.40	STH
08/05/85	OINK BAR	2	CLEAR DRY	37.500	112.00	-0-	-0-	STH
08/05/85	OINK BAR	2	CLEAR DRY	45.000	114.00	-0-	-0-	STH
08/05/85	OINK BAR	2	CLEAR DRY	76.000	113.50	-0-	3.20	STH
08/05/85	OINK BAR	2	CLEAR DRY	37.500	112.00	-0-	3.30	STH
08/05/85	OINK BAR	2	CLEAR DRY	-0-	50.000	53.000	-0-	-0-
08/05/85	OINK BAR	2	CLEAR DRY	-0-	41.000	76.000	-0-	-0-
08/05/85	OINK BAR	2	CLEAR DRY	48.000	93.000	-0-	3.40	STH
08/05/85	OINK BAR	3	CLEAR DRY	83.000	32.500	-0-	3.00	STH
08/05/85	OINK BAR	3	CLEAR DRY	86.000	33.000	-0-	3.80	STH
08/05/85	OINK BAR	3	CLEAR DRY	88.000	24.500	-0-	3.20	STH
08/05/85	OINK BAR	3	CLEAR DRY	87.000	30.000	-0-	3.50	STH
08/05/85	ROCKPORT	1	CLOUDY	94.600	21.500	-0-	2.90	STH
08/05/85	ROCKPORT	1	CLOUDY	-0-	83.500	40.800	3.00	STH
08/05/85	ROCKPORT	1	CLOUDY	-0-	87.500	37.600	-0-	-0-
08/05/85	ROCKPORT	1	CLOUDY	-0-	55.000	65.300	3.00	STH
08/05/85	ROCKPORT	1	CLOUDY	-0-	80.800	42.300	3.00	STH
08/05/85	ROCKPORT	2	CLOUDY	98.300	45.300	-0-	-0-	-0-
08/05/85	ROCKPORT	2	CLOUDY	90.400	48.100	-0-	-0-	-0-
08/05/85	ROCKPORT	2	CLOUDY	73.200	59.200	-0-	-0-	-0-
08/05/85	ROCKPORT	2	CLOUDY	75.400	58.700	-0-	-0-	-0-
08/05/85	ROCKPORT	2	CLOUDY	-0-	76.200	52.200	-0-	-0-
08/05/85	ROCKPORT	2	CLOUDY	-0-	81.700	47.300	-0-	-0-
08/05/85	ROCKPORT	2	CLOUDY	-0-	33.700	99.800	-0-	-0-
08/05/85	ROCKPORT	2	CLOUDY	-0-	56.300	70.700	-0-	-0-
08/05/85	ROCKPORT	2	CLOUDY	-0-	64.300	62.500	-0-	-0-
08/05/85	ROCKPORT	2	CLOUDY	-0-	65.500	61.600	-0-	-0-
08/05/85	ROCKPORT	2	CLOUDY	-0-	64.600	60.000	-0-	-0-
08/05/85	ROCKPORT	2	CLOUDY	-0-	67.000	62.700	-0-	-0-
08/05/85	ROCKPORT	2	CLOUDY	-0-	91.100	44.900	-0-	-0-
08/05/85	ROCKPORT	3	CLEAR	99.500	34.400	-0-	-0-	-0-
08/05/85	ROCKPORT	3	CLEAR	80.100	50.800	-0-	-0-	-0-
08/05/85	ROCKPORT	3	CLEAR	48.500	86.200	-0-	-0-	-0-
08/05/85	ROCKPORT	3	CLEAR	50.000	83.900	-0-	-0-	-0-
08/05/85	ROCKPORT	3	CLEAR	58.300	77.600	-0-	-0-	-0-
08/05/85	ROCKPORT	3	CLEAR	71.500	54.600	-0-	-0-	-0-
08/05/85	ROCKPORT	3	CLEAR	80.100	50.800	-0-	-0-	-0-
08/05/85	ROCKPORT	3	CLEAR	-0-	53.000	71.100	-0-	-0-
08/05/85	ROCKPORT	3	CLEAR	-0-	53.100	72.100	-0-	-0-
08/05/85	ROCKPORT	3	CLEAR	98.900	27.000	-0-	-0-	-0-
08/05/85	ROCKPORT	3	CLEAR	-0-	37.400	104.30	-0-	-0-
08/05/85	ROCKPORT	3	CLEAR	-0-	33.500	83.200	-0-	-0-
08/05/85	ROCKPORT	3	CLEAR	-0-	36.100	87.700	-0-	-0-
08/05/85	ROCKPORT	3	CLEAR	-0-	37.900	87.800	-0-	-0-
08/05/85	ROCKPORT	3	CLEAR	-0-	46.700	73.900	-0-	-0-
08/05/85	ROCKPORT	3	CLEAR	-0-	56.000	67.700	-0-	-0-
08/05/85	WAYNE SWIM	1	SUN / DRY	18.900	94.800	-0-	3.00	STH
08/05/85	WAYNE SWIM	2	SUN / DRY	-0-	-0-	-0-	-0-	-0-
08/06/85	BACON CR	1	CLEAR	0.0000	-0-	-0-	-0-	-0-

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DATE OF STRAND	GRAVEL BAR LOCATION NAME	STATION NUMBER	WEATHER	FISH COORDINATE REFERENCE POINT 1 (FT)	FISH COORDINATE REFERENCE POINT 2 (FT)	FISH COORDINATE REFERENCE POINT 3 (FT)	FISH LENGTH (CM)	SPECIES STRANDED
08/06/85	BACON CR	2	CLEAR	0.0000	-0-	-0-	-0-	-0-
08/06/85	BACON CR	3	CLEAR	0.0000	-0-	-0-	-0-	-0-
08/06/85	BAD SPOT	1	SUNNY	42.000	80.800	-0-	-0-	-0-
08/06/85	BAD SPOT	2	SUNNY	-0-	81.000	68.000	-0-	-0-
08/06/85	BAD SPOT	2	SUNNY	-0-	85.700	25.500	-0-	-0-
08/06/85	BAD SPOT	2	SUNNY	-0-	80.700	44.000	3.00	-0-
08/06/85	BAD SPOT	2	SUNNY	-0-	78.500	29.000	-0-	-0-
08/06/85	BAD SPOT	2	SUNNY	-0-	77.700	34.000	-0-	-0-
08/06/85	BAD SPOT	3	SUNNY	-0-	-0-	-0-	-0-	-0-
08/06/85	BAD SPOT	4	SUNNY	-0-	-0-	-0-	-0-	-0-
08/06/85	BIG EDDY	1	CLEAR	45.800	75.600	-0-	3.00	-0-
08/06/85	BIG EDDY	1	CLEAR	32.300	103.00	-0-	3.10	-0-
08/06/85	BIG EDDY	2	CLEAR	-0-	-0-	-0-	-0-	-0-
08/06/85	BIG EDDY	3	CLEAR	-0-	-0-	-0-	-0-	-0-
08/06/85	DIOBSUD CR	1	CLEAR	28.300	80.600	-0-	-0-	STH
08/06/85	DIOBSUD CR	1	CLEAR	35.700	75.200	-0-	3.10	STH
08/06/85	DIOBSUD CR	1	CLEAR	28.300	80.600	-0-	-0-	STH
08/06/85	DIOBSUD CR	1	CLEAR	28.300	80.600	-0-	-0-	STH
08/06/85	DIOBSUD CR	1	CLEAR	32.900	78.400	-0-	3.20	STH
08/06/85	DIOBSUD CR	1	CLEAR	28.300	80.600	-0-	-0-	STH
08/06/85	DIOBSUD CR	1	CLEAR	22.200	87.500	-0-	3.20	STH
08/06/85	DIOBSUD CR	1	CLEAR	29.300	81.200	-0-	3.10	STH
08/06/85	DIOBSUD CR	1	CLEAR	25.900	85.900	-0-	2.90	STH
08/06/85	DIOBSUD CR	1	CLEAR	25.900	85.900	-0-	3.30	STH
08/06/85	DIOBSUD CR	1	CLEAR	25.900	85.900	-0-	3.10	STH
08/06/85	DIOBSUD CR	1	CLEAR	30.300	81.900	-0-	3.10	STH
08/06/85	DIOBSUD CR	1	CLEAR	30.300	81.900	-0-	-0-	STH
08/06/85	DIOBSUD CR	1	CLEAR	30.300	81.900	-0-	-0-	STH
08/06/85	DIOBSUD CR	1	CLEAR	29.300	81.200	-0-	3.00	STH
08/06/85	DIOBSUD CR	1	CLEAR	23.800	85.900	-0-	3.30	STH
08/06/85	DIOBSUD CR	1	CLEAR	87.200	12.600	-0-	3.20	STH
08/06/85	DIOBSUD CR	1	CLEAR	90.300	9.9000	-0-	-0-	STH
08/06/85	DIOBSUD CR	1	CLEAR	90.300	9.9000	-0-	-0-	STH
08/06/85	DIOBSUD CR	1	CLEAR	90.300	9.9000	-0-	-0-	STH
08/06/85	DIOBSUD CR	1	CLEAR	90.300	9.9000	-0-	-0-	STH
08/06/85	DIOBSUD CR	1	CLEAR	90.300	9.9000	-0-	-0-	STH
08/06/85	DIOBSUD CR	1	CLEAR	32.900	78.400	-0-	3.30	STH
08/06/85	DIOBSUD CR	1	CLEAR	31.400	77.300	-0-	-0-	STH
08/06/85	DIOBSUD CR	1	CLEAR	87.200	12.600	-0-	3.20	STH
08/06/85	DIOBSUD CR	1	CLEAR	94.800	7.0000	-0-	3.20	STH
08/06/85	DIOBSUD CR	1	CLEAR	94.800	7.0000	-0-	3.30	STH
08/06/85	DIOBSUD CR	1	CLEAR	94.800	7.0000	-0-	3.20	STH
08/06/85	DIOBSUD CR	1	CLEAR	96.300	6.9000	-0-	-0-	STH
08/06/85	DIOBSUD CR	1	CLEAR	96.300	6.9000	-0-	-0-	STH
08/06/85	DIOBSUD CR	1	CLEAR	17.200	91.600	-0-	3.30	STH
08/06/85	DIOBSUD CR	1	CLEAR	-0-	37.200	115.70	-0-	STH
08/06/85	DIOBSUD CR	1	CLEAR	-0-	37.200	115.70	-0-	STH
08/06/85	DIOBSUD CR	1	CLEAR	23.200	84.600	-0-	-0-	STH
08/06/85	DIOBSUD CR	1	CLEAR	25.700	84.800	-0-	3.30	STH
08/06/85	DIOBSUD CR	1	CLEAR	27.200	84.300	-0-	2.90	STH
08/06/85	DIOBSUD CR	1	CLEAR	27.200	84.300	-0-	3.10	STH
08/06/85	DIOBSUD CR	1	CLEAR	27.200	84.300	-0-	3.20	STH

NOTE: FOR EACH STRANDED FRY THERE IS ONE LINE OF DATA.

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DATE OF STRAND	GRAVEL BAR LOCATION NAME	STATION NUMBER	WEATHER	FISH COORDINATE REFERENCE POINT 1 (FT)	FISH COORDINATE REFERENCE POINT 2 (FT)	FISH COORDINATE REFERENCE POINT 3 (FT)	FISH LENGTH (CM)	SPECIES STRANDED
08/06/85	DIOBSUD CR	1	CLEAR	40.200	72.800	-0-	3.30	STH
08/06/85	DIOBSUD CR	1	CLEAR	42.900	59.400	-0-	2.90	STH
08/06/85	DIOBSUD CR	1	CLEAR	42.900	74.800	-0-	3.10	STH
08/06/85	DIOBSUD CR	1	CLEAR	-0-	42.400	65.000	3.40	STH
08/06/85	DIOBSUD CR	1	CLEAR	-0-	42.400	65.000	3.40	STH
08/06/85	DIOBSUD CR	1	CLEAR	-0-	42.400	65.000	3.40	STH
08/06/85	DIOBSUD CR	1	CLEAR	69.500	51.200	-0-	3.10	STH
08/06/85	DIOBSUD CR	1	CLEAR	62.700	42.800	-0-	3.20	STH
08/06/85	DIOBSUD CR	1	CLEAR	-0-	28.600	107.40	3.10	STH
08/06/85	DIOBSUD CR	1	CLEAR	40.700	105.40	-0-	3.10	STH
08/06/85	DIOBSUD CR	1	CLEAR	45.400	106.50	-0-	3.60	STH
08/06/85	DIOBSUD CR	1	CLEAR	46.600	107.20	-0-	3.20	STH
08/06/85	DIOBSUD CR	1	CLEAR	46.600	107.20	-0-	3.20	STH
08/06/85	DIOBSUD CR	1	CLEAR	46.600	107.20	-0-	3.10	STH
08/06/85	DIOBSUD CR	1	CLEAR	46.200	106.70	-0-	3.50	STH
08/06/85	DIOBSUD CR	1	CLEAR	46.100	106.70	-0-	3.20	STH
08/06/85	DIOBSUD CR	1	CLEAR	-0-	61.900	54.000	-0-	STH
08/06/85	DIOBSUD CR	1	CLEAR	-0-	60.300	53.800	3.20	STH
08/06/85	DIOBSUD CR	1	CLEAR	-0-	60.300	53.800	-0-	STH
08/06/85	DIOBSUD CR	1	CLEAR	-0-	60.300	53.800	-0-	STH
08/06/85	DIOBSUD CR	1	CLEAR	-0-	68.900	47.800	-0-	STH
08/06/85	DIOBSUD CR	1	CLEAR	-0-	77.200	54.500	-0-	STH
08/06/85	DIOBSUD CR	1	CLEAR	-0-	74.000	45.100	-0-	STH
08/06/85	DIOBSUD CR	1	CLEAR	-0-	72.500	45.200	3.20	STH
08/06/85	DIOBSUD CR	1	CLEAR	74.500	36.300	-0-	3.30	STH
08/06/85	DIOBSUD CR	1	CLEAR	85.900	44.700	-0-	3.30	STH
08/06/85	DIOBSUD CR	1	CLEAR	78.600	20.500	-0-	3.30	STH
08/06/85	DIOBSUD CR	1	CLEAR	78.600	20.500	-0-	3.00	STH
08/06/85	DIOBSUD CR	1	CLEAR	85.200	14.400	-0-	-0-	STH
08/06/85	DIOBSUD CR	1	CLEAR	85.200	14.400	-0-	-0-	STH
08/06/85	DIOBSUD CR	1	CLEAR	85.200	14.400	-0-	-0-	STH
08/06/85	DIOBSUD CR	1	CLEAR	62.500	60.500	-0-	3.30	STH
08/06/85	DIOBSUD CR	1	CLEAR	60.300	59.900	-0-	3.10	STH
08/06/85	DIOBSUD CR	1	CLEAR	60.000	58.200	-0-	3.20	STH
08/06/85	DIOBSUD CR	1	CLEAR	67.400	61.400	-0-	3.10	STH
08/06/85	DIOBSUD CR	1	CLEAR	86.000	13.500	-0-	3.30	STH
08/06/85	DIOBSUD CR	1	CLEAR	65.600	52.000	-0-	3.10	STH
08/06/85	DIOBSUD CR	1	CLEAR	65.600	52.000	-0-	3.30	STH
08/06/85	DIOBSUD CR	1	CLEAR	87.200	12.600	-0-	3.20	STH
08/06/85	DIOBSUD CR	1	CLEAR	85.200	14.400	-0-	-0-	STH
08/06/85	DIOBSUD CR	1	CLEAR	85.200	14.400	-0-	-0-	STH
08/06/85	DIOBSUD CR	1	CLEAR	-0-	30.600	102.80	3.10	STH
08/06/85	DIOBSUD CR	1	CLEAR	-0-	32.700	105.30	3.30	STH
08/06/85	DIOBSUD CR	1	CLEAR	-0-	32.400	104.40	-0-	STH
08/06/85	DIOBSUD CR	1	CLEAR	-0-	32.800	100.70	3.30	STH
08/06/85	DIOBSUD CR	1	CLEAR	-0-	34.600	101.60	-0-	STH
08/06/85	DIOBSUD CR	1	CLEAR	-0-	35.600	100.20	-0-	STH
08/06/85	DIOBSUD CR	1	CLEAR	-0-	59.300	53.800	-0-	STH
08/06/85	DIOBSUD CR	1	CLEAR	86.000	13.500	-0-	3.20	STH
08/06/85	DIOBSUD CR	1	CLEAR	86.000	13.500	-0-	3.60	STH
08/06/85	DIOBSUD CR	1	CLEAR	86.000	13.500	-0-	3.20	STH

NOTE: FOR EACH STRANDED FRY THERE IS ONE LINE OF DATA.

DATE OF STRAND	GRAVEL BAR LOCATION NAME	STATION NUMBER	WEATHER	FISH COORDINATE REFERENCE POINT 1 (FT)	FISH COORDINATE REFERENCE POINT 2 (FT)	FISH COORDINATE REFERENCE POINT 3 (FT)	FISH LENGTH (CM)	SPECIES STRANDED
08/06/85	DIOBSUD CR	1	CLEAR	35.500	76.500	-0-	3.50	STH
8/06/85	DIOBSUD CR	1	CLEAR	35.500	76.500	-0-	2.80	STH
8/06/85	DIOBSUD CR	1	CLEAR	86.800	12.500	-0-	-0-	STH
08/06/85	DIOBSUD CR	1	CLEAR	35.500	76.500	-0-	3.20	STH
8/06/85	DIOBSUD CR	2	CLEAR	-0-	56.000	57.000	3.40	STH
8/06/85	DIOBSUD CR	2	CLEAR	48.000	65.000	-0-	3.40	STH
8/06/85	DIOBSUD CR	2	CLEAR	101.00	23.000	-0-	3.10	STH
08/06/85	DIOBSUD CR	2	CLEAR	-0-	29.000	78.000	3.10	STH
8/06/85	DIOBSUD CR	2	CLEAR	45.500	58.000	-0-	3.30	STH
8/06/85	DIOBSUD CR	2	CLEAR	72.000	36.000	-0-	3.80	STH
8/06/85	DIOBSUD CR	2	CLEAR	-0-	29.000	78.000	3.30	STH
8/06/85	DIOBSUD CR	2	CLEAR	71.000	38.000	-0-	3.50	STH
8/06/85	DIOBSUD CR	2	CLEAR	36.000	71.000	-0-	3.40	STH
8/06/85	DIOBSUD CR	2	CLEAR	72.000	35.500	-0-	3.90	STH
08/06/85	FACE BAR	1	CLEAR	78.700	31.100	-0-	3.50	STH
8/06/85	FACE BAR	1	CLEAR	52.900	80.700	-0-	3.40	STH
8/06/85	FACE BAR	1	CLEAR	71.900	43.200	-0-	3.50	STH
8/06/85	FACE BAR	1	CLEAR	68.800	50.800	-0-	3.40	STH
08/06/85	FACE BAR	1	CLEAR	-0-	65.400	33.700	3.20	STH
8/06/85	FACE BAR	1	CLEAR	87.700	40.700	-0-	3.20	STH
8/06/85	FACE BAR	1	CLEAR	97.800	19.100	-0-	3.00	STH
08/06/85	FACE BAR	1	CLEAR	38.100	95.600	-0-	3.40	STH
8/06/85	FACE BAR	1	CLEAR	48.500	52.600	-0-	3.10	STH
8/06/85	FACE BAR	1	CLEAR	-0-	25.200	93.600	3.30	STH
8/06/85	FACE BAR	1	CLEAR	87.800	45.100	-0-	3.80	STH
08/06/85	FACE BAR	1	CLEAR	46.500	89.400	-0-	3.70	STH
8/06/85	FACE BAR	2	CLEAR	-0-	-0-	-0-	-0-	-0-
8/06/85	FACE BAR	3	CLEAR	-0-	-0-	-0-	-0-	-0-
08/06/85	FORBIDDEN	1	CLEAR	41.000	83.000	-0-	2.80	STH
8/06/85	FORBIDDEN	1	CLEAR	95.300	32.300	-0-	3.40	STH
8/06/85	FORBIDDEN	1	CLEAR	83.500	29.000	-0-	3.10	STH
8/06/85	FORBIDDEN	1	CLEAR	84.000	35.300	-0-	2.90	STH
08/06/85	FORBIDDEN	1	CLEAR	29.800	91.000	-0-	3.60	STH
8/06/85	FORBIDDEN	1	CLEAR	83.300	26.400	-0-	3.10	STH
8/06/85	FORBIDDEN	1	CLEAR	95.000	32.500	-0-	3.20	STH
08/06/85	FORBIDDEN	1	CLEAR	52.100	56.000	-0-	3.00	STH
8/06/85	FORBIDDEN	2	CLEAR	-0-	-0-	-0-	-0-	-0-
8/06/85	FORBIDDEN	3	CLEAR	0.0000	-0-	-0-	-0-	-0-
8/06/85	FUNGUS BAR	1	CLEAR	79.100	22.300	-0-	4.20	STH
08/06/85	FUNGUS BAR	1	CLEAR	33.500	68.500	-0-	3.40	STH
8/06/85	FUNGUS BAR	1	CLEAR	-0-	97.300	18.400	3.30	STH
8/06/85	FUNGUS BAR	2	CLEAR	77.000	34.700	-0-	2.80	STH
08/06/85	FUNGUS BAR	2	CLEAR	-0-	24.600	75.900	3.00	STH
8/06/85	FUNGUS BAR	2	CLEAR	83.200	17.000	-0-	3.80	STH
8/06/85	FUNGUS BAR	2	CLEAR	75.800	34.700	-0-	3.60	STH
8/06/85	FUNGUS BAR	2	CLEAR	-0-	98.900	23.200	3.40	STH
08/06/85	FUNGUS BAR	2	CLEAR	86.800	12.800	-0-	3.00	STH
8/06/85	FUNGUS BAR	3	CLEAR	19.300	99.900	-0-	3.30	STH
8/06/85	INACCESSIB	1	CLEAR	44.400	67.600	-0-	-0-	-0-
8/06/85	INACCESSIB	1	CLEAR	13.700	98.600	-0-	-0-	-0-
8/06/85	INACCESSIB	1	CLEAR	36.000	95.100	-0-	-0-	-0-

NOTE: FOR EACH STRANDED FRY THERE IS ONE LINE OF DATA.

DATE OF STRAND	GRAVEL BAR LOCATION NAME	STATION NUMBER	WEATHER	FISH COORDINATE REFERENCE POINT 1 (FT)	FISH COORDINATE REFERENCE POINT 2 (FT)	FISH COORDINATE REFERENCE POINT 3 (FT)	FISH LENGTH (CM)	SPECIES STRANDED
08/06/85	INACCESSIB	2	CLEAR	0.0000	-0-	-0-	-0-	-0-
08/06/85	INACCESSIB	3	CLEAR	0.0000	-0-	-0-	-0-	-0-
08/06/85	MARBLE MT	1	CLEAR	-0-	86.500	20.400	3.10	STH
08/06/85	MARBLE MT	1	CLEAR	-0-	30.900	105.60	3.50	STH
08/06/85	MARBLE MT	1	CLEAR	59.700	47.000	-0-	3.00	STH
08/06/85	MARBLE MT	1	CLEAR	-0-	94.200	56.900	3.50	STH
08/06/85	MARBLE MT	1	CLEAR	-0-	31.200	78.900	3.30	STH
08/06/85	MARBLE MT	2	CLEAR	12.400	97.200	-0-	3.20	STH
08/06/85	MARBLE MT	2	CLEAR	-0-	97.900	25.200	-0-	STH
08/06/85	MARBLE MT	2	CLEAR	-0-	92.200	23.200	4.50	COHO
08/06/85	MARBLE MT	3	CLEAR	-0-	15.900	84.100	3.10	STH
08/06/85	MARBLE MT	3	CLEAR	-0-	15.600	85.500	3.40	STH
08/06/85	OINK BAR	1	CLEAR	73.000	74.000	-0-	2.90	STH
08/06/85	OINK BAR	1	CLEAR	-0-	47.000	78.000	3.20	STH
08/06/85	OINK BAR	1	CLEAR	-0-	53.000	69.000	3.20	STH
08/06/85	OINK BAR	1	CLEAR	-0-	53.000	72.000	3.00	STH
08/06/85	OINK BAR	1	CLEAR	-0-	55.000	70.000	-0-	-0-
08/06/85	OINK BAR	2	CLEAR	89.000	31.000	-0-	3.30	-0-
08/06/85	OINK BAR	2	CLEAR	-0-	30.000	76.000	3.40	-0-
08/06/85	OINK BAR	2	CLEAR	-0-	43.500	77.000	3.00	-0-
08/06/85	OINK BAR	3	CLEAR	61.000	52.000	-0-	3.20	STH
08/06/85	OINK BAR	3	CLEAR	98.000	21.000	-0-	3.20	STH
08/06/85	OINK BAR	3	CLEAR	-0-	22.000	98.000	-0-	-0-
08/06/85	ROCKPORT	1	CLEAR	51.000	69.300	-0-	-0-	-0-
08/06/85	ROCKPORT	1	CLEAR	103.40	39.400	-0-	-0-	-0-
08/06/85	ROCKPORT	1	CLEAR	103.40	39.400	-0-	-0-	-0-
08/06/85	WAYNE SWIM	1	SUNNY	0.0000	-0-	-0-	-0-	-0-
08/06/85	WAYNE SWIM	2	SUNNY	0.0000	-0-	-0-	-0-	-0-
08/07/85	BACON CR	1	RAIN	0.0000	-0-	-0-	-0-	-0-
08/07/85	BACON CR	2	RAIN	0.0000	-0-	-0-	-0-	-0-
08/07/85	BACON CR	3	RAIN	0.0000	-0-	-0-	-0-	-0-
08/07/85	BAD SPOT	1	RAIN	0.0000	-0-	-0-	-0-	-0-
08/07/85	BAD SPOT	2	RAIN	53.700	59.200	-0-	3.10	-0-
08/07/85	BAD SPOT	2	RAIN	-0-	67.400	43.200	3.50	-0-
08/07/85	BAD SPOT	2	RAIN	-0-	-0-	-0-	-0-	-0-
08/07/85	BAD SPOT	3	RAIN	-0-	-0-	-0-	-0-	-0-
08/07/85	BIG EDDY	1	RAIN	0.0000	-0-	-0-	-0-	-0-
08/07/85	BIG EDDY	2	RAIN	0.0000	-0-	-0-	-0-	-0-
08/07/85	BIG EDDY	3	RAIN	0.0000	-0-	-0-	-0-	-0-
08/07/85	DIOBSUD CR	1	RAIN	64.800	56.800	-0-	3.40	-0-
08/07/85	DIOBSUD CR	1	RAIN	69.400	45.400	-0-	3.50	-0-
08/07/85	DIOBSUD CR	1	RAIN	102.20	34.800	-0-	3.10	-0-
08/07/85	DIOBSUD CR	1	RAIN	106.00	34.300	-0-	3.30	-0-
08/07/85	DIOBSUD CR	1	RAIN	64.800	53.200	-0-	3.10	-0-
08/07/85	DIOBSUD CR	1	RAIN	64.600	52.000	-0-	3.30	-0-
08/07/85	DIOBSUD CR	1	RAIN	66.500	52.000	-0-	3.10	-0-
08/07/85	DIOBSUD CR	1	RAIN	64.000	53.000	-0-	3.20	-0-
08/07/85	DIOBSUD CR	1	RAIN	62.300	47.400	-0-	3.10	-0-
08/07/85	DIOBSUD CR	1	RAIN	-0-	31.300	103.00	3.40	-0-
08/07/85	DIOBSUD CR	1	RAIN	-0-	32.700	97.800	3.00	-0-
08/07/85	DIOBSUD CR	1	RAIN	24.500	98.500	-0-	3.50	-0-

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DATE OF STRAND	GRAVEL BAR LOCATION NAME	STATION NUMBER	WEATHER	FISH COORDINATE REFERENCE POINT 1 (FT)	FISH COORDINATE REFERENCE POINT 2 (FT)	FISH COORDINATE REFERENCE POINT 3 (FT)	FISH LENGTH (CM)	SPECIES STRANDED
08/07/85	DIOBSUD CR	1	RAIN	49.000	60.300	-0-	3.30	-0-
08/07/85	DIOBSUD CR	1	RAIN	57.800	57.700	-0-	3.00	-0-
08/07/85	DIOBSUD CR	1	RAIN	58.100	56.100	-0-	3.30	-0-
08/07/85	DIOBSUD CR	1	RAIN	54.000	60.700	-0-	3.40	-0-
08/07/85	DIOBSUD CR	1	RAIN	54.300	49.300	-0-	3.10	-0-
08/07/85	DIOBSUD CR	1	RAIN	54.300	49.700	-0-	3.60	-0-
08/07/85	DIOBSUD CR	1	RAIN	54.200	50.200	-0-	3.10	-0-
08/07/85	DIOBSUD CR	1	RAIN	83.200	34.600	-0-	3.10	-0-
08/07/85	DIOBSUD CR	1	RAIN	106.50	35.200	-0-	3.20	-0-
08/07/85	DIOBSUD CR	1	RAIN	107.70	36.000	-0-	3.50	-0-
08/07/85	DIOBSUD CR	1	RAIN	-0-	34.500	105.50	3.20	-0-
08/07/85	DIOBSUD CR	1	RAIN	-0-	37.500	107.80	3.40	-0-
08/07/85	DIOBSUD CR	1	RAIN	-0-	32.500	104.60	3.00	-0-
08/07/85	DIOBSUD CR	1	RAIN	102.20	34.800	-0-	3.10	-0-
08/07/85	DIOBSUD CR	1	RAIN	83.200	34.600	-0-	3.10	-0-
08/07/85	DIOBSUD CR	1	RAIN	101.50	34.800	-0-	3.10	-0-
08/07/85	DIOBSUD CR	1	RAIN	92.200	33.200	-0-	3.60	-0-
08/07/85	DIOBSUD CR	1	RAIN	100.20	27.300	-0-	3.20	-0-
08/07/85	DIOBSUD CR	1	RAIN	101.50	34.800	-0-	3.10	-0-
08/07/85	DIOBSUD CR	1	RAIN	100.70	34.900	-0-	3.30	-0-
08/07/85	DIOBSUD CR	2	RAIN	-0-	-0-	-0-	-0-	-0-
08/07/85	FACE BAR	1	RAIN	0.0000	52.300	48.100	2.90	-0-
08/07/85	FACE BAR	1	RAIN	0.0000	75.700	63.700	3.40	-0-
08/07/85	FACE BAR	2	RAIN	-0-	45.500	76.500	3.20	-0-
08/07/85	FACE BAR	2	RAIN	92.800	24.600	-0-	3.10	-0-
08/07/85	FACE BAR	2	RAIN	-0-	81.100	29.500	3.10	-0-
08/07/85	FACE BAR	3	RAIN	-0-	-0-	-0-	-0-	-0-
08/07/85	FORBIDDEN	1	RAIN	26.000	103.00	-0-	3.00	STH
08/07/85	FORBIDDEN	1	RAIN	26.000	103.00	-0-	3.10	STH
08/07/85	FORBIDDEN	2	RAIN	-0-	-0-	-0-	-0-	-0-
08/07/85	FORBIDDEN	3	RAIN	-0-	-0-	-0-	-0-	-0-
08/07/85	FUNGUS BAR	1	RAIN	0.0000	-0-	-0-	-0-	-0-
08/07/85	FUNGUS BAR	2	RAIN	-0-	101.40	24.700	3.00	STH
08/07/85	FUNGUS BAR	2	RAIN	47.700	55.100	-0-	3.20	STH
08/07/85	FUNGUS BAR	2	RAIN	25.600	87.200	-0-	3.30	STH
08/07/85	FUNGUS BAR	3	RAIN	25.000	83.300	-0-	3.70	-0-
08/07/85	FUNGUS BAR	3	RAIN	40.500	65.900	-0-	3.40	-0-
08/07/85	FUNGUS BAR	3	RAIN	36.800	71.900	-0-	3.50	-0-
08/07/85	FUNGUS BAR	3	RAIN	34.100	73.900	-0-	3.40	-0-
08/07/85	FUNGUS BAR	3	RAIN	-0-	29.300	47.100	3.10	-0-
08/07/85	FUNGUS BAR	3	RAIN	-0-	62.200	37.300	3.10	-0-
08/07/85	INACCESSIB	1	RAIN	0.0000	-0-	-0-	-0-	-0-
08/07/85	INACCESSIB	2	RAIN	0.0000	-0-	-0-	-0-	-0-
08/07/85	INACCESSIB	3	RAIN	0.0000	-0-	-0-	-0-	-0-
08/07/85	MARBLE MT	1	RAIN	75.700	27.200	-0-	3.40	STH
08/07/85	MARBLE MT	1	RAIN	80.300	22.600	-0-	3.20	STH
08/07/85	MARBLE MT	1	RAIN	80.600	22.500	-0-	3.50	STH
08/07/85	MARBLE MT	1	RAIN	75.800	27.300	-0-	3.60	STH
08/07/85	MARBLE MT	1	RAIN	76.900	25.800	-0-	3.40	STH
08/07/85	MARBLE MT	1	RAIN	65.300	37.900	-0-	3.10	STH
08/07/85	MARBLE MT	1	RAIN	-0-	84.700	25.200	3.30	STH

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DATE OF STRAND	GRAVEL BAR LOCATION NAME	STATION NUMBER	WEATHER	FISH COORDINATE REFERENCE POINT 1 (FT)	FISH COORDINATE REFERENCE POINT 2 (FT)	FISH COORDINATE REFERENCE POINT 3 (FT)	FISH LENGTH (CM)	SPECIES STRANDED
08/07/85	MARBLE MT	1	RAIN	-0-	14.800	102.20	2.90	STH
08/07/85	MARBLE MT	1	RAIN	60.200	42.500	-0-	3.60	STH
08/07/85	MARBLE MT	1	RAIN	-0-	92.700	25.100	2.90	STH
08/07/85	MARBLE MT	2	RAIN	-0-	-0-	-0-	-0-	-0-
08/07/85	MARBLE MT	3	RAIN	73.600	25.900	-0-	3.30	STH
08/07/85	MARBLE MT	3	RAIN	-0-	32.000	56.700	3.50	STH
08/07/85	MARBLE MT	3	RAIN	-0-	43.100	68.500	3.50	STH
08/07/85	OINK BAR	1	RAIN	0.0000	-0-	-0-	-0-	-0-
08/07/85	OINK BAR	2	RAIN	92.500	15.000	-0-	3.30	-0-
08/07/85	OINK BAR	2	RAIN	-0-	33.000	75.000	4.20	-0-
08/07/85	OINK BAR	2	RAIN	-0-	34.500	76.500	-0-	-0-
08/07/85	OINK BAR	3	RAIN	-0-	-0-	-0-	-0-	-0-
08/07/85	WAYNE SWIM	1	RAIN	0.0000	-0-	-0-	-0-	-0-
08/07/85	WAYNE SWIM	2	RAIN	0.0000	-0-	-0-	-0-	-0-
08/08/85	BACON CR	1	wet	-0-	-0-	-0-	-0-	-0-
08/08/85	BACON CR	2	RAINY	-0-	-0-	-0-	-0-	-0-
08/08/85	BACON CR	3	RAINY	-0-	-0-	-0-	-0-	-0-
08/08/85	BAD SPOT	1	RAINY	-0-	-0-	-0-	-0-	-0-
08/08/85	BAD SPOT	2	RAINY	-0-	48.000	75.500	3.20	STH
08/08/85	BAD SPOT	3	RAINY	-0-	-0-	-0-	-0-	-0-
08/08/85	BAD SPOT	4	RAINY	-0-	-0-	-0-	-0-	-0-
08/08/85	BIG EDDY	1	RAINY	-0-	-0-	-0-	-0-	-0-
08/08/85	BIG EDDY	2	RAINY	-0-	-0-	-0-	-0-	-0-
08/08/85	BIG EDDY	3	RAINY	-0-	-0-	-0-	-0-	-0-
08/08/85	DIOBSUD CR	1	RAINY	-0-	76.300	43.500	3.50	STH
08/08/85	DIOBSUD CR	1	RAINY	76.100	50.700	-0-	3.40	STH
08/08/85	DIOBSUD CR	1	RAINY	106.80	28.100	-0-	3.40	STH
08/08/85	DIOBSUD CR	1	RAINY	113.60	38.100	-0-	3.30	STH
08/08/85	DIOBSUD CR	1	RAINY	91.000	47.000	-0-	3.20	STH
08/08/85	DIOBSUD CR	1	RAINY	101.70	27.200	-0-	3.50	STH
08/08/85	DIOBSUD CR	1	RAINY	60.400	62.700	-0-	2.90	STH
08/08/85	DIOBSUD CR	1	RAINY	-0-	62.400	61.500	3.20	STH
08/08/85	DIOBSUD CR	1	RAINY	-0-	39.300	105.20	3.50	STH
08/08/85	DIOBSUD CR	1	RAINY	-0-	70.200	40.200	3.20	STH
08/08/85	DIOBSUD CR	1	RAINY	-0-	69.200	39.000	3.40	STH
08/08/85	DIOBSUD CR	1	RAINY	32.700	95.300	-0-	3.60	STH
08/08/85	DIOBSUD CR	1	RAINY	58.600	55.900	-0-	3.40	STH
08/08/85	DIOBSUD CR	1	RAINY	57.500	60.900	-0-	3.40	STH
08/08/85	DIOBSUD CR	1	RAINY	-0-	37.000	85.800	3.10	STH
08/08/85	DIOBSUD CR	1	RAINY	-0-	32.600	95.200	3.40	STH
08/08/85	DIOBSUD CR	2	RAINY	-0-	59.100	50.800	3.40	STH
08/08/85	DIOBSUD CR	2	RAINY	-0-	43.100	62.300	3.40	STH
08/08/85	DIOBSUD CR	2	RAINY	-0-	30.500	73.000	3.20	STH
08/08/85	DIOBSUD CR	2	RAINY	-0-	19.700	89.000	3.30	STH
08/08/85	DIOBSUD CR	2	RAINY	-0-	21.800	84.700	3.40	STH
08/08/85	DIOBSUD CR	2	RAINY	-0-	27.000	80.500	3.30	STH
08/08/85	FACE BAR	1	RAINY	89.400	33.700	-0-	3.10	STH
08/08/85	FACE BAR	1	RAINY	92.200	20.100	-0-	3.20	STH
08/08/85	FACE BAR	1	RAINY	-0-	37.800	72.900	2.90	STH
08/08/85	FACE BAR	2	RAINY	-0-	-0-	-0-	-0-	-0-
08/08/85	FACE BAR	3	RAINY	-0-	-0-	-0-	-0-	-0-

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DATE OF STRAND	GRAVEL BAR LOCATION NAME	STATION NUMBER	WEATHER	FISH COORDINATE REFERENCE POINT 1 (FT)	FISH COORDINATE REFERENCE POINT 2 (FT)	FISH COORDINATE REFERENCE POINT 3 (FT)	FISH LENGTH (CM)	SPECIES STRANDED
08/08/85	FORBIDDEN	1	RAINY	39.400	77.500	-0-	3.00	STH
08/08/85	FORBIDDEN	2	RAINY	-0-	-0-	-0-	-0-	-0-
08/08/85	FORBIDDEN	3	RAINY	-0-	-0-	-0-	-0-	-0-
08/08/85	FUNGUS BAR	1	RAINY	44.100	58.700	-0-	2.20	STH
08/08/85	FUNGUS BAR	1	RAINY	-0-	-0-	-0-	3.00	STH
08/08/85	FUNGUS BAR	1	RAINY	89.400	18.100	-0-	2.20	STH
08/08/85	FUNGUS BAR	1	RAINY	68.200	33.400	-0-	2.50	STH
08/08/85	FUNGUS BAR	2	RAINY	71.600	50.100	-0-	3.50	STH
08/08/85	FUNGUS BAR	2	RAINY	-0-	71.400	34.700	3.70	STH
08/08/85	FUNGUS BAR	2	RAINY	-0-	94.300	31.800	3.40	STH
08/08/85	FUNGUS BAR	2	RAINY	72.600	48.900	-0-	3.30	STH
08/08/85	FUNGUS BAR	2	RAINY	-0-	31.500	85.000	3.30	STH
08/08/85	FUNGUS BAR	2	RAINY	72.200	51.100	-0-	4.00	STH
08/08/85	FUNGUS BAR	2	RAINY	68.100	52.200	-0-	4.00	STH
08/08/85	FUNGUS BAR	2	RAINY	70.900	54.300	-0-	3.20	STH
08/08/85	FUNGUS BAR	2	RAINY	72.200	54.400	-0-	3.40	STH
08/08/85	FUNGUS BAR	3	RAINY	-0-	92.200	26.600	3.70	STH
08/08/85	FUNGUS BAR	3	RAINY	37.600	73.300	-0-	3.40	STH
08/08/85	FUNGUS BAR	3	RAINY	50.400	65.700	-0-	3.30	STH
08/08/85	FUNGUS BAR	3	RAINY	-0-	86.900	27.200	3.90	STH
08/08/85	FUNGUS BAR	3	RAINY	35.600	78.900	-0-	3.70	STH
08/08/85	FUNGUS BAR	3	RAINY	24.400	85.500	-0-	3.20	STH
08/08/85	FUNGUS BAR	3	RAINY	25.600	94.900	-0-	3.70	STH
08/08/85	INACCESSIB	1	RAINY	87.100	-14.600	-0-	-0-	-0-
08/08/85	INACCESSIB	1	RAINY	98.600	-6.1000	-0-	-0-	-0-
08/08/85	INACCESSIB	2	RAINY	71.300	42.200	-0-	3.60	STH
08/08/85	INACCESSIB	2	RAINY	99.500	29.600	-0-	3.90	STH
08/08/85	INACCESSIB	3	RAINY	96.900	30.100	-0-	3.90	STH
08/08/85	MARBLE MT	1	RAINY	-0-	61.500	59.900	3.10	STH
08/08/85	MARBLE MT	1	RAINY	-0-	56.400	66.500	3.10	STH
08/08/85	MARBLE MT	1	RAINY	-0-	14.300	99.200	3.50	STH
08/08/85	MARBLE MT	1	RAINY	-0-	53.000	62.300	3.20	STH
08/08/85	MARBLE MT	1	RAINY	-0-	89.700	18.100	3.60	STH
08/08/85	MARBLE MT	1	RAINY	-0-	87.300	19.400	3.20	STH
08/08/85	MARBLE MT	2	RAINY	34.800	65.400	-0-	3.00	STH
08/08/85	MARBLE MT	2	RAINY	35.900	63.800	-0-	3.30	STH
08/08/85	MARBLE MT	3	RAINY	-0-	24.200	74.900	3.30	STH
08/08/85	MARBLE MT	3	RAINY	-0-	27.600	71.700	3.30	STH
08/08/85	MARBLE MT	3	RAINY	-0-	24.500	74.800	3.50	STH
08/08/85	MARBLE MT	3	RAINY	-0-	24.700	74.600	3.20	STH
08/08/85	QINK BAR	1	RAINY	-0-	42.000	78.200	2.30	STH
08/08/85	QINK BAR	1	RAINY	56.000	54.900	-0-	2.60	STH
08/08/85	QINK BAR	1	RAINY	48.000	71.800	-0-	3.40	STH
08/08/85	QINK BAR	1	RAINY	-0-	41.000	94.000	2.70	STH
08/08/85	QINK BAR	1	RAINY	84.000	50.000	-0-	3.20	STH
08/08/85	QINK BAR	2	RAINY	-0-	64.000	45.000	3.30	STH
08/08/85	QINK BAR	2	RAINY	-0-	110.00	31.000	2.80	STH
08/08/85	QINK BAR	3	RAINY	-0-	-0-	-0-	-0-	-0-
08/08/85	WAYNE SWIM	1	RAINY	-0-	-0-	-0-	-0-	-0-
08/08/85	WAYNE SWIM	2	RAINY	-0-	-0-	-0-	-0-	-0-
08/09/85	BACON CR	1	RAINY	-0-	-0-	-0-	-0-	-0-

NOTE: FOR EACH STRANDED FRY THERE IS ONE LINE OF DATA.

DATE OF STRAND	GRAVEL BAR LOCATION NAME	STATION NUMBER	WEATHER	FISH COORDINATE REFERENCE POINT 1 (FT)	FISH COORDINATE REFERENCE POINT 2 (FT)	FISH COORDINATE REFERENCE POINT 3 (FT)	FISH LENGTH (CM)	SPECIES STRANDED
08/09/85	BACON CR	2	RAINY	55.100	97.600	-0-	3.10	STH
08/09/85	BACON CR	3	RAINY	-0-	-0-	-0-	-0-	-0-
08/09/85	BAD SPOT	1	RAINY	-0-	-0-	-0-	-0-	-0-
08/09/85	BAD SPOT	2	RAINY	-0-	-0-	-0-	-0-	-0-
08/09/85	BAD SPOT	3	RAINY	-0-	-0-	-0-	-0-	-0-
08/09/85	BAD SPOT	4	RAINY	-0-	-0-	-0-	-0-	-0-
08/09/85	BIG EDDY	1	RAINY	-0-	46.000	16.700	3.00	ETH
08/09/85	BIG EDDY	1	RAINY	58.000	54.000	-0-	3.20	STH
08/09/85	BIG EDDY	2	RAINY	-0-	-0-	-0-	-0-	-0-
08/09/85	BIG EDDY	3	RAINY	-0-	-0-	-0-	-0-	-0-
08/09/85	DIOBSUD CR	1	RAINY	50.100	84.400	-0-	2.90	STH
08/09/85	DIOBSUD CR	1	RAINY	42.300	103.30	-0-	3.30	STH
08/09/85	DIOBSUD CR	1	RAINY	41.500	105.20	-0-	3.30	STH
08/09/85	DIOBSUD CR	1	RAINY	44.600	102.50	-0-	3.40	STH
08/09/85	DIOBSUD CR	1	RAINY	42.100	102.20	-0-	3.20	STH
08/09/85	DIOBSUD CR	1	RAINY	36.800	99.520	-0-	3.10	STH
08/09/85	DIOBSUD CR	1	RAINY	43.400	105.20	-0-	3.00	STH
08/09/85	DIOBSUD CR	1	RAINY	49.200	86.000	-0-	3.00	STH
08/09/85	DIOBSUD CR	1	RAINY	54.500	76.400	-0-	3.20	STH
08/09/85	DIOBSUD CR	1	RAINY	98.600	7.0000	-0-	3.00	STH
08/09/85	DIOBSUD CR	1	RAINY	98.600	7.0000	-0-	3.00	STH
08/09/85	DIOBSUD CR	1	RAINY	98.600	7.0000	-0-	2.50	STH
08/09/85	DIOBSUD CR	1	RAINY	98.600	7.0000	-0-	3.10	STH
08/09/85	DIOBSUD CR	1	RAINY	98.600	7.0000	-0-	3.10	STH
08/09/85	DIOBSUD CR	1	RAINY	98.600	7.0000	-0-	3.00	STH
08/09/85	DIOBSUD CR	1	RAINY	98.600	7.0000	-0-	3.00	STH
08/09/85	DIOBSUD CR	1	RAINY	98.600	7.0000	-0-	2.60	STH
08/09/85	DIOBSUD CR	1	RAINY	55.400	76.100	-0-	3.00	STH
08/09/85	DIOBSUD CR	1	RAINY	61.700	69.600	-0-	3.10	STH
08/09/85	DIOBSUD CR	1	RAINY	80.100	48.800	-0-	3.00	STH
08/09/85	DIOBSUD CR	1	RAINY	102.30	25.600	-0-	3.10	STH
08/09/85	DIOBSUD CR	1	RAINY	99.300	8.8000	-0-	2.90	STH
08/09/85	DIOBSUD CR	1	RAINY	98.600	7.0000	-0-	3.30	STH
08/09/85	DIOBSUD CR	1	RAINY	46.100	106.60	-0-	3.50	STH
08/09/85	DIOBSUD CR	1	RAINY	47.100	107.70	-0-	3.50	STH
08/09/85	DIOBSUD CR	1	RAINY	45.400	107.10	-0-	3.00	STH
08/09/85	DIOBSUD CR	1	RAINY	40.100	104.10	-0-	3.20	STH
08/09/85	DIOBSUD CR	1	RAINY	40.100	103.10	-0-	3.20	STH
08/09/85	DIOBSUD CR	1	RAINY	40.100	103.70	-0-	3.40	STH
08/09/85	DIOBSUD CR	1	RAINY	40.100	105.10	-0-	2.50	STH
08/09/85	DIOBSUD CR	1	RAINY	98.900	8.1000	-0-	4.20	STH
08/09/85	DIOBSUD CR	1	RAINY	98.600	7.0000	-0-	3.40	STH
08/09/85	DIOBSUD CR	1	RAINY	38.200	105.10	-0-	5.00	CDHO
08/09/85	DIOBSUD CR	1	RAINY	98.600	7.0000	-0-	3.10	STH
08/09/85	DIOBSUD CR	1	RAINY	99.200	8.5000	-0-	3.10	STH
08/09/85	DIOBSUD CR	1	RAINY	98.100	8.2000	-0-	3.40	STH
08/09/85	DIOBSUD CR	1	RAINY	98.600	7.0000	-0-	3.20	STH
08/09/85	DIOBSUD CR	1	RAINY	98.900	7.9000	-0-	3.00	STH
08/09/85	DIOBSUD CR	2	RAINY	-0-	26.200	79.400	2.50	STH
08/09/85	DIOBSUD CR	2	RAINY	-0-	38.600	55.000	2.50	STH
08/09/85	DIOBSUD CR	2	RAINY	-0-	21.200	49.600	3.00	STH

NOTE: FOR EACH STRANDED FRY THERE IS ONE LINE OF DATA.

DATE OF STRAND	GRAVEL BAR LOCATION NAME	STATION NUMBER	WEATHER	FISH COORDINATE REFERENCE POINT 1 (FT)	FISH COORDINATE REFERENCE POINT 2 (FT)	FISH COORDINATE REFERENCE POINT 3 (FT)	FISH LENGTH (CM)	SPECIES STRANDED
08/09/85	FORBIDDEN	1	RAINY	53.800	71.300	-0-	3.20	STH
08/09/85	FORBIDDEN	2	RAINY	-0-	-0-	-0-	-0-	-0-
08/09/85	FORBIDDEN	3	RAINY	-0-	-0-	-0-	-0-	-0-
08/09/85	FUNGUS BAR	1	RAINY	-0-	-0-	-0-	-0-	-0-
08/09/85	FUNGUS BAR	2	RAINY	-0-	75.500	70.100	2.70	STH
08/09/85	FUNGUS BAR	2	RAINY	-0-	90.600	18.100	2.60	STH
08/09/85	FUNGUS BAR	3	RAINY	17.400	92.300	-0-	2.50	STH
08/09/85	FUNGUS BAR	3	RAINY	24.100	96.800	-0-	-0-	-0-
08/09/85	FUNGUS BAR	3	RAINY	63.300	38.700	-0-	2.60	STH
08/09/85	FUNGUS BAR	3	RAINY	-0-	90.700	27.300	2.60	STH
08/09/85	FUNGUS BAR	3	RAINY	26.200	112.70	-0-	-0-	-0-
08/09/85	FUNGUS BAR	3	RAINY	33.700	73.800	-0-	2.60	STH
08/09/85	FUNGUS BAR	3	RAINY	-0-	90.700	27.300	2.60	STH
08/09/85	FUNGUS BAR	3	RAINY	-0-	23.900	101.30	3.00	STH
08/09/85	FUNGUS BAR	3	RAINY	33.700	73.800	-0-	2.60	STH
09/09/85	FUNGUS BAR	3	RAINY	33.700	73.800	-0-	2.50	STH
08/09/85	INACCESSIB	1	RAINY	37.900	75.800	-0-	-0-	-0-
08/09/85	INACCESSIB	1	RAINY	37.900	75.800	-0-	-0-	-0-
08/09/85	INACCESSIB	2	RAINY	-0-	-0-	-0-	-0-	-0-
08/09/85	INACCESSIB	3	RAINY	-0-	-0-	-0-	-0-	-0-
08/09/85	MARBLE MT	1	RAINY	-0-	106.00	42.000	3.00	STH
08/09/85	MARBLE MT	1	RAINY	-0-	89.000	48.000	2.90	STH
08/09/85	MARBLE MT	1	RAINY	-0-	61.300	56.000	2.60	STH
08/09/85	MARBLE MT	1	RAINY	-0-	55.000	65.700	3.20	STH
08/09/85	MARBLE MT	1	RAINY	-0-	41.400	78.000	3.20	STH
08/09/85	MARBLE MT	1	RAINY	-0-	30.500	80.000	2.70	STH
08/09/85	MARBLE MT	1	RAINY	-0-	87.000	48.000	3.10	STH
08/09/85	MARBLE MT	1	RAINY	-0-	82.000	54.000	3.70	STH
08/09/85	MARBLE MT	1	RAINY	92.500	26.000	-0-	3.20	STH
08/09/85	MARBLE MT	1	RAINY	-0-	100.00	53.700	3.10	STH
08/09/85	MARBLE MT	1	RAINY	-0-	55.000	72.000	3.10	STH
08/09/85	MARBLE MT	1	RAINY	-0-	47.500	85.000	3.50	STH
08/09/85	MARBLE MT	1	RAINY	-0-	93.000	45.400	3.20	STH
08/09/85	MARBLE MT	1	RAINY	78.000	56.000	-0-	3.60	STH
08/09/85	MARBLE MT	1	RAINY	75.400	26.000	-0-	-0-	STH
08/09/85	MARBLE MT	1	RAINY	91.600	15.000	-0-	3.00	STH
08/09/85	MARBLE MT	1	RAINY	90.400	45.400	-0-	3.10	STH
08/09/85	MARBLE MT	1	RAINY	103.50	37.000	-0-	3.30	STH
08/09/85	MARBLE MT	1	RAINY	-0-	101.00	56.000	3.40	STH
08/09/85	MARBLE MT	1	RAINY	-0-	93.000	53.000	3.30	STH
08/09/85	MARBLE MT	1	RAINY	88.000	13.000	-0-	3.10	STH
08/09/85	MARBLE MT	1	RAINY	100.00	36.000	-0-	3.30	STH
08/09/85	MARBLE MT	1	RAINY	114.50	37.000	-0-	3.70	STH
08/09/85	MARBLE MT	2	RAINY	92.000	20.400	-0-	3.20	STH
08/09/85	MARBLE MT	2	RAINY	11.800	93.500	-0-	3.40	STH
08/09/85	MARBLE MT	2	RAINY	87.000	60.000	-0-	2.90	STH
08/09/85	MARBLE MT	2	RAINY	-0-	36.000	94.400	3.20	STH
08/09/85	MARBLE MT	2	RAINY	-0-	104.00	48.000	3.20	STH
08/09/85	MARBLE MT	2	RAINY	95.300	54.000	-0-	3.00	STH
08/09/85	MARBLE MT	2	RAINY	-0-	105.00	21.600	2.80	STH
08/09/85	MARBLE MT	2	RAINY	-0-	105.00	43.600	3.20	STH

NOTE: FOR EACH STRANDED FRY THERE IS ONE LINE OF DATA.

DATE OF STRAND	GRAVEL BAP LOCATION NAME	STATION NUMBER	WEATHER	FISH COORDINATE REFERENCE POINT 1 (FT)	FISH COORDINATE REFERENCE POINT 2 (FT)	FISH COORDINATE REFERENCE POINT 3 (FT)	FISH LENGTH (CM)	SPECIES STRANDED
08/09/85	MARBLE MT	2	RAINY	46.400	117.00	-0-	3.20	STH
08/09/85	MARBLE MT	2	RAINY	-0-	103.00	23.000	2.80	STH
08/09/85	MARBLE MT	2	RAINY	-0-	36.009	72.000	3.10	STH
08/09/85	MARBLE MT	2	RAINY	88.000	58.000	-0-	3.20	STH
08/09/85	MARBLE MT	2	RAINY	96.000	56.000	-0-	3.00	STH
08/09/85	MARBLE MT	2	RAINY	-0-	25.300	90.000	3.50	STH
08/09/85	MARBLE MT	2	RAINY	-0-	28.000	90.000	3.10	STH
08/09/85	MARBLE MT	2	RAINY	-0-	53.700	57.400	3.10	STH
08/09/85	MARBLE MT	2	RAINY	-0-	92.000	33.400	2.90	STH
08/09/85	MARBLE MT	3	RAINY	48.700	111.70	-0-	3.00	STH
08/09/85	MARBLE MT	3	RAINY	26.300	98.000	-0-	3.20	STH
08/09/85	MARBLE MT	3	RAINY	52.000	62.000	-0-	3.10	STH
08/09/85	MARBLE MT	3	RAINY	46.800	110.00	-0-	3.50	STH
08/09/85	MARBLE MT	3	RAINY	59.000	98.000	-0-	2.80	STH
08/09/85	MARBLE MT	3	RAINY	44.000	75.000	-0-	3.20	STH
08/09/85	MARBLE MT	3	RAINY	44.000	75.000	-0-	3.40	STH
08/09/85	MARBLE MT	3	RAINY	-0-	-0-	-0-	3.10	STH
08/09/85	MARBLE MT	3	RAINY	-0-	-0-	-0-	3.80	STH
08/09/85	MARBLE MT	3	RAINY	84.000	72.000	-0-	3.70	STH
08/09/85	MARBLE MT	3	RAINY	47.600	115.00	-0-	3.70	STH
08/09/85	MARBLE MT	3	RAINY	55.400	98.500	-0-	2.90	STH
08/09/85	MARBLE MT	3	RAINY	-0-	45.000	57.000	3.10	STH
08/09/85	MARBLE MT	3	RAINY	-0-	76.500	31.000	3.00	STH
08/09/85	MARBLE MT	3	RAINY	28.000	98.000	-0-	3.10	STH
08/09/85	MARBLE MT	3	RAINY	38.400	74.000	-0-	3.00	STH
08/09/85	MARBLE MT	3	RAINY	44.000	75.000	-0-	3.60	STH
08/09/85	MARBLE MT	3	RAINY	44.000	75.000	-0-	3.40	STH
08/09/85	MARBLE MT	3	RAINY	95.500	55.000	-0-	3.20	STH
08/09/85	MARBLE MT	3	RAINY	-0-	32.000	68.000	3.20	STH
08/09/85	MARBLE MT	3	RAINY	44.000	75.000	-0-	3.30	STH
08/09/85	MARBLE MT	3	RAINY	78.700	60.000	-0-	4.80	STH
08/09/85	MARBLE MT	3	RAINY	95.500	55.000	-0-	3.40	STH
08/09/85	MARBLE MT	3	RAINY	84.000	72.000	-0-	3.30	STH
08/09/85	MARBLE MT	3	RAINY	84.000	57.000	-0-	3.30	STH
08/09/85	MARBLE MT	3	RAINY	40.000	54.000	-0-	3.40	STH
08/09/85	MARBLE MT	3	RAINY	44.000	75.000	-0-	3.50	STH
08/09/85	MARBLE MT	3	RAINY	-0-	49.000	81.300	3.40	STH
08/09/85	MARBLE MT	3	RAINY	-0-	49.000	81.300	3.50	STH
08/09/85	MARBLE MT	3	RAINY	-0-	49.000	81.300	3.20	STH
08/09/85	MARBLE MT	3	RAINY	-0-	49.000	81.300	3.50	STH
08/09/85	MARBLE MT	3	RAINY	-0-	49.000	81.300	3.60	STH
08/09/85	MARBLE MT	3	RAINY	97.600	52.000	-0-	3.60	STH
08/09/85	MARBLE MT	3	RAINY	54.500	54.000	-0-	3.40	STH
08/09/85	MARBLE MT	3	RAINY	44.000	75.000	-0-	3.70	STH
08/09/85	MARBLE MT	3	RAINY	44.000	75.000	-0-	3.40	STH
08/09/85	MARBLE MT	3	RAINY	64.000	43.500	-0-	3.20	STH
08/09/85	MARBLE MT	3	RAINY	66.000	45.000	-0-	3.60	STH
08/09/85	DINK BAR	1	RAINY	103.70	42.900	-0-	3.20	STH
08/09/85	DINK BAR	1	RAINY	25.600	87.900	-0-	3.60	STH
08/09/85	DINK BAR	1	RAINY	62.600	90.400	-0-	3.30	STH
08/09/85	DINK BAR	1	RAINY	104.10	41.900	-0-	3.00	STH

NOTE: FOR EACH STRANDED FRY THERE IS ONE LINE OF DATA.

DATE OF STRAND	GRAVEL BAR LOCATION NAME	STATION NUMBER	WEATHER	FISH COORDINATE REFERENCE POINT 1 (FT)	FISH COORDINATE REFERENCE POINT 2 (FT)	FISH COORDINATE REFERENCE POINT 3 (FT)	FISH LENGTH (CM)	SPECIES STRANDED
08/09/85	DINK BAR	1	RAINY	33.700	70.000	-0-	2.90	STH
08/09/85	DINK BAR	1	RAINY	45.100	60.700	-0-	3.00	STH
08/09/85	DINK BAR	1	RAINY	106.70	41.900	-0-	3.00	STH
08/09/85	DINK BAR	2	RAINY	-0-	92.500	26.200	3.20	STH
08/09/85	DINK BAR	2	RAINY	96.200	27.500	-0-	3.20	STH
08/09/85	DINK BAR	2	RAINY	34.800	91.400	-0-	3.20	STH
08/09/85	DINK BAR	3	RAINY	88.500	16.500	-0-	3.30	STH
08/09/85	DINK BAR	3	RAINY	-0-	20.700	93.700	3.00	STH
08/09/85	DINK BAR	3	RAINY	28.900	94.400	-0-	5.00	COMO
08/09/85	DINK BAR	3	RAINY	87.400	30.300	-0-	3.30	STH
08/09/85	ROCKPORT	1	RAINY	45.700	68.500	-0-	-0-	STH
08/09/85	ROCKPORT	1	RAINY	82.300	39.700	-0-	-0-	STH
08/09/85	ROCKPORT	2	RAINY	-0-	83.600	21.900	-0-	STH
08/09/85	ROCKPORT	2	RAINY	-0-	98.600	29.000	-0-	STH
08/09/85	ROCKPORT	2	RAINY	-0-	88.000	40.900	-0-	STH
08/09/85	ROCKPORT	2	RAINY	-0-	47.800	60.200	-0-	STH
08/09/85	ROCKPORT	3	RAINY	-0-	47.800	60.200	-0-	STH
08/09/85	ROCKPORT	3	RAINY	-0-	90.100	19.100	-0-	STH
08/09/85	ROCKPORT	3	RAINY	-0-	45.600	58.500	-0-	STH
08/09/85	ROCKPORT	3	RAINY	-0-	40.400	67.500	-0-	STH
08/09/85	ROCKPORT	3	RAINY	-0-	33.000	102.80	-0-	STH
08/09/85	ROCKPORT	3	RAINY	-0-	33.600	79.800	-0-	STH
08/09/85	ROCKPORT	3	RAINY	-0-	31.800	100.50	-0-	STH
08/09/85	ROCKPORT	3	RAINY	-0-	47.800	65.000	-0-	STH
08/09/85	ROCKPORT	3	RAINY	-0-	40.000	74.300	-0-	STH
08/09/85	WAYNE SWIM	1	RAINY	-0-	-0-	-0-	-0-	-0-
08/09/85	WAYNE SWIM	2	RAINY	-0-	-0-	-0-	-0-	-0-
08/10/85	BACON CR	1	CLEAR	47.400	83.000	-0-	-0-	-0-
08/10/85	BACON CR	1	CLEAR	-0-	95.000	30.000	-0-	-0-
08/10/85	BACON CR	2	CLEAR	-0-	-0-	-0-	-0-	-0-
08/10/85	BACON CR	3	CLEAR	-0-	-0-	-0-	-0-	-0-
08/10/85	BAD SPOT	1	CLEAR	-0-	56.700	53.700	3.10	-0-
08/10/85	BAD SPOT	2	CLEAR	-0-	-0-	-0-	-0-	-0-
08/10/85	BAD SPOT	3	CLEAR	-0-	92.800	42.800	2.90	-0-
08/10/85	BAD SPOT	4	CLEAR	-0-	-0-	-0-	-0-	-0-
08/10/85	BIG EDDY	1	OVERCAST	18.700	32.800	-0-	3.00	-0-
08/10/85	BIG EDDY	2	OVERCAST	-0-	-0-	-0-	-0-	-0-
08/10/85	BIG EDDY	3	OVERCAST	-0-	-0-	-0-	-0-	-0-
08/10/85	DIOBSUD CR	1	CLEAR	40.200	102.40	-0-	3.30	STH
08/10/85	DIOBSUD CR	1	CLEAR	-0-	80.000	54.100	-0-	-0-
08/10/85	DIOBSUD CR	1	CLEAR	42.200	105.20	-0-	2.90	STH
08/10/85	DIOBSUD CR	1	CLEAR	46.200	106.80	-0-	4.00	STH
08/10/85	DIOBSUD CR	1	CLEAR	46.000	105.50	-0-	2.90	STH
08/10/85	DIOBSUD CR	1	CLEAR	47.900	107.20	-0-	3.10	STH
08/10/85	DIOBSUD CR	1	CLEAR	71.100	46.000	-0-	3.00	STH
08/10/85	DIOBSUD CR	1	CLEAR	53.000	72.700	-0-	3.00	STH
08/10/85	DIOBSUD CR	1	CLEAR	-0-	78.800	53.900	-0-	-0-
08/10/85	DIOBSUD CR	1	CLEAR	39.100	103.70	-0-	3.00	STH
08/10/85	DIOBSUD CR	1	CLEAR	38.500	103.80	-0-	2.90	STH
08/10/85	DIOBSUD CR	1	CLEAR	97.600	18.600	-0-	3.10	STH
08/10/85	DIOBSUD CR	1	CLEAR	94.000	40.800	-0-	3.40	STH

NOTE: FOR EACH STRANDED FRY THERE IS ONE LINE OF DATA.

DATE OF STRAND	GRAVEL BAR LOCATION NAME	STATION NUMBER	WEATHER	FISH COORDINATE REFERENCE POINT 1 (FT)	FISH COORDINATE REFERENCE POINT 2 (FT)	FISH COORDINATE REFERENCE POINT 3 (FT)	FISH LENGTH (CM)	SPECIES STRANDED
08/10/85	DIOBSUD CR	1	CLEAR	94.400	40.900	-0-	3.00	STH
08/10/85	DIOBSUD CR	2	CLEAR	15.900	85.400	-0-	3.20	-0-
08/10/85	DIOBSUD CR	2	CLEAR	25.900	77.100	-0-	3.20	-0-
08/10/85	DIOBSUD CR	2	CLEAR	68.700	41.400	-0-	3.60	-0-
08/10/85	DIOBSUD CR	2	CLEAR	45.700	65.700	-0-	3.30	-0-
08/10/85	DIOBSUD CR	2	CLEAR	61.700	62.600	-0-	3.70	STH
08/10/85	DIOBSUD CR	2	CLEAR	76.100	34.500	-0-	3.00	-0-
08/10/85	DIOBSUD CR	2	CLEAR	35.100	70.800	-0-	3.20	-0-
08/10/85	FACE BAR	1	OVERCAST	-0-	38.800	61.500	3.40	STH
08/10/85	FACE BAR	1	OVERCAST	-0-	65.700	44.100	-0-	-0-
08/10/85	FACE BAR	1	OVERCAST	-0-	34.400	68.900	3.40	STH
08/10/85	FACE BAR	1	OVERCAST	-0-	33.900	69.400	3.80	STH
08/10/85	FACE BAR	1	OVERCAST	-0-	34.200	69.100	3.40	STH
08/10/85	FACE BAR	1	OVERCAST	-0-	34.400	68.900	3.10	STH
08/10/85	FACE BAR	1	OVERCAST	-0-	34.400	68.900	3.70	STH
08/10/85	FACE BAR	1	OVERCAST	-0-	42.500	58.800	3.40	STH
08/10/85	FACE BAR	1	OVERCAST	-0-	33.700	69.300	3.30	STH
08/10/85	FACE BAR	1	OVERCAST	-0-	32.400	67.000	3.40	STH
08/10/85	FACE BAR	1	OVERCAST	-0-	36.400	67.600	3.10	STH
08/10/85	FACE BAR	1	OVERCAST	-0-	34.400	68.900	3.30	STH
08/10/85	FACE BAR	1	OVERCAST	-0-	37.900	64.100	-0-	-0-
08/10/85	FACE BAR	1	OVERCAST	-0-	38.400	63.300	-0-	-0-
08/10/85	FACE BAR	1	OVERCAST	-0-	38.800	62.900	-0-	-0-
08/10/85	FACE BAR	1	OVERCAST	21.000	80.800	-0-	-0-	-0-
08/10/85	FACE BAR	1	OVERCAST	22.100	80.000	-0-	3.20	STH
08/10/85	FACE BAR	1	OVERCAST	28.900	72.400	-0-	3.40	STH
08/10/85	FACE BAR	1	OVERCAST	-0-	69.700	46.400	-0-	-0-
08/10/85	FACE BAR	1	OVERCAST	-0-	34.400	68.900	3.60	STH
08/10/85	FACE BAR	1	OVERCAST	-0-	34.400	68.900	3.40	STH
08/10/85	FACE BAR	1	OVERCAST	-0-	70.000	30.400	-0-	-0-
08/10/85	FACE BAR	1	OVERCAST	-0-	72.100	28.700	3.50	STH
08/10/85	FACE BAR	1	OVERCAST	-0-	72.900	22.900	3.20	STH
08/10/85	FACE BAR	1	OVERCAST	-0-	78.500	21.900	-0-	-0-
08/10/85	FACE BAR	1	OVERCAST	-0-	77.200	23.400	3.10	STH
08/10/85	FACE BAR	1	OVERCAST	-0-	91.600	10.000	-0-	-0-
08/10/85	FACE BAR	1	OVERCAST	-0-	108.10	28.700	3.80	STH
08/10/85	FACE BAR	1	OVERCAST	-0-	108.10	28.700	3.30	STH
08/10/85	FACE BAR	1	OVERCAST	-0-	38.300	62.500	3.40	STH
08/10/85	FACE BAR	1	OVERCAST	-0-	19.500	89.700	3.10	STH
08/10/85	FACE BAR	1	OVERCAST	-0-	31.100	73.800	3.30	STH
08/10/85	FACE BAR	1	OVERCAST	23.400	77.500	-0-	3.50	STH
08/10/85	FACE BAR	1	OVERCAST	22.600	78.400	-0-	3.70	STH
08/10/85	FACE BAR	1	OVERCAST	37.500	64.200	-0-	3.80	STH
08/10/85	FACE BAR	1	OVERCAST	-0-	81.600	43.400	3.20	STH
08/10/85	FACE BAR	1	OVERCAST	-0-	66.600	34.400	3.60	STH
08/10/85	FACE BAR	1	OVERCAST	85.100	28.400	-0-	3.10	STH
08/10/85	FACE BAR	1	OVERCAST	94.500	32.300	-0-	-0-	-0-
08/10/85	FACE BAR	1	OVERCAST	23.700	77.200	-0-	3.30	STH
08/10/85	FACE BAR	1	OVERCAST	10.000	92.300	-0-	3.10	STH
08/10/85	FACE BAR	1	OVERCAST	16.000	89.200	-0-	-0-	-0-
08/10/85	FACE BAR	1	OVERCAST	-0-	8.8000	92.800	-0-	-0-

NOTE: FOR EACH STRANDED FRY THERE IS ONE LINE OF DATA.

DATE OF STRAND	GRAVEL BAR LOCATION NAME	STATION NUMBER	WEATHER	FISH COORDINATE REFERENCE POINT 1 (FT)	FISH COORDINATE REFERENCE POINT 2 (FT)	FISH COORDINATE REFERENCE POINT 3 (FT)	FISH LENGTH (CM)	SPECIES STRANDED
08/10/85	FACE BAR	1	OVERCAST	-0-	38.000	63.500	-0-	-0-
08/10/85	FACE BAR	1	OVERCAST	53.700	56.700	-0-	3.80	STH
08/10/85	FACE BAR	1	OVERCAST	-0-	33.300	70.200	7.00	STH
08/10/85	FACE BAR	1	OVERCAST	40.200	83.400	-0-	-0-	-0-
08/10/85	FACE BAR	1	OVERCAST	-0-	38.500	87.300	-0-	-0-
08/10/85	FACE BAR	1	OVERCAST	-0-	29.000	85.900	-0-	-0-
08/10/85	FACE BAR	1	OVERCAST	-0-	24.200	92.600	3.50	STH
08/10/85	FACE BAR	1	OVERCAST	-0-	28.800	75.900	3.40	STH
08/10/85	FACE BAR	2	OVERCAST	33.900	71.900	-0-	3.40	STH
08/10/85	FACE BAR	2	OVERCAST	29.000	81.200	-0-	-0-	-0-
08/10/85	FACE BAR	2	OVERCAST	-0-	30.100	97.600	-0-	-0-
08/10/85	FACE BAR	2	OVERCAST	45.200	70.500	-0-	-0-	-0-
08/10/85	FACE BAR	2	OVERCAST	25.700	87.900	-0-	-0-	-0-
08/10/85	FACE BAR	2	OVERCAST	-0-	28.900	106.50	-0-	-0-
08/10/85	FACE BAR	2	OVERCAST	99.900	37.100	-0-	-0-	-0-
08/10/85	FACE BAR	2	OVERCAST	83.000	34.100	-0-	3.60	STH
08/10/85	FACE BAR	2	OVERCAST	42.300	77.700	-0-	-0-	-0-
08/10/85	FACE BAR	2	OVERCAST	58.500	53.200	-0-	-0-	-0-
08/10/85	FACE BAR	2	OVERCAST	25.900	78.800	-0-	3.20	STH
08/10/85	FACE BAR	3	OVERCAST	-0-	-0-	-0-	-0-	-0-
08/10/85	FORBIDDEN	1	CLOUDY	67.500	46.500	-0-	3.30	STH
08/10/85	FORBIDDEN	2	CLOUDY	-0-	-0-	-0-	-0-	-0-
08/10/85	FORBIDDEN	3	CLOUDY	-0-	-0-	-0-	-0-	-0-
08/10/85	FUNGUS BAR	1	CLEAR	20.000	90.000	-0-	3.80	STH
08/10/85	FUNGUS BAR	1	CLEAR	-0-	-0-	-0-	-0-	FLD
08/10/85	FUNGUS BAR	1	CLEAR	20.000	92.000	-0-	3.20	STH
08/10/85	FUNGUS BAR	1	CLEAR	0.0000	20.000	100.00	-0-	-0-
08/10/85	FUNGUS BAR	1	CLEAR	20.000	90.000	-0-	3.90	STH
08/10/85	FUNGUS BAR	2	CLEAR	-0-	51.000	66.000	3.30	-0-
08/10/85	FUNGUS BAR	2	CLEAR	-0-	55.000	58.000	3.50	-0-
08/10/85	FUNGUS BAR	2	CLEAR	-0-	53.000	61.000	3.20	-0-
08/10/85	FUNGUS BAR	2	CLEAR	-0-	62.000	49.000	2.90	-0-
08/10/85	FUNGUS BAR	2	CLEAR	-0-	60.000	52.000	3.10	-0-
08/10/85	FUNGUS BAR	2	CLEAR	-0-	100.00	16.000	3.10	-0-
08/10/85	FUNGUS BAR	2	CLEAR	-0-	60.000	40.000	3.10	-0-
08/10/85	FUNGUS BAR	2	CLEAR	-0-	69.000	39.000	3.60	-0-
08/10/85	FUNGUS BAR	2	CLEAR	-0-	83.000	42.000	3.10	-0-
08/10/85	FUNGUS BAR	2	CLEAR	-0-	50.000	62.000	3.20	-0-
08/10/85	FUNGUS BAR	2	CLEAR	-0-	51.000	56.000	3.60	-0-
08/10/85	FUNGUS BAR	2	CLEAR	70.000	40.000	-0-	3.10	STH
08/10/85	FUNGUS BAR	2	CLEAR	-0-	57.000	69.000	3.60	-0-
08/10/85	FUNGUS BAR	2	CLEAR	-0-	56.000	69.000	3.00	-0-
08/10/85	FUNGUS BAR	2	CLEAR	-0-	55.000	89.000	3.10	-0-
08/10/85	FUNGUS BAR	2	CLEAR	-0-	44.000	104.00	3.20	-0-
08/10/85	FUNGUS BAR	2	CLEAR	-0-	47.000	68.000	2.80	-0-
08/10/85	FUNGUS BAR	2	CLEAR	-0-	-0-	-0-	-0-	FLD
08/10/85	FUNGUS BAR	2	CLEAR	-0-	100.00	21.000	3.40	-0-
08/10/85	FUNGUS BAR	2	CLEAR	-0-	78.000	42.000	3.30	-0-
08/10/85	FUNGUS BAR	2	CLEAR	-0-	-0-	-0-	-0-	FLD
08/10/85	FUNGUS BAR	3	CLEAR	-0-	80.000	36.200	3.30	STH
08/10/85	FUNGUS BAR	3	CLEAR	-0-	83.000	39.500	2.90	STH

NOTE: FOR EACH STRANDED FRY THERE IS ONE LINE OF DATA.

DATE OF STRAND	GRAVEL BAR LOCATION NAME	STATION NUMBER	WEATHER	FISH COORDINATE REFERENCE POINT 1 (FT)	FISH COORDINATE REFERENCE POINT 2 (FT)	FISH COORDINATE REFERENCE POINT 3 (FT)	FISH LENGTH (CM)	SPECIES STRANDED
08/10/85	FUNGUS BAR	3	CLEAR	-0-	67.000	48.400	2.90	STH
08/10/85	FUNGUS BAR	3	CLEAR	-0-	77.000	24.000	2.70	STH
08/10/85	FUNGUS BAR	3	CLEAR	-0-	36.000	87.000	3.70	STH
08/10/85	FUNGUS BAR	3	CLEAR	-0-	20.000	100.00	3.00	STH
08/10/85	FUNGUS BAR	3	CLEAR	-0-	33.500	107.00	2.50	STH
08/10/85	FUNGUS BAR	3	CLEAR	70.000	48.000	-0-	2.80	STH
08/10/85	FUNGUS BAR	3	CLEAR	65.000	55.500	-0-	2.90	STH
08/10/85	FUNGUS BAR	3	CLEAR	69.000	66.000	-0-	3.40	STH
08/10/85	FUNGUS BAR	3	CLEAR	40.000	84.000	-0-	2.60	STH
08/10/85	FUNGUS BAR	3	CLEAR	94.000	78.000	-0-	2.60	STH
08/10/85	FUNGUS BAR	3	CLEAR	100.00	16.000	-0-	2.80	STH
08/10/85	FUNGUS BAR	3	CLEAR	108.00	21.000	-0-	3.30	STH
08/10/85	FUNGUS BAR	3	CLEAR	96.000	20.000	-0-	2.70	STH
08/10/85	FUNGUS BAR	3	CLEAR	96.000	20.400	-0-	3.20	STH
08/10/85	FUNGUS BAR	3	CLEAR	109.00	6.400	-0-	3.10	STH
08/10/85	FUNGUS BAR	3	CLEAR	88.000	19.000	-0-	2.80	STH
08/10/85	FUNGUS BAR	3	CLEAR	90.000	30.500	-0-	3.10	STH
08/10/85	FUNGUS BAR	3	CLEAR	78.000	27.300	-0-	2.90	STH
08/10/85	FUNGUS BAR	3	CLEAR	67.000	39.700	-0-	2.90	STH
08/10/85	FUNGUS BAR	3	CLEAR	60.000	50.000	-0-	3.10	STH
08/10/85	FUNGUS BAR	3	CLEAR	70.000	52.000	-0-	3.70	STH
08/10/85	FUNGUS BAR	3	CLEAR	-0-	62.000	65.000	3.30	STH
08/10/85	FUNGUS BAR	3	CLEAR	-0-	53.000	73.000	3.60	STH
08/10/85	FUNGUS BAR	3	CLEAR	-0-	51.200	60.000	3.10	STH
08/10/85	FUNGUS BAR	3	CLEAR	-0-	49.500	65.000	2.40	STH
08/10/85	FUNGUS BAR	3	CLEAR	-0-	47.600	64.600	2.90	STH
08/10/85	FUNGUS BAR	3	CLEAR	-0-	45.200	66.000	3.20	STH
08/10/85	FUNGUS BAR	3	CLEAR	-0-	45.200	65.400	2.80	STH
08/10/85	FUNGUS BAR	3	CLEAR	-0-	43.500	66.400	2.80	STH
08/10/85	FUNGUS BAR	3	CLEAR	-0-	43.000	67.000	4.10	STH
08/10/85	FUNGUS BAR	3	CLEAR	-0-	41.200	77.000	2.90	STH
08/10/85	FUNGUS BAR	3	CLEAR	-0-	41.500	78.000	3.60	STH
08/10/85	FUNGUS BAR	3	CLEAR	-0-	33.000	75.000	2.70	STH
08/10/85	FUNGUS BAR	3	CLEAR	-0-	26.000	86.000	3.10	STH
08/10/85	FUNGUS BAR	3	CLEAR	85.000	-0-	-0-	-0-	-0-
08/10/85	FUNGUS BAR	3	CLEAR	23.000	90.000	-0-	-0-	-0-
08/10/85	FUNGUS BAR	3	CLEAR	32.000	90.600	-0-	-0-	-0-
08/10/85	FUNGUS BAR	3	CLEAR	48.000	61.000	-0-	2.70	STH
08/10/85	FUNGUS BAR	3	CLEAR	50.000	78.300	-0-	3.40	STH
08/10/85	FUNGUS BAR	3	CLEAR	20.000	84.200	-0-	2.90	STH
08/10/85	FUNGUS BAR	3	CLEAR	25.000	85.000	-0-	3.20	STH
08/10/85	FUNGUS BAR	3	CLEAR	45.000	86.000	-0-	-0-	-0-
08/10/85	FUNGUS BAR	3	CLEAR	45.000	87.000	-0-	-0-	-0-
08/10/85	FUNGUS BAR	3	CLEAR	65.000	52.000	-0-	-0-	-0-
08/10/85	FUNGUS BAR	3	CLEAR	65.000	52.000	-0-	-0-	-0-
08/10/85	FUNGUS BAR	3	CLEAR	35.000	94.000	-0-	-0-	-0-
08/10/85	FUNGUS BAR	3	CLEAR	67.000	8.7000	-0-	-0-	-0-
08/10/85	FUNGUS BAR	3	CLEAR	92.000	-0-	-0-	-0-	-0-
08/10/85	INACCESSIB	1	PTLY CLDY	71.200	42.600	-0-	2.90	STH
08/10/85	INACCESSIB	1	PTLY CLDY	-0-	79.200	23.600	3.00	STH
08/10/85	INACCESSIB	1	PTLY CLDY	-0-	82.100	19.000	3.20	STH

NOTE: FOR EACH STRANDED FRY THERE IS ONE LINE OF DATA.

DATE OF STRAND	GRAVEL BAR LOCATION NAME	STATION NUMBER	WEATHER	FISH COORDINATE REFERENCE POINT 1 (FT)	FISH COORDINATE REFERENCE POINT 2 (FT)	FISH COORDINATE REFERENCE POINT 3 (FT)	FISH LENGTH (CM)	SPECIES STRANDED
08/10/85	INACCESSIB	2	PTLY CLDY	-0-	-0-	-0-	-0-	-0-
08/10/85	INACCESSIB	3	PTLY CLDY	-0-	36.200	70.700	2.90	STH
08/10/85	MARBLE MT	1	OVERCAST	99.400	21.500	-0-	2.80	-0-
08/10/85	MARBLE MT	1	OVERCAST	99.400	21.500	-0-	2.80	-0-
08/10/85	MARBLE MT	1	OVERCAST	-0-	77.300	44.900	-0-	-0-
08/10/85	MARBLE MT	1	OVERCAST	100.30	23.900	-0-	3.20	-0-
08/10/85	MARBLE MT	1	OVERCAST	-0-	75.900	56.700	3.10	-0-
08/10/85	MARBLE MT	1	OVERCAST	-0-	83.100	51.300	-0-	-0-
08/10/85	MARBLE MT	1	OVERCAST	75.900	26.000	-0-	3.10	-0-
08/10/85	MARBLE MT	1	OVERCAST	-0-	87.400	77.900	3.00	-0-
08/10/85	MARBLE MT	1	OVERCAST	-0-	99.300	52.500	3.50	-0-
08/10/85	MARBLE MT	1	OVERCAST	-0-	107.10	62.200	3.10	-0-
08/10/85	MARBLE MT	1	OVERCAST	75.900	26.000	-0-	2.80	-0-
08/10/85	MARBLE MT	1	OVERCAST	79.700	21.600	-0-	2.80	-0-
08/10/85	MARBLE MT	1	OVERCAST	96.500	22.800	-0-	2.90	-0-
08/10/85	MARBLE MT	1	OVERCAST	38.700	82.800	-0-	2.90	-0-
08/10/85	MARBLE MT	1	OVERCAST	-0-	30.900	83.800	3.20	-0-
08/10/85	MARBLE MT	1	OVERCAST	75.900	26.000	-0-	3.20	-0-
08/10/85	MARBLE MT	1	OVERCAST	85.500	12.900	-0-	2.90	-0-
08/10/85	MARBLE MT	1	OVERCAST	-0-	16.000	92.800	2.50	-0-
08/10/85	MARBLE MT	1	OVERCAST	6.6000	101.20	-0-	3.10	-0-
08/10/85	MARBLE MT	1	OVERCAST	-0-	73.800	51.200	3.40	-0-
08/10/85	MARBLE MT	1	OVERCAST	75.900	26.000	-0-	3.20	-0-
08/10/85	MARBLE MT	1	OVERCAST	75.900	26.000	-0-	2.90	-0-
08/10/85	MARBLE MT	2	OVERCAST	95.300	9.9000	-0-	2.80	-0-
08/10/85	MARBLE MT	2	OVERCAST	20.100	93.900	-0-	3.10	-0-
08/10/85	MARBLE MT	2	OVERCAST	13.600	92.600	-0-	3.20	-0-
08/10/85	MARBLE MT	2	OVERCAST	87.900	16.100	-0-	2.90	-0-
08/10/85	MARBLE MT	2	OVERCAST	33.200	71.000	-0-	3.80	-0-
08/10/85	MARBLE MT	3	OVERCAST	-0-	-0-	-0-	-0-	-0-
08/10/85	OINK BAR	1	PTLY CLDY	112.00	25.000	-0-	3.30	STH
08/10/85	OINK BAR	1	PTLY CLDY	47.600	60.100	-0-	3.40	STH
08/10/85	OINK BAR	1	PTLY CLDY	47.300	58.600	-0-	3.10	-0-
08/10/85	OINK BAR	1	PTLY CLDY	108.00	29.000	-0-	4.70	-0-
08/10/85	OINK BAR	2	PTLY CLDY	-0-	64.200	46.000	3.30	STH
08/10/85	OINK BAR	2	PTLY CLDY	-0-	92.700	19.000	3.40	STH
08/10/85	OINK BAR	3	PTLY CLDY	-0-	16.700	91.400	3.00	STH
08/10/85	ROCKPORT	1	PTLY CLDY	-0-	52.300	49.000	3.10	STH
08/10/85	ROCKPORT	1	PTLY CLDY	-0-	16.200	92.500	3.60	STH
08/10/85	ROCKPORT	1	PTLY CLDY	97.600	14.300	-0-	3.60	STH
08/10/85	ROCKPORT	1	PTLY CLDY	20.900	79.300	-0-	3.00	STH
08/10/85	ROCKPORT	1	PTLY CLDY	51.400	55.500	-0-	3.40	STH
08/10/85	ROCKPORT	1	PTLY CLDY	-0-	55.200	47.800	3.10	STH
08/10/85	ROCKPORT	1	PTLY CLDY	-0-	70.700	31.600	3.70	STH
08/10/85	ROCKPORT	1	PTLY CLDY	55.500	45.100	-0-	3.40	STH
08/10/85	ROCKPORT	2	PTLY CLDY	-0-	36.500	76.000	3.40	STH
08/10/85	ROCKPORT	2	PTLY CLDY	-0-	38.600	82.800	3.10	STH
08/10/85	ROCKPORT	2	PTLY CLDY	-0-	26.400	89.900	3.70	STH
08/10/85	ROCKPORT	2	PTLY CLDY	-0-	97.100	20.500	3.10	STH
08/10/85	ROCKPORT	2	PTLY CLDY	-0-	56.000	-0-	-0-	-0-
08/10/85	ROCKPORT	2	PTLY CLDY	-0-	106.20	43.600	-0-	-0-

NOTE: FOR EACH STRANDED FRY THERE IS ONE LINE OF DATA.

DATE OF STRAND	GRAVEL BAR LOCATION NAME	STATION NUMBER	WEATHER	FISH COORDINATE REFERENCE POINT 1 (FT)	FISH COORDINATE REFERENCE POINT 2 (FT)	FISH COORDINATE REFERENCE POINT 3 (FT)	FISH LENGTH (CM)	SPECIES STRANDED
08/10/85	ROCKPORT	2	PTLY CDLY	-0-	63.200	41.500	3.40	STH
08/10/85	ROCKPORT	2	PTLY CDLY	88.500	25.100	-0-	3.30	STH
08/10/85	ROCKPORT	2	PTLY CDLY	-0-	26.200	91.200	3.10	STH
08/10/85	ROCKPORT	2	PTLY CDLY	-0-	26.200	91.200	3.50	STH
08/10/85	ROCKPORT	2	PTLY CDLY	-0-	96.600	16.500	3.50	STH
08/10/85	ROCKPORT	2	PTLY CDLY	-0-	69.500	42.600	3.40	STH
08/10/85	ROCKPORT	2	PTLY CDLY	-0-	29.400	26.800	3.20	STH
08/10/85	ROCKPORT	2	PTLY CDLY	-0-	56.600	58.400	3.30	STH
08/10/85	ROCKPORT	2	PTLY CDLY	-0-	92.500	14.900	-0-	STH
08/10/85	ROCKPORT	3	PTLY CDLY	29.700	89.000	-0-	3.40	STH
08/10/85	ROCKPORT	3	PTLY CDLY	-0-	46.700	73.700	-0-	-0-
08/10/85	ROCKPORT	3	PTLY CDLY	97.500	21.900	-0-	-0-	-0-
08/10/85	ROCKPORT	3	PTLY CDLY	-0-	77.200	26.800	-0-	-0-
08/10/85	WAYNE SWIM	1	PTLY CDLY	-0-	29.400	78.200	2.80	STH
08/10/85	WAYNE SWIM	2	PTLY CDLY	52.600	64.700	-0-	3.20	STH
08/10/85	WAYNE SWIM	2	PTLY CDLY	-0-	58.000	52.600	3.00	STH
08/11/85	BACON CR	1	SUNNY	50.400	97.300	-0-	3.50	STH
08/11/85	BACON CR	2	SUNNY	-0-	-0-	-0-	-0-	STH
08/11/85	BACON CR	3	SUNNY	-0-	-0-	-0-	-0-	STH
08/11/85	BAD SPOT	1	SUNNY	-0-	-0-	-0-	-0-	-0-
08/11/85	BAD SPOT	2	SUNNY	-0-	-0-	-0-	-0-	-0-
08/11/85	BAD SPOT	3	SUNNY	-0-	-0-	-0-	-0-	-0-
08/11/85	BAD SPOT	4	SUNNY	-0-	-0-	-0-	-0-	-0-
08/11/85	BIG EDDY	1	SUNNY	92.300	30.300	-0-	3.40	STH
08/11/85	BIG EDDY	1	SUNNY	43.000	78.700	-0-	3.20	STH
08/11/85	BIG EDDY	1	SUNNY	73.200	43.000	-0-	3.30	STH
08/11/85	BIG EDDY	2	SUNNY	77.500	31.200	-0-	3.60	STH
08/11/85	BIG EDDY	3	SUNNY	-0-	-0-	-0-	-0-	-0-
08/11/85	DIOBSUD CR	1	SUNNY	-0-	-0-	-0-	3.30	STH
08/11/85	DIOBSUD CR	2	SUNNY	-0-	-0-	-0-	-0-	STH
08/11/85	FACE BAR	1	SUNNY	14.900	85.700	-0-	3.20	STH
08/11/85	FACE BAR	1	SUNNY	-0-	63.200	36.500	3.20	STH
08/11/85	FACE BAR	1	SUNNY	48.200	53.300	-0-	3.40	STH
08/11/85	FACE BAR	1	SUNNY	87.200	19.400	-0-	3.40	STH
08/11/85	FACE BAR	1	SUNNY	-0-	26.500	74.900	3.50	STH
08/11/85	FACE BAR	1	SUNNY	45.500	55.400	-0-	3.40	STH
08/11/85	FACE BAR	1	SUNNY	-0-	69.000	44.800	3.30	STH
08/11/85	FACE BAR	2	SUNNY	73.700	47.600	-0-	3.50	STH
08/11/85	FACE BAR	2	SUNNY	92.600	42.500	-0-	3.20	STH
08/11/85	FACE BAR	3	SUNNY	-0-	-0-	-0-	-0-	-0-
08/11/85	FORBIDDEN	1	SUNNY	-0-	-0-	-0-	-0-	-0-
08/11/85	FORBIDDEN	2	SUNNY	-0-	-0-	-0-	-0-	-0-
08/11/85	FORBIDDEN	3	SUNNY	-0-	-0-	-0-	-0-	-0-
08/11/85	FUNGUS BAR	1	SUNNY	-0-	84.000	14.000	-0-	STH
08/11/85	FUNGUS BAR	1	SUNNY	-0-	103.00	11.800	-0-	STH
08/11/85	FUNGUS BAR	1	SUNNY	-0-	99.600	53.500	-0-	STH
08/11/85	FUNGUS BAR	1	SUNNY	-0-	37.700	82.700	3.20	STH
08/11/85	FUNGUS BAR	1	SUNNY	-0-	90.700	25.700	-0-	STH
08/11/85	FUNGUS BAR	1	SUNNY	17.000	102.00	-0-	3.50	STH
08/11/85	FUNGUS BAR	1	SUNNY	13.300	94.000	-0-	3.40	STH
08/11/85	FUNGUS BAR	2	SUNNY	-0-	66.000	71.000	3.50	STH

NOTE: FOR EACH STRANDED FRY THERE IS ONE LINE OF DATA.

DATE OF STRAND	GRAVEL BAR LOCATION NAME	STATION NUMBER	WEATHER	FISH COORDINATE REFERENCE POINT 1 (FT)	FISH COORDINATE REFERENCE POINT 2 (FT)	FISH COORDINATE REFERENCE POINT 3 (FT)	FISH LENGTH (CM)	SPECIES STRANDED
08/11/85	FUNGUS BAR	2	SUNNY	70.900	61.000	-0-	3.30	STH
08/11/85	FUNGUS BAR	2	SUNNY	-0-	53.500	74.900	3.00	STH
08/11/85	FUNGUS BAR	2	SUNNY	-0-	56.000	79.300	3.00	STH
08/11/85	FUNGUS BAR	2	SUNNY	16.400	84.600	-0-	3.50	STH
08/11/85	FUNGUS BAR	2	SUNNY	-0-	66.500	70.700	-0-	STH
08/11/85	FUNGUS BAR	2	SUNNY	78.600	53.700	-0-	3.60	STH
08/11/85	FUNGUS BAR	2	SUNNY	71.800	37.900	-0-	3.10	STH
08/11/85	FUNGUS BAR	2	SUNNY	-0-	100.50	39.000	-0-	STH
08/11/85	FUNGUS BAR	2	SUNNY	-0-	50.500	96.400	3.30	STH
08/11/85	FUNGUS BAR	2	SUNNY	-0-	79.000	34.600	-0-	STH
08/11/85	FUNGUS BAR	3	SUNNY	-0-	60.100	24.600	2.90	STH
08/11/85	FUNGUS BAR	3	SUNNY	45.700	57.000	-0-	3.00	STH
08/11/85	FUNGUS BAR	3	SUNNY	-0-	20.000	82.600	-0-	STH
08/11/85	FUNGUS BAR	3	SUNNY	70.900	47.000	-0-	2.90	STH
08/11/85	FUNGUS BAR	3	SUNNY	-0-	27.600	88.700	3.10	STH
08/11/85	FUNGUS BAR	3	SUNNY	22.000	80.400	-0-	3.20	STH
08/11/85	INACCESSIB	1	SUNNY	38.800	102.30	-0-	-0-	-0-
08/11/85	INACCESSIB	1	SUNNY	-0-	86.400	26.100	-0-	-0-
08/11/85	INACCESSIB	1	SUNNY	49.400	63.900	-0-	-0-	-0-
08/11/85	INACCESSIB	2	SUNNY	-0-	-0-	-0-	-0-	-0-
08/11/85	INACCESSIB	3	SUNNY	-0-	-0-	-0-	-0-	-0-
08/11/85	MARBLE MT	1	SUNNY	59.900	50.500	-0-	3.20	STH
08/11/85	MARBLE MT	1	SUNNY	55.000	99.400	-0-	3.00	STH
08/11/85	MARBLE MT	1	SUNNY	83.000	49.900	-0-	3.70	STH
08/11/85	MARBLE MT	1	SUNNY	101.70	22.300	-0-	2.50	STH
08/11/85	MARBLE MT	1	SUNNY	63.400	56.600	-0-	3.70	STH
08/11/85	MARBLE MT	2	SUNNY	13.000	90.500	-0-	3.40	STH
08/11/85	MARBLE MT	2	SUNNY	31.400	77.500	-0-	3.10	STH
08/11/85	MARBLE MT	2	SUNNY	-0-	20.200	84.500	3.50	STH
08/11/85	MARBLE MT	2	SUNNY	-0-	15.300	93.200	3.50	STH
08/11/85	MARBLE MT	2	SUNNY	13.000	90.500	-0-	3.30	STH
08/11/85	MARBLE MT	2	SUNNY	-0-	15.300	93.200	2.80	STH
08/11/85	MARBLE MT	3	SUNNY	67.900	32.300	-0-	2.80	STH
08/11/85	QINK BAR	1	SUNNY	-0-	-0-	-0-	-0-	STH
08/11/85	QINK BAR	2	SUNNY	-0-	-0-	-0-	-0-	STH
08/11/85	QINK BAR	3	SUNNY	-0-	-0-	-0-	-0-	STH
08/11/85	ROCKPORT	1	SUNNY	-0-	87.300	14.400	3.00	STH
08/11/85	ROCKPORT	1	SUNNY	-0-	85.200	19.800	3.00	STH
08/11/85	ROCKPORT	1	SUNNY	-0-	87.300	14.400	3.30	STH
08/11/85	ROCKPORT	2	SUNNY	61.000	74.800	-0-	3.10	STH
08/11/85	ROCKPORT	3	SUNNY	15.700	92.700	-0-	3.00	STH
08/11/85	WAYNE SWIM	1	SUNNY	-0-	-0-	-0-	-0-	-0-
08/11/85	WAYNE SWIM	2	SUNNY	-0-	-0-	-0-	-0-	-0-
08/12/85	BACON CR	1	SUNNY	-0-	-0-	-0-	-0-	-0-
08/12/85	BACON CR	2	SUNNY	-0-	-0-	-0-	-0-	-0-
08/12/85	BACON CR	3	SUNNY	-0-	-0-	-0-	-0-	-0-
08/12/85	BAD SPOT	1	SUNNY	-0-	-0-	-0-	-0-	-0-
08/12/85	BAD SPOT	2	SUNNY	-0-	-0-	-0-	-0-	-0-
08/12/85	BAD SPOT	3	SUNNY	-0-	-0-	-0-	-0-	-0-
08/12/85	BAD SPOT	4	SUNNY	-0-	-0-	-0-	-0-	-0-
08/12/85	BIG EDDY	1	SUNNY	-0-	-0-	-0-	-0-	-0-

NOTE: FOR EACH STRANDED FRY THERE IS ONE LINE OF DATA.

DATE OF STRAND	GRAVEL BAR LOCATION NAME	STATION NUMBER	WEATHER	FISH COORDINATE REFERENCE POINT 1 (FT)	FISH COORDINATE REFERENCE POINT 2 (FT)	FISH COORDINATE REFERENCE POINT 3 (FT)	FISH LENGTH (CM)	SPECIES STRANDED
08/12/85	BIG EDDY	2	SUNNY	-0-	-0-	-0-	-0-	-0-
08/12/85	BIG EDDY	3	SUNNY	-0-	-0-	-0-	-0-	-0-
08/12/85	DIOBSUD CR	1	SUNNY	44.300	102.10	-0-	3.10	STH
08/12/85	DIOBSUD CR	1	SUNNY	41.700	104.40	-0-	3.10	STH
08/12/85	DIOBSUD CR	1	SUNNY	59.900	49.100	-0-	3.20	STH
08/12/85	DIOBSUD CR	1	SUNNY	64.200	40.900	-0-	3.10	STH
08/12/85	DIOBSUD CR	1	SUNNY	72.600	34.500	-0-	3.00	STH
08/12/85	DIOBSUD CR	1	SUNNY	89.800	14.800	-0-	2.90	STH
08/12/85	DIOBSUD CR	1	SUNNY	103.40	26.600	-0-	3.10	STH
08/12/85	DIOBSUD CR	1	SUNNY	-0-	52.100	76.200	3.10	STH
08/12/85	DIOBSUD CR	1	SUNNY	35.400	105.70	-0-	3.10	STH
08/12/85	DIOBSUD CR	1	SUNNY	35.400	105.70	-0-	3.10	STH
08/12/85	DIOBSUD CR	1	SUNNY	42.100	106.60	-0-	3.00	STH
08/12/85	DIOBSUD CR	1	SUNNY	-0-	43.360	78.400	3.10	STH
08/12/85	DIOBSUD CR	1	SUNNY	26.600	90.200	-0-	3.30	STH
08/12/85	DIOBSUD CR	1	SUNNY	44.300	102.60	-0-	3.50	STH
08/12/85	DIOBSUD CR	1	SUNNY	-0-	41.760	78.600	3.10	STH
08/12/85	DIOBSUD CR	1	SUNNY	50.100	57.500	-0-	3.00	STH
08/12/85	DIOBSUD CR	1	SUNNY	26.600	90.200	-0-	3.30	STH
08/12/85	DIOBSUD CR	1	SUNNY	50.500	56.500	-0-	3.10	STH
08/12/85	DIOBSUD CR	2	SUNNY	23.700	98.760	-0-	3.50	STH
08/12/85	FACE BAR	1	SUNNY	24.600	77.500	-0-	3.50	STH
08/12/85	FACE BAR	1	SUNNY	-0-	60.000	39.700	4.20	STH
08/12/85	FACE BAR	1	SUNNY	43.600	59.900	-0-	3.40	STH
08/12/85	FACE BAR	1	SUNNY	14.800	85.400	-0-	3.40	STH
08/12/85	FACE BAR	1	SUNNY	25.100	75.400	-0-	3.30	STH
08/12/85	FACE BAR	1	SUNNY	28.500	72.000	-0-	3.00	STH
08/12/85	FACE BAR	1	SUNNY	63.700	42.500	-0-	3.10	STH
08/12/85	FACE BAR	1	SUNNY	40.600	86.000	-0-	3.00	STH
08/12/85	FACE BAR	1	SUNNY	41.200	59.200	-0-	3.40	STH
08/12/85	FACE BAR	1	SUNNY	43.800	56.200	-0-	3.50	STH
08/12/85	FACE BAR	1	SUNNY	-0-	62.100	38.400	3.20	STH
08/12/85	FACE BAR	1	SUNNY	44.600	58.900	-0-	3.40	STH
08/12/85	FACE BAR	1	SUNNY	9.1000	94.300	-0-	3.30	STH
08/12/85	FACE BAR	2	SUNNY	-0-	32.600	120.50	3.30	STH
08/12/85	FACE BAR	2	SUNNY	23.700	109.10	-0-	3.50	STH
08/12/85	FACE BAR	2	SUNNY	23.700	109.10	-0-	3.40	STH
08/12/85	FACE BAR	3	SUNNY	-0-	-0-	-0-	-0-	STH
08/12/85	FORBIDDEN	1	SUNNY	40.000	80.100	-0-	3.20	STH
08/12/85	FORBIDDEN	1	SUNNY	39.600	79.400	-0-	3.70	STH
08/12/85	FORBIDDEN	2	SUNNY	-0-	-0-	-0-	-0-	-0-
08/12/85	FORBIDDEN	3	SUNNY	-0-	-0-	-0-	-0-	-0-
08/12/85	FUNGUS BAR	1	SUNNY	62.900	41.400	-0-	-0-	STH
08/12/85	FUNGUS BAR	1	SUNNY	62.900	41.400	-0-	-0-	STH
08/12/85	FUNGUS BAR	2	SUNNY	-0-	-0-	-0-	-0-	-0-
08/12/85	FUNGUS BAR	3	SUNNY	98.600	16.700	-0-	3.30	STH
08/12/85	FUNGUS BAR	3	SUNNY	96.400	31.200	-0-	2.90	STH
08/12/85	INACCESSIB	1	SUNNY	-0-	-0-	-0-	-0-	-0-
08/12/85	INACCESSIB	2	SUNNY	31.600	68.800	-0-	3.30	STH
08/12/85	INACCESSIB	2	SUNNY	53.000	57.000	-0-	3.20	STH
08/12/85	INACCESSIB	2	SUNNY	30.100	90.900	-0-	3.40	STH

NOTE: FOR EACH STRANDED FRY THERE IS ONE LINE OF DATA.

DATE OF STRAND	GRAVEL BAR LOCATION NAME	STATION NUMBER	WEATHER	FISH COORDINATE REFERENCE POINT 1 (FT)	FISH COORDINATE REFERENCE POINT 2 (FT)	FISH COORDINATE REFERENCE POINT 3 (FT)	FISH LENGTH (CM)	SPECIES STRANDED
08/12/85	INACCESSIB	2	SUNNY	9.2000	90.300	-0-	3.20	STH
08/12/85	INACCESSIB	2	SUNNY	60.000	59.000	-0-	10.0	STH
08/12/85	INACCESSIB	3	SUNNY	-0-	-0-	-0-	-0-	-0-
08/12/85	MARBLE MT	1	SUNNY	100.50	40.500	-0-	-0-	STH
08/12/85	MARBLE MT	1	SUNNY	105.50	40.000	-0-	-0-	STH
08/12/85	MARBLE MT	1	SUNNY	95.000	42.000	-0-	-0-	STH
08/12/85	MARBLE MT	1	SUNNY	79.000	56.000	-0-	-0-	STH
08/12/85	MARBLE MT	1	SUNNY	82.000	63.000	-0-	-0-	STH
08/12/85	MARBLE MT	1	SUNNY	950.50	42.000	-0-	-0-	STH
08/12/85	MARBLE MT	1	SUNNY	106.50	43.000	-0-	3.40	STH
08/12/85	MARBLE MT	1	SUNNY	40.000	83.000	-0-	-0-	STH
08/12/85	MARBLE MT	1	SUNNY	110.00	37.000	-0-	3.30	STH
08/12/85	MARBLE MT	1	SUNNY	106.50	41.000	-0-	3.40	STH
08/12/85	MARBLE MT	1	SUNNY	44.400	106.00	-0-	-0-	STH
08/12/85	MARBLE MT	1	SUNNY	41.000	108.00	-0-	-0-	STH
08/12/85	MARBLE MT	2	SUNNY	-0-	23.000	95.000	3.40	STH
08/12/85	MARBLE MT	2	SUNNY	65.700	34.500	-0-	-0-	STH
08/12/85	MARBLE MT	2	SUNNY	68.000	32.000	-0-	-0-	STH
08/12/85	MARBLE MT	2	SUNNY	84.400	93.200	-0-	-0-	STH
08/12/85	MARBLE MT	2	SUNNY	42.400	65.600	-0-	-0-	STH
08/12/85	MARBLE MT	2	SUNNY	-0-	23.000	95.000	3.20	STH
08/12/85	MARBLE MT	2	SUNNY	-0-	22.500	95.000	3.30	STH
08/12/85	MARBLE MT	2	SUNNY	-0-	13.800	94.300	3.70	STH
08/12/85	MARBLE MT	2	SUNNY	66.300	33.700	-0-	-0-	STH
08/12/85	MARBLE MT	2	SUNNY	58.000	42.000	-0-	-0-	STH
08/12/85	MARBLE MT	2	SUNNY	-0-	14.500	94.000	-0-	STH
08/12/85	MARBLE MT	2	SUNNY	-0-	14.200	95.000	-0-	STH
08/12/85	MARBLE MT	2	SUNNY	-0-	14.700	95.000	-0-	STH
08/12/85	MARBLE MT	2	SUNNY	16.000	83.000	-0-	-0-	STH
08/12/85	MARBLE MT	3	SUNNY	99.000	8.5000	-0-	3.00	STH
08/12/85	MARBLE MT	3	SUNNY	47.000	62.800	-0-	3.20	STH
08/12/85	MARBLE MT	3	SUNNY	63.400	70.500	-0-	3.30	STH
08/12/85	MARBLE MT	3	SUNNY	99.000	9.5000	-0-	3.20	STH
08/12/85	MARBLE MT	3	SUNNY	-0-	57.000	74.000	3.20	STH
08/12/85	MARBLE MT	3	SUNNY	-0-	51.400	77.000	3.20	STH
08/12/85	MARBLE MT	3	SUNNY	-0-	55.400	70.500	2.90	STH
08/12/85	MARBLE MT	3	SUNNY	55.000	98.000	-0-	3.20	STH
08/12/85	MARBLE MT	3	SUNNY	58.000	43.000	-0-	-0-	STH
08/12/85	MARBLE MT	3	SUNNY	58.000	42.000	-0-	-0-	STH
08/12/85	MARBLE MT	3	SUNNY	52.000	60.500	-0-	3.10	STH
08/12/85	MARBLE MT	3	SUNNY	48.000	62.000	-0-	3.00	STH
08/12/85	MARBLE MT	3	SUNNY	47.000	63.500	-0-	3.30	STH
08/12/85	MARBLE MT	3	SUNNY	-0-	104.00	86.000	3.50	STH
08/12/85	MARBLE MT	3	SUNNY	-0-	78.300	68.000	3.30	STH
08/12/85	MARBLE MT	3	SUNNY	-0-	73.000	62.200	3.00	STH
08/12/85	MARBLE MT	3	SUNNY	34.000	96.000	-0-	2.90	STH
08/12/85	MARBLE MT	3	SUNNY	44.000	80.000	-0-	3.10	STH
08/12/85	MARBLE MT	3	SUNNY	67.000	45.600	-0-	3.10	STH
08/12/85	MARBLE MT	3	SUNNY	34.000	96.000	-0-	-0-	STH
08/12/85	MARBLE MT	3	SUNNY	70.000	95.000	-0-	-0-	STH
08/12/85	MARBLE MT	3	SUNNY	77.600	83.000	-0-	-0-	STH

NOTE: FOR EACH STRANDED FRY THERE IS ONE LINE OF DATA.

DATE OF STRAND	GRAVEL BAR LOCATION NAME	STATION NUMBER	WEATHER	FISH COORDINATE REFERENCE POINT 1 (FT)	FISH COORDINATE REFERENCE POINT 2 (FT)	FISH COORDINATE REFERENCE POINT 3 (FT)	FISH LENGTH (CM)	SPECIES STRANDED
08/12/85	MARBLE MT	3	SUNNY	59.000	68.000	-0-	-0-	STH
08/12/85	MARBLE MT	3	SUNNY	59.000	42.000	-0-	-0-	STH
08/12/85	MARBLE MT	3	SUNNY	-0-	71.700	65.000	3.70	STH
08/12/85	MARBLE MT	3	SUNNY	-0-	67.000	62.000	3.10	STH
08/12/85	MARBLE MT	3	SUNNY	50.000	50.000	-0-	-0-	STH
08/12/85	MARBLE MT	3	SUNNY	52.000	60.500	-0-	3.00	STH
08/12/85	MARBLE MT	3	SUNNY	-0-	106.00	41.000	3.20	STH
08/12/85	MARBLE MT	3	SUNNY	-0-	64.000	70.000	3.10	STH
08/12/85	MARBLE MT	3	SUNNY	-0-	62.000	68.000	3.30	STH
08/12/85	OINK BAR	1	SUNNY	-0-	51.300	71.200	3.20	STH
08/12/85	OINK BAR	1	SUNNY	-0-	50.900	71.900	3.50	STH
08/12/85	OINK BAR	1	SUNNY	-0-	51.700	71.000	3.30	STH
08/12/85	OINK BAR	1	SUNNY	-0-	51.700	71.000	3.10	STH
08/12/85	OINK BAR	2	SUNNY	90.200	26.500	-0-	3.00	STH
08/12/85	OINK BAR	3	SUNNY	-0-	-0-	-0-	-0-	-0-
08/12/85	ROCKPORT	1	SUNNY	-0-	52.600	49.000	3.00	STH
08/12/85	ROCKPORT	1	SUNNY	71.000	28.000	-0-	3.20	STH
08/12/85	ROCKPORT	1	SUNNY	-0-	52.000	48.700	3.10	STH
08/12/85	ROCKPORT	2	SUNNY	78.600	29.500	-0-	3.20	STH
08/12/85	ROCKPORT	3	SUNNY	101.00	13.000	-0-	2.90	STH
08/12/85	ROCKPORT	3	SUNNY	-0-	37.500	64.000	3.50	STH
08/12/85	WAYNE SWIM	1	SUNNY	-0-	-0-	-0-	-0-	-0-
08/12/85	WAYNE SWIM	2	SUNNY	-0-	-0-	-0-	-0-	-0-
08/13/85	BACON CR	1	SUNNY	-0-	-0-	-0-	-0-	-0-
08/13/85	BACON CR	2	SUNNY	-0-	-0-	-0-	-0-	-0-
08/13/85	BACON CR	3	dry/sunny	-0-	-0-	-0-	-0-	-0-
08/13/85	BAD SPOT	1	SUNNY	-0-	-0-	-0-	-0-	-0-
08/13/85	BAD SPOT	2	SUNNY	-0-	-0-	-0-	-0-	-0-
08/13/85	BAD SPOT	3	SUNNY	-0-	-0-	-0-	-0-	-0-
08/13/85	BAD SPOT	4	SUNNY	-0-	-0-	-0-	-0-	-0-
08/13/85	BIG EDDY	1	SUNNY	-0-	-0-	-0-	-0-	-0-
08/13/85	BIG EDDY	2	SUNNY	-0-	-0-	-0-	-0-	-0-
08/13/85	BIG EDDY	3	SUNNY	-0-	-0-	-0-	-0-	-0-
08/13/85	DIOBSUD CR	1	SUNNY	62.200	56.300	-0-	3.60	STH
08/13/85	DIOBSUD CR	1	SUNNY	71.190	46.900	-0-	3.00	STH
08/13/85	DIOBSUD CR	1	SUNNY	-0-	28.500	92.800	-0-	STH
08/13/85	DIOBSUD CR	1	SUNNY	62.700	55.100	-0-	3.20	STH
08/13/85	DIOBSUD CR	1	SUNNY	65.900	61.900	-0-	3.10	STH
08/13/85	DIOBSUD CR	1	SUNNY	102.90	32.300	-0-	3.20	STH
08/13/85	DIOBSUD CR	1	SUNNY	78.590	31.800	-0-	2.90	STH
08/13/85	DIOBSUD CR	1	SUNNY	-0-	30.900	91.100	3.30	STH
08/13/85	DIOBSUD CR	1	SUNNY	64.200	40.900	-0-	3.50	STH
08/13/85	DIOBSUD CR	1	SUNNY	17.400	98.300	-0-	3.50	STH
08/13/85	DIOBSUD CR	1	SUNNY	-0-	56.000	47.100	3.00	STH
08/13/85	DIOBSUD CR	2	SUNNY	-0-	-0-	-0-	-0-	-0-
08/13/85	FACE BAR	1	SUNNY	-0-	-0-	-0-	-0-	-0-
08/13/85	FACE BAR	2	SUNNY	27.800	75.600	-0-	2.80	STH
08/13/85	FACE BAR	2	SUNNY	47.000	63.900	-0-	3.80	STH
08/13/85	FACE BAR	3	SUNNY	-0-	-0-	-0-	-0-	-0-
08/13/85	FORBIDDEN	1	SUNNY	-0-	-0-	-0-	-0-	-0-
08/13/85	FORBIDDEN	2	SUNNY	-0-	-0-	-0-	-0-	-0-

NOTE: FOR EACH STRANDED FRY THERE IS ONE LINE OF DATA.

DATE OF STRAND	GRAVEL BAR LOCATION NAME	STATION NUMBER	WEATHER	FISH COORDINATE REFERENCE POINT 1 (FT)	FISH COORDINATE REFERENCE POINT 2 (FT)	FISH COORDINATE REFERENCE POINT 3 (FT)	FISH LENGTH (CM)	SPECIES STRANDED
08/13/85	FORBIDDEN	3	SUNNY	-0-	-0-	-0-	-0-	-0-
08/13/85	FUNGUS BAR	1	SUNNY	-0-	-0-	-0-	-0-	-0-
08/13/85	FUNGUS BAR	2	SUNNY	22.800	76.030	-0-	-0-	-0-
08/13/85	FUNGUS BAR	2	SUNNY	92.300	24.000	-0-	3.30	STH
08/13/85	FUNGUS BAR	2	SUNNY	-0-	100.30	17.300	3.50	STH
08/13/85	FUNGUS BAR	3	SUNNY	-0-	-0-	-0-	-0-	-0-
08/13/85	INACCESSIB	1	SUNNY	91.000	8.8000	-0-	3.40	STH
08/13/85	INACCESSIB	2	SUNNY	31.000	74.200	-0-	3.30	STH
08/13/85	INACCESSIB	3	dry/sunny	-0-	-0-	-0-	-0-	-0-
08/13/85	MARBLE MT	1	SUNNY	102.00	18.000	-0-	-0-	STH
08/13/85	MARBLE MT	2	SUNNY	-0-	-0-	-0-	-0-	-0-
08/13/85	MARBLE MT	3	SUNNY	-0-	46.400	57.000	-0-	STH
08/13/85	MARBLE MT	3	SUNNY	-0-	43.600	58.000	4.20	STH
08/13/85	MARBLE MT	3	SUNNY	-0-	101.30	23.000	2.50	STH
08/13/85	QINK BAR	1	SUNNY	-0-	-0-	-0-	-0-	-0-
08/13/85	QINK BAR	2	SUNNY	-0-	-0-	-0-	-0-	-0-
08/13/85	QINK BAR	3	SUNNY	-0-	-0-	-0-	-0-	-0-
08/13/85	ROCKPORT	1	SUNNY	-0-	-0-	-0-	-0-	-0-
08/13/85	ROCKPORT	2	SUNNY	-0-	-0-	-0-	-0-	-0-
08/13/85	ROCKPORT	3	SUNNY	-0-	-0-	-0-	-0-	-0-
08/13/85	WAYNE SWIM	1	SUNNY	-0-	-0-	-0-	-0-	-0-
08/13/85	WAYNE SWIM	2	SUNNY	-0-	-0-	-0-	-0-	-0-
08/14/85	BACON CR	1	SUNNY	-0-	-0-	-0-	-0-	-0-
08/14/85	BACON CR	2	SUNNY	73.000	63.500	-0-	3.40	STH
08/14/85	BACON CR	3	SUNNY	-0-	-0-	-0-	-0-	-0-
08/14/85	BAD SPOT	1	SUNNY	-0-	-0-	-0-	-0-	-0-
08/14/85	BAD SPOT	2	SUNNY	-0-	64.700	63.400	4.00	STH
08/14/85	BAD SPOT	3	SUNNY	-0-	-0-	-0-	-0-	-0-
08/14/85	BAD SPOT	4	SUNNY	-0-	-0-	-0-	-0-	-0-
08/14/85	BIG EDDY	1	SUNNY	47.600	86.600	-0-	3.00	STH
08/14/85	BIG EDDY	1	SUNNY	46.100	85.500	-0-	3.10	STH
08/14/85	BIG EDDY	2	SUNNY	-0-	48.400	65.000	3.10	STH
08/14/85	BIG EDDY	3	SUNNY	-0-	-0-	-0-	-0-	-0-
08/14/85	DIOBSUD CR	1	SUNNY	38.200	105.00	-0-	3.70	STH
08/14/85	DIOBSUD CR	1	SUNNY	50.300	112.10	-0-	3.40	STH
08/14/85	DIOBSUD CR	1	SUNNY	40.400	102.50	-0-	3.30	STH
08/14/85	DIOBSUD CR	1	SUNNY	-0-	42.300	103.00	3.30	STH
08/14/85	DIOBSUD CR	1	SUNNY	38.200	105.00	-0-	3.50	STH
08/14/85	DIOBSUD CR	1	SUNNY	-0-	-0-	-0-	-0-	STH
08/14/85	DIOBSUD CR	1	SUNNY	78.000	46.600	-0-	-0-	STH
08/14/85	DIOBSUD CR	1	SUNNY	-0-	42.300	103.00	3.20	STH
08/14/85	DIOBSUD CR	1	SUNNY	-0-	42.300	103.00	3.00	STH
08/14/85	DIOBSUD CR	1	SUNNY	40.400	102.50	-0-	4.00	STH
08/14/85	DIOBSUD CR	1	SUNNY	-0-	42.300	103.00	3.40	STH
08/14/85	DIOBSUD CR	1	SUNNY	41.500	105.30	-0-	3.30	STH
08/14/85	DIOBSUD CR	1	SUNNY	-0-	-0-	-0-	-0-	STH
08/14/85	DIOBSUD CR	1	SUNNY	40.400	102.50	-0-	3.40	STH
08/14/85	DIOBSUD CR	1	SUNNY	46.400	106.40	-0-	3.60	STH
08/14/85	DIOBSUD CR	1	SUNNY	40.400	102.50	-0-	3.40	STH
08/14/85	DIOBSUD CR	1	SUNNY	40.400	102.50	-0-	3.10	STH
08/14/85	DIOBSUD CR	1	SUNNY	-0-	42.300	103.00	3.40	STH

NOTE: FOR EACH STRANDED FRY THERE IS ONE LINE OF DATA.

DATE OF STRAND	GRAVEL BAR LOCATION NAME	STATION NUMBER	WEATHER	FISH COORDINATE REFERENCE POINT 1 (FT)	FISH COORDINATE REFERENCE POINT 2 (FT)	FISH COORDINATE REFERENCE POINT 3 (FT)	FISH LENGTH (CM)	SPECIES STRANDED
08/14/85	DIOBSUD CR	1	SUNNY	46.400	106.40	-0-	3.80	STH
08/14/85	DIOBSUD CR	1	SUNNY	46.400	106.40	-0-	3.20	STH
08/14/85	DIOBSUD CR	1	SUNNY	40.400	102.50	-0-	3.20	STH
08/14/85	DIOBSUD CR	1	SUNNY	46.400	106.40	-0-	3.00	STH
08/14/85	DIOBSUD CR	1	SUNNY	40.400	102.50	-0-	3.50	STH
08/14/85	DIOBSUD CR	1	SUNNY	46.400	106.40	-0-	3.50	STH
08/14/85	DIOBSUD CR	2	SUNNY	53.400	51.900	-0-	3.00	STH
08/14/85	DIOBSUD CR	2	SUNNY	90.500	24.900	-0-	3.00	STH
08/14/85	DIOBSUD CR	2	SUNNY	79.700	40.900	-0-	3.20	STH
08/14/85	DIOBSUD CR	2	SUNNY	41.200	106.30	-0-	2.90	STH
08/14/85	DIOBSUD CR	2	SUNNY	94.400	21.800	-0-	3.10	STH
08/14/85	DIOBSUD CR	2	SUNNY	39.600	80.300	-0-	2.90	STH
08/14/85	FACE BAR	1	SUNNY	-0-	56.000	54.000	4.00	STH
08/14/85	FACE BAR	1	SUNNY	85.400	35.000	-0-	3.40	STH
08/14/85	FACE BAR	1	SUNNY	-0-	56.000	54.000	3.30	STH
08/14/85	FACE BAR	1	SUNNY	-0-	59.300	49.500	3.20	STH
08/14/85	FACE BAR	1	SUNNY	83.800	39.200	-0-	3.70	STH
08/14/85	FACE BAR	1	SUNNY	-0-	70.500	41.200	3.60	STH
08/14/85	FACE BAR	1	SUNNY	-0-	56.000	54.000	3.30	STH
08/14/85	FACE BAR	1	SUNNY	91.000	24.300	-0-	3.20	STH
08/14/85	FACE BAR	1	SUNNY	-0-	59.300	49.500	3.20	STH
08/14/85	FACE BAR	1	SUNNY	-0-	59.300	49.500	3.40	STH
08/14/85	FACE BAR	1	SUNNY	-0-	59.300	49.500	3.50	STH
08/14/85	FACE BAR	1	SUNNY	-0-	56.000	54.000	4.00	STH
08/14/85	FACE BAR	1	SUNNY	-0-	65.700	49.200	3.40	STH
08/14/85	FACE BAR	1	SUNNY	-0-	45.600	67.000	3.20	STH
08/14/85	FACE BAR	1	SUNNY	83.900	25.400	-0-	3.80	STH
08/14/85	FACE BAR	1	SUNNY	-0-	97.900	28.000	3.50	STH
08/14/85	FACE BAR	1	SUNNY	95.300	29.300	-0-	3.50	STH
08/14/85	FACE BAR	1	SUNNY	39.100	84.800	-0-	3.30	STH
08/14/85	FACE BAR	1	SUNNY	39.200	81.000	-0-	3.80	STH
08/14/85	FACE BAR	1	SUNNY	79.600	31.400	-0-	3.30	STH
08/14/85	FACE BAR	1	SUNNY	-0-	45.600	67.000	3.30	STH
08/14/85	FACE BAR	1	SUNNY	101.70	29.400	-0-	3.60	STH
08/14/85	FACE BAR	1	SUNNY	-0-	56.000	54.000	4.00	STH
08/14/85	FACE BAR	1	SUNNY	-0-	56.000	54.000	3.60	STH
08/14/85	FACE BAR	1	SUNNY	-0-	56.000	54.000	3.70	STH
08/14/85	FACE BAR	1	SUNNY	-0-	56.000	54.000	3.40	STH
08/14/85	FACE BAR	1	SUNNY	103.80	22.400	-0-	3.40	STH
08/14/85	FACE BAR	1	SUNNY	-0-	59.300	49.500	3.50	STH
08/14/85	FACE BAR	1	SUNNY	-0-	104.00	24.400	3.60	STH
08/14/85	FACE BAR	1	SUNNY	102.80	19.500	-0-	-0-	STH
08/14/85	FACE BAR	1	SUNNY	-0-	82.300	35.200	3.30	STH
08/14/85	FACE BAR	1	SUNNY	-0-	56.000	54.000	3.30	STH
08/14/85	FACE BAR	2	SUNNY	-0-	-0-	-0-	-0-	-0-
08/14/85	FACE BAR	3	SUNNY	-0-	-0-	-0-	-0-	-0-
08/14/85	FORBIDDEN	1	SUNNY	-0-	-0-	-0-	-0-	-0-
08/14/85	FORBIDDEN	2	SUNNY	-0-	-0-	-0-	-0-	-0-
08/14/85	FORBIDDEN	3	SUNNY	-0-	-0-	-0-	-0-	-0-
08/14/85	FUNGUS BAR	1	SUNNY	113.70	63.000	-0-	3.50	STH
08/14/85	FUNGUS BAR	1	SUNNY	-0-	55.600	102.50	3.70	STH

NOTE: FOR EACH STRANDED FRY THERE IS ONE LINE OF DATA.

DATE OF STRAND	GRAVEL BAR LOCATION NAME	STATION NUMBER	WEATHER	FISH COORDINATE REFERENCE POINT 1 (FT)	FISH COORDINATE REFERENCE POINT 2 (FT)	FISH COORDINATE REFERENCE POINT 3 (FT)	FISH LENGTH (CM)	SPECIES STRANDED
08/14/85	FUNGUS BAR	1	SUNNY	-0-	95.500	-0-	-0-	STH
08/14/85	FUNGUS BAR	1	SUNNY	-0-	108.00	66.900	3.60	STH
08/14/85	FUNGUS BAR	1	SUNNY	51.900	49.800	-0-	3.00	STH
08/14/85	FUNGUS BAR	1	SUNNY	113.70	84.400	81.300	3.30	STH
08/14/85	FUNGUS BAR	1	SUNNY	91.300	35.600	-0-	3.30	STH
08/14/85	FUNGUS BAR	1	SUNNY	60.800	42.400	-0-	3.00	STH
08/14/85	FUNGUS BAR	1	SUNNY	-0-	108.00	66.900	3.60	STH
08/14/85	FUNGUS BAR	1	SUNNY	55.300	46.800	-0-	3.70	STH
08/14/85	FUNGUS BAR	1	SUNNY	55.300	46.800	-0-	5.40	COHO
08/14/85	FUNGUS BAR	1	SUNNY	-0-	-0-	70.500	-0-	STH
08/14/85	FUNGUS BAR	1	SUNNY	88.600	41.700	-0-	3.50	STH
08/14/85	FUNGUS BAR	1	SUNNY	91.300	35.600	-0-	3.20	STH
08/14/85	FUNGUS BAR	2	SUNNY	77.900	69.800	-0-	3.20	STH
08/14/85	FUNGUS BAR	2	SUNNY	110.90	45.900	-0-	4.10	STH
08/14/85	FUNGUS BAR	2	SUNNY	108.00	46.500	-0-	4.50	STH
08/14/85	FUNGUS BAR	2	SUNNY	75.000	50.500	-0-	3.80	STH
08/14/85	FUNGUS BAR	2	SUNNY	-0-	57.000	97.200	3.20	STH
08/14/85	FUNGUS BAR	2	SUNNY	-0-	88.500	54.100	3.30	STH
08/14/85	FUNGUS BAR	2	SUNNY	73.600	50.800	-0-	3.50	STH
08/14/85	FUNGUS BAR	2	SUNNY	86.300	34.000	-0-	3.60	STH
08/14/85	FUNGUS BAR	2	SUNNY	75.000	50.500	-0-	3.40	STH
08/14/85	FUNGUS BAR	2	SUNNY	-0-	57.000	97.200	3.20	STH
08/14/85	FUNGUS BAR	2	SUNNY	-0-	88.200	37.300	3.30	STH
08/14/85	FUNGUS BAR	2	SUNNY	73.600	50.800	-0-	3.10	STH
08/14/85	FUNGUS BAR	2	SUNNY	73.100	50.200	-0-	3.40	STH
08/14/85	FUNGUS BAR	2	SUNNY	70.300	53.700	-0-	3.30	STH
08/14/85	FUNGUS BAR	2	SUNNY	-0-	58.300	94.800	3.20	STH
08/14/85	FUNGUS BAR	2	SUNNY	-0-	78.900	59.600	3.30	STH
08/14/85	FUNGUS BAR	2	SUNNY	-0-	76.000	61.600	3.40	STH
08/14/85	FUNGUS BAR	2	SUNNY	-0-	101.30	38.300	3.20	STH
08/14/85	FUNGUS BAR	2	SUNNY	69.600	52.800	-0-	3.20	STH
08/14/85	FUNGUS BAR	2	SUNNY	77.300	102.80	-0-	-0-	STH
08/14/85	FUNGUS BAR	2	SUNNY	-0-	108.30	39.800	3.20	STH
08/14/85	FUNGUS BAR	3	SUNNY	36.900	78.400	-0-	3.20	STH
08/14/85	FUNGUS BAR	3	SUNNY	57.900	63.200	-0-	3.20	STH
08/14/85	FUNGUS BAR	3	SUNNY	-0-	40.800	83.700	3.20	STH
08/14/85	FUNGUS BAR	3	SUNNY	43.200	87.300	-0-	3.40	STH
08/14/85	FUNGUS BAR	3	SUNNY	90.000	34.800	-0-	3.40	STH
08/14/85	FUNGUS BAR	3	SUNNY	-0-	47.900	78.300	3.10	STH
08/14/85	FUNGUS BAR	3	SUNNY	62.100	55.600	-0-	3.50	STH
08/14/85	FUNGUS BAR	3	SUNNY	57.800	56.600	-0-	3.60	STH
08/14/85	FUNGUS BAR	3	SUNNY	33.900	105.40	-0-	4.00	STH
08/14/85	FUNGUS BAR	3	SUNNY	84.400	22.300	-0-	2.70	STH
08/14/85	FUNGUS BAR	3	SUNNY	104.90	34.600	-0-	3.20	STH
08/14/85	FUNGUS BAR	3	SUNNY	-0-	34.800	92.400	3.70	STH
08/14/85	FUNGUS BAR	3	SUNNY	41.600	87.300	-0-	3.20	STH
08/14/85	FUNGUS BAR	3	SUNNY	41.600	87.300	-0-	3.10	STH
08/14/85	INACCESSIB	1	SUNNY	-0-	65.200	43.300	3.30	STH
08/14/85	INACCESSIB	1	SUNNY	-0-	76.000	28.800	4.20	STH
08/14/85	INACCESSIB	1	SUNNY	-0-	76.000	28.800	3.70	STH
08/14/85	INACCESSIB	1	SUNNY	-0-	64.800	48.000	3.10	STH

NOTE: FOR EACH STRANDED FRY THERE IS ONE LINE OF DATA.

DATE OF STRAND	GRAVEL BAR LOCATION NAME	STATION NUMBER	WEATHER	FISH COORDINATE REFERENCE POINT 1 (FT)	FISH COORDINATE REFERENCE POINT 2 (FT)	FISH COORDINATE REFERENCE POINT 3 (FT)	FISH LENGTH (CM)	SPECIES STRANDED
08/14/85	INACCESSIB	2	SUNNY	69.500	37.500	-0-	3.50	STH
08/14/85	INACCESSIB	2	SUNNY	50.000	59.500	-0-	3.30	STH
08/14/85	INACCESSIB	3	SUNNY	-0-	48.900	69.200	7.00	STH
08/14/85	MARBLE MT	1	SUNNY	-0-	87.030	55.000	-0-	STH
08/14/85	MARBLE MT	1	SUNNY	-0-	39.430	55.500	-0-	STH
08/14/85	MARBLE MT	1	SUNNY	-0-	38.000	90.000	-0-	STH
08/14/85	MARBLE MT	1	SUNNY	100.00	34.000	-0-	-0-	STH
08/14/85	MARBLE MT	1	SUNNY	100.00	32.000	-0-	-0-	STH
08/14/85	MARBLE MT	1	SUNNY	-0-	41.500	90.000	-0-	STH
08/14/85	MARBLE MT	1	SUNNY	79.000	62.000	-0-	-0-	STH
08/14/85	MARBLE MT	1	SUNNY	95.000	27.000	-0-	-0-	STH
08/14/85	MARBLE MT	1	SUNNY	101.30	20.000	-0-	-0-	STH
08/14/85	MARBLE MT	1	SUNNY	106.00	28.000	-0-	-0-	STH
08/14/85	MARBLE MT	2	SUNNY	-0-	39.000	86.000	-0-	STH
08/14/85	MARBLE MT	2	SUNNY	-0-	39.000	84.000	-0-	STH
08/14/85	MARBLE MT	2	SUNNY	-0-	38.000	85.000	-0-	STH
08/14/85	MARBLE MT	2	SUNNY	-0-	39.000	86.000	-0-	STH
08/14/85	MARBLE MT	2	SUNNY	-0-	50.000	76.000	-0-	STH
08/14/85	MARBLE MT	2	SUNNY	7.0000	96.000	-0-	-0-	STH
08/14/85	MARBLE MT	2	SUNNY	46.000	60.000	-0-	-0-	STH
08/14/85	MARBLE MT	2	SUNNY	-0-	77.000	64.000	-0-	STH
08/14/85	MARBLE MT	2	SUNNY	90.000	50.000	-0-	-0-	STH
08/14/85	MARBLE MT	2	SUNNY	-0-	39.000	86.000	-0-	STH
08/14/85	MARBLE MT	2	SUNNY	-0-	39.000	86.000	-0-	STH
08/14/85	MARBLE MT	2	SUNNY	-0-	39.000	86.000	-0-	STH
08/14/85	MARBLE MT	2	SUNNY	37.000	83.200	-0-	-0-	STH
08/14/85	MARBLE MT	2	SUNNY	-0-	40.000	87.600	-0-	STH
08/14/85	MARBLE MT	2	SUNNY	-0-	70.000	72.400	-0-	STH
08/14/85	MARBLE MT	2	SUNNY	60.000	100.00	-0-	-0-	STH
08/14/85	MARBLE MT	2	SUNNY	-0-	95.200	40.300	-0-	STH
08/14/85	MARBLE MT	2	SUNNY	-0-	95.000	26.700	-0-	STH
08/14/85	MARBLE MT	2	SUNNY	-0-	67.000	52.200	-0-	STH
08/14/85	MARBLE MT	2	SUNNY	-0-	60.000	72.000	-0-	STH
08/14/85	MARBLE MT	2	SUNNY	-0-	39.000	86.000	-0-	STH
08/14/85	MARBLE MT	2	SUNNY	90.000	50.000	-0-	-0-	STH
08/14/85	MARBLE MT	2	SUNNY	90.000	73.000	-0-	-0-	STH
08/14/85	MARBLE MT	2	SUNNY	-0-	98.500	43.400	-0-	STH
08/14/85	MARBLE MT	2	SUNNY	38.000	65.000	-0-	-0-	STH
08/14/85	MARBLE MT	3	SUNNY	63.000	101.00	-0-	-0-	STH
08/14/85	MARBLE MT	3	SUNNY	62.000	98.000	-0-	-0-	STH
08/14/85	MARBLE MT	3	SUNNY	62.000	98.000	-0-	-0-	STH
08/14/85	MARBLE MT	3	SUNNY	62.000	98.000	-0-	-0-	STH
08/14/85	MARBLE MT	3	SUNNY	39.000	80.000	-0-	-0-	STH
08/14/85	MARBLE MT	3	SUNNY	39.000	80.000	-0-	-0-	STH
08/14/85	MARBLE MT	3	SUNNY	62.000	98.000	-0-	-0-	STH
08/14/85	MARBLE MT	3	SUNNY	-0-	101.00	98.400	-0-	STH
08/14/85	MARBLE MT	3	SUNNY	59.000	104.00	-0-	-0-	STH
08/14/85	MARBLE MT	3	SUNNY	82.000	50.500	-0-	-0-	STH
08/14/85	MARBLE MT	3	SUNNY	28.400	76.400	-0-	-0-	STH
08/14/85	MARBLE MT	3	SUNNY	39.000	80.000	-0-	-0-	STH
08/14/85	MARBLE MT	3	SUNNY	61.300	92.000	-0-	-0-	STH

NOTE: FOR EACH STRANDED FRY THERE IS ONE LINE OF DATA.

DATE OF STRAND	GRAVEL BAR LOCATION NAME	STATION NUMBER	WEATHER	FISH COORDINATE REFERENCE POINT 1 (FT)	FISH COORDINATE REFERENCE POINT 2 (FT)	FISH COORDINATE REFERENCE POINT 3 (FT)	FISH LENGTH (CM)	SPECIES STRANDED
08/14/85	MARBLE MT	3	SUNNY	62.000	94.000	-0-	-0-	STH
08/14/85	MARBLE MT	3	SUNNY	39.000	80.000	-0-	-0-	STH
08/14/85	MARBLE MT	3	SUNNY	39.000	80.000	-0-	-0-	STH
08/14/85	MARBLE MT	3	SUNNY	-0-	86.000	38.000	-0-	STH
08/14/85	MARBLE MT	3	SUNNY	-0-	55.000	44.000	-0-	STH
08/14/85	MARBLE MT	3	SUNNY	74.000	77.000	-0-	-0-	STH
08/14/85	MARBLE MT	3	SUNNY	46.500	112.70	-0-	-0-	STH
08/14/85	MARBLE MT	3	SUNNY	62.000	94.000	-0-	-0-	STH
08/14/85	MARBLE MT	3	SUNNY	62.000	94.000	-0-	-0-	STH
08/14/85	MARBLE MT	3	SUNNY	62.000	94.000	-0-	-0-	STH
08/14/85	MARBLE MT	3	SUNNY	62.000	94.000	-0-	-0-	STH
08/14/85	MARBLE MT	3	SUNNY	39.000	80.000	-0-	-0-	STH
08/14/85	MARBLE MT	3	SUNNY	42.000	79.000	-0-	-0-	STH
08/14/85	MARBLE MT	3	SUNNY	62.000	94.000	-0-	-0-	STH
08/14/85	MARBLE MT	3	SUNNY	70.000	82.000	-0-	-0-	STH
08/14/85	MARBLE MT	3	SUNNY	45.000	111.30	-0-	-0-	STH
08/14/85	OINK BAR	1	SUNNY	-0-	38.900	95.200	3.50	STH
08/14/85	OINK BAR	2	SUNNY	-0-	-0-	-0-	-0-	-0-
08/14/85	OINK BAR	3	SUNNY	-0-	-0-	-0-	-0-	-0-
08/14/85	ROCKPORT	1	CLEAR	-0-	-0-	-0-	-0-	-0-
08/14/85	ROCKPORT	2	CLEAR	83.400	34.500	-0-	3.00	STH
08/14/85	ROCKPORT	2	CLEAR	98.200	34.700	-0-	3.50	STH
08/14/85	ROCKPORT	3	CLEAR	12.300	51.500	-0-	3.30	STH
08/14/85	ROCKPORT	3	CLEAR	56.200	67.200	-0-	2.90	STH
08/14/85	WAYNE SWIM	1	SUNNY	-0-	-0-	-0-	-0-	-0-
08/14/85	WAYNE SWIM	2	SUNNY	-0-	-0-	-0-	-0-	-0-
08/15/85	BACON CR	1	SUNNY	-0-	-0-	-0-	-0-	-0-
08/15/85	BACON CR	2	clear	-0-	-0-	-0-	-0-	-0-
08/15/85	BACON CR	3	SUNNY	-0-	-0-	-0-	-0-	-0-
08/15/85	BAD SPOT	1	SUNNY	-0-	-0-	-0-	-0-	-0-
08/15/85	BAD SPOT	2	SUNNY	-0-	-0-	-0-	-0-	-0-
08/15/85	BAD SPOT	3	SUNNY	-0-	-0-	-0-	-0-	-0-
08/15/85	BAD SPOT	4	SUNNY	-0-	-0-	-0-	-0-	-0-
08/15/85	BIG EDDY	1	SUNNY	-0-	93.800	28.400	3.50	STH
08/15/85	BIG EDDY	2	SUNNY	-0-	-0-	-0-	-0-	-0-
08/15/85	BIG EDDY	3	SUNNY	-0-	-0-	-0-	-0-	-0-
08/15/85	DIOBSUD CR	1	SUNNY	36.200	92.300	-0-	2.50	STH
08/15/85	DIOBSUD CR	1	SUNNY	37.200	93.800	-0-	3.20	STH
08/15/85	DIOBSUD CR	1	SUNNY	-0-	98.000	25.400	3.50	STH
08/15/85	DIOBSUD CR	1	SUNNY	-0-	95.200	26.900	3.10	STH
08/15/85	DIOBSUD CR	1	SUNNY	-0-	96.600	18.400	2.50	STH
08/15/85	DIOBSUD CR	1	SUNNY	-0-	78.400	37.200	3.20	STH
08/15/85	DIOBSUD CR	1	SUNNY	-0-	84.100	27.500	3.30	STH
08/15/85	DIOBSUD CR	1	SUNNY	-0-	88.700	23.700	3.40	STH
08/15/85	DIOBSUD CR	1	SUNNY	-0-	78.400	37.200	3.00	STH
08/15/85	DIOBSUD CR	1	SUNNY	45.600	98.900	-0-	3.30	STH
08/15/85	DIOBSUD CR	1	SUNNY	41.600	99.400	-0-	3.50	STH
08/15/85	DIOBSUD CR	1	SUNNY	-0-	92.400	20.800	3.20	STH
08/15/85	DIOBSUD CR	1	SUNNY	37.400	95.300	-0-	3.40	STH
08/15/85	DIOBSUD CR	1	SUNNY	54.800	61.300	-0-	3.50	STH
08/15/85	DIOBSUD CR	1	SUNNY	69.600	46.100	-0-	3.50	STH

NOTE: FOR EACH STRANDED FRY THERE IS ONE LINE OF DATA.

DATE OF STRAND	GRAVEL BAR LOCATION NAME	STATION NUMBER	WEATHER	FISH COORDINATE REFERENCE POINT 1 (FT)	FISH COORDINATE REFERENCE POINT 2 (FT)	FISH COORDINATE REFERENCE POINT 3 (FT)	FISH LENGTH (CM)	SPECIES STRANDED
08/15/85	DIOBSUD CR	1	SUNNY	35.200	94.900	-0-	2.50	STH
08/15/85	DIOBSUD CR	1	SUNNY	44.500	101.90	-0-	3.00	STH
08/15/85	DIOBSUD CR	1	SUNNY	38.600	93.900	-0-	3.80	STH
08/15/85	DIOBSUD CR	1	SUNNY	-0-	88.700	23.700	3.40	STH
08/15/85	DIOBSUD CR	1	SUNNY	-0-	23.700	102.30	3.30	STH
08/15/85	DIOBSUD CR	1	SUNNY	33.300	91.500	-0-	3.40	STH
08/15/85	DIOBSUD CR	2	SUNNY	73.200	33.800	-0-	3.50	STH
08/15/85	DIOBSUD CR	2	SUNNY	91.000	24.800	-0-	3.20	STH
08/15/85	FACE BAR	1	SUNNY	-0-	35.100	74.300	3.50	STH
08/15/85	FACE BAR	1	SUNNY	-0-	27.700	87.000	3.60	STH
08/15/85	FACE BAR	1	SUNNY	-0-	33.400	77.400	3.60	STH
08/15/85	FACE BAR	1	SUNNY	99.400	22.700	-0-	2.60	STH
08/15/85	FACE BAR	1	SUNNY	97.600	37.500	-0-	2.90	STH
08/15/85	FACE BAR	1	SUNNY	97.600	37.500	-0-	2.90	STH
08/15/85	FACE BAR	1	SUNNY	94.300	23.200	-0-	3.00	STH
08/15/85	FACE BAR	1	SUNNY	90.000	32.000	-0-	3.00	STH
08/15/85	FACE BAR	1	SUNNY	-0-	42.800	63.000	2.90	STH
08/15/85	FACE BAR	1	SUNNY	-0-	68.800	44.000	3.10	STH
08/15/85	FACE BAR	1	SUNNY	-0-	103.00	19.500	3.20	STH
08/15/85	FACE BAR	1	SUNNY	-0-	58.300	47.000	2.60	STH
08/15/85	FACE BAR	1	SUNNY	-0-	67.000	47.000	3.40	STH
08/15/85	FACE BAR	1	SUNNY	-0-	44.500	64.000	-0-	STH
08/15/85	FACE BAR	1	SUNNY	87.000	38.300	-0-	3.50	STH
08/15/85	FACE BAR	1	SUNNY	-0-	24.000	89.000	3.50	STH
08/15/85	FACE BAR	1	SUNNY	-0-	25.400	99.400	3.10	STH
08/15/85	FACE BAR	1	SUNNY	-0-	40.000	96.400	3.10	STH
08/15/85	FACE BAR	1	SUNNY	-0-	57.100	47.700	3.20	STH
08/15/85	FACE BAR	1	SUNNY	-0-	25.400	87.700	3.30	STH
08/15/85	FACE BAR	1	SUNNY	-0-	36.300	91.000	2.90	STH
08/15/85	FACE BAR	1	SUNNY	34.800	77.000	-0-	3.00	STH
08/15/85	FACE BAR	1	SUNNY	38.000	74.000	-0-	2.80	STH
08/15/85	FACE BAR	1	SUNNY	-0-	55.000	55.500	3.60	STH
08/15/85	FACE BAR	1	SUNNY	-0-	55.000	55.500	3.60	STH
08/15/85	FACE BAR	1	SUNNY	47.000	85.000	-0-	3.20	STH
08/15/85	FACE BAR	1	SUNNY	25.300	85.000	-0-	3.10	STH
08/15/85	FACE BAR	1	SUNNY	-0-	30.000	98.000	3.50	STH
08/15/85	FACE BAR	1	SUNNY	17.700	96.000	-0-	3.20	STH
08/15/85	FACE BAR	1	SUNNY	32.300	104.50	-0-	3.20	STH
08/15/85	FACE BAR	1	SUNNY	-0-	61.000	47.600	3.00	STH
08/15/85	FACE BAR	1	SUNNY	27.000	88.000	-0-	3.50	STH
08/15/85	FACE BAR	1	SUNNY	26.000	86.500	-0-	2.70	STH
08/15/85	FACE BAR	1	SUNNY	-0-	80.000	31.000	3.20	STH
08/15/85	FACE BAR	1	SUNNY	76.000	35.000	-0-	-0-	STH
08/15/85	FACE BAR	1	SUNNY	49.700	-0-	-0-	-0-	STH
08/15/85	FACE BAR	1	SUNNY	50.000	70.000	-0-	-0-	STH
08/15/85	FACE BAR	1	SUNNY	76.000	39.000	-0-	-0-	STH
08/15/85	FACE BAR	1	SUNNY	60.600	51.000	-0-	3.20	STH
08/15/85	FACE BAR	1	SUNNY	62.000	55.000	-0-	3.10	STH
08/15/85	FACE BAR	1	SUNNY	64.000	58.000	-0-	-0-	STH
08/15/85	FACE BAR	1	SUNNY	28.500	82.700	-0-	3.10	STH
08/15/85	FACE BAR	1	SUNNY	24.000	94.000	-0-	3.40	STH

NOTE: FOR EACH STRANDED FRY THERE IS ONE LINE OF DATA.

DATE OF STRAND	GRAVEL BAR LOCATION NAME	STATION NUMBER	WEATHER	FISH COORDINATE REFERENCE POINT 1 (FT)	FISH COORDINATE REFERENCE POINT 2 (FT)	FISH COORDINATE REFERENCE POINT 3 (FT)	FISH LENGTH (CM)	SPECIES STRANDED
08/15/85	FACE BAR	2	SUNNY	101.20	35.600	-0-	-0-	STH
08/15/85	FACE BAR	2	SUNNY	102.00	41.000	-0-	-0-	STH
08/15/85	FACE BAR	2	SUNNY	30.000	101.00	-0-	-0-	STH
08/15/85	FACE BAR	2	SUNNY	37.600	70.500	-0-	-0-	STH
08/15/85	FACE BAR	2	SUNNY	35.500	76.000	-0-	-0-	STH
08/15/85	FACE BAR	2	SUNNY	33.500	72.000	-0-	-0-	STH
08/15/85	FACE BAR	2	SUNNY	18.400	94.000	-0-	-0-	STH
08/15/85	FACE BAR	2	SUNNY	30.000	79.000	-0-	-0-	STH
08/15/85	FACE BAR	2	SUNNY	37.600	70.500	-0-	-0-	STH
08/15/85	FACE BAR	3	SUNNY	-0-	-0-	-0-	-0-	-0-
08/15/85	FORBIDDEN	1	SUNNY	-0-	-0-	-0-	-0-	-0-
08/15/85	FORBIDDEN	2	SUNNY	-0-	-0-	-0-	-0-	-0-
08/15/85	FORBIDDEN	3	SUNNY	-0-	30.700	81.400	-0-	STH
08/15/85	FUNGUS BAR	1	SUNNY	94.000	61.800	-0-	3.30	STH
08/15/85	FUNGUS BAR	1	SUNNY	54.000	54.000	-0-	3.30	STH
08/15/85	FUNGUS BAR	1	SUNNY	102.50	41.000	-0-	3.40	STH
08/15/85	FUNGUS BAR	2	SUNNY	70.800	50.500	-0-	3.30	STH
08/15/85	FUNGUS BAR	2	SUNNY	-0-	15.000	87.600	-0-	STH
08/15/85	FUNGUS BAR	2	SUNNY	71.000	53.400	-0-	3.70	STH
08/15/85	FUNGUS BAR	2	SUNNY	87.200	65.300	-0-	3.20	STH
08/15/85	FUNGUS BAR	2	SUNNY	75.500	53.200	-0-	3.60	STH
08/15/85	FUNGUS BAR	2	SUNNY	30.800	41.300	-0-	3.00	STH
08/15/85	FUNGUS BAR	2	SUNNY	100.00	41.800	-0-	3.50	STH
08/15/85	FUNGUS BAR	2	SUNNY	71.000	53.400	-0-	3.90	STH
08/15/85	FUNGUS BAR	2	SUNNY	24.200	45.700	-0-	3.30	STH
08/15/85	FUNGUS BAR	2	SUNNY	76.300	51.800	-0-	4.20	STH
08/15/85	FUNGUS BAR	2	SUNNY	67.000	111.20	-0-	-0-	STH
08/15/85	FUNGUS BAR	3	SUNNY	31.000	69.700	-0-	3.60	STH
08/15/85	FUNGUS BAR	3	SUNNY	-0-	82.000	46.000	3.10	STH
08/15/85	FUNGUS BAR	3	SUNNY	-0-	30.300	95.000	3.00	STH
08/15/85	FUNGUS BAR	3	SUNNY	-0-	29.600	99.000	3.30	STH
08/15/85	FUNGUS BAR	3	SUNNY	40.600	74.500	-0-	3.60	STH
08/15/85	INACCESSIB	1	SUNNY	40.900	95.500	-0-	3.10	STH
08/15/85	INACCESSIB	1	SUNNY	16.500	98.300	-0-	4.50	STH
08/15/85	INACCESSIB	1	SUNNY	-0-	78.300	28.800	3.00	STH
08/15/85	INACCESSIB	1	SUNNY	-0-	76.300	26.800	2.50	STH
08/15/85	INACCESSIB	1	SUNNY	37.400	96.300	-0-	2.90	STH
08/15/85	INACCESSIB	1	SUNNY	38.600	96.600	-0-	2.50	STH
08/15/85	INACCESSIB	2	SUNNY	-0-	55.500	109.20	3.00	STH
08/15/85	INACCESSIB	2	SUNNY	-0-	71.400	75.000	3.30	STH
08/15/85	INACCESSIB	2	SUNNY	69.400	43.200	-0-	2.90	STH
08/15/85	INACCESSIB	3	SUNNY	-0-	-0-	-0-	-0-	-0-
08/15/85	MARBLE MT	1	SUNNY	-0-	39.900	86.100	3.20	STH
08/15/85	MARBLE MT	1	SUNNY	-0-	51.200	69.600	3.10	STH
08/15/85	MARBLE MT	1	SUNNY	-0-	83.200	37.200	2.90	STH
08/15/85	MARBLE MT	1	SUNNY	-0-	95.600	30.400	4.50	COMO
08/15/85	MARBLE MT	1	SUNNY	-0-	71.400	48.400	2.90	STH
08/15/85	MARBLE MT	1	SUNNY	-0-	30.600	106.00	2.90	STH
08/15/85	MARBLE MT	1	SUNNY	91.400	30.700	-0-	3.00	STH
08/15/85	MARBLE MT	1	SUNNY	91.300	26.600	-0-	3.10	STH
08/15/85	MARBLE MT	1	SUNNY	76.500	41.900	-0-	3.10	STH

NOTE: FOR EACH STRANDED FRY THERE IS ONE LINE OF DATA.

DATE OF STRAND	GRAVEL BAR LOCATION NAME	STATION NUMBER	WEATHER	FISH COORDINATE REFERENCE POINT 1 (FT)	FISH COORDINATE REFERENCE POINT 2 (FT)	FISH COORDINATE REFERENCE POINT 3 (FT)	FISH LENGTH (CM)	SPECIES STRANDED
08/15/85	MARBLE MT	1	SUNNY	-0-	80.700	58.900	2.80	STH
08/15/85	MARBLE MT	1	SUNNY	99.800	35.300	-0-	2.70	STH
08/15/85	MARBLE MT	1	SUNNY	84.700	34.200	-0-	3.20	STH
08/15/85	MARBLE MT	2	SUNNY	18.200	101.20	-0-	3.20	STH
08/15/85	MARBLE MT	3	SUNNY	57.400	93.000	-0-	3.70	STH
08/15/85	MARBLE MT	3	SUNNY	57.400	93.000	-0-	3.20	STH
08/15/85	MARBLE MT	3	SUNNY	52.000	11.400	-0-	3.20	STH
08/15/85	OINK BAR	1	SUNNY	-0-	53.400	69.400	1.50	STH
08/15/85	OINK BAR	1	SUNNY	-0-	53.400	69.400	1.70	STH
08/15/85	OINK BAR	1	SUNNY	27.900	90.200	-0-	4.10	STH
08/15/85	OINK BAR	1	SUNNY	32.600	72.900	-0-	3.00	STH
08/15/85	OINK BAR	1	SUNNY	34.900	72.000	-0-	2.80	STH
08/15/85	OINK BAR	1	SUNNY	-0-	61.000	68.900	3.60	STH
08/15/85	OINK BAR	1	SUNNY	34.900	72.000	-0-	3.10	STH
08/15/85	OINK BAR	1	SUNNY	34.900	72.000	-0-	3.40	STH
08/15/85	OINK BAR	1	SUNNY	34.400	71.700	-0-	3.20	STH
08/15/85	OINK BAR	1	SUNNY	34.900	72.000	-0-	3.30	STH
08/15/85	OINK BAR	1	SUNNY	45.000	65.500	-0-	3.00	STH
08/15/85	OINK BAR	1	SUNNY	45.200	65.400	-0-	3.30	STH
08/15/85	OINK BAR	1	SUNNY	90.500	44.300	-0-	3.20	STH
08/15/85	OINK BAR	1	SUNNY	74.900	72.000	-0-	3.00	STH
08/15/85	OINK BAR	3	SUNNY	-0-	-0-	-0-	-0-	-0-
08/15/85	ROCKPORT	1	SUNNY	-0-	105.70	42.400	3.30	STH
08/15/85	ROCKPORT	1	SUNNY	49.300	102.70	-0-	4.00	STH
08/15/85	ROCKPORT	1	SUNNY	49.300	102.70	-0-	3.30	STH
08/15/85	ROCKPORT	1	SUNNY	-0-	28.900	79.800	3.20	STH
08/15/85	ROCKPORT	2	SUNNY	-0-	23.740	98.200	2.90	STH
08/15/85	ROCKPORT	2	SUNNY	46.300	102.40	-0-	2.50	STH
08/15/85	ROCKPORT	2	SUNNY	-0-	-0-	-0-	-0-	-0-
08/15/85	ROCKPORT	3	SUNNY	-0-	69.940	63.740	3.50	STH
08/15/85	ROCKPORT	3	SUNNY	49.800	95.700	-0-	3.00	STH
08/15/85	ROCKPORT	3	SUNNY	-0-	108.20	49.340	3.00	STH
08/15/85	ROCKPORT	3	SUNNY	-0-	46.140	109.40	3.20	STH
08/15/85	WAYNE SWIM	1	SUNNY	-0-	-0-	-0-	-0-	-0-
08/15/85	WAYNE SWIM	2	SUNNY	-0-	-0-	-0-	-0-	-0-
08/16/85	BACON CR	1	SUNNY	-0-	-0-	-0-	-0-	-0-
08/16/85	BACON CR	2	SUNNY	-0-	-0-	-0-	-0-	-0-
08/16/85	BACON CR	3	SUNNY	-0-	-0-	-0-	-0-	-0-
08/16/85	BAD SPOT	1	SUNNY	-0-	-0-	-0-	-0-	-0-
08/16/85	BAD SPOT	2	SUNNY	-0-	-0-	-0-	-0-	-0-
08/16/85	BAD SPOT	3	SUNNY	-0-	-0-	-0-	-0-	-0-
08/16/85	BAD SPOT	4	SUNNY	-0-	-0-	-0-	-0-	-0-
08/16/85	RIG EDDY	1	SUNNY	-0-	-0-	-0-	-0-	-0-
08/16/85	RIG EDDY	2	SUNNY	-0-	-0-	-0-	-0-	-0-
08/16/85	RIG EDDY	3	SUNNY	-0-	-0-	-0-	-0-	-0-
08/16/85	DIOBSUD CR	1	SUNNY	-0-	17.300	90.700	3.50	STH
08/16/85	DIOBSUD CR	1	SUNNY	-0-	25.100	83.500	3.00	STH
08/16/85	DIOBSUD CR	1	SUNNY	-0-	10.500	95.900	3.30	STH
08/16/85	DIOBSUD CR	1	SUNNY	-0-	28.600	80.000	3.20	STH
08/16/85	DIOBSUD CR	1	SUNNY	-0-	24.400	83.400	3.50	STH
08/16/85	DIOBSUD CR	1	SUNNY	-0-	10.600	96.800	3.10	STH

NOTE: FOR EACH STRANDED FRY THERE IS ONE LINE OF DATA.

DATE OF STRAND	GRAVEL BAR LOCATION NAME	STATION NUMBER	WEATHER	FISH COORDINATE REFERENCE POINT 1 (FT)	FISH COORDINATE REFERENCE POINT 2 (FT)	FISH COORDINATE REFERENCE POINT 3 (FT)	FISH LENGTH (CM)	SPECIES STRANDED
08/16/85	DIOBSUD CR	1	SUNNY	-0-	25.900	82.700	2.80	STH
08/16/85	DIOBSUD CR	1	SUNNY	-0-	23.100	85.200	3.30	STH
08/16/85	DIOBSUD CR	1	SUNNY	-0-	34.600	76.200	3.40	STH
08/16/85	DIOBSUD CR	1	SUNNY	51.200	64.200	-0-	3.00	STH
08/16/85	DIOBSUD CR	1	SUNNY	85.600	14.200	-0-	3.20	STH
08/16/85	DIOBSUD CR	1	SUNNY	-0-	9.1200	97.600	3.20	STH
08/16/85	DIOBSUD CR	1	SUNNY	-0-	8.7200	97.300	2.80	STH
08/16/85	DIOBSUD CR	1	SUNNY	-0-	89.700	34.000	3.50	STH
08/16/85	DIOBSUD CR	1	SUNNY	-0-	22.190	84.700	3.40	STH
08/16/85	DIOBSUD CR	1	SUNNY	-0-	20.900	88.400	3.70	STH
08/16/85	DIOBSUD CR	1	SUNNY	-0-	19.800	88.100	2.80	STH
08/16/85	DI.3SUD CR	2	SUNNY	-0-	33.100	75.600	3.80	STH
08/16/85	FACE BAR	1	SUNNY	58.100	78.200	-0-	2.60	STH
08/16/85	FACE BAR	1	SUNNY	30.000	84.000	-0-	2.50	STH
08/16/85	FACE BAR	1	SUNNY	40.000	68.500	-0-	2.60	STH
08/16/85	FACE BAR	1	SUNNY	63.000	43.500	-0-	2.40	STH
08/16/85	FACE BAR	1	SUNNY	70.600	45.000	-0-	2.60	STH
08/16/85	FACE BAR	1	SUNNY	-0-	63.000	43.000	2.70	STH
08/16/85	FACE BAR	1	SUNNY	94.300	20.000	-0-	2.60	STH
08/16/85	FACE BAR	1	SUNNY	-0-	54.000	57.000	2.60	STH
08/16/85	FACE BAR	1	SUNNY	-0-	54.000	57.000	2.70	STH
08/16/85	FACE BAR	1	SUNNY	-0-	96.000	14.000	2.70	STH
08/16/85	FACE BAR	2	SUNNY	7.5000	97.000	-0-	-0-	STH
08/16/85	FACE BAR	2	SUNNY	62.000	53.000	-0-	2.60	STH
08/16/85	FACE BAR	3	SUNNY	-0-	-0-	-0-	-0-	-0-
08/16/85	FORBIDDEN	1	SUNNY	-0-	-0-	-0-	-0-	-0-
08/16/85	FORBIDDEN	2	SUNNY	-0-	-0-	-0-	-0-	-0-
08/16/85	FORBIDDEN	3	SUNNY	-0-	-0-	-0-	-0-	-0-
08/16/85	FUNGUS BAR	1	SUNNY	60.000	63.000	-0-	4.20	STH
08/16/85	FUNGUS BAR	2	SUNNY	-0-	37.200	89.200	3.30	STH
08/16/85	FUNGUS BAR	3	SUNNY	-0-	33.000	80.400	3.00	STH
08/16/85	INACCESSIB	1	SUNNY	-0-	-0-	-0-	-0-	-0-
08/16/85	INACCESSIB	2	SUNNY	-0-	-0-	-0-	-0-	-0-
08/16/85	INACCESSIB	3	SUNNY	-0-	-0-	-0-	-0-	-0-
08/16/85	MARBLE MT	1	SUNNY	-0-	-0-	-0-	-0-	-0-
08/16/85	MARBLE MT	2	SUNNY	-0-	-0-	-0-	-0-	-0-
08/16/85	MARBLE MT	3	SUNNY	-0-	-0-	-0-	-0-	-0-
08/16/85	QINK BAR	1	SUNNY	46.600	64.800	-0-	3.50	STH
08/16/85	QINK BAR	1	SUNNY	-0-	52.200	71.100	2.90	STH
08/16/85	QINK BAR	1	SUNNY	-0-	53.500	69.000	2.90	STH
08/16/85	QINK BAR	1	SUNNY	-0-	-0-	-0-	3.00	STH
08/16/85	QINK BAR	1	SUNNY	-0-	55.000	77.200	3.60	STH
08/16/85	QINK BAR	1	SUNNY	-0-	42.100	87.800	2.90	STH
08/16/85	QINK BAR	2	SUNNY	-0-	-0-	-0-	-0-	-0-
08/16/85	QINK BAR	3	SUNNY	39.200	84.200	-0-	3.00	STH
08/16/85	QINK BAR	3	SUNNY	33.600	87.500	-0-	3.00	STH
08/16/85	WAYNE SWIM	1	SUNNY	-0-	-0-	-0-	-0-	-0-
08/16/85	WAYNE SWIM	2	SUNNY	-0-	-0-	-0-	-0-	-0-
08/17/85	BACON CR	1	SUNNY	-0-	-0-	-0-	-0-	-0-
08/17/85	BACON CR	2	SUNNY	-0-	-0-	-0-	-0-	-0-
08/17/85	BACON CR	3	SUNNY	-0-	-0-	-0-	-0-	-0-

NOTE: FOR EACH STRANDED FRY THERE IS ONE LINE OF DATA.

DATE OF STRAND	GRAVEL BAR LOCATION NAME	STATION NUMBER	WEATHER	FISH COORDINATE REFERENCE POINT 1 (FT)	FISH COORDINATE REFERENCE POINT 2 (FT)	FISH COORDINATE REFERENCE POINT 3 (FT)	FISH LENGTH (CM)	SPECIES STRANDED
08/17/85	BAD SPOT	1	SUNNY	-0-	-0-	-0-	-0-	-0-
08/17/85	BAD SPOT	2	SUNNY	-0-	-0-	-0-	-0-	-0-
08/17/85	BAD SPOT	3	SUNNY	-0-	-0-	-0-	-0-	-0-
08/17/85	BAD SPOT	4	SUNNY	-0-	-0-	-0-	-0-	-0-
08/17/85	BIG EDDY	1	SUNNY	-0-	-0-	-0-	-0-	-0-
08/17/85	BIG EDDY	2	SUNNY	-0-	-0-	-0-	-0-	-0-
08/17/85	BIG EDDY	3	SUNNY	-0-	-0-	-0-	-0-	-0-
08/17/85	DIOBSUD CR	1	SUNNY	-0-	36.300	78.000	3.50	STH
08/17/85	DIOBSUD CR	1	SUNNY	60.400	48.100	-0-	3.20	STH
08/17/85	DIOBSUD CR	1	SUNNY	-0-	31.700	103.70	3.70	STH
08/17/85	DIOBSUD CR	1	SUNNY	76.600	45.800	-0-	3.10	STH
08/17/85	DIOBSUD CR	1	SUNNY	-0-	34.600	94.700	2.70	STH
08/17/85	DIOBSUD CR	1	SUNNY	-0-	31.700	103.20	3.30	STH
08/17/85	DIOBSUD CR	1	SUNNY	65.200	41.100	-0-	3.20	STH
08/17/85	DIOBSUD CR	1	SUNNY	-0-	40.400	86.200	3.00	STH
08/17/85	DIOBSUD CR	1	SUNNY	61.900	49.100	-0-	3.60	STH
08/17/85	DIOBSUD CR	1	SUNNY	58.200	55.000	-0-	3.10	STH
08/17/85	DIOBSUD CR	1	SUNNY	-0-	34.200	88.000	2.80	STH
08/17/85	DIOBSUD CR	1	SUNNY	26.200	91.300	-0-	3.50	STH
08/17/85	DIOBSUD CR	1	SUNNY	-0-	30.800	103.70	3.40	STH
08/17/85	DIOBSUD CR	1	SUNNY	66.100	48.000	-0-	2.40	STH
08/17/85	DIOBSUD CR	1	SUNNY	26.300	95.200	-0-	3.10	STH
08/17/85	DIOBSUD CR	1	SUNNY	-0-	29.300	88.000	3.10	STH
08/17/85	DIOBSUD CR	1	SUNNY	-0-	42.200	79.200	3.20	STH
08/17/85	DIOBSUD CR	1	SUNNY	-0-	29.900	86.400	3.10	STH
08/17/85	DIOBSUD CR	1	SUNNY	32.800	83.000	-0-	3.20	STH
08/17/85	DIOBSUD CR	1	SUNNY	-0-	29.900	86.400	3.20	STH
08/17/85	DIOBSUD CR	1	SUNNY	67.600	51.200	-0-	3.50	STH
08/17/85	DIOBSUD CR	2	SUNNY	-0-	-0-	-0-	-0-	-0-
08/17/85	FACE BAR	1	SUNNY	14.700	90.600	-0-	2.40	STH
08/17/85	FACE BAR	1	SUNNY	-0-	64.000	36.000	3.70	STH
08/17/85	FACE BAR	1	SUNNY	54.000	56.000	-0-	2.80	STH
08/17/85	FACE BAR	1	SUNNY	-0-	40.000	60.500	2.50	STH
08/17/85	FACE BAR	1	SUNNY	-0-	49.500	53.000	3.00	STH
08/17/85	FACE BAR	1	SUNNY	44.000	59.600	-0-	2.80	STH
08/17/85	FACE BAR	1	SUNNY	-0-	32.000	68.500	3.10	STH
08/17/85	FACE BAR	1	SUNNY	-0-	26.000	78.400	2.80	STH
08/17/85	FACE BAR	1	SUNNY	-0-	39.000	62.000	3.00	STH
08/17/85	FACE BAR	1	SUNNY	44.000	59.600	-0-	3.00	STH
08/17/85	FACE BAR	1	SUNNY	12.400	88.000	-0-	2.90	STH
08/17/85	FACE BAR	1	SUNNY	-0-	26.000	78.400	3.00	STH
08/17/85	FACE BAR	2	SUNNY	-0-	32.000	68.500	3.10	STH
08/17/85	FACE BAR	3	SUNNY	-0-	-0-	-0-	-0-	-0-
08/17/85	FORBIDDEN	1	SUNNY	-0-	-0-	-0-	-0-	-0-
08/17/85	FORBIDDEN	2	SUNNY	-0-	-0-	-0-	-0-	-0-
08/17/85	FORBIDDEN	3	SUNNY	-0-	-0-	-0-	-0-	-0-
08/17/85	FUNGUS BAR	1	SUNNY	75.400	27.200	-0-	3.30	STH
08/17/85	FUNGUS BAR	2	SUNNY	-0-	39.400	76.200	3.50	STH
08/17/85	FUNGUS BAR	2	SUNNY	83.800	16.800	-0-	3.50	STH
08/17/85	FUNGUS BAR	2	SUNNY	27.900	73.000	-0-	3.40	STH
08/17/85	FUNGUS BAR	3	SUNNY	21.700	88.300	-0-	3.50	STH

NOTE: FOR EACH STRANDED FRY THERE IS ONE LINE OF DATA.

DATE OF STRAND	GRAVEL BAR LOCATION NAME	STATION NUMBER	WEATHER	FISH COORDINATE REFERENCE POINT 1 (FT)	FISH COORDINATE REFERENCE POINT 2 (FT)	FISH COORDINATE REFERENCE POINT 3 (FT)	FISH LENGTH (CM)	SPECIES STRANDED
08/17/85	INACCESSIB	1	SUNNY	-0-	-0-	-0-	-0-	-0-
08/17/85	INACCESSIB	2	SUNNY	-0-	-0-	-0-	-0-	-0-
08/17/85	INACCESSIB	3	SUNNY	-0-	-0-	-0-	-0-	-0-
08/17/85	MARBLE MT	1	SUNNY	-0-	-0-	-0-	-0-	-0-
08/17/85	MARBLE MT	2	SUNNY	-0-	-0-	-0-	-0-	-0-
08/17/85	MARBLE MT	3	SUNNY	-0-	-0-	-0-	-0-	-0-
08/17/85	DINK BAR	1	SUNNY	-0-	-0-	-0-	-0-	-0-
08/17/85	DINK BAR	2	SUNNY	-0-	-0-	-0-	-0-	-0-
08/17/85	DINK BAR	3	SUNNY	-0-	-0-	-0-	-0-	-0-
08/17/85	ROCKPORT	1	SUNNY	-0-	-0-	-0-	-0-	-0-
08/17/85	ROCKPORT	2	SUNNY	-0-	-0-	-0-	-0-	-0-
08/17/85	ROCKPORT	3	SUNNY	-0-	-0-	-0-	-0-	-0-
08/17/85	WAYNE SWIM	1	SUNNY	-0-	-0-	-0-	-0-	-0-
08/17/85	WAYNE SWIM	2	SUNNY	-0-	-0-	-0-	-0-	-0-
08/18/85	BACON CR	1	SUNNY	-0-	-0-	-0-	-0-	-0-
08/18/85	BACON CR	2	SUNNY	54.000	68.400	-0-	2.80	STH
08/18/85	BACON CR	3	SUNNY	-0-	-0-	-0-	-0-	-0-
08/18/85	BAD SPOT	1	SUNNY	39.000	103.00	-0-	4.50	STH
08/18/85	BAD SPOT	2	SUNNY	-0-	-0-	-0-	-0-	-0-
08/18/85	BAD SPOT	3	SUNNY	-0-	-0-	-0-	-0-	-0-
08/18/85	BAD SPOT	4	SUNNY	-0-	-0-	-0-	-0-	-0-
08/18/85	BIG EDDY	1	SUNNY	-0-	-0-	-0-	-0-	-0-
08/18/85	BIG EDDY	2	SUNNY	-0-	-0-	-0-	-0-	-0-
08/18/85	BIG EDDY	3	SUNNY	-0-	-0-	-0-	-0-	-0-
08/18/85	DIOBSUD CR	1	SUNNY	78.500	20.100	-0-	3.40	COMO
08/18/85	DIOBSUD CR	1	SUNNY	71.700	26.700	-0-	3.20	STH
08/18/85	DIOBSUD CR	1	SUNNY	67.700	30.900	-0-	3.10	STH
08/18/85	DIOBSUD CR	1	SUNNY	67.800	30.800	-0-	2.90	STH
08/18/85	DIOBSUD CR	1	SUNNY	70.100	28.300	-0-	3.20	STH
08/18/85	DIOBSUD CR	2	SUNNY	20.200	82.600	-0-	2.90	STH
08/18/85	FACE BAR	1	SUNNY	98.400	19.700	-0-	3.50	STH
08/18/85	FACE BAR	1	SUNNY	-0-	79.400	21.700	3.40	STH
08/18/85	FACE BAR	1	SUNNY	-0-	65.800	35.800	3.30	STH
08/18/85	FACE BAR	1	SUNNY	-0-	65.800	35.800	3.10	STH
08/18/85	FACE BAR	1	SUNNY	17.200	84.800	-0-	2.60	STH
08/18/85	FACE BAR	1	SUNNY	-0-	65.800	35.800	3.50	STH
08/18/85	FACE BAR	1	SUNNY	42.800	60.200	-0-	3.00	STH
08/18/85	FACE BAR	1	SUNNY	42.800	60.200	-0-	3.30	STH
08/18/85	FACE BAR	1	SUNNY	-0-	65.800	35.800	3.40	STH
08/18/85	FACE BAR	1	SUNNY	65.000	36.800	-0-	3.20	STH
08/18/85	FACE BAR	1	SUNNY	87.500	29.600	-0-	-0-	STH
08/18/85	FACE BAR	1	SUNNY	97.400	7.8000	-0-	3.50	STH
08/18/85	FACE BAR	1	SUNNY	-0-	72.900	29.800	3.20	STH
08/18/85	FACE BAR	1	SUNNY	98.400	19.700	-0-	3.40	STH
08/18/85	FACE BAR	1	SUNNY	-0-	29.600	77.400	3.40	STH
08/18/85	FACE BAR	1	SUNNY	-0-	32.200	86.900	3.40	STH
08/18/85	FACE BAR	1	SUNNY	65.000	36.800	-0-	3.60	STH
08/18/85	FACE BAR	1	SUNNY	-0-	33.300	67.800	3.70	STH
08/18/85	FACE BAR	1	SUNNY	-0-	63.200	86.900	3.60	STH
08/18/85	FACE BAR	1	SUNNY	-0-	73.300	30.500	3.40	STH
08/18/85	FACE BAR	1	SUNNY	-0-	29.800	82.300	3.70	STH

NOTE: FOR EACH STRANDED FRY THERE IS ONE LINE OF DATA.

DATE OF STRAND	GRAVEL BAR LOCATION NAME	STATION NUMBER	WEATHER	FISH COORDINATE REFERENCE POINT 1 (FT)	FISH COORDINATE REFERENCE POINT 2 (FT)	FISH COORDINATE REFERENCE POINT 3 (FT)	FISH LENGTH (CM)	SPECIES STRANDED
08/18/85	FACE BAR	1	SUNNY	-0-	76.900	27.100	3.10	STH
08/18/85	FACE BAR	1	SUNNY	-0-	80.400	24.600	3.80	STH
08/18/85	FACE BAR	1	SUNNY	28.200	73.900	-0-	3.10	STH
08/18/85	FACE BAR	2	SUNNY	-0-	-0-	-0-	-0-	-0-
08/18/85	FACE BAR	3	SUNNY	-0-	-0-	-0-	-0-	-0-
08/18/85	FORBIDDEN	1	SUNNY	-0-	-0-	-0-	-0-	-0-
08/18/85	FORBIDDEN	2	SUNNY	-0-	-0-	-0-	-0-	-0-
08/18/85	FORBIDDEN	3	SUNNY	-0-	-0-	-0-	-0-	-0-
08/18/85	FUNGUS BAR	1	SUNNY	-0-	82.880	67.600	3.50	STH
08/18/85	FUNGUS BAR	1	SUNNY	-0-	105.80	15.700	3.60	STH
08/18/85	FUNGUS BAR	1	SUNNY	-0-	38.200	82.700	3.50	STH
08/18/85	FUNGUS BAR	1	SUNNY	-0-	53.400	61.700	3.50	STH
08/18/85	FUNGUS BAR	1	SUNNY	-0-	92.200	32.600	3.00	STH
08/18/85	FUNGUS BAR	1	SUNNY	-0-	52.500	85.700	3.30	STH
08/18/85	FUNGUS BAR	1	SUNNY	-0-	53.100	85.600	3.80	STH
08/18/85	FUNGUS BAR	2	SUNNY	107.20	34.700	-0-	3.20	STH
08/18/85	FUNGUS BAR	2	SUNNY	-0-	34.000	83.600	3.00	STH
08/18/85	FUNGUS BAR	2	SUNNY	-0-	29.200	76.700	3.40	STH
08/18/85	FUNGUS BAR	2	SUNNY	70.100	52.400	-0-	3.50	STH
08/18/85	FUNGUS BAR	2	SUNNY	-0-	106.60	39.000	3.70	STH
08/18/85	FUNGUS BAR	2	SUNNY	-0-	69.900	75.800	3.50	STH
08/18/85	FUNGUS BAR	2	SUNNY	79.000	29.000	-0-	3.30	STH
08/18/85	FUNGUS BAR	2	SUNNY	69.300	53.000	-0-	3.20	STH
08/18/85	FUNGUS BAR	2	SUNNY	69.300	53.000	-0-	4.20	COMO
08/18/85	FUNGUS BAR	2	SUNNY	86.700	38.500	-0-	3.10	STH
08/18/85	FUNGUS BAR	3	SUNNY	-0-	91.000	17.100	3.40	STH
08/18/85	FUNGUS BAR	3	SUNNY	85.300	25.000	-0-	3.30	STH
08/18/85	FUNGUS BAR	3	SUNNY	86.100	31.400	-0-	2.90	STH
08/18/85	FUNGUS BAR	3	SUNNY	35.700	76.700	-0-	2.70	STH
08/18/85	INACCESSIB	1	SUNNY	-0-	58.000	60.000	3.20	STH
08/18/85	INACCESSIB	1	SUNNY	41.500	95.700	-0-	3.70	STH
08/18/85	INACCESSIB	2	SUNNY	-0-	39.900	98.700	3.60	STH
08/18/85	INACCESSIB	3	SUNNY	52.000	104.50	-0-	3.70	STH
08/18/85	MARBLE MT	1	SUNNY	-0-	-0-	-0-	-0-	-0-
08/18/85	MARBLE MT	2	SUNNY	-0-	77.600	75.500	3.30	STH
08/18/85	MARBLE MT	2	SUNNY	-0-	81.000	76.900	3.50	STH
08/18/85	MARBLE MT	2	SUNNY	39.200	106.50	-0-	3.50	STH
08/18/85	MARBLE MT	2	SUNNY	-0-	50.800	83.500	3.40	STH
08/18/85	MARBLE MT	2	SUNNY	-0-	49.700	83.200	3.50	STH
08/18/85	MARBLE MT	2	SUNNY	93.000	67.400	-0-	3.00	STH
08/18/85	MARBLE MT	3	SUNNY	34.760	99.400	-0-	4.00	STH
08/18/85	MARBLE MT	3	SUNNY	-0-	57.500	42.200	3.40	STH
08/18/85	MARBLE MT	3	SUNNY	-0-	99.600	36.900	3.10	STH
08/18/85	MARBLE MT	3	SUNNY	34.760	99.400	-0-	3.40	STH
08/18/85	MARBLE MT	3	SUNNY	-0-	18.800	81.800	3.60	STH
08/18/85	MARBLE MT	3	SUNNY	54.000	85.600	-0-	3.60	STH
08/18/85	MARBLE MT	3	SUNNY	87.000	75.000	-0-	3.50	STH
08/18/85	MARBLE MT	3	SUNNY	54.900	49.900	-0-	3.10	STH
08/18/85	MARBLE MT	3	SUNNY	49.600	94.100	-0-	3.50	STH
08/18/85	MARBLE MT	3	SUNNY	112.60	61.000	-0-	4.00	STH
08/18/85	MARBLE MT	3	SUNNY	-0-	35.600	64.400	3.20	STH

NOTE: FOR EACH STRANDED FRY THERE IS ONE LINE OF DATA.

DATE OF STRAND	GRAVEL BAR LOCATION NAME	STATION NUMBER	WEATHER	FISH COORDINATE REFERENCE POINT 1 (FT)	FISH COORDINATE REFERENCE POINT 2 (FT)	FISH COORDINATE REFERENCE POINT 3 (FT)	FISH LENGTH (CM)	SPECIES STRANDED
08/18/85	MARBLE MT	3	SUNNY	-0-	42.500	58.000	3.40	STH
08/18/85	MARBLE MT	3	SUNNY	-0-	44.100	57.000	3.50	STH
08/18/85	MARBLE MT	3	SUNNY	-0-	35.600	64.400	3.60	STH
08/18/85	MARBLE MT	3	SUNNY	90.900	12.400	-0-	3.20	STH
08/18/85	QINK BAR	1	SUNNY	-0-	-0-	-0-	-0-	-0-
08/18/85	QINK BAR	2	SUNNY	40.500	-0-	-0-	4.00	STH
08/18/85	QINK BAR	3	SUNNY	-0-	-0-	-0-	-0-	-0-
08/18/85	ROCKPORT	1	SUNNY	64.700	44.700	-0-	3.10	STH
08/18/85	ROCKPORT	1	SUNNY	92.500	12.400	-0-	3.20	STH
08/18/85	ROCKPORT	2	SUNNY	-0-	-0-	-0-	-0-	-0-
08/18/85	ROCKPORT	3	SUNNY	-0-	27.900	91.500	3.20	STH
08/18/85	WAYNE SWIM	1	SUNNY	-0-	-0-	-0-	-0-	-0-
08/18/85	WAYNE SWIM	2	SUNNY	-0-	-0-	-0-	-0-	-0-
08/19/85	BACON CR	1	CLOUDY	-0-	-0-	-0-	-0-	-0-
08/19/85	BACON CR	2	CLOUDY	-0-	-0-	-0-	-0-	-0-
08/19/85	BACON CR	3	CLOUDY	-0-	-0-	-0-	-0-	-0-
08/19/85	BAD SPOT	1	CLOUDY	-0-	-0-	-0-	-0-	-0-
08/19/85	BAD SPOT	2	CLOUDY	-0-	-0-	-0-	-0-	-0-
08/19/85	BAD SPOT	3	CLOUDY	-0-	-0-	-0-	-0-	-0-
08/19/85	BAD SPOT	4	CLOUDY	-0-	-0-	-0-	-0-	-0-
08/19/85	BIG EDDY	1	CLOUDY	-0-	-0-	-0-	-0-	-0-
08/19/85	BIG EDDY	2	CLOUDY	-0-	-0-	-0-	-0-	-0-
08/19/85	BIG EDDY	3	CLOUDY	-0-	-0-	-0-	-0-	-0-
08/19/85	DIOBSUD CR	1	clear	48.900	94.500	-0-	-0-	-0-
08/19/85	DIOBSUD CR	2	SUNNY	-0-	-0-	-0-	-0-	-0-
08/19/85	FACE BAR	1	CLOUDY	98.300	29.900	-0-	-0-	STH
08/19/85	FACE BAR	1	CLOUDY	-0-	43.300	65.800	-0-	STH
08/19/85	FACE BAR	1	CLOUDY	94.100	23.700	-0-	-0-	STH
08/19/85	FACE BAR	1	CLOUDY	16.300	97.500	-0-	-0-	STH
08/19/85	FACE BAR	1	CLOUDY	-0-	18.800	76.500	-0-	STH
08/19/85	FACE BAR	1	CLOUDY	-0-	73.400	57.300	-0-	STH
08/19/85	FACE BAR	1	CLOUDY	-0-	72.300	37.800	-0-	STH
08/19/85	FACE BAR	1	CLOUDY	94.100	23.700	-0-	-0-	STH
08/19/85	FACE BAR	1	CLOUDY	68.700	45.200	-0-	-0-	STH
08/19/85	FACE BAR	1	CLOUDY	-0-	24.100	86.900	-0-	STH
08/19/85	FACE BAR	1	CLOUDY	-0-	40.200	87.800	-0-	STH
08/19/85	FACE BAR	1	CLOUDY	-0-	50.400	52.000	-0-	STH
08/19/85	FACE BAR	2	CLOUDY	12.300	102.40	-0-	-0-	STH
08/19/85	FACE BAR	2	CLOUDY	59.200	66.300	-0-	-0-	STH
08/19/85	FACE BAR	2	CLOUDY	76.200	53.300	-0-	-0-	STH
08/19/85	FACE BAR	2	CLOUDY	16.700	96.700	-0-	-0-	STH
08/19/85	FACE BAR	3	CLOUDY	-0-	-0-	-0-	-0-	-0-
08/19/85	FORBIDDEN	1	CLOUDY	40.300	80.300	-0-	-0-	-0-
08/19/85	FORBIDDEN	1	CLOUDY	40.300	80.300	-0-	-0-	-0-
08/19/85	FORBIDDEN	1	CLOUDY	43.200	107.70	-0-	-0-	-0-
08/19/85	FORBIDDEN	2	CLOUDY	-0-	-0-	-0-	-0-	-0-
08/19/85	FORBIDDEN	3	CLOUDY	-0-	-0-	-0-	-0-	-0-
08/19/85	FUNGUS BAR	1	CLOUDY	-0-	74.200	81.300	3.60	STH
08/19/85	FUNGUS BAR	2	CLOUDY	42.400	97.000	-0-	3.20	STH
08/19/85	FUNGUS BAR	2	CLOUDY	67.000	37.800	-0-	3.20	STH
08/19/85	FUNGUS BAR	2	CLOUDY	42.300	96.900	-0-	4.10	STH

NOTE: FOR EACH STRANDED FRY THERE IS ONE LINE OF DATA.

DATE OF STRAND	GRAVEL BAR LOCATION NAME	STATION NUMBER	WEATHER	FISH COORDINATE REFERENCE POINT 1 (FT)	FISH COORDINATE REFERENCE POINT 2 (FT)	FISH COORDINATE REFERENCE POINT 3 (FT)	FISH LENGTH (CM)	SPECIES STRANDED
08/19/85	FUNGUS BAR	3	CLOUDY	-0-	-0-	-0-	-0-	-0-
08/19/85	INACCESSIB	1	SUNNY	-0-	77.600	25.300	3.40	STH
08/19/85	INACCESSIB	1	SUNNY	-0-	76.300	28.600	3.10	STH
08/19/85	INACCESSIB	1	SUNNY	-0-	81.600	21.300	3.50	STH
08/19/85	INACCESSIB	1	SUNNY	-0-	81.500	21.400	3.40	STH
08/19/85	INACCESSIB	-	SUNNY	-0-	-0-	-0-	-0-	-0-
08/19/85	INACCESSIB	3	SUNNY	-0-	-0-	-0-	-0-	-0-
08/19/85	MARBLE MT	1	SUNNY	-0-	-0-	-0-	-0-	-0-
08/19/85	MARBLE MT	2	clear	12.000	90.000	-0-	3.20	STH
08/19/85	MARBLE MT	2	clear	18.500	81.700	-0-	3.10	STH
08/19/85	MARBLE MT	2	clear	-0-	31.800	91.300	3.10	STH
08/19/85	MARBLE MT	2	clear	-0-	31.800	91.300	3.20	STH
08/19/85	MARBLE MT	2	clear	-0-	14.800	91.000	3.10	STH
08/19/85	MARBLE MT	2	clear	-0-	95.200	29.200	4.10	STH
08/19/85	MARBLE MT	2	clear	-0-	95.600	32.900	4.00	STH
08/19/85	MARBLE MT	2	clear	20.000	99.500	40.200	4.20	STH
08/19/85	MARBLE MT	2	clear	-0-	86.900	32.000	3.60	STH
08/19/85	MARBLE MT	2	clear	-0-	31.600	90.900	3.10	STH
08/19/85	MARBLE MT	3	CLOUDY	105.30	53.400	-0-	3.00	STH
08/19/85	MARBLE MT	3	CLOUDY	55.700	89.500	-0-	3.40	STH
08/19/85	MARBLE MT	3	CLOUDY	56.500	91.500	-0-	3.50	STH
08/19/85	MARBLE MT	3	CLOUDY	75.500	73.200	-0-	3.50	STH
08/19/85	MARBLE MT	3	CLOUDY	64.100	110.40	-0-	2.90	STH
08/19/85	MARBLE MT	3	CLOUDY	56.000	98.000	-0-	3.50	STH
08/19/85	MARBLE MT	3	CLOUDY	110.00	63.000	-0-	3.50	STH
08/19/85	MARBLE MT	3	CLOUDY	44.700	112.00	-0-	3.10	STH
08/19/85	MARBLE MT	3	CLOUDY	114.90	60.000	-0-	3.50	STH
08/19/85	MARBLE MT	3	CLOUDY	79.100	67.000	-0-	3.60	STH
08/19/85	MARBLE MT	3	CLOUDY	63.500	99.500	-0-	3.50	STH
08/19/85	MARBLE MT	3	CLOUDY	63.600	97.500	-0-	4.20	COND
08/19/85	MARBLE MT	3	CLOUDY	105.60	53.200	-0-	3.20	STH
08/19/85	MARBLE MT	3	CLOUDY	58.000	90.300	-0-	1.50	STH
08/19/85	MARBLE MT	3	CLOUDY	55.000	85.600	-0-	4.80	COND
08/19/85	MARBLE MT	3	CLOUDY	113.00	64.100	-0-	3.30	STH
08/19/85	MARBLE MT	3	CLOUDY	57.600	90.400	-0-	3.90	COND
08/19/85	MARBLE MT	3	CLOUDY	60.100	97.600	-0-	2.90	STH
08/19/85	MARBLE MT	3	CLOUDY	64.300	77.700	-0-	3.60	STH
08/19/85	MARBLE MT	3	CLOUDY	104.90	53.000	-0-	3.60	STH
08/19/85	MARBLE MT	3	CLOUDY	57.700	97.500	-0-	3.50	STH
08/19/85	MARBLE MT	3	CLOUDY	57.100	98.300	-0-	3.40	STH
08/19/85	MARBLE MT	3	CLOUDY	55.900	97.400	-0-	3.50	STH
08/19/85	MARBLE MT	3	CLOUDY	56.900	90.100	-0-	3.20	STH
08/19/85	MARBLE MT	3	CLOUDY	60.000	98.000	-0-	3.20	STH
08/19/85	DINK BAR	1	CLOUDY	-0-	51.700	70.500	3.50	STH
08/19/85	DINK BAR	2	clear	-0-	-0-	-0-	-0-	-0-
08/19/85	DINK BAR	3	CLOUDY	-0-	-0-	-0-	-0-	-0-
08/19/85	ROCKPORT	1	CLOUDY	-0-	70.300	64.300	3.20	STH
08/19/85	ROCKPORT	1	CLOUDY	-0-	21.800	-0-	3.20	STH
08/19/85	ROCKPORT	1	CLOUDY	58.300	60.400	-0-	2.90	STH
08/19/85	ROCKPORT	1	CLOUDY	-0-	76.800	45.500	2.90	STH
08/19/85	ROCKPORT	1	CLOUDY	-0-	79.000	45.000	3.20	STH

NOTE: FOR EACH STRANDED FRY THERE IS ONE LINE OF DATA.

DATE OF STRAND	GRAVEL BAR LOCATION NAME	STATION NUMBER	WEATHER	FISH COORDINATE REFERENCE POINT 1 (FT)	FISH COORDINATE REFERENCE POINT 2 (FT)	FISH COORDINATE REFERENCE POINT 3 (FT)	FISH LENGTH (CM)	SPECIES STRANDED
08/19/85	ROCKPORT	1	CLOUDY	-0-	78.000	42.300	3.00	STH
08/19/85	ROCKPORT	1	CLOUDY	57.200	57.100	-0-	3.10	STH
08/19/85	ROCKPORT	2	CLOUDY	87.900	34.200	-0-	3.10	STH
08/19/85	ROCKPORT	2	CLOUDY	-0-	105.00	39.000	3.20	STH
08/19/85	ROCKPORT	2	CLOUDY	-0-	38.700	103.20	3.40	STH
08/19/85	ROCKPORT	3	CLOUDY	-0-	34.800	87.700	3.40	STH
08/19/85	ROCKPORT	3	CLOUDY	-0-	34.800	87.700	3.40	STH
08/19/85	ROCKPORT	3	CLOUDY	-0-	34.800	87.700	3.10	STH
08/19/85	WAYNE SWIM	1	CLOUDY	-0-	-0-	-0-	-0-	-0-
08/19/85	WAYNE SWIM	2	CLOUDY	-0-	-0-	-0-	-0-	-0-
08/20/85	BACON CR	1	CLOUDY	-0-	75.000	48.000	-0-	-0-
08/20/85	BACON CR	1	CLOUDY	-0-	27.000	88.400	-0-	-0-
08/20/85	BACON CR	1	CLOUDY	-0-	42.000	84.000	-0-	-0-
08/20/85	BACON CR	1	CLOUDY	36.600	92.500	-0-	-0-	-0-
08/20/85	BACON CR	2	CLOUDY	-0-	-0-	-0-	-0-	-0-
08/20/85	BACON CR	3	CLOUDY	-0-	-0-	-0-	-0-	-0-
08/20/85	BAD SPOT	1	CLOUDY	-0-	-0-	-0-	-0-	-0-
08/20/85	BAD SPOT	2	CLOUDY	-0-	-0-	-0-	-0-	-0-
08/20/85	BAD SPOT	3	CLOUDY	-0-	100.20	42.800	3.20	STH
08/20/85	BAD SPOT	4	CLOUDY	-0-	-0-	-0-	-0-	-0-
08/20/85	BIG EDDY	1	CLOUDY	0.0000	-0-	-0-	-0-	-0-
08/20/85	BIG EDDY	2	CLOUDY	-0-	-0-	-0-	-0-	-0-
08/20/85	BIG EDDY	3	CLOUDY	-0-	-0-	-0-	-0-	-0-
08/20/85	DIOBSUD CR	1	CLOUDY	-0-	83.700	27.100	3.00	STH
08/20/85	FACE BAR	1	CLOUDY	9.3000	91.800	-0-	3.10	STH
08/20/85	FACE BAR	1	CLOUDY	22.000	82.500	-0-	3.40	STH
08/20/85	FACE BAR	1	CLOUDY	21.500	81.600	-0-	3.30	STH
08/20/85	FACE BAR	1	CLOUDY	-0-	61.100	43.800	3.20	STH
08/20/85	FACE BAR	1	CLOUDY	-0-	32.700	67.700	3.40	STH
08/20/85	FACE BAR	1	CLOUDY	27.800	72.400	-0-	3.40	STH
08/20/85	FACE BAR	1	CLOUDY	14.300	87.300	-0-	3.20	STH
08/20/85	FACE BAR	2	CLOUDY	-0-	-0-	-0-	-0-	-0-
08/20/85	FACE BAR	3	CLOUDY	-0-	-0-	-0-	-0-	-0-
08/20/85	FORBIDDEN	1	CLOUDY	-0-	-0-	-0-	-0-	-0-
08/20/85	FORBIDDEN	2	CLOUDY	-0-	-0-	-0-	-0-	-0-
08/20/85	FORBIDDEN	3	CLOUDY	-0-	-0-	-0-	-0-	-0-
08/20/85	FUNGUS BAR	1	CLOUDY	-0-	-0-	-0-	-0-	-0-
08/20/85	FUNGUS BAR	2	CLOUDY	-0-	-0-	-0-	-0-	-0-
08/20/85	FUNGUS BAR	3	CLOUDY	-0-	95.700	23.000	3.40	STH
08/20/85	INACCESSIB	1	CLOUDY	-0-	-0-	-0-	-0-	-0-
08/20/85	INACCESSIB	2	CLOUDY	-0-	-0-	-0-	-0-	-0-
08/20/85	INACCESSIB	3	CLOUDY	-0-	-0-	-0-	-0-	-0-
08/20/85	MARBLE MT	1	CLOUDY	74.400	24.800	-0-	3.40	STH
08/20/85	MARBLE MT	1	CLOUDY	-0-	39.900	70.500	3.20	STH
08/20/85	MARBLE MT	2	CLOUDY	-0-	-0-	-0-	-0-	-0-
08/20/85	MARBLE MT	3	CLOUDY	9.5000	95.000	-0-	3.40	STH
08/20/85	OINK BAR	1	CLOUDY	34.800	71.100	-0-	3.50	STH
08/20/85	OINK BAR	2	CLOUDY	-0-	-0-	-0-	-0-	-0-
08/20/85	OINK BAR	3	CLOUDY	-0-	-0-	-0-	-0-	-0-
08/20/85	ROCKPORT	1	CLOUDY	-0-	-0-	-0-	-0-	-0-
08/20/85	ROCKPORT	2	CLOUDY	-0-	31.900	100.30	3.10	STH

NOTE: FOR EACH STRANDED FRY THERE IS ONE LINE OF DATA.

DATE OF STRAND	GRAVEL BAR LOCATION NAME	STATION NUMBER	WEATHER	FISH COORDINATE REFERENCE POINT 1 (FT)	FISH COORDINATE REFERENCE POINT 2 (FT)	FISH COORDINATE REFERENCE POINT 3 (FT)	FISH LENGTH (CM)	SPECIES STRANDED
08/20/85	ROCKPORT	2	CLOUDY	-0-	32.200	103.50	-0-	STH
08/20/85	ROCKPORT	3	CLOUDY	0.0000	-0-	-0-	-0-	-0-
08/20/85	WAYNE SWIM	1	CLOUDY	-0-	85.200	38.200	1.20	STH
08/20/85	WAYNE SWIM	2	CLOUDY	35.200	96.600	-0-	4.50	COMG

NOTE: FOR EACH STRANDED FRY THERE IS ONE LINE OF DATA.

APPENDIX 6

LOG TRANSFORMED CELL MEAN DATA FOR THE 1986 STEELHEAD AND COHO FRY GRAVEL
BAR STRANDING STUDY

[illegible]

1	1.000	1.000
2	0.999	0.999
3	0.997	0.997
4	0.994	0.994
5	0.990	0.990
6	0.985	0.985
7	0.979	0.979
8	0.972	0.972
9	0.964	0.964
10	0.955	0.955
11	0.945	0.945
12	0.934	0.934
13	0.922	0.922
14	0.909	0.909
15	0.895	0.895
16	0.880	0.880
17	0.864	0.864
18	0.847	0.847
19	0.829	0.829
20	0.810	0.810
21	0.790	0.790
22	0.769	0.769
23	0.747	0.747
24	0.724	0.724
25	0.700	0.700
26	0.675	0.675
27	0.649	0.649
28	0.622	0.622
29	0.594	0.594
30	0.565	0.565
31	0.535	0.535
32	0.504	0.504
33	0.472	0.472
34	0.439	0.439
35	0.405	0.405
36	0.370	0.370
37	0.334	0.334
38	0.297	0.297
39	0.260	0.260
40	0.222	0.222
41	0.183	0.183
42	0.144	0.144
43	0.104	0.104
44	0.063	0.063
45	0.021	0.021
46	0.000	0.000

100121	13	1.123	1.123
100122	12	1.123	1.123
100123	11	1.123	1.123
100124	10	1.123	1.123
100125	9	1.123	1.123
100126	8	1.123	1.123
100127	7	1.123	1.123
100128	6	1.123	1.123
100129	5	1.123	1.123
100130	4	1.123	1.123
100131	3	1.123	1.123
100132	2	1.123	1.123
100133	1	1.123	1.123
100134	0	1.123	1.123
100135	0	1.123	1.123
100136	0	1.123	1.123
100137	0	1.123	1.123
100138	0	1.123	1.123
100139	0	1.123	1.123
100140	0	1.123	1.123
100141	0	1.123	1.123
100142	0	1.123	1.123
100143	0	1.123	1.123
100144	0	1.123	1.123
100145	0	1.123	1.123
100146	0	1.123	1.123
100147	0	1.123	1.123
100148	0	1.123	1.123
100149	0	1.123	1.123
100150	0	1.123	1.123
100151	0	1.123	1.123
100152	0	1.123	1.123
100153	0	1.123	1.123
100154	0	1.123	1.123
100155	0	1.123	1.123
100156	0	1.123	1.123
100157	0	1.123	1.123
100158	0	1.123	1.123
100159	0	1.123	1.123
100160	0	1.123	1.123
100161	0	1.123	1.123
100162	0	1.123	1.123
100163	0	1.123	1.123
100164	0	1.123	1.123
100165	0	1.123	1.123
100166	0	1.123	1.123
100167	0	1.123	1.123
100168	0	1.123	1.123
100169	0	1.123	1.123
100170	0	1.123	1.123
100171	0	1.123	1.123
100172	0	1.123	1.123
100173	0	1.123	1.123
100174	0	1.123	1.123
100175	0	1.123	1.123
100176	0	1.123	1.123
100177	0	1.123	1.123
100178	0	1.123	1.123
100179	0	1.123	1.123
100180	0	1.123	1.123
100181	0	1.123	1.123
100182	0	1.123	1.123
100183	0	1.123	1.123
100184	0	1.123	1.123
100185	0	1.123	1.123
100186	0	1.123	1.123
100187	0	1.123	1.123
100188	0	1.123	1.123
100189	0	1.123	1.123
100190	0	1.123	1.123
100191	0	1.123	1.123
100192	0	1.123	1.123
100193	0	1.123	1.123
100194	0	1.123	1.123
100195	0	1.123	1.123
100196	0	1.123	1.123
100197	0	1.123	1.123
100198	0	1.123	1.123
100199	0	1.123	1.123
100200	0	1.123	1.123

2 2 3 1	1	1.253	1.253
2 2 3 2	1	1.254	1.254
2 2 3 3	1	1.255	1.255
2 2 3 4	1	1.256	1.256
2 2 3 5	1	1.257	1.257
2 2 3 6	1	1.258	1.258
2 2 3 7	1	1.259	1.259
2 2 3 8	1	1.260	1.260
2 2 3 9	1	1.261	1.261
2 2 3 10	10	0.387	0.388
2 2 3 11	11	0.388	0.389
2 2 3 12	12	0.389	0.390
2 2 3 13	13	0.390	0.391
2 2 3 14	14	0.391	0.392
2 2 3 15	15	0.392	0.393
2 2 3 16	16	0.393	0.394
2 2 3 17	17	0.394	0.395
2 2 3 18	18	0.395	0.396
2 2 3 19	19	0.396	0.397
2 2 3 20	20	0.397	0.398
2 2 3 21	21	0.398	0.399
2 2 3 22	22	0.399	0.400
2 2 3 23	23	0.400	0.401
2 2 3 24	24	0.401	0.402
2 2 3 25	25	0.402	0.403
2 2 3 26	26	0.403	0.404
2 2 3 27	27	0.404	0.405
2 2 3 28	28	0.405	0.406
2 2 3 29	29	0.406	0.407
2 2 3 30	30	0.407	0.408
2 2 3 31	31	0.408	0.409
2 2 3 32	32	0.409	0.410
2 2 3 33	33	0.410	0.411
2 2 3 34	34	0.411	0.412
2 2 3 35	35	0.412	0.413
2 2 3 36	36	0.413	0.414
2 2 3 37	37	0.414	0.415
2 2 3 38	38	0.415	0.416
2 2 3 39	39	0.416	0.417
2 2 3 40	40	0.417	0.418
2 2 3 41	41	0.418	0.419
2 2 3 42	42	0.419	0.420
2 2 3 43	43	0.420	0.421
2 2 3 44	44	0.421	0.422
2 2 3 45	45	0.422	0.423
2 2 3 46	46	0.423	0.424
2 2 3 47	47	0.424	0.425
2 2 3 48	48	0.425	0.426
2 2 3 49	49	0.426	0.427
2 2 3 50	50	0.427	0.428
2 2 3 51	51	0.428	0.429
2 2 3 52	52	0.429	0.430
2 2 3 53	53	0.430	0.431
2 2 3 54	54	0.431	0.432
2 2 3 55	55	0.432	0.433
2 2 3 56	56	0.433	0.434
2 2 3 57	57	0.434	0.435
2 2 3 58	58	0.435	0.436
2 2 3 59	59	0.436	0.437
2 2 3 60	60	0.437	0.438
2 2 3 61	61	0.438	0.439
2 2 3 62	62	0.439	0.440
2 2 3 63	63	0.440	0.441
2 2 3 64	64	0.441	0.442
2 2 3 65	65	0.442	0.443
2 2 3 66	66	0.443	0.444
2 2 3 67	67	0.444	0.445
2 2 3 68	68	0.445	0.446
2 2 3 69	69	0.446	0.447
2 2 3 70	70	0.447	0.448
2 2 3 71	71	0.448	0.449
2 2 3 72	72	0.449	0.450
2 2 3 73	73	0.450	0.451
2 2 3 74	74	0.451	0.452
2 2 3 75	75	0.452	0.453
2 2 3 76	76	0.453	0.454
2 2 3 77	77	0.454	0.455
2 2 3 78	78	0.455	0.456
2 2 3 79	79	0.456	0.457
2 2 3 80	80	0.457	0.458
2 2 3 81	81	0.458	0.459
2 2 3 82	82	0.459	0.460
2 2 3 83	83	0.460	0.461
2 2 3 84	84	0.461	0.462
2 2 3 85	85	0.462	0.463
2 2 3 86	86	0.463	0.464
2 2 3 87	87	0.464	0.465
2 2 3 88	88	0.465	0.466
2 2 3 89	89	0.466	0.467
2 2 3 90	90	0.467	0.468
2 2 3 91	91	0.468	0.469
2 2 3 92	92	0.469	0.470
2 2 3 93	93	0.470	0.471
2 2 3 94	94	0.471	0.472
2 2 3 95	95	0.472	0.473
2 2 3 96	96	0.473	0.474
2 2 3 97	97	0.474	0.475
2 2 3 98	98	0.475	0.476
2 2 3 99	99	0.476	0.477
2 2 3 100	100	0.477	0.478

1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---

N's, means and standard deviations based on dependent variable: LOGNUM

LOWER RIVER
RIVLOC = 2

* Indicates statistics are collapsed over this factor

Factors: A S G W	N	Mean	S.D.
***	299	0.391	0.641
***	139	0.178	0.401
***	160	0.576	0.746
***	77	0.874	0.793
**	222	0.223	0.478
**	127	0.516	0.751
**	172	0.299	0.530
**	87	0.583	0.763
**	108	0.387	0.613
**	104	0.234	0.508
**	34	0.370	0.516
**	105	0.116	0.336
**	43	1.272	0.750
**	117	0.320	0.561
**	57	0.218	0.424
**	82	0.151	0.385
**	70	0.759	0.866
**	90	0.433	0.606
**	35	0.277	0.465
**	54	0.233	0.466
**	50	0.050	0.204
**	52	0.789	0.853
**	54	0.541	0.703
**	54	0.405	0.633
**	43	1.052	0.835
**	34	0.648	0.684
**	84	0.242	0.527
**	138	0.212	0.448
**	20	1.004	0.878
**	30	0.947	0.776
**	27	0.696	0.743
**	67	0.458	0.683
**	78	0.172	0.355
**	77	0.072	0.241
**	34	0.859	0.864
**	48	0.463	0.729
**	45	0.314	0.592
**	53	0.407	0.638
**	60	0.326	0.500
**	59	0.173	0.428
**	18	0.430	0.534
**	16	0.303	0.504
**	39	0.120	0.325
**	66	0.114	0.345
**	25	1.500	0.721
**	18	0.955	0.688
**	45	0.348	0.638
**	72	0.303	0.510
**	7	0.297	0.371
**	15	0.628	0.592
**	12	0.092	0.317
**	29	0.272	0.492
**	39	0.081	0.297
**	38	0.036	0.157
**	13	1.385	0.839

2 1 1 2	15	1.265	0.825
2 1 1 3	15	1.180	0.618
2 2 1 1	39	0.591	0.770
2 2 1 2	39	0.262	0.389
2 2 1 3	39	0.107	0.299
1 1 1 1	12	0.414	0.455
1 1 1 2	24	0.265	0.491
1 1 1 3	21	0.052	0.240
1 1 2 1	23	0.205	0.464
1 1 2 2	30	0.208	0.451
1 1 2 3	29	0.048	0.179
2 1 1 1	22	1.101	0.943
2 1 1 2	24	0.661	0.874
2 1 1 3	24	0.543	0.709
2 1 2 1	30	0.561	0.713
2 1 2 2	30	0.445	0.524
2 1 2 3	30	0.294	0.552
1 1 1 1	10	1.413	0.871
1 1 1 2	18	1.058	0.857
1 1 1 3	15	0.804	0.744
1 1 2 1	10	0.595	0.705
1 1 2 2	12	0.779	0.633
1 1 2 3	12	0.561	0.751
1 2 1 1	24	0.628	0.764
1 2 1 2	30	0.106	0.282
1 2 1 3	30	0.069	0.279
1 2 2 1	43	0.363	0.622
1 2 2 2	48	0.213	0.392
1 2 2 3	47	0.074	0.216
1 1 1 1	3	0.462	0.400
1 1 1 2	9	0.584	0.606
1 1 1 3	6	0.183	0.449
1 1 2 1	4	0.173	0.347
1 1 2 2	6	0.693	0.620
1 1 2 3	6	0.000	0.000
1 2 1 1	9	0.398	0.493
1 2 1 2	15	0.073	0.284
1 2 1 3	15	0.000	0.000
1 2 2 1	19	0.212	0.493
1 2 2 2	24	0.087	0.311
1 2 2 3	23	0.060	0.200
2 1 1 1	7	1.821	0.663
2 1 1 2	9	1.532	0.829
2 1 1 3	9	1.218	0.601
2 1 2 1	6	0.876	0.765
2 1 2 2	6	0.865	0.697
2 1 2 3	6	1.122	0.697
2 2 1 1	15	0.765	0.875
2 2 1 2	15	0.139	0.287
2 2 1 3	15	0.139	0.389
2 2 2 1	24	0.482	0.694
2 2 2 2	24	0.339	0.428
2 2 2 3	24	0.087	0.234

Fmax for testing homogeneity of between subjects variances=Not defined

N's, means and standard deviations based on dependent variable: LOGNUM

‡ Indicates statistics are collapsed over this factor

Factors: R A S G W	N	Mean	S.D.
‡ ‡ ‡ ‡ ‡	596	0.690	0.995
1 ‡ ‡ ‡ ‡	297	0.991	1.182
2 ‡ ‡ ‡ ‡	299	0.391	0.641
‡ 1 ‡ ‡ ‡	289	0.392	0.748
‡ 2 ‡ ‡ ‡	307	0.971	1.112
‡ ‡ 1 ‡ ‡	201	1.260	1.147
‡ ‡ 2 ‡ ‡	395	0.400	0.760
‡ ‡ ‡ 1 ‡	266	0.778	0.993
‡ ‡ ‡ 2 ‡	330	0.619	0.993
‡ ‡ ‡ ‡ 1	186	0.875	1.081
‡ ‡ ‡ ‡ 2	207	0.715	1.016
‡ ‡ ‡ ‡ 3	203	0.495	0.851
1 1 ‡ ‡ ‡	150	0.590	0.921
1 2 ‡ ‡ ‡	147	1.401	1.277
2 1 ‡ ‡ ‡	139	0.178	0.401
2 2 ‡ ‡ ‡	180	0.576	0.746
1 ‡ 1 ‡ ‡	124	1.500	1.264
1 ‡ 2 ‡ ‡	173	0.627	0.969
2 ‡ 1 ‡ ‡	77	0.874	0.793
2 ‡ 2 ‡ ‡	222	0.223	0.478
1 ‡ ‡ 1 ‡	139	1.017	1.121
1 ‡ ‡ 2 ‡	158	0.969	1.235
2 ‡ ‡ 1 ‡	127	0.516	0.751
2 ‡ ‡ 2 ‡	172	0.298	0.530
1 ‡ ‡ ‡ 1	99	1.132	1.246
1 ‡ ‡ ‡ 2	99	1.074	1.229
1 ‡ ‡ ‡ 3	99	0.768	1.037
2 ‡ ‡ ‡ 1	87	0.583	0.763
2 ‡ ‡ ‡ 2	108	0.387	0.613
2 ‡ ‡ ‡ 3	104	0.234	0.508
‡ 1 1 ‡ ‡	97	0.746	0.976
‡ 1 2 ‡ ‡	192	0.214	0.518
‡ 2 1 ‡ ‡	104	1.740	1.088
‡ 2 2 ‡ ‡	203	0.576	0.900
‡ ‡ 1 ‡ ‡	127	0.396	0.679
‡ ‡ 1 2 ‡	162	0.389	0.800
‡ ‡ 2 ‡ ‡	139	1.126	1.102
‡ ‡ 2 2 ‡	168	0.842	1.108
‡ ‡ ‡ 1 ‡	84	0.554	0.936
‡ ‡ ‡ 2 ‡	105	0.387	0.668
‡ ‡ ‡ 3 ‡	100	0.262	0.619
‡ 2 ‡ ‡ 1	102	1.140	1.125
‡ 2 ‡ ‡ 2	102	1.054	1.191
‡ 2 ‡ ‡ 3	103	0.721	0.979
‡ ‡ 1 1 ‡	79	1.243	0.950
‡ ‡ 1 2 ‡	122	1.271	1.262
‡ ‡ 2 1 ‡	187	0.581	0.946
‡ ‡ 2 2 ‡	208	0.237	0.490
‡ ‡ 1 ‡ 1	61	1.465	1.253
‡ ‡ 1 ‡ 2	72	1.392	1.156
‡ ‡ 1 ‡ 3	68	0.938	0.971
‡ ‡ 2 ‡ 1	125	0.588	0.854
‡ ‡ 2 ‡ 2	135	0.355	0.708
‡ ‡ 2 ‡ 3	135	0.271	0.687
‡ ‡ ‡ 1 1	81	1.067	1.011
‡ ‡ ‡ 1 2	94	0.747	1.024

1 1 1 1 3	91	0.552	0.884
1 1 1 2 1	105	0.728	1.114
1 1 1 2 2	113	0.689	1.013
1 1 1 2 3	112	0.448	0.825
1 1 1 1 1	63	0.948	1.102
1 1 2 1 1	87	0.331	0.659
1 2 1 1 1	61	2.071	1.171
1 2 2 1 1	86	0.925	1.132
2 1 1 1 1	34	0.370	0.516
2 1 2 1 1	105	0.114	0.336
2 2 1 1 1	43	1.272	0.750
2 2 2 1 1	117	0.320	0.561
1 1 1 1 1	70	0.542	0.805
1 1 1 2 1	80	0.633	1.016
1 2 1 1 1	69	1.499	1.194
1 2 2 1 1	78	1.314	1.347
2 1 1 1 1	57	0.218	0.424
2 1 1 2 1	82	0.151	0.385
2 2 1 1 1	70	0.759	0.866
2 2 2 1 1	90	0.433	0.606
1 1 1 1 1	41	0.753	1.124
1 1 1 1 2	51	0.549	0.804
1 1 1 1 3	50	0.473	0.801
1 2 1 1 1	50	1.504	1.258
1 2 1 1 2	4	1.631	1.359
1 2 1 1 3	49	1.069	1.165
2 1 1 1 1	35	0.277	0.445
2 1 1 1 2	54	0.233	0.466
2 1 1 1 3	50	0.050	0.204
2 2 1 1 1	52	0.789	0.853
2 2 1 1 2	54	0.541	-0.703
2 2 1 1 3	54	0.405	0.633
1 1 1 1 1	36	1.471	1.037
1 1 1 2 1	88	1.512	1.352
1 1 2 1 1	103	0.858	1.111
1 1 2 2 1	70	0.286	0.545
2 1 1 1 1	43	1.052	0.835
2 1 1 2 1	34	0.648	0.684
2 1 2 1 1	84	0.242	0.527
2 1 2 2 1	138	0.212	0.448
1 1 1 1 1	41	1.689	1.353
1 1 1 1 2	42	1.710	1.280
1 1 1 1 3	41	1.097	1.075
1 1 2 1 1	58	0.738	1.002
1 1 2 2 1	57	0.605	0.957
1 1 2 3 1	58	0.536	0.952
2 1 1 1 1	20	1.004	0.878
2 1 1 1 2	30	0.947	0.776
2 1 1 1 3	27	0.696	0.743
2 1 2 1 1	67	0.458	0.683
2 1 2 2 1	78	0.172	0.355
2 1 2 3 1	77	0.072	0.241
1 1 1 1 1	47	1.217	1.090
1 1 1 1 2	46	1.043	1.198
1 1 1 1 3	46	0.786	1.053
1 1 1 2 1	52	1.055	1.379
1 1 1 2 2	53	1.100	1.266
1 1 1 2 3	53	0.753	1.033
2 1 1 1 1	34	0.859	0.864
2 1 1 1 2	48	0.463	0.729
2 1 1 1 3	45	0.314	0.592
2 1 1 2 1	53	0.407	0.638
2 1 1 2 2	60	0.326	0.500
2 1 1 2 3	59	0.173	0.428
1 1 1 1 1	36	0.708	0.714
1 1 1 2 1	61	0.768	1.107

* 1 2 1 *	91	0.273	0.626
* 1 2 2 *	101	0.160	0.392
* 2 1 1 *	43	1.691	0.895
* 2 1 2 *	61	1.775	1.213
* 2 2 1 *	96	0.873	1.097
* 2 2 2 *	107	0.310	0.560
* 1 1 1 1	28	1.031	1.291
* 1 1 1 2	36	0.826	0.773
* 1 1 1 3	33	0.416	0.779
* 1 2 1 1	56	0.316	0.574
* 1 2 1 2	69	0.157	0.468
* 1 2 1 3	67	0.185	0.513
* 2 1 1 1	33	1.833	1.110
* 2 1 1 2	36	1.958	1.206
* 2 1 1 3	35	1.429	0.880
* 2 2 1 1	61	0.808	0.977
* 2 2 1 2	66	0.561	0.849
* 2 2 1 3	68	0.356	0.818
* 1 1 1 1	35	0.609	0.774
* 1 1 1 2	48	0.350	0.648
* 1 1 1 3	14	0.277	0.603
* 1 1 2 1	49	0.515	1.042
* 1 1 2 2	57	0.417	0.689
* 1 1 2 3	56	0.249	0.637
* 2 1 1 1	16	1.415	1.038
* 2 1 1 2	16	1.161	1.177
* 2 1 1 3	47	0.810	1.024
* 2 1 2 1	56	0.914	1.151
* 2 1 2 2	56	0.966	1.205
* 2 1 2 3	56	0.646	0.942
* 1 1 1 1	22	1.504	0.900
* 1 1 1 2	30	1.334	1.055
* 1 1 1 3	27	0.930	0.801
* 1 1 2 1	39	1.443	1.425
* 1 1 2 2	42	1.433	1.234
* 1 1 2 3	41	0.943	1.078
* 1 2 1 1	59	0.904	1.009
* 1 2 1 2	64	0.472	0.891
* 1 2 1 3	64	0.393	0.873
* 1 2 2 1	66	0.305	0.559
* 1 2 2 2	71	0.249	0.470
* 1 2 2 3	71	0.162	0.434
1 1 1 1 *	18	0.987	0.774
1 1 1 2 *	45	0.933	1.216
1 1 2 1 *	52	0.388	0.763
1 1 2 2 *	35	0.247	0.460
1 2 1 1 *	18	1.956	1.056
1 2 1 2 *	43	2.119	1.225
1 2 2 1 *	51	1.337	1.208
1 2 2 2 *	35	0.325	0.658
2 1 1 1 *	18	0.430	0.534
2 1 1 2 *	16	0.303	0.504
2 1 2 1 *	39	0.120	0.325
2 1 2 2 *	66	0.114	0.345
2 2 1 1 *	25	1.500	0.721
2 2 1 2 *	18	0.955	0.688
2 2 2 1 *	45	0.348	0.638
2 2 2 2 *	72	0.303	0.510
1 1 1 1 1	21	1.275	1.399
1 1 1 1 2	21	0.968	0.866
1 1 1 1 3	21	0.601	0.904
1 1 2 1 1	28	0.360	0.652
1 1 2 1 2	30	0.256	0.617
1 1 2 1 3	29	0.381	0.720
1 2 1 1 1	20	2.124	1.186
1 2 1 1 2	21	2.452	1.205

1 2 1 1 3	20	1.817	1.008
1 2 2 1 1	30	1.091	1.146
1 2 2 1 2	27	0.992	1.120
1 2 2 1 3	29	0.692	1.130
2 1 1 1 1	7	0.297	0.371
2 1 1 1 2	15	0.628	0.592
2 1 1 1 3	12	0.092	0.317
2 1 2 1 1	28	0.272	0.492
2 1 2 1 2	39	0.081	0.297
2 1 2 1 3	38	0.036	0.157
2 2 1 1 1	13	1.385	0.839
2 2 1 1 2	15	1.265	0.825
2 2 1 1 3	15	1.180	0.618
2 2 2 1 1	39	0.591	0.770
2 2 2 1 2	39	0.262	0.389
2 2 2 1 3	39	0.107	0.199
1 1 1 1 1	23	0.711	0.889
1 1 1 1 2	24	0.436	0.775
1 1 1 1 3	23	0.483	0.752
1 1 1 2 1	26	0.789	1.314
1 1 1 2 2	27	0.650	0.729
1 1 1 2 3	27	0.445	0.855
1 2 1 1 1	24	1.702	1.057
1 2 1 1 2	22	1.705	1.240
1 2 1 1 3	23	1.088	1.229
1 2 1 2 1	26	1.321	1.415
1 2 1 2 2	26	1.567	1.474
1 2 1 2 3	26	1.052	1.131
2 1 1 1 1	12	0.414	0.455
2 1 1 1 2	24	0.265	0.491
2 1 1 1 3	21	0.052	0.240
2 1 1 2 1	23	0.205	0.464
2 1 1 2 2	30	0.208	0.151
2 1 1 2 3	29	0.048	0.179
2 2 1 1 1	22	1.101	0.943
2 2 1 1 2	24	0.661	0.874
2 2 1 1 3	24	0.543	0.709
2 2 1 2 1	30	0.561	0.713
2 2 1 2 2	30	0.445	0.524
2 2 1 2 3	30	0.294	0.552
1 1 1 1 1	12	1.580	0.955
1 1 1 1 2	12	1.747	1.220
1 1 1 1 3	12	1.087	0.873
1 1 1 2 1	29	1.735	1.500
1 1 1 2 2	30	1.695	1.323
1 1 1 2 3	29	1.101	1.162
1 1 2 1 1	35	1.093	1.118
1 1 2 1 2	34	0.794	1.104
1 1 2 1 3	34	0.679	1.101
1 1 2 2 1	23	0.198	0.408
1 1 2 2 2	23	0.324	0.607
1 1 2 2 3	24	0.334	0.659
2 1 1 1 1	10	1.413	0.871
2 1 1 1 2	18	1.058	0.857
2 1 1 1 3	15	0.804	0.744
2 1 1 2 1	10	0.595	0.705
2 1 1 2 2	12	0.779	0.635
2 1 1 2 3	12	0.561	0.751
2 1 2 1 1	24	0.628	0.764
2 1 2 1 2	30	0.106	0.282
2 1 2 1 3	30	0.049	0.279
2 1 2 2 1	43	0.363	0.622
2 1 2 2 2	48	0.213	0.392
2 1 2 2 3	47	0.074	0.216
1 1 1 1 1	9	1.158	0.844
1 1 1 1 2	15	0.701	0.664

* 1 1 1 3	12	0.380	0.508
* 1 1 2 1	19	0.971	1.474
* 1 1 2 2	21	0.915	0.847
* 1 1 2 3	21	0.436	0.910
* 1 2 1 1	26	0.419	0.664
* 1 2 1 2	33	0.191	0.582
* 1 2 1 3	32	0.239	0.638
* 1 2 2 1	30	0.227	0.476
* 1 2 2 2	36	0.127	0.338
* 1 2 2 3	35	0.137	0.367
* 2 1 1 1	13	1.744	0.889
* 2 1 1 2	15	1.967	1.003
* 2 1 1 3	15	1.369	0.723
* 2 1 2 1	20	1.891	1.252
* 2 1 2 2	21	1.951	1.356
* 2 1 2 3	20	1.475	0.997
* 2 2 1 1	33	1.285	1.076
* 2 2 1 2	31	0.770	1.062
* 2 2 1 3	32	0.548	1.048
* 2 2 2 1	36	0.371	0.619
* 2 2 2 2	35	0.375	0.553
* 2 2 2 3	36	0.186	0.495
1 1 1 1 1	6	1.506	0.800
1 1 1 1 2	6	0.876	0.765
1 1 1 1 3	6	0.578	0.522
1 1 1 2 1	15	1.183	1.593
1 1 1 2 2	15	1.004	0.926
1 1 1 2 3	15	0.611	1.034
1 1 2 1 1	17	0.431	0.753
1 1 2 1 2	19	0.289	0.741
1 1 2 1 3	17	0.449	0.830
1 1 2 2 1	11	0.252	0.467
1 1 2 2 2	12	0.207	0.388
1 1 2 2 3	12	0.283	0.549
1 2 1 1 1	6	1.654	1.162
1 2 1 1 2	6	2.619	0.931
1 2 1 1 3	6	1.596	0.885
1 2 1 2 1	14	2.326	1.178
1 2 1 2 2	15	2.386	1.322
1 2 1 2 3	14	1.626	1.088
1 2 2 1 1	18	1.719	1.055
1 2 2 1 2	16	1.363	1.185
1 2 2 1 3	17	0.909	1.304
1 2 2 2 1	12	0.149	0.359
1 2 2 2 2	11	0.452	0.781
1 2 2 2 3	12	0.384	0.775
2 1 1 1 1	3	0.462	0.400
2 1 1 1 2	9	0.584	0.606
2 1 1 1 3	6	0.183	0.449
2 1 1 2 1	4	0.173	0.347
2 1 1 2 2	6	0.693	0.620
2 1 1 2 3	6	0.000	0.000
2 1 2 1 1	9	0.398	0.493
2 1 2 1 2	15	0.073	0.284
2 1 2 1 3	15	0.000	0.000
2 1 2 2 1	19	0.212	0.493
2 1 2 2 2	24	0.087	0.311
2 1 2 2 3	23	0.060	0.200
2 2 1 1 1	7	1.821	0.663
2 2 1 1 2	9	1.532	0.829
2 2 1 1 3	9	1.218	0.601
2 2 1 2 1	6	0.876	0.765
2 2 1 2 2	6	0.865	0.697
2 2 1 2 3	6	1.122	0.697
2 2 2 1 1	15	0.765	0.875
2 2 2 1 2	15	0.139	0.287

2 2 2 1 3	15	0.139	0.389
2 2 2 2 1	24	0.482	0.694
2 2 2 2 2	24	0.339	0.428
2 2 2 3 3	24	0.087	0.234

Max for testing homogeneity of between subjects variances=Not defined

APPENDIX H

SUMMARY OF DAY VS. NIGHT DOWNRAMPING TIME DATA USED IN A WILCOXON SIGNED
RANK TEST FOR STEELHEAD FRY (1983)

TEST NUMBER - TEST NUMBER RELATES TO THE 24 TEST DATES SHOWN IN TABLE
VI-14

X & Y COORDINATE OF FISH - LINEAL MEASUREMENTS IN FEET FROM A POINT
OF ORIGIN AS SHOWN IN FIGURE III-3.

NUMBER OF FISH STRANDED - NUMBER OF FRY STRANDED AT A SPECIFIC SET OF
COORDINATES.

FISH REFERENCE COORDINATES - RADIAL MEASUREMENTS OF STRANDED FRY
LOCATIONS FROM SPECIFIC REFERENCE POINTS
(SEE FIGURE III-3). THESE ARE
UNTRANSFORMED FIELD DATA.

Wilcoxon Signed-Ranks tests for the subgroup: NDATE = 802

Dependent variables	N	Mean	S.D. Diff.	T (P-Val)	Signed Ranks		Z Tie (P-Val)
					+	-	
LOGNUM	17	0.922	1.369	0.32 (.7512)	N 5	4	8
LOGNDAY		0.815			Mean		0.53
					Rank 5.400	4.500	(.3936)

Wilcoxon Signed-Ranks tests for the subgroup: NDATE = 911

Dependent variables	N	Mean	S.D. Diff.	T (P-Val)	Signed Ranks		Z Tie (P-Val)
					+	-	
LOGNUM	34	0.407	0.754	0.76 (.4516)	N 9	5	20
LOGNDAY		0.309			Mean		0.66
					Rank 7.000	8.400	(.5073)

Wilcoxon Signed-Ranks tests for the subgroup: NDATE = 812

Dependent variables	N	Mean	S.D. Diff.	T (P-Val)	Signed Ranks		Z Tie (P-Val)
					+	-	
LOGNUM	34	0.466	0.747	0.44 (.6647)	N 8	6	20
LOGNDAY		0.410			Mean		0.47
					Rank 7.500	7.500	(.6371)

Wilcoxon Signed-Ranks tests for the subgroup: NDATE = 816

Dependent variables	N	Mean	S.D. Diff.	T (P-Val)	Signed Ranks		Z Tie (P-Val)
					+	-	
LOGNUM	21	0.132	0.411	1.15 (.2577)	N 2	6	23
LOGNDAY		0.217			Mean		0.99
					Rank 5.500	4.167	(.3204)

Wilcoxon Signed-Ranks tests

Dependent variables	N	Mean	S.D. Diff.	T (P-Val)	Signed Ranks		Z Tie (P-Val)
					+	-	
LOGNUM	116	0.426	0.796	0.52 (.6061)	N 24	21	71
LOGNDAY		0.388			Mean		0.40
					Rank 23.021	22.976	(.6918)

Wilcoxon Signed-Ranks tests for the subgroup: NDATE = 802

Dependent variables	N	Mean	S.D. Diff.	T (P-Val)	Signed Ranks		Tie	Z (P-Val)
					+	-		
NUMFISH	17	5.412	16.755	0.32 (.7542)	N 5	4	8	0.18 (.8588)
NUMDAY		4.118			Mean			
					Rank 4.200	6.000		

Wilcoxon Signed-Ranks tests for the subgroup: NDATE = 811

Dependent variables	N	Mean	S.D. Diff.	T (P-Val)	Signed Ranks		Tie	Z (P-Val)
					+	-		
NUMFISH	34	0.941	2.249	0.46 (.6503)	N 9	5	20	0.54 (.5905)
NUMDAY		0.765			Mean			
					Rank 6.778	8.800		

Wilcoxon Signed-Ranks tests for the subgroup: NDATE = 812

Dependent variables	N	Mean	S.D. Diff.	T (P-Val)	Signed Ranks		Tie	Z (P-Val)
					+	-		
NUMFISH	34	1.176	4.378	0.63 (.5351)	N 8	6	20	0.03 (.9748)
NUMDAY		1.647			Mean			
					Rank 6.500	8.833		

Wilcoxon Signed-Ranks tests for the subgroup: NDATE = 816

Dependent variables	N	Mean	S.D. Diff.	T (P-Val)	Signed Ranks		Tie	Z (P-Val)
					+	-		
NUMFISH	31	0.258	0.884	1.42 (.1651)	N 2	6	23	1.35 (.1758)
NUMDAY		0.484			Mean			
					Rank 4.250	4.583		

Wilcoxon Signed-Ranks tests

Dependent variables	N	Mean	S.D. Diff.	T (P-Val)	Signed Ranks		Tie	Z (P-Val)
					+	-		
NUMFISH	116	1.483	6.822	0.07 (.9459)	N 24	21	71	0.09 (.9322)
NUMDAY		1.440			Mean			
					Rank 21.250	25.000		

APPENDIX I

FRY STRANDING LOCATION VERSUS GRAVEL BAR FEATURES FOR STEELHEAD FRY GRAVEL
BAR STRANDING (1985)

LEGEND



STRANDED FRY



HIGH/HIGH WATERLINE



HIGH WATER



LOW WATERLINE



LOW/LOW WATERLINE



AUTO PART DEBRIS



DEBRIS PILE



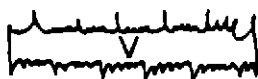
POTHOLE



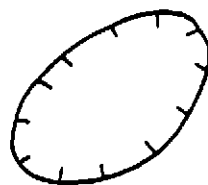
LOG



ROCK



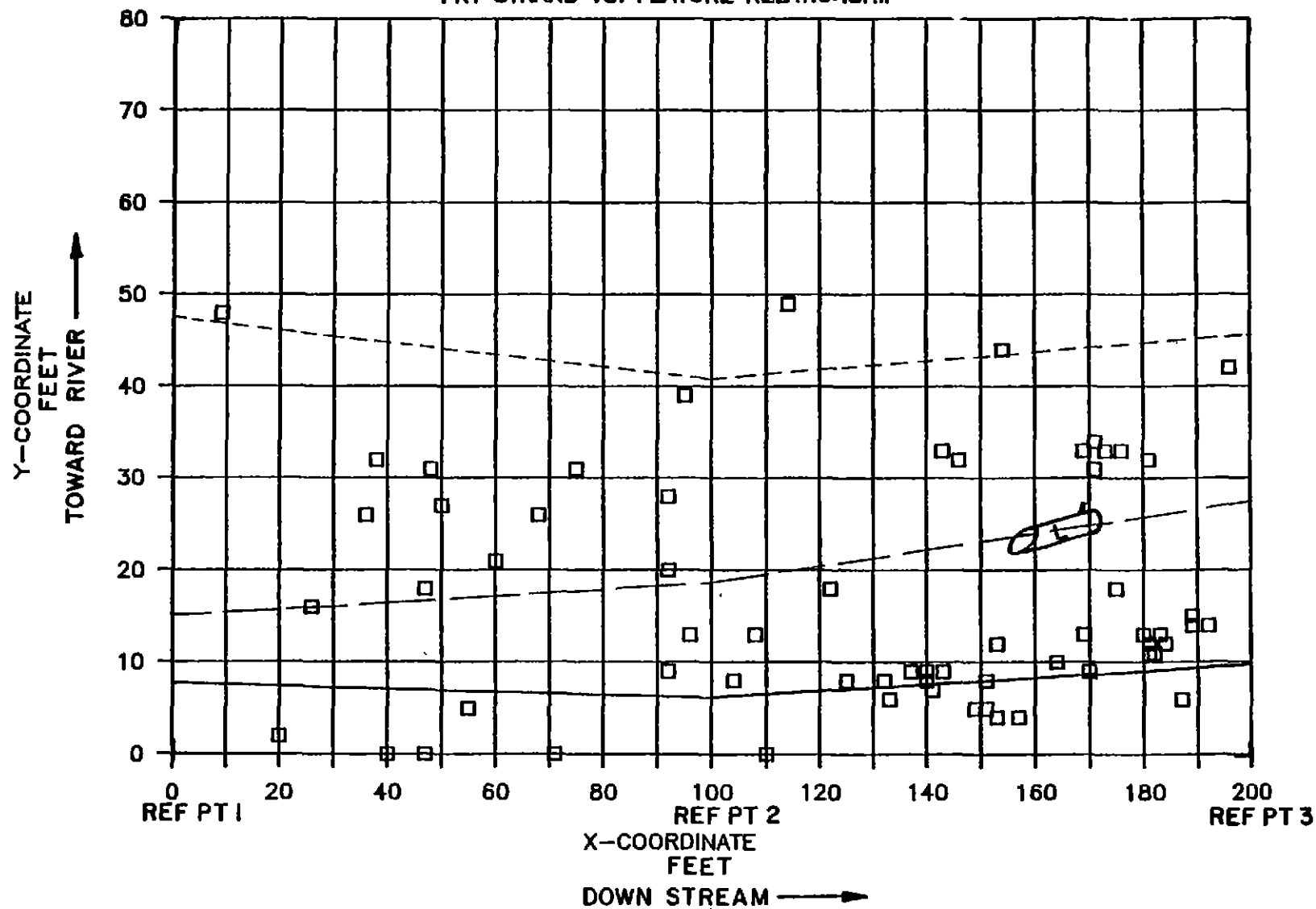
VEGETATION LINE



CHANNEL DEPRESSION

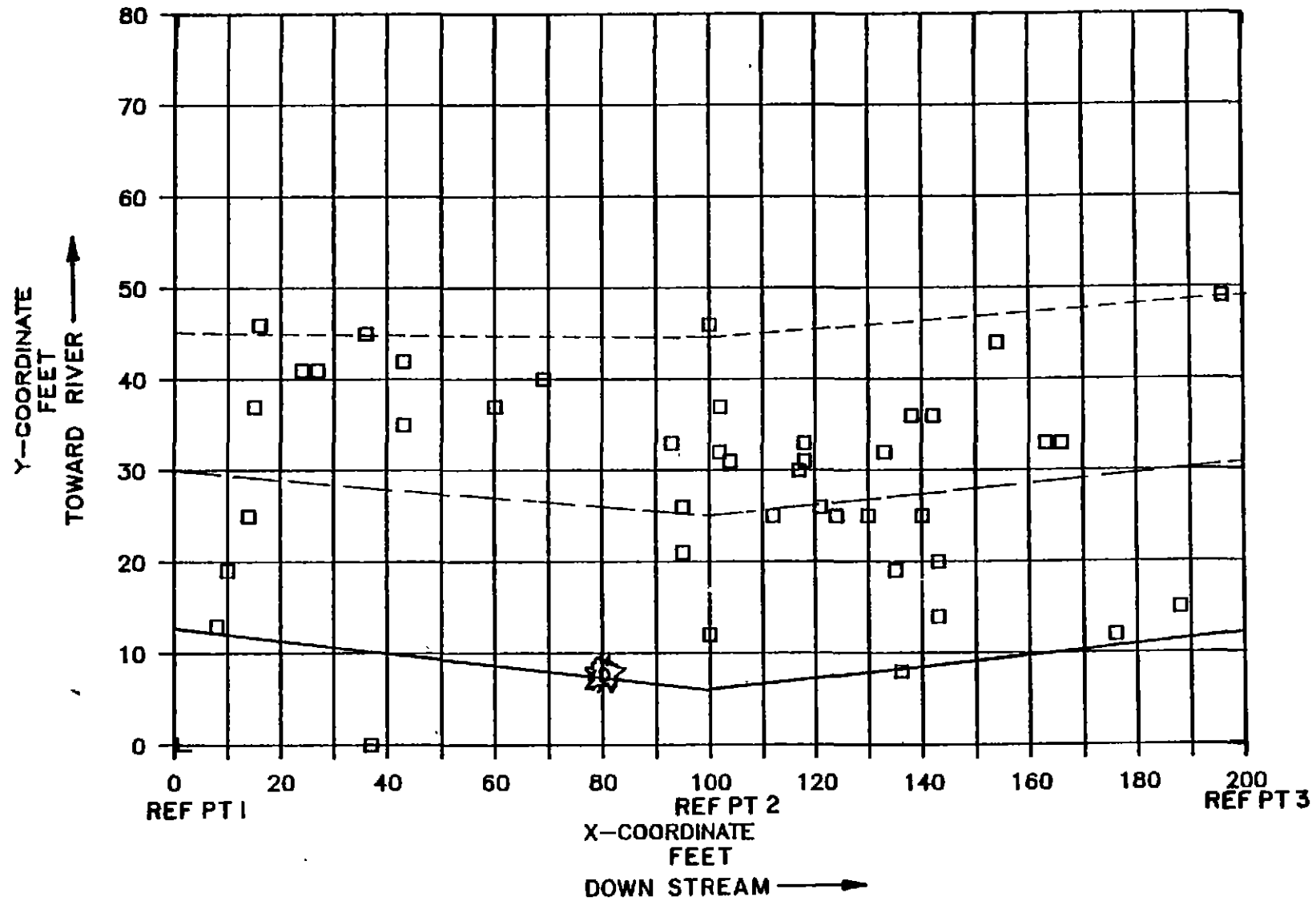
SUMMER 1985
ROCKPORT BAR SITE 1

FRY STRAND VS. FEATURE RELATIONSHIP

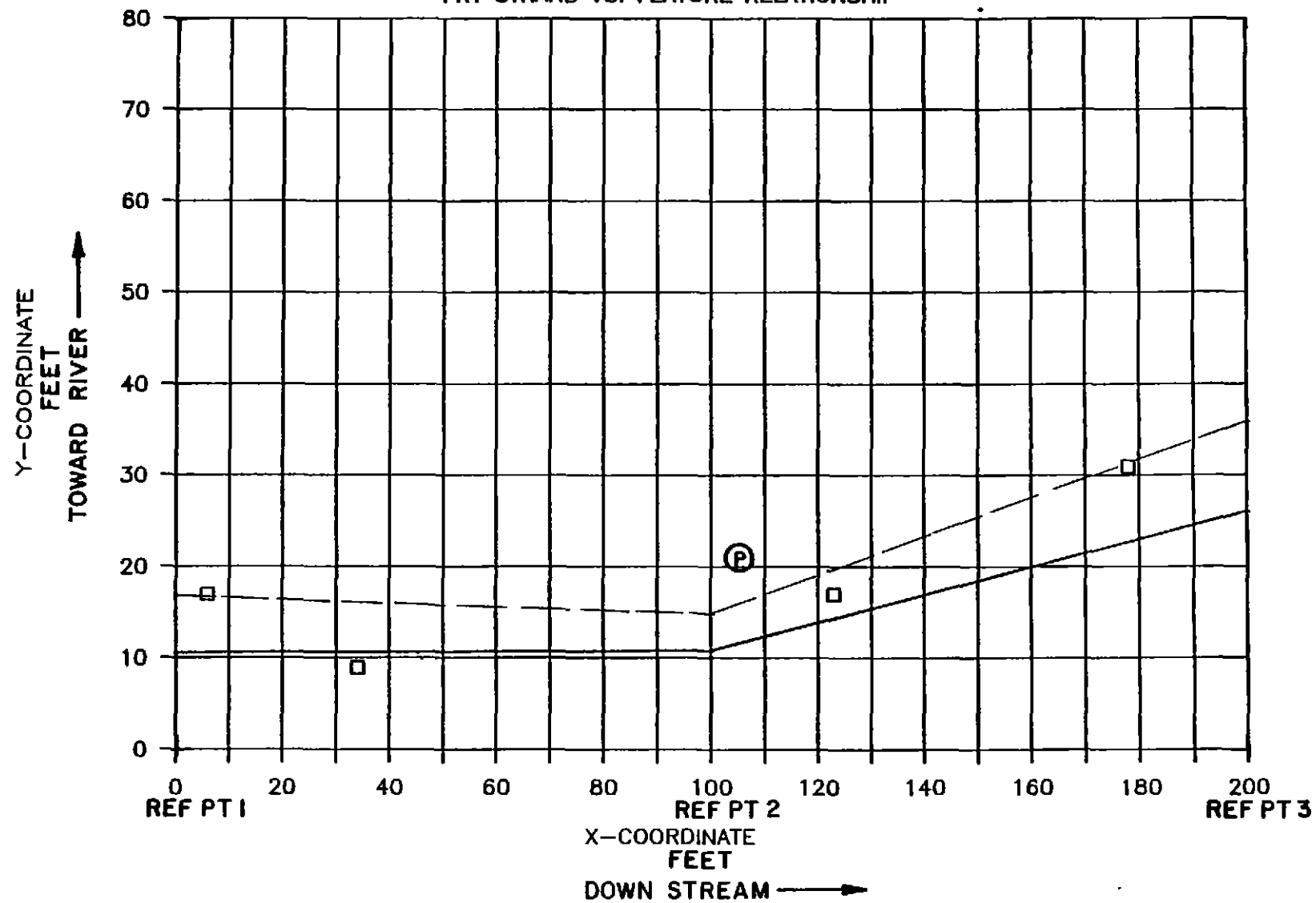


SUMMER 1985
ROCKPORT BAR SITE 3

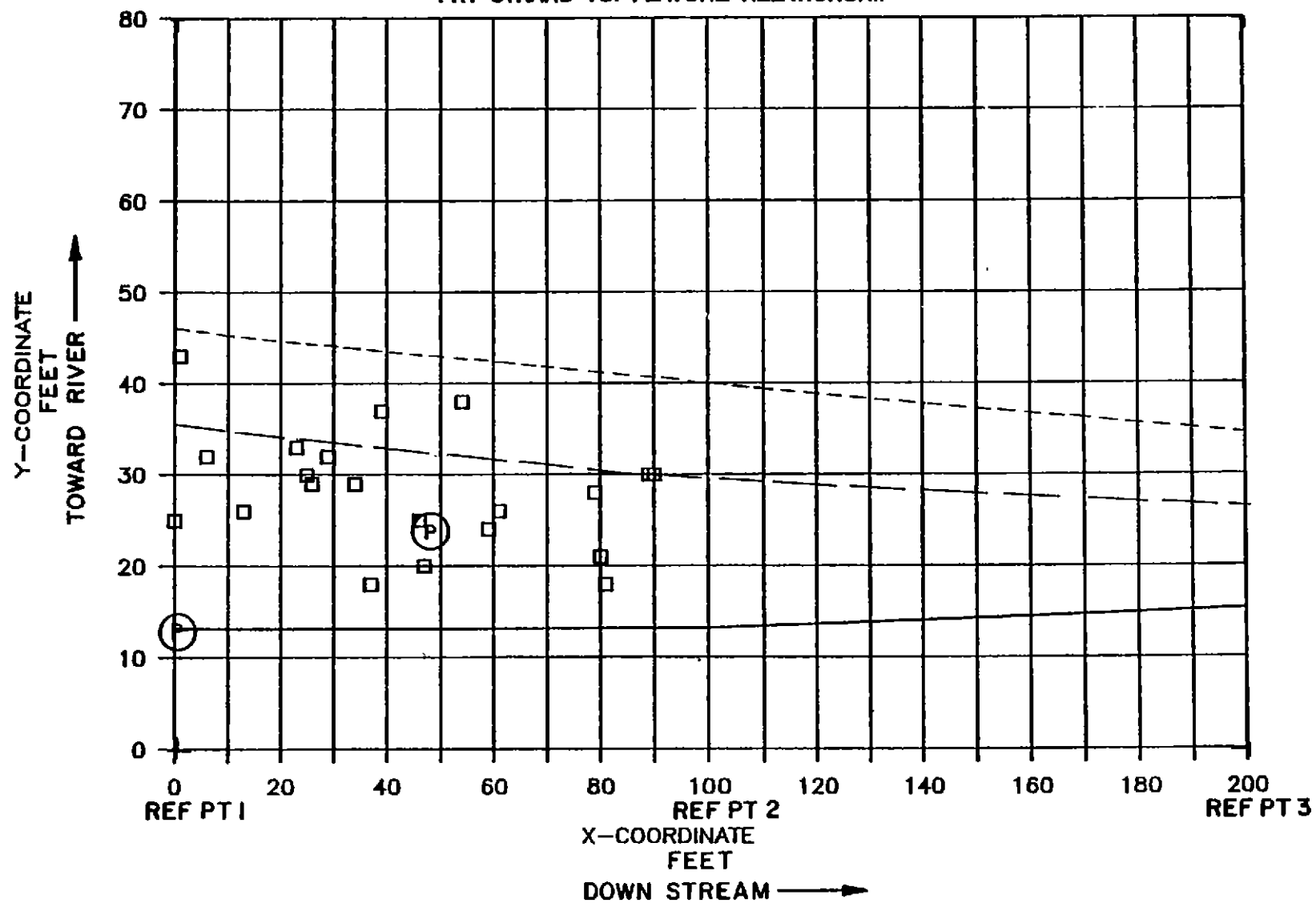
FRY STRAND VS. FEATURE RELATIONSHIP



SUMMER 1985
WAYNE SWIM SITE 1
FRY STRAND VS. FEATURE RELATIONSHIP

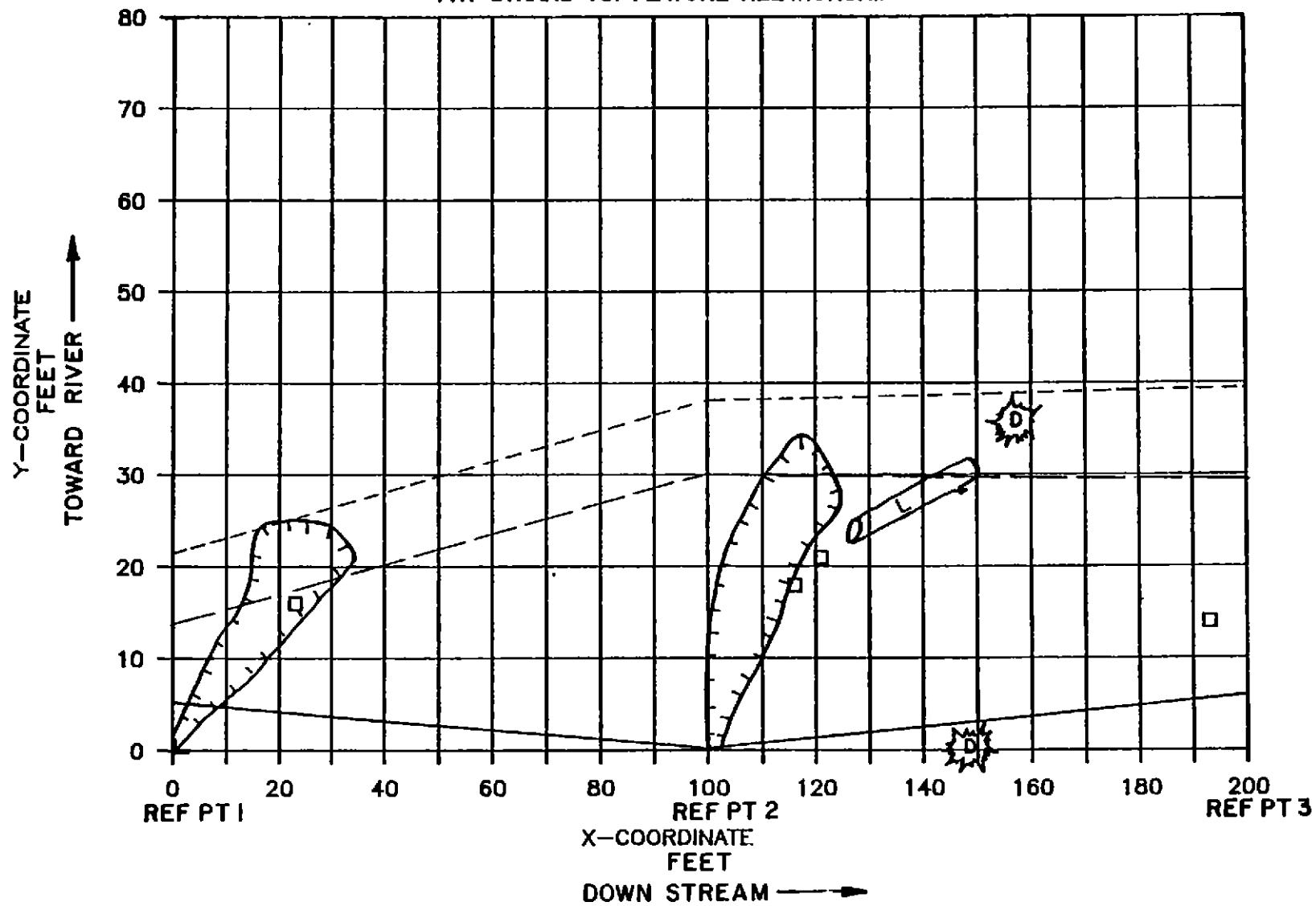


SUMMER 1985
FORBIDDEN BAR SITE 1
FRY STRAND VS. FEATURE RELATIONSHIP



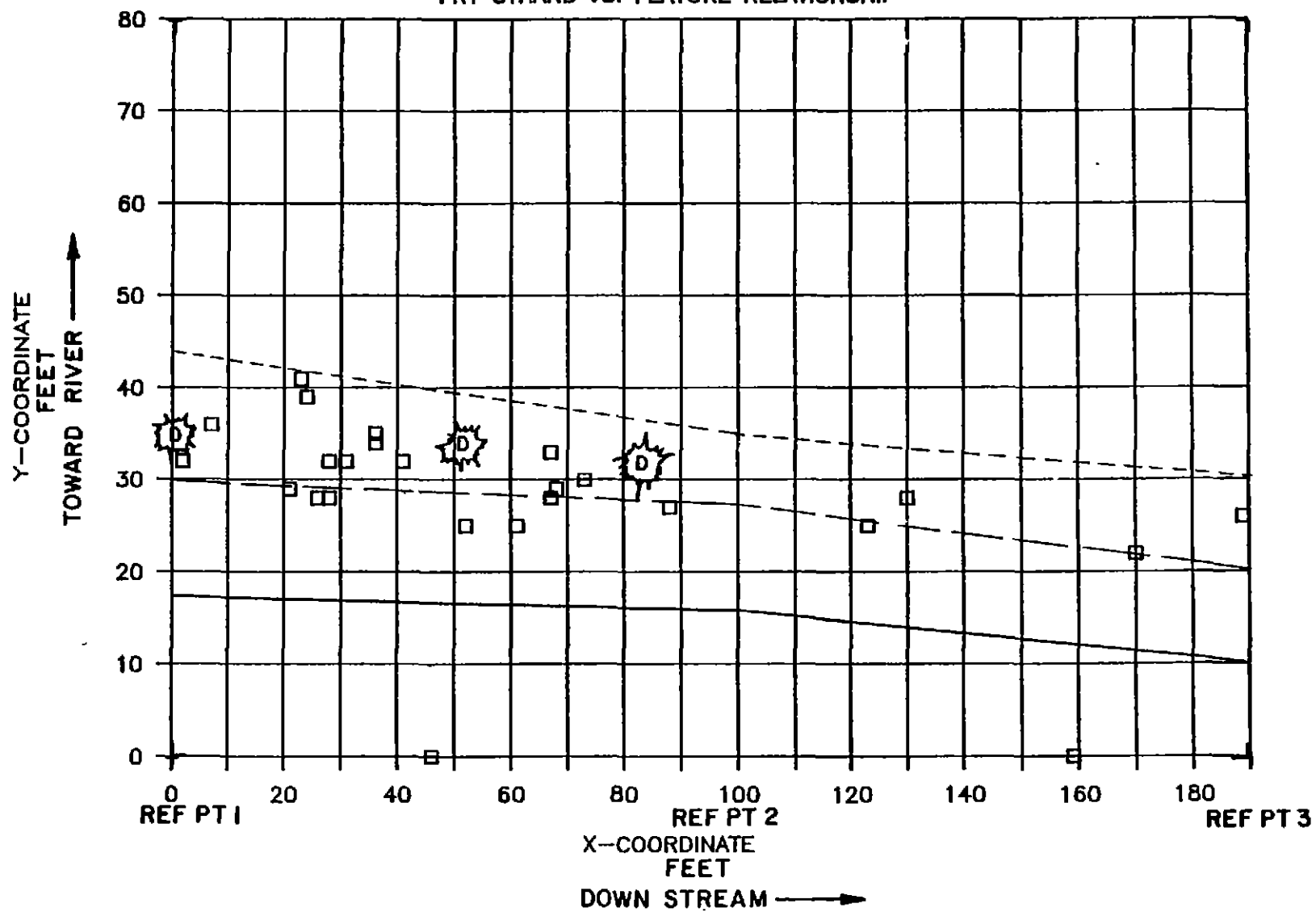
SUMMER 1985
FORBIDDEN BAR SITE 3

FRY STRAND VS. FEATURE RELATIONSHIP



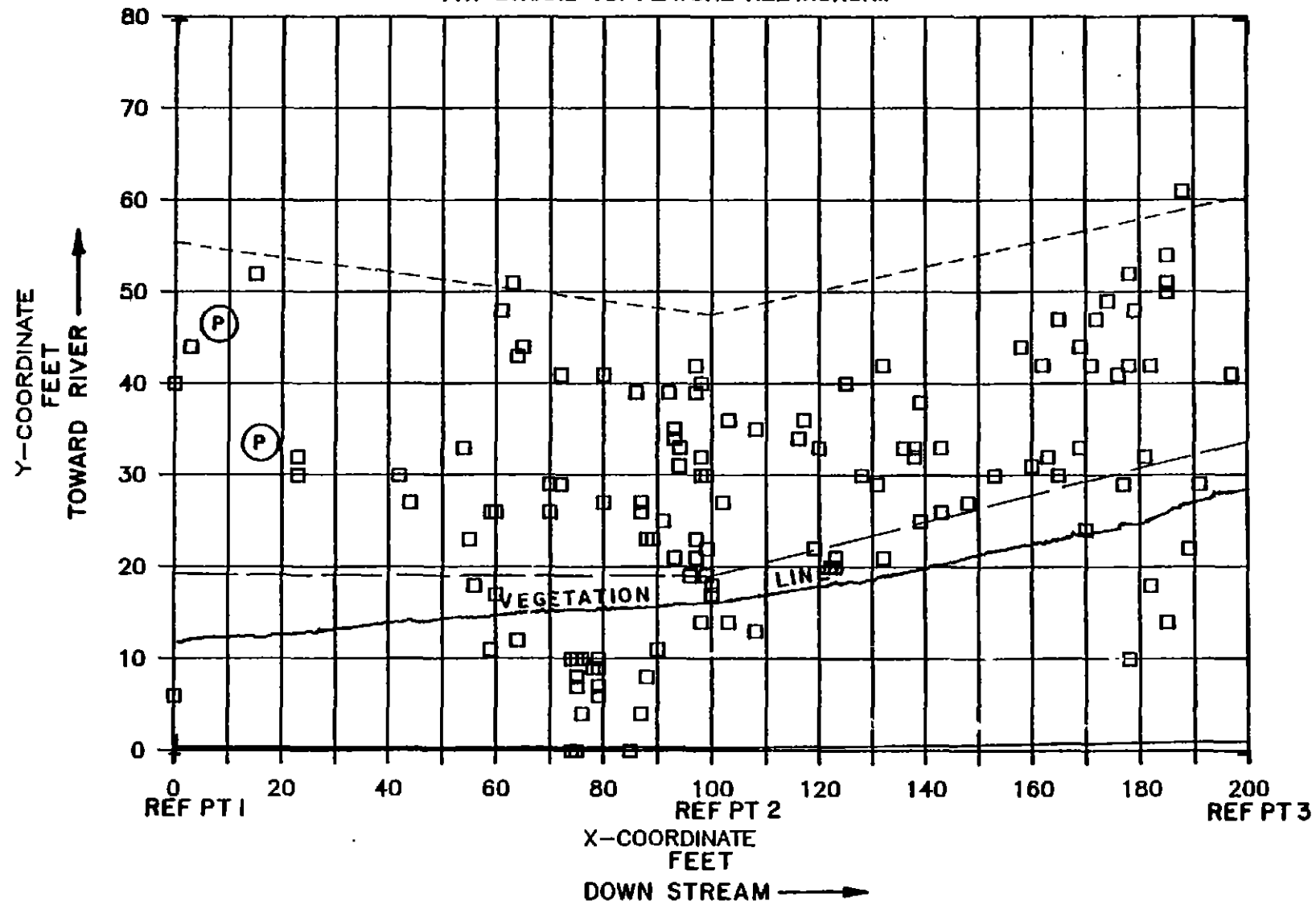
SUMMER 1985
BIG EDDY STATION 1

FRY STRAND VS. FEATURE RELATIONSHIP



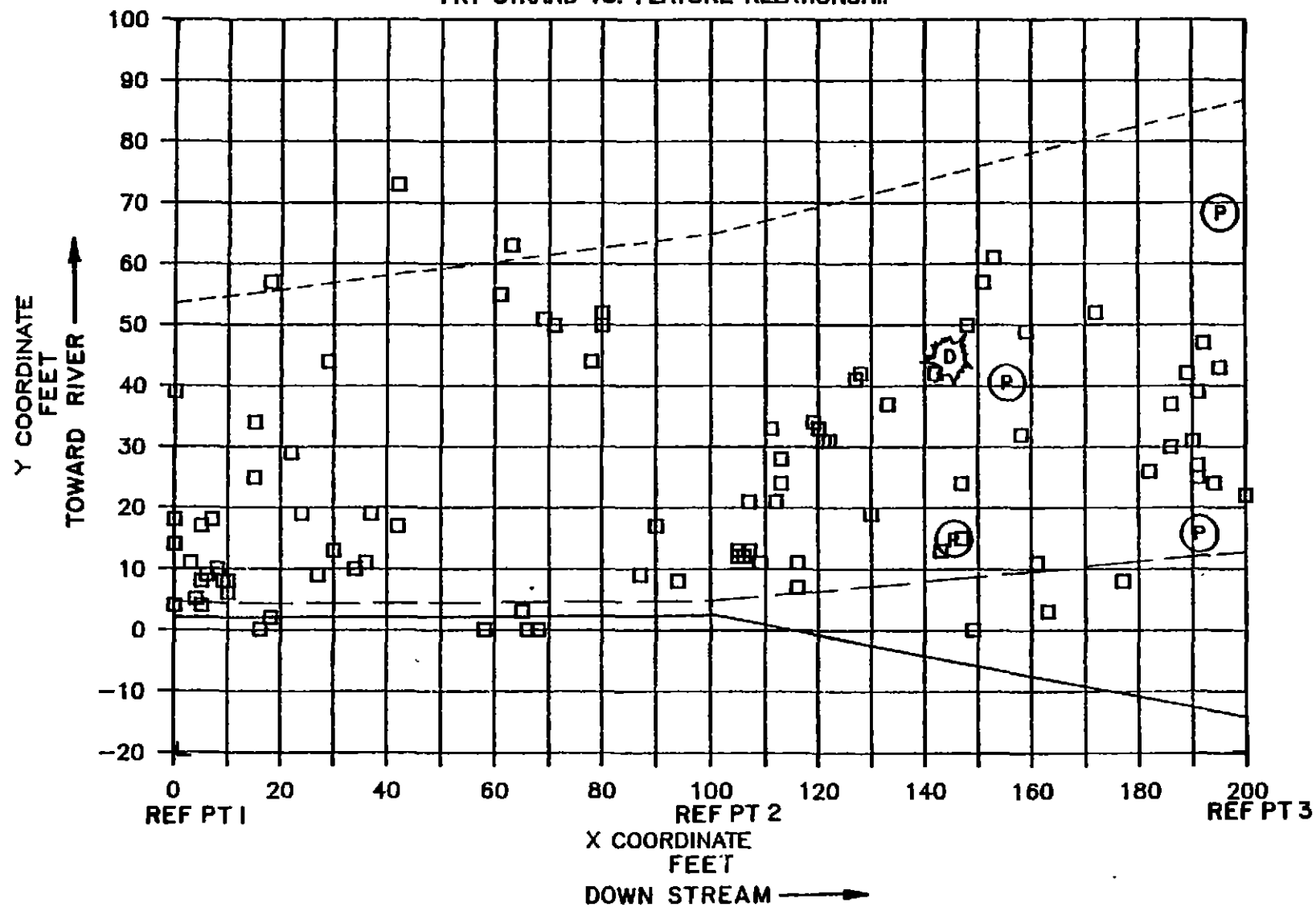
SUMMER 1985
MARBLEMOUNT BAR SITE 1

FRY STRAND VS. FEATURE RELATIONSHIP



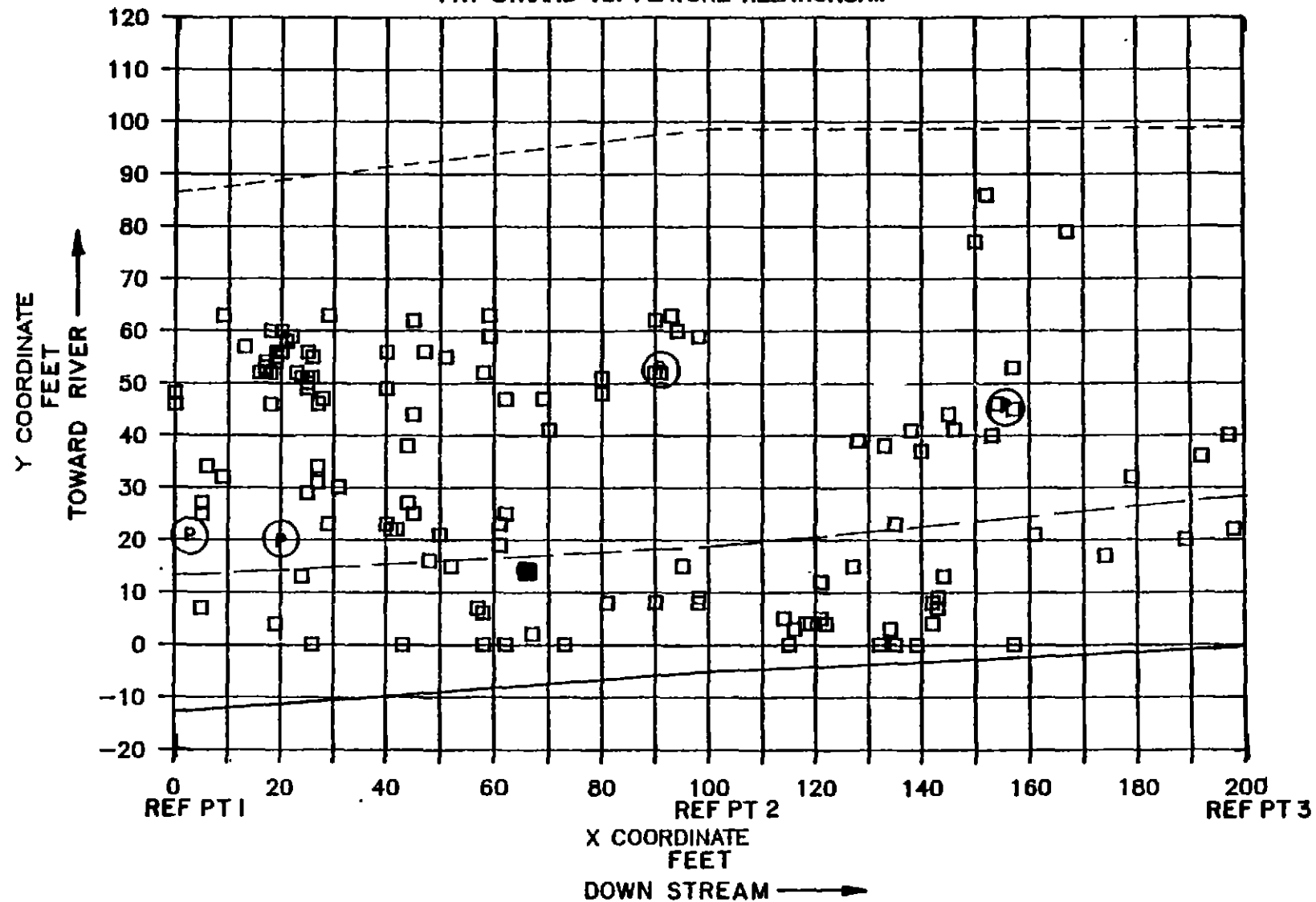
SUMMER 1985
MARBLEMOUNT BAR SITE 2

FRY STRAND VS. FEATURE RELATIONSHIP



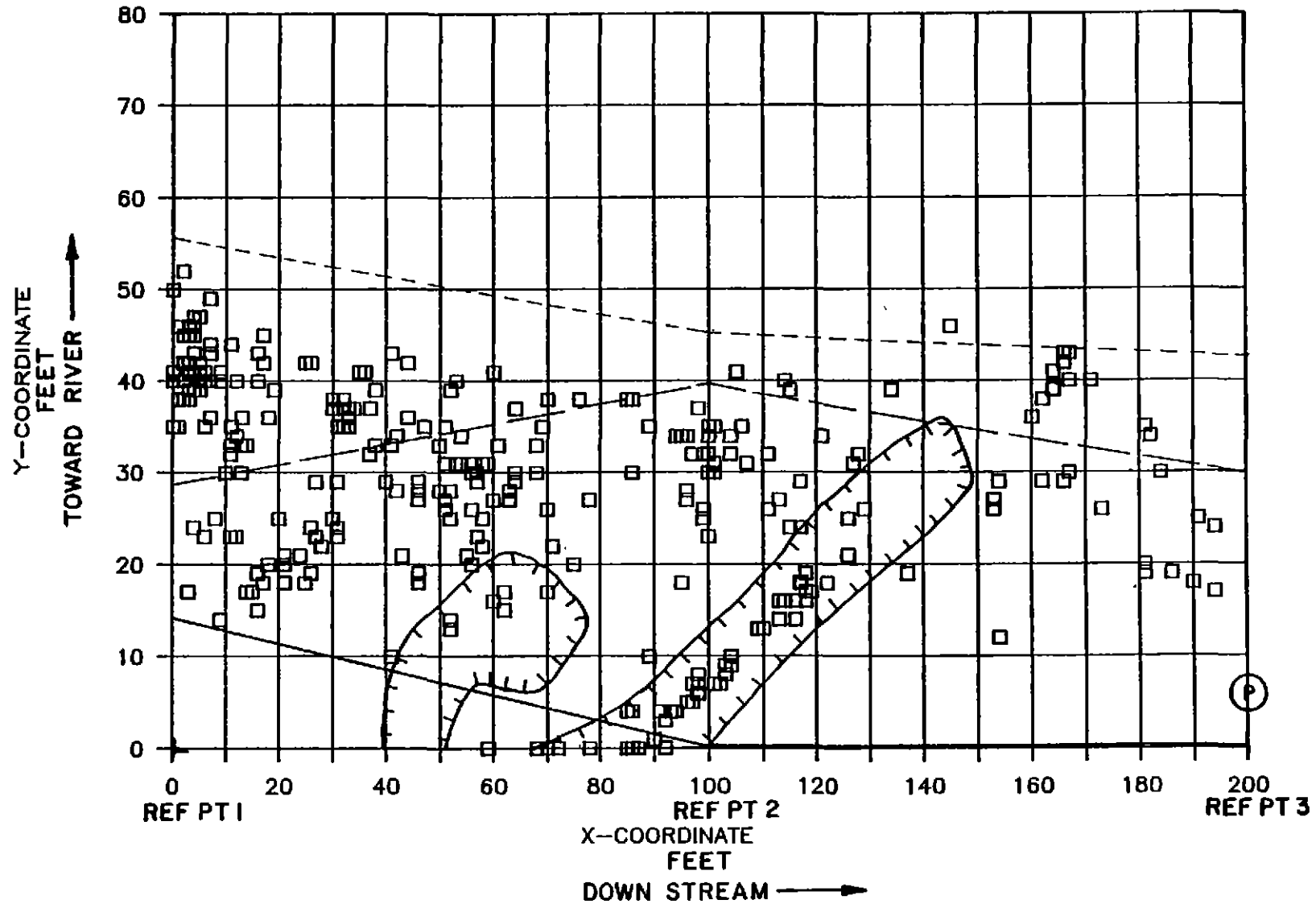
SUMMER 1985
MARBLEMOUNT BAR SITE 3

FRY STRAND VS. FEATURE RELATIONSHIP



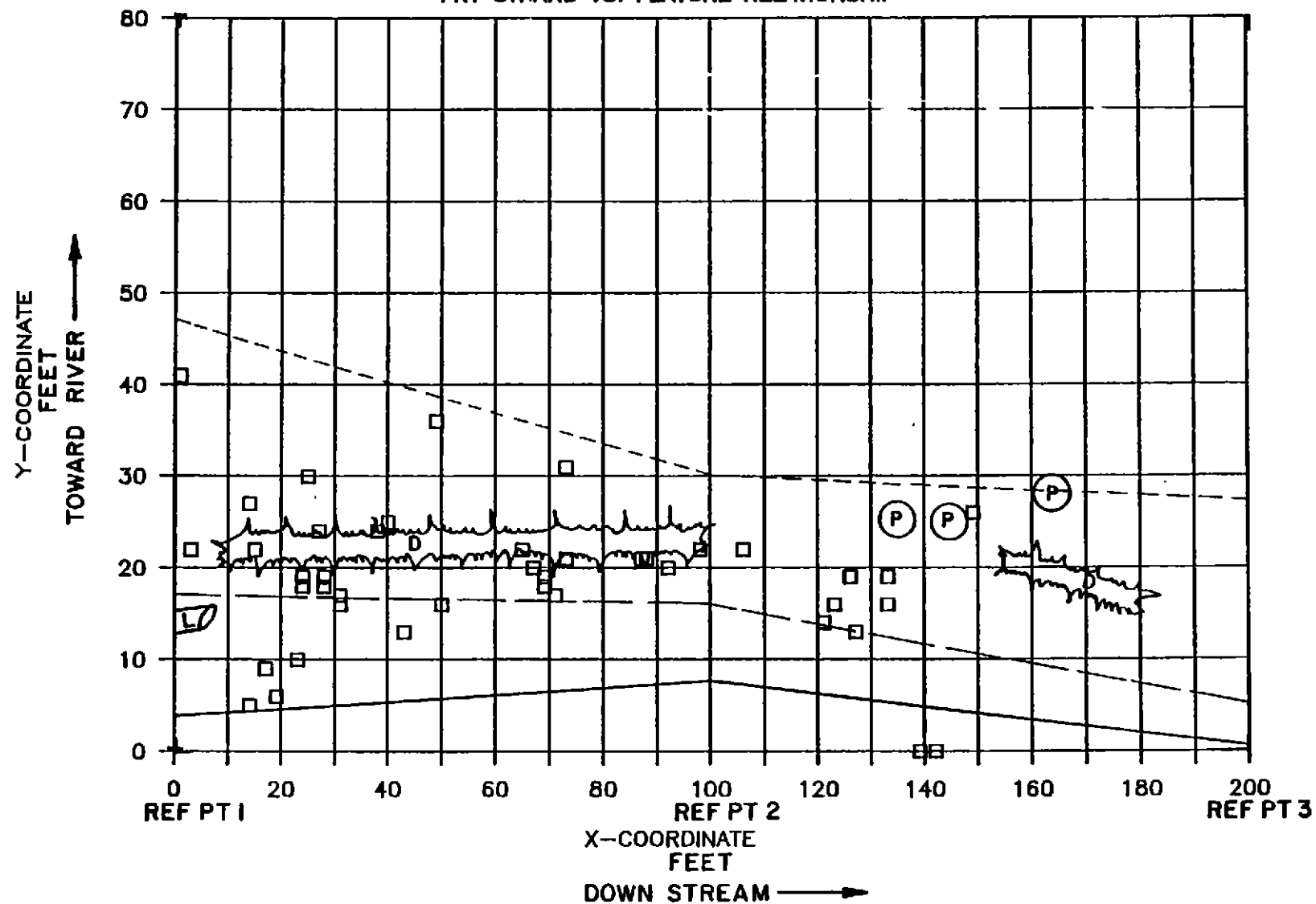
SUMMER 1985
DIOBSUD CREEK SITE 1

FRY STRAND VS. FEATURE RELATIONSHIP



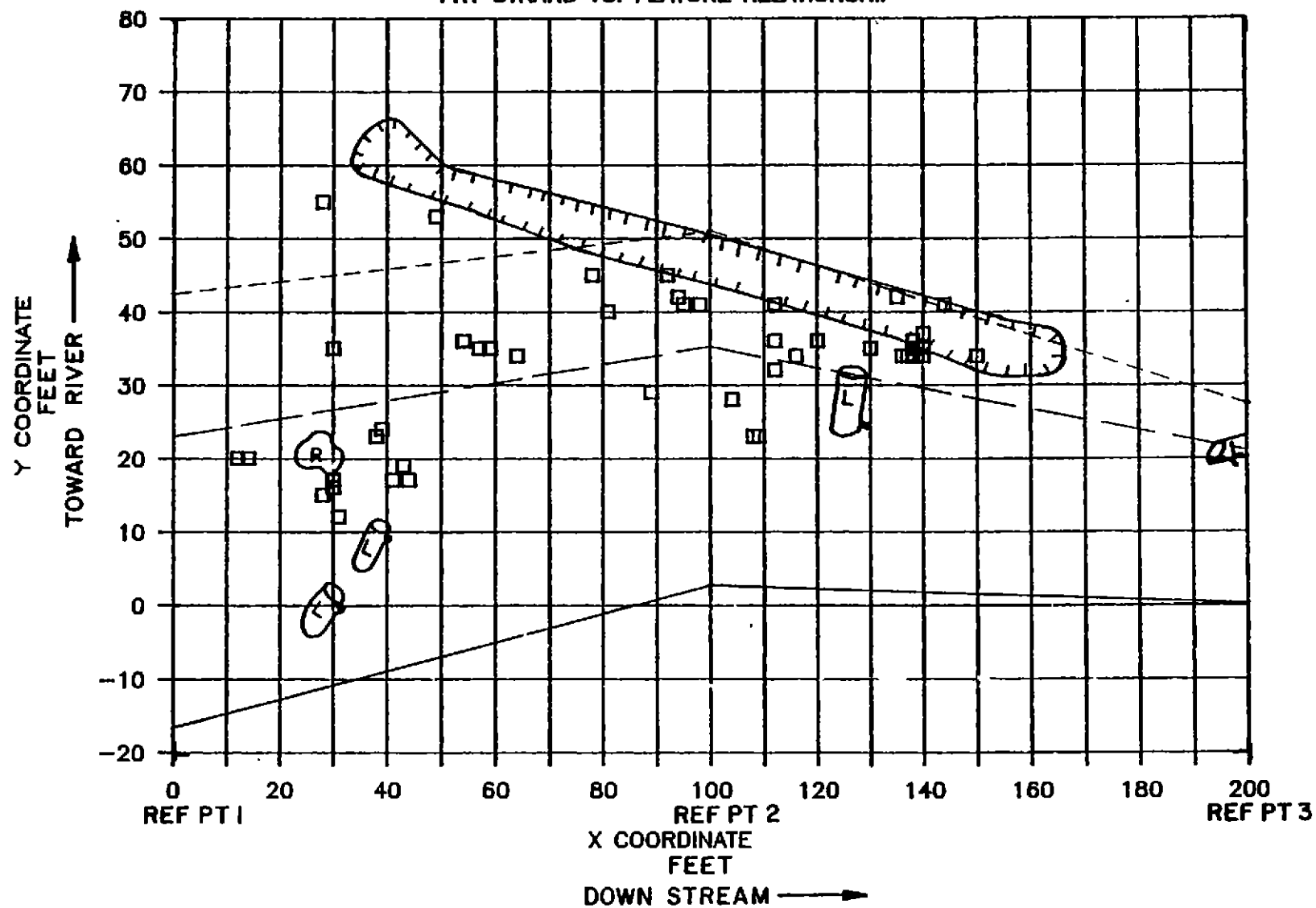
SUMMER 1985
DIOBSUD CREEK SITE 2

FRY STRAND VS. FEATURE RELATIONSHIP



SUMMER 1985
OINK BAR SITE 1

FRY STRAND VS. FEATURE RELATIONSHIP



APPENDIX J

FRY STRANDING LOCATIONS FOR 1,000 VERSUS 5,000 CFS DOWNRAMPING RATES

LEGEND



STRANDED FRY



HIGH/HIGH WATERLINE



HIGH WATER



LOW WATERLINE



LOW/LOW WATERLINE



AUTO PART DEBRIS



DEBRIS PILE



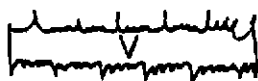
POTHOLE



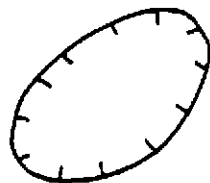
LOG



ROCK

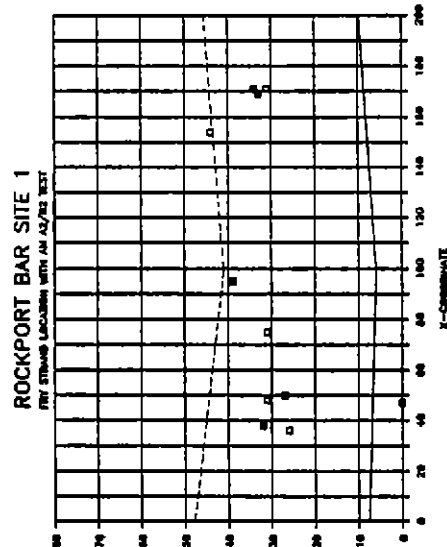
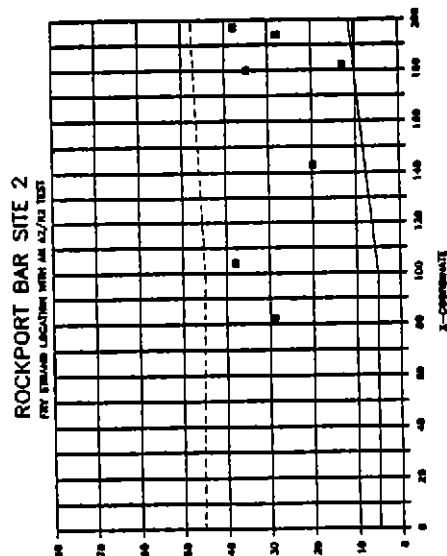
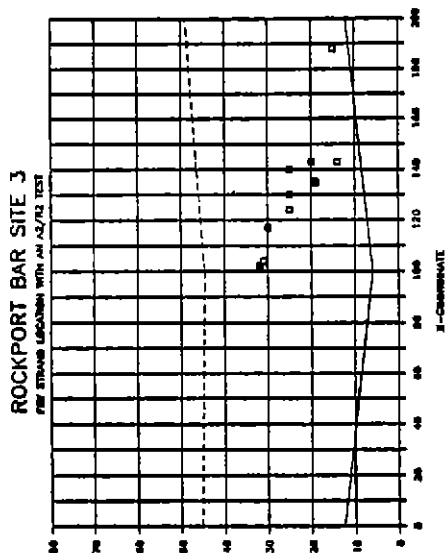


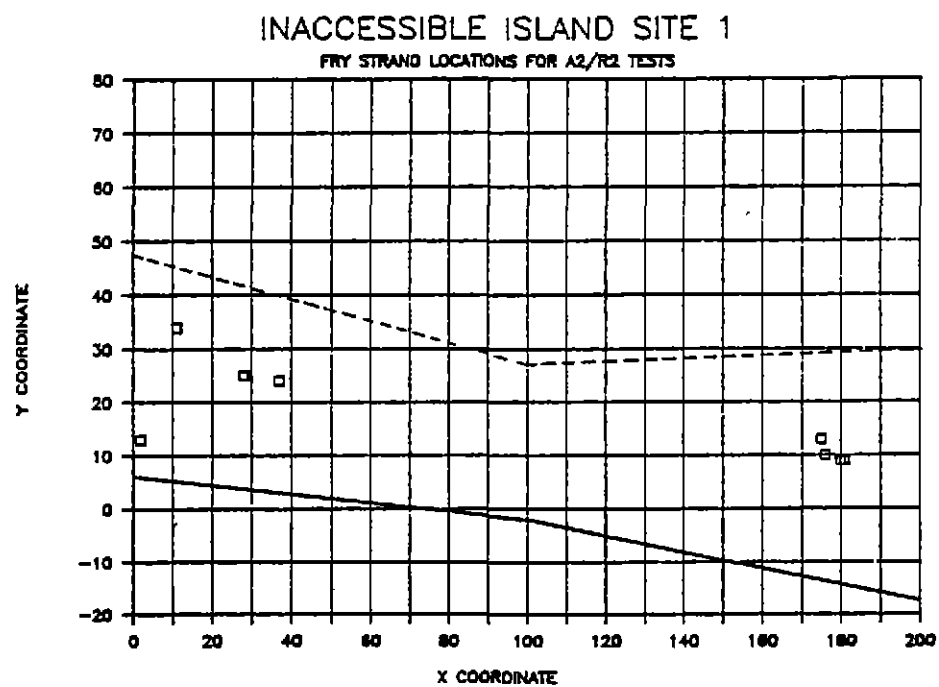
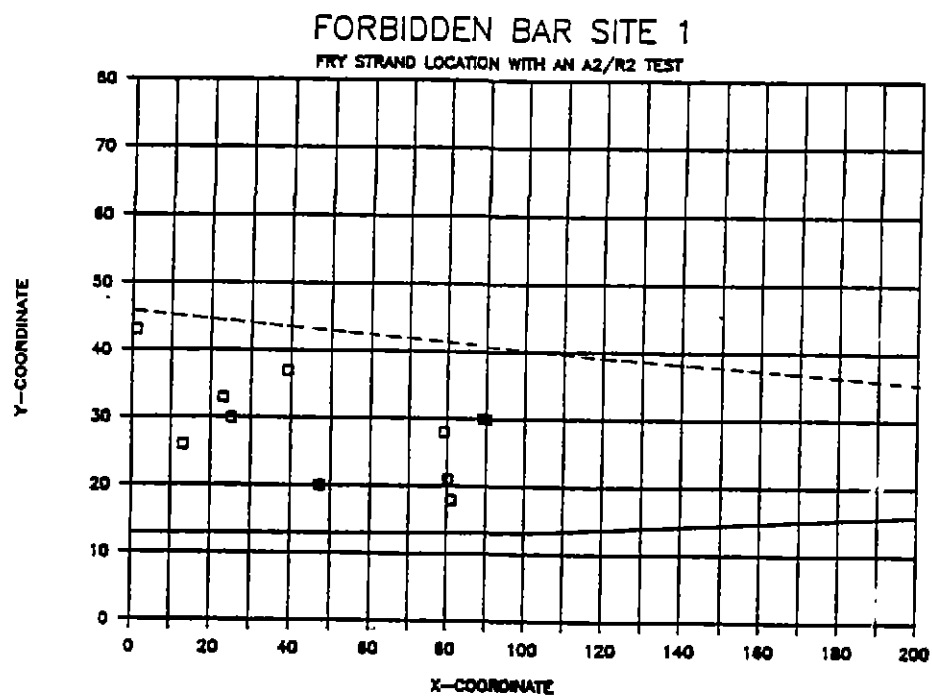
VEGETATION LINE



CHANNEL DEPRESSION

Table J-1





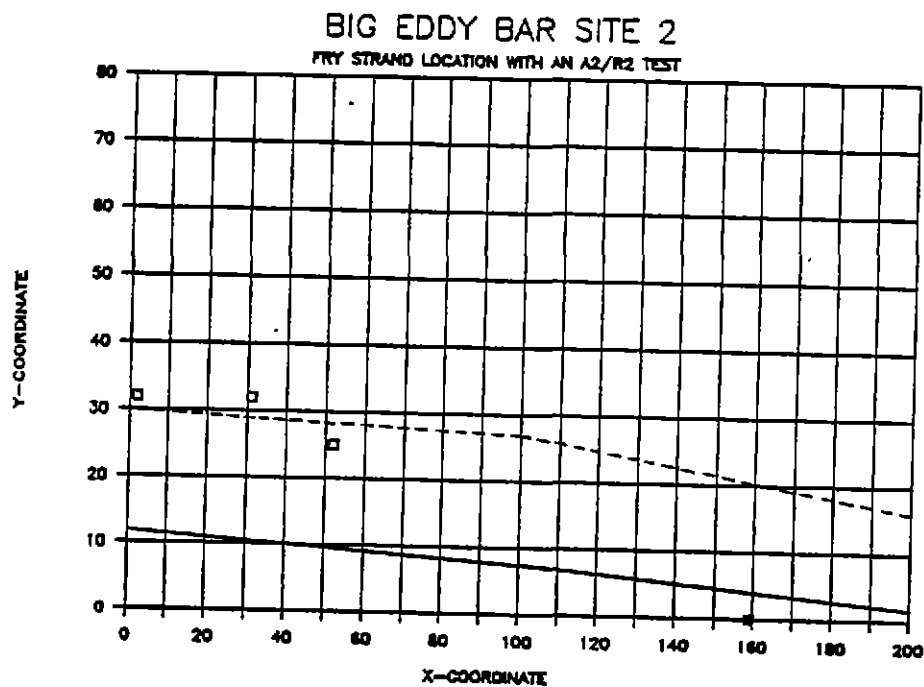
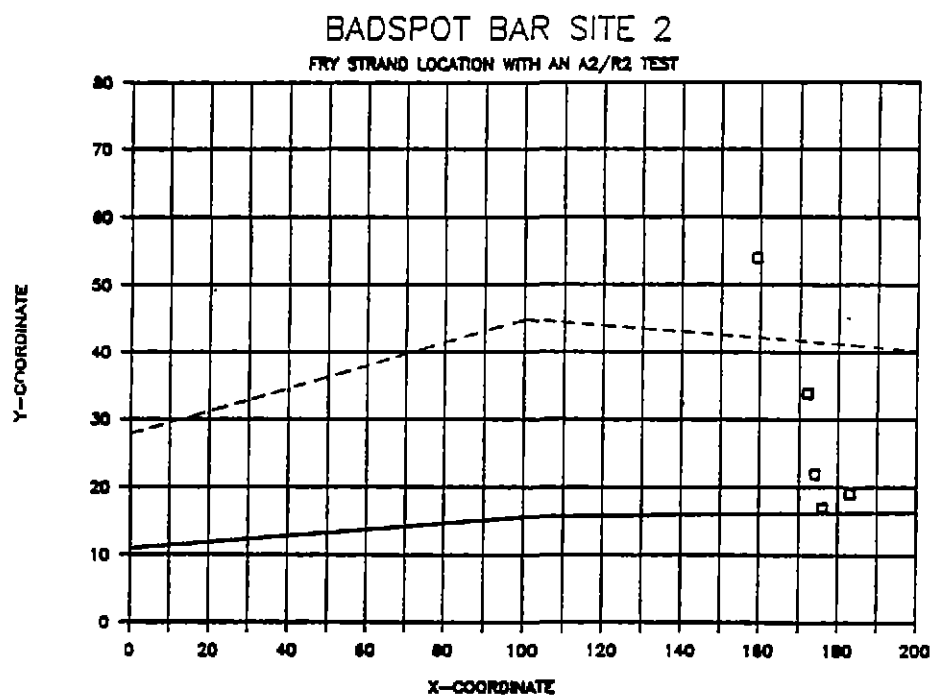
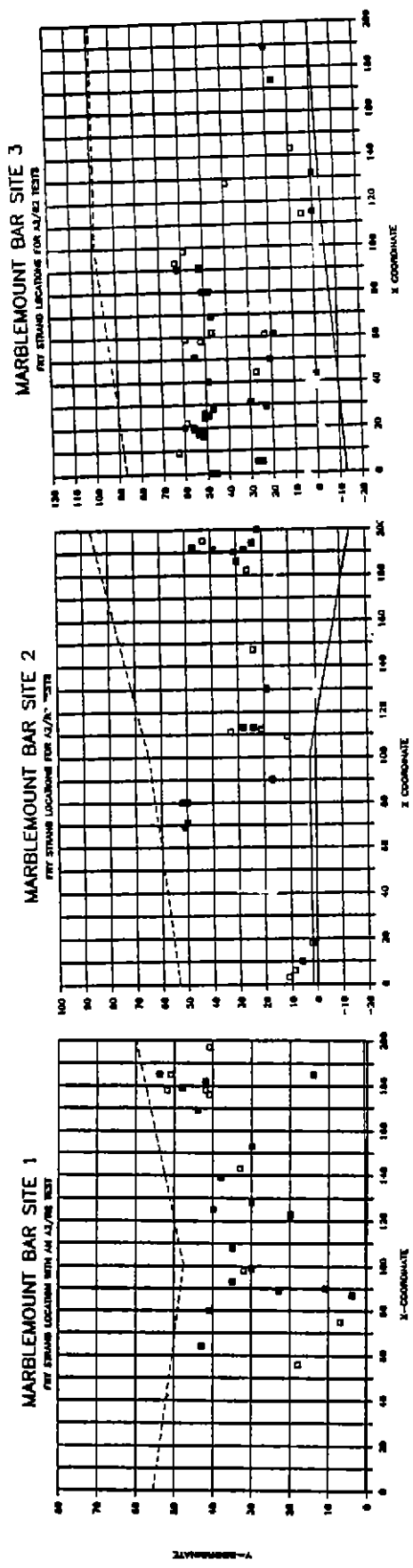
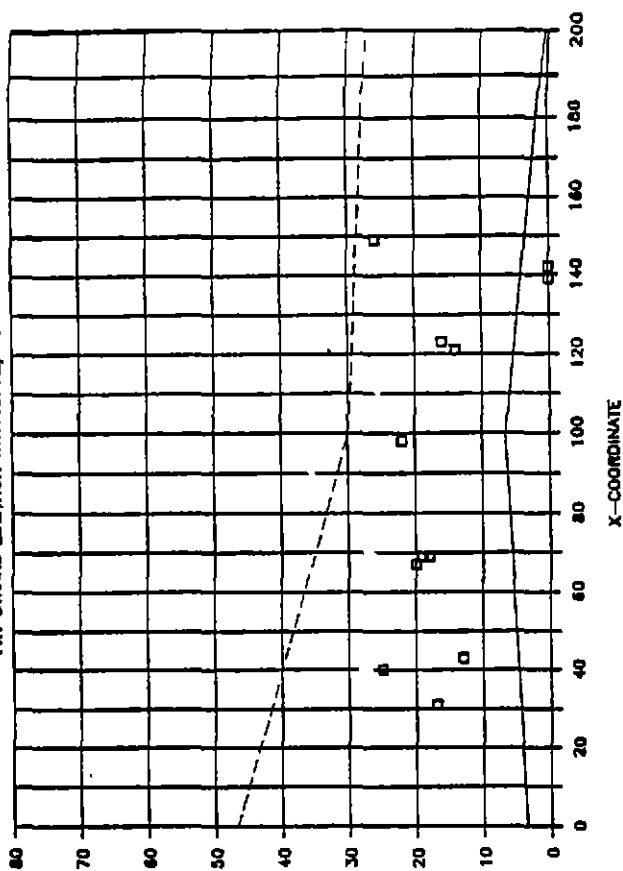


Table J-4



DIOSUD CREEK BAR SITE 2

FRY STRAND LOCATION WITH AN A2/R2 TEST



DIOSUD CREEK SITE 1

FRY STRAND LOCATIONS FOR A2/R2 TESTS

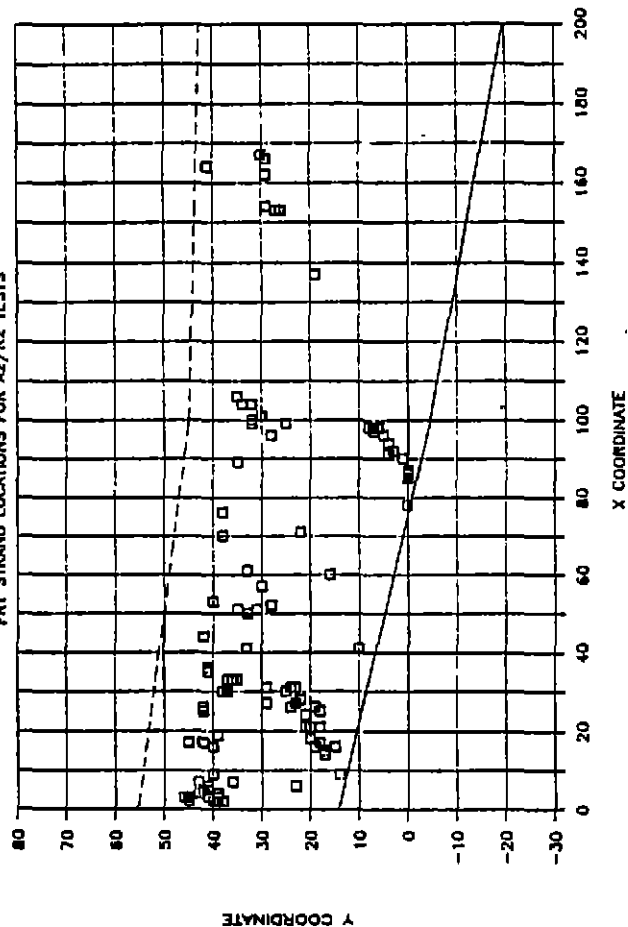


Table J-6

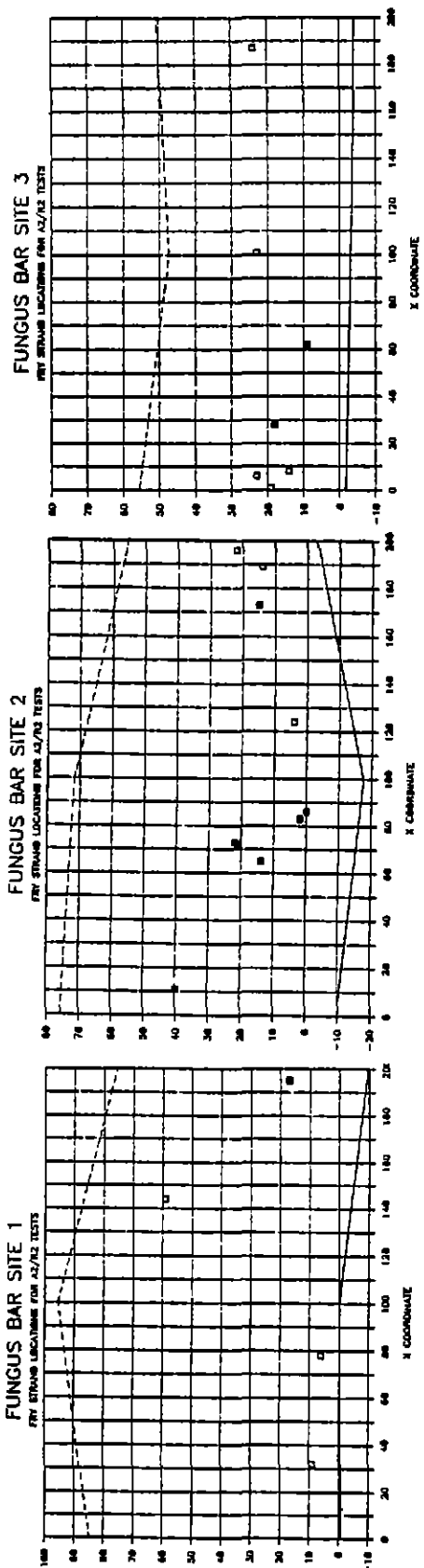


Table J-7

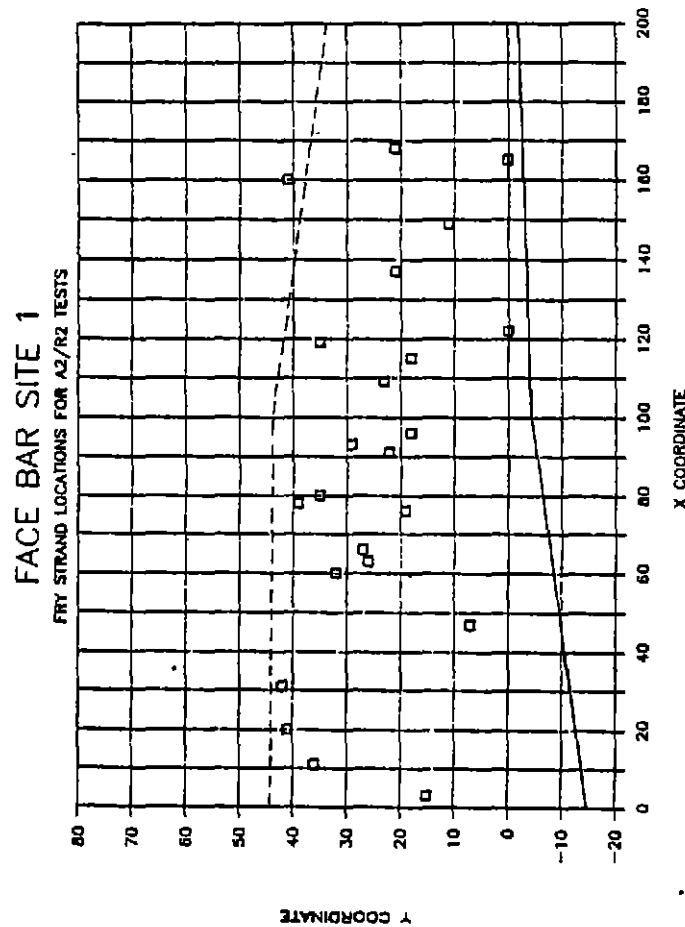
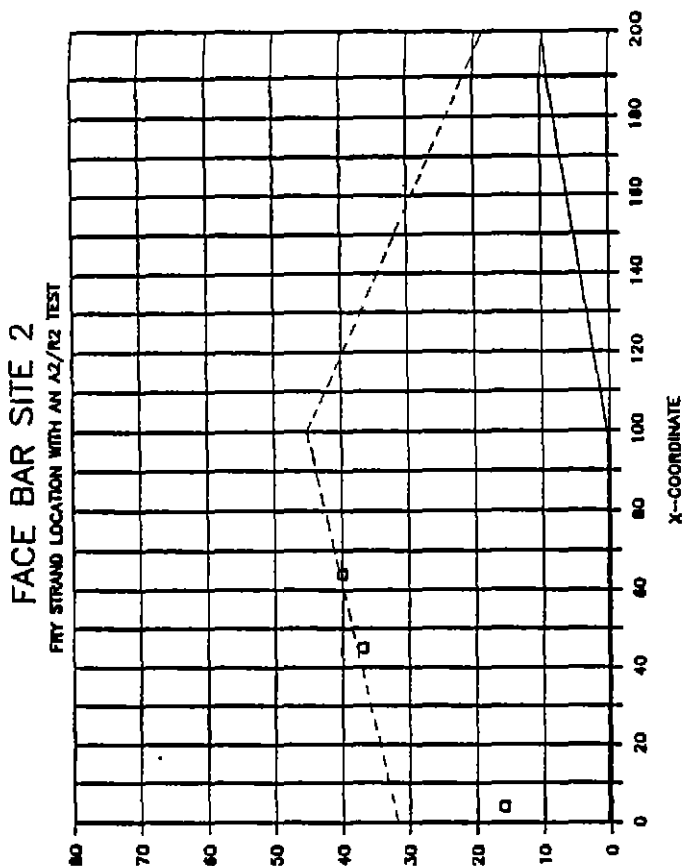


Table J-8

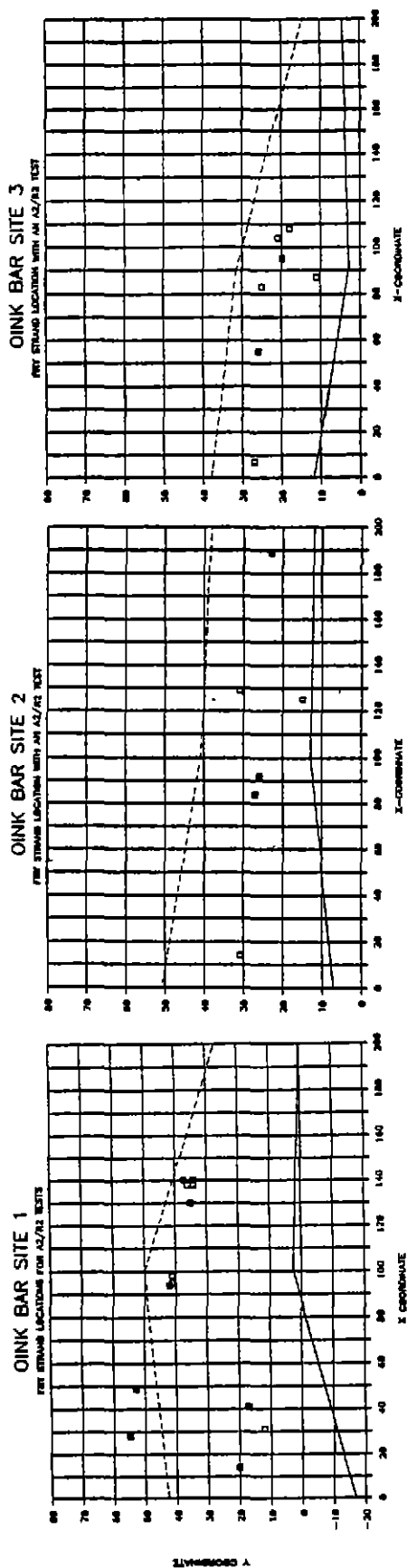


Table J-9

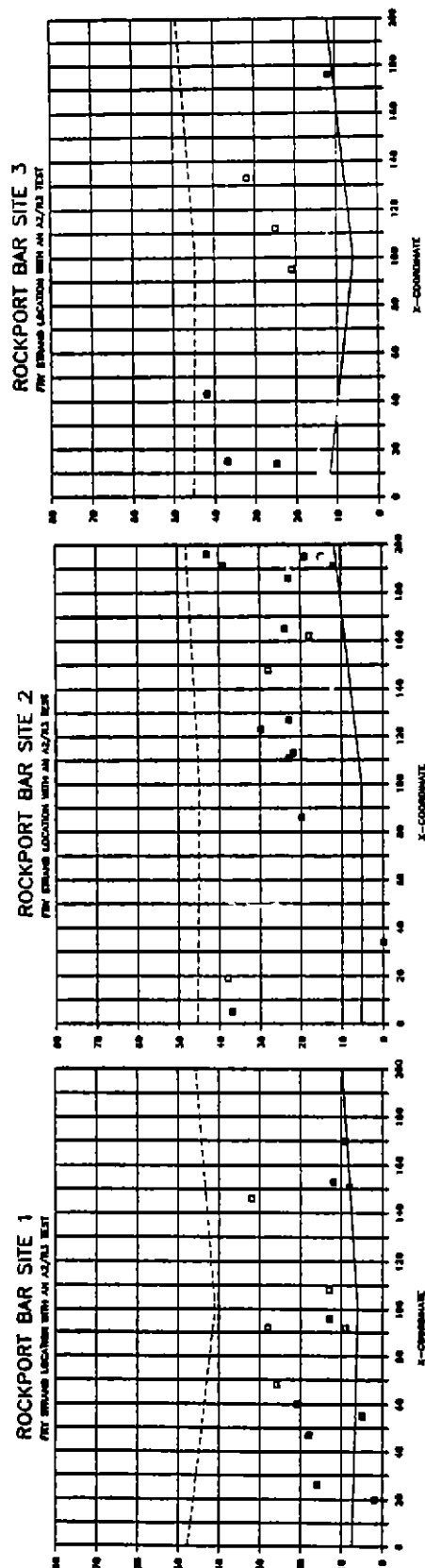


Table J-10

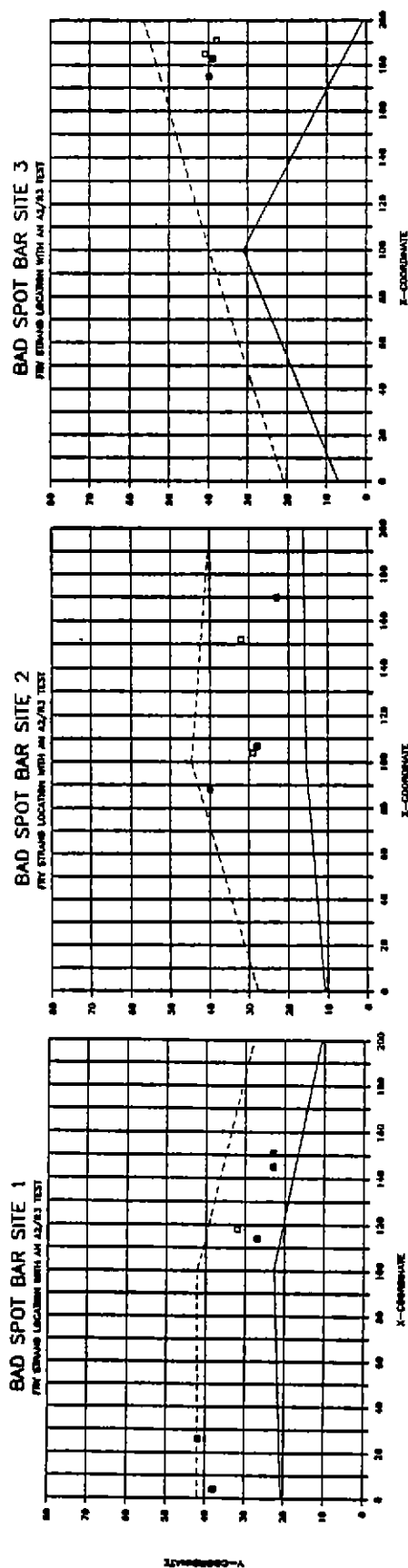
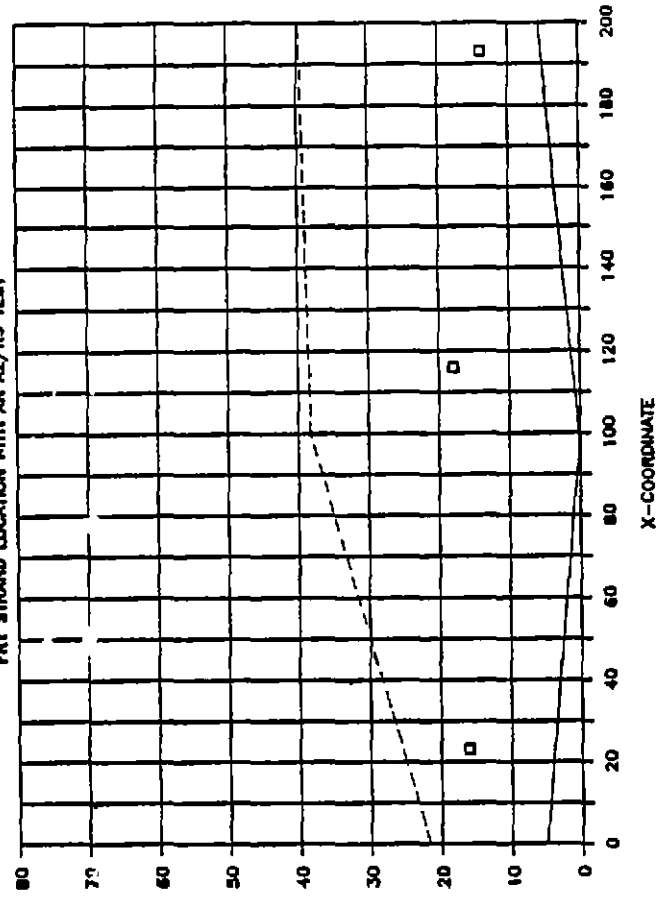


Table J-11

FORBIDDEN BAR SITE 3

FRY STRAND LOCATION WITH AN A2/R3 TEST



FORBIDDEN BAR SITE 1

FRY STRAND LOCATION WITH AN A2/R3 TEST

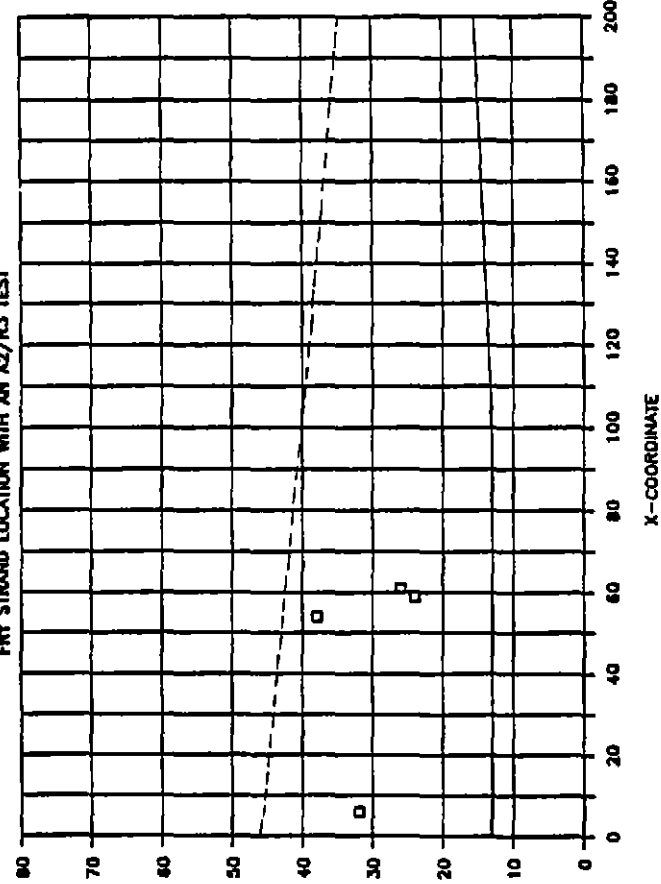
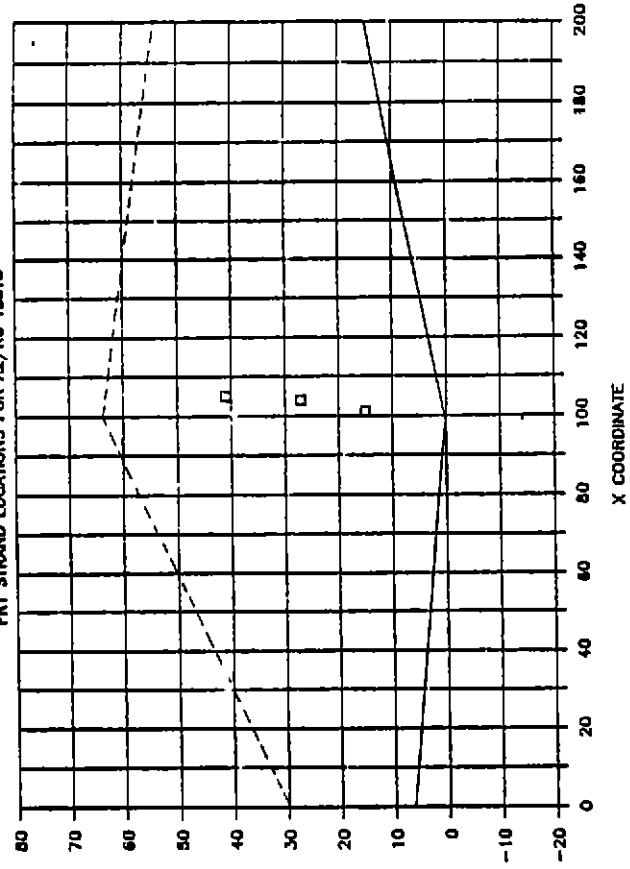


Table J-12

INACCESSIBLE ISLAND SITE 2

FRY STRAND LOCATIONS FOR A2/R3 TESTS



INACCESSIBLE ISLAND SITE 1

FRY STRAND LOCATIONS FOR A2/R3 TESTS

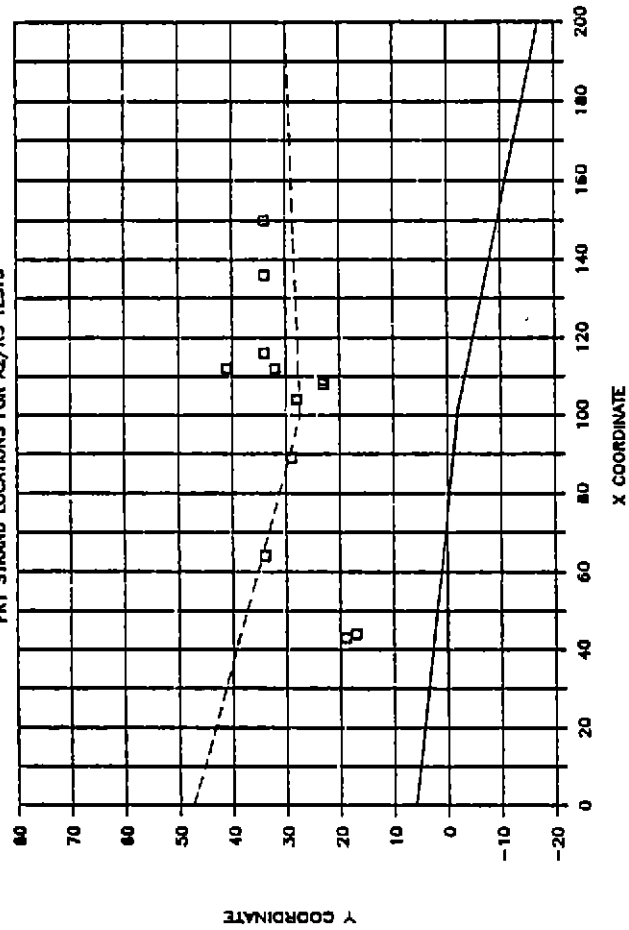
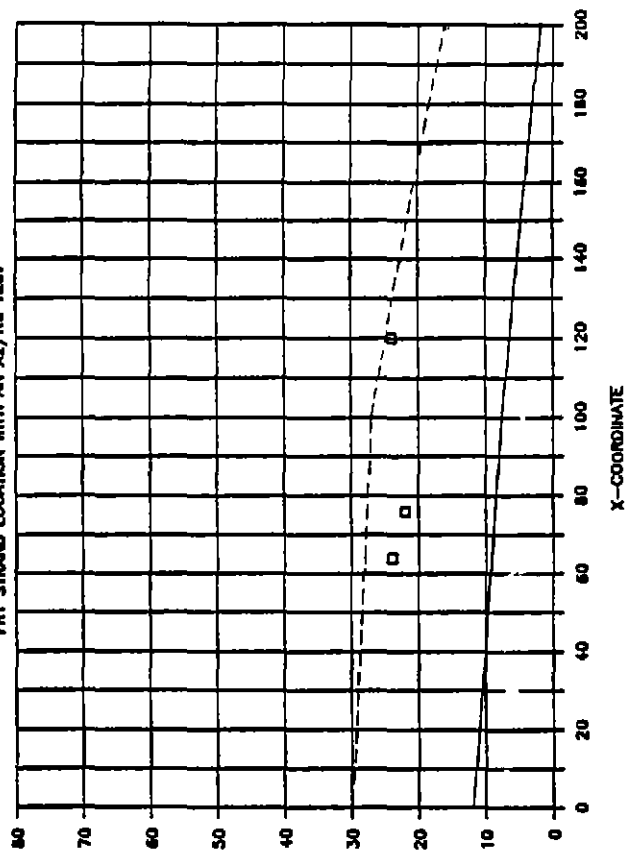


Table J-13

BIG EDDY BAR SITE 2

FRY STRAND LOCATION WITH AN A2/R3 TEST



BIG EDDY BAR SITE 1

FRY STRAND LOCATION WITH AN A2/R3 TEST

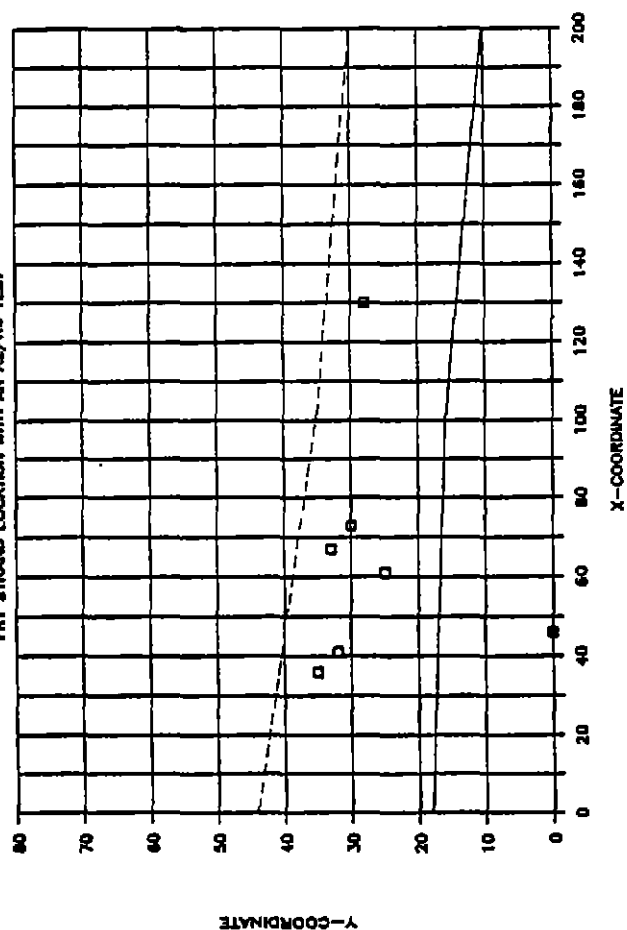
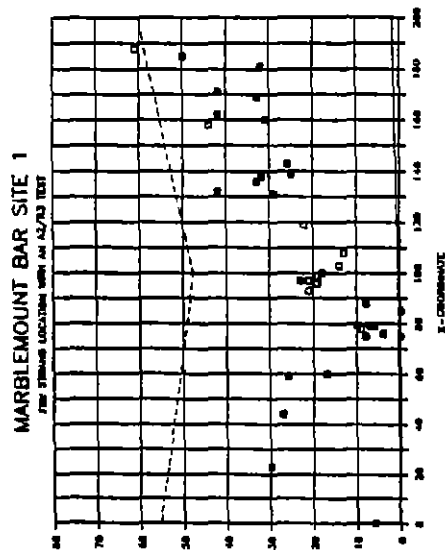
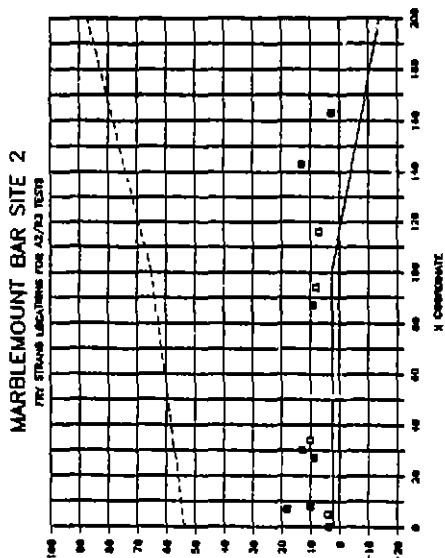
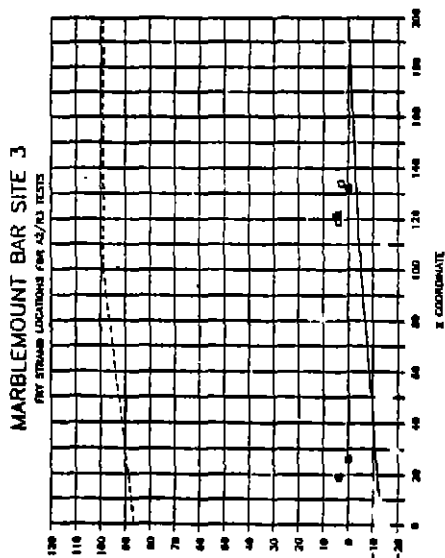
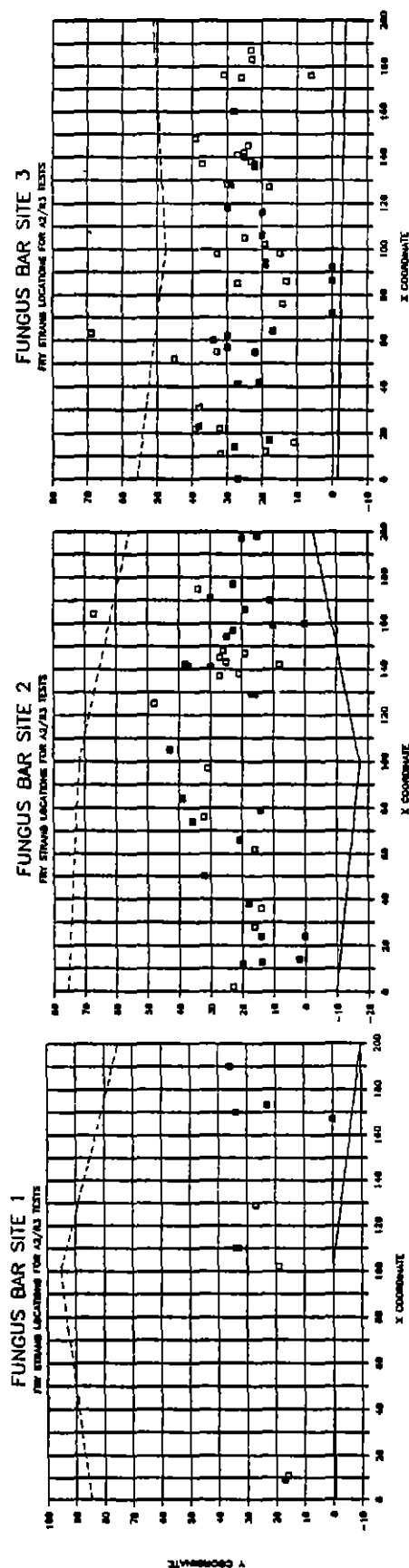


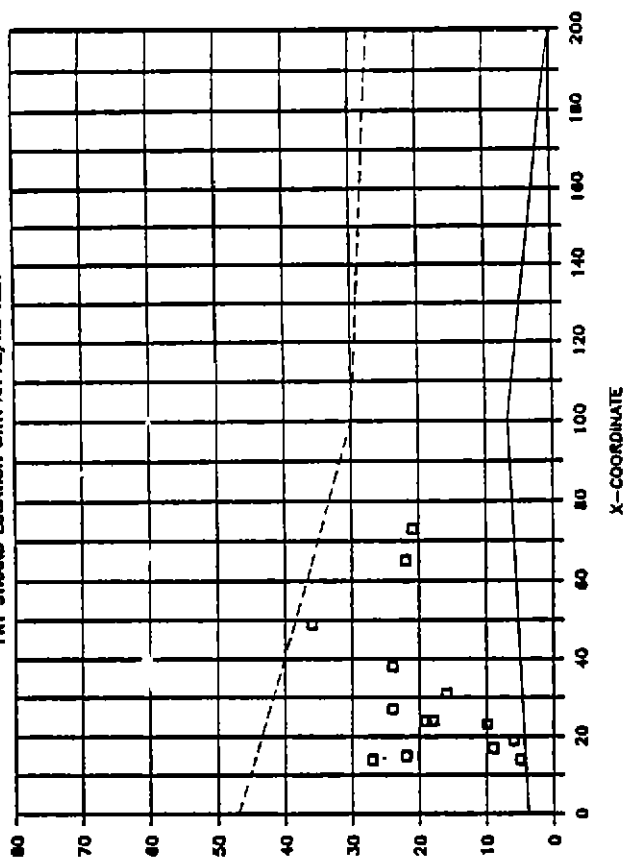
Table J-14





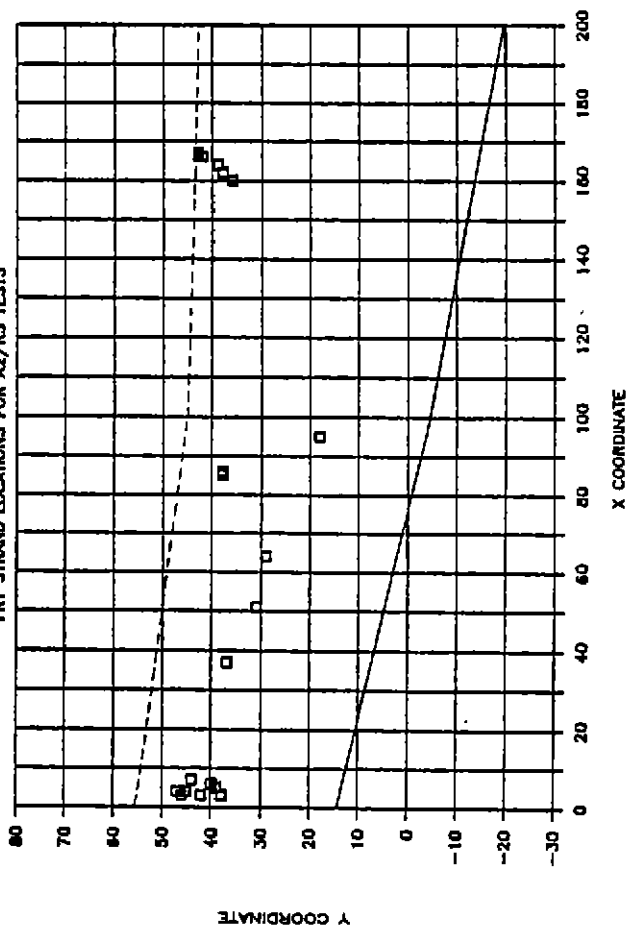
DIOSUD CREEK BAR SITE 2

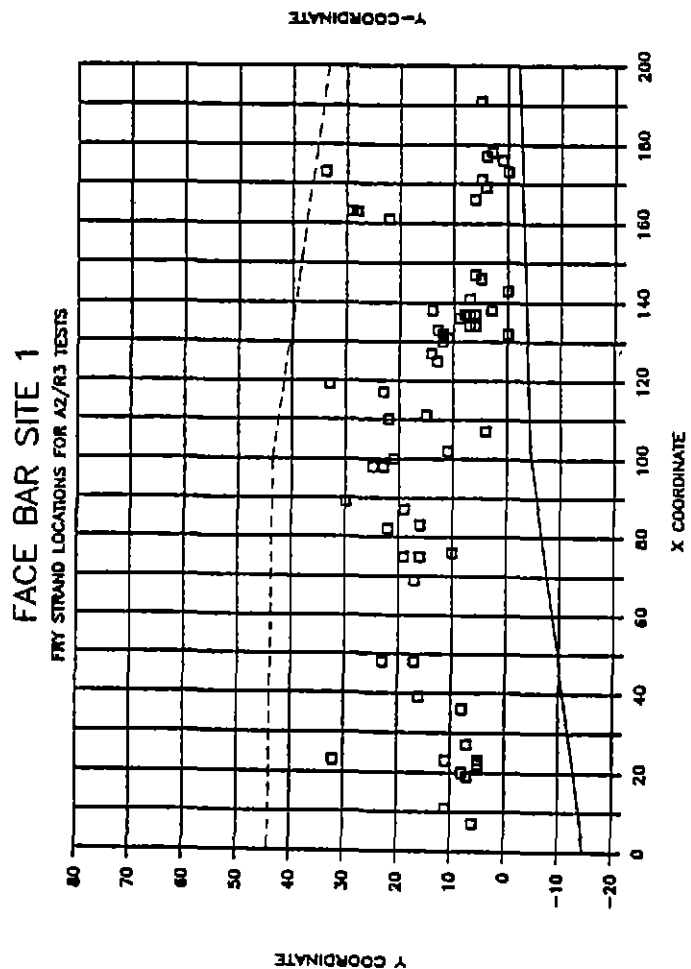
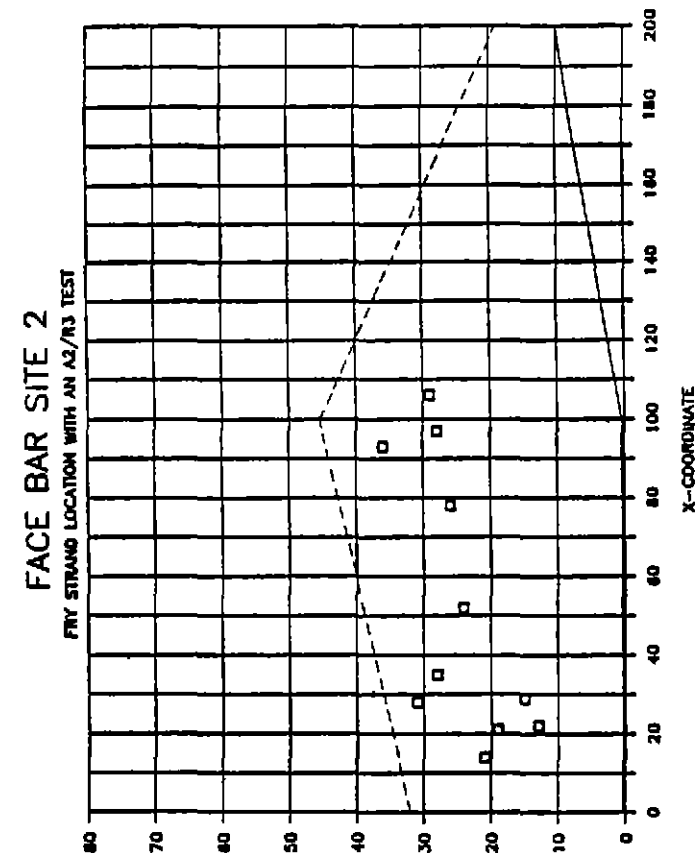
FRY STRAND LOCATION WITH AN A2/R3 TEST

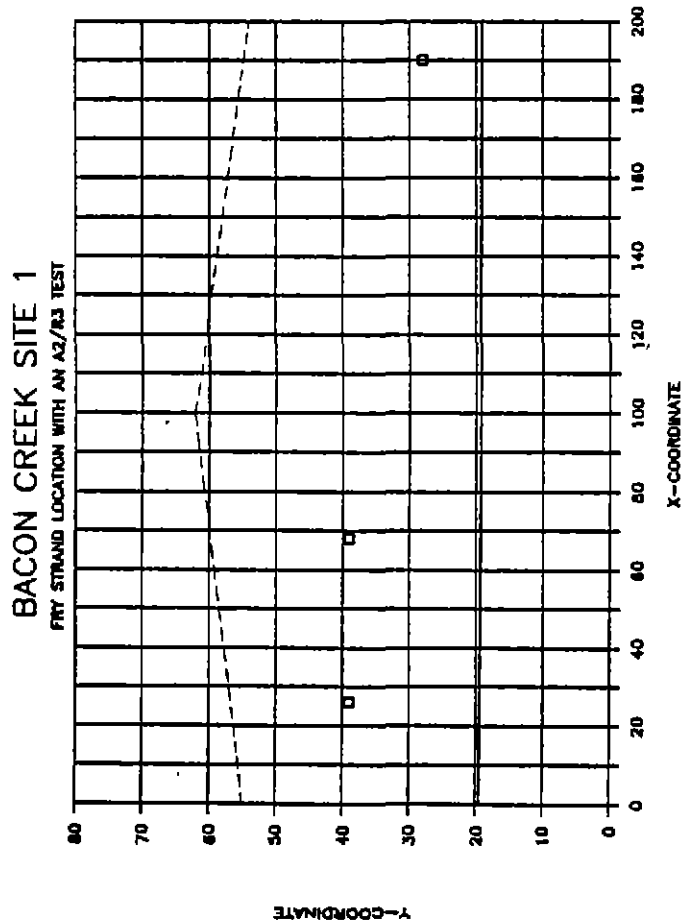


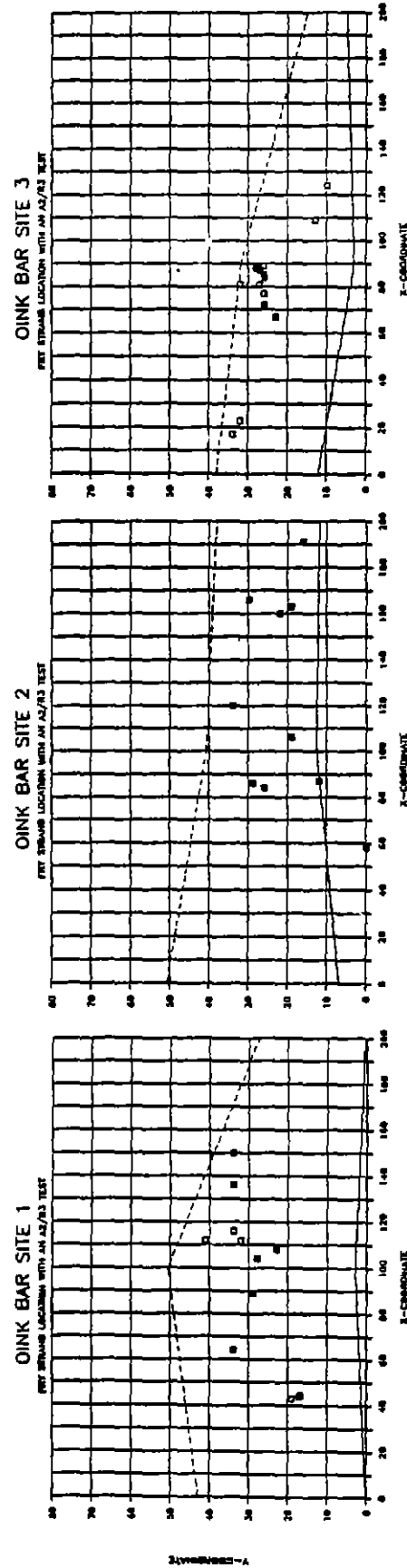
DIOSUD CREEK SITE 1

FRY STRAND LOCATIONS FOR A2/R3 TESTS









APPENDIX K

FRY STRANDING LOCATIONS FOR ACCELERATED VERSUS CONSTANT (5,000 CFS/HOUR)
DAMPING RATES

LEGEND



STRANDED FRY



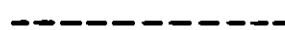
HIGH / HIGH WATERLINE



HIGH WATER



LOW WATERLINE



LOW/LOW WATERLINE



AUTO PART DEBRIS



DEBRIS PILE



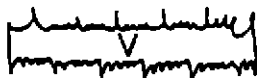
POTHOLE



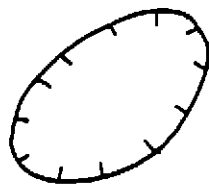
LOG



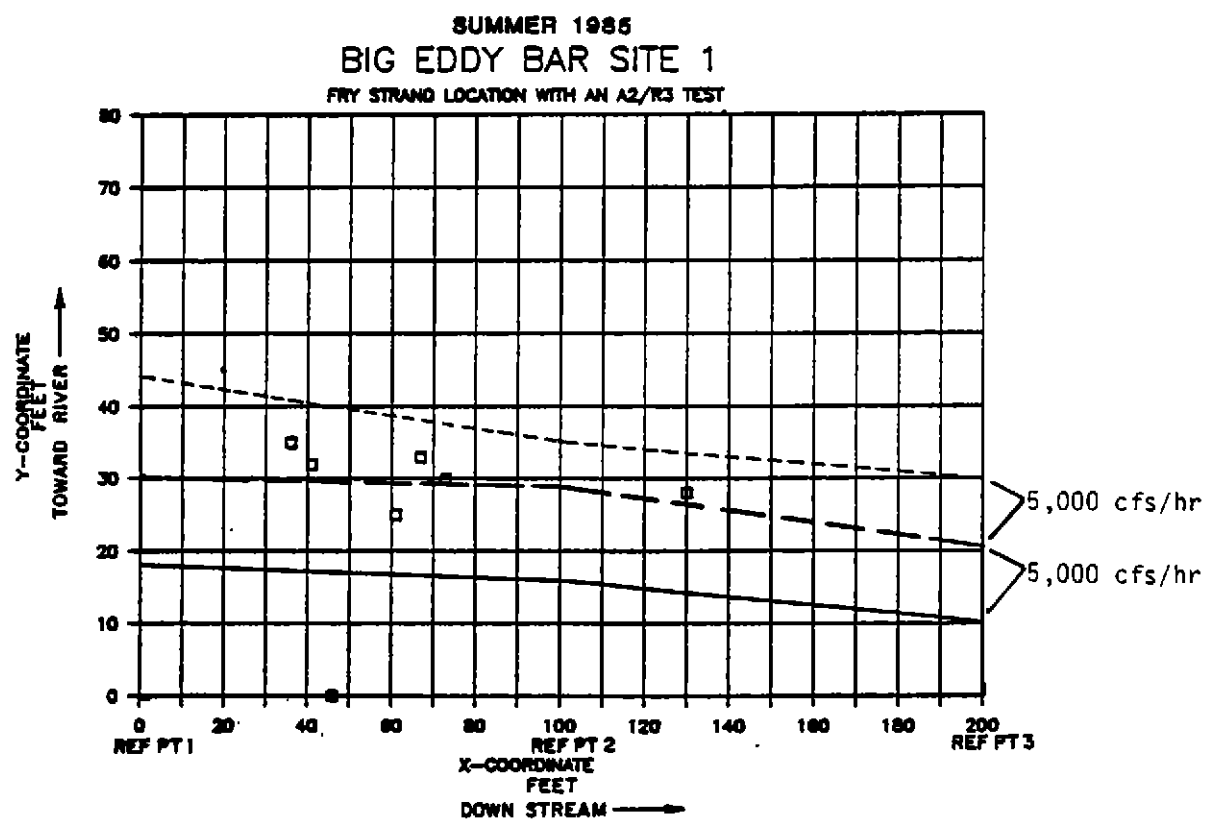
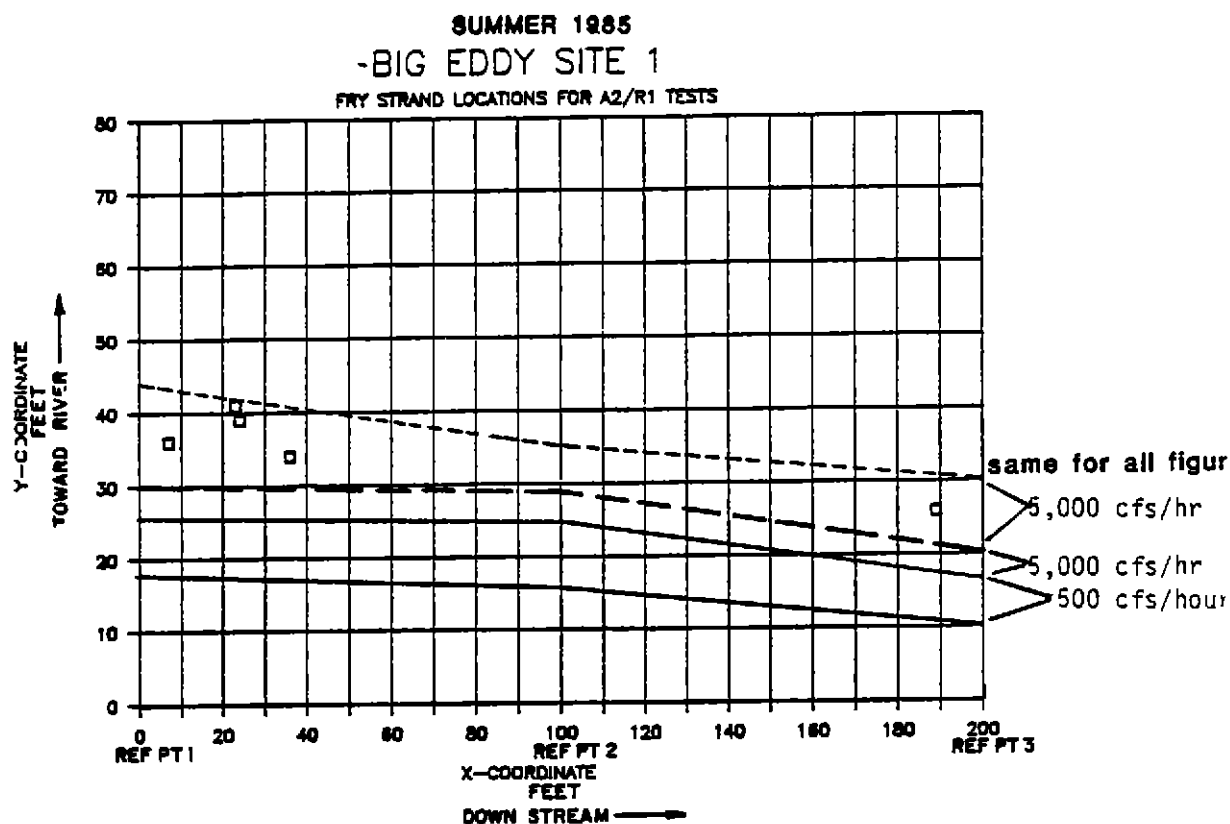
ROCK

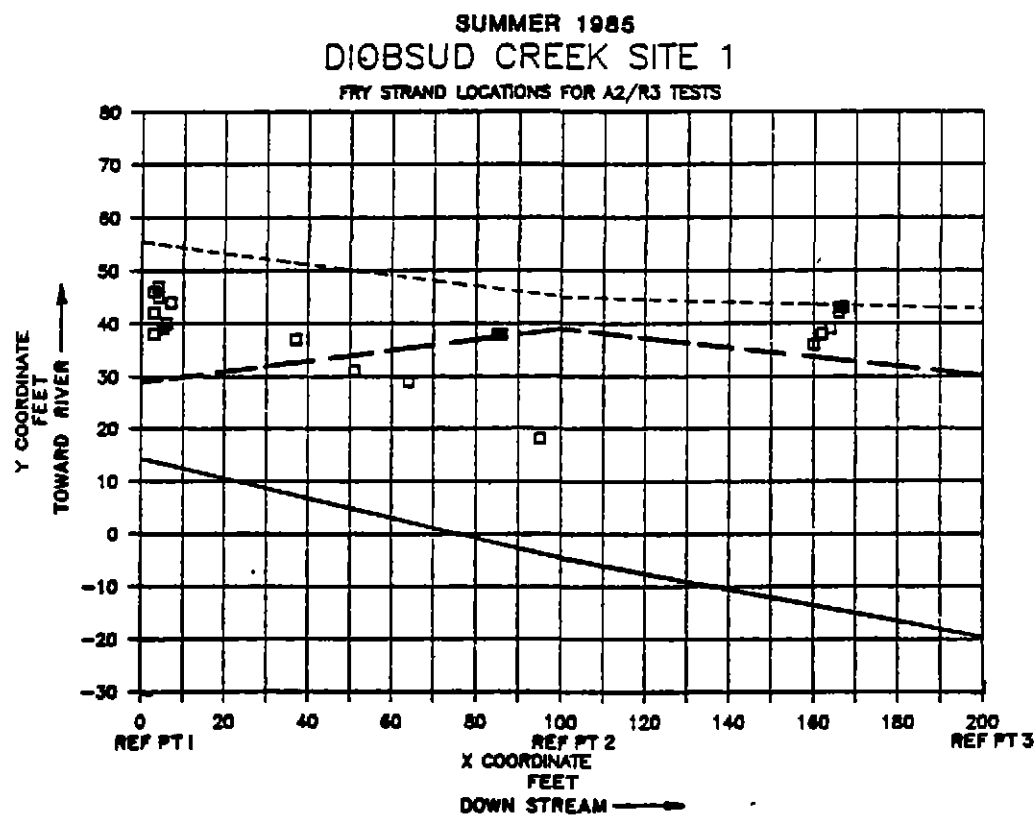
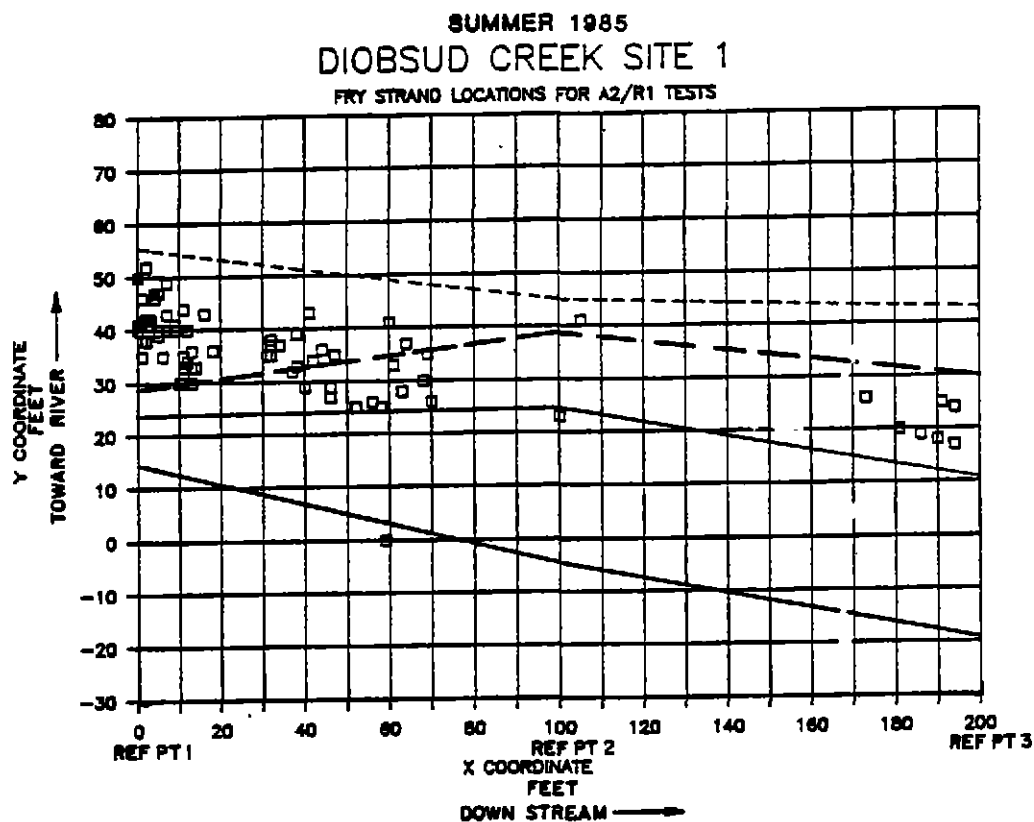


VEGETATION LINE

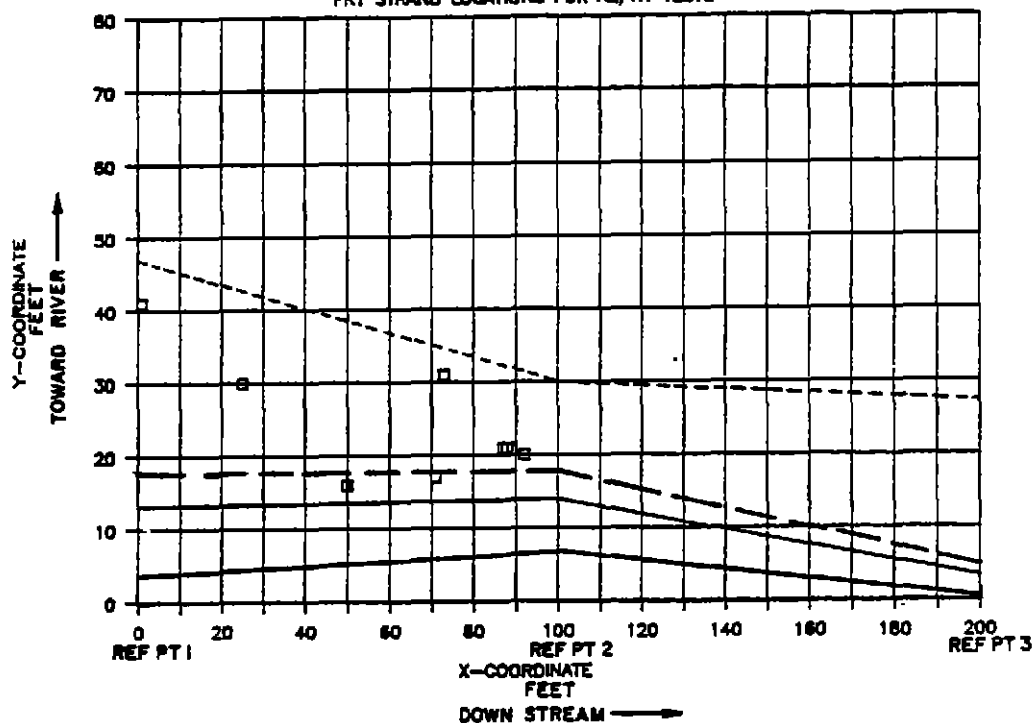


CHANNEL DEPRESSION

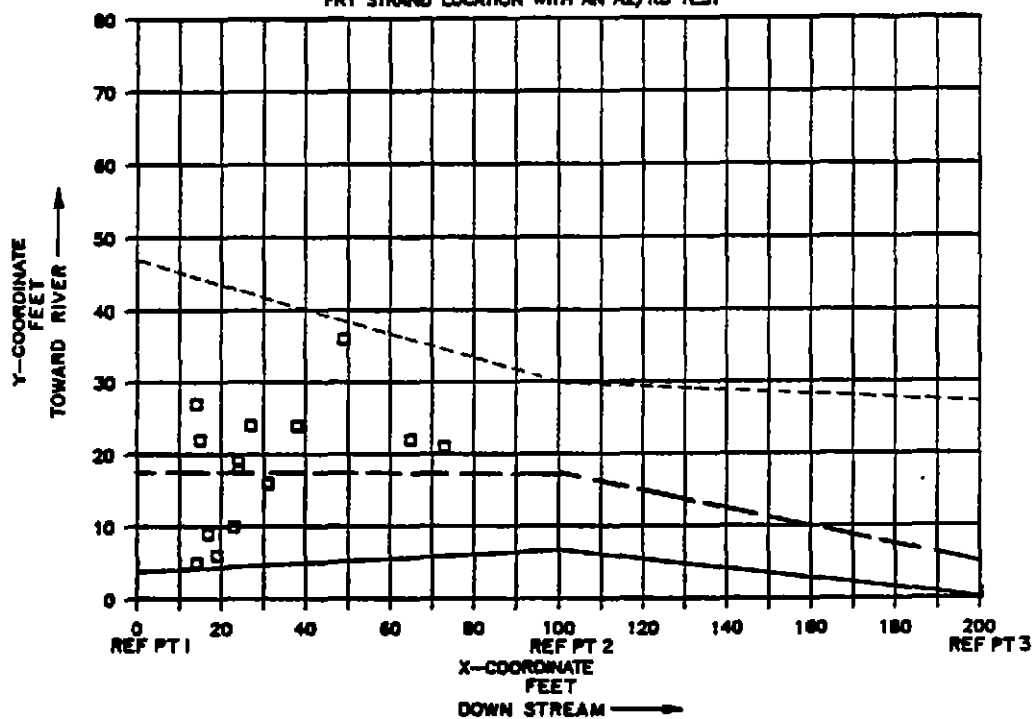


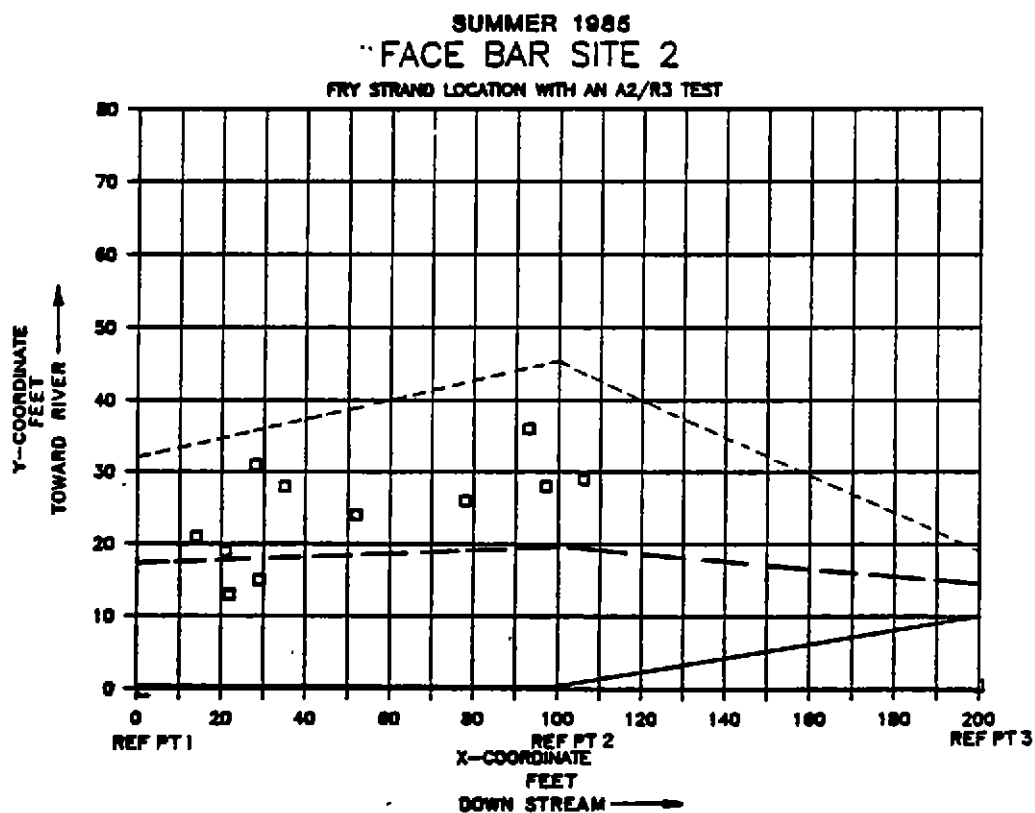
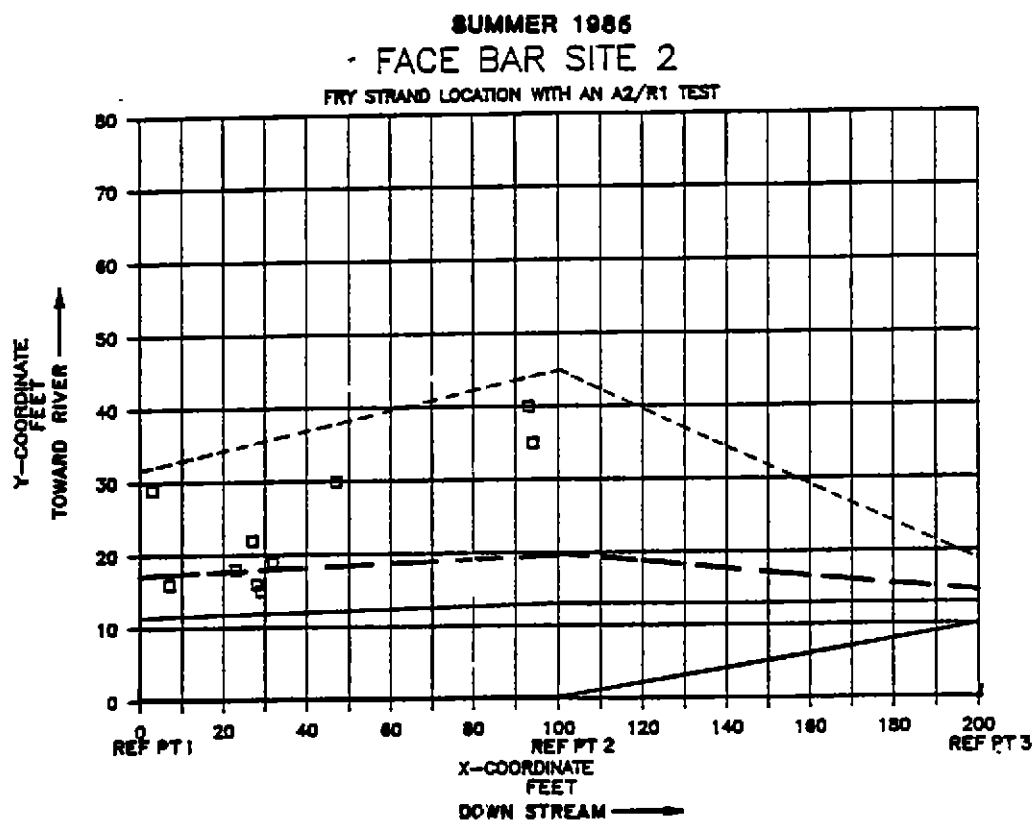


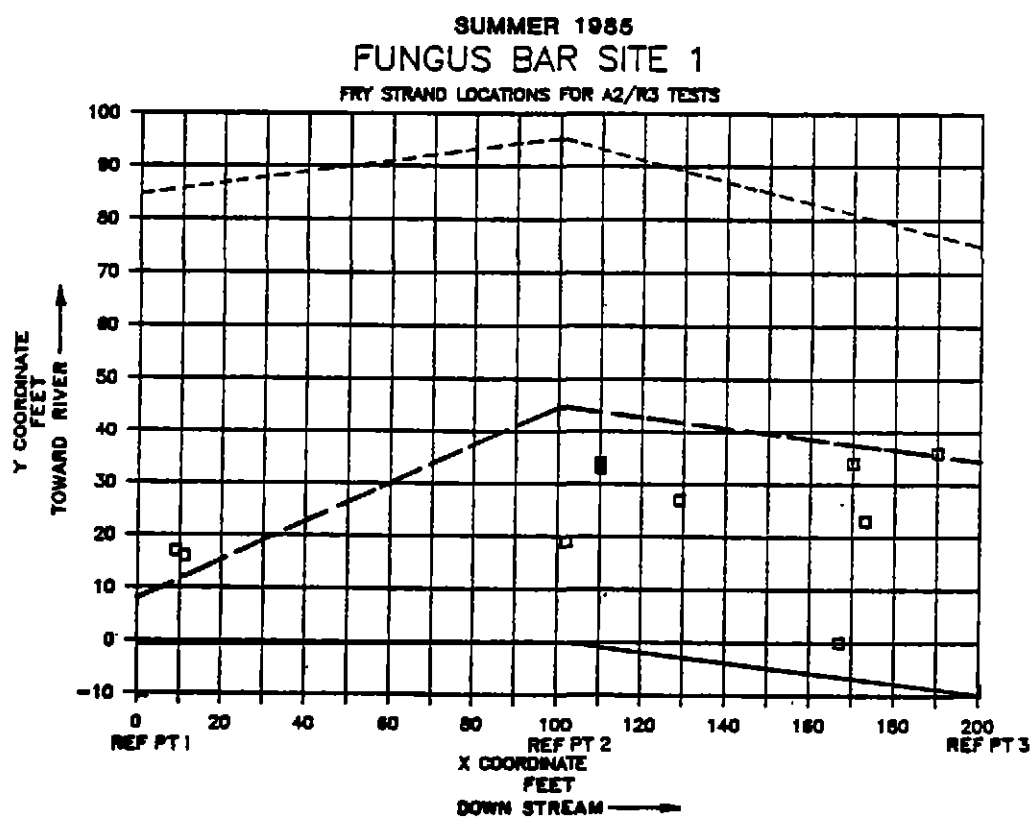
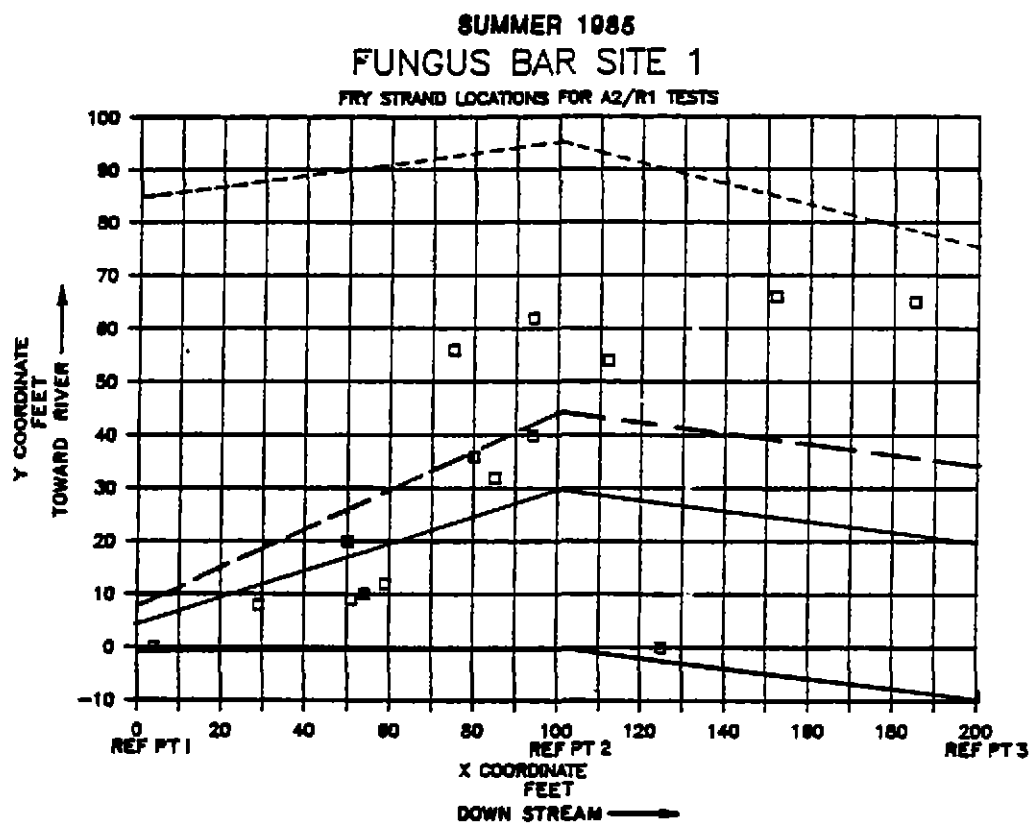
SUMMER 1985
DIOBSUD CREEK SITE 2
FRY STRAND LOCATIONS FOR A2/R1 TESTS

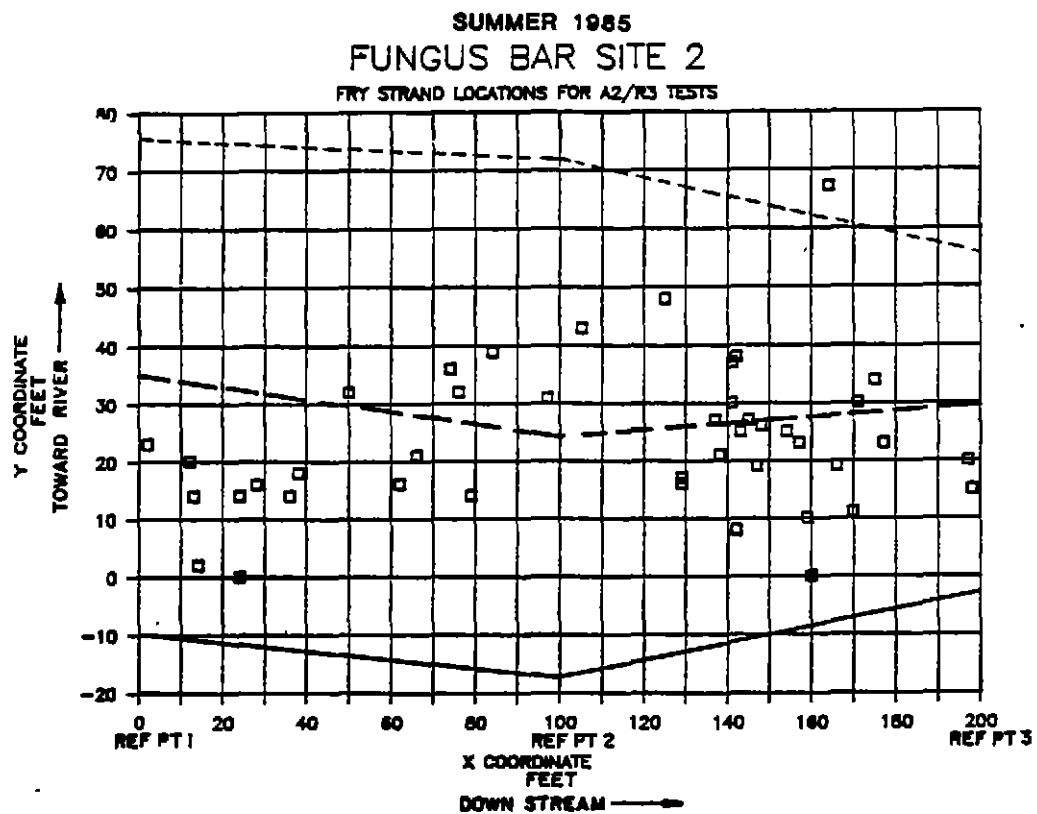
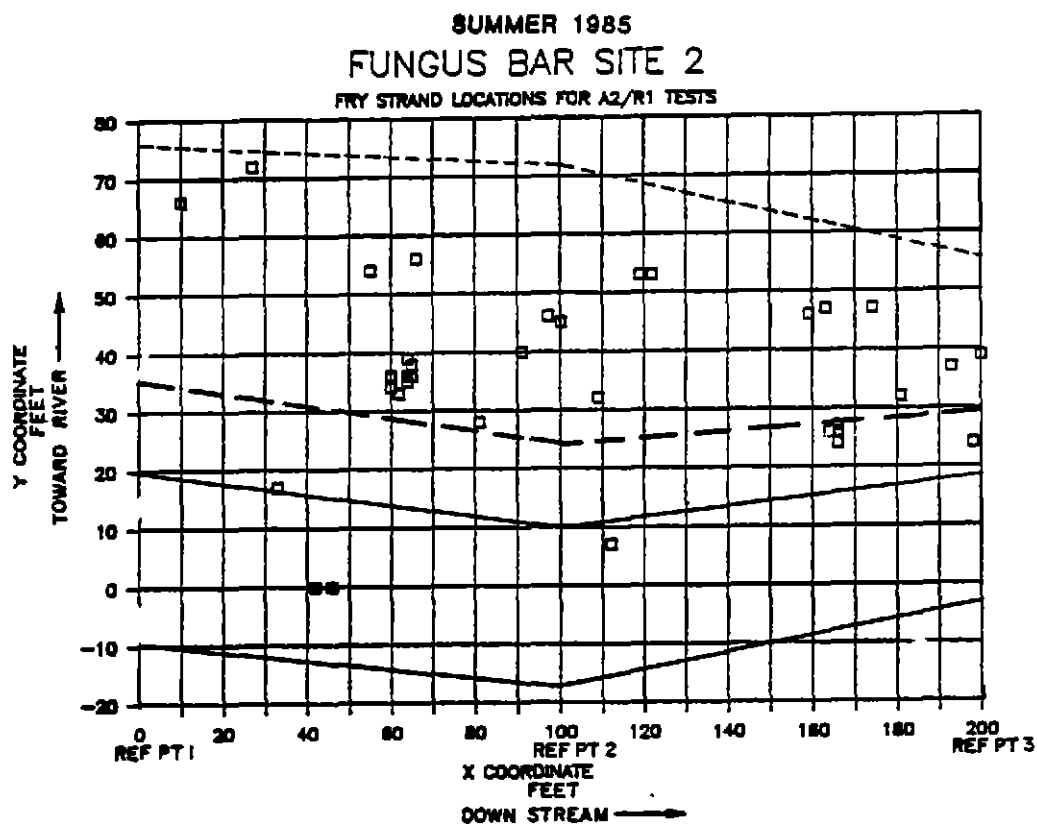


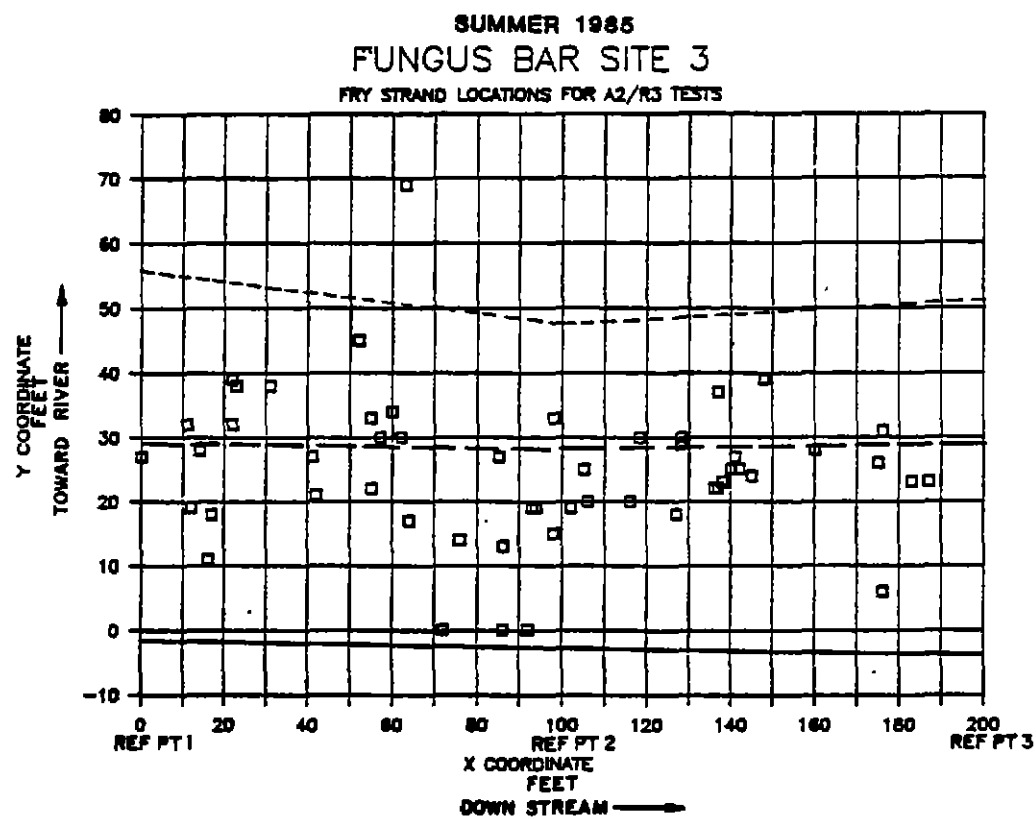
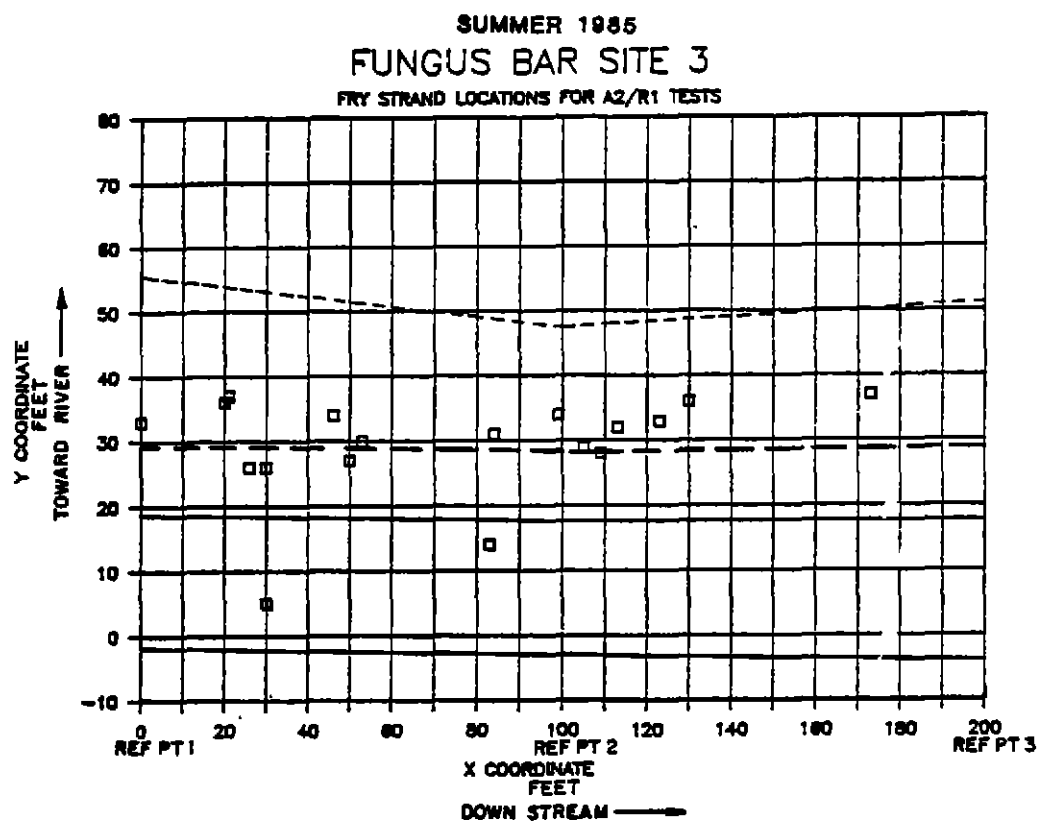
SUMMER 1985
DIOBSUD CREEK BAR SITE 2
FRY STRAND LOCATION WITH AN A2/R3 TEST

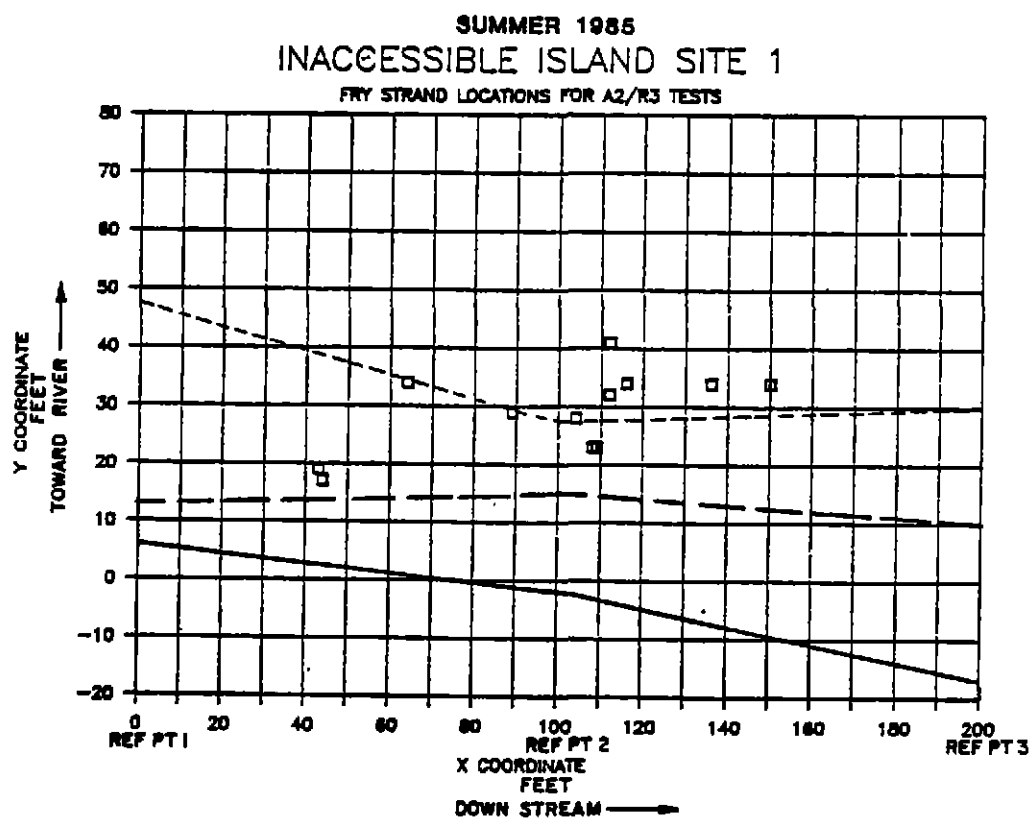
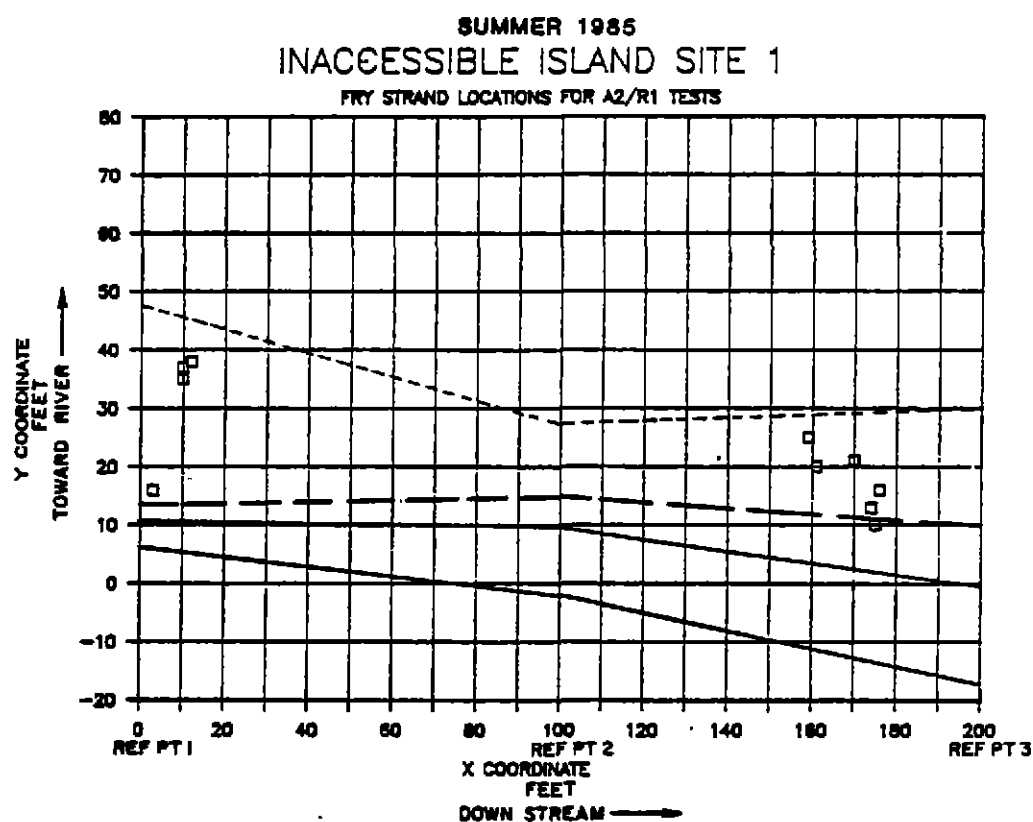


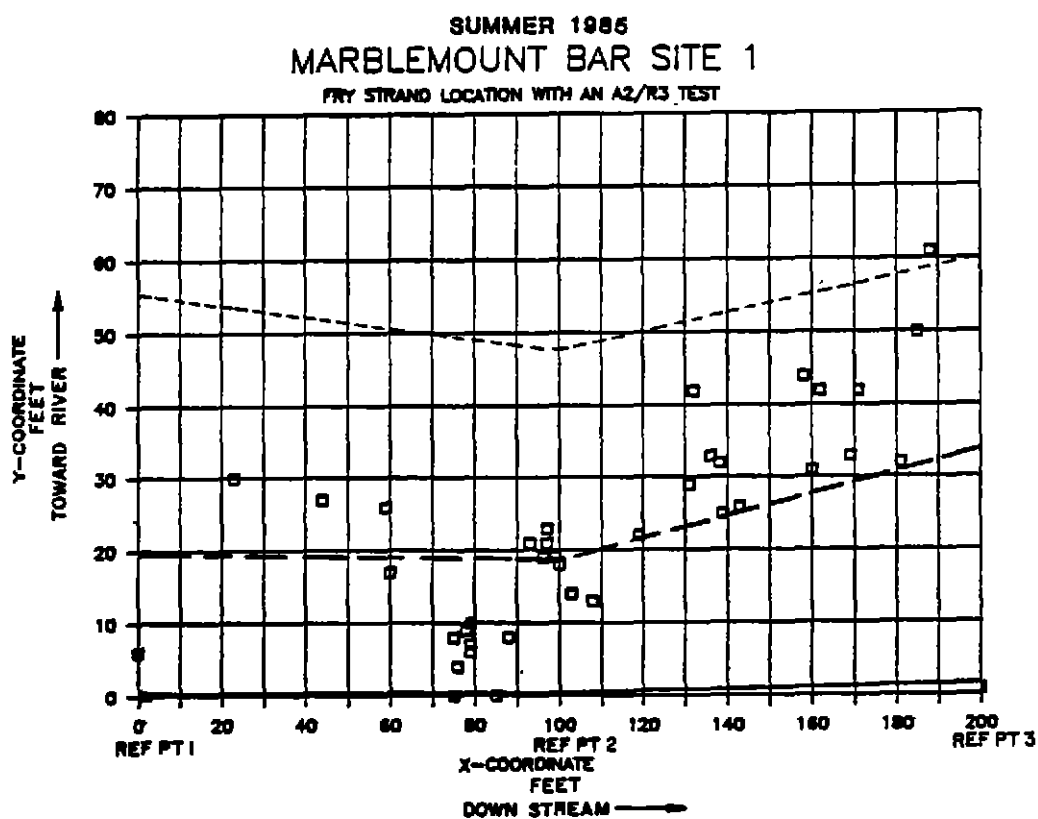
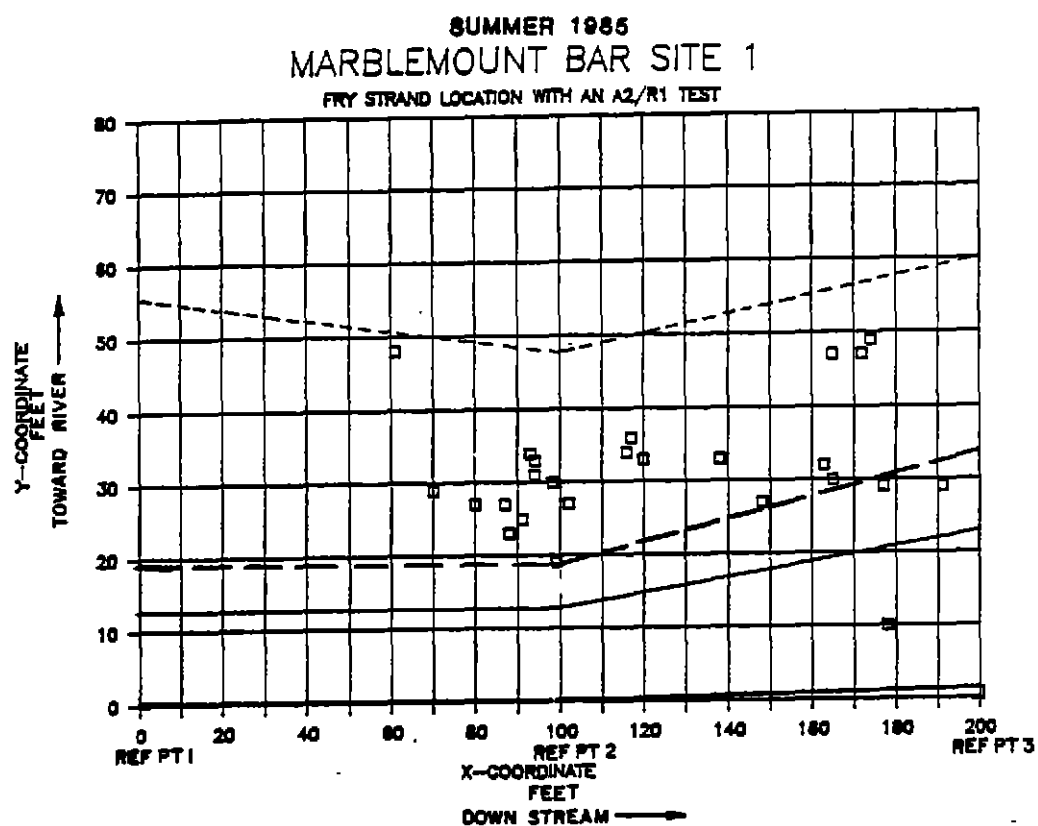


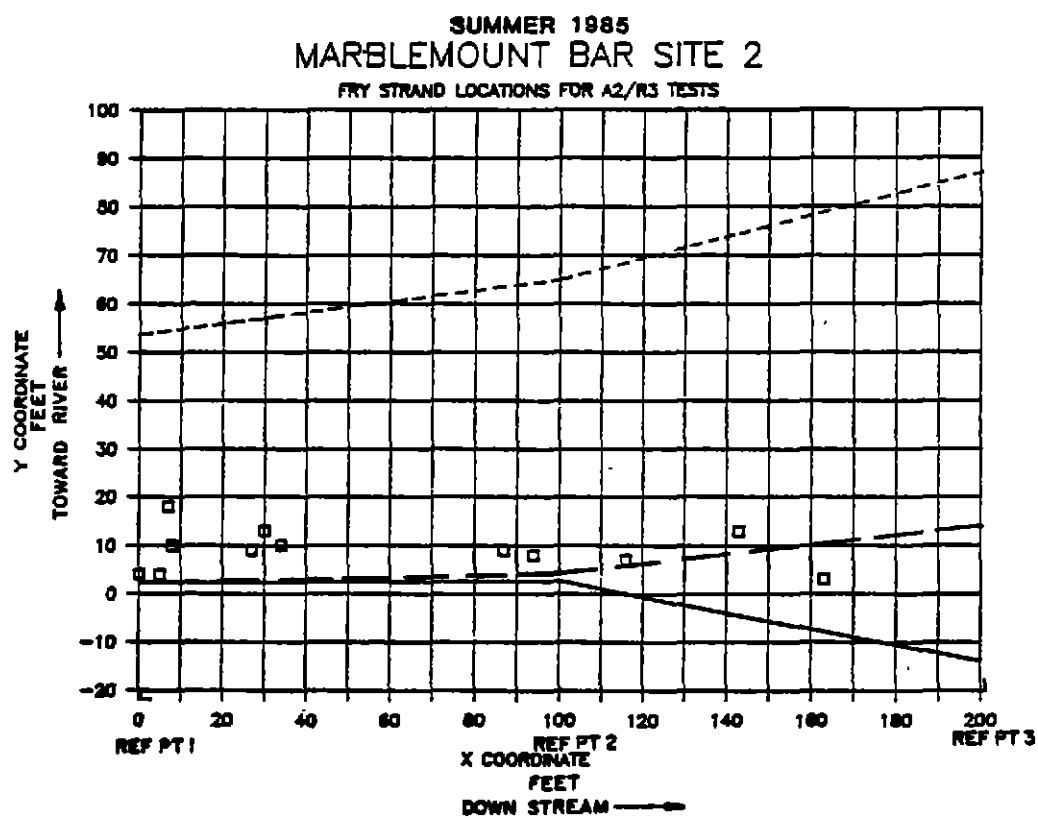


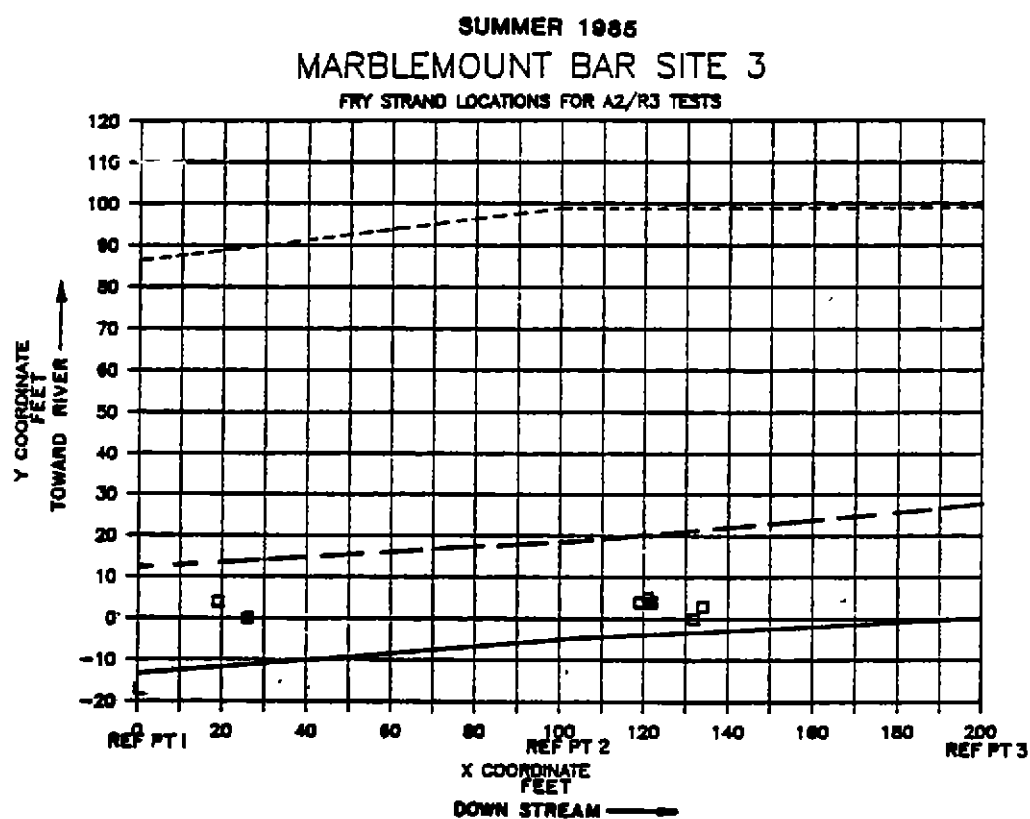
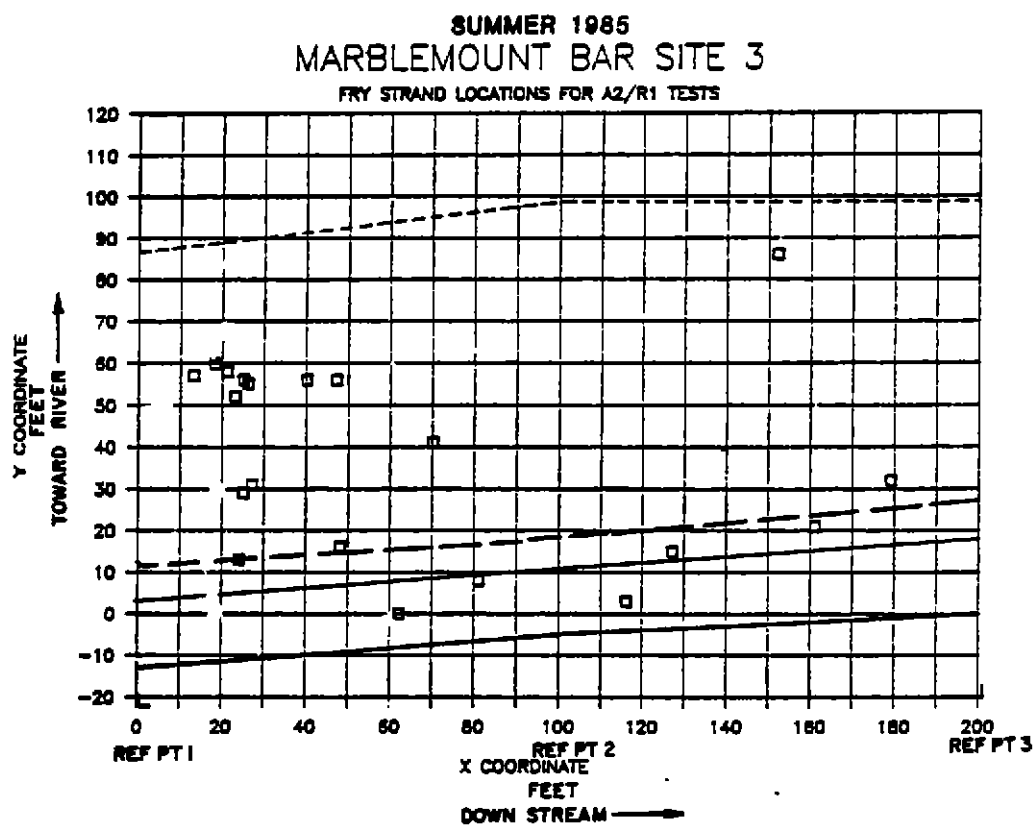


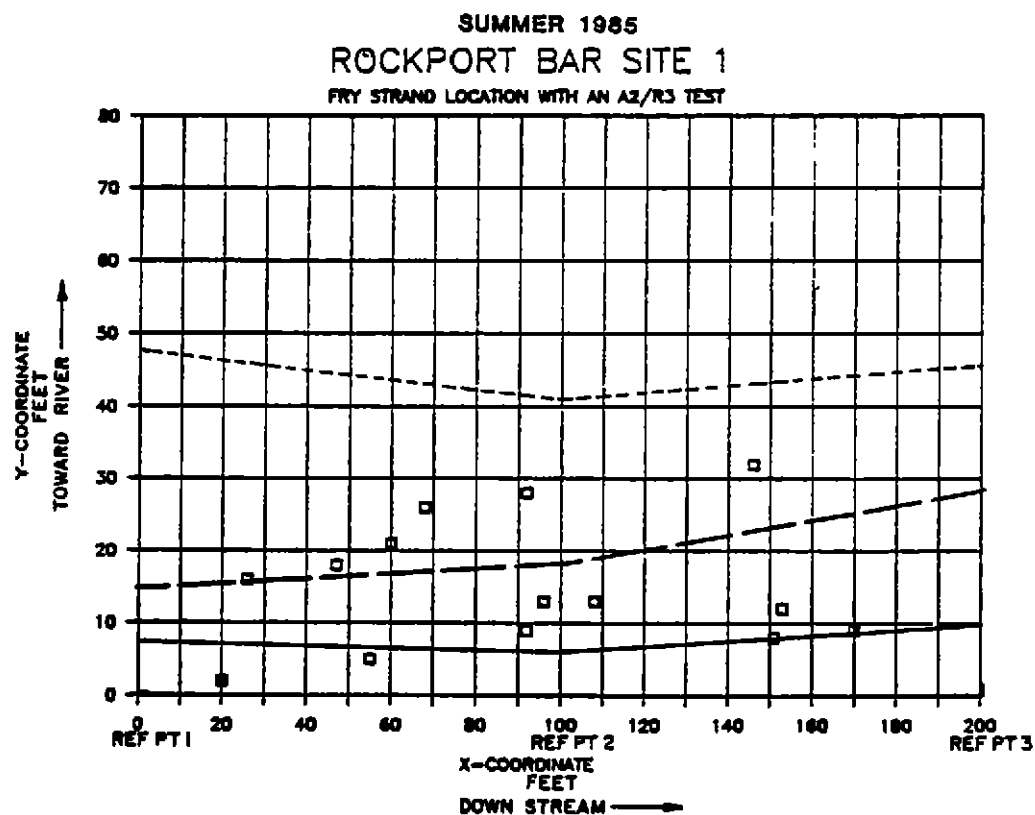
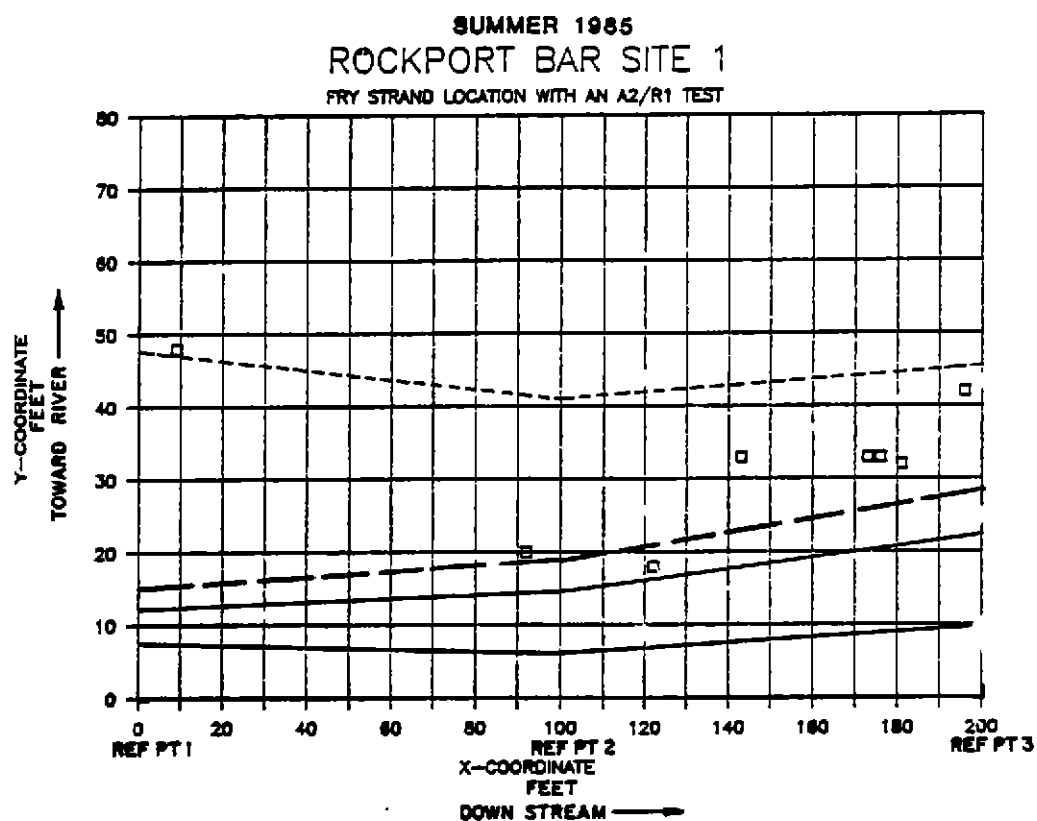


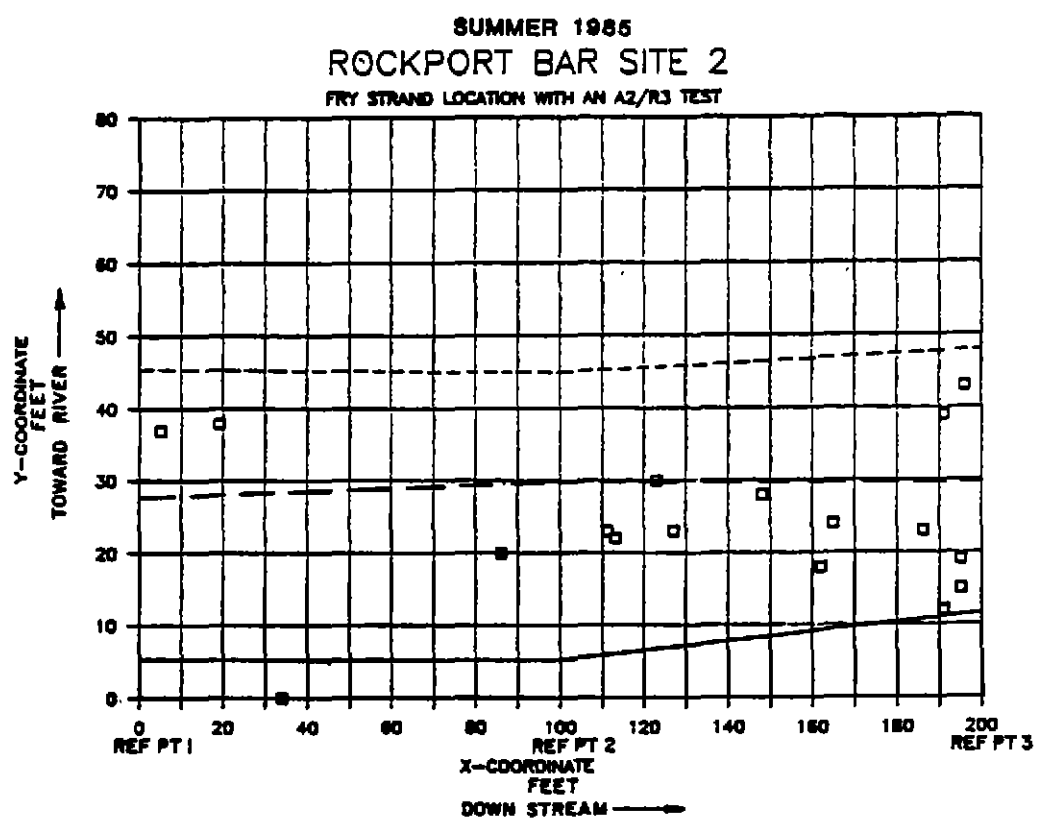
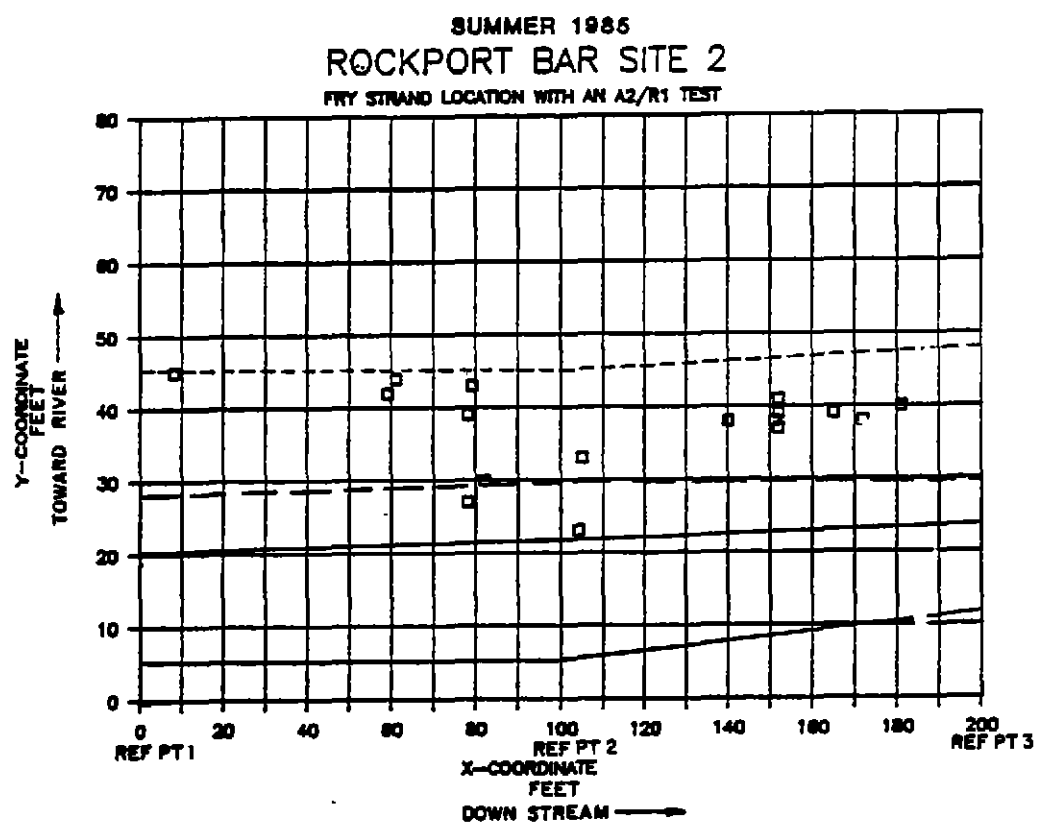


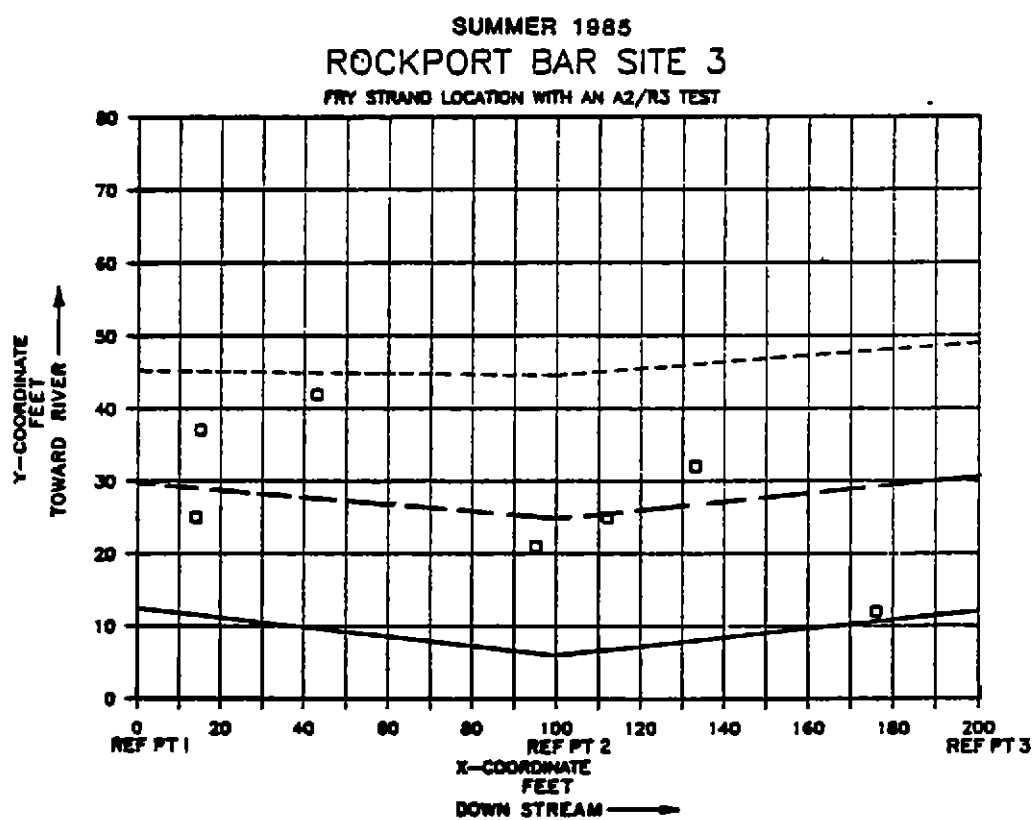
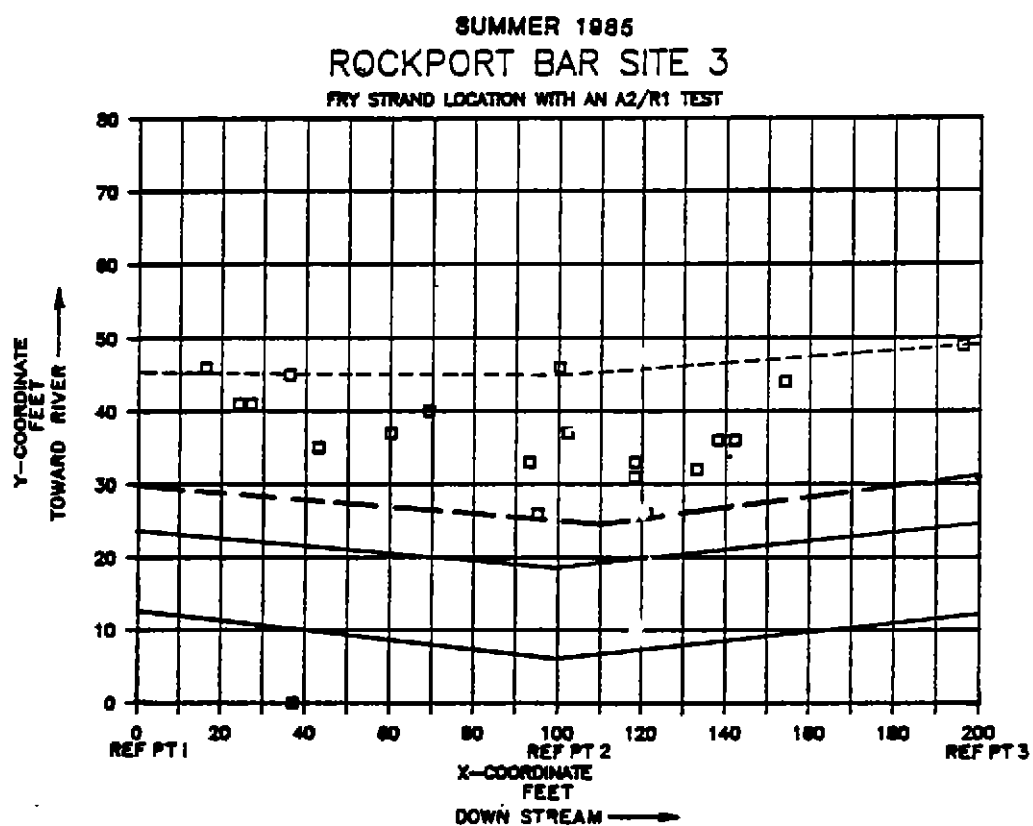












APPENDIX L

RESULTS OF PAIRED T-TESTS AND WILCOXON SIGNED-RANKS TESTS FOR PAIRED
RAILROAD DATA SHOWN IN FIGURES 31 AND 32 (SECTION V)

Paired differences t-tests for the subgroup: RIVLOC = 1 RR = 1

Variables	N	Means	S.D.'s	S.D. (Diff)	T-test	Correlation
HIFISH	50	1.660	3.101	7.233	T -3.394	R 0.442
LOWFISH		6.800	10.278		DF 49	DF 46
					P 0.0003	P 0.0017

Paired differences t-tests for the subgroup: RIVLOC = 1 RR = 2

Variables	N	Means	S.D.'s	S.D. (Diff)	T-test	Correlation
HIFISH	47	4.149	17.551	15.846	T 0.009	R 0.430
LOWFISH		4.128	7.534		DF 46	DF 45
					P 0.9931	P 0.0026

Paired differences t-tests for the subgroup: RIVLOC = 1 RR = 3

Variables	N	Means	S.D.'s	S.D. (Diff)	T-test	Correlation
HIFISH	50	4.860	8.104	7.302	T 1.259	R 0.476
LOWFISH		3.560	5.444		DF 49	DF 48
					P 0.2140	P 0.0005

Paired differences t-tests for the subgroup: RIVLOC = 2 RR = 1

Variables	N	Means	S.D.'s	S.D. (Diff)	T-test	Correlation
HIFISH	54	0.259	0.673	3.353	T -2.407	R -0.053
LOWFISH		1.259	2.941		DF 53	DF 52
					P 0.0196	P 0.7021

Paired differences t-tests for the subgroup: RIVLOC = 2 RR = 2

Variables	N	Means	S.D.'s	S.D. (Diff)	T-test	Correlation
HIFISH	52	0.577	1.436	1.596	T -0.174	R 0.305
LOWFISH		0.615	1.191		DF 51	DF 50
					P 0.8627	P 0.0279

Paired differences t-tests for the subgroup: RIVLOC = 2 RR = 3

Variables	N	Means	S.D.'s	S.D. (Diff)	T-test	Correlation
HIFISH	54	1.037	2.331	2.635	T 0.930	R 0.029
LOWFISH		0.704	1.298		DF 53	DF 52
					P 0.3568	P 0.8371

Wilcoxon Signed-Ranks tests for the subgroup: RIVLCC = 1 RR = 1

Dependent variables	N	Mean	S.D. Diff.	T (P-Val)	Signed Ranks			T
					+	-	Tie	
LOWFISH	5	3.200			N	25	7	19
HIFISH					Mean			3.33
		1.600		(.0000)	Rank	18.100	10.786	(.004)

Wilcoxon Signed-Ranks tests for the subgroup: RIVLCC = 1 RR = 2

Dependent variables	N	Mean	S.D. Diff.	T (P-Val)	Signed Ranks			T
					+	-	Tie	
LOWFISH	47	4.128			N	18	11	18
HIFISH					Mean			1.54
		4.149		(.9971)	Rank	15.000	17.764	(.1233)

Wilcoxon Signed-Ranks tests for the subgroup: RIVLCC = 1 RR = 3

Dependent variables	N	Mean	S.D. Diff.	T (P-Val)	Signed Ranks			T
					+	-	Tie	
LOWFISH	50	3.560			N	11	24	15
HIFISH					Mean			1.50
		4.560		(.0100)	Rank	19.773	17.185	(.1094)

Wilcoxon Signed-Ranks tests for the subgroup: RIVLCC = 2 RR = 1

Dependent variables	N	Mean	S.D. Diff.	T (P-Val)	Signed Ranks			T
					+	-	Tie	
LOWFISH	34	0.259			N	19	4	30
HIFISH					Mean			2.6
		0.259		(.0196)	Rank	11.444	11.750	(.0457)

Wilcoxon Signed-Ranks tests for the subgroup: RIVLCC = 2 RR = 2

Dependent variables	N	Mean	S.D. Diff.	T (P-Val)	Signed Ranks			T
					+	-	Tie	
LOWFISH	52	0.515			N	4	3	35
HIFISH					Mean			0.24
		0.577		(.3527)	Rank	9.035	8.978	(.8114)

Wilcoxon Signed-Ranks tests for the subgroup: RIVLCC = 2 RR = 3

Dependent variables	N	Mean	S.D. Diff.	T (P-Val)	Signed Ranks			T
					+	-	Tie	
LOWFISH	54	0.704			N	11	17	26
HIFISH					Mean			0.71
		1.037		(.3368)	Rank	15.632	17.775	(.4817)

Kruskal-Wallis tests for the subgroup: RIVLOC = 1 SL = 1

Group 1 is RR = 1

Group 2 is RR = 2

Group 3 is RR = 3

Dependent Variable	Group	N	Mean	Mean Rank	
LOWFISH	1	21	9.950	35.657	F= 0.793 2, 58 DF P<0.4612 H= 2.363 2 DF P<0.2990
	2	20	7.450	26.625	
	3	20	6.250	30.275	
HIFISH	1	21	3.048	28.929	F= 0.644 2, 58 DF P<0.5323 H= 3.724 2 DF P<0.1554
	2	20	8.650	27.075	
	3	20	6.600	37.100	

Kruskal-Wallis tests for the subgroup: RIVLOC = 1 SL = 2

Group 1 is RR = 1

Group 2 is RR = 2

Group 3 is RR = 3

Dependent Variable	Group	N	Mean	Mean Rank	
LOWFISH	1	20	6.200	34.475	F= 2.727 2, 58 DF P<0.0611 H= 1.866 2 DF P<0.3933
	2	20	1.950	31.100	
	3	21	1.762	27.555	
HIFISH	1	20	0.550	24.400	F= 3.510 2, 58 DF P<0.0361 H= 9.181 2 DF P<0.0101
	2	20	0.900	29.175	
	3	21	4.810	39.024	

Kruskal-Wallis tests for the subgroup: RIVLOC = 1 SL = 3

Group 1 is RR = 1

Group 2 is RR = 2

Group 3 is RR = 3

Dependent Variable	Group	N	Mean	Mean Rank	
LOWFISH	1	9	0.778	13.000	F= 0.341 2, 22 DF P<0.7169 H= 0.289 2 DF P<0.8654
	2	7	0.857	13.929	
	3	9	1.779	12.278	
HIFISH	1	9	0.889	12.278	F= 0.122 2, 22 DF P<0.8866 H= 0.230 2 DF P<0.8913
	2	7	0.571	13.214	
	3	9	1.111	13.556	

Kruskal-Wallis tests for the subgroup: RIVLOC = 2 SL = 1

Group 1 is RR = 1
Group 2 is RR = 2
Group 3 is RR = 3

Dependent Variable	Group	N	Mean	Mean Rank	
LOWFISH	1	15	3.933	27.033	F= 3.414 2, 40 DF P<0.0424 H= 5.311 2 DF P<0.0702
	2	15	1.923	22.308	
	3	15	1.200	16.700	
HIFISH	1	15	0.333	18.567	F= 2.339 2, 40 DF P<0.1116 H= 2.925 2 DF P<0.2317
	2	15	1.154	21.654	
	3	15	2.333	25.633	

Kruskal-Wallis tests for the subgroup: RIVLOC = 2 SL = 2

Group 1 is RR = 1
Group 2 is RR = 2
Group 3 is RR = 3

Dependent Variable	Group	N	Mean	Mean Rank	
LOWFISH	1	24	0.292	35.042	F= 1.215 2, 69 DF P<0.2731 H= 1.219 2 DF P<0.5435
	2	24	0.292	35.042	
	3	24	0.703	39.417	
HIFISH	1	24	0.375	33.604	F= 0.550 2, 69 DF P<0.5324 H= 2.432 2 DF P<0.2965
	2	24	0.625	35.396	
	3	24	0.750	40.500	

Kruskal-Wallis tests for the subgroup: RIVLOC = 2 SL = 3

Group 1 is RR = 1
Group 2 is RR = 2
Group 3 is RR = 3

Dependent Variable	Group	N	Mean	Mean Rank	
LOWFISH	1	15	0.133	24.433	F= 0.645 2, 42 DF P<0.5334 H= 2.904 2 DF P<0.3671
	2	15	0.000	21.500	
	3	15	0.200	23.667	
HIFISH	1	15	0.000	22.000	F= 1.309 2, 42 DF P<0.1597 H= 4.091 2 DF P<0.1293
	2	15	0.000	22.000	
	3	15	0.266	25.000	

APPENDIX M

STATISTICAL RESULTS OF GRAVEL BAR STRANDING WITH AMPLITUDE
FLUCTUATIONS OF 2,000 CFS AT THREE DOWNRAMPING RATES

Kruskal-Wallis tests for the subgroup: RIVLOC = 1

Group 1 is RR = 1
Group 2 is RR = 2
Group 3 is RR = 3

Dependent Variable	Group	N	Mean	Mean Rank	
NUMFISH	1	49	3.939	75.041	F= 1.656 2,147 DF P<0.1930 H= 1.956 2 DF P<0.3761
	2	50	1.040	70.390	
	3	51	2.765	80.951	

Kruskal-Wallis tests for the subgroup: RIVLOC = 2

Group 1 is RR = 1
Group 2 is RR = 2
Group 3 is RR = 3

Dependent Variable	Group	N	Mean	Mean Rank	
NUMFISH	1	36	0.250	64.611	F= 0.448 2,136 DF P<0.6427 H= 4.543 2 DF P<0.1032
	2	53	0.415	76.151	
	3	50	0.300	67.360	

Kruskal-Wallis tests.

Group 1 is RR = 1
Group 2 is RR = 2
Group 3 is RR = 3

Dependent Variable	Group	N	Mean	Mean Rank	
NUMFISH	1	85	2.376	141.771	F= 1.855 2,286 DF P<0.1572 H= 0.333 2 DF P<0.8464
	2	103	0.719	145.277	
	3	101	1.545	147.436	

APPENDIX N

SPRING 1986 SALMON FRY GRAVEL BAR STRANDING DATA SUMMARY

This appendix includes a summary of the stranded fry from each of the twelve (12) gravel bar locations studied for each of the twenty-four (24) tests completed (See Table 6-1) followed by summary data for each gravel bar observation completed during the study (See Table 6-2).

**TABLE N-1: NUMBER OF FRY STRANDED ON THE THIRTY-FIVE (35)
GRAVEL BAR TEST-SITES BY DATE AND TEST TYPE DURING
THE SPRING 1986 GRAVEL BAR SALMON STRANDING STUDY**

DATE	TOTAL FRY STRANDED	-----EVENT DESCRIPTION-----		
		AMP (1)	RAMP (1)	END FLOW (2)
MARCH 13, 1986	18	A2	R1	E1
MARCH 14	11	A1	R1	E1
MARCH 15	4	A2	R1	E2
MARCH 16	6	A2	R2	E2
MARCH 17	14	A2	R2	E1
MARCH 18	34	A1	R2	E1
MARCH 19	20	A1	R1	E2
MARCH 20	18	A1	R2	E2
MARCH 26	40	A2	R1	E2
MARCH 27	44	A1	R2	E2
APRIL 1	11	A1	R1	E1
APRIL 2	16	A1	R1	E2
APRIL 3	51	A2	R2	E1
APRIL 4	13	A2	R1	E1
APRIL 5	29	A2	R2	E2
APRIL 6	18	A1	R2	E1
APRIL 7	6	A1	R2	E2
APRIL 8	6	A1	R1	E2
APRIL 9	19	A2	R2	E1
APRIL 10	15	A1	R1	E1
APRIL 11	20	A2	R1	E1
APRIL 12	9	A2	R1	E2
APRIL 13	92	A1	R2	E1
APRIL 14	19	A2	R2	E2

Amplitude: A1 = 2000 cfs
A2 = 4000 cfs

(1) Measured at the Newhalem USGS Gage.

Ramp Rate: R1 = 1000 cfs/hr
R2 = 5000 cfs/hr

(2) Measured at the Marblemount USGS Gage.

End Flow: E1 = 3000 cfs
E2 = 3500 cfs

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TABLE N-2 SUMMARY DATA OF 1986 SALMON FRY GRAVEL BAR
STRANDING SKAGIT RIVER (SUMMER)

GRAVEL BAR NAME WHERE FRY STRANDED	STATION # ON GRAVEL BAR	TEST NUMBER	X COORDINATE OF FISH	Y COORDINATE OF FISH	NUMBER OF FISH STRANDED	FISH REFERENCE COORDINATE 1	FISH REFERENCE COORDINATE 2	FISH REFERENCE COORDINATE 3
Rockport	3	1	39.54	21.28	1	44.9000	64.100	-0-
Bad Spot	1	1	136.9	45.52	1	-0-	58.600	77.800
Forbidden	1	1	75.94	28.76	1	81.2000	37.500	-0-
Forbidden	1	1	62.77	24.77	1	67.5000	44.700	-0-
Hooper Slough	1	1	15.44	15.67	1	22.0000	86.000	-0-
Inaccessible Is	1	1	137.2	13.66	1	-0-	39.600	64.300
Big Eddy	1	1	96.75	27.91	1	100.700	28.100	-0-
Big Eddy	2	1	129.9	18.93	1	-0-	35.400	72.600
Marblemount	1	1	16.24	28.27	1	32.6000	88.400	-0-
Marblemount	3	1	142.3	38.53	1	-0-	57.200	69.400
Fungus Bar	2	1	54.45	33.43	1	63.9000	56.500	-0-
Fungus Bar	2	1	140.6	0.000	1	-0-	40.600	59.400
Fungus Bar	3	1	187.0	21.00	1	-0-	89.500	24.700
Fungus Bar	3	1	183.3	18.34	1	-0-	85.300	24.800
Fungus Bar	3	1	162.8	4.330	1	-0-	62.900	37.500
Fungus Bar	3	1	186.3	32.33	1	-0-	92.200	35.100
Face Bar	3	1	193.9	10.79	1	-0-	94.500	12.400
Rockport	1	2	75.40	5.470	1	75.6000	25.200	-0-
Rockport	1	2	95.18	13.94	1	96.2000	14.750	-0-
Rockport	1	2	50.81	6.340	1	51.2000	49.600	-0-
Rockport	2	2	179.7	8.780	1	-0-	80.200	22.100
Rockport	3	2	65.87	18.04	1	68.3000	38.600	-0-
Hooper Slough	1	2	23.74	10.61	1	26.0000	77.000	-0-
Marblemount	1	2	128.5	18.07	1	-0-	33.700	73.300
Marblemount	1	2	163.9	9.670	1	-0-	64.600	37.400
Fungus Bar	3	2	169.9	41.39	1	-0-	81.200	51.200
Face Bar	1	2	113.3	18.76	1	-0-	23.000	82.700
Face Bar	1	2	158.1	13.56	1	-0-	59.700	44.000
Diobsud Creek	1	2	157.2	40.65	1	-0-	70.200	59.000
Rockport	2	3	113.9	22.00	1	-0-	25.000	88.900
Inaccessible Is	2	3	19.40	8.040	1	21.0000	81.000	-0-
Diobsud Creek	2	3	171.2	25.40	1	-0-	75.600	38.400
Gink Bar	3	3	115.8	15.57	1	-0-	22.200	85.600
Rockport	2	4	163.4	17.01	1	-0-	65.600	40.400
Bad Spot	1	4	166.9	59.04	1	-0-	89.200	67.700
Hooper Slough	1	4	72.87	21.95	1	76.1000	34.900	-0-
Inaccessible Is	2	4	106.1	28.14	1	-0-	28.800	98.000
Big Eddy	3	4	128.3	25.91	1	-0-	38.400	76.200
Rockport	1	5	161.0	22.45	1	-0-	65.000	45.000

NOTE : PLEASE SEE TABLE FOR DESCRIPTION OF TEST SCHEDULE

GRAVEL BAR NAME WHERE FRY STRANDED	STATION # ON GRAVEL BAR	TEST NUMBER	X COORDINATE OF FISH	Y COORDINATE OF FISH	NUMBER OF FISH STRANDED	FISH REFERENCE COORDINATE 1	FISH REFERENCE COORDINATE 2	FISH REFERENCE COORDINATE 3
Inaccessible Is	1	5	74.64	30.15	1	80.5000	39.400	-0-
Inaccessible Is	1	5	163.2	15.00	1	-0-	65.000	29.700
Inaccessible Is	1	5	177.1	16.42	1	-0-	78.800	28.200
Inaccessible Is	1	5	132.5	23.63	1	-0-	40.200	71.500
Inaccessible Is	3	5	28.12	36.02	1	45.7000	80.400	-0-
Big Edgy	1	5	2.740	19.00	1	19.2000	99.100	-0-
Marblemount	1	5	103.4	29.71	1	-0-	29.900	101.10
Marblemount	2	5	136.6	11.71	1	-0-	38.400	64.500
Diobsud Creek	1	5	204.3	21.47	1	-0-	106.50	21.900
Diobsud Creek	1	5	69.26	44.64	1	82.4000	54.200	-0-
Diobsud Creek	2	5	151.1	0.000	1	-0-	51.100	46.900
Diobsud Creek	2	5	91.18	10.62	1	91.8000	13.800	-0-
Diobsud Creek	2	5	185.7	9.520	1	-0-	86.200	17.200
Rockport	1	6	195.5	33.40	1	-0-	101.20	33.700
Rockport	1	6	73.19	3.970	1	73.3000	27.100	-0-
Rockport	3	6	158.1	25.82	1	-0-	63.600	49.200
Inaccessible Is	1	6	182.7	16.67	1	-0-	94.400	24.000
Inaccessible Is	2	6	22.26	18.89	1	29.2000	80.000	-0-
Marblemount	1	6	86.70	11.06	1	87.4000	17.300	-0-
Marblemount	2	6	88.78	9.650	1	89.3000	14.800	-0-
Marblemount	3	6	42.19	60.67	1	73.9000	83.800	-0-
Marblemount	3	6	62.59	26.07	1	67.8000	45.600	-0-
Marblemount	3	6	63.07	10.88	2	64.0000	38.500	-0-
Marblemount	3	6	70.08	14.16	1	71.5000	32.100	-0-
Marblemount	3	6	57.73	59.64	1	83.0000	73.100	-0-
Marblemount	3	6	63.33	17.88	7	65.8000	40.800	-0-
Marblemount	3	6	64.82	18.83	2	67.5000	39.900	-0-
Marblemount	3	6	52.58	19.84	1	56.2000	51.400	-0-
Marblemount	3	6	54.44	19.11	1	57.7000	49.400	-0-
Fungus Bar	1	6	9.200	49.04	1	49.9000	103.20	-0-
Fungus Bar	1	6	24.91	57.21	1	62.4000	94.400	-0-
Fungus Bar	3	6	50.12	32.98	1	60.0000	59.800	-0-
Fungus Bar	3	6	85.66	13.37	1	86.7000	19.600	-0-
Face Bar	1	6	84.31	24.86	1	87.9000	29.400	-0-
Face Bar	1	6	16.25	2.870	1	16.5000	83.800	-0-
Face Bar	2	6	198.3	28.15	1	-0-	102.20	28.200
Face Bar	2	6	146.7	41.79	1	-0-	62.700	67.700
Oriskany Bar	3	6	6.630	25.55	1	26.4000	96.800	-0-
Oriskany Bar	3	6	37.15	34.50	1	50.7000	71.700	-0-
Rockport	2	7	97.67	26.50	2	101.200	26.600	-0-
Rockport	2	7	107.0	29.18	1	-0-	30.000	97.500
Bad Spot	1	7	176.4	66.97	1	-0-	101.60	71.000
Bad Spot	2	7	119.8	62.97	1	-0-	66.000	102.00
Forbidden	3	7	152.9	17.70	1	-0-	55.800	50.700
Inaccessible Is	1	7	77.81	10.39	2	78.5000	24.500	-0-
Inaccessible Is	2	7	2.320	14.82	1	15.0000	98.800	-0-
Marblemount	1	7	72.17	14.96	1	73.7000	31.600	-0-
Marblemount	3	7	182.1	51.39	1	-0-	96.900	54.400
Fungus Bar	1	7	61.57	15.13	1	63.4000	41.300	-0-
Fungus Bar	3	7	42.35	22.81	1	48.1000	62.000	-0-
Fungus Bar	3	7	52.40	0.000	1	52.4000	47.600	-0-

NOTE : PLEASE SEE TABLE FOR DESCRIPTION OF TEST SCHEDULE

GRAVEL BAR NAME WHERE FRY STRANDED	STATION # ON GRAVEL BAR	TEST NUMBER	X COORDINATE OF FISH	Y COORDINATE OF FISH	NUMBER OF FISH STRANDED	FISH REFERENCE COORDINATE 1	FISH REFERENCE COORDINATE 2	FISH REFERENCE COORDINATE 3
Fungus Bar	3	7	29.90	15.98	1	33.9000	71.900	-0-
Face Bar	1	7	26.20	12.20	1	28.9000	74.800	-0-
Face Bar	1	7	27.08	21.05	1	34.3000	75.900	-0-
Diobsud Creek	2	7	4.110	39.49	1	39.7000	103.70	-0-
Rockport	1	8	62.16	15.25	1	64.0000	40.800	-0-
Rockport	1	8	78.20	5.570	1	78.4000	22.500	-0-
Rockport	2	8	67.83	27.00	2	73.0000	42.000	-0-
Rockport	2	8	79.04	13.62	1	80.0000	25.000	-0-
Rockport	2	8	96.78	27.81	1	100.700	28.000	-0-
Inaccessible Is	1	8	169.0	15.54	1	-0-	70.700	34.700
Inaccessible Is	1	8	180.1	0.000	1	-0-	80.100	20.000
Inaccessible Is	1	8	191.0	4.140	2	-0-	91.100	9.9000
Inaccessible Is	1	8	111.3	15.49	1	-0-	19.200	90.000
Inaccessible Is	1	8	10.93	12.89	1	16.9000	90.000	-0-
Marblemount	3	8	59.96	15.39	1	61.9000	42.900	-0-
Fungus Bar	3	8	73.28	22.30	1	76.6000	34.800	-0-
Diobsud Creek	1	8	34.91	37.46	1	51.2000	75.100	-0-
Rockport	1	9	133.8	12.30	1	-0-	36.000	67.300
Rockport	1	9	61.89	10.02	1	62.7000	39.400	-0-
Rockport	1	9	146.8	15.81	1	-0-	49.400	55.500
Rockport	1	9	155.6	16.40	2	-0-	58.000	47.300
Rockport	2	9	127.4	7.240	1	-0-	28.300	73.000
Rockport	3	9	130.9	4.140	1	-0-	31.200	69.200
Bad Spot	2	9	98.92	60.89	1	-0-	60.900	118.00
Bad Spot	3	9	128.6	40.76	1	-0-	49.800	82.200
Inaccessible Is	1	9	11.05	15.58	1	19.1000	90.300	-0-
Inaccessible Is	1	9	54.29	12.91	1	55.8000	47.500	-0-
Inaccessible Is	1	9	43.71	32.89	1	54.7000	65.200	-0-
Inaccessible Is	1	9	69.69	20.34	1	72.6000	36.500	-0-
Inaccessible Is	1	9	4.840	19.30	1	19.9000	97.100	-0-
Inaccessible Is	1	9	77.61	16.30	1	79.3000	27.700	-0-
Inaccessible Is	1	9	73.41	15.35	1	75.0000	30.700	-0-
Inaccessible Is	2	9	0.470	12.39	1	12.4000	100.30	-0-
Inaccessible Is	2	9	79.99	12.12	1	80.9000	23.400	-0-
Inaccessible Is	2	9	50.40	27.68	1	57.5000	56.800	-0-
Inaccessible Is	2	9	4.590	13.76	1	14.5000	96.400	-0-
Inaccessible Is	2	9	32.71	22.33	1	39.6000	70.900	-0-
Inaccessible Is	2	9	15.14	15.15	1	21.4000	86.200	-0-
Marblemount	1	9	168.5	33.33	1	-0-	76.000	46.000
Fungus Bar	1	9	69.85	15.28	1	-71.5000	-33.200	-0-
Fungus Bar	1	9	62.21	22.34	1	66.1000	43.900	-0-
Fungus Bar	1	9	172.6	2.820	1	-0-	72.700	27.500
Fungus Bar	1	9	69.54	16.62	1	71.5000	34.700	-0-
Fungus Bar	1	9	63.25	22.28	1	67.4000	43.500	-0-
Fungus Bar	2	9	55.95	16.39	1	58.3000	47.000	-0-
Fungus Bar	2	9	92.90	0.000	1	82.9000	17.100	-0-
Fungus Bar	2	9	85.58	11.11	1	86.3000	18.200	-0-
Fungus Bar	2	9	100.0	4.000	1	100.100	4.0000	-0-
Fungus Bar	2	9	159.7	27.58	1	-0-	65.800	48.800
Fungus Bar	3	9	82.66	23.74	1	86.0000	29.400	-0-
Diobsud Creek	1	9	77.81	41.32	1	88.1000	46.900	-0-

NOTE : PLEASE SEE TABLE

FOR DESCRIPTION OF TEST SCHEDULE

GRAVEL BAR NAME WHERE FRY STRANDED	STATION # ON GRAVEL BAR	TEST NUMBER	X COORDINATE OF FISH	Y COORDINATE OF FISH	NUMBER OF FISH STRANDED	FISH REFERENCE COORDINATE 1	FISH REFERENCE COORDINATE 2	FISH REFERENCE COORDINATE 3
Diobsud Creek	1	9	94.95	45.52	1	105.300	45.800	-0-
Diobsud Creek	1	9	182.3	42.15	1	-0-	92.500	45.700
Diobsud Creek	2	9	112.0	5.960	1	-0-	13.400	69.200
Diobsud Creek	2	9	129.2	13.09	1	-0-	32.000	72.000
Dink Bar	3	9	98.41	6.100	1	98.6000	6.3000	-0-
Rockport	1	10	117.5	0.000	1	-0-	17.500	82.500
Rockport	2	10	193.7	9.740	1	-0-	94.200	11.600
Rockport	2	10	142.4	11.12	1	-0-	43.800	58.700
Rockport	3	10	3.540	14.88	1	15.3000	97.600	-0-
Rockport	3	10	96.50	17.66	1	-0-	18.000	105.00
Rockport	3	10	194.3	25.57	1	-0-	97.700	26.200
Inaccessible Is	1	10	2.720	11.87	1	12.2000	98.000	-0-
Inaccessible Is	1	10	68.64	11.50	1	69.6000	33.400	-0-
Inaccessible Is	1	10	13.72	33.07	1	33.8000	92.400	-0-
Inaccessible Is	2	10	91.80	38.64	1	99.6000	39.500	-0-
Inaccessible Is	2	10	-0-	-0-	1	48.9000	37.600	-0-
Inaccessible Is	2	10	16.12	13.14	1	20.8000	84.900	-0-
Inaccessible Is	2	10	31.41	15.88	1	35.2000	70.400	-0-
Inaccessible Is	2	10	51.30	0.000	1	51.3000	48.500	-0-
Marblemount	1	10	50.30	5.490	1	-50.6000	-50.000	-0-
Marblemount	1	10	16.64	10.36	1	-19.6000	-84.000	-0-
Marblemount	2	10	92.93	3.730	1	93.0000	8.0000	-0-
Marblemount	2	10	198.5	3.720	1	-0-	98.600	4.0000
Marblemount	3	10	85.42	5.550	1	85.6000	15.600	-0-
Marblemount	3	10	94.84	5.580	1	95.0000	7.6000	-0-
Marblemount	3	10	114.3	7.180	1	-0-	16.000	86.000
Marblemount	3	10	119.0	0.000	1	-0-	19.000	80.000
Marblemount	3	10	86.87	4.840	1	-87.0000	-14.000	-0-
Marblemount	3	10	65.79	5.210	1	66.0000	34.600	-0-
Marblemount	3	10	95.62	8.540	2	96.0000	9.6000	-0-
Marblemount	3	10	93.62	8.460	2	94.0000	10.600	-0-
Fungus Bar	1	10	63.13	3.050	1	63.2000	37.000	-0-
Fungus Bar	1	10	71.15	23.78	1	75.0000	37.400	-0-
Fungus Bar	1	10	71.21	23.55	1	75.0000	37.200	-0-
Fungus Bar	1	10	70.20	22.77	1	73.8000	37.500	-0-
Fungus Bar	1	10	139.1	34.90	1	-0-	52.400	70.200
Fungus Bar	2	10	64.18	6.450	1	-64.5000	-36.400	-0-
Fungus Bar	2	10	152.1	32.14	1	-0-	61.200	57.700
Fungus Bar	2	10	154.4	24.01	1	-0-	59.500	51.500
Fungus Bar	2	10	77.45	11.48	1	-78.3000	-25.300	-0-
Fungus Bar	3	10	9.070	17.49	1	19.7000	92.600	-0-
Bacon Creek	1	10	200.9	27.08	1	-0-	104.50	27.100
Bacon Creek	2	10	110.2	32.13	1	-0-	33.700	95.400
Face Bar	2	10	154.5	16.75	1	-0-	57.000	48.500
Diobsud Creek	1	10	128.8	42.68	1	-0-	51.500	83.000
Diobsud Creek	1	10	156.5	41.17	1	-0-	69.900	59.900
Diobsud Creek	2	10	12.50	18.34	1	22.2000	89.400	-0-
Diobsud Creek	2	10	84.05	25.05	1	87.7000	29.700	-0-
Dink Bar	3	10	98.80	15.45	1	100.000	15.500	-0-
Forbidden	2	11	145.2	0.000	1	-0-	45.200	54.800
Inaccessible Is	1	11	19.64	33.34	1	38.7000	87.000	-0-

NOTE : PLEASE SEE TABLE FOR DESCRIPTION OF TEST SCHEDULE

GRAVEL BAR NAME WHERE FRY STRANDED	STATION # ON GRAVEL BAR	TEST NUMBER	X COORDINATE OF FISH	Y COORDINATE OF FISH	NUMBER OF FISH STRANDED	FISH REFERENCE COORDINATE 1	FISH REFERENCE COORDINATE 2	FISH REFERENCE COORDINATE 3
Inaccessible Is	2	11	29.21	20.52	1	35.7000	75.700	-0-
Marblemount	1	11	114.4	15.32	1	-0-	21.000	87.000
Marblemount	3	11	114.8	11.88	1	-0-	19.000	86.000
Marblemount	3	11	56.22	26.15	1	62.0000	51.000	-0-
Marblemount	3	11	70.80	13.09	1	72.0000	32.000	-0-
Fungus Bar	1	11	35.78	11.24	1	37.5000	65.200	-0-
Fungus Bar	2	11	85.02	5.610	1	85.2000	16.000	-0-
Fungus Bar	3	11	57.92	29.51	1	65.0000	51.400	-0-
Rockport	1	12	44.40	0.000	1	44.4000	55.600	-0-
Rockport	1	12	152.8	5.480	1	-0-	53.100	47.500
Rockport	2	12	138.4	14.28	1	-0-	41.000	63.200
Rockport	2	12	139.5	13.63	1	-0-	41.800	62.000
Hooper Slough	1	12	163.4	10.18	1	-0-	64.200	38.000
Big Eddy	2	12	171.2	9.810	1	-0-	71.900	30.400
Big Eddy	2	12	171.0	10.67	1	-0-	71.800	30.900
Marblemount	1	12	19.00	25.75	1	32.0000	85.000	-0-
Marblemount	1	12	132.4	28.04	1	-0-	43.000	73.000
Marblemount	3	12	5.360	40.65	1	41.0000	103.00	-0-
Marblemount	3	12	7.220	37.31	1	38.0000	100.00	-0-
Fungus Bar	2	12	65.76	5.630	1	66.0000	34.700	-0-
Fungus Bar	2	12	164.4	21.76	1	-0-	68.000	41.700
Drobusd Creek	2	12	37.00	15.19	1	40.0000	64.800	-0-
Rockport	2	13	93.40	26.18	1	97.0000	27.000	-0-
Rockport	3	13	21.34	26.47	1	34.0000	83.000	-0-
Forbidden	1	13	121.6	20.26	1	-0-	29.600	81.000
Inaccessible Is	1	13	4.080	19.07	1	19.5000	97.800	-0-
Inaccessible Is	1	13	181.9	22.29	1	-0-	84.900	28.700
Inaccessible Is	1	13	194.2	5.550	1	-0-	-94.400	-8.0000
Inaccessible Is	1	13	196.5	9.140	1	-0-	-96.900	-9.8000
Inaccessible Is	1	13	74.82	13.35	1	76.0000	28.500	-0-
Marblemount	2	13	195.8	11.02	1	-0-	96.400	11.800
Marblemount	2	13	169.6	20.94	1	-0-	72.700	36.900
Marblemount	2	13	24.99	16.95	1	30.2000	76.900	-0-
Marblemount	3	13	115.4	34.94	1	-0-	38.200	91.500
Rockport	1	14	6.000	0.000	1	6.00000	94.000	-0-
Rockport	2	14	166.7	6.690	1	-0-	-67.000	-34.000
Rockport	2	14	26.83	11.02	1	29.0000	74.000	-0-
Hooper Slough	1	14	25.27	9.230	1	26.9000	75.300	-0-
Inaccessible Is	1	14	70.90	0.000	1	70.9000	29.100	-0-
Inaccessible Is	1	14	35.34	15.53	1	38.6000	66.500	-0-
Inaccessible Is	1	14	149.5	13.34	1	-0-	51.300	52.200
Marblemount	1	14	10.38	72.69	1	-34.3000	-95.400	-0-
Marblemount	1	14	98.24	16.41	1	99.6000	16.500	-0-
Marblemount	2	14	174.9	5.510	1	-0-	-73.100	-25.700
Marblemount	2	14	198.0	3.370	1	-0-	98.100	3.9000
Marblemount	2	14	183.9	7.310	1	-0-	-84.200	-17.700
Marblemount	2	14	169.9	0.000	1	-0-	69.900	30.100.
Marblemount	3	14	-0-	-0-	1	-0-	39.700	55.500
Marblemount	3	14	178.9	6.370	1	-0-	79.200	22.000
Marblemount	3	14	150.4	0.000	1	-0-	50.400	49.600
Fungus Bar	3	14	161.5	0.000	1	-0-	61.500	38.500

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GRAVEL BAR NAME WHERE FRY STRANDED	STATION # ON GRAVEL BAR	TEST NUMBER	X COORDINATE OF FISH	Y COORDINATE OF FISH	NUMBER OF FISH STRANDED	FISH REFERENCE COORDINATE 1	FISH REFERENCE COORDINATE 2	FISH REFERENCE COORDINATE 3
Fungus Bar	3	14	152.4	13.33	1	-0-	54.100	49.400
Fungus Bar	3	14	159.0	0.000	1	-0-	59.000	41.000
Diobsud Creek	2	14	151.0	0.000	1	-0-	51.000	49.000
Diobsud Creek	2	14	120.5	0.000	1	-0-	20.500	79.500
Diobsud Creek	2	14	120.9	0.000	1	-0-	20.900	79.100
Diobsud Creek	2	14	132.6	4.700	1	-0-	32.900	67.800
Diobsud Creek	2	14	126.5	4.430	1	-0-	26.900	73.600
Diobsud Creek	2	14	117.6	0.000	1	-0-	17.600	82.400
Diobsud Creek	2	14	121.3	0.000	1	-0-	21.300	78.700
Diobsud Creek	2	14	118.7	0.000	1	-0-	18.700	81.300
Dink Bar	3	14	127.4	9.890	1	-0-	29.100	73.300
Dink Bar	3	14	133.5	12.08	1	-0-	35.600	67.600
Dink Bar	3	14	133.5	12.08	1	-0-	35.600	67.600
Rockport	1	15	116.9	12.43	1	-0-	21.000	84.000
Rockport	2	15	194.4	22.31	1	-0-	97.000	23.000
Inaccessible Is	1	15	176.3	22.68	1	-0-	79.600	32.300
Inaccessible Is	1	15	193.6	18.75	1	-0-	95.500	19.800
Inaccessible Is	1	15	38.19	40.14	1	55.4000	73.700	-0-
Inaccessible Is	1	15	142.6	24.10	1	-0-	48.900	62.300
Inaccessible Is	1	15	142.3	11.56	1	-0-	43.800	58.900
Inaccessible Is	1	15	31.85	37.11	1	48.9000	77.600	-0-
Inaccessible Is	1	15	176.1	10.45	1	-0-	76.800	26.100
Inaccessible Is	1	15	180.0	17.66	1	-0-	81.900	26.700
Inaccessible Is	1	15	170.5	14.42	1	-0-	72.000	32.800
Inaccessible Is	2	15	40.32	12.12	1	42.1000	60.900	-0-
Inaccessible Is	3	15	45.07	37.13	2	58.4000	66.300	-0-
Marblemount	1	15	28.13	35.13	1	45.0000	80.000	-0-
Marblemount	1	15	144.9	14.65	2	-0-	56.700	65.100
Marblemount	1	15	13.55	40.81	1	-43.0000	-95.600	-0-
Marblemount	1	15	92.95	20.52	1	-0-	21.700	109.50
Marblemount	1	15	179.1	10.19	1	-0-	79.700	23.300
Marblemount	1	15	10.91	32.41	2	-34.2000	-94.800	-0-
Marblemount	1	15	11.94	27.31	3	-29.8000	-92.200	-0-
Marblemount	2	15	199.9	8.300	1	-0-	-100.20	-8.3000
Marblemount	2	15	184.0	7.870	1	-0-	-84.400	-17.800
Marblemount	3	15	170.8	11.85	8	-0-	-71.800	-71.500
Marblemount	3	15	153.6	0.000	1	-0-	53.600	46.400
Marblemount	3	15	151.4	0.000	1	-0-	51.400	48.600
Marblemount	3	15	118.3	88.43	1	-0-	90.300	120.40
Marblemount	3	15	156.3	0.000	1	-0-	56.300	43.700
Marblemount	3	15	156.6	5.440	1	-0-	56.900	43.700
Fungus Bar	1	15	48.77	19.45	1	52.5000	54.800	-0-
Fungus Bar	1	15	60.40	13.99	1	62.0000	42.000	-0-
Fungus Bar	2	15	78.08	55.85	1	96.0000	60.000	-0-
Fungus Bar	2	15	147.9	17.56	1	-0-	51.000	55.000
Fungus Bar	3	15	156.7	0.000	2	-0-	56.700	43.000
Fungus Bar	3	15	168.0	0.000	1	-0-	68.000	32.000
Bacon Creek	1	15	120.0	34.18	1	-0-	39.600	87.000
Dink Bar	2	15	75.27	29.64	1	80.9000	38.600	-0-
Dink Bar	2	15	73.72	28.95	1	79.2000	39.100	-0-
Dink Bar	3	15	14.62	31.47	1	34.7000	91.000	-0-

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GRAVEL BAR NAME WHERE FRY STRANDED	STATION # ON GRAVEL BAR	TEST NUMBER	X COORDINATE OF FISH	Y COORDINATE OF FISH	NUMBER OF FISH STRANDED	FISH REFERENCE COORDINATE 1	FISH REFERENCE COORDINATE 2	FISH REFERENCE COORDINATE 3
Rockport	1	16	36.56	24.48	1	44.0000	68.000	-0-
Inaccessible Is	1	16	152.8	23.83	1	-0-	57.900	52.900
Inaccessible Is	1	16	35.40	29.22	1	45.9000	70.900	-0-
Inaccessible Is	1	16	45.55	10.74	1	46.8000	55.500	-0-
Marblemount	3	16	16.67	47.46	2	50.5000	95.900	-0-
Marblemount	3	16	116.2	35.16	1	-0-	38.700	90.900
Marblemount	3	16	69.55	13.23	2	70.8000	33.200	-0-
Marblemount	3	16	55.59	16.56	1	58.0000	47.400	-0-
Marblemount	3	16	45.76	55.07	1	71.6000	77.300	-0-
Marblemount	3	16	-1.050	35.78	3	35.8000	107.20	-0-
Marblemount	3	16	-0-	-0-	1	111.100	8.5000	-0-
Marblemount	3	16	62.92	56.40	1	84.5000	67.500	-0-
Marblemount	3	16	38.87	55.55	1	67.8000	82.600	-0-
Diobsud Creek	2	16	195.2	21.37	1	-0-	97.600	21.900
Hooper Slough	1	17	2.100	22.39	1	20.5000	100.00	-0-
Marblemount	1	17	142.1	2.590	1	-0-	43.000	58.500
Marblemount	3	17	-0-	-0-	1	42.0000	53.500	-0-
Marblemount	3	17	95.00	0.000	1	95.0000	10.000	-0-
Diobsud Creek	2	17	180.6	8.040	1	-0-	81.000	21.000
Diobsud Creek	2	17	105.1	14.73	1	-0-	15.600	96.000
Inaccessible Is	2	18	128.2	22.26	1	-0-	35.900	75.200
Marblemount	2	18	-0-	-0-	1	-0-	-65.000	-33.000
Marblemount	3	18	-0-	-0-	1	54.4000	42.500	-0-
Diobsud Creek	2	18	146.4	12.31	1	-0-	48.000	55.000
Diobsud Creek	2	18	139.8	18.69	1	-0-	44.000	67.000
Diobsud Creek	2	18	161.5	21.20	1	-0-	65.000	44.000
Rockport	1	19	179.6	16.23	1	-0-	81.200	25.100
Rockport	2	19	152.4	27.03	1	-0-	59.000	54.700
Rockport	2	19	118.3	12.05	1	-0-	21.900	82.600
Rockport	2	19	135.2	17.46	1	-0-	39.300	67.100
Rockport	3	19	191.9	13.46	1	-0-	92.900	15.700
Bad Spot	2	19	38.69	68.19	1	78.4000	91.700	-0-
Bad Spot	2	19	19.80	73.38	1	76.0000	108.70	-0-
Inaccessible Is	1	19	190.7	6.540	1	-0-	-90.900	-11.400
Inaccessible Is	1	19	176.0	14.48	1	-0-	77.400	28.000
Inaccessible Is	2	19	102.5	43.53	1	-0-	47.600	106.80
Big Eddy	1	19	6.270	24.20	1	25.0000	96.800	-0-
Marblemount	2	19	162.4	2.170	1	-0-	62.400	77.700
Marblemount	3	19	63.30	0.000	1	63.3000	36.700	-0-
Marblemount	3	19	71.39	19.46	2	74.0000	34.600	-0-
Marblemount	3	19	-0-	-0-	1	-0-	13.800	-94.400
Marblemount	3	19	42.40	0.000	1	42.4000	57.600	-0-
Face Bar	3	19	153.5	2.230	1	-0-	55.500	46.600
Diobsud Creek	2	19	125.8	10.89	1	-0-	28.000	75.000
Rockport	1	20	149.1	0.000	1	-0-	49.100	50.900
Rockport	1	20	187.1	34.13	1	-0-	93.500	36.500
Rockport	2	20	67.17	34.47	1	75.5000	47.600	-0-
Bad Spot	1	20	174.5	68.19	1	-0-	101.00	72.800
Forbidden	1	20	171.0	29.64	1	-0-	76.900	41.500
Forbidden	3	20	58.69	21.78	1	62.6000	46.700	-0-
Inaccessible Is	2	20	158.6	41.87	1	-0-	72.000	58.900

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GRAVEL BAR NAME WHERE FRY STRANDED	STATION # ON GRAVEL BAR	TEST NUMBER	X COORDINATE OF FISH	Y COORDINATE OF FISH	NUMBER OF FISH STRANDED	FISH REFERENCE COORDINATE 1	FISH REFERENCE COORDINATE 2	FISH REFERENCE COORDINATE 3
Big Eddy	1	20	11.44	29.03	1	31.2000	93.200	-0-
Big Eddy	1	20	84.45	15.71	1	85.9000	22.100	-0-
Big Eddy	3	20	114.2	37.09	1	-0-	39.700	93.500
Marblemount	1	20	80.52	37.21	1	88.7000	42.000	-0-
Marblemount	2	20	43.68	60.97	1	75.0000	83.300	-0-
Marblemount	2	20	0.670	24.89	1	24.9000	102.40	-0-
Marblemount	2	20	0.030	33.40	1	33.4000	105.40	-0-
Bacon Creek	1	20	80.32	44.87	1	92.0000	49.000	-0-
Rockport	3	21	-2.120	24.01	1	24.1000	104.90	-0-
Inaccessible Is	2	21	64.68	43.59	2	78.0000	56.100	-0-
Inaccessible Is	3	21	155.5	29.16	1	-0-	61.700	33.200
Inaccessible Is	3	21	89.42	31.79	1	94.9000	33.500	-0-
Big Eddy	3	21	84.87	35.51	1	92.0000	38.000	-0-
Big Eddy	3	21	20.55	42.27	1	47.0000	91.000	-0-
Marblemount	1	21	30.02	14.65	1	-33.4030	-7.500	-0-
Marblemount	3	21	38.68	41.60	1	56.8000	74.100	-0-
Marblemount	3	21	56.91	56.93	1	80.5000	71.400	-0-
Marblemount	3	21	45.69	60.36	1	75.7000	81.200	-0-
Marblemount	3	21	36.06	51.17	1	62.6000	81.900	-0-
Marblemount	3	21	1.620	26.15	2	26.2000	101.80	-0-
Marblemount	3	21	47.06	58.91	1	75.4000	79.200	-0-
Marblemount	3	21	33.04	58.17	1	66.9000	88.700	-0-
Marblemount	3	21	32.69	41.79	1	53.0000	79.300	-0-
Fungus Bar	2	21	60.82	12.06	1	62.0000	41.000	-0-
Bacon Creek	1	21	60.60	0.000	1	60.6000	39.400	-0-
Bacon Creek	2	21	56.19	31.05	1	64.2000	53.700	-0-
Inaccessible Is	1	22	109.4	9.420	1	-0-	13.300	91.100
Inaccessible Is	1	22	100.8	8.760	1	-0-	8.8000	99.600
Marblemount	1	22	176.8	12.86	1	-0-	77.900	26.500
Marblemount	1	22	92.40	25.28	1	95.8000	26.400	-0-
Marblemount	1	22	49.80	0.000	1	49.8000	50.200	-0-
Marblemount	3	22	92.72	40.55	1	101.200	41.200	-0-
Diobsud Creek	2	22	93.19	6.190	1	93.4000	9.2000	-0-
Diobsud Creek	2	22	96.27	6.620	1	96.5000	7.6000	-0-
Sink Bar	3	22	153.3	3.160	1	-0-	53.400	46.800
Rockport	3	23	78.03	30.27	1	83.7000	37.400	-0-
Rockport	3	23	124.8	35.13	1	-0-	43.000	83.000
Rockport	3	23	124.8	35.13	9	-0-	43.000	83.000
Bad Spot	2	23	9.360	76.33	1	76.9000	118.50	-0-
Inaccessible Is	1	23	181.0	15.01	1	-0-	82.400	24.200
Inaccessible Is	1	23	150.6	23.15	1	-0-	55.600	54.600
Inaccessible Is	1	23	134.6	11.37	1	-0-	36.400	66.400
Inaccessible Is	1	23	129.5	26.62	1	-0-	39.700	75.400
Inaccessible Is	2	23	64.27	40.75	1	76.1000	54.200	-0-
Inaccessible Is	2	23	32.80	24.43	1	40.9000	71.500	-0-
Inaccessible Is	2	23	32.80	24.43	1	40.9000	71.500	-0-
Inaccessible Is	2	23	26.31	22.32	1	34.5000	77.000	-0-
Big Eddy	3	23	62.40	35.92	1	72.0000	52.000	-0-
Marblemount	2	23	196.9	31.85	2	-0-	102.00	32.000
Marblemount	2	23	163.5	29.55	1	-0-	70.000	47.000
Marblemount	2	23	155.0	23.99	8	-0-	60.000	51.000

NOTE : PLEASE SEE TABLE FOR DESCRIPTION OF TEST SCHEDULE

GRAVEL BAR NAME WHERE FRY STRANDED	STATION # ON GRAVEL BAR	TEST NUMBER	X COORDINATE OF FISH	Y COORDINATE OF FISH	NUMBER OF FISH STRANDED	FISH REFERENCE COORDINATE 1	FISH REFERENCE COORDINATE 2	FISH REFERENCE COORDINATE 3
Marblemount	2	23	142.6	17.41	1	-0-	46.000	60.000
Marblemount	3	23	202.2	54.96	1	-0-	116.00	55.000
Marblemount	3	23	134.0	0.000	1	-0-	34.000	66.000
Marblemount	3	23	119.4	67.27	1	-0-	70.000	105.00
Marblemount	3	23	114.4	67.48	1	-0-	69.000	109.00
Marblemount	3	23	112.8	71.87	1	-0-	73.000	113.00
Marblemount	3	23	117.6	72.90	1	-0-	75.000	110.00
Marblemount	3	23	111.6	81.17	1	-0-	82.000	120.00
Marblemount	3	23	121.7	84.25	1	-0-	87.000	115.00
Marblemount	3	23	123.4	77.35	1	-0-	81.000	109.00
Marblemount	3	23	87.72	57.71	1	105.000	59.000	-0-
Marblemount	3	23	77.00	52.15	1	93.0000	57.000	-0-
Marblemount	3	23	74.20	20.58	1	77.0000	33.000	-0-
Marblemount	3	23	64.04	19.69	1	67.0000	41.000	-0-
Marblemount	3	23	62.48	13.87	1	64.0000	40.000	-0-
Marblemount	3	23	50.54	19.03	2	54.0000	53.000	-0-
Marblemount	3	23	26.02	27.70	1	38.0000	79.000	-0-
Marblemount	3	23	40.24	34.49	1	53.0000	69.000	-0-
Marblemount	3	23	28.58	36.04	1	46.0000	80.000	-0-
Marblemount	3	23	31.52	41.36	4	52.0000	80.000	-0-
Marblemount	3	23	33.92	43.29	1	55.0000	79.000	-0-
Marblemount	3	23	33.44	46.16	2	57.0000	81.000	-0-
Marblemount	3	23	36.25	41.37	2	55.0000	76.000	-0-
Marblemount	3	23	47.12	51.77	6	70.0000	74.000	-0-
Marblemount	3	23	52.13	52.48	3	74.0000	71.000	-0-
Marblemount	3	23	58.52	50.04	1	77.0000	65.000	-0-
Marblemount	3	23	65.84	50.54	6	83.0000	61.000	-0-
Marblemount	3	23	59.48	60.72	4	85.0000	73.000	-0-
Marblemount	3	23	55.78	65.46	4	86.0000	79.000	-0-
Marblemount	3	23	54.28	69.27	1	88.0000	83.000	-0-
Marblemount	3	23	50.00	59.87	1	78.0000	78.000	-0-
Marblemount	3	23	41.15	62.71	1	75.0000	86.000	-0-
Marblemount	3	23	38.08	61.11	1	72.0000	87.000	-0-
Marblemount	3	23	23.36	50.90	1	56.0000	92.000	-0-
Marblemount	3	23	1.180	43.98	1	46.0000	109.00	-0-
Marblemount	3	23	1.040	37.99	1	38.0000	106.00	-0-
Marblemount	3	23	1.370	32.97	3	33.0000	104.00	-0-
Fungus Bar	2	23	29.34	25.31	1	38.0000	76.000	-0-
Fungus Bar	3	23	189.4	14.56	1	-0-	90.600	18.000
Diobsud Creek	2	23	152.7	21.78	1	-0-	57.000	52.100
Inaccessible Is	1	24	13.53	31.41	1	34.2000	92.000	-0-
Inaccessible Is	1	24	170.5	17.17	1	-0-	72.600	34.100
Inaccessible Is	1	24	130.9	23.69	1	-0-	40.200	73.700
Big Eddy	1	24	48.43	16.00	1	51.0000	54.000	-0-
Marblemount	1	24	20.06	30.61	1	36.6000	85.600	-0-
Marblemount	1	24	1.720	40.76	1	40.8000	106.40	-0-
Marblemount	3	24	162.7	49.03	1	-0-	79.600	61.600
Marblemount	3	24	156.6	0.000	2	-0-	56.600	43.400
Bacon Creek	1	24	73.21	5.260	1	73.4000	27.300	-0-
Bacon Creek	1	24	79.91	42.27	1	90.4000	46.800	-0-
Diobsud Creek	2	24	122.9	0.000	1	-0-	22.900	77.100

NOTE : PLEASE SEE TABLE FOR DESCRIPTION OF TEST SCHEDULE

APPENDIX O

CELL MEAN AND STANDARD DEVIATION DATA FOR THE 1986 SALMON
FRY GRAVEL BAR STRANDING ANALYSES

Appendix 86A
 PIVLOC=1 (
 AMP=1 (2000)

N's, means and standard deviations based on dependent variable: LOGNUM

* Indicates statistics are collapsed over this factor

Factors: S G W E R	N	Mean	S.D.
1 1 1 1 1	216	0.212	0.450
1 1 1 1 2	48	0.569	0.674
2 1 1 1 1	108	0.128	0.321
3 1 1 1 1	60	0.076	0.235
1 1 1 1 3	108	0.222	0.470
1 2 1 1 1	108	0.201	0.451
1 1 1 1 4	72	0.230	0.457
1 1 2 1 1	72	0.199	0.451
1 1 3 1 1	72	0.206	0.458
1 1 1 1 5	108	0.225	0.454
1 1 1 2 1	108	0.199	0.449
1 1 1 1 6	108	0.202	0.378
1 1 1 2 2	108	0.221	0.514
1 1 1 1 7	24	0.493	0.695
1 2 1 1 1	24	0.646	0.658
2 1 1 1 1	48	0.201	0.411
2 2 1 1 1	60	0.069	0.210
3 1 1 1 1	36	0.069	0.239
3 2 1 1 1	24	0.087	0.234
1 1 1 1 8	16	0.657	0.626
1 1 2 1 1	16	0.594	0.646
1 1 3 1 1	16	0.466	0.775
2 1 1 1 1	36	0.157	0.374
2 1 2 1 1	36	0.088	0.260
2 1 3 1 1	36	0.138	0.323
3 1 1 1 1	20	0.035	0.155
3 1 2 1 1	20	0.090	0.283
3 1 3 1 1	20	0.104	0.254
1 1 1 1 9	24	0.555	0.666
1 1 1 2 2	24	0.584	0.696
2 1 1 1 1	54	0.164	0.363
2 1 1 2 1	54	0.092	0.271
3 1 1 1 1	30	0.069	0.211
3 1 1 2 1	30	0.093	0.260
1 1 1 1 10	24	0.380	0.432
1 1 1 1 11	24	0.759	0.906
2 1 1 1 1	54	0.177	0.369
2 1 1 1 2	54	0.079	0.258
3 1 1 1 1	30	0.106	0.282
3 1 1 1 2	30	0.046	0.176
1 1 1 1 12	36	0.260	0.488
1 1 2 1 1	36	0.199	0.424
1 1 3 1 1	36	0.207	0.506
1 2 1 1 1	36	0.200	0.429
1 2 2 1 1	36	0.199	0.445
1 2 3 1 1	36	0.205	0.433
1 1 1 1 13	54	0.235	0.487
1 1 1 2 2	54	0.209	0.457
1 2 1 1 1	54	0.214	0.422
1 2 1 2 1	54	0.189	0.444
1 1 1 1 14	54	0.217	0.429
1 1 1 1 15	54	0.227	0.513
1 2 1 1 1	54	0.187	0.324
1 2 1 1 2	54	0.215	0.520
1 1 1 1 16	36	0.185	0.370

s = slope
 g = substrate
 w = week number
 e = endflow
 r = ramp rate

1 1 1 2 1	36	0.275	0.502
1 1 2 1 1	36	0.115	0.710
1 1 2 2 1	36	0.252	0.517
1 1 3 1 1	16	0.374	0.461
1 1 3 2 1	36	0.039	0.781
1 1 1 1 1	36	0.242	0.504
1 1 1 1 2	36	0.218	0.494
1 1 2 1 1	36	0.169	0.559
1 1 2 2 2	36	0.229	0.497
1 1 3 1 1	36	0.196	0.554
1 1 3 2 2	36	0.216	0.564
1 1 1 1 1	54	0.220	0.576
1 1 1 1 2	54	0.229	0.524
1 1 1 2 1	54	0.184	0.584
1 1 1 2 2	54	0.213	0.509
1 1 1 1 1	8	0.634	0.625
1 1 2 1 1	8	0.448	0.625
1 1 3 1 1	8	0.397	0.678
1 2 1 1 1	8	0.640	0.671
1 2 2 1 1	8	0.721	0.660
1 2 3 1 1	8	0.576	0.706
2 1 1 1 1	16	0.267	0.495
2 1 2 1 1	16	0.155	0.545
2 1 3 1 1	16	0.181	0.398
2 2 1 1 1	20	0.069	0.213
2 2 2 1 1	20	0.035	0.155
2 2 3 1 1	20	0.104	0.254
3 1 1 1 1	12	0.000	0.000
3 1 2 1 1	12	0.092	0.317
3 1 3 1 1	12	0.116	0.270
3 2 1 1 1	8	0.087	0.245
3 2 2 1 1	8	0.087	0.245
3 2 3 1 1	8	0.087	0.245
1 1 1 1 1	12	0.433	0.725
1 1 1 2 1	12	0.548	0.690
1 2 1 1 1	12	0.573	0.509
1 2 1 2 1	12	0.619	0.731
2 1 1 1 1	24	0.253	0.465
2 1 1 2 1	24	0.149	0.351
2 2 1 1 1	30	0.092	0.240
2 2 1 2 1	30	0.046	0.176
3 1 1 1 1	18	0.077	0.224
3 1 1 2 1	18	0.061	0.259
3 2 1 1 1	12	0.058	0.200
3 2 1 2 1	12	0.116	0.270
1 1 1 1 1	12	0.380	0.508
1 1 1 1 2	12	0.606	0.851
1 2 1 1 1	12	0.580	0.413
1 2 1 2 1	12	0.911	0.753
2 1 1 1 1	24	0.324	0.426
2 1 1 2 1	24	0.179	0.367
2 2 1 1 1	30	0.139	0.252
2 2 1 2 1	30	0.000	0.000
3 1 1 1 1	18	0.100	0.298
3 1 1 2 1	18	0.039	0.163
3 2 1 1 1	12	0.116	0.270
3 2 1 2 1	12	0.058	0.200
1 1 1 1 1	8	0.433	0.539
1 1 1 2 1	8	0.842	0.785
1 1 2 1 1	8	0.347	0.524
1 1 2 2 1	8	0.822	0.701
1 1 3 1 1	8	0.886	0.929
1 1 3 2 1	8	0.087	0.245
2 1 1 1 1	18	0.138	0.405
2 1 1 2 1	18	0.177	0.350
2 1 2 1 1	18	0.077	0.224

2 1 1 2 1	12	0.100	0.272
2 1 3 1 1	15	0.272	0.413
2 1 3 2 1	18	0.000	0.000
3 1 1 1 1	10	0.000	0.217
3 1 1 2 1	10	0.000	0.000
3 1 2 1 1	10	0.000	0.000
3 1 2 2 1	10	0.179	0.390
3 1 3 1 1	10	0.139	0.292
3 1 3 2 1	10	0.069	0.219
1 1 1 1 1	8	0.571	0.500
1 1 1 1 2	8	0.704	0.742
1 1 2 1 1	8	0.511	0.447
1 1 2 1 2	8	0.858	0.724
1 1 3 1 1	8	0.260	0.359
1 1 3 1 2	8	0.713	1.020
2 1 1 1 1	18	0.193	0.398
2 1 1 1 2	18	0.122	0.355
2 1 2 1 1	18	0.100	0.298
2 1 2 1 2	18	0.077	0.224
2 1 3 1 1	18	0.238	0.409
2 1 3 1 2	18	0.039	0.163
3 1 1 1 1	10	0.069	0.219
3 1 1 1 2	10	0.000	0.000
3 1 2 1 1	10	0.179	0.390
3 1 2 1 2	10	0.000	0.000
3 1 3 1 1	10	0.069	0.219
3 1 3 1 2	10	0.139	0.292
1 1 1 1 1	12	0.347	0.362
1 1 1 1 2	12	0.764	0.837
1 1 1 2 1	12	0.414	0.543
1 1 1 2 2	12	0.753	0.810
2 1 1 1 1	27	0.235	0.428
2 1 1 1 2	27	0.392	0.273
2 1 1 2 1	27	0.118	0.296
2 1 1 2 2	27	0.066	0.246
3 1 1 1 1	15	0.092	0.244
3 1 1 1 2	15	0.046	0.179
3 1 1 2 1	15	0.119	0.324
3 1 1 2 2	15	0.046	0.179
1 1 1 1 1	18	0.254	0.448
1 1 1 2 1	18	0.266	0.536
1 1 2 1 1	18	0.039	0.163
1 1 2 2 1	18	0.360	0.537
1 1 3 1 1	18	0.414	0.601
1 1 3 2 1	18	0.000	0.000
1 2 1 1 1	18	0.116	0.266
1 2 1 2 1	18	0.285	0.541
1 2 2 1 1	18	0.193	0.398
1 2 2 2 1	18	0.205	0.499
1 2 3 1 1	18	0.333	0.548
1 2 3 2 1	18	0.077	0.224
1 1 1 1 1	18	0.270	0.484
1 1 1 1 2	18	0.250	0.505
1 1 2 1 1	18	0.187	0.421
1 1 2 1 2	18	0.215	0.438
1 1 3 1 1	18	0.199	0.396
1 1 3 1 2	18	0.215	0.609
1 2 1 1 1	18	0.215	0.368
1 2 1 1 2	18	0.185	0.493
1 2 2 1 1	18	0.154	0.297
1 2 2 1 2	18	0.243	0.562
1 2 3 1 1	18	0.193	0.719
1 2 3 1 2	18	0.217	0.532
1 1 1 1 1	27	0.235	0.428
1 1 1 1 2	27	0.235	0.548
1 1 1 2 1	27	0.199	0.438

1 1 1 2 1	27	0.213	0.435
1 2 1 1 1	27	0.215	0.423
1 2 1 1 2	27	0.222	0.509
1 2 1 2 1	27	0.197	0.550
1 2 1 2 2	27	0.209	0.541
1 1 1 1 1	18	0.193	0.393
1 1 1 1 2	18	0.177	0.350
1 1 1 2 1	18	0.252	0.455
1 1 1 2 2	18	0.259	0.613
1 1 2 1 1	18	0.116	0.266
1 1 2 1 2	18	0.116	0.357
1 1 2 2 1	18	0.222	0.475
1 1 2 2 2	18	0.343	0.594
1 1 3 1 1	18	0.353	0.424
1 1 3 1 2	18	0.394	0.748
1 1 3 2 1	18	0.039	0.163
1 1 3 2 2	18	0.039	0.163
1 1 1 1 1	4	0.520	0.347
1 1 1 2 1	4	0.749	0.870
1 1 2 1 1	4	0.000	0.000
1 1 2 2 1	4	0.896	0.612
1 1 3 1 1	4	0.795	1.173
1 1 3 2 1	4	0.000	0.000
1 2 1 1 1	4	0.347	0.400
1 2 1 2 1	4	0.934	0.913
1 2 2 1 1	4	0.693	0.566
1 2 2 2 1	4	0.749	0.870
1 2 3 1 1	4	0.978	0.732
1 2 3 2 1	4	0.173	0.347
2 1 1 1 1	8	0.311	0.580
2 1 1 2 1	8	0.224	0.429
2 1 2 1 1	8	0.087	0.245
2 1 2 2 1	8	0.224	0.429
2 1 3 1 1	8	0.361	0.514
2 1 3 2 1	8	0.000	0.000
2 2 1 1 1	10	0.000	0.000
2 2 1 2 1	10	0.139	0.292
2 2 2 1 1	10	0.069	0.219
2 2 2 2 1	10	0.000	0.000
2 2 3 1 1	10	0.208	0.335
2 2 3 2 1	10	0.000	0.000
3 1 1 1 1	6	0.000	0.000
3 1 1 2 1	6	0.000	0.000
3 1 2 1 1	6	0.000	0.000
3 1 2 2 1	6	0.183	0.449
3 1 3 1 1	6	0.271	0.358
3 1 3 2 1	6	0.000	0.000
3 2 1 1 1	4	0.173	0.347
3 2 1 2 1	4	0.000	0.000
3 2 2 1 1	4	0.000	0.000
3 2 2 2 1	4	0.173	0.347
3 2 3 1 1	4	0.000	0.000
3 2 3 2 1	4	0.173	0.347
1 1 1 1 1	4	0.693	0.566
1 1 1 1 2	4	0.576	0.763
1 1 2 1 1	4	0.275	0.549
1 1 2 1 2	4	0.621	0.727
1 1 3 1 1	4	0.173	0.347
1 1 3 1 2	4	0.621	1.242
1 2 1 1 1	4	0.448	0.543
1 2 1 1 2	4	0.833	0.811
1 2 2 1 1	4	0.347	0.400
1 2 2 1 2	4	1.096	0.738
1 2 3 1 1	4	0.347	0.400
1 2 3 1 2	4	0.805	0.929
2 1 1 1 1	8	0.260	0.516

2 1 1 1 2	3	0.275	0.249
2 1 2 1 1	3	0.157	0.153
2 1 2 1 2	3	0.177	0.321
2 1 3 1 1	8	0.275	0.315
2 1 3 1 2	8	0.097	0.245
2 2 1 1 1	10	0.139	0.252
2 2 1 1 2	10	0.000	0.000
2 2 2 1 1	10	0.069	0.217
2 2 2 1 2	10	0.000	0.000
2 2 3 1 1	10	0.208	0.373
2 2 3 1 2	10	0.000	0.000
3 1 1 1 1	6	0.000	0.000
3 1 1 1 2	6	0.000	0.000
3 1 2 1 1	6	0.133	0.449
3 1 2 1 2	6	0.000	0.000
3 1 3 1 1	6	0.116	0.283
3 1 3 1 2	6	0.116	0.283
3 2 1 1 1	4	0.177	0.347
3 2 1 1 2	4	0.000	0.000
3 2 2 1 1	4	0.177	0.347
3 2 2 1 2	4	0.000	0.000
3 2 3 1 1	4	0.000	0.000
3 2 3 1 2	4	0.173	0.347
1 1 1 1 1	6	0.347	0.380
1 1 1 1 2	6	0.530	0.597
1 1 1 2 1	6	0.414	0.648
1 1 1 2 2	6	0.682	0.765
1 2 1 1 1	6	0.347	0.380
1 2 1 1 2	6	0.999	0.645
1 2 1 2 1	6	0.414	0.477
1 2 1 2 2	6	0.824	0.920
2 1 1 1 1	12	0.299	0.545
2 1 1 1 2	12	0.297	0.388
2 1 1 2 1	12	0.149	0.359
2 1 1 2 2	12	0.149	0.359
2 2 1 1 1	15	0.185	0.317
2 2 1 1 2	15	0.000	0.000
2 2 1 2 1	15	0.172	0.244
2 2 1 2 2	15	0.000	0.000
3 1 1 1 1	9	0.077	0.231
3 1 1 1 2	9	0.077	0.231
3 1 1 2 1	9	0.122	0.366
3 1 1 2 2	9	0.000	0.000
3 2 1 1 1	6	0.116	0.283
3 2 1 1 2	6	0.000	0.000
3 2 1 2 1	6	0.116	0.283
3 2 1 2 2	6	0.116	0.283
1 1 1 1 1	4	0.347	0.400
1 1 1 1 2	4	0.520	0.347
1 1 1 2 1	4	0.795	0.621
1 1 1 2 2	4	0.899	1.035
1 1 2 1 1	4	0.347	0.400
1 1 2 1 2	4	0.347	0.673
1 1 2 2 1	4	0.275	0.549
1 1 2 2 2	4	1.370	0.209
1 1 3 1 1	4	0.347	0.400
1 1 3 1 2	4	1.426	1.036
1 1 3 2 1	4	0.173	0.347
1 1 3 2 2	4	0.000	0.000
2 1 1 1 1	9	0.154	0.462
2 1 1 1 2	9	0.122	0.366
2 1 1 2 1	9	0.231	0.347
2 1 1 2 2	9	0.122	0.366
2 1 2 1 1	9	0.077	0.231
2 1 2 1 2	9	0.077	0.231
2 1 2 2 1	9	0.122	0.366

1 1 1 1	1	0.077	0.231
2 1 1 1	9	0.475	0.477
3 1 1 1	9	0.077	0.231
2 1 1 2	9	0.000	0.000
2 1 3 2	9	0.000	0.000
3 1 1 1	5	0.139	0.310
3 1 1 2	5	0.000	0.000
3 1 1 2	5	0.000	0.000
3 1 2 1	5	0.000	0.000
3 1 2 2	5	0.000	0.000
3 1 2 1	5	0.000	0.000
3 1 2 1	5	0.000	0.000
3 1 2 2	5	0.000	0.000
3 1 2 2	5	0.000	0.000
3 1 2 2	5	0.000	0.000
3 1 3 1	5	0.139	0.310
3 1 3 1	5	0.139	0.310
3 1 3 2	5	0.000	0.000
3 1 3 2	5	0.139	0.310
1 1 1 1	9	0.308	0.504
1 1 1 2	9	0.199	0.408
1 1 1 2	9	0.231	0.490
1 1 1 2	9	0.301	0.611
1 1 2 1	9	0.000	0.000
1 1 2 1	9	0.077	0.231
1 1 2 2	9	0.366	0.549
1 1 2 2	9	0.353	0.558
1 1 3 1	9	0.398	0.693
1 1 3 1	9	0.430	0.827
1 1 3 2	9	0.000	0.000
1 1 3 2	9	0.000	0.000
1 2 1 1	9	0.077	0.231
1 2 1 2	9	0.154	0.306
1 2 1 2	9	0.353	0.437
1 2 1 2	9	0.216	0.649
1 2 2 1	9	0.251	0.347
1 2 2 1	9	0.154	0.462
1 2 2 2	9	0.077	0.231
1 2 2 2	9	0.353	0.653
1 2 3 1	9	0.308	0.365
1 2 3 1	9	0.358	0.710
1 2 3 2	9	0.077	0.231
1 2 3 2	9	0.077	0.231
1 1 1 1	2	0.693	0.000
1 1 1 2	2	0.347	0.490
1 1 1 2	2	0.693	0.980
1 1 1 2	2	0.205	1.133
1 1 2 1	2	0.000	0.000
1 1 2 1	2	0.000	0.000
1 1 2 2	2	0.549	0.777
1 1 2 2	2	1.242	0.203
1 1 3 1	2	0.347	0.490
1 1 3 1	2	1.242	1.757
1 1 3 2	2	0.000	0.000
1 1 3 2	2	0.000	0.000
1 2 1 1	2	0.000	0.000
1 2 1 2	2	0.693	0.000
1 2 1 2	2	0.896	0.297
1 2 1 2	2	0.973	1.376
1 2 2 1	2	0.693	0.000
1 2 2 1	2	0.693	0.980
1 2 2 2	2	0.000	0.000
1 2 2 2	2	1.498	0.158
1 2 3 1	2	0.347	0.490
1 2 3 1	2	1.609	0.000
1 2 3 2	2	0.347	0.490
1 2 3 2	2	0.000	0.000
2 1 1 1	4	0.347	0.693

2 1 1 1 2	4	0.275	0.549
2 1 1 2 1	4	0.173	0.347
2 1 1 2 2	4	0.275	0.549
2 1 2 1 1	4	0.000	0.000
2 1 2 1 2	4	0.173	0.347
2 1 2 2 1	4	0.275	0.549
2 1 2 2 2	4	0.173	0.347
2 1 3 1 1	4	0.549	0.534
2 1 3 1 2	4	0.173	0.347
2 1 3 2 1	4	0.000	0.000
2 1 3 2 2	4	0.000	0.000
2 2 1 1 1	5	0.000	0.000
2 2 1 1 2	5	0.000	0.000
2 2 1 2 1	5	0.277	0.350
2 2 1 2 2	5	0.000	0.000
2 2 2 1 1	5	0.139	0.210
2 2 2 1 2	5	0.000	0.000
2 2 2 2 1	5	0.000	0.000
2 2 2 2 2	5	0.000	0.000
2 2 3 1 1	5	0.416	0.350
2 2 3 1 2	5	0.000	0.000
2 2 3 2 1	5	0.000	0.000
2 2 3 2 2	5	0.000	0.000
3 1 1 1 1	3	0.000	0.000
3 1 1 1 2	3	0.000	0.000
3 1 1 2 1	3	0.000	0.000
3 1 1 2 2	3	0.000	0.000
3 1 2 1 1	3	0.000	0.000
3 1 2 1 2	3	0.000	0.000
3 1 2 2 1	3	0.366	0.634
3 1 2 2 2	3	0.000	0.000
3 1 3 1 1	3	0.271	0.400
3 1 3 1 2	3	0.231	0.400
3 1 3 2 1	3	0.000	0.000
3 1 3 2 2	3	0.000	0.000
3 2 1 1 1	2	0.347	0.490
3 2 1 1 2	2	0.000	0.000
3 2 1 2 1	2	0.000	0.000
3 2 1 2 2	2	0.000	0.000
3 2 2 1 1	2	0.000	0.000
3 2 2 1 2	2	0.000	0.000
3 2 2 2 1	2	0.347	0.490
3 2 2 2 2	2	0.000	0.000
3 2 3 1 1	2	0.000	0.000
3 2 3 1 2	2	0.000	0.000
3 2 3 2 1	2	0.000	0.000
3 2 3 2 2	2	0.347	0.490

Fmax for testing homogeneity of between subjects variances=Not defined

Spindle 262

11-20-1

AMP: 2

N's, means and standard deviations based on dependent variable: LOGNUM

* Indicates statistics are collapsed over this factor

Factors: S G W E R	N	Mean	S.D.
1 1 1 1 1	216	0.227	0.453
1 1 1 1 1	48	0.597	0.354
2 1 1 1 1	108	0.147	0.341
3 1 1 1 1	60	0.076	0.235
1 1 1 1 1	108	0.201	0.374
1 2 1 1 1	108	0.254	0.522
1 1 1 1 1	72	0.192	0.355
1 1 2 1 1	72	0.303	0.575
1 1 3 1 1	72	0.189	0.401
1 1 1 1 1	108	0.265	0.468
1 1 1 2 1	108	0.190	0.437
1 1 1 1 1	108	0.224	0.462
1 1 1 1 2	108	0.231	0.447
1 1 1 1 1	24	0.392	0.429
1 2 1 1 1	24	0.803	0.769
2 1 1 1 1	48	0.205	0.392
2 2 1 1 1	60	0.101	0.289
3 1 1 1 1	36	0.069	0.259
3 2 1 1 1	24	0.087	0.234
1 1 1 1 1	16	0.361	0.476
1 1 2 1 1	16	0.925	0.775
1 1 3 1 1	16	0.509	0.565
2 1 1 1 1	36	0.146	0.308
2 1 2 1 1	36	0.177	0.403
2 1 3 1 1	36	0.119	0.309
3 1 1 1 1	20	0.139	0.284
3 1 2 1 1	20	0.035	0.155
3 1 3 1 1	20	0.055	0.246
1 1 1 1 1	24	0.647	0.530
1 1 1 2 1	24	0.548	0.661
2 1 1 1 1	54	0.197	0.365
2 1 2 1 1	54	0.097	0.210
3 1 1 1 1	30	0.085	0.260
3 1 2 1 1	30	0.069	0.211
1 1 1 1 1	24	0.594	0.546
1 1 1 1 2	24	0.601	0.669
2 1 1 1 1	54	0.138	0.253
2 1 1 2 1	54	0.156	0.320
3 1 1 1 1	30	0.083	0.260
3 1 1 2 1	30	0.069	0.211
1 1 1 1 1	36	0.154	0.292
1 1 2 1 1	36	0.254	0.429
1 1 3 1 1	36	0.196	0.391
1 2 1 1 1	36	0.229	0.405
1 2 2 1 1	36	0.352	0.671
1 2 3 1 1	36	0.180	0.416
1 1 1 1 1	54	0.233	0.380
1 1 1 2 1	54	0.169	0.369
1 2 1 1 1	54	0.297	0.545
1 2 2 1 1	54	0.210	0.499
1 1 1 1 1	54	0.195	0.360
1 1 1 2 1	54	0.208	0.371
1 2 1 1 1	54	0.253	0.534
1 2 2 1 1	54	0.254	0.514
1 1 1 1 1	36	0.249	0.411

1 1 1 2 1	36	0.133	0.276
1 1 2 1 1	36	0.126	0.257
1 1 2 2 1	36	0.146	0.211
1 1 3 1 1	36	0.137	0.159
1 1 3 2 1	36	0.068	0.208
1 1 1 1 1	36	0.185	0.301
1 1 1 1 2	36	0.199	0.378
1 1 2 1 1	36	0.146	0.323
1 1 2 2 2	36	0.260	0.524
1 1 3 1 1	36	0.141	0.362
1 1 3 2 2	36	0.224	0.437
1 1 1 1 1	54	0.243	0.427
1 1 1 1 2	54	0.288	0.510
1 1 1 2 1	54	0.205	0.498
1 1 1 2 2	54	0.174	0.370
1 1 1 1 1	8	0.260	0.259
1 1 2 1 1	8	0.571	0.379
1 1 3 1 1	8	0.347	0.524
1 2 1 1 1	8	0.461	0.577
1 2 2 1 1	8	1.275	0.928
1 2 3 1 1	8	0.672	0.587
2 1 1 1 1	16	0.130	0.279
2 1 2 1 1	16	0.285	0.505
2 1 3 1 1	16	0.199	0.367
2 2 1 1 1	20	0.159	0.336
2 2 2 1 1	20	0.090	0.283
2 2 3 1 1	20	0.053	0.246
3 1 1 1 1	12	0.116	0.270
3 1 2 1 1	12	0.000	0.000
3 1 3 1 1	12	0.092	0.317
3 2 1 1 1	8	0.173	0.321
3 2 2 1 1	8	0.087	0.245
3 2 3 1 1	8	0.000	0.000
1 1 1 1 1	12	0.462	0.451
1 1 1 2 1	12	0.323	0.413
1 2 1 1 1	12	0.832	0.776
1 2 1 2 1	12	0.774	0.794
2 1 1 1 1	24	0.219	0.357
2 1 1 2 1	24	0.190	0.431
2 2 1 1 1	30	0.179	0.376
2 2 1 2 1	30	0.023	0.127
3 1 1 1 1	18	0.100	0.298
3 1 1 2 1	18	0.039	0.163
3 2 1 1 1	12	0.058	0.230
3 2 1 2 1	12	0.116	0.270
1 1 1 1 1	12	0.404	0.357
1 1 1 1 2	12	0.380	0.508
1 2 1 1 1	12	0.783	0.316
1 2 1 1 2	12	0.822	0.755
2 1 1 1 1	24	0.161	0.419
2 1 1 1 2	24	0.248	0.367
2 2 1 1 1	30	0.119	0.319
2 2 1 1 2	30	0.083	0.260
3 1 1 1 1	18	0.100	0.298
3 1 1 1 2	18	0.039	0.163
3 2 1 1 1	12	0.058	0.200
3 2 1 1 2	12	0.116	0.270
1 1 1 1 1	8	0.374	0.589
1 1 1 2 1	8	0.347	0.371
1 1 2 1 1	8	0.858	0.805
1 1 2 2 1	8	0.987	0.793
1 1 3 1 1	8	0.708	0.503
1 1 3 2 1	8	0.311	0.580
2 1 1 1 1	18	0.254	0.380
2 1 1 2 1	18	0.039	0.163
2 1 2 1 1	18	0.138	0.329

2 1 2 2 1	18	0.215	0.475
2 1 2 1 1	18	0.199	0.525
2 1 2 2 1	18	0.000	0.163
3 1 1 1 1	10	0.109	0.292
3 1 1 2 1	10	0.139	0.292
3 1 2 1 1	10	0.000	0.000
3 1 2 2 1	10	0.069	0.219
3 1 3 1 1	10	0.110	0.347
3 1 3 2 1	10	0.000	0.000
1 1 1 1 1	8	0.347	0.571
1 1 1 1 2	8	0.374	0.589
1 1 2 1 1	8	1.074	0.758
1 1 2 1 2	8	0.772	0.813
1 1 3 1 1	6	0.361	0.514
1 1 3 1 2	8	0.357	0.514
2 1 1 1 1	18	0.138	0.328
2 1 1 1 2	18	0.154	0.297
2 1 2 1 1	18	0.215	0.474
2 1 2 1 2	18	0.138	0.328
2 1 3 1 1	18	0.061	0.259
2 1 3 1 2	18	0.177	0.350
3 1 1 1 1	10	0.109	0.292
3 1 1 1 2	10	0.139	0.292
3 1 2 1 1	10	0.000	0.000
3 1 2 1 2	10	0.069	0.219
3 1 3 1 1	10	0.110	0.347
3 1 3 1 2	10	0.000	0.000
1 1 1 1 1	12	0.530	0.560
1 1 1 1 2	12	0.764	0.735
1 1 1 2 1	12	0.658	0.741
1 1 1 2 2	12	0.438	0.581
2 1 1 1 1	27	0.158	0.350
2 1 1 1 2	27	0.235	0.582
2 1 1 2 1	27	0.118	0.362
2 1 1 2 2	27	0.077	0.222
3 1 1 1 1	15	0.166	0.354
3 1 1 1 2	15	0.000	0.000
3 1 1 2 1	15	0.000	0.000
3 1 1 2 2	15	0.109	0.297
1 1 1 1 1	18	0.193	0.319
1 1 1 2 1	18	0.116	0.266
1 1 2 1 1	18	0.154	0.297
1 1 2 2 1	18	0.353	0.519
1 1 3 1 1	18	0.353	0.486
1 1 3 2 1	19	0.039	0.163
1 2 1 1 1	18	0.304	0.488
1 2 1 2 1	18	0.154	0.297
1 2 2 1 1	18	0.356	0.698
1 2 2 2 1	18	0.339	0.705
1 2 3 1 1	18	0.222	0.415
1 2 3 2 1	18	0.138	0.405
1 1 1 1 1	18	0.154	0.297
1 1 1 1 2	18	0.154	0.297
1 1 2 1 1	18	0.301	0.493
1 1 2 1 2	18	0.177	0.350
1 1 3 1 1	18	0.100	0.298
1 1 3 1 2	18	0.292	0.455
1 2 1 1 1	18	0.215	0.568
1 2 1 1 2	18	0.243	0.450
1 2 2 1 1	18	0.362	0.745
1 2 2 1 2	18	0.343	0.654
1 2 3 1 1	18	0.183	0.421
1 2 3 1 2	18	0.177	0.423
1 1 1 1 1	27	0.195	0.343
1 1 1 1 2	27	0.272	0.416
1 1 1 2 1	27	0.195	0.420

1 1 1 1 1	27	0.145	0.113
1 2 1 1 1	27	0.231	0.149
1 2 1 1 2	27	0.303	0.597
1 2 1 2 1	27	0.215	0.573
1 2 1 2 2	27	0.205	0.422
1 1 1 1 1	18	0.292	0.388
1 1 1 1 2	18	0.205	0.439
1 1 1 2 1	18	0.077	0.224
1 1 1 2 2	18	0.193	0.319
1 1 2 1 1	18	0.215	0.474
1 1 2 1 2	18	0.304	0.608
1 1 2 2 1	18	0.477	0.733
1 1 2 2 2	18	0.215	0.438
1 1 3 1 1	18	0.222	0.435
1 1 3 1 2	18	0.353	0.466
1 1 3 2 1	18	0.361	0.359
1 1 3 2 2	18	0.116	0.357
1 1 1 1 1	4	0.173	0.347
1 1 1 2 1	4	0.347	0.400
1 1 2 1 1	4	0.520	0.347
1 1 2 2 1	4	0.621	0.456
1 1 3 1 1	4	0.693	0.566
1 1 3 2 1	4	0.000	0.000
1 2 1 1 1	4	0.576	0.763
1 2 1 2 1	4	0.347	0.400
1 2 2 1 1	4	1.197	1.043
1 2 2 2 1	4	1.353	0.951
1 2 3 1 1	4	0.723	0.518
1 2 3 2 1	4	0.621	0.727
2 1 1 1 1	8	0.260	0.359
2 1 1 2 1	8	0.000	0.000
2 1 2 1 1	8	0.097	0.245
2 1 2 2 1	8	0.484	0.626
2 1 3 1 1	8	0.311	0.447
2 1 3 2 1	8	0.087	0.245
2 2 1 1 1	10	0.248	0.415
2 2 1 2 1	10	0.069	0.219
2 2 2 1 1	10	0.179	0.370
2 2 2 2 1	10	0.000	0.000
2 2 3 1 1	10	0.110	0.347
2 2 3 2 1	10	0.000	0.000
3 1 1 1 1	6	0.116	0.283
3 1 1 2 1	6	0.116	0.283
3 1 2 1 1	6	0.000	0.000
3 1 2 2 1	6	0.000	0.000
3 1 3 1 1	6	0.183	0.449
3 1 3 2 1	6	0.000	0.000
3 2 1 1 1	4	0.173	0.347
3 2 1 2 1	4	0.173	0.347
3 2 2 1 1	4	0.000	0.000
3 2 2 2 1	4	0.173	0.347
3 2 3 1 1	4	0.000	0.000
3 2 3 2 1	4	0.000	0.000
1 1 1 1 1	4	0.347	0.400
1 1 1 1 2	4	0.173	0.347
1 1 2 1 1	4	0.693	0.000
1 1 2 1 2	4	0.448	0.543
1 1 3 1 1	4	0.173	0.347
1 1 3 1 2	4	0.520	0.664
1 2 1 1 1	4	0.347	0.400
1 2 1 1 2	4	0.576	0.763
1 2 2 1 1	4	1.454	0.977
1 2 2 1 2	4	1.096	0.984
1 2 3 1 1	4	0.549	0.634
1 2 3 1 2	4	0.795	0.601
2 1 1 1 1	8	0.087	0.245

2 1 1 1 2	8	0.173	0.321
2 1 2 1 1	8	0.377	0.543
2 1 2 1 2	8	0.173	0.321
2 1 3 1 1	9	0.000	0.000
2 1 3 1 2	9	0.397	0.445
2 2 1 1 1	10	0.179	0.390
2 2 1 1 2	10	0.139	0.292
2 2 2 1 1	10	0.069	0.219
2 2 2 1 2	10	0.110	0.347
2 2 3 1 1	10	0.110	0.347
2 2 3 1 2	10	0.000	0.000
3 1 1 1 1	6	0.116	0.233
3 1 1 1 2	6	0.116	0.233
3 1 2 1 1	6	0.000	0.000
3 1 2 1 2	6	0.000	0.000
3 1 3 1 1	6	0.193	0.449
3 1 3 1 2	6	0.000	0.000
3 2 1 1 1	4	0.173	0.347
3 2 1 1 2	4	0.173	0.347
3 2 2 1 1	4	0.000	0.000
3 2 2 1 2	4	0.173	0.347
3 2 3 1 1	4	0.000	0.000
3 2 3 1 2	4	0.000	0.000
1 1 1 1 1	6	0.462	0.358
1 1 1 1 2	6	0.462	0.566
1 1 1 2 1	6	0.347	0.380
1 1 1 2 2	6	0.299	0.480
1 2 1 1 1	6	0.597	0.743
1 2 1 1 2	6	1.066	0.805
1 2 1 2 1	6	0.970	0.912
1 2 1 2 2	6	0.578	0.651
2 1 1 1 1	12	0.058	0.200
2 1 1 1 2	12	0.380	0.413
2 1 1 2 1	12	0.265	0.550
2 1 1 2 2	12	0.116	0.270
2 2 1 1 1	15	0.259	0.424
2 2 1 1 2	15	0.119	0.324
2 2 1 2 1	15	0.000	0.000
2 2 1 2 2	15	0.046	0.179
3 1 1 1 1	9	0.199	0.408
3 1 1 1 2	9	0.000	0.000
3 1 1 2 1	9	0.000	0.000
3 1 1 2 2	9	0.077	0.231
3 2 1 1 1	6	0.116	0.233
3 2 1 1 2	6	0.000	0.000
3 2 1 2 1	6	0.000	0.000
3 2 1 2 2	6	0.231	0.358
1 1 1 1 1	4	0.347	0.400
1 1 1 1 2	4	0.402	0.805
1 1 1 2 1	4	0.347	0.400
1 1 1 2 2	4	0.347	0.400
1 1 2 1 1	4	0.795	0.741
1 1 2 1 2	4	0.922	0.977
1 1 2 2 1	4	1.353	0.764
1 1 2 2 2	4	0.621	0.727
1 1 3 1 1	4	0.448	0.543
1 1 3 1 2	4	0.968	0.338
1 1 3 2 1	4	0.275	0.549
1 1 3 2 2	4	0.347	0.693
2 1 1 1 1	9	0.276	0.430
2 1 1 1 2	9	0.231	0.347
2 1 1 2 1	9	0.000	0.000
2 1 1 2 2	9	0.077	0.231
2 1 2 1 1	9	0.077	0.231
2 1 2 1 2	9	0.199	0.408
2 1 2 2 1	9	0.353	0.617

2 1 1 1 1	9	0.077	0.231
2 1 3 1 1	9	0.122	0.355
2 1 3 1 2	9	0.276	0.476
2 1 3 2 1	9	0.000	0.000
2 1 3 2 2	9	0.077	0.231
3 1 1 1 1	5	0.277	0.320
3 1 1 1 2	5	0.000	0.000
3 1 1 2 1	5	0.000	0.000
3 1 1 2 2	5	0.277	0.320
3 1 2 1 1	5	0.000	0.000
3 1 2 1 2	5	0.000	0.000
3 1 2 2 1	5	0.000	0.000
3 1 2 2 2	5	0.139	0.310
3 1 3 1 1	5	0.220	0.491
3 1 3 1 2	5	0.000	0.000
3 1 3 2 1	5	0.000	0.000
3 1 3 2 2	5	0.000	0.000
1 1 1 1 1	9	0.231	0.347
1 1 1 1 2	9	0.154	0.306
1 1 1 2 1	9	0.077	0.231
1 1 1 2 2	9	0.154	0.306
1 1 2 1 1	9	0.154	0.306
1 1 2 1 2	9	0.154	0.306
1 1 2 2 1	9	0.507	0.593
1 1 2 2 2	9	0.199	0.408
1 1 3 1 1	9	0.199	0.408
1 1 3 1 2	9	0.507	0.531
1 1 3 2 1	9	0.000	0.000
1 1 3 2 2	9	0.077	0.231
1 2 1 1 1	9	0.353	0.437
1 2 1 1 2	9	0.256	0.557
1 2 1 2 1	9	0.077	0.231
1 2 1 2 2	9	0.231	0.347
1 2 2 1 1	9	0.276	0.615
1 2 2 1 2	9	0.455	0.691
1 2 2 2 1	9	0.447	0.589
1 2 2 2 2	9	0.231	0.490
1 2 3 1 1	9	0.244	0.424
1 2 3 1 2	9	0.199	0.408
1 2 3 2 1	9	0.122	0.366
1 2 3 2 2	9	0.154	0.462
1 1 1 1 1	2	0.347	0.490
1 1 1 1 2	2	0.000	0.000
1 1 1 2 1	2	0.347	0.490
1 1 1 2 2	2	0.347	0.490
1 1 2 1 1	2	0.693	0.000
1 1 2 1 2	2	0.347	0.490
1 1 2 2 1	2	0.693	0.000
1 1 2 2 2	2	0.549	0.777
1 1 3 1 1	2	0.347	0.490
1 1 3 1 2	2	1.040	0.490
1 1 3 2 1	2	0.000	0.000
1 1 3 2 2	2	0.000	0.000
1 2 1 1 1	2	0.347	0.490
1 2 1 1 2	2	0.805	1.138
1 2 1 2 1	2	0.347	0.490
1 2 1 2 2	2	0.347	0.490
1 2 2 1 1	2	0.896	1.267
1 2 2 1 2	2	1.498	1.138
1 2 2 2 1	2	2.013	0.094
1 2 2 2 2	2	0.693	0.990
1 2 3 1 1	2	0.549	0.777
1 2 3 1 2	2	0.896	0.287
1 2 3 2 1	2	0.549	0.777
1 2 3 2 2	2	0.693	0.980
2 1 1 1 1	4	0.173	0.247

2 1 1 1 2	4	0.347	0.400
2 1 1 2 1	4	0.000	0.000
2 1 1 2 2	4	0.000	0.000
2 1 2 1 1	4	0.000	0.000
2 1 2 1 2	4	0.173	0.347
2 1 2 2 1	4	0.795	0.741
2 1 2 2 2	4	0.173	0.347
2 1 3 1 1	4	0.000	0.000
2 1 3 1 2	4	0.621	0.456
2 1 3 2 1	4	0.000	0.000
2 1 3 2 2	4	0.173	0.347
2 2 1 1 1	5	0.358	0.511
2 2 1 1 2	5	0.139	0.310
2 2 1 2 1	5	0.000	0.000
2 2 1 2 2	5	0.139	0.310
2 2 2 1 1	5	0.139	0.310
2 2 2 1 2	5	0.220	0.491
2 2 2 2 1	5	0.000	0.000
2 2 2 2 2	5	0.000	0.000
2 2 3 1 1	5	0.220	0.491
2 2 3 1 2	5	0.000	0.000
2 2 3 2 1	5	0.000	0.000
2 2 3 2 2	5	0.000	0.000
3 1 1 1 1	3	0.231	0.400
3 1 1 1 2	3	0.000	0.000
3 1 1 2 1	3	0.000	0.000
3 1 1 2 2	3	0.231	0.400
3 1 2 1 1	3	0.000	0.000
3 1 2 1 2	3	0.000	0.000
3 1 2 2 1	3	0.000	0.000
3 1 2 2 2	3	0.000	0.000
3 1 3 1 1	3	0.366	0.534
3 1 3 1 2	3	0.000	0.000
3 1 3 2 1	3	0.000	0.000
3 1 3 2 2	3	0.000	0.000
3 2 1 1 1	2	0.347	0.490
3 2 1 1 2	2	0.000	0.000
3 2 1 2 1	2	0.000	0.000
3 2 1 2 2	2	0.347	0.490
3 2 2 1 1	2	0.000	0.000
3 2 2 1 2	2	0.000	0.000
3 2 2 2 1	2	0.000	0.000
3 2 2 2 2	2	0.347	0.490
3 2 3 1 1	2	0.000	0.000
3 2 3 1 2	2	0.000	0.000
3 2 3 2 1	2	0.000	0.000
3 2 3 2 2	2	0.000	0.000

Fmax for testing homogeneity of between subjects variances=Not defined

Appendix 86C
 R11/LOC=2
 AMP=1

N's, means and standard deviations based on dependent variable: LOGNUM

* Indicates statistics are collapsed over this factor

Factors: S G W E R	N	Mean	S.D.
1 1 1 1 1	204	0.300	0.599
1 1 1 1 1	96	0.552	0.750
2 1 1 1 1	48	0.095	0.260
3 1 1 1 1	60	0.060	0.231
1 1 1 1 1	120	0.346	0.687
1 2 1 1 1	94	0.234	0.441
1 1 1 1 1	68	0.304	0.531
1 1 2 1 1	68	0.369	0.605
1 1 3 1 1	68	0.227	0.654
1 1 1 1 1	102	0.317	0.685
1 1 1 2 1	102	0.283	0.500
1 1 1 1 1	102	0.207	0.408
1 1 1 2 1	102	0.393	0.733
1 1 1 1 1	48	0.738	0.908
1 2 1 1 1	48	0.367	0.522
2 1 1 1 1	24	0.104	0.288
2 2 1 1 1	24	0.087	0.234
3 1 1 1 1	48	0.075	0.257
3 2 1 1 1	12	0.000	0.000
1 1 1 1 1	32	0.535	0.840
1 1 2 1 1	32	0.662	0.752
1 1 3 1 1	32	0.461	0.896
2 1 1 1 1	16	0.087	0.237
2 1 2 1 1	16	0.155	0.345
2 1 3 1 1	16	0.043	0.173
3 1 1 1 1	20	0.110	0.338
3 1 2 1 1	20	0.069	0.213
3 1 3 1 1	20	0.000	0.000
1 1 1 1 1	48	0.599	0.889
1 1 1 2 1	48	0.506	0.611
2 1 1 1 1	24	0.058	0.196
2 1 1 2 1	24	0.132	0.311
3 1 1 1 1	30	0.073	0.279
3 1 1 2 1	30	0.046	0.176
1 1 1 1 1	48	0.412	0.507
1 1 1 2 1	48	0.693	0.933
2 1 1 1 1	24	0.058	0.196
2 1 1 2 1	24	0.132	0.311
3 1 1 1 1	30	0.000	0.000
3 1 1 2 1	30	0.119	0.319
1 1 1 1 1	40	0.293	0.563
1 1 2 1 1	40	0.410	0.663
1 1 3 1 1	40	0.334	0.821
1 2 1 1 1	28	0.320	0.492
1 2 2 1 1	28	0.309	0.517
1 2 3 1 1	28	0.074	0.218
1 1 1 1 1	60	0.385	0.830
1 1 1 2 1	60	0.307	0.509
1 2 1 1 1	42	0.220	0.387
1 2 1 2 1	42	0.249	0.492
1 1 1 1 1	60	0.205	0.416
1 1 1 2 1	60	0.486	0.859
1 2 1 1 1	42	0.211	0.400
1 2 1 2 1	42	0.258	0.481
1 1 1 1 1	34	0.393	0.639

1 1 1 2 1	34	0.216	0.358
1 1 2 1 1	34	0.218	0.350
1 1 2 2 1	34	0.319	0.345
1 1 3 1 1	34	0.340	0.355
1 1 3 2 1	34	0.114	0.333
1 1 1 1 1	34	0.260	0.431
1 1 1 1 2	34	0.349	0.619
1 1 2 1 1	34	0.240	0.426
1 1 2 1 2	34	0.498	0.727
1 1 3 1 1	34	0.122	0.361
1 1 3 1 2	34	0.332	0.846
1 1 1 1 1	51	0.206	0.398
1 1 1 1 2	51	0.428	0.875
1 1 1 2 1	51	0.208	0.421
1 1 1 2 2	51	0.357	0.564
1 1 1 1 1	16	0.509	0.744
1 1 2 1 1	16	0.870	0.801
1 1 3 1 1	16	0.834	1.142
1 2 1 1 1	16	0.560	0.540
1 2 2 1 1	16	0.455	0.612
1 2 3 1 1	16	0.087	0.237
2 1 1 1 1	8	0.173	0.321
2 1 2 1 1	8	0.137	0.388
2 1 3 1 1	8	0.000	0.000
2 2 1 1 1	8	0.000	0.000
2 2 2 1 1	8	0.173	0.321
2 2 3 1 1	8	0.087	0.245
3 1 1 1 1	16	0.137	0.375
3 1 2 1 1	16	0.087	0.237
3 1 3 1 1	16	0.000	0.000
3 2 1 1 1	4	0.000	0.000
3 2 2 1 1	4	0.000	0.000
3 2 3 1 1	4	0.000	0.000
1 1 1 1 1	24	0.841	1.135
1 1 1 2 1	24	0.634	0.612
1 2 1 1 1	24	0.356	0.450
1 2 1 2 1	24	0.378	0.595
2 1 1 1 1	12	0.058	0.200
2 1 1 2 1	12	0.149	0.359
2 2 1 1 1	12	0.058	0.200
2 2 1 2 1	12	0.116	0.270
3 1 1 1 1	24	0.092	0.310
3 1 1 2 1	24	0.058	0.196
3 2 1 1 1	6	0.000	0.000
3 2 1 2 1	6	0.000	0.000
1 1 1 1 1	24	0.484	0.538
1 1 1 1 2	24	0.992	1.123
1 2 1 1 1	24	0.339	0.475
1 2 1 1 2	24	0.395	0.575
2 1 1 1 1	12	0.058	0.200
2 1 1 1 2	12	0.149	0.359
2 2 1 1 1	12	0.058	0.200
2 2 1 1 2	12	0.116	0.270
3 1 1 1 1	24	0.000	0.000
3 1 1 1 2	24	0.149	0.351
3 2 1 1 1	6	0.000	0.000
3 2 1 1 2	6	0.000	0.000
1 1 1 1 1	16	0.654	0.774
1 1 1 2 1	16	0.415	0.466
1 1 2 1 1	16	0.464	0.705
1 1 2 2 1	16	0.861	0.725
1 1 3 1 1	16	0.679	1.161
1 1 3 2 1	16	0.242	0.458
2 1 1 1 1	8	0.087	0.245
2 1 1 2 1	8	0.087	0.245
2 1 2 1 1	8	0.000	0.000

2 2 2 2	8	0.311	0.447
2 2 3 1	8	0.087	0.245
2 2 3 2	8	0.000	0.000
3 1 1 1	10	0.220	0.463
3 1 1 2	10	0.000	0.000
3 1 2 1	10	0.000	0.000
3 1 2 2	10	0.139	0.292
3 1 3 1	10	0.000	0.000
3 1 3 2	10	0.000	0.000
1 1 1 1	16	0.509	0.503
1 1 1 2	16	0.560	0.769
1 1 2 1	16	0.509	0.503
1 1 2 2	16	0.815	0.397
1 1 3 1	16	0.217	0.488
1 1 3 2	16	0.705	1.138
2 1 1 1	8	0.087	0.245
2 1 1 2	8	0.087	0.245
2 1 2 1	8	0.000	0.000
2 1 2 2	8	0.311	0.447
2 1 3 1	8	0.087	0.245
2 1 3 2	8	0.000	0.000
3 1 1 1	10	0.000	0.000
3 1 1 2	10	0.220	0.463
3 1 2 1	10	0.000	0.000
3 1 2 2	10	0.139	0.292
3 1 3 1	10	0.000	0.000
3 1 3 2	10	0.000	0.000
1 1 1 1	24	0.380	0.496
1 1 1 2	24	0.817	1.126
1 1 2 1	24	0.443	0.526
1 1 2 2	24	0.569	0.692
2 1 1 1	12	0.116	0.270
2 1 1 2	12	0.000	0.000
2 1 2 1	12	0.000	0.000
2 1 2 2	12	0.263	0.405
3 1 1 1	15	0.000	0.000
3 1 1 2	15	0.146	0.387
3 1 2 1	15	0.000	0.000
3 1 2 2	15	0.092	0.244
1 1 1 1	20	0.413	0.725
1 1 1 2	20	0.173	0.308
1 1 2 1	20	0.267	0.650
1 1 2 2	20	0.553	0.661
1 1 3 1	20	0.474	1.079
1 1 3 2	20	0.194	0.419
1 2 1 1	14	0.363	0.516
1 2 1 2	14	0.277	0.482
1 2 2 1	14	0.149	0.295
1 2 2 2	14	0.470	0.542
1 2 3 1	14	0.149	0.295
1 2 3 2	14	0.000	0.000
1 1 1 1	20	0.194	0.354
1 1 1 2	20	0.393	0.711
1 1 2 1	20	0.248	0.462
1 1 2 2	20	0.572	0.797
1 1 3 1	20	0.173	0.443
1 1 3 2	20	0.494	1.064
1 2 1 1	14	0.353	0.521
1 2 1 2	14	0.285	0.478
1 2 2 1	14	0.227	0.385
1 2 2 2	14	0.391	0.626
1 2 3 1	14	0.050	0.185
1 2 3 2	14	0.099	0.252
1 1 1 1	30	0.198	0.428
1 1 1 2	30	0.571	1.070
1 1 2 1	30	0.212	0.412

1 1 1 2 2	36	0.402	0.582
1 2 1 1 1	21	0.217	0.362
1 2 1 1 2	21	0.223	0.421
1 2 1 2 1	21	0.204	0.444
1 2 1 2 2	21	0.294	0.543
1 1 1 1 1	17	0.211	0.405
1 1 1 1 2	17	0.375	0.780
1 1 1 2 1	17	0.309	0.463
1 1 1 2 2	17	0.122	0.272
1 1 2 1 1	17	0.245	0.420
1 1 2 1 2	17	0.192	0.634
1 1 2 2 1	17	0.235	0.445
1 1 2 2 2	17	0.803	0.898
1 1 3 1 1	17	0.163	0.390
1 1 3 1 2	17	0.517	1.136
1 1 3 2 1	17	0.082	0.336
1 1 3 2 2	17	0.146	0.336
1 1 1 1 1	8	0.672	0.994
1 1 1 1 2	8	0.347	0.371
1 1 1 2 1	8	0.667	0.918
1 1 1 2 2	8	1.073	0.661
1 1 3 1 1	8	1.185	1.483
1 1 3 2 1	8	0.484	0.563
1 2 1 1 1	8	0.636	0.544
1 2 1 1 2	8	0.484	0.563
1 2 1 2 1	8	0.260	0.359
1 2 1 2 2	8	0.449	0.767
1 2 3 1 1	8	0.173	0.321
1 2 3 2 1	8	0.000	0.000
2 1 1 1 1	4	0.173	0.347
2 1 1 1 2	4	0.173	0.347
2 1 1 2 1	4	0.000	0.000
2 1 1 2 2	4	0.275	0.549
2 1 3 1 1	4	0.000	0.000
2 1 3 2 1	4	0.000	0.000
2 2 1 1 1	4	0.000	0.000
2 2 1 1 2	4	0.000	0.000
2 2 1 2 1	4	0.000	0.000
2 2 1 2 2	4	0.000	0.000
2 2 2 1 1	4	0.000	0.000
2 2 2 1 2	4	0.347	0.400
2 2 3 1 1	4	0.173	0.347
2 2 3 2 1	4	0.000	0.000
3 1 1 1 1	8	0.275	0.509
3 1 1 1 2	8	0.000	0.000
3 1 1 2 1	8	0.000	0.000
3 1 1 2 2	8	0.173	0.321
3 1 3 1 1	8	0.000	0.000
3 1 3 2 1	8	0.000	0.000
3 2 1 1 1	2	0.000	0.000
3 2 1 1 2	2	0.000	0.000
3 2 2 1 1	2	0.000	0.000
3 2 2 1 2	2	0.000	0.000
3 2 3 1 1	2	0.000	0.000
3 2 3 2 1	2	0.000	0.000
1 1 1 1 1	8	0.397	0.445
1 1 1 1 2	8	0.621	0.979
1 1 2 1 1	8	0.621	0.562
1 1 2 1 2	8	1.119	0.957
1 1 3 1 1	8	0.433	0.633
1 1 3 1 2	8	1.236	1.423
1 2 1 1 1	8	0.621	0.562
1 2 1 1 2	8	0.499	0.549
1 2 2 1 1	8	0.397	0.445
1 2 2 1 2	8	0.512	0.773
1 2 3 1 1	8	0.000	0.000
1 2 3 1 2	8	0.173	0.321
2 1 1 1 1	4	0.173	0.347

2 1 1 1 2	4	0.175	0.547
2 1 2 1 1	4	0.000	0.000
2 1 2 1 2	4	0.275	0.549
2 1 3 1 1	4	0.000	0.000
2 1 3 1 2	4	0.000	0.000
2 2 1 1 1	4	0.000	0.000
2 2 1 1 2	4	0.000	0.000
2 2 2 1 1	4	0.000	0.000
2 2 2 1 2	4	0.347	0.400
2 2 3 1 1	4	0.173	0.347
2 2 3 1 2	4	0.000	0.000
3 1 1 1 1	8	0.000	0.000
3 1 1 1 2	8	0.275	0.509
3 1 2 1 1	8	0.000	0.000
3 1 2 1 2	8	0.173	0.321
3 1 3 1 1	8	0.000	0.000
3 1 3 1 2	8	0.000	0.000
3 2 1 1 1	2	0.000	0.000
3 2 1 1 2	2	0.000	0.000
3 2 2 1 1	2	0.000	0.000
3 2 2 1 2	2	0.000	0.000
3 2 3 1 1	2	0.000	0.000
3 2 3 1 2	2	0.000	0.000
1 1 1 1 1	12	0.438	0.581
1 1 1 1 2	12	1.245	1.415
1 1 1 2 1	12	0.530	0.513
1 1 1 2 2	12	0.739	0.705
1 2 1 1 1	12	0.323	0.413
1 2 1 1 2	12	0.390	0.500
1 2 1 2 1	12	0.356	0.547
1 2 1 2 2	12	0.399	0.664
2 1 1 1 1	6	0.116	0.283
2 1 1 1 2	6	0.000	0.000
2 1 1 2 1	6	0.000	0.000
2 1 1 2 2	6	0.299	0.480
2 2 1 1 1	6	0.116	0.283
2 2 1 1 2	6	0.000	0.000
2 2 1 2 1	6	0.000	0.000
2 2 1 2 2	6	0.231	0.358
3 1 1 1 1	12	0.000	0.000
3 1 1 1 2	12	0.183	0.428
3 1 1 2 1	12	0.000	0.000
3 1 1 2 2	12	0.116	0.270
3 2 1 1 1	3	0.000	0.000
3 2 1 1 2	3	0.000	0.000
3 2 1 2 1	3	0.000	0.000
3 2 1 2 2	3	0.000	0.000
1 1 1 1 1	8	0.361	0.514
1 1 1 1 2	8	0.947	0.908
1 1 1 2 1	8	0.657	0.477
1 1 1 2 2	8	0.173	0.321
1 1 2 1 1	8	0.520	0.490
1 1 2 1 2	8	0.407	0.905
1 1 2 2 1	8	0.499	0.549
1 1 2 2 2	8	1.224	0.725
1 1 3 1 1	8	0.260	0.516
1 1 3 1 2	8	1.098	1.490
1 1 3 2 1	8	0.173	0.490
1 1 3 2 2	8	0.311	0.447
2 1 1 1 1	4	0.173	0.347
2 1 1 1 2	4	0.000	0.000
2 1 1 2 1	4	0.000	0.000
2 1 1 2 2	4	0.173	0.347
2 1 2 1 1	4	0.000	0.000
2 1 2 1 2	4	0.000	0.000
2 1 2 2 1	4	0.000	0.000

2 1 2 2 2	4	0.621	0.456
2 1 3 1 1	4	0.173	0.747
2 1 3 1 2	4	0.000	0.000
2 1 3 2 1	4	0.000	0.000
2 1 3 2 2	4	0.000	0.000
3 1 1 1 1	5	0.000	0.000
3 1 1 1 2	5	0.439	0.602
3 1 1 2 1	5	0.000	0.000
3 1 1 2 2	5	0.000	0.000
3 1 2 1 1	5	0.000	0.000
3 1 2 1 2	5	0.000	0.000
3 1 2 2 1	5	0.000	0.000
3 1 2 2 2	5	0.277	0.780
3 1 3 1 1	5	0.000	0.000
3 1 3 1 2	5	0.000	0.000
3 1 3 2 1	5	0.000	0.000
3 1 3 2 2	5	0.000	0.000
1 1 1 1 1	10	0.179	0.390
1 1 1 1 2	10	0.647	0.915
1 1 1 2 1	10	0.208	0.335
1 1 1 2 2	10	0.139	0.292
1 1 2 1 1	10	0.208	0.468
1 1 2 1 2	10	0.326	0.816
1 1 2 2 1	10	0.289	0.478
1 1 2 2 2	10	0.818	0.734
1 1 3 1 1	10	0.208	0.468
1 1 3 1 2	10	0.740	1.443
1 1 3 2 1	10	0.139	0.438
1 1 3 2 2	10	0.248	0.415
1 2 1 1 1	7	0.256	0.453
1 2 1 1 2	7	0.471	0.587
1 2 1 2 1	7	0.454	0.601
1 2 1 2 2	7	0.099	0.262
1 2 2 1 1	7	0.297	0.371
1 2 2 1 2	7	0.000	0.000
1 2 2 2 1	7	0.157	0.415
1 2 2 2 2	7	0.783	0.701
1 2 3 1 1	7	0.099	0.262
1 2 3 1 2	7	0.198	0.338
1 2 3 2 1	7	0.000	0.000
1 2 3 2 2	7	0.000	0.000
1 1 1 1 1	4	0.275	0.549
1 1 1 1 2	4	1.049	1.257
1 1 1 2 1	4	0.520	0.347
1 1 1 2 2	4	0.173	0.347
1 1 2 1 1	4	0.520	0.664
1 1 2 1 2	4	0.815	1.212
1 1 2 2 1	4	0.723	0.518
1 1 2 2 2	4	1.423	0.650
1 1 3 1 1	4	0.520	0.664
1 1 3 1 2	4	1.850	1.874
1 1 3 2 1	4	0.347	0.693
1 1 3 2 2	4	0.621	0.456
1 2 1 1 1	4	0.448	0.543
1 2 1 1 2	4	0.824	0.549
1 2 1 2 1	4	0.795	0.601
1 2 1 2 2	4	0.173	0.347
1 2 2 1 1	4	0.520	0.347
1 2 2 1 2	4	0.000	0.000
1 2 2 2 1	4	0.275	0.549
1 2 2 2 2	4	1.024	0.835
1 2 3 1 1	4	0.000	0.000
1 2 3 1 2	4	0.347	0.400
1 2 3 2 1	4	0.000	0.000
1 2 3 2 2	4	0.000	0.000
2 1 1 1 1	2	0.347	0.450

2 1 1 1 2	2	0.000	0.000
2 1 1 2 1	2	0.000	0.000
2 1 1 2 2	2	0.347	0.490
2 1 2 1 1	2	0.000	0.000
2 1 2 1 2	2	0.000	0.000
2 1 2 2 1	2	0.000	0.000
2 1 2 2 2	2	0.549	0.777
2 1 3 1 1	2	0.000	0.000
2 1 3 1 2	2	0.000	0.000
2 1 3 2 1	2	0.000	0.000
2 1 3 2 2	2	0.000	0.000
2 2 1 1 1	2	0.000	0.000
2 2 1 1 2	2	0.000	0.000
2 2 1 2 1	2	0.000	0.000
2 2 1 2 2	2	0.000	0.000
2 2 2 1 1	2	0.000	0.000
2 2 2 1 2	2	0.000	0.000
2 2 2 2 1	2	0.000	0.000
2 2 2 2 2	2	0.693	0.000
2 2 3 1 1	2	0.347	0.490
2 2 3 1 2	2	0.000	0.000
2 2 3 2 1	2	0.000	0.000
2 2 3 2 2	2	0.000	0.000
3 1 1 1 1	4	0.000	0.000
3 1 1 1 2	4	0.549	0.634
3 1 1 2 1	4	0.000	0.000
3 1 1 2 2	4	0.000	0.000
3 1 2 1 1	4	0.000	0.000
3 1 2 1 2	4	0.000	0.000
3 1 2 2 1	4	0.000	0.000
3 1 2 2 2	4	0.347	0.490
3 1 3 1 1	4	0.000	0.000
3 1 3 1 2	4	0.000	0.000
3 1 3 2 1	4	0.000	0.000
3 1 3 2 2	4	0.000	0.000
3 2 1 1 1	1	0.000	0.000
3 2 1 1 2	1	0.000	0.000
3 2 1 2 1	1	0.000	0.000
3 2 1 2 2	1	0.000	0.000
3 2 2 1 1	1	0.000	0.000
3 2 2 1 2	1	0.000	0.000
3 2 2 2 1	1	0.000	0.000
3 2 2 2 2	1	0.000	0.000
3 2 3 1 1	1	0.000	0.000
3 2 3 1 2	1	0.000	0.000
3 2 3 2 1	1	0.000	0.000
3 2 3 2 2	1	0.000	0.000

Feas for testing homogeneity of between subjects variances=Not defined

Appendix 86 D
RIVLCL = 2
DMP = 2

N's, means and standard deviations based on dependent variable: LOGNUM

† Indicates statistics are collapsed over this factor

Factors: S G W E R	N	Mean	S.D.
† † † † †	204	0.289	0.558
† † † † †	96	0.486	0.694
† † † † †	48	0.118	0.330
† † † † †	60	0.111	0.299
† † † † †	120	0.350	0.616
† † † † †	84	0.201	0.452
† † † † †	68	0.148	0.363
† † † † †	68	0.457	0.706
† † † † †	68	0.262	0.512
† † † † †	102	0.310	0.578
† † † † †	102	0.268	0.539
† † † † †	102	0.249	0.494
† † † † †	102	0.330	0.615
† † † † †	48	0.714	0.760
† † † † †	48	0.257	0.537
† † † † †	24	0.104	0.353
† † † † †	24	0.132	0.311
† † † † †	48	0.110	0.309
† † † † †	12	0.116	0.270
† † † † †	32	0.236	0.452
† † † † †	32	0.786	0.830
† † † † †	32	0.436	0.649
† † † † †	16	0.069	0.275
† † † † †	16	0.130	0.377
† † † † †	16	0.155	0.345
† † † † †	20	0.069	0.217
† † † † †	20	0.194	0.419
† † † † †	20	0.069	0.213
† † † † †	48	0.526	0.729
† † † † †	48	0.446	0.662
† † † † †	24	0.132	0.311
† † † † †	24	0.104	0.353
† † † † †	30	0.106	0.282
† † † † †	30	0.116	0.320
† † † † †	48	0.413	0.613
† † † † †	48	0.559	0.762
† † † † †	24	0.116	0.334
† † † † †	24	0.120	0.333
† † † † †	30	0.092	0.240
† † † † †	30	0.129	0.352
† † † † †	40	0.166	0.355
† † † † †	40	0.536	0.771
† † † † †	40	0.349	0.605
† † † † †	28	0.121	0.378
† † † † †	28	0.345	0.596
† † † † †	28	0.138	0.310
† † † † †	60	0.357	0.658
† † † † †	60	0.344	0.575
† † † † †	42	0.242	0.437
† † † † †	42	0.161	0.467
† † † † †	60	0.260	0.491
† † † † †	60	0.441	0.712
† † † † †	42	0.232	0.503
† † † † †	42	0.171	0.398
† † † † †	34	0.255	0.445

1 1 1 2 1	34	0.041	0.166
1 1 2 1 1	34	0.417	0.719
1 1 2 2 1	34	0.498	0.702
1 1 3 1 1	34	0.258	0.522
1 1 3 2 1	34	0.267	0.510
1 1 1 1 1	34	0.182	0.392
1 1 1 1 2	34	0.114	0.333
1 1 2 1 1	34	0.301	0.559
1 1 2 1 2	34	0.614	0.806
1 1 3 1 1	34	0.263	0.521
1 1 3 1 2	34	0.261	0.512
1 1 1 1 1	51	0.234	0.491
1 1 1 1 2	51	0.385	0.650
1 1 1 2 1	51	0.263	0.500
1 1 1 2 2	51	0.274	0.579
1 1 1 1 1	16	0.303	0.436
1 1 2 1 1	16	1.011	0.906
1 1 3 1 1	16	0.829	0.715
1 2 1 1 1	16	0.169	0.472
1 2 2 1 1	16	0.560	0.704
1 2 3 1 1	16	0.043	0.173
2 1 1 1 1	8	0.137	0.388
2 1 2 1 1	8	0.173	0.490
2 1 3 1 1	8	0.000	0.000
2 2 1 1 1	8	0.000	0.000
2 2 2 1 1	8	0.087	0.245
2 2 3 1 1	8	0.311	0.447
3 1 1 1 1	16	0.043	0.173
3 1 2 1 1	16	0.242	0.458
3 1 3 1 1	16	0.043	0.173
2 2 1 1 1	4	0.173	0.347
3 2 2 1 1	4	0.000	0.000
3 2 3 1 1	4	0.173	0.347
1 1 1 1 1	24	0.772	0.835
1 1 1 2 1	24	0.657	0.691
1 2 1 1 1	24	0.279	0.512
1 2 1 2 1	24	0.236	0.571
2 1 1 1 1	12	0.092	0.317
2 1 1 2 1	12	0.116	0.400
2 2 1 1 1	12	0.173	0.312
2 2 1 2 1	12	0.092	0.317
3 1 1 1 1	24	0.075	0.260
3 1 1 2 1	24	0.144	0.353
3 2 1 1 1	6	0.231	0.358
3 2 1 2 1	6	0.000	0.000
1 1 1 1 1	24	0.505	0.618
1 1 1 1 2	24	0.924	0.841
1 2 1 1 1	24	0.320	0.616
1 2 1 1 2	24	0.195	0.449
2 1 1 1 1	12	0.116	0.400
2 1 1 1 2	12	0.092	0.317
2 2 1 1 1	12	0.116	0.270
2 2 1 1 2	12	0.149	0.359
3 1 1 1 1	24	0.087	0.234
3 1 1 1 2	24	0.132	0.372
3 2 1 1 1	6	0.116	0.283
3 2 1 1 2	6	0.116	0.283
1 1 1 1 1	16	0.429	0.559
1 1 1 2 1	16	0.043	0.173
1 1 2 1 1	16	0.730	0.904
1 1 2 2 1	16	0.841	0.776
1 1 3 1 1	16	0.418	0.684
1 1 3 2 1	16	0.455	0.634
2 1 1 1 1	8	0.137	0.388
2 1 1 2 1	8	0.000	0.000
2 1 2 1 1	8	0.087	0.245

2 1 2 2 1	8	0.175	0.470
2 1 3 1 1	8	0.173	0.321
2 1 3 2 1	8	0.137	0.388
3 1 1 1 1	10	0.069	0.219
3 1 1 2 1	10	0.069	0.219
3 1 2 1 1	10	0.179	0.370
3 1 2 2 1	10	0.208	0.468
3 1 3 1 1	10	0.069	0.219
3 1 3 2 1	10	0.069	0.219
1 1 1 1 1	16	0.299	0.504
1 1 1 1 2	16	0.173	0.400
1 1 2 1 1	16	0.509	0.675
1 1 2 1 2	16	1.062	0.898
1 1 3 1 1	16	0.429	0.677
1 1 3 1 2	16	0.443	0.537
2 1 1 1 1	8	0.000	0.000
2 1 1 1 2	8	0.137	0.388
2 1 2 1 1	8	0.173	0.470
2 1 2 1 2	8	0.087	0.245
2 1 3 1 1	8	0.173	0.321
2 1 3 1 2	8	0.137	0.388
3 1 1 1 1	10	0.139	0.292
3 1 1 1 2	10	0.000	0.000
3 1 2 1 1	10	0.069	0.219
3 1 2 1 2	10	0.318	0.537
3 1 3 1 1	10	0.069	0.219
3 1 3 1 2	10	0.069	0.219
1 1 1 1 1	24	0.411	0.650
1 1 1 1 2	24	0.640	0.807
1 1 1 2 1	24	0.414	0.610
1 1 1 2 2	24	0.479	0.722
2 1 1 1 1	12	0.116	0.270
2 1 1 1 2	12	0.149	0.359
2 1 1 2 1	12	0.116	0.400
2 1 1 2 2	12	0.092	0.317
3 1 1 1 1	15	0.046	0.179
3 1 1 1 2	15	0.166	0.354
3 1 1 2 1	15	0.139	0.287
3 1 1 2 2	15	0.092	0.358
1 1 1 1 1	20	0.263	0.470
1 1 1 2 1	20	0.069	0.213
1 1 2 1 1	20	0.509	0.848
1 1 2 2 1	20	0.563	0.707
1 1 3 1 1	20	0.300	0.530
1 1 3 2 1	20	0.398	0.591
1 2 1 1 1	14	0.243	0.515
1 2 1 2 1	14	0.000	0.000
1 2 2 1 1	14	0.285	0.478
1 2 2 2 1	14	0.404	0.709
1 2 3 1 1	14	0.198	0.325
1 2 3 2 1	14	0.078	0.294
1 1 1 1 1	20	0.139	0.284
1 1 1 1 2	20	0.194	0.419
1 1 2 1 1	20	0.298	0.478
1 1 2 1 2	20	0.774	0.923
1 1 3 1 1	20	0.343	0.629
1 1 3 1 2	20	0.353	0.596
1 2 1 1 1	14	0.243	0.515
1 2 1 1 2	14	0.000	0.000
1 2 2 1 1	14	0.305	0.656
1 2 2 1 2	14	0.384	0.552
1 2 3 1 1	14	0.149	0.295
1 2 3 1 2	14	0.128	0.333
1 1 1 1 1	30	0.215	0.517
1 1 1 1 2	30	0.499	0.757
1 1 1 2 1	30	0.304	0.468

1 1 2 2	30	0.585	0.671
1 2 1 1	21	0.761	0.465
1 2 1 2	21	0.225	0.421
1 2 2 1	21	0.204	0.549
1 2 2 2	21	0.118	0.376
1 1 1 1	17	0.282	0.493
1 1 1 2	17	0.228	0.448
1 1 2 1	17	0.082	0.230
1 1 2 2	17	0.000	0.000
1 2 1 1	17	0.122	0.366
1 2 1 2	17	0.711	0.864
1 2 2 1	17	0.479	0.665
1 2 2 2	17	0.516	0.756
1 3 1 1	17	0.299	0.597
1 3 1 2	17	0.217	0.449
1 3 2 1	17	0.228	0.448
1 3 2 2	17	0.305	0.578
1 1 1 1	8	0.520	0.490
1 1 1 2	8	0.087	0.245
1 1 2 1	8	1.048	1.094
1 1 2 2	8	0.974	0.749
1 1 3 1	8	0.749	0.832
1 1 3 2	8	0.909	0.623
1 2 1 1	8	0.339	0.641
1 2 1 2	8	0.000	0.000
1 2 2 1	8	0.412	0.569
1 2 2 2	8	0.708	0.829
1 2 3 1	8	0.087	0.245
1 2 3 2	8	0.000	0.000
2 1 1 1	4	0.275	0.549
2 1 1 2	4	0.000	0.000
2 1 2 1	4	0.000	0.000
2 1 2 2	4	0.347	0.693
2 1 3 1	4	0.000	0.000
2 1 3 2	4	0.000	0.000
2 2 1 1	4	0.000	0.000
2 2 1 2	4	0.000	0.000
2 2 2 1	4	0.173	0.347
2 2 2 2	4	0.000	0.000
2 2 3 1	4	0.347	0.400
2 2 3 2	4	0.275	0.549
3 1 1 1	8	0.000	0.000
3 1 1 2	8	0.087	0.245
3 1 2 1	8	0.224	0.429
3 1 2 2	8	0.260	0.516
3 1 3 1	8	0.000	0.000
3 1 3 2	8	0.087	0.245
3 2 1 1	2	0.347	0.490
3 2 1 2	2	0.000	0.000
3 2 2 1	2	0.000	0.000
3 2 2 2	2	0.000	0.000
3 2 3 1	2	0.347	0.490
3 2 3 2	2	0.000	0.000
1 1 1 1	8	0.260	0.359
1 1 1 2	8	0.347	0.524
1 1 2 1	8	0.484	0.563
1 1 2 2	8	1.538	0.899
1 1 3 1	8	0.772	0.813
1 1 3 2	8	0.886	0.653
1 2 1 1	8	0.339	0.641
1 2 1 2	8	0.000	0.000
1 2 2 1	8	0.535	0.812
1 2 2 2	8	0.585	0.633
1 2 3 1	8	0.087	0.245
1 2 3 2	8	0.000	0.000
2 1 1 1	4	0.000	0.000

2 1 1 1 2	4	0.275	0.549
2 1 2 1 1	4	0.347	0.575
2 1 2 1 2	4	0.000	0.000
2 1 3 1 1	4	0.000	0.000
2 1 3 1 2	4	0.000	0.000
2 2 1 1 1	4	0.000	0.000
2 2 1 1 2	4	0.000	0.000
2 2 2 1 1	4	0.000	0.000
2 2 2 1 2	4	0.173	0.347
2 2 3 1 1	4	0.347	0.400
2 2 3 1 2	4	0.275	0.549
3 1 1 1 1	8	0.087	0.245
3 1 1 1 2	8	0.000	0.000
3 1 2 1 1	8	0.087	0.245
3 1 2 1 2	8	0.397	0.579
3 1 3 1 1	8	0.087	0.245
3 1 3 1 2	8	0.000	0.000
3 2 1 1 1	2	0.347	0.490
3 2 1 1 2	2	0.000	0.000
3 2 2 1 1	2	0.000	0.000
3 2 2 1 2	2	0.000	0.000
3 2 3 1 1	2	0.000	0.000
3 2 3 1 2	2	0.347	0.490
1 1 1 1 1	12	0.538	0.718
1 1 1 1 2	12	1.006	0.907
1 1 1 2 1	12	0.472	0.531
1 1 1 2 2	12	0.842	0.801
1 2 1 1 1	12	0.283	0.549
1 2 1 1 2	12	0.275	0.497
1 2 1 2 1	12	0.356	0.599
1 2 1 2 2	12	0.116	0.400
2 1 1 1 1	6	0.000	0.000
2 1 1 1 2	6	0.183	0.449
2 1 1 2 1	6	0.231	0.566
2 1 1 2 2	6	0.000	0.000
2 2 1 1 1	6	0.231	0.358
2 2 1 1 2	6	0.116	0.283
2 2 1 2 1	6	0.000	0.000
2 2 1 2 2	6	0.183	0.449
3 1 1 1 1	12	0.000	0.000
3 1 1 1 2	12	0.149	0.359
3 1 1 2 1	12	0.173	0.313
3 1 1 2 2	12	0.116	0.400
3 2 1 1 1	3	0.231	0.400
3 2 1 1 2	3	0.231	0.400
3 2 1 2 1	3	0.000	0.000
3 2 1 2 2	3	0.000	0.000
1 1 1 1 1	8	0.512	0.617
1 1 1 1 2	8	0.347	0.524
1 1 1 2 1	8	0.087	0.245
1 1 1 2 2	8	0.000	0.000
1 1 2 1 1	8	0.260	0.516
1 1 2 1 2	8	1.200	0.990
1 1 2 2 1	8	0.759	0.755
1 1 2 2 2	8	0.924	0.839
1 1 3 1 1	8	0.461	0.807
1 1 3 1 2	8	0.374	0.589
1 1 3 2 1	8	0.397	0.579
1 1 3 2 2	8	0.512	0.719
2 1 1 1 1	4	0.000	0.000
2 1 1 1 2	4	0.275	0.549
2 1 1 2 1	4	0.000	0.000
2 1 1 2 2	4	0.000	0.000
2 1 2 1 1	4	0.000	0.000
2 1 2 1 2	4	0.173	0.347
2 1 2 1 1	4	0.275	0.549

2 2 2 2	4	0.000	0.000
2 2 3 1	4	0.347	0.400
2 2 3 2	4	0.000	0.000
2 2 3 2 1	4	0.000	0.000
2 2 3 2 2	4	0.275	0.549
3 2 1 1	5	0.139	0.310
3 2 1 1 2	5	0.000	0.000
3 2 1 2 1	5	0.139	0.310
3 2 1 2 2	5	0.000	0.000
3 2 2 1 1	5	0.000	0.000
3 2 2 1 2	5	0.358	0.511
3 2 2 2 1	5	0.139	0.310
3 2 2 2 2	5	0.277	0.620
3 2 3 1 1	5	0.000	0.000
3 2 3 1 2	5	0.139	0.310
3 2 3 2 1	5	0.139	0.310
3 2 3 2 2	5	0.000	0.000
2 1 1 1 1	10	0.139	0.292
2 1 1 1 2	10	0.387	0.537
2 1 1 2 1	10	0.139	0.292
2 1 1 2 2	10	0.000	0.000
2 1 2 1 1	10	0.208	0.468
2 1 2 1 2	10	0.809	1.048
2 1 2 2 1	10	0.387	0.537
2 1 2 2 2	10	0.739	0.836
2 1 3 1 1	10	0.300	0.737
2 1 3 1 2	10	0.300	0.543
2 1 3 2 1	10	0.387	0.537
2 1 3 2 2	10	0.409	0.670
2 2 1 1 1	7	0.486	0.661
2 2 1 1 2	7	0.000	0.000
2 2 1 2 1	7	0.000	0.000
2 2 1 2 2	7	0.000	0.000
2 2 2 1 1	7	0.000	0.000
2 2 2 1 2	7	0.570	0.552
2 2 2 2 1	7	0.611	0.845
2 2 2 2 2	7	0.198	0.524
2 2 3 1 1	7	0.297	0.371
2 2 3 1 2	7	0.099	0.262
2 2 3 2 1	7	0.000	0.000
2 2 3 2 2	7	0.157	0.415
1 1 1 1 1	4	0.347	0.400
1 1 1 1 2	4	0.693	0.566
1 1 1 2 1	4	0.173	0.347
1 1 1 2 2	4	0.000	0.000
1 1 2 1 1	4	0.520	0.664
1 1 2 1 2	4	1.576	1.268
1 1 2 2 1	4	0.448	0.543
1 1 2 2 2	4	1.501	0.523
1 1 3 1 1	4	0.749	1.086
1 1 3 1 2	4	0.749	0.660
1 1 3 2 1	4	0.795	0.601
1 1 3 2 2	4	1.024	0.714
1 2 1 1 1	4	0.677	0.909
1 2 1 1 2	4	0.000	0.000
1 2 1 2 1	4	0.000	0.000
1 2 1 2 2	4	0.000	0.000
1 2 2 1 1	4	0.000	0.000
1 2 2 1 2	4	0.824	0.549
1 2 2 2 1	4	1.069	0.881
1 2 2 2 2	4	0.347	0.693
1 2 3 1 1	4	0.173	0.347
1 2 3 1 2	4	0.000	0.000
1 2 3 2 1	4	0.000	0.000
1 2 3 2 2	4	0.000	0.000
2 1 1 1 1	2	0.000	0.000

2 1 1 1 2	2	0.549	0.777
2 1 1 2 1	2	0.000	0.000
2 1 1 2 2	2	0.000	0.000
2 1 2 1 1	2	0.000	0.000
2 1 2 1 2	2	0.000	0.000
2 1 2 2 1	2	0.693	0.980
2 1 2 2 2	2	0.000	0.000
2 1 3 1 1	2	0.000	0.000
2 1 3 1 2	2	0.000	0.000
2 1 3 2 1	2	0.000	0.000
2 1 3 2 2	2	0.000	0.000
2 2 1 1 1	2	0.000	0.000
2 2 1 1 2	2	0.000	0.000
2 2 1 2 1	2	0.000	0.000
2 2 1 2 2	2	0.000	0.000
2 2 2 1 1	2	0.000	0.000
2 2 2 1 2	2	0.347	0.490
2 2 2 2 1	2	0.000	0.000
2 2 2 2 2	2	0.000	0.000
2 2 3 1 1	2	0.693	0.000
2 2 3 1 2	2	0.000	0.000
2 2 3 2 1	2	0.000	0.000
2 2 3 2 2	2	0.549	0.777
3 1 1 1 1	4	0.000	0.000
3 1 1 1 2	4	0.000	0.000
3 1 1 2 1	4	0.173	0.347
3 1 1 2 2	4	0.000	0.000
3 1 2 1 1	4	0.000	0.000
3 1 2 1 2	4	0.448	0.543
3 1 2 2 1	4	0.173	0.347
3 1 2 2 2	4	0.347	0.693
3 1 3 1 1	4	0.000	0.000
3 1 3 1 2	4	0.000	0.000
3 1 3 2 1	4	0.173	0.347
3 1 3 2 2	4	0.000	0.000
3 2 1 1 1	1	0.693	0.000
3 2 1 1 2	1	0.000	0.000
3 2 1 2 1	1	0.000	0.000
3 2 1 2 2	1	0.000	0.000
3 2 2 1 1	1	0.000	0.000
3 2 2 1 2	1	0.000	0.000
3 2 2 2 1	1	0.000	0.000
3 2 2 2 2	1	0.000	0.000
3 2 3 1 1	1	0.000	0.000
3 2 3 1 2	1	0.693	0.000
3 2 3 2 1	1	0.000	0.000
3 2 3 2 2	1	0.000	0.000

Fmax for testing homogeneity of between subjects variances=Not defined

Appendix 86-E
 2-3-82
 and flow and
 week number

N's, means and standard deviations based on dependent variable: LOGNUM

! Indicates statistics are collapsed over this factor

Factors: L A S G R	N	Mean	S.E.
! ! ! ! !	840	0.356	0.518
1 ! ! ! !	432	0.220	0.451
2 ! ! ! !	408	0.294	0.578
! 1 ! ! !	420	0.255	0.529
! 2 ! ! !	420	0.257	0.507
! ! 1 ! !	288	0.541	0.704
! ! 2 ! !	312	0.128	0.320
! ! 3 ! !	240	0.081	0.251
! ! ! 1 !	456	0.283	0.559
! ! ! 2 !	384	0.223	0.463
! ! ! ! 1	420	0.220	0.436
! ! ! ! 2	420	0.292	0.587
1 1 ! ! !	216	0.212	0.450
1 2 ! ! !	216	0.227	0.453
2 1 ! ! !	204	0.300	0.599
2 2 ! ! !	204	0.289	0.558
1 ! 1 ! !	96	0.585	0.659
1 ! 2 ! !	216	0.138	0.330
1 ! 3 ! !	120	0.076	0.234
2 ! 1 ! !	192	0.519	0.726
2 ! 2 ! !	96	0.107	0.296
2 ! 3 ! !	120	0.085	0.267
1 ! ! 1 !	216	0.212	0.424
1 ! ! 2 !	216	0.228	0.478
2 ! ! 1 !	240	0.348	0.651
2 ! ! 2 !	168	0.218	0.445
1 ! ! ! 1	216	0.213	0.421
1 ! ! ! 2	216	0.226	0.481
2 ! ! ! 1	204	0.228	0.452
2 ! ! ! 2	204	0.361	0.676
! 1 1 ! !	144	0.538	0.730
! 1 2 ! !	156	0.118	0.303
! 1 3 ! !	120	0.068	0.232
! 2 1 ! !	144	0.523	0.679
! 2 2 ! !	156	0.138	0.337
! 2 3 ! !	120	0.093	0.263
! 1 ! 1 !	228	0.287	0.596
! 1 ! 2 !	192	0.216	0.435
! 2 ! 1 !	228	0.290	0.520
! 2 ! 2 !	192	0.231	0.492
! 1 ! ! 1	210	0.205	0.392
! 1 ! ! 2	210	0.304	0.634
! 2 ! ! 1	210	0.236	0.477
! 2 ! ! 2	210	0.279	0.536
! ! 1 ! !	144	0.632	0.766
! ! 1 2 !	144	0.450	0.826
! ! 2 1 !	144	0.170	0.376
! ! 2 2 !	168	0.092	0.258
! ! 3 1 !	168	0.082	0.264
! ! 3 2 !	72	0.077	0.219
! ! ! 1 !	144	0.437	0.561
! ! ! 2 !	144	0.644	0.812
! ! 2 ! !	156	0.136	0.340
! ! 2 ! 2	156	0.120	0.299
! ! 3 ! !	120	0.070	0.227

1 1 1 2	120	0.091	0.273
1 1 1 1	229	0.220	0.430
1 1 1 2	228	0.347	0.658
1 1 2 1	192	0.221	0.444
1 1 2 2	192	0.226	0.483
1 1 1 1	48	0.569	0.674
1 1 2 1	108	0.128	0.321
1 1 3 1	60	0.076	0.233
1 2 1 1	48	0.597	0.650
1 2 2 1	108	0.147	0.341
1 2 3 1	60	0.076	0.275
2 1 1 1	96	0.552	0.760
2 1 2 1	48	0.095	0.260
2 1 3 1	60	0.060	0.231
2 2 1 1	96	0.486	0.674
2 2 2 1	48	0.118	0.330
2 2 3 1	60	0.111	0.299
1 1 1 1	108	0.222	0.470
1 1 2 2	108	0.201	0.451
1 2 1 1	108	0.201	0.374
1 2 2 2	108	0.254	0.522
2 1 1 1	120	0.346	0.687
2 1 2 2	84	0.234	0.441
2 2 1 1	120	0.350	0.616
2 2 2 2	84	0.201	0.452
1 1 1 1	108	0.202	0.378
1 1 2 2	108	0.221	0.514
1 2 1 1	108	0.224	0.462
1 2 2 2	108	0.231	0.447
2 1 1 1	102	0.207	0.408
2 1 2 2	102	0.393	0.733
2 2 1 1	102	0.249	0.494
2 2 2 2	102	0.330	0.615
1 1 1 1	48	0.443	0.574
1 1 2 2	48	0.724	0.715
1 2 1 1	96	0.203	0.399
1 2 2 2	120	0.085	0.252
1 3 1 1	72	0.069	0.237
1 3 2 2	48	0.087	0.232
2 1 1 1	96	0.726	0.833
2 1 2 2	96	0.312	0.530
2 2 1 1	48	0.104	0.319
2 2 2 2	48	0.110	0.273
2 3 1 1	96	0.092	0.283
2 3 2 2	24	0.058	0.196
1 1 1 1	48	0.487	0.562
1 1 2 2	48	0.680	0.737
1 2 1 1	108	0.157	0.365
1 2 2 2	108	0.118	0.292
1 3 1 1	60	0.094	0.269
1 3 2 2	60	0.058	0.193
2 1 1 1	96	0.412	0.562
2 1 2 2	96	0.626	0.850
2 2 1 1	48	0.087	0.272
2 2 2 2	48	0.126	0.319
2 3 1 1	60	0.046	0.174
2 3 2 2	60	0.124	0.333
1 1 1 1	108	0.206	0.403
1 1 2 2	108	0.217	0.446
1 2 1 1	108	0.220	0.441
1 2 2 2	108	0.235	0.515
2 1 1 1	120	0.232	0.454
2 1 2 2	120	0.464	0.766
2 2 1 1	84	0.221	0.452
2 2 2 2	84	0.215	0.441
1 1 1 1	72	0.656	0.846

[illegible]

[illegible]

1 1 1 1 2	36	0.563	1.044
1 1 1 2 1	36	0.553	0.449
1 1 1 2 2	36	0.567	0.679
1 1 2 1 1	36	0.169	0.395
1 1 2 1 2	36	0.169	0.753
1 1 2 2 1	42	0.115	0.261
1 1 2 2 2	42	0.030	0.149
1 1 3 1 1	42	0.043	0.195
1 1 3 1 2	42	0.102	0.389
1 1 3 2 1	18	0.077	0.224
1 1 3 2 2	18	0.039	0.160
1 2 1 1 1	36	0.472	0.340
1 2 1 1 2	36	0.745	0.760
1 2 1 2 1	36	0.474	0.710
1 2 1 2 2	36	0.404	0.674
1 2 2 1 1	36	0.145	0.407
1 2 2 1 2	36	0.176	0.354
1 2 2 2 1	42	0.118	0.302
1 2 2 2 2	42	0.102	0.289
1 2 3 1 1	42	0.092	0.250
1 2 3 1 2	42	0.092	0.302
1 2 3 2 1	18	0.077	0.224
1 2 3 2 2	18	0.116	0.256
1 1 1 1 1	12	0.380	0.508
1 1 1 1 2	12	0.406	0.631
1 1 1 2 1	12	0.380	0.410
1 1 1 2 2	12	0.911	0.763
1 1 2 1 1	24	0.224	0.458
1 1 2 1 2	24	0.176	0.307
1 1 2 2 1	30	0.139	0.292
1 1 2 2 2	30	0.060	0.060
1 1 3 1 1	18	0.100	0.298
1 1 3 1 2	18	0.039	0.145
1 1 3 2 1	12	0.115	0.270
1 1 3 2 2	12	0.055	0.100
1 2 1 1 1	12	0.404	0.537
1 2 1 1 2	12	0.580	0.508
1 2 1 2 1	12	0.793	0.816
1 2 1 2 2	12	0.822	0.755
1 2 2 1 1	24	0.161	0.418
1 2 2 1 2	24	0.248	0.367
1 2 2 2 1	30	0.119	0.319
1 2 2 2 2	30	0.083	0.260
1 2 3 1 1	18	0.100	0.298
1 2 3 1 2	18	0.029	0.160
1 2 3 2 1	12	0.058	0.200
1 2 3 2 2	12	0.115	0.270
2 1 1 1 1	24	0.464	0.503
2 1 1 1 2	24	0.992	1.123
2 1 1 2 1	24	0.259	0.475
2 1 1 2 2	24	0.275	0.375
2 1 2 1 1	12	0.058	0.200
2 1 2 1 2	12	0.149	0.289
2 1 2 2 1	12	0.058	0.200
2 1 2 2 2	12	0.115	0.270
2 1 3 1 1	24	0.000	0.000
2 1 3 1 2	24	0.049	0.151
2 1 3 2 1	6	0.000	0.000
2 1 3 2 2	6	0.000	0.000
2 2 1 1 1	24	0.505	0.618
2 2 1 1 2	24	0.924	0.841
2 2 1 2 1	24	0.320	0.616
2 2 1 2 2	24	0.195	0.449
2 2 2 1 1	12	0.115	0.400
2 2 2 1 2	12	0.092	0.317
2 2 2 2 1	12	0.116	0.270
2 2 2 2 2	12	0.149	0.359
2 2 3 1 1	24	0.087	0.224
2 2 3 1 2	24	0.132	0.372
2 2 3 2 1	6	0.116	0.283
2 2 3 2 2	6	0.116	0.253

Case for testing homogeneity of between subjects parameters

Appendix 86-f

N's, means and standard deviations based on dependent variable: MURFISH

* Indicates statistics are collapsed over this factor

Factors: R A S G T	N	Mean	S.D.
* * * * *	840	1.620	2.614
1 * * * *	408	0.814	3.550
2 * * * *	402	0.409	1.156
* 1 * * *	420	0.383	3.793
* 2 * * *	420	0.557	1.472
* * 1 * *	288	1.469	4.283
* * 2 * *	312	0.215	0.591
* * 3 * *	240	0.129	0.424
* * * 1 *	456	0.763	3.387
* * * 2 *	384	0.451	1.135
* * * * 1	420	0.417	1.015
* * * * 2	420	0.824	3.545
1 1 * * *	204	0.556	4.711
1 2 * * *	204	0.872	1.743
2 1 * * *	216	0.426	1.159
2 2 * * *	216	0.449	1.152
1 * 1 * *	192	1.552	5.054
1 * 2 * *	96	0.177	0.523
1 * 3 * *	120	0.142	0.477
2 * 1 * *	96	1.302	2.005
2 * 2 * *	216	0.231	0.619
2 * 3 * *	120	0.117	0.371
1 * * 1 *	240	1.092	4.540
1 * * 2 *	168	0.417	0.975
2 * * 1 *	216	0.398	1.056
2 * * 2 *	216	0.477	1.246
1 * * * 1	204	0.441	1.374
1 * * * 2	204	1.156	4.652
2 * * * 1	216	0.394	0.959
2 * * * 2	216	0.481	1.322
* 1 1 * *	144	1.694	5.534
* 1 2 * *	156	0.192	0.522
* 1 3 * *	120	0.108	0.324
* 2 1 * *	144	1.243	2.252
* 2 2 * *	156	1.237	0.654
* 2 3 * *	120	0.150	0.461
* * 1 1 *	228	0.917	4.511
* * 1 2 *	192	0.456	0.961
* * 1 3 *	228	0.610	1.613
* * 2 1 *	192	0.495	1.286
* * 2 2 *	210	0.348	0.718
* * 2 3 *	210	1.019	4.726
* * 3 1 *	210	0.486	1.242
* * 3 2 *	210	0.629	1.670
* * * 1 1	144	1.958	5.796
* * * 1 2	144	0.979	1.658
* * * 2 1	144	0.299	0.739
* * * 2 2	168	0.143	0.414
* * * 3 1	168	0.137	0.450
* * * 3 2	72	0.111	0.316
* * 1 1 1	144	0.868	1.450
* * 1 1 2	144	2.069	3.851
* * 1 2 1	156	0.237	0.673
* * 1 2 2	156	0.192	0.497
* * 3 1 1	120	0.108	0.362

1 1 1 1 2	120	0.115	1.471
1 1 1 1 1	120	0.145	1.478
1 1 1 1 2	120	0.113	1.468
1 1 1 2 1	192	0.427	1.461
1 1 1 2 2	192	0.474	1.206
1 1 1 1 1	96	0.896	6.749
1 1 2 1 1	48	0.146	0.412
1 1 3 1 1	60	0.100	0.359
1 2 1 1 1	96	1.208	2.362
1 2 2 1 1	48	0.208	0.517
1 2 3 1 1	60	0.183	0.557
2 1 1 1 1	48	1.292	2.062
2 1 2 1 1	108	0.213	0.565
2 1 3 1 1	60	0.117	0.372
2 2 1 1 1	48	1.313	1.977
2 2 2 1 1	108	0.250	0.572
2 2 3 1 1	60	0.117	0.372
1 1 1 1 1	120	1.325	3.077
1 1 1 2 1	84	0.429	0.922
1 2 1 1 1	120	0.858	2.088
1 2 1 2 1	84	0.405	1.031
2 1 1 1 1	108	0.463	1.307
2 1 1 2 1	108	0.389	0.994
2 2 1 1 1	108	0.333	0.723
2 2 1 2 1	108	0.565	1.453
1 1 1 1 1	102	0.363	0.763
1 1 1 1 2	102	1.549	6.580
1 2 1 1 1	102	0.520	1.311
1 2 1 1 2	102	0.824	2.084
2 1 1 1 1	108	0.333	0.670
2 1 1 1 2	108	0.519	1.474
2 2 1 1 1	108	0.454	1.177
2 2 1 1 2	108	0.444	1.130
1 1 1 1 1	96	2.479	6.940
1 1 1 2 1	96	0.625	1.207
1 1 2 1 1	48	0.188	0.607
1 1 2 2 1	48	0.167	0.429
1 1 3 1 1	96	0.156	0.509
1 1 3 2 1	24	0.083	0.292
2 1 1 1 1	48	0.917	1.784
2 1 1 2 1	48	1.689	2.135
2 1 2 1 1	96	0.354	0.754
2 1 2 2 1	120	0.133	0.409
2 1 3 1 1	72	0.111	0.396
2 1 3 2 1	48	0.125	0.334
1 1 1 1 1	96	0.623	1.422
1 1 1 1 2	96	2.281	6.947
1 1 2 1 1	48	0.146	0.505
1 1 2 1 2	48	0.208	0.544
1 1 3 1 1	60	0.087	0.252
1 1 3 1 2	60	0.217	0.613
2 1 1 1 1	48	0.958	1.515
2 1 1 1 2	48	1.646	2.365
2 1 2 1 1	108	0.278	0.734
2 1 2 1 2	108	0.183	0.477
2 1 3 1 1	60	0.150	0.444
2 1 3 1 2	60	0.083	0.279
1 1 1 1 1	120	0.450	1.114
1 1 1 1 2	120	1.733	6.271
1 1 1 2 1	84	0.429	1.021
1 1 1 2 2	84	0.405	0.933
2 1 1 1 1	108	0.361	0.803
2 1 1 1 2	108	0.435	1.262
2 1 1 2 1	108	0.426	1.075
2 1 1 2 2	108	0.528	1.354
1 1 1 1 1	72	2.472	7.797

1 1 1 2 1	2	0.17	1.751
1 1 2 1 1	72	0.292	1.550
1 1 2 2 1	24	0.117	0.711
1 1 3 1 1	24	0.119	0.411
1 1 3 2 1	36	0.083	0.230
1 2 1 1 1	72	1.444	2.517
1 2 1 2 1	72	1.042	1.902
1 2 2 1 1	72	0.306	0.759
1 2 2 2 1	84	0.177	0.495
1 2 3 1 1	84	0.155	0.503
1 2 3 2 1	36	0.139	0.351
1 1 1 1 1	72	0.594	0.929
1 1 1 1 2	72	2.694	7.510
1 1 2 1 1	78	0.231	0.579
1 1 2 1 2	78	0.154	0.456
1 1 3 1 1	60	0.087	0.234
1 1 3 1 2	60	0.133	0.430
1 2 1 1 1	72	1.042	1.819
1 2 1 1 2	72	1.444	2.575
1 2 2 1 1	78	0.244	0.759
1 2 2 1 2	78	0.231	0.533
1 2 3 1 1	60	0.133	0.329
1 2 3 1 2	60	0.167	0.526
1 1 1 1 1	114	0.377	0.903
1 1 1 1 2	114	1.456	5.277
1 1 1 2 1	96	0.313	0.604
1 1 1 2 2	96	0.500	1.214
1 2 1 1 1	114	0.439	1.129
1 2 1 1 2	114	0.781	1.972
1 2 1 2 1	96	0.542	1.368
1 2 1 2 2	96	0.448	1.204
1 1 1 1 1	72	0.861	1.346
1 1 1 1 2	72	3.056	7.747
1 1 1 2 1	72	0.875	1.551
1 1 1 2 2	72	1.083	1.758
1 1 2 1 1	72	0.306	0.856
1 1 2 1 2	72	0.292	0.592
1 1 2 2 1	84	0.179	0.443
1 1 2 2 2	84	0.107	0.361
1 1 3 1 1	64	0.107	0.331
1 1 3 1 2	84	0.167	0.534
1 1 3 2 1	36	0.111	0.319
1 1 3 2 2	36	0.111	0.319
1 1 1 1 1	48	0.164	0.370
1 1 1 2 1	48	0.688	1.155
1 1 2 1 1	24	0.167	0.432
1 1 2 2 1	24	0.125	0.339
1 1 3 1 1	48	0.125	0.444
1 1 3 2 1	12	0.090	0.200
1 2 1 1 1	48	1.854	2.761
1 2 1 2 1	48	0.563	1.297
1 2 2 1 1	24	0.208	0.721
1 2 2 2 1	24	0.208	0.509
1 2 3 1 1	48	0.186	0.571
1 2 3 2 1	12	0.167	0.399
2 1 1 1 1	24	1.208	2.395
2 1 1 2 1	24	1.375	1.715
2 1 2 1 1	48	0.354	0.759
2 1 2 2 1	60	0.100	0.303
2 1 3 1 1	36	0.111	0.398
2 1 3 2 1	24	0.125	0.339
2 2 1 1 1	24	0.625	0.770
2 2 1 2 1	24	2.000	2.519
2 2 2 1 1	48	0.354	0.638
2 2 2 2 1	60	0.167	0.493
2 2 3 1 1	36	0.111	0.398

2 2 1 1 1	24	0.123	0.103
1 1 1 1 1	48	0.717	0.984
1 1 1 1 2	42	0.050	0.099
1 1 2 1 1	24	0.123	0.281
1 1 2 1 2	24	0.208	0.509
1 1 3 1 1	30	0.000	0.000
1 1 3 1 2	30	0.200	0.551
1 2 1 1 1	48	0.917	1.780
1 2 1 1 2	48	1.500	2.928
1 2 2 1 1	24	0.208	0.658
1 2 2 1 2	24	0.208	0.588
1 2 3 1 1	30	0.100	0.346
1 2 3 1 2	30	0.200	0.679
2 1 1 1 1	24	0.300	0.824
2 1 1 1 2	24	1.958	2.861
2 1 2 1 1	54	0.250	0.962
2 1 2 1 2	54	0.100	0.406
2 1 3 1 1	30	0.167	0.461
2 1 3 1 2	30	0.067	0.251
2 2 1 1 1	24	1.292	1.944
2 2 1 1 2	24	1.333	2.038
2 2 2 1 1	54	0.259	0.605
2 2 2 1 2	54	0.241	0.512
2 2 3 1 1	30	0.100	0.434
2 2 3 1 2	30	0.100	0.305
1 1 1 1 1	60	0.367	0.902
1 1 1 1 2	60	2.283	8.483
1 1 1 2 1	42	0.057	0.707
1 1 1 2 2	42	0.500	1.088
1 2 1 1 1	60	0.533	1.389
1 2 1 1 2	60	1.183	2.594
1 2 1 2 1	42	0.500	1.254
1 2 1 2 2	42	0.310	0.749
2 1 1 1 1	54	0.387	0.811
2 1 1 1 2	54	0.537	1.668
2 1 1 2 1	54	0.278	0.492
2 1 1 2 2	54	0.500	1.314
2 2 1 1 1	54	0.330	0.901
2 2 1 1 2	54	0.330	0.944
2 2 1 2 1	54	0.574	1.461
2 2 1 2 2	54	0.556	1.462
1 1 1 1 1	48	0.979	1.550
1 1 1 1 2	48	3.979	9.506
1 1 1 2 1	48	0.567	1.277
1 1 1 2 2	48	0.583	1.145
1 1 2 1 1	24	0.167	0.807
1 1 2 1 2	24	0.208	0.588
1 1 2 2 1	24	0.100	0.378
1 1 2 2 2	24	0.208	0.509
1 1 3 1 1	48	0.060	0.145
1 1 3 1 2	48	0.250	0.668
1 1 3 2 1	12	0.033	0.269
1 1 3 2 2	12	0.083	0.299
2 1 1 1 1	24	0.625	0.770
2 1 1 1 2	24	1.208	2.395
2 1 1 2 1	24	1.292	1.967
2 1 1 2 2	24	2.083	2.302
2 1 2 1 1	48	0.375	0.959
2 1 2 1 2	48	0.300	0.595
2 1 2 2 1	60	0.200	0.480
2 1 2 2 2	60	0.067	0.312
2 1 3 1 1	36	0.167	0.507
2 1 3 1 2	36	0.056	0.232
2 1 3 2 1	24	0.125	0.338
2 1 3 2 2	24	0.125	0.338
1 1 1 1 1	36	0.806	1.037

1 1 1 1 2	16	4.119	1.795
1 1 1 2 1	16	0.567	0.306
1 1 1 2 2	36	1.050	1.750
1 1 2 1 1	16	0.566	0.349
1 1 2 1 2	36	0.278	0.615
1 1 2 2 1	42	0.167	0.377
1 1 2 2 2	42	0.648	0.216
1 1 3 1 1	42	0.371	0.362
1 1 3 1 2	42	0.167	0.450
1 1 3 2 1	18	0.111	0.323
1 1 3 2 2	18	0.056	0.236
1 2 1 1 1	36	0.917	1.610
1 2 1 1 2	36	1.972	2.112
1 2 1 2 1	36	1.167	2.021
1 2 1 2 2	36	0.917	1.795
1 2 2 1 1	36	0.506	0.980
1 2 2 1 2	36	0.306	0.577
1 2 2 2 1	42	0.190	0.595
1 2 2 2 2	42	0.167	0.470
1 2 3 1 1	42	0.143	0.417
1 2 3 1 2	42	0.167	0.531
1 2 3 2 1	18	0.111	0.323
1 2 3 2 2	18	0.167	0.385
1 1 1 1 1	24	0.975	1.976
1 1 1 1 2	24	5.333	12.957
1 1 1 2 1	24	0.583	0.881
1 1 1 2 2	24	0.792	1.351
1 1 2 1 1	12	0.083	0.289
1 1 2 1 2	12	0.250	0.622
1 1 2 2 1	12	0.083	0.289
1 1 2 2 2	12	0.167	0.399
1 1 3 1 1	24	0.000	0.300
1 1 3 1 2	24	0.250	0.605
1 1 3 2 1	6	0.000	0.000
1 1 3 2 2	6	0.000	0.000
1 2 1 1 1	24	1.383	1.932
1 2 1 1 2	24	2.625	2.597
1 2 1 2 1	24	0.750	1.595
1 2 1 2 2	24	0.375	0.875
1 2 2 1 1	12	0.250	0.596
1 2 2 1 2	12	0.167	0.377
1 2 2 2 1	12	0.167	0.365
1 2 2 2 2	12	0.250	0.622
1 2 3 1 1	24	0.125	0.329
1 2 3 1 2	24	0.250	0.737
1 2 3 2 1	6	0.167	0.402
1 2 3 2 2	6	0.167	0.402
2 1 1 1 1	12	0.567	0.985
2 1 1 1 2	12	1.750	3.225
2 1 1 2 1	12	0.583	0.667
2 1 1 2 2	12	2.167	2.082
2 1 2 1 1	24	0.417	0.851
2 1 2 1 2	24	0.292	0.624
2 1 2 2 1	30	0.200	0.467
2 1 2 2 2	30	0.000	0.000
2 1 3 1 1	18	0.167	0.514
2 1 3 1 2	18	0.056	0.236
2 1 3 2 1	12	0.167	0.389
2 1 3 2 2	12	0.083	0.289
2 2 1 1 1	12	0.583	0.515
2 2 1 1 2	12	0.667	0.985
2 2 1 2 1	12	2.000	2.558
2 2 1 2 2	12	2.000	2.594
2 2 2 1 1	24	0.333	1.049
2 2 2 1 2	24	0.375	0.576
2 2 2 2 1	10	0.266	0.351

APPENDIX P

CROSS-TABULATION TABLES OF STRANDED SALMON FRY (NSTRAND)
VERSUS EACH TESTING VARIABLE (RIVER LOCATION, SLOPE, AMPLITUDE,
ENDFLOW, RAMP RATE, AND SUBSTRATE)

Table P-1 Cross-Tabulations Of Fry Stranding Versus Two Levels Of River Location For The 1986 Salmon Fry Stranding Study

Tabulation of NSTRAND (rows) by RIVLOC (columns)
(Frequency/Row percent/Column percent)

	1	2	
0	300 47.32 73.53	334 52.68 77.31	634 75.48
1	51 45.95 12.50	60 54.05 13.89	111 13.21
2	29 61.70 7.11	18 38.30 4.17	47 5.60
3	11 57.89 2.70	8 42.11 1.85	19 2.26
4	5 50.00 1.23	5 50.00 1.16	10 1.19
5	3 60.00 0.74	2 40.00 0.46	5 0.60
6	9 64.29 2.21	5 35.71 1.16	14 1.67
	408 48.57	432 51.43	840

Statistics for table of NSTRAND by RIVLOC

Chi-square (6 df)

= 6.2635 (P<0.3941)

Table P-2 Cross-Tabulations Of Fry Stranding Versus Three Levels Of Gravel Bar Slope For The 1986 Salmon Fry Stranding Study

Tabulation of NSTRAND (rows) by SLOPE (columns)
(Frequency/Row percent/Column percent)

	1	2	3	
0	153 24.13 53.13	245 41.80 84.94	216 34.07 90.00	634 75.48
1	61 54.95 21.18	32 28.83 10.26	18 16.22 7.50	111 13.21
2	30 63.83 10.42	12 25.53 3.85	5 10.44 2.08	47 5.60
3	16 84.21 5.56	2 10.53 0.64	1 5.26 0.42	19 2.26
4	10 100.00 3.47	0 0.00 0.00	0 0.00 0.00	10 1.19
5	4 80.00 1.39	1 20.00 0.32	0 0.00 0.00	5 0.60
6	14 100.00 4.86	0 0.00 0.00	0 0.00 0.00	14 1.67
	288 34.29	312 37.14	240 28.57	840

Statistics for table of NSTRAND by SLOPE

Chi-square (12 df)

= 142.1793 (P<0.0000)

Table P-3 Cross-Tabulations Of Fry Stranding Versus Two Levels Of Amplitude Fluctuation For The 1986 Salmon Fry Stranding Study

Tabulation of NSTRAND (rows) by AMP (columns)
(Frequency/Row percent/Column percent)

	1	2	
0	318 50.16 75.71	316 49.84 75.24	634 75.48
1	55 49.55 13.10	56 50.45 13.33	111 13.21
2	25 53.19 5.95	22 46.81 5.24	47 5.60
3	9 47.37 2.14	10 52.63 2.38	19 2.26
4	5 50.00 1.19	5 50.00 1.19	10 1.19
5	1 20.00 0.24	4 80.00 0.95	5 0.60
6	7 50.00 1.67	7 50.00 1.67	14 1.67
	420 50.00	420 50.00	840

Statistics for table of NSTRAND by AMP

Chi-square (6 df)

= 2.0594 (P<0.9868)

Table P-4 Cross-Tabulations Of Fry Stranding Versus Two Levels Of Endflow For The 1986 Salmon Fry Stranding Study

Tabulation of NSTRAND (rows) by ENDFLO (columns)
(Frequency/Row percent/Column percent)

	1	2	
0	307 48.42 73.10	327 51.58 77.86	634 75.48
1	67 60.36 15.95	44 39.64 10.48	111 13.21
2	24 51.06 5.71	23 48.94 5.48	47 5.60
3	7 36.84 1.67	12 63.16 2.86	19 2.26
4	5 50.00 1.19	5 50.00 1.19	10 1.19
5	1 20.00 0.24	4 80.00 0.95	5 0.60
6	9 64.29 2.14	5 35.71 1.19	14 1.67
	420 50.00	420 50.00	840

Statistics for table of NSTRAND by ENDFLO

Chi-square (4 df)

= 9.6766 (P<0.1388)

Table P-5 Cross-Tabulations Of Fry Stranding Versus Two Levels Of Ramping Rate
For The 1986 Salmon Fry Stranding Study

Tabulation of NSTRAND (rows) by RRATE (columns)
(Frequency/Row percent/Column percent)

	1	2	
0	321 50.63 76.43	313 49.37 74.52	634 75.40
1	62 55.86 14.76	49 44.14 11.67	111 13.21
2	20 42.55 4.76	27 57.45 6.43	47 5.60
3	9 47.37 2.14	10 52.63 2.38	19 2.26
4	1 10.00 0.24	9 90.00 2.14	10 1.19
5	4 80.00 0.95	1 20.00 0.24	5 0.60
6	3 21.43 0.71	11 78.57 2.62	14 1.67
	420 50.00	420 50.00	840

Statistics for table of NSTRAND by RRATE

Chi-square (6 df)

= 15.4901 (P<0.0167)

Table P-6 Cross-Tabulations Of Fry Stranding Versus Two Levels Of Substrate
For The 1986 Salmon Fry Stranding Study

Tabulation of NSTRAND (rows) by SUBSTR (columns)
(Frequency/Row percent/Column percent)

	1	2	
0	335 52.84 73.46	299 47.16 77.86	634 75.48
1	64 57.64 14.04	47 42.34 12.24	111 13.21
2	29 61.70 6.36	18 38.30 4.69	47 5.40
3	13 68.42 2.85	6 31.58 1.56	19 2.26
4	4 40.00 0.88	6 60.00 1.56	10 1.19
5	1 20.00 0.22	4 80.00 1.04	5 0.60
6	10 71.43 2.19	4 28.57 1.04	14 1.67
	456 54.29	384 45.71	840

Statistics for table of NSTRAND by SUBSTR

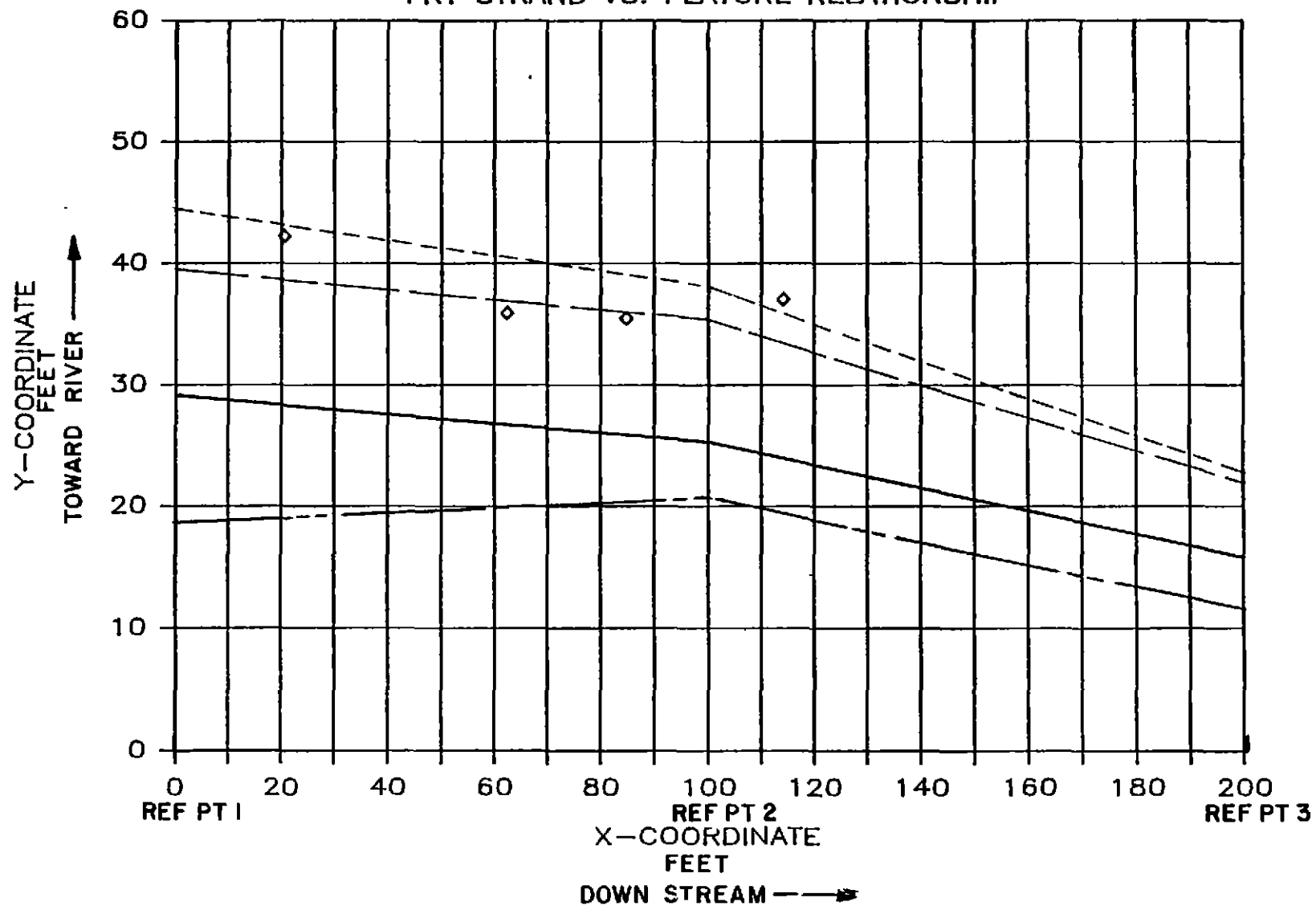
Chi-square (6 df)

= 8.4634 (P<0.2059)

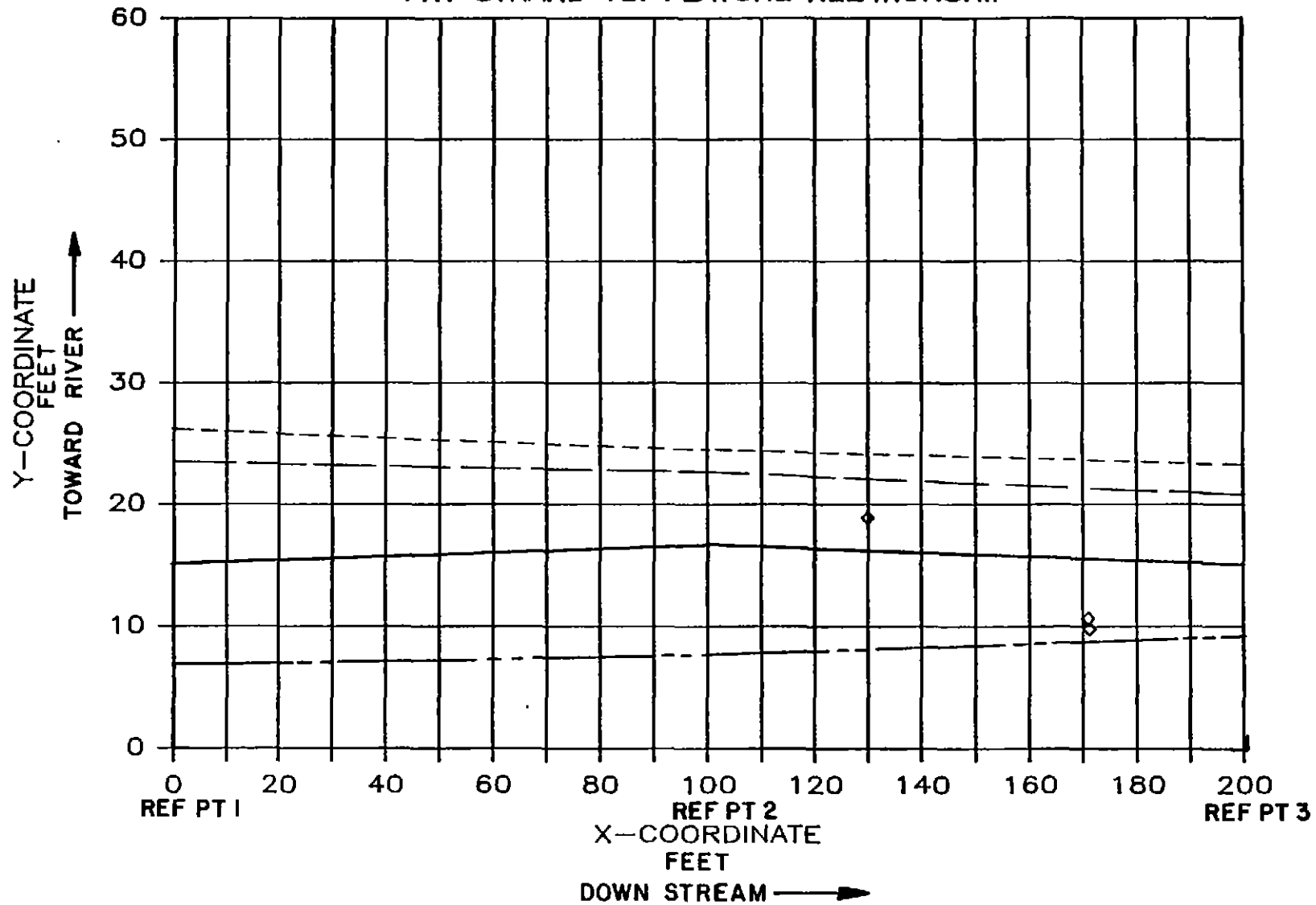
APPENDIX Q

FRY STRANDING LOCATION VERSUS GRAVEL BAR FEATURES FOR STEELHEAD FRY GRAVEL
BAR STRANDING (1986)

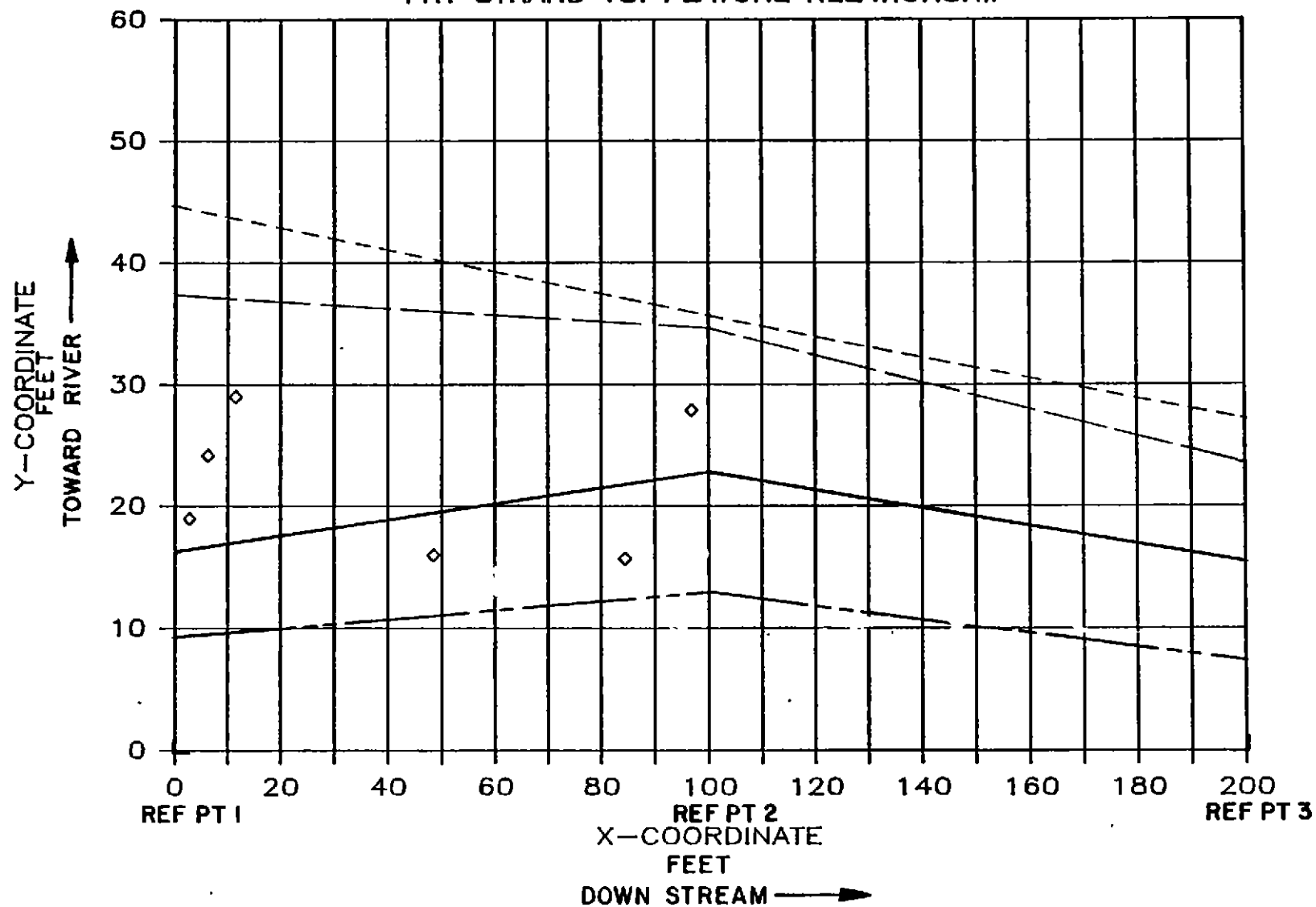
SPRING 1986
BIG EDDY BAR SITE 3
FRY STRAND VS. FEATURE RELATIONSHIP



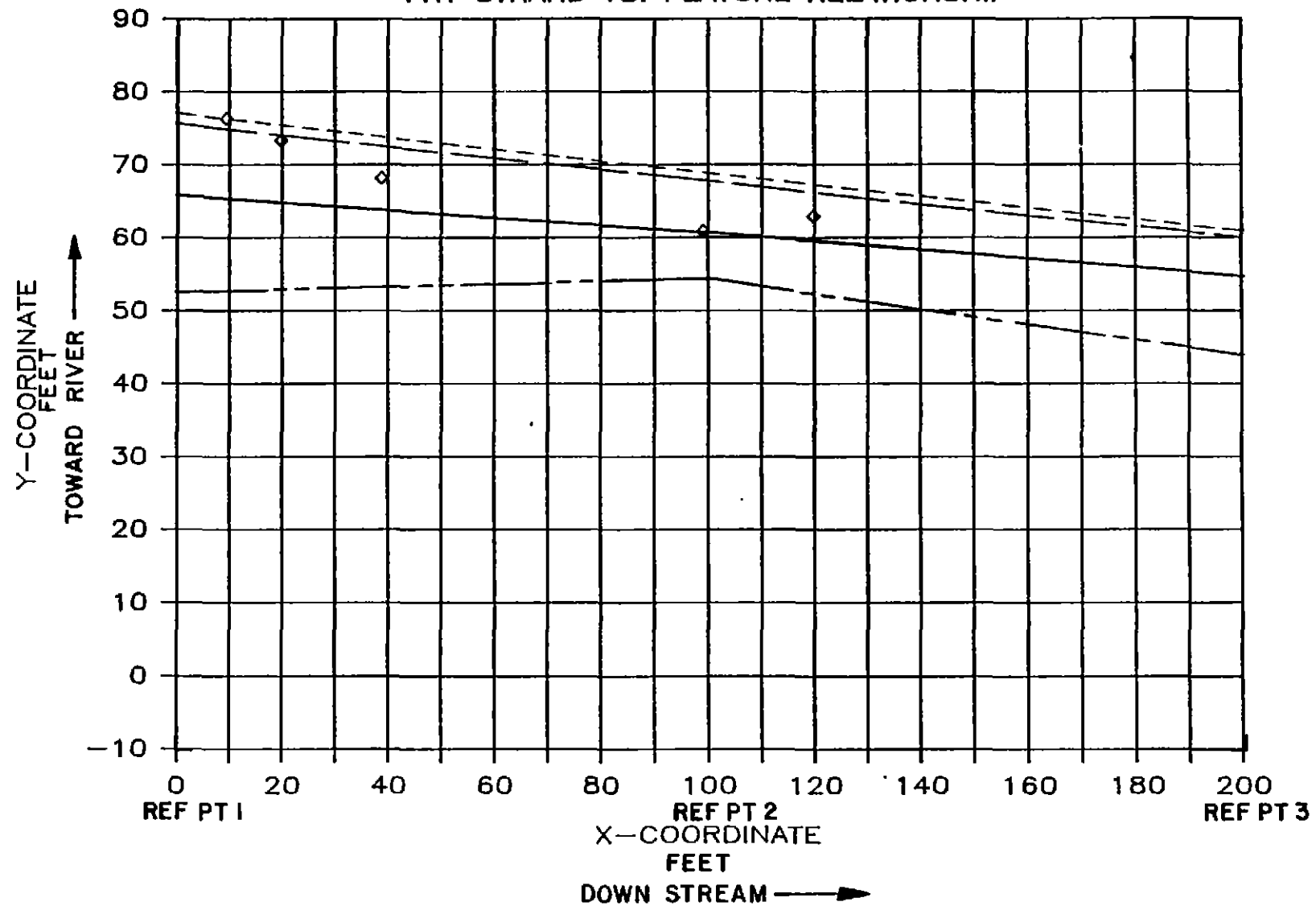
SPRING 1986
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FRY STRAND VS. FEATURE RELATIONSHIP



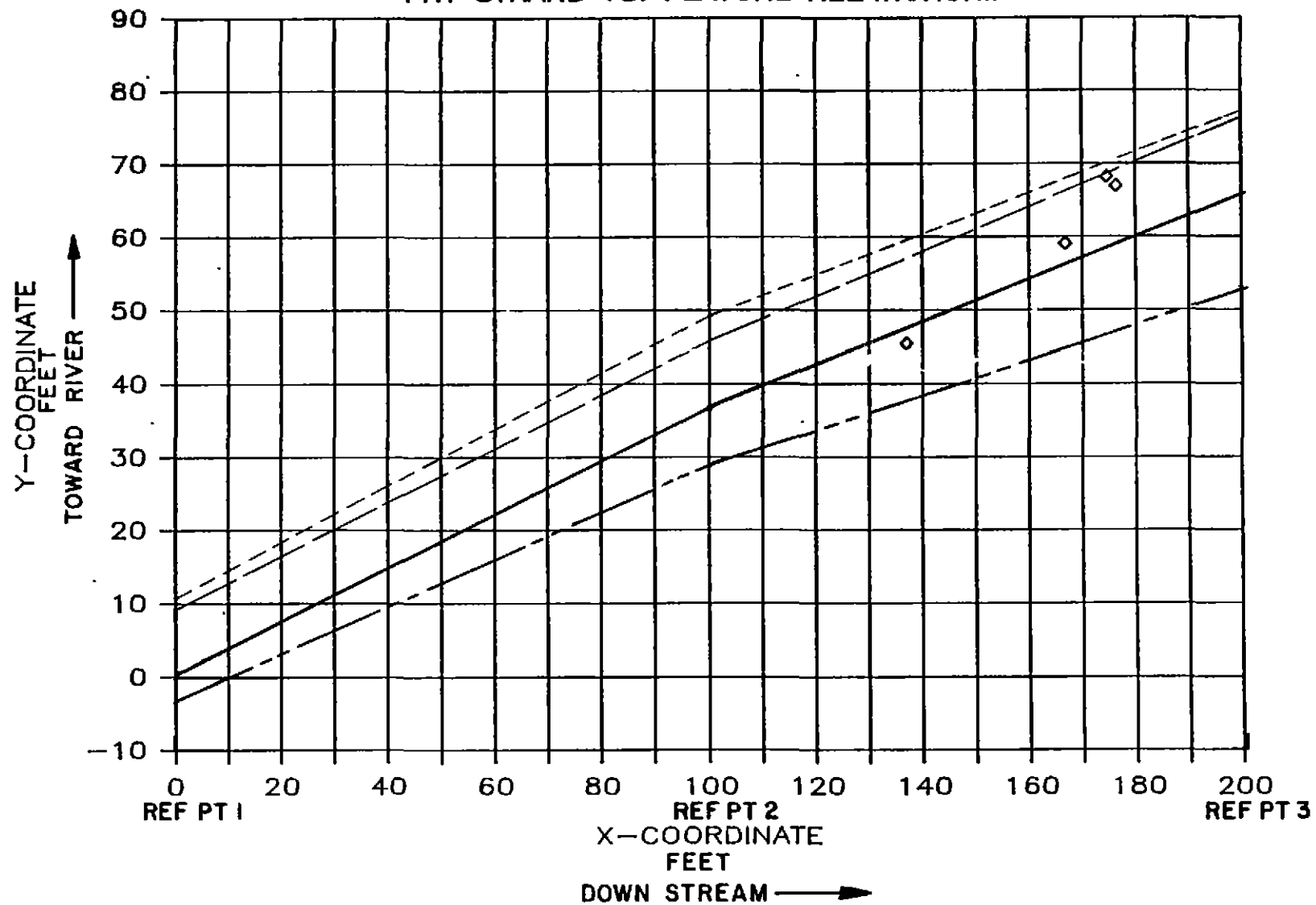
SPRING 1986
BIG EDDY BAR SITE 1
FRY STRAND VS. FEATURE RELATIONSHIP



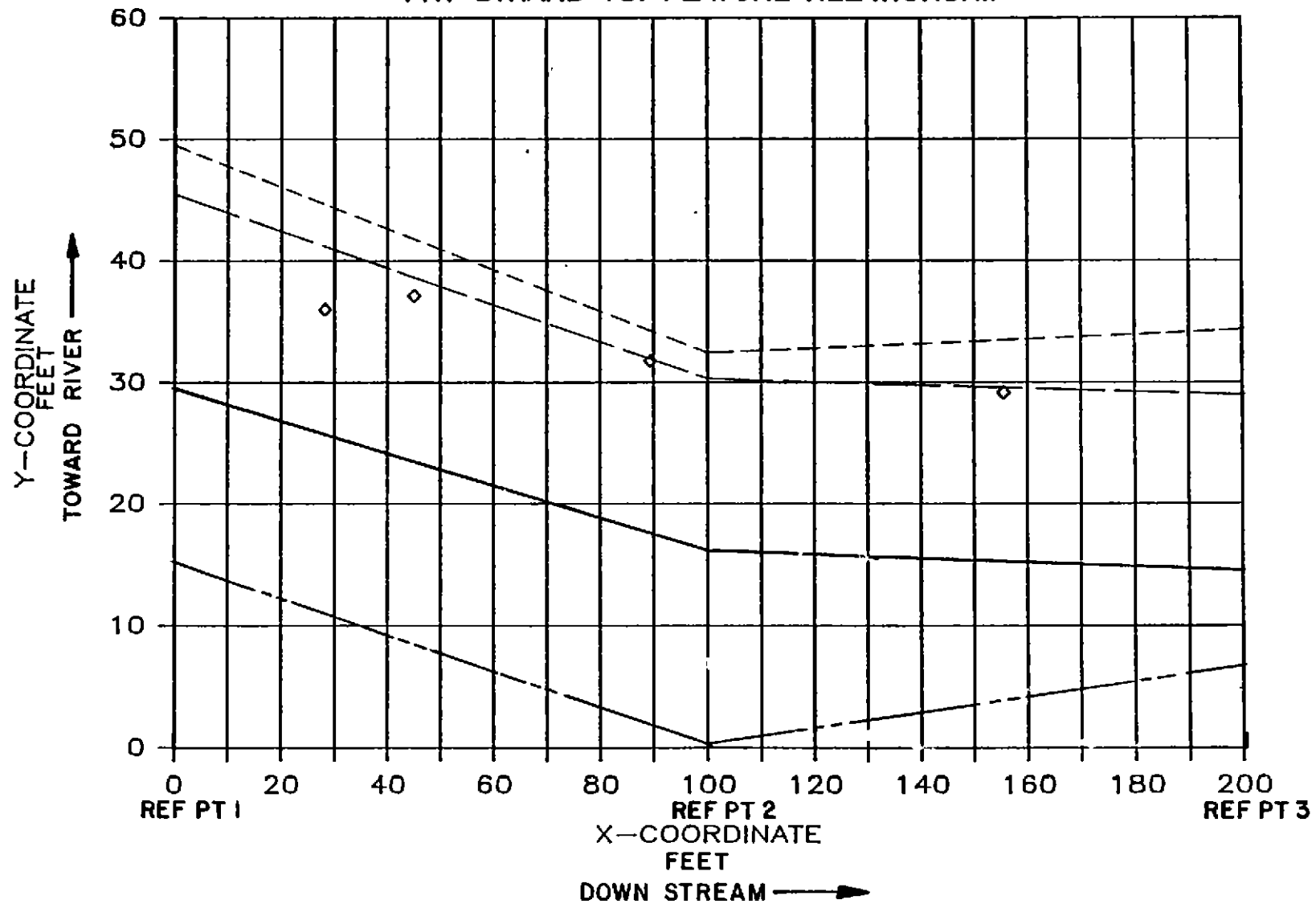
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BAD SPOT BAR SITE 2
FRY STRAND VS. FEATURE RELATIONSHIP



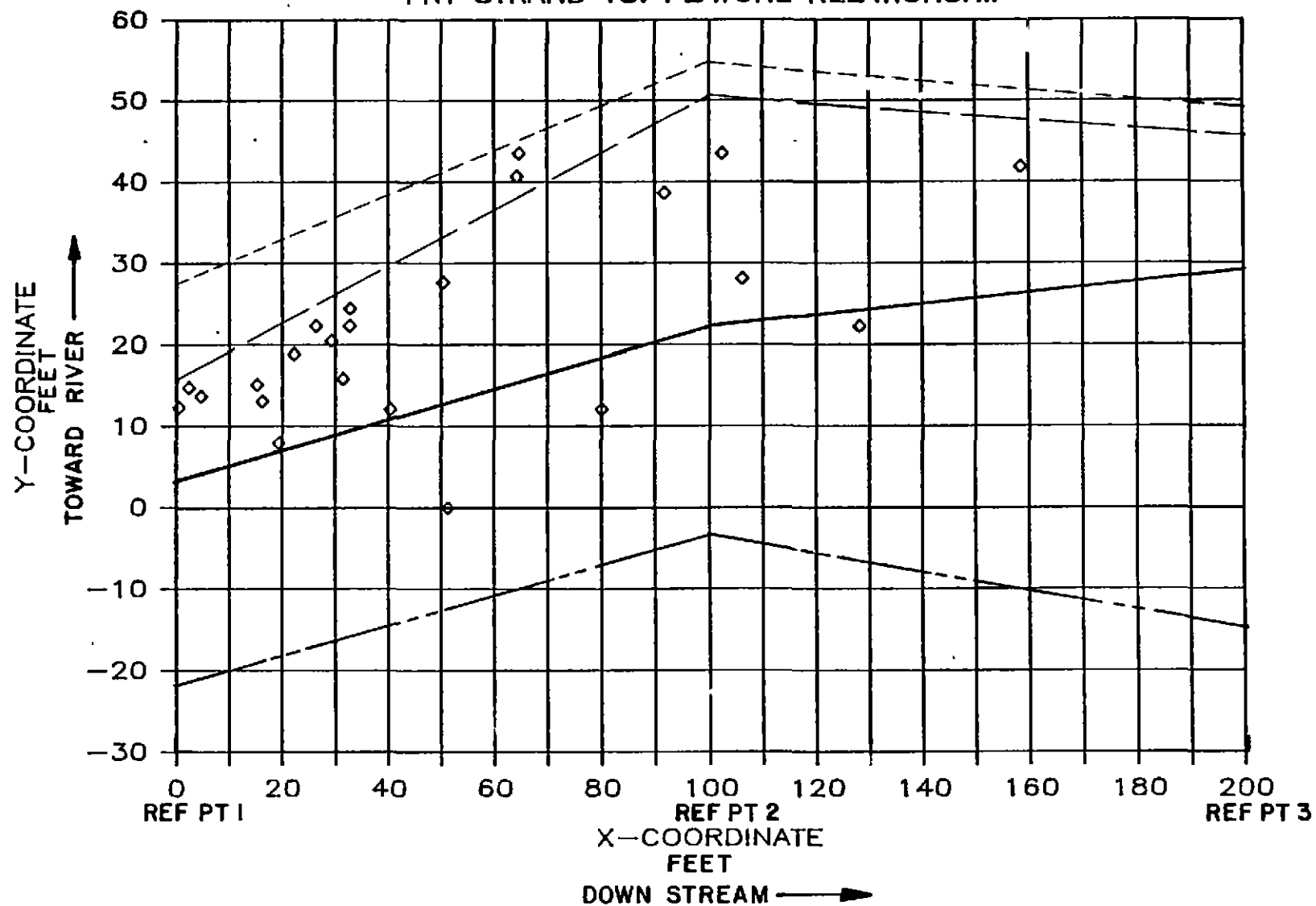
SPRING 1986
BAD SPOT BAR SITE 1
FRY STRAND VS. FEATURE RELATIONSHIP



SPRING 1986
INACCESSIBLE ISLAND BAR SITE 3
FRY STRAND VS. FEATURE RELATIONSHIP

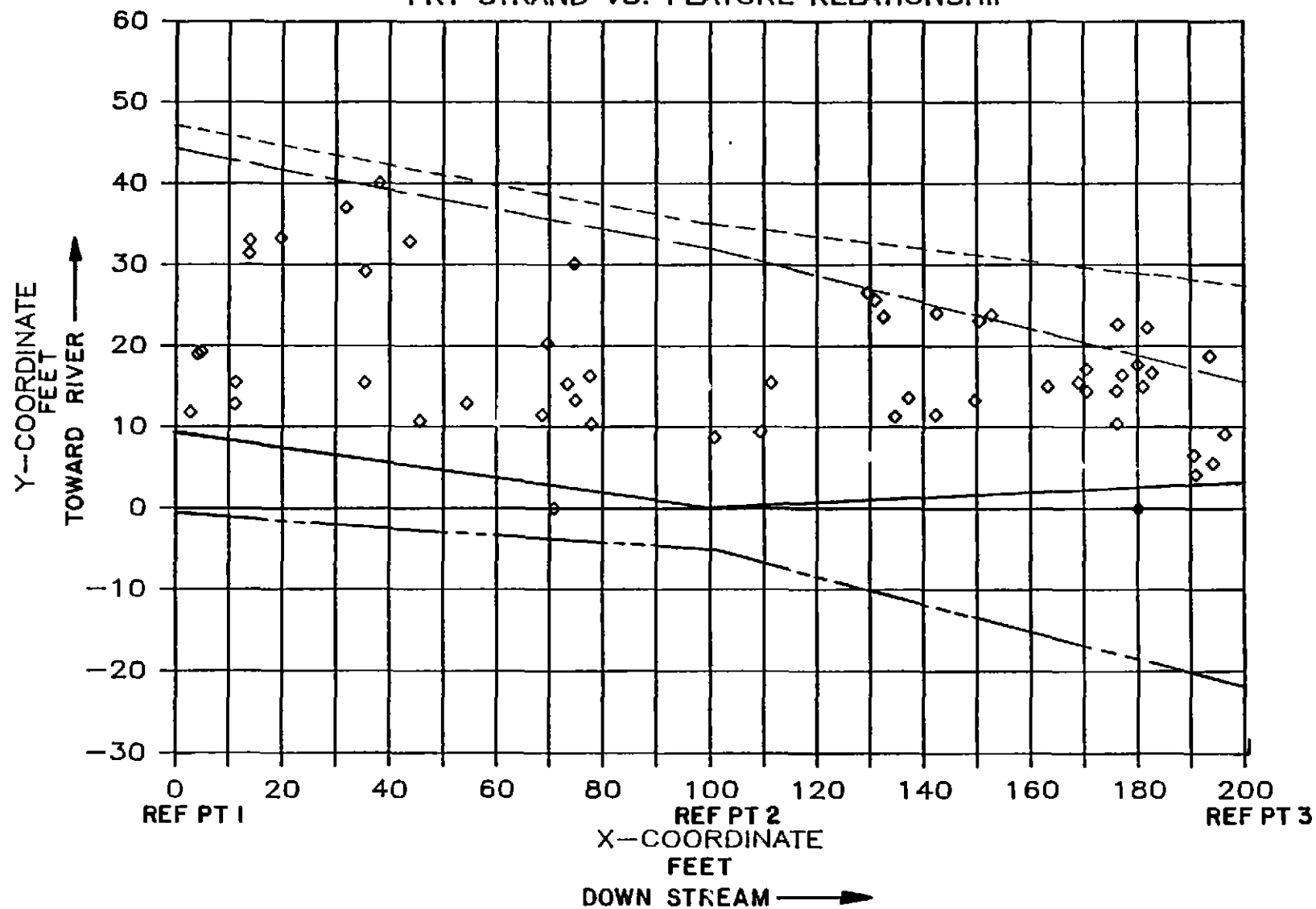


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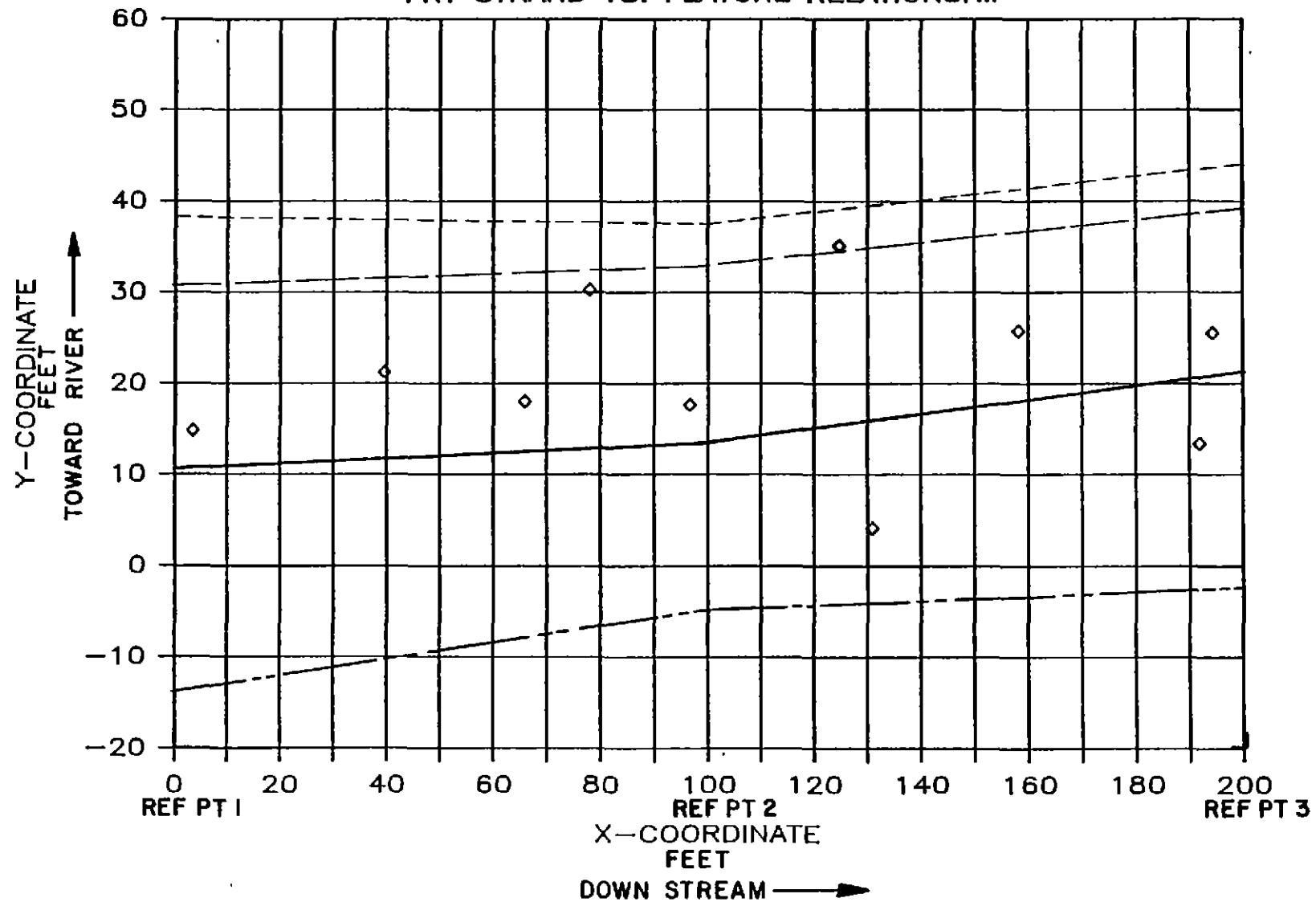


SPRING 1986
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FRY STRAND VS. FEATURE RELATIONSHIP



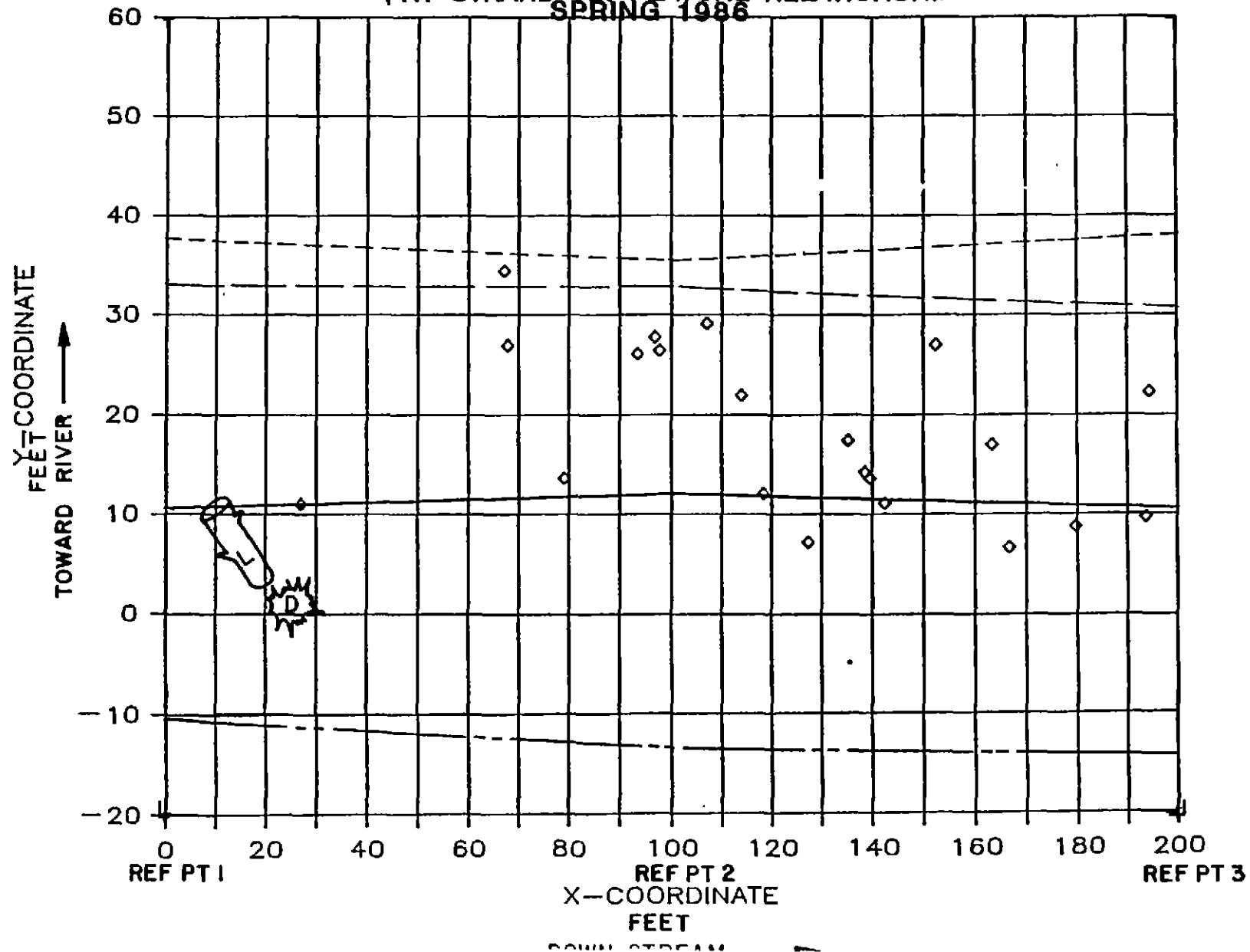
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ROCKPORT BAR SITE 3
FRY STRAND VS. FEATURE RELATIONSHIP



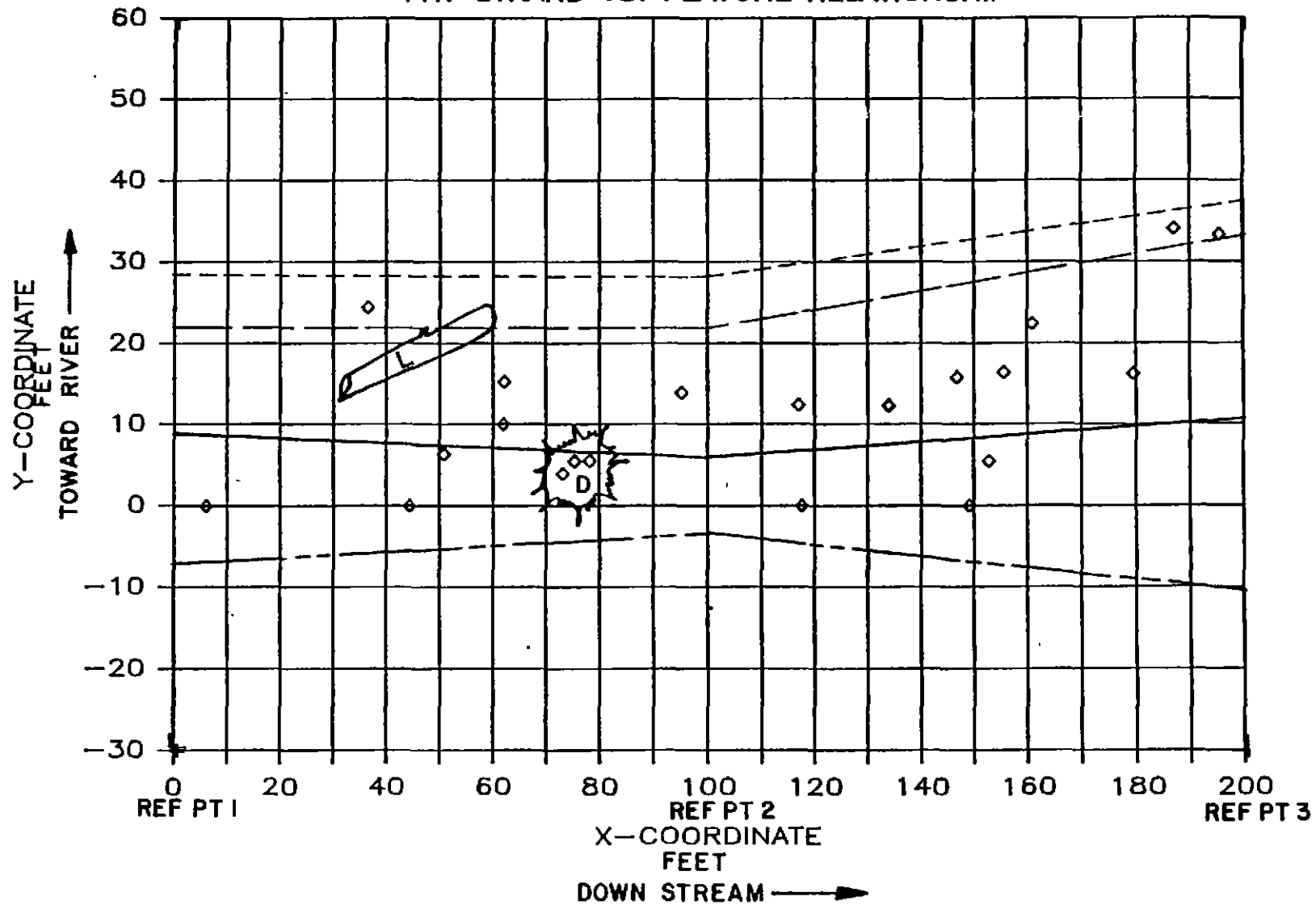
ROCKPORT BAR SITE 2

FRY STRAND VS. FEATURE RELATIONSHIP

SPRING 1986

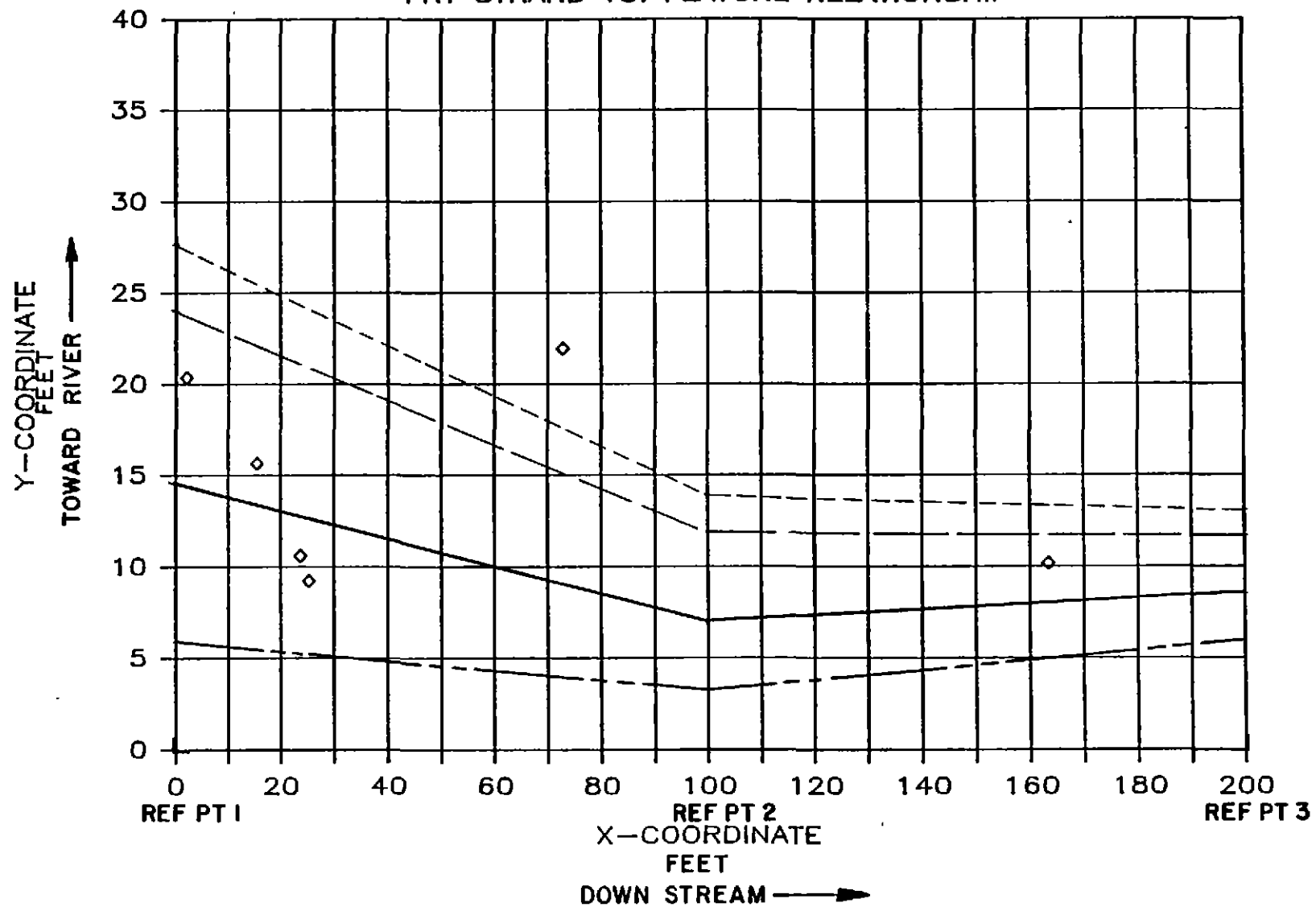


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ROCKPORT BAR SITE 1
FRY STRAND VS. FEATURE RELATIONSHIP

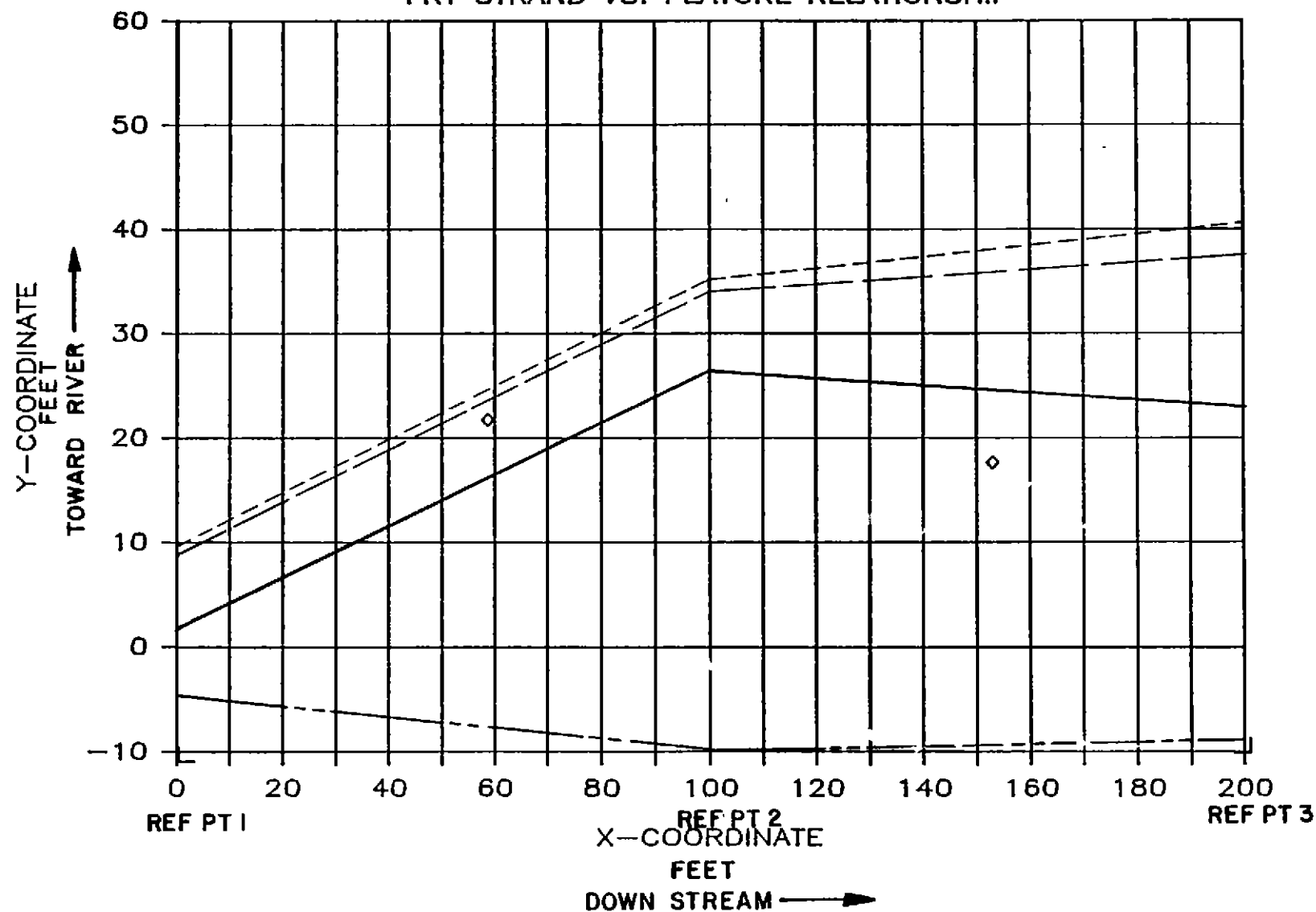


SPRING 1986
HOOPER SLOUGH BAR SITE 1

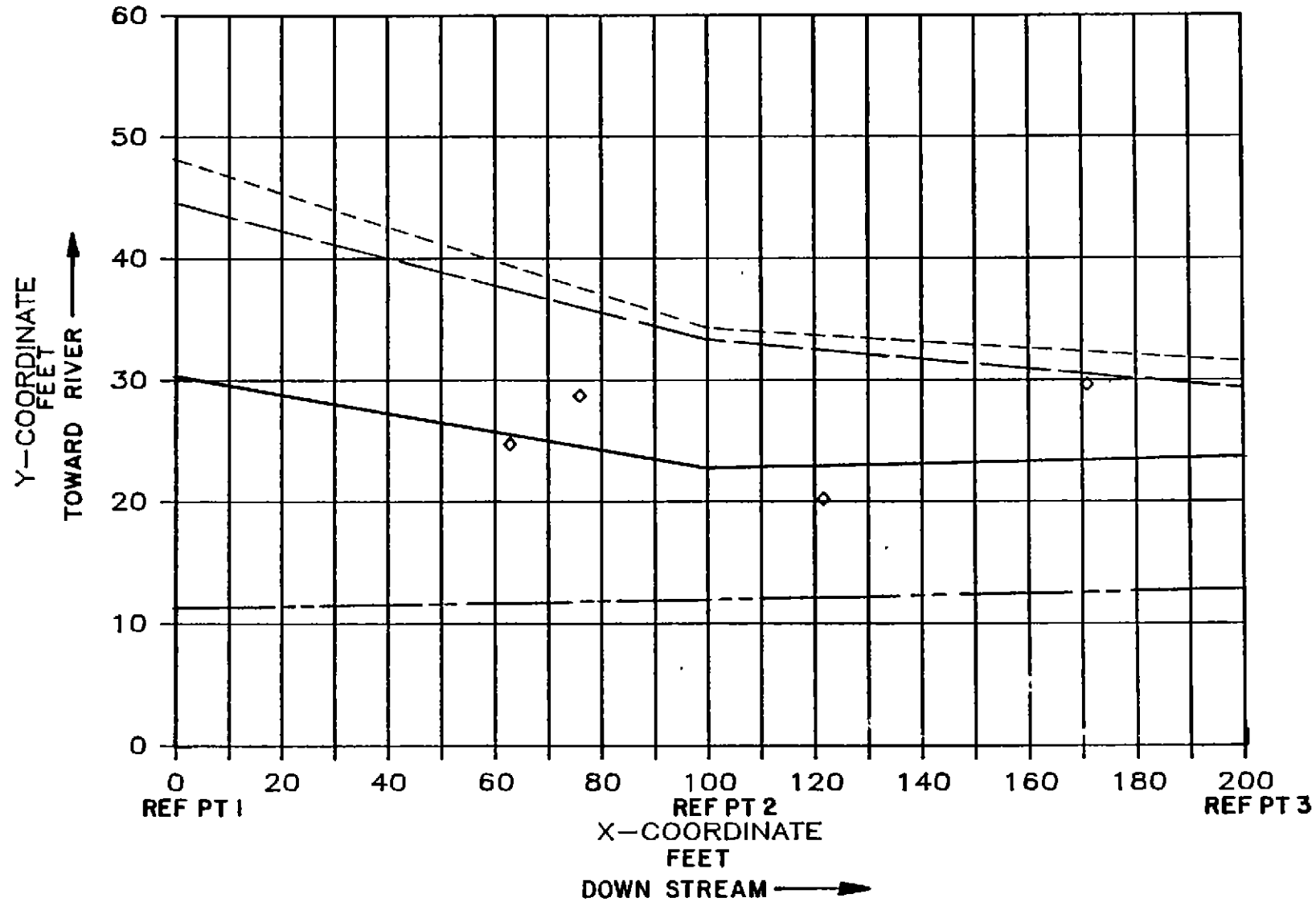
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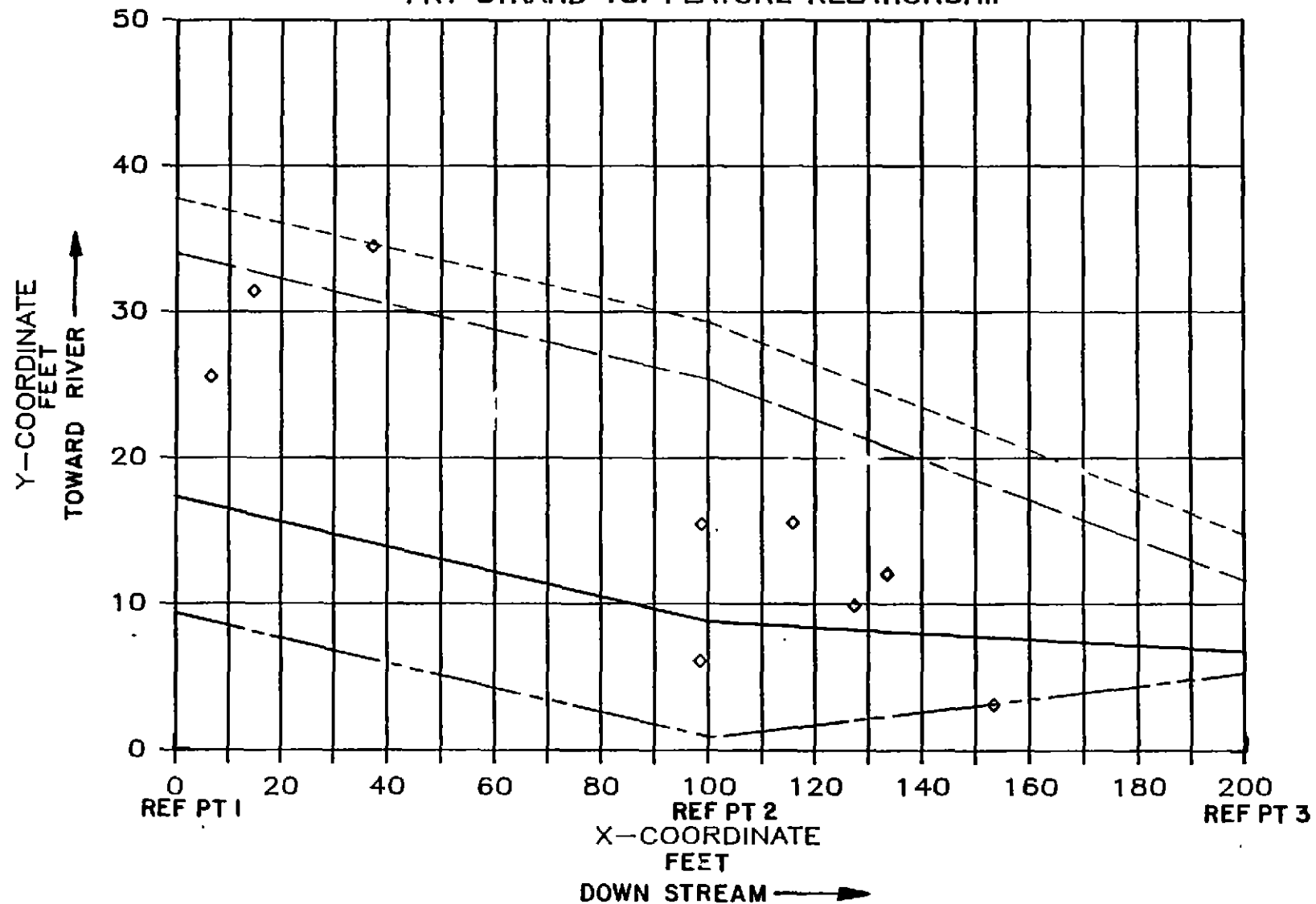
SPRING 1986
FORBIDDEN BAR SITE 3
FRY STRAND VS. FEATURE RELATIONSHIP



SPRING 1986
FORBIDDEN BAR SITE 1
FRY STRAND VS. FEATURE RELATIONSHIP

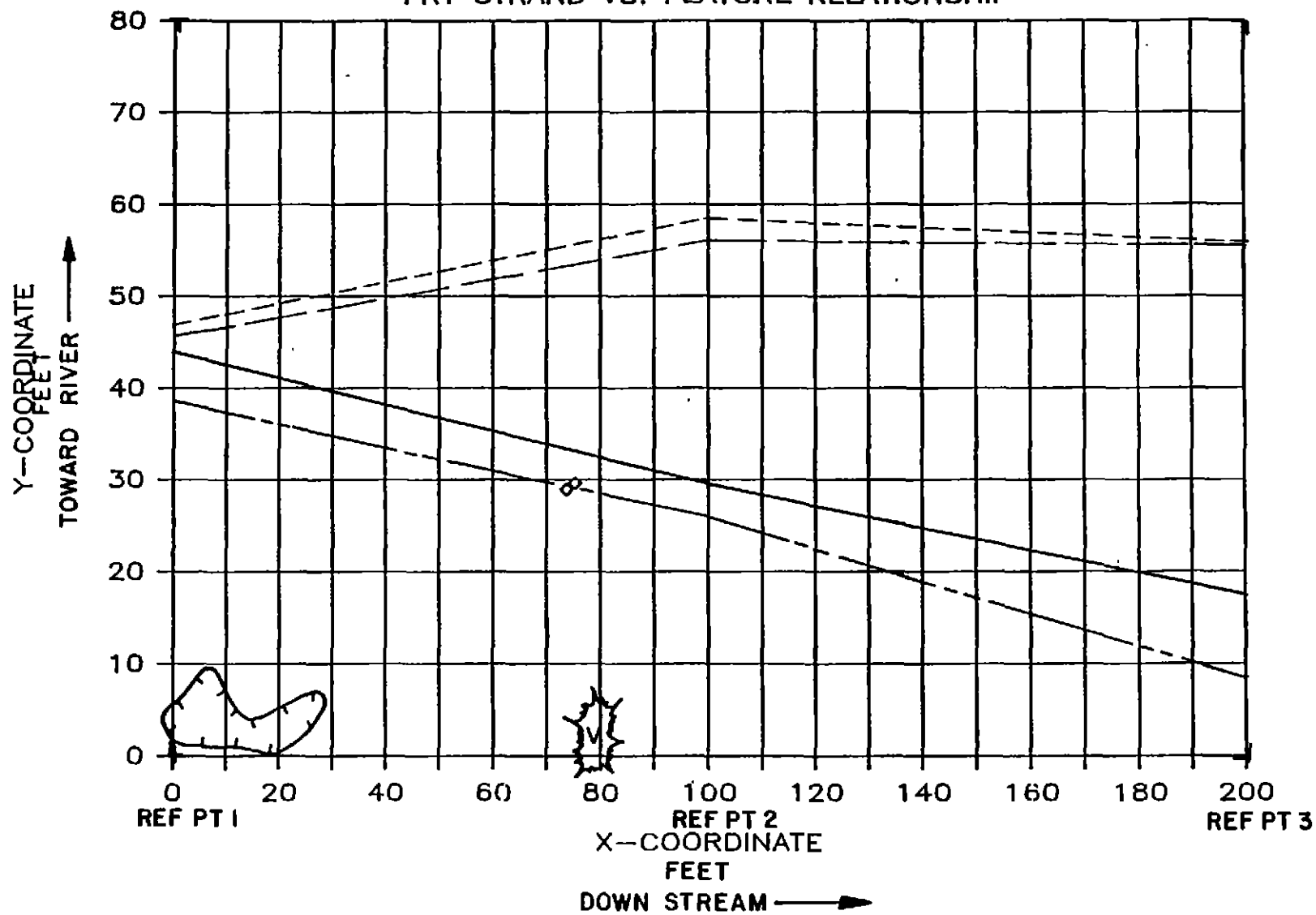


SPRING 1986
DIOBSUD CREEK BAR SITE 3
FRY STRAND VS. FEATURE RELATIONSHIP



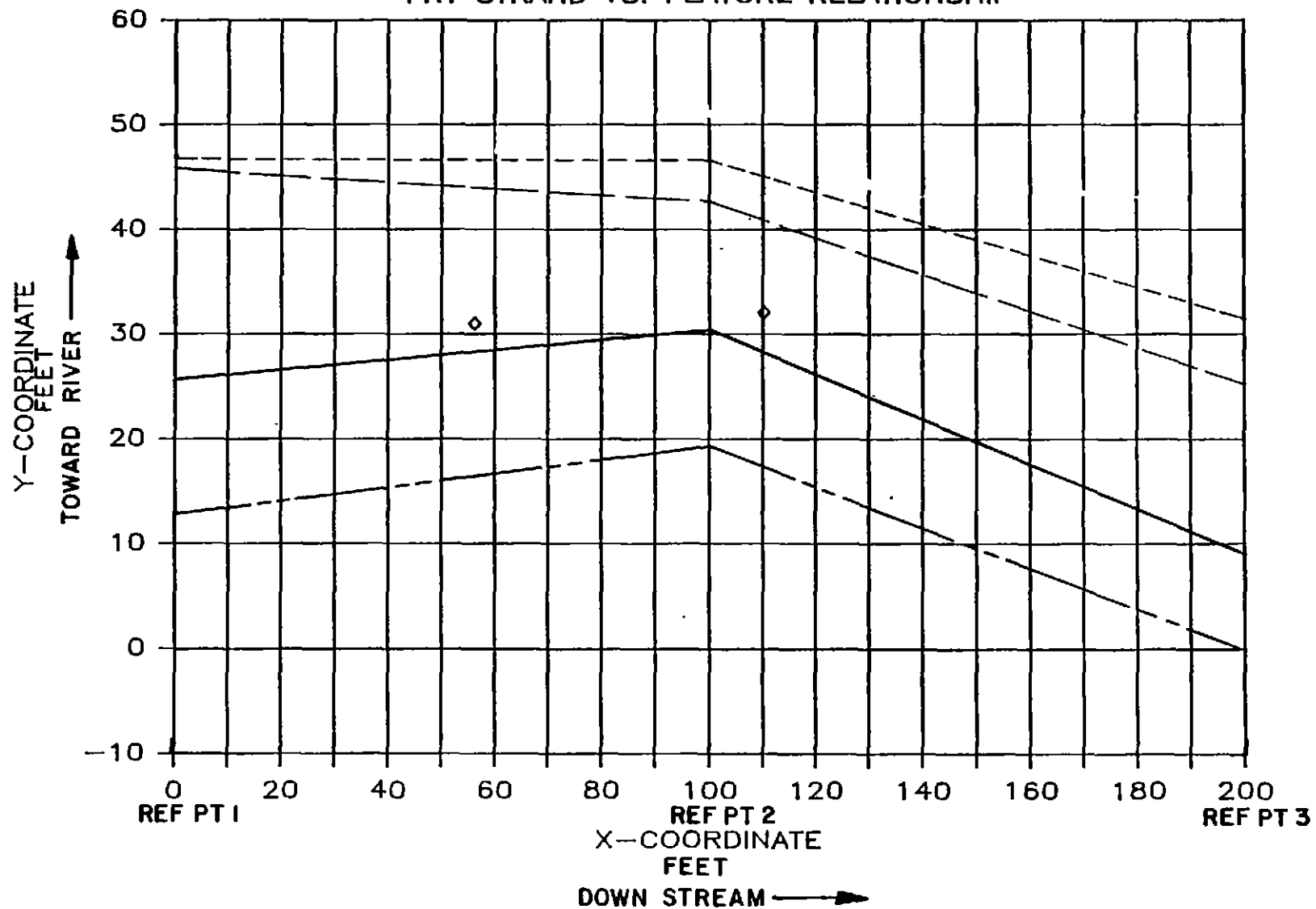
SPRING 1986
DIOBSUD CREEK BAR SITE 2

FRY STRAND VS. FEATURE RELATIONSHIP



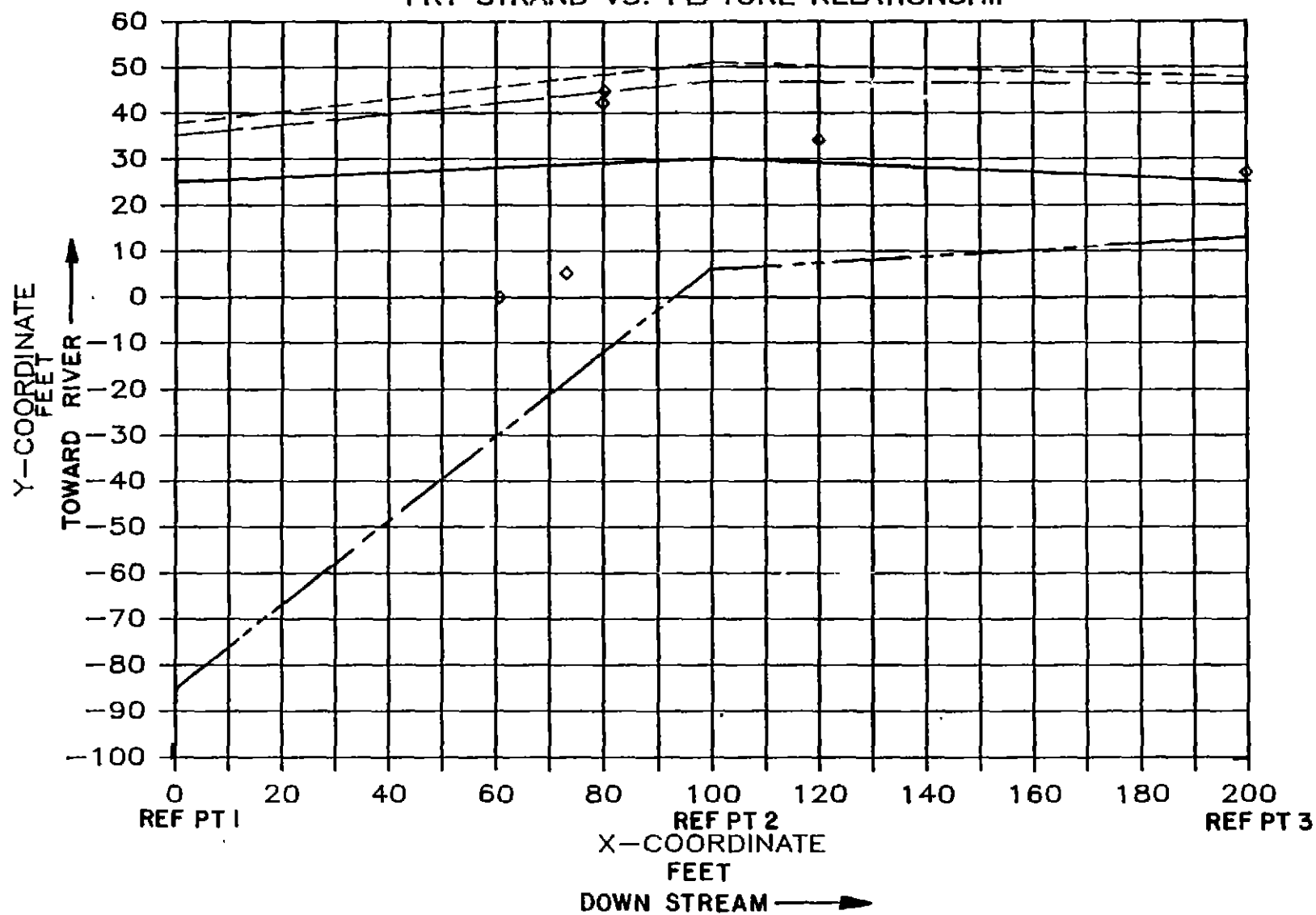
SPRING 1986
BACON CREEK BAR SITE 2

FRY STRAND VS. FEATURE RELATIONSHIP

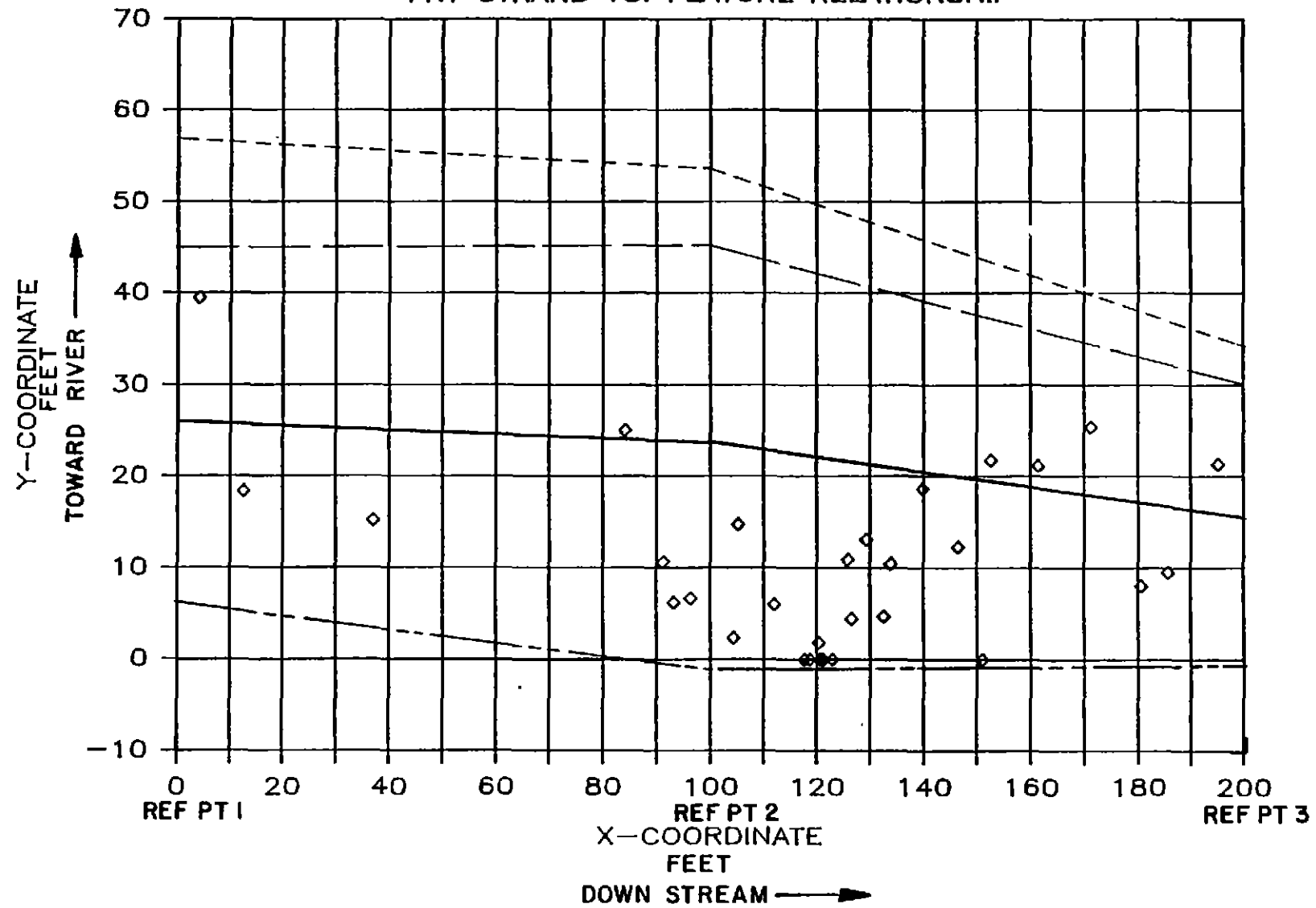


SPRING 1986
BACON CREEK BAR SITE 1

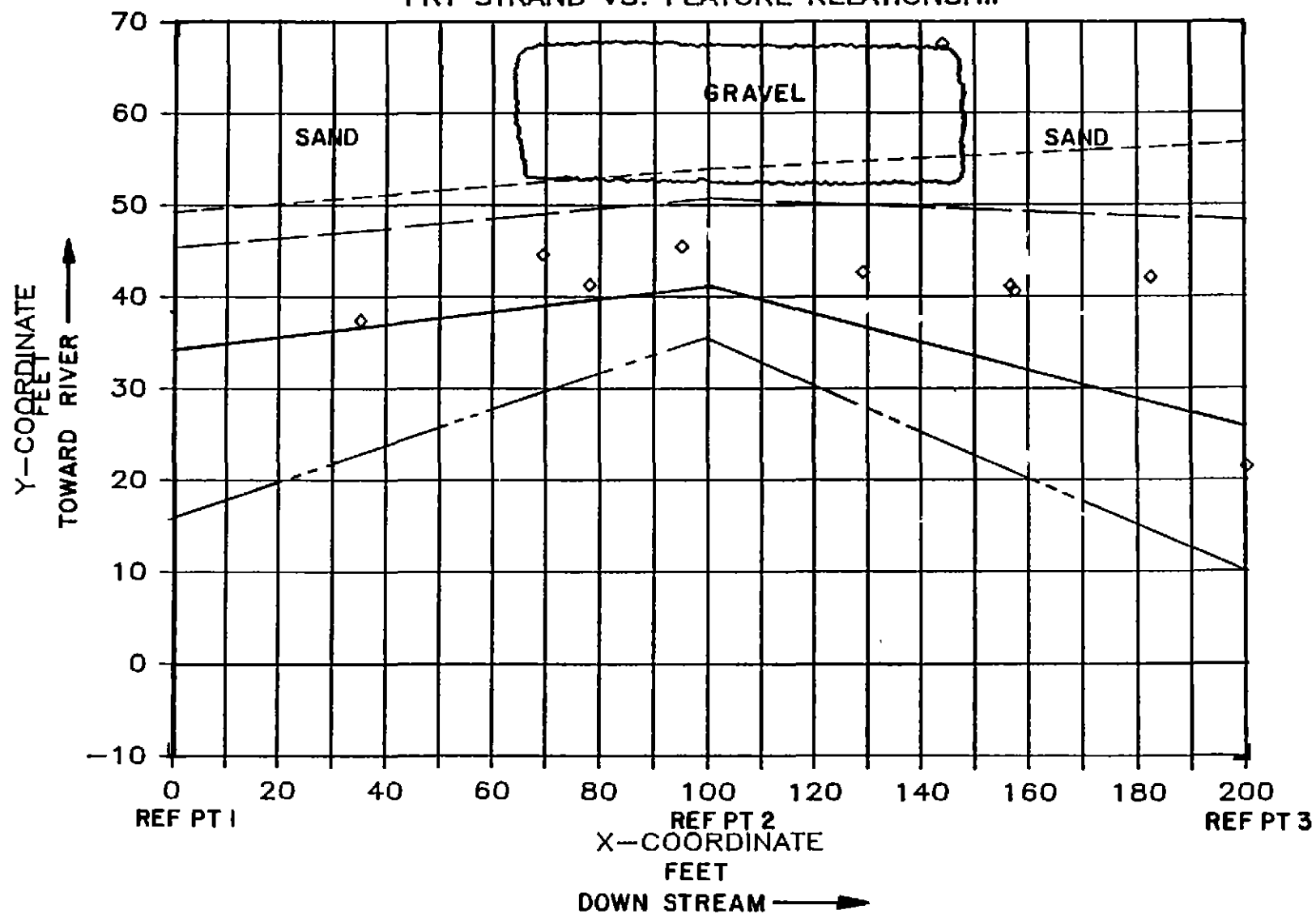
FRY STRAND VS. FEATURE RELATIONSHIP



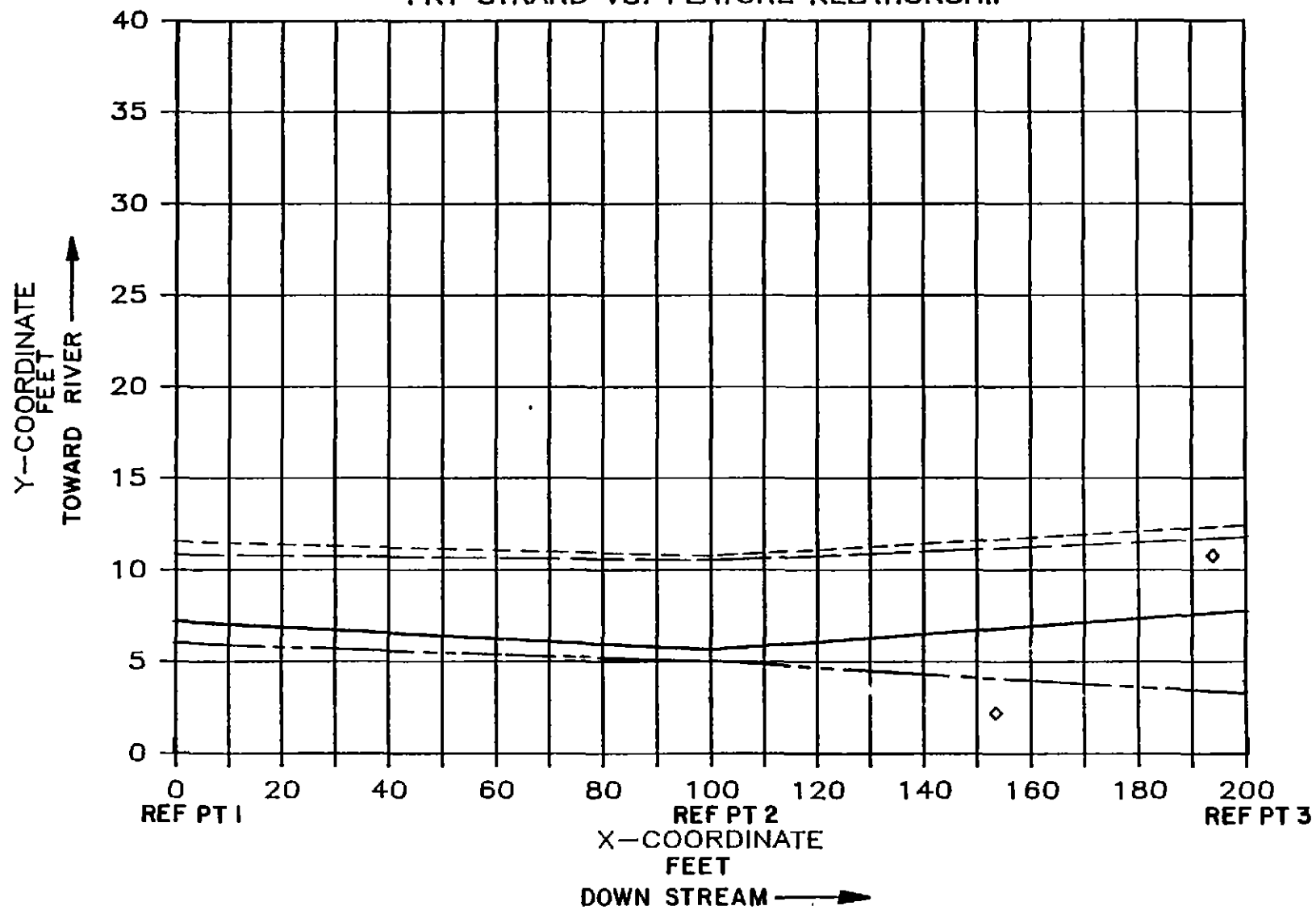
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OINK BAR SITE 2
FRY STRAND VS. FEATURE RELATIONSHIP



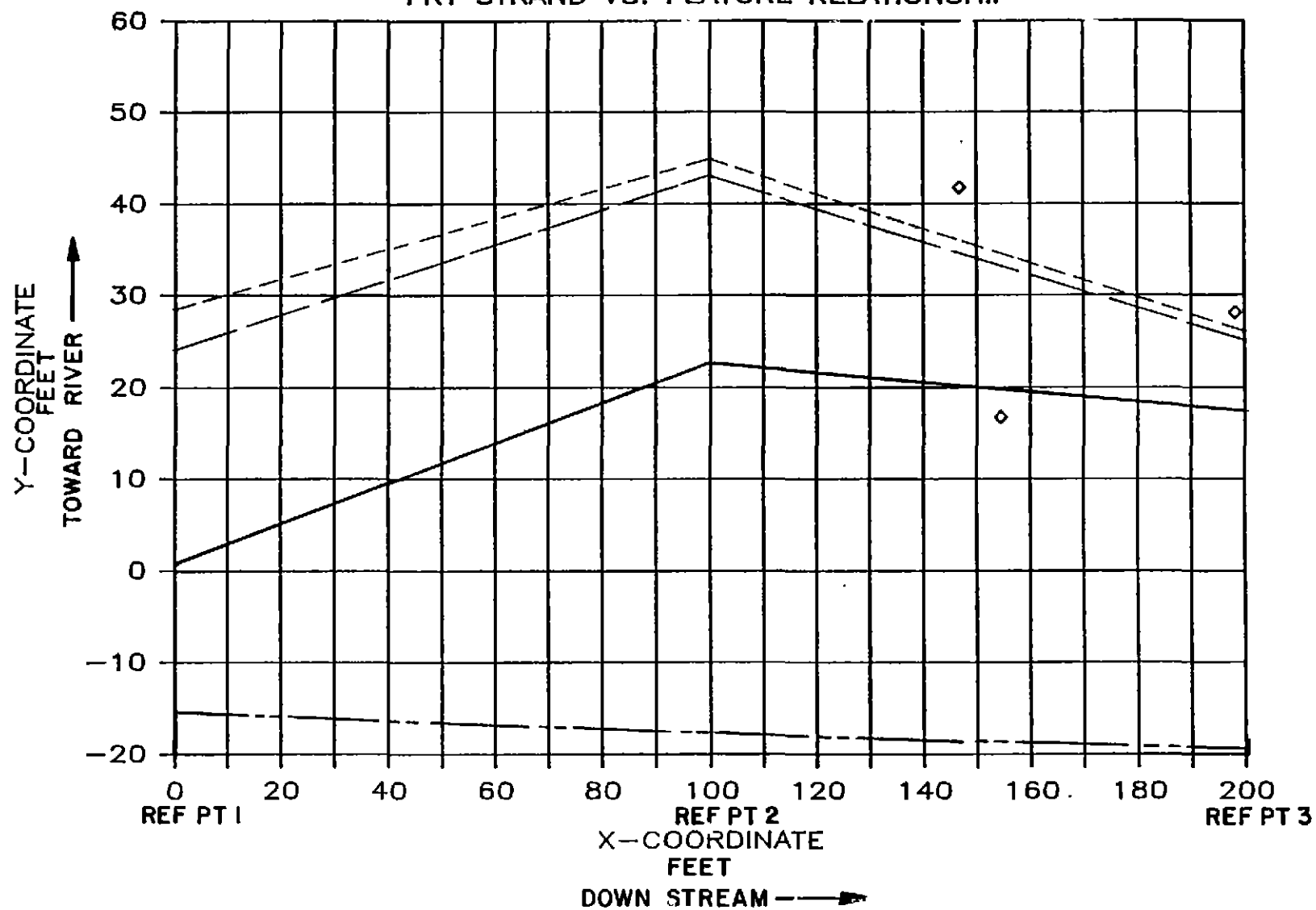
SPRING 1986
POINK BAR SITE 1
FRY STRAND VS. FEATURE RELATIONSHIP



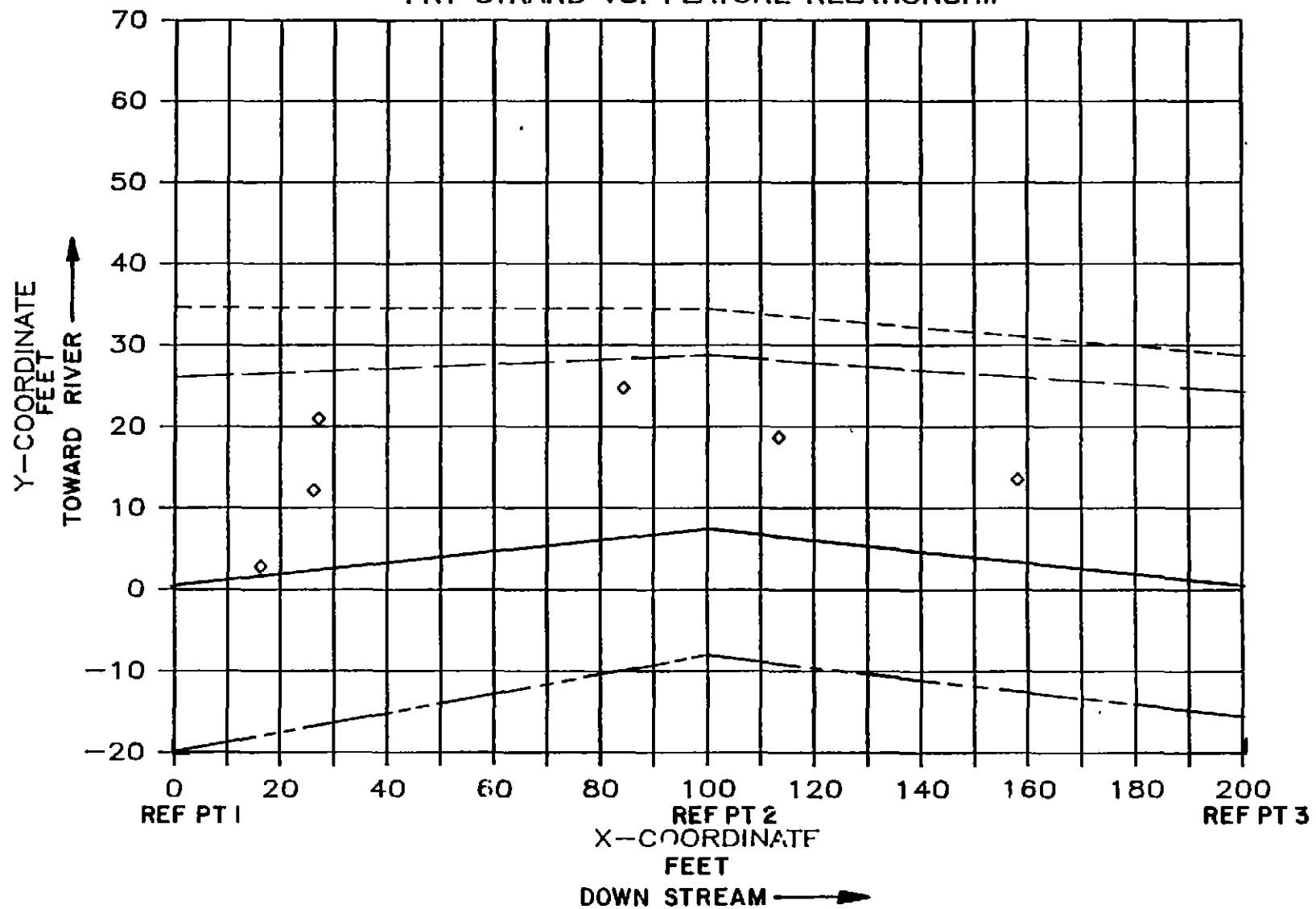
SPRING 1986
FACE BAR SITE 3
FRY STRAND VS. FEATURE RELATIONSHIP



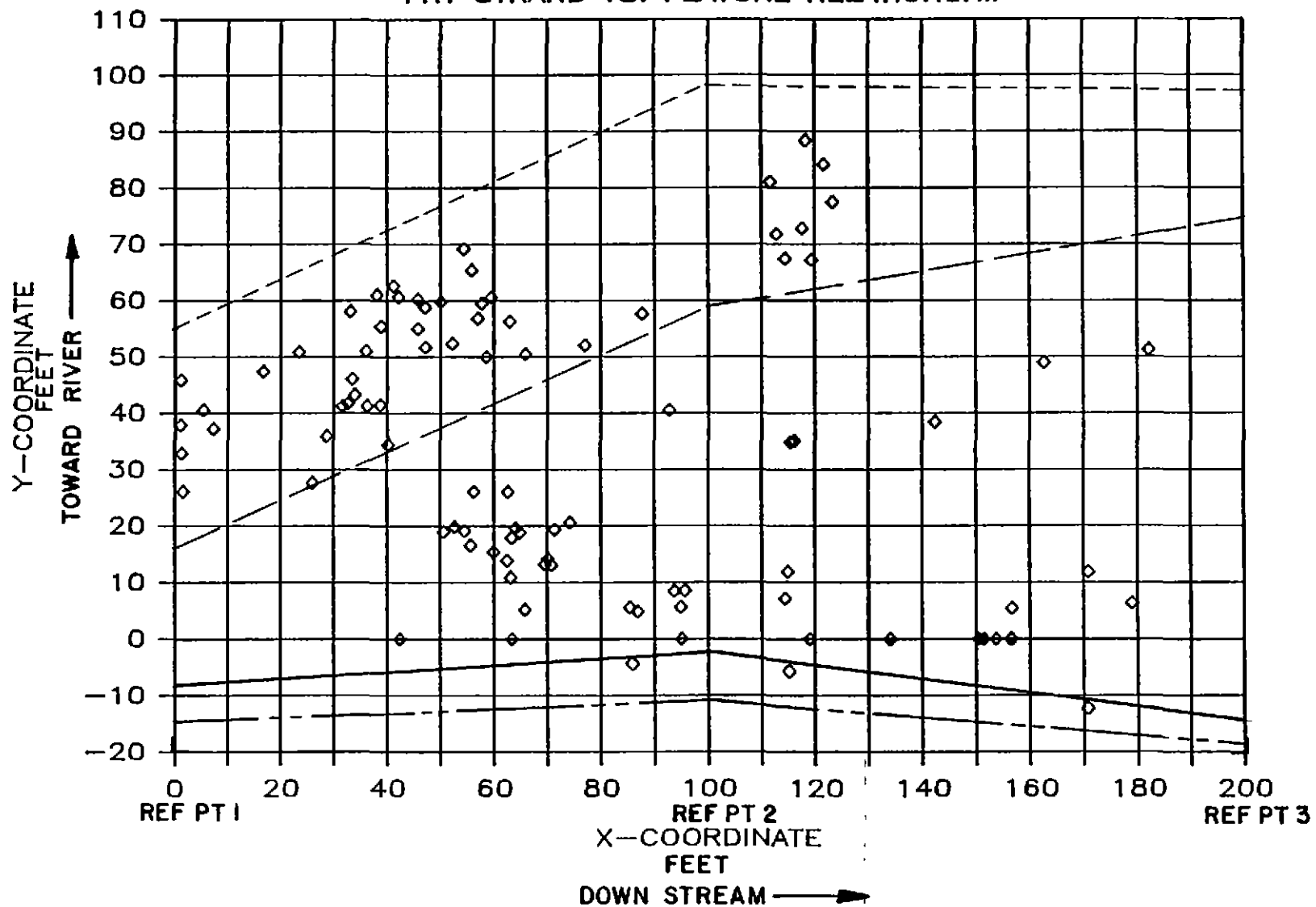
SPRING 1986
FACE BAR SITE 2
FRY STRAND VS. FEATURE RELATIONSHIP



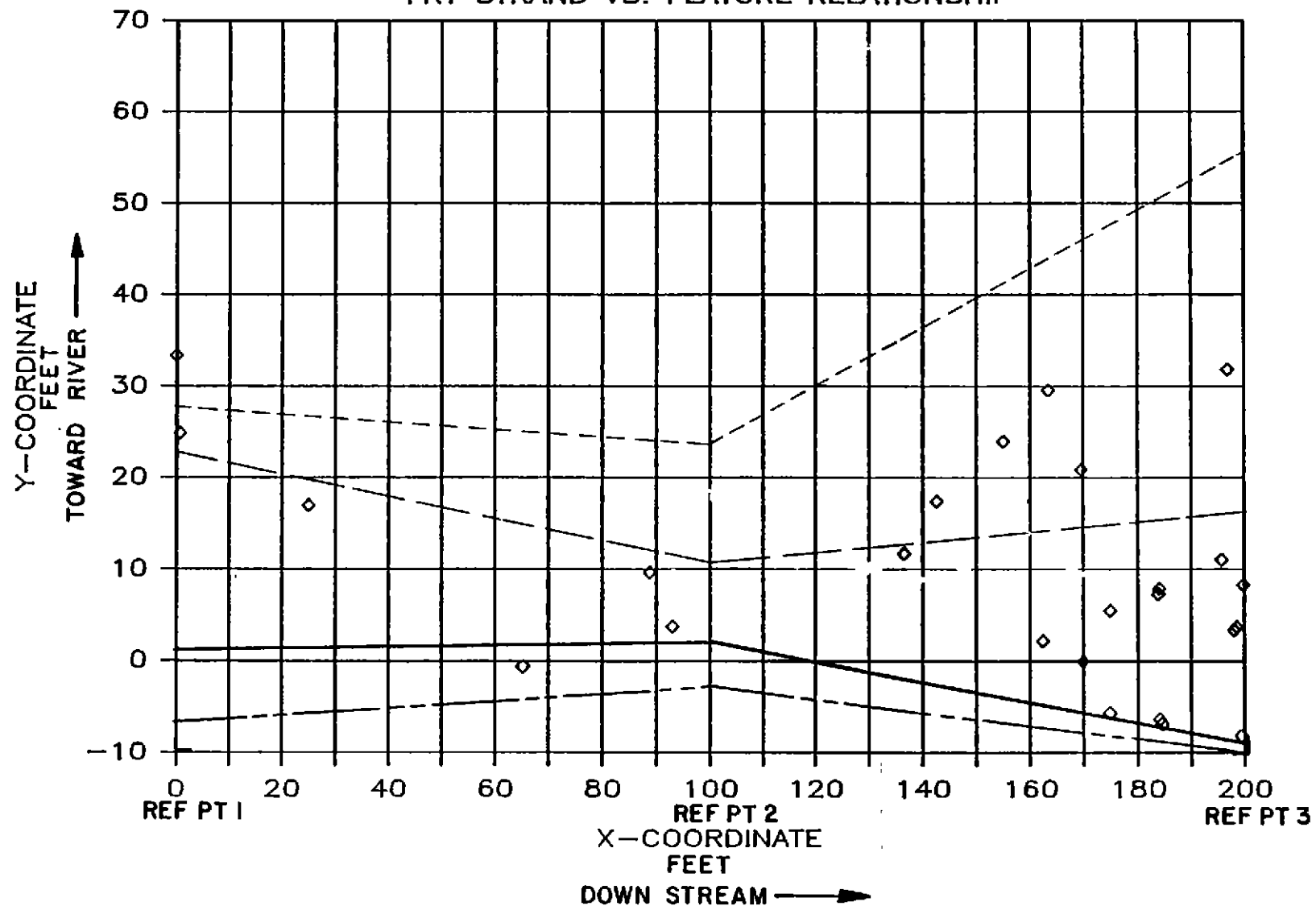
SPRING 1986
FACE BAR SITE 1
FRY STRAND VS. FEATURE RELATIONSHIP



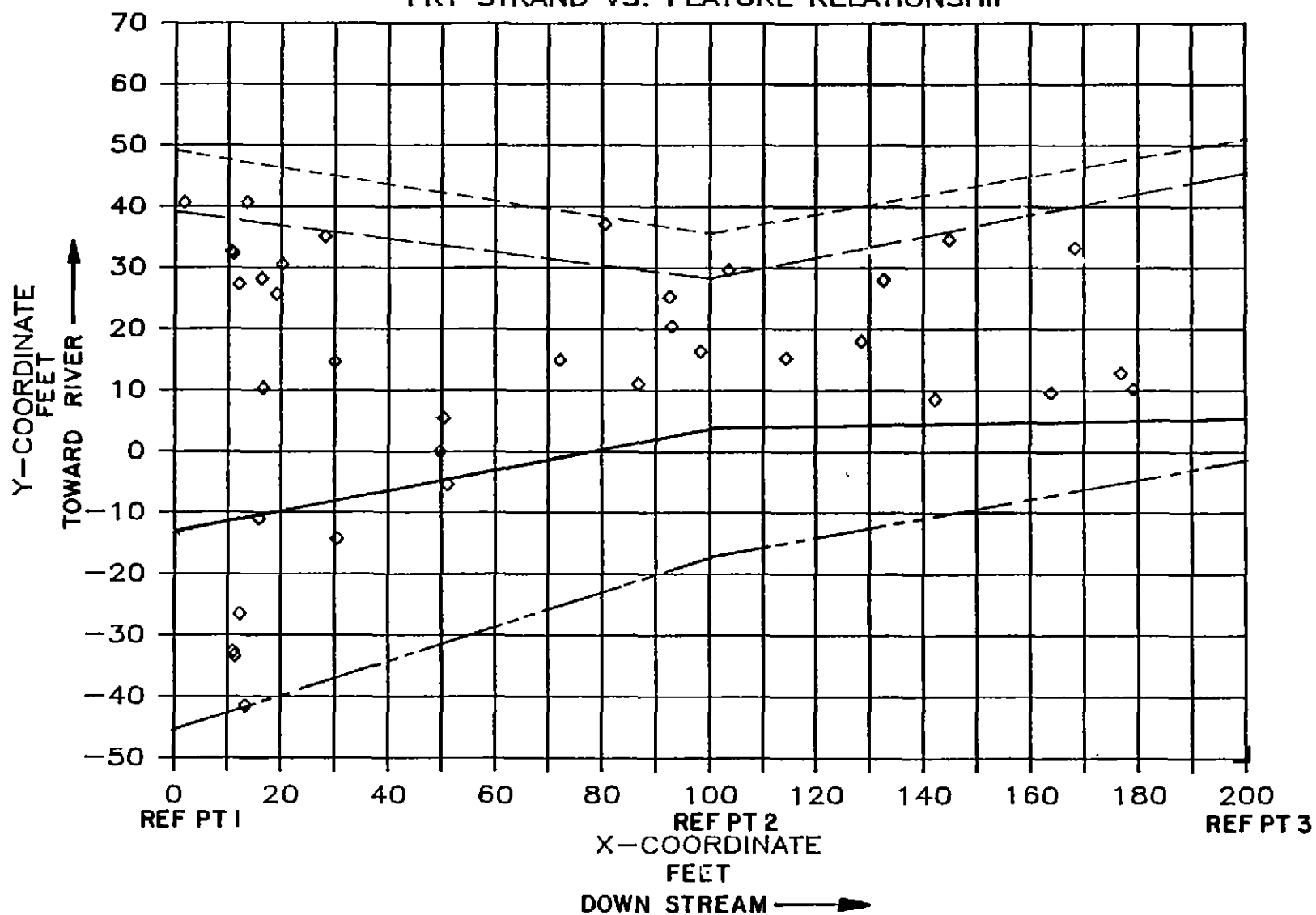
SPRING 1986
MARBLEMOUNT BAR SITE 3
FRY STRAND VS. FEATURE RELATIONSHIP



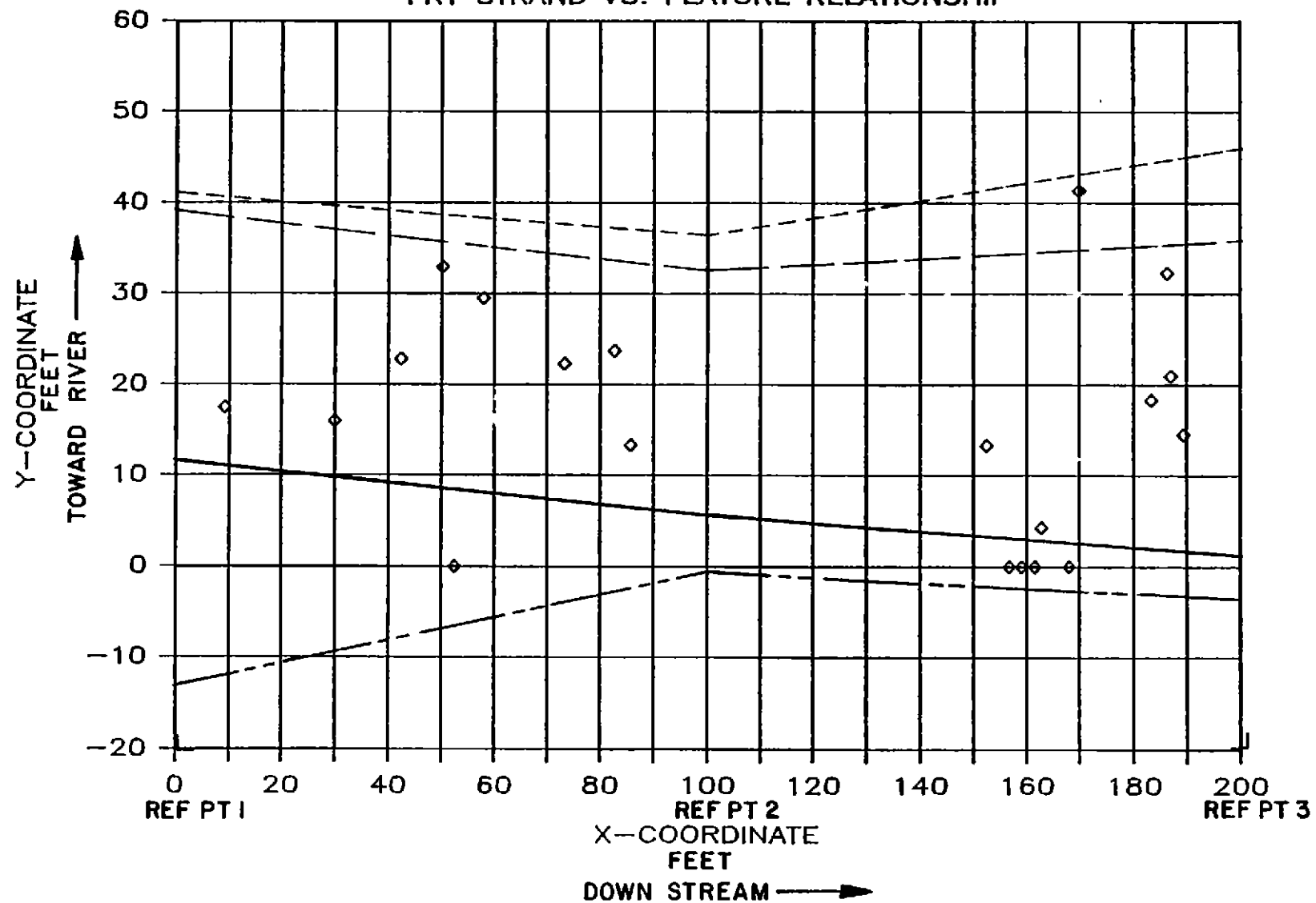
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MARBLEMOUNT BAR SITE 2
FRY STRAND VS. FEATURE RELATIONSHIP



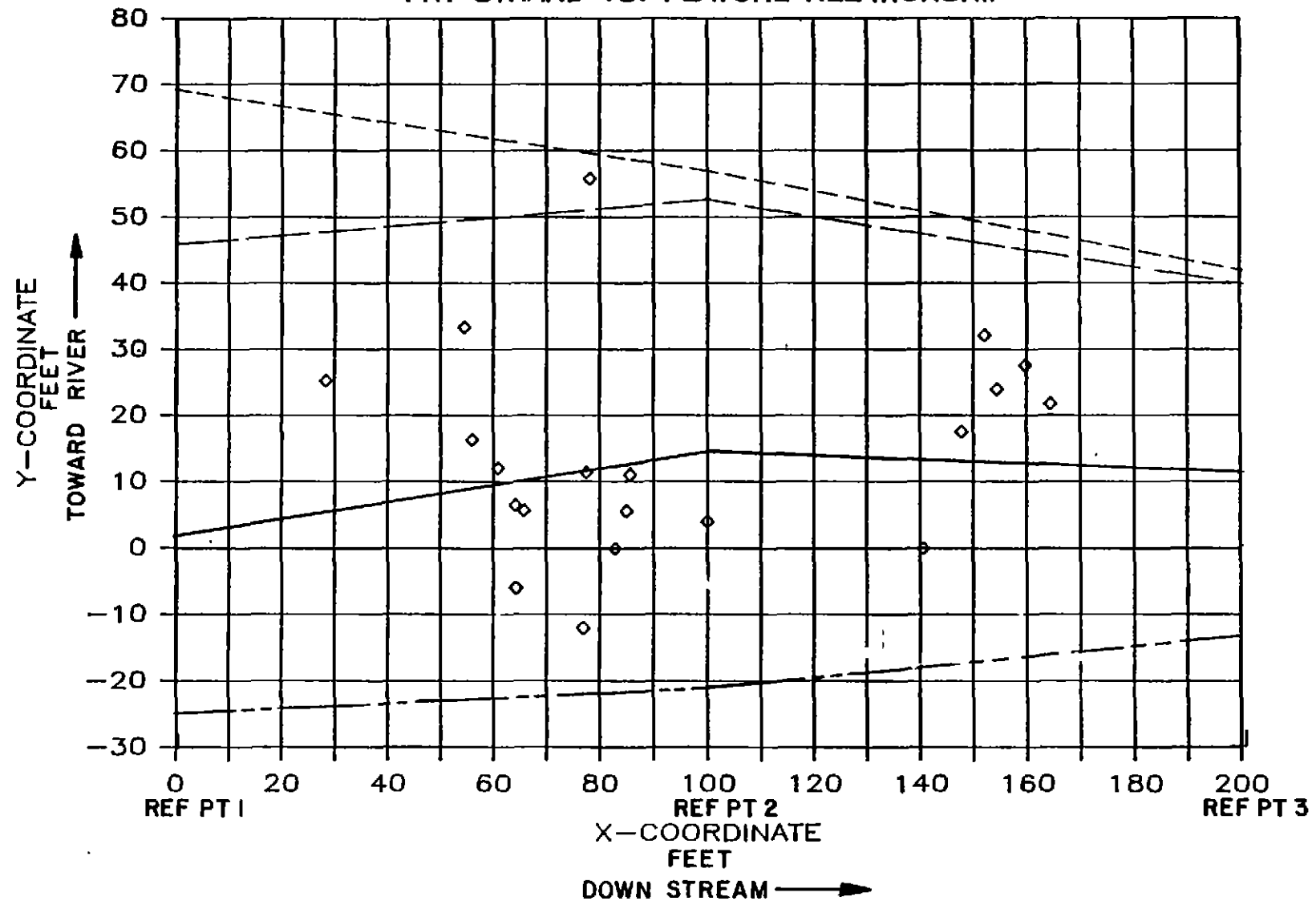
SPRING 1986
MARBLEMOUNT BAR SITE 1
FRY STRAND VS. FEATURE RELATIONSHIP



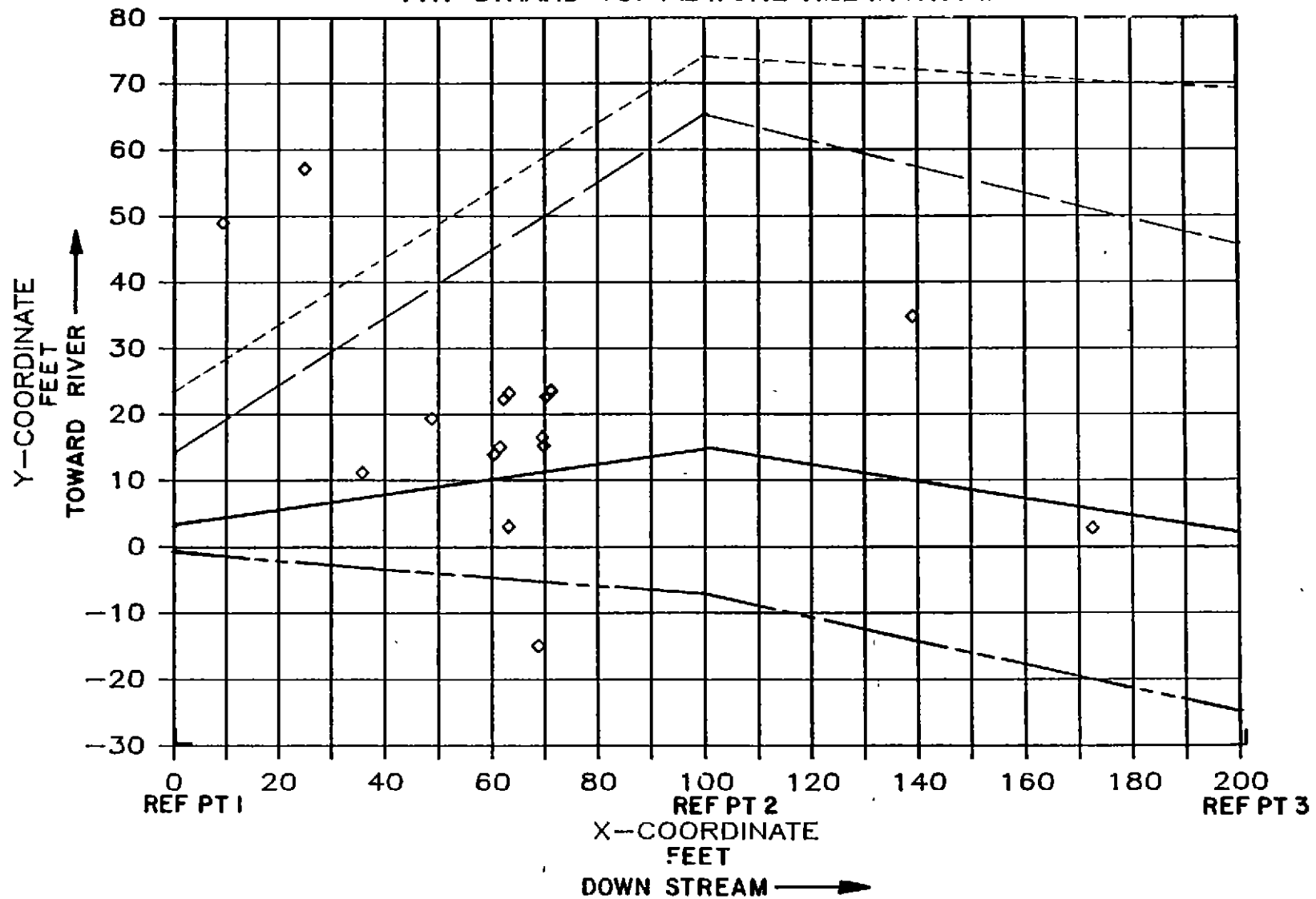
SPRING 1986
FUNGUS BAR SITE 3
FRY STRAND VS. FEATURE RELATIONSHIP



SPRING 1986
FUNGUS BAR SITE 2
FRY STRAND VS. FEATURE RELATIONSHIP



SPRING 1986
FUNGUS BAR SITE 1
FRY STRAND VS. FEATURE RELATIONSHIP



APPENDIX R

FRY RECRUITMENT INTO POTHOLES

This study was conducted by Russell K. Ladley, fisheries biologist on the staff of R.W. Beck and Associates. The report that follows is a more detailed version of the condensed form that appears in Section VI.

ABSTRACT

Tests were designed to quantify the timing and level of fry recruitment into potholes that interface regularly with the main channel river flow. Downramps were regulated according to a prescribed combination of amplitudes, ramping rates and endflows. Fry recruitment into potholes was studied using time periods of one to four days. Following a pre-determined test interval, fry were removed from potholes with an electroshocker and counted. New fry moved into potholes immediately during the first high water event. A series of low beginning flow downramps resulted in a steady recruitment of fry. Recruitment was interrupted by a downramp with a high beginning flow which seems to flush fry from the pothole. Potholes providing cover and large substrate were observed to recruit higher numbers of fry.

ACKNOWLEDGMENTS

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R. W. Beck and Associates

Mr. Dave Pflug; Mr. Jay Kidder; Mr. Paul Tappel

Seattle City Light

Mr. Keith Kurko

Skagit System Cooperative

Mr. Jim Gibson

Consulting:

Dr. Lars Mobrand

INTRODUCTION

This is the second of two smaller companion studies that were conducted in association with R.W. Beck and Associates, Skagit River Fry Pothole Stranding Studies (1989). The Beck study focused on the identification of factors affecting fry trapping and stranding in potholes along the Skagit River.

The first of the two companion studies determined the residency time of fry once they had become trapped in potholes. The study identified the average pothole-residency time of several fry species. It was designed to answer two questions: once fry have been trapped in a pothole, how long will they remain in the pothole or return to it when given the opportunity to leave, and what factors affect this behavior? The results of this study provided valuable information about the behavior of fry trapped in potholes.

This study, the second of the two companion studies, investigated recruitment into potholes completely devoid of fry, which simulates a dewatered pothole that has stranded the fry trapped within it. The study monitored fry recruitment in these potholes by time, and evaluated the affect of preselected flow history patterns on fry recruitment into potholes. Recruitment, in this context, is defined as fry that move into and remain in a pothole following a dry flow event. The numbers of fry trapped in potholes were monitored daily to determine how different flow history patterns affected recruitment. The primary purpose of this investigation was to determine how quickly an "empty" pothole recruits fry and secondly, to identify what physical or hydrologic factors influence recruitment.

APPROACH

1. General

A number of potholes were selected for the study, each having pothole connection flows falling within the beginning and endflow range of the downramps used during the study. The approach required complete removal of all fry, with an electroshocker, from preselected potholes during the early morning hours following a downramping event. Fry were removed from upstream study potholes first, followed by downstream potholes. The number of fry and species were recorded for each pothole before being released back into the Skagit River well below (approximately 1/2 mile) the sampling site. This was done to prevent fry from moving back upstream into their respective potholes. Once each pothole was cleared of fry, simulating a pothole that goes dry, it was allowed to recruit fry over a 1-4 day period. Each day the study potholes connect and disconnect from the main-channel flow which gave the fry opportunities to move freely between the pothole and the main-channel flow. The number of fry removed from each pothole after a scheduled 1-4 day

test period was used to determine any recruitment responses correlated with differing flow history patterns. For example, Area 1 included seven (7) potholes located from Bacon Creek to Marblemount. When Area 1 was scheduled for a one-day test, the potholes would be emptied on the first day and again on the following morning, allowing each empty pothole to connect to the main-channel flow one time. Recruitment is made possible when these potholes become connected to mainchannel flow. The fry removed from the potholes of Area 1 were released downstream beginning another recruitment period of 1-4 days depending on the pre-determined sampling schedule. Generally three areas were sampled per day before upramping flows re-connected the pothole areas.

The study design and sampling routine were developed to maximize the number of completed tests during a series of downramp events that were pre-arranged for the Beck gravel bar stranding study. A rotation schedule for removing fry from selected potholes was developed by dividing the river into five spacial sampling areas. The tests took place from March 13 to April 14, 1986.

Two different downramp beginning flows were used throughout the 23 day testing period (one test per day) the first beginning flow (low beginning flow) was 5,000 cfs and the second beginning flow (high beginning flow) was 7,000 - 7,500 cfs. The low beginning flow resulted in a smaller average pothole overflow for the test potholes than the high beginning flow. The overflow of a pothole is the depth of water over the pothole prior to a downramping event. For any given pothole the overflow increases with the beginning flow, provided the pothole begins the downramp connected to main channel flow.

The data resulting from this field study were used to form two data sub-sets, each of which relate to a different flow history combination type:

Data Sub-Set 1 - A low beginning flow downramp preceded by a series of low beginning flow downramps, that were not interrupted by a high beginning flow or another sampling date.

Data Sub-Set 2 - A high beginning flow downramp preceded by a series of low beginning flow downramps, that were not interrupted by a high beginning flow or another sampling date.

A descriptive variable called "N-Days" was created. This variable is defined as the number of uninterrupted low or high beginning flows (depends on data sub-set type) that preceded the test day. If, for example, the sampling date was a low beginning flow preceded by a series of two low beginning flow downramps the N-Days value for Data Sub-Set 1 above is two (2). Arrangement of the data in this format was necessary to test the effect of different patterns of flow history (high beginning flow followed by low beginning flows, etc.) on fry recruitment into potholes.

2. Streamflow

Seattle City Light regulated flows according to a requested test pattern designed by R. W. Beck and Associates for the gravel bar stranding study. The testing pattern involved a combination of downramp amplitudes, beginning and endflows, and ramping rates (See Beck, 1988). Beginning and endflows were measured at the Marblemount USGS stream gage. Two beginning flow levels were used during the 23 days of downramping tests. The high beginning flow level ranged from 7,000 - 7,500 cfs and the low beginning flow level ranged from 5,000 - 5,500 cfs. Both levels of beginning flows connected all the study potholes. The higher beginning flow level created higher pothole overflows than did the lower beginning flow level. All downramping tests were conducted during the darkness hours to minimize pothole stranding mortalities.

3. Site Selection

During the spring of 1985, R. W. Beck and Associates gathered detailed measurements of connection flows for potholes located between Bacon Creek and Rockport on the Skagit River. Potholes used in this study were selected using Beck's pothole connection flow data. Each pothole had to meet the following criteria: (1) must actively connect and disconnect with the prescribed test flow parameters; (2) must be a manageable size so that removal of all fry can be accomplished within a reasonable period of time; (3) must retain enough water to support fry for the duration of the flow period. Thirty-six potholes were selected using this criteria. These potholes varied in location, size, cover, depth and substrate and were considered representative of the potholes found along this section of the Skagit River.

4. Data Analysis

Analysis of variance by ranks (Kruskal-Wallis test) was applied to the data for number of fry recruited. Recruitment was compared using the number of consecutive day tests conducted with the same beginning flow prior to the sampling date (N-Days). The sampling date beginning flow had either a high or low beginning flow preceded by a series of uninterrupted high or low beginning flow downgrade events. These four different data sub-sets were described earlier.

RESULTS

During this study, recruitment of fry into potholes consisted of mostly chinook (*O. tshawytscha*) (Table 1). The data presented below reveals that fry, composed primarily of chinook, recruit into empty potholes as soon as they become reconnected to the main-channel flow.

TABLE 1
SPECIES COMPOSITION OF FRY FOUND
IN POTHOLE BETWEEN MARCH 13 AND APRIL 12
ON THE SKAGIT RIVER IN 1986

<u>Fry Species</u>	<u>Number Sampled</u>	<u>Percent of Total Fry</u>
Chinook	3,006	97.8
Steelhead	37	1.2
Pink	21	0.7
Coho	10	0.3

Downramp tests with a low beginning flow sampling day preceded by low beginning flow downramps (Data Sub-Set 1) showed a significant increase (p less than .05) in mean numbers of fry recruited as N-Days increases (Table 2 and Figure 1). The average initial recruitment into empty potholes (N-Days = 0) with a low beginning flow was 5.83 fry/pothole. These potholes had been connected (with a low beginning flow) only once to the main channel flow after all fry had been removed from the potholes. When the situation was repeated and preceded by another low beginning flow downramp (N-Days = 1) the mean number of fry recruited increased to 12.79 fry/pothole. When a third consecutive low beginning flow occurred, making three low beginning flows in a row, the mean number of fry recruited increased to 18.57 fry/pothole.

TABLE 2
RESULTS OF AVERAGE FRY RECRUITMENT
VERSUS TWO BEGINNING FLOW HISTORY LEVELS

<u>Beginning Flow Classification(1)</u>	<u>N-Days(2)</u>	<u>Number of Observations</u>	<u>Average Pothole Recruitment</u>
1	0	27	5.83
1	1	21	12.79
1	2	11	18.57
2	0	31	10.58
2	1	26	6.83
2	2	0	No Data

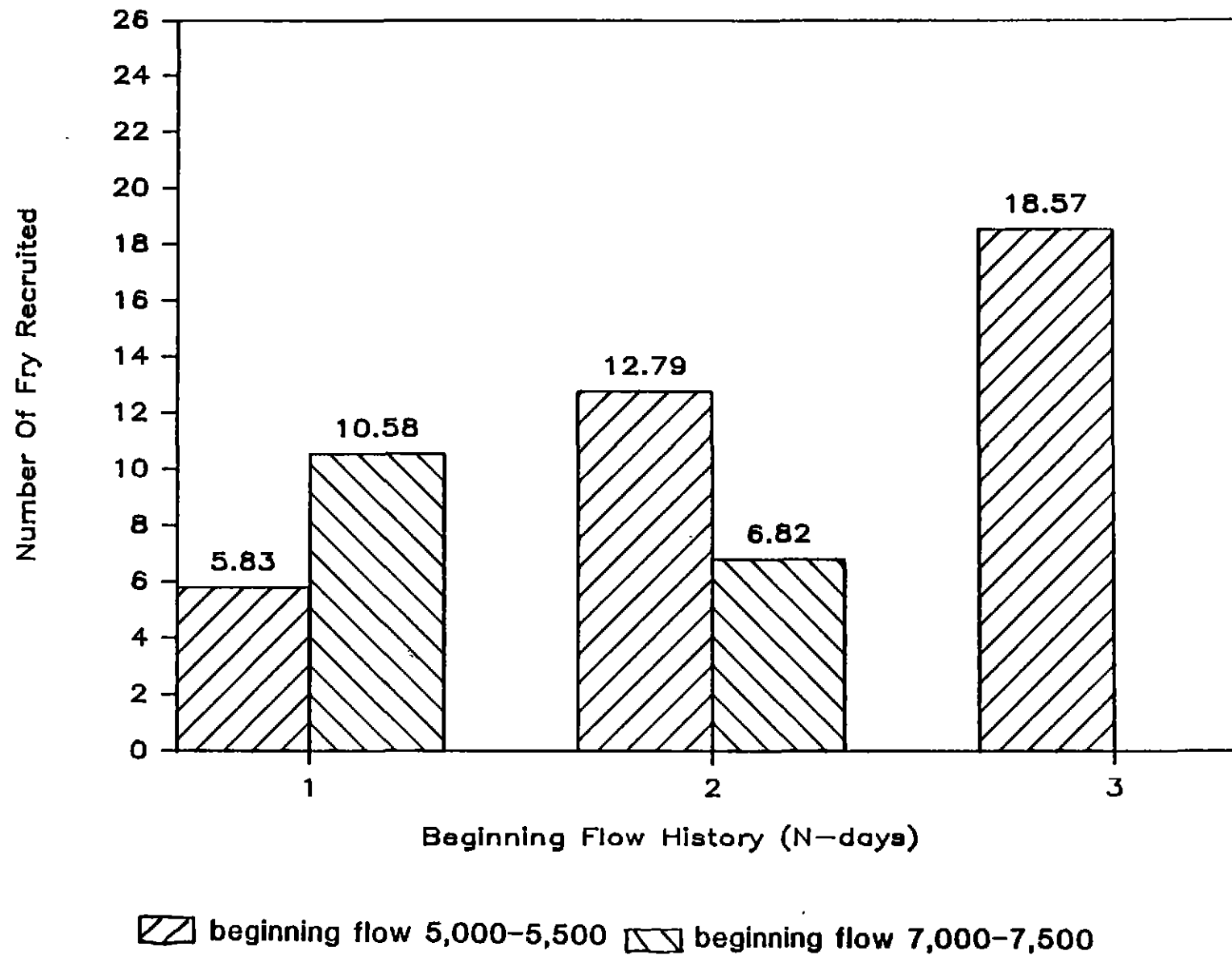
1 - Beginning Flow Classification at Marblemount

1 = Beginning Flow 5,000 - 5,500 cfs

2 = Beginning Flow 7,000 - 7,500 cfs

2 - N-Days is the number of downramps prior to test date having beginning flow of 5,000-5,500 cfs.

FIGURE 1 AVERAGE FRY RECRUITMENT IN POTHOLES VS. BEGINNING FLOW HISTORY AT TWO LEVELS OF BEGINNING FLOW



When a high beginning flow sampling day was preceded by low beginning flow downramps (Data Sub-Set 2) were tested, the results showed no significant trend in recruitment (p less than .05).

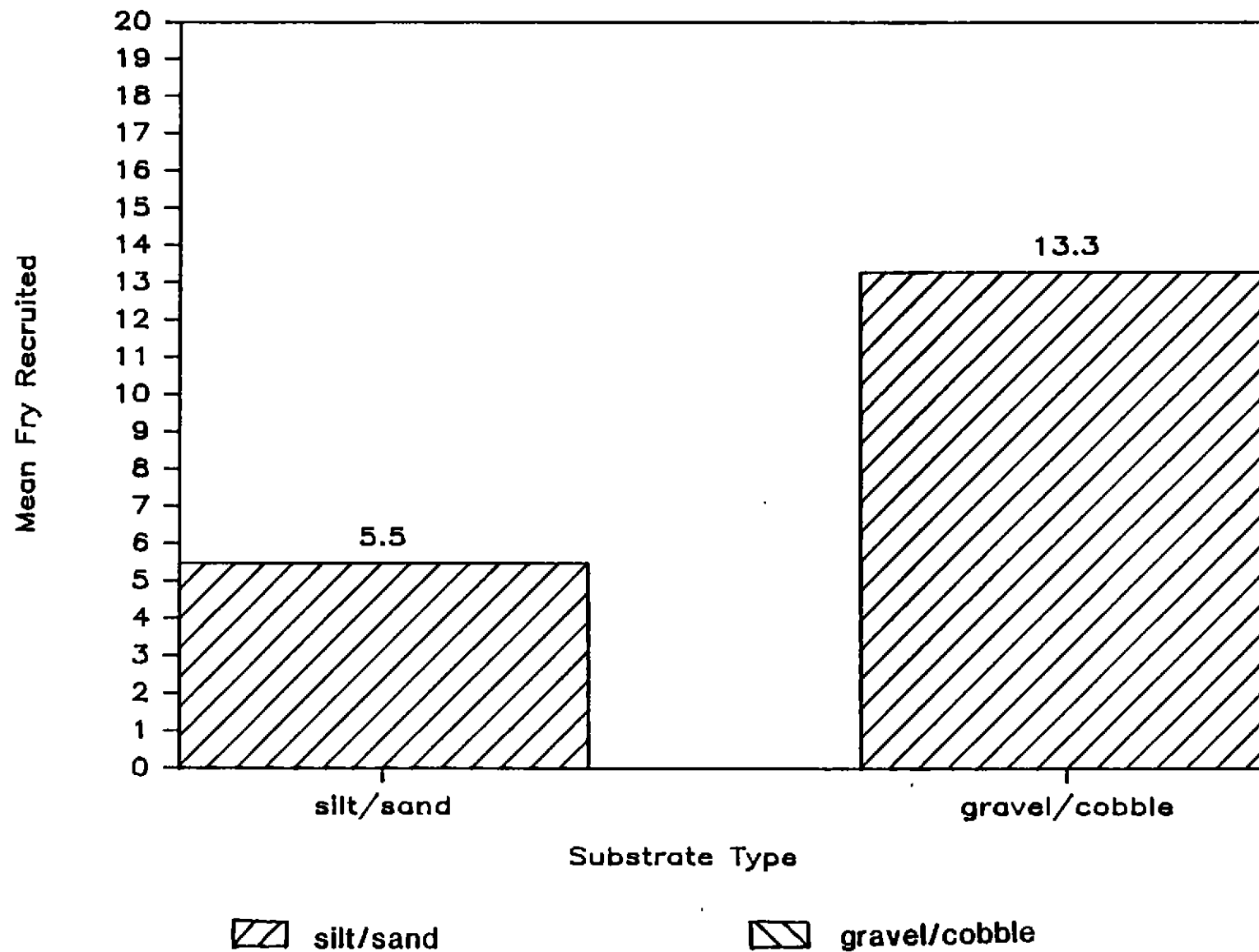
Although the data is not shown here, when a high beginning flow sampling day was preceded by a string of high beginning flow downramps were tested, the results showed no significant trend in recruitment (p less than .05). There was no significant trend in recruitment for low beginning flow sampling days preceded by a series of high beginning flow downramps.

Another factor that appears to influence recruitment into potholes is the substrate composition of the pothole. Potholes having small substrate types (silt and sand) versus larger substrate (gravel and cobble) recruited fewer fry (Figure 2). The same analysis could not be completed for potholes with and without cover due to a general lack of observations of each type.

Results from the study of residency time of fry in potholes (Troutt, 1986) indicates that fry may selectively choose potholes as short-term rearing habitat. Assuming that pothole residency is a natural part in the life history of some fry, it follows that fry will seek out potholes as rearing sites. Results from this study appear to reflect chinook fry preference for areas of reduced velocity and cover for early rearing purposes.

The results further suggest that a high beginning flow "erases" the recruitment that would have built up during a series of low beginning flows. A pothole may not recruit fry at a high rate of recruitment when deeply submerged. It appears a high-flow downramp may flush fry out of a pothole and any recruitment occurring in the subsequent downramp probably results from fry randomly entering pothole areas as the flow level drops during the downramp. The absence of any significant trends in recruitment associated with high beginning flows and large pothole overflows supports this speculation. That is, trapping is likely to be independent of the number of low beginning flow downramps that occur prior to a high beginning flow. Conversely, the number of fry trapped in potholes that repeatedly connect and disconnect with main-channel flow is influenced by the number of successive low beginning flows that take place prior to a low beginning flow downramp. This study shows that the number of fry trapped in a pothole continues to increase until the string of low beginning flows is interrupted by a high beginning flow which starts the recruitment process over again. Furthermore, the apparent relationship between downramp beginning flow and recruitment (or fry trapped) was also found to agree with the results of a separate study concerning pothole trapping conducted during the spring of 1985 (See Figure 13 in Beck, 1989).

FIGURE 2 AVERAGE FRY RECRUITMENT IN POTHOLES WITH SAND AND SILT VS. GRAVEL AND COBBLE SUBSTRATE



Pothole residency appears to be a natural part in the life history of some chinook fry on the Skagit River. The immediate recruitment observed during this study appears to reflect the tendency for fry to utilize preferred habitat. However, high beginning flows apparently inundate potholes and perhaps create current velocities unsuitable for fry. Accordingly, suitability seems to relate to other physical characteristics of the pothole site such as cover type and streambed substrate. Moreover, as discharge fluctuations at Gorge Powerhouse cause potholes to connect and disconnect, this study shows that fry choose and sometimes remain in potholes for extended time periods and as long as minimum flows do not de-water potholes, the threat of stranding is perhaps minimal.

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APPENDIX A
FRY RECRUITMENT INTO POTHoles
FIELD DATA SUMMARY

Obs.	PHOLE	DATE	HFISH	RANK	WLOW	AREA	SUBSTR
1	1010	318	0	3.0	0	1	1
2	1005	327	0	4.5	0	1	1
3	1304	318	2	3.5	0	2	3
4	1016	327	0	2.0	0	2	3
5	1005	318	0	4.5	0	1	1
6	1311	327	1	6.0	0	1	1
7	1310	318	4	7.0	0	2	3
8	1004	333	0	5.0	0	1	1
9	1003	327	44	5.0	0	2	3
10	1016	327	0	2.0	0	2	3
11	1308	318	1	6.0	0	2	3
12	1005	333	0	4.5	0	1	1
13	1011	318	3	3.0	0	2	1
14	1306	318	12	6.0	0	2	3
15	201	318	0	2.0	0	2	2
16	1010	333	0	3.0	0	1	1
17	1307	318	19	6.0	0	2	3
18	1102	318	1	1.0	0	2	3
19	2302	318	3	5.0	0	2	3
20	1003	333	21	1.5	0	2	3
21	1309	327	2	8.5	0	2	3
22	1004	327	0	5.0	0	1	1
23	1304	327	2	3.5	0	2	3
24	1020	333	0	3.0	0	2	1
25	1001	327	0	5.0	0	1	2
26	1307	327	21	5.0	0	2	3
27	1101	318	27	3.0	0	2	2
28	1002	333	1	5.0	0	2	3
29	1310	327	7	6.0	0	2	3
30	2301	318	39	2.0	0	2	3
31	1002	327	0	2.5	0	2	3
32	1001	333	0	5.0	0	1	2
33	1001	318	0	5.0	0	1	2
34	1311	318	1	6.0	0	1	3
35	1003	318	21	1.5	0	2	3
36	1017	333	11	3.0	0	2	4
37	1011	327	2	1.0	0	2	1
38	1309	318	1	6.0	0	2	3
39	1308	327	0	2.5	0	2	3
40	1010	327	0	3.0	0	1	1
41	1002	318	0	2.5	0	2	3
42	1017	327	6	2.0	0	2	4
43	1306	327	3	1.0	0	2	3
44	1011	333	8	4.0	0	2	1
45	1004	318	0	5.0	0	1	1
46	1103	318	2	3.5	0	2	2
47	1020	327	0	3.0	0	2	1
48	1309	332	1	6.0	1	2	3
49	1202	341	0	3.0	1	2	1
50	1401	332	39	4.0	1	2	1
51	2102	341	9	6.0	1	2	3
52	610	341	17	2.0	1	2	3
53	1200	332	12	6.0	1	2	1
54	114	341	7	1.5	1	2	3
55	2101	341	0	4.5	1	2	3
56	1601	341	1	8.5	1	1	1
57	1102	332	2	2.0	1	2	1

59	1504	332	6	4.0	1	1	1
60	201	332	7	9.0	1	1	1
61	1304	332	23	7.0	1	2	3
62	1207	332	1	7.0	1	2	1
63	410	337	34	4.0	1	1	3
64	1601	332	0	4.0	1	1	1
65	1201	341	0	3.5	1	1	1
66	1202	337	0	3.0	1	2	1
67	2303	337	9	1.0	1	1	3
68	1102	337	7	6.0	1	1	3
69	1101	337	105	6.0	1	1	1
70	114	337	7	1.5	1	2	3
71	2301	341	25	6.0	1	1	1
72	1401	337	24	7.0	1	1	1
73	1207	337	0	3.5	1	1	1
74	2102	337	2	3.0	1	1	1
75	2602	341	5	8.0	1	1	3
76	2301	337	41	4.0	1	2	3
77	2302	337	2	3.5	1	1	3
78	1103	337	4	5.5	1	2	2
79	1201	337	0	3.5	1	1	1
80	1200	337	0	1.5	1	2	1
81	2601	337	0	2.5	1	1	3
82	201	337	0	2.0	1	1	1
83	2101	337	0	4.5	1	1	3
84	1200	341	1	3.5	1	2	1
85	1602	337	0	5.0	1	1	1
86	1016	332	1	5.0	1	2	3
87	1103	341	2	3.5	1	1	2
88	1003	332	40	4.0	1	2	3
89	2602	337	25	9.0	1	1	3
90	1020	332	1	6.0	1	1	1
91	1401	341	64	6.0	1	1	1
92	1101	332	20	2.0	1	1	2
93	1202	332	12	7.0	1	1	1
94	1307	332	12	3.0	1	2	3
95	201	341	1	7.5	1	2	2
96	1010	332	1	7.5	1	1	1
97	1308	332	1	6.0	1	2	3
98	114	332	12	4.5	1	2	1
99	1101	341	60	5.0	1	2	2
100	1103	332	4	5.5	1	2	2
101	1310	332	2	4.5	1	1	3
102	1306	332	5	7.0	1	1	3
103	2702	341	1	2.0	1	1	3
104	1311	332	0	2.5	1	1	3
105	610	332	47	3.0	1	2	1
106	1003	332	0	4.5	1	1	1
107	1602	341	0	5.0	1	1	1
108	1004	332	0	5.0	1	1	1
109	1002	332	2	6.0	1	1	3
110	1017	332	56	3.0	1	2	4
111	1207	341	0	2.0	1	1	1
112	1001	332	0	5.0	1	1	2
113	1201	332	1	7.5	1	1	1
114	1602	332	0	5.0	1	1	1
115	2303	341	33	3.0	1	2	3
116	1102	341	32	7.0	1	2	3
117	2601	341	1	6.0	1	1	3
118	2102	333	27	9.0	2	2	3
119	2601	333	2	8.5	2	1	3
120	2303	333	63	5.0	2	2	3
121	2301	333	32	1.0	2	2	3
122	2101	333	0	4.5	2	2	3
123	2302	333	4	6.0	2	2	3

125	1309	340	2	8.5	0	2	1
126	1001	336	0	5.0	0	1	1
127	201	342	1	5.0	0	1	1
128	1016	342	1	5.0	0	2	1
129	1002	342	0	2.5	0	2	3
130	1401	335	0	4.0	0	1	1
131	1510	335	5	8.0	0	2	1
132	2601	334	1	6.0	0	1	1
133	1016	336	0	2.0	0	2	0
134	1002	336	3	7.0	0	2	0
135	1010	336	1	7.5	0	1	1
136	1601	316	0	4.0	0	1	1
137	1103	342	1	1.5	0	2	2
138	1010	342	0	2.0	0	1	1
139	1020	342	2	7.0	0	2	1
140	2301	334	54	5.0	0	2	2
141	1304	342	4	5.0	0	2	1
142	1306	340	4	2.0	0	2	1
143	1004	340	0	5.0	0	1	1
144	1005	336	0	4.5	0	1	1
145	1307	336	7	1.5	0	2	0
146	1003	342	38	3.0	0	2	0
147	1011	342	9	5.5	0	2	1
148	1309	316	0	2.5	0	2	3
149	2101	316	0	4.5	0	2	0
150	2302	334	2	3.5	0	2	3
151	2102	316	5	4.0	0	1	0
152	2102	334	11	7.0	0	1	0
153	1001	313	0	5.0	0	1	2
154	2303	343	11	2.0	0	2	0
155	1020	336	0	3.0	0	2	1
156	2402	334	0	3.0	0	1	3
157	1200	316	0	1.5	0	2	1
158	1308	336	0	2.5	0	2	1
159	1202	342	0	3.0	0	2	1
160	1310	336	9	9.0	0	2	0
161	1310	316	0	1.5	0	2	0
162	1207	335	0	2.0	0	2	1
163	1309	335	1	6.0	0	1	1
164	2101	334	0	4.5	0	2	0
165	1020	316	0	3.0	0	2	1
166	1017	336	43	4.0	0	1	2
167	1202	335	0	3.0	0	2	1
168	1602	335	0	5.0	0	1	1
169	1602	316	0	5.0	0	1	1
170	1201	335	1	7.5	0	1	1
171	1308	335	1	5.0	0	2	1
172	1311	335	0	2.5	0	1	0
173	1602	313	0	5.0	0	1	1
174	1011	336	13	7.9	0	2	1
175	1306	336	10	5.0	0	2	1
176	1304	335	11	6.0	0	2	3
177	1401	316	17	2.0	0	1	1
178	1304	336	0	1.0	0	2	1
179	1003	336	50	6.0	0	2	0
180	1306	335	28	7.0	0	2	0
181	1004	316	0	5.0	0	1	1
182	1309	336	0	2.5	0	2	3
183	1004	336	0	5.0	0	1	1
184	1200	335	14	7.0	0	2	1
185	1010	313	1	7.5	0	1	1
186	1307	335	34	7.0	0	2	3
187	1311	336	0	2.5	0	1	3
188	1020	340	0	3.0	0	2	1
189	1201	313	0	3.5	0	1	1

191	1207	342	17	4.5	0	2	3
192	1017	342	118	7.0	0	2	3
193	2101	313	0	4.5	0	2	3
194	1102	342	4	3.5	0	2	3
195	510	342	30	3.0	0	2	3
196	2302	343	0	1.0	0	2	3
197	1016	316	1	5.0	0	2	3
198	2301	343	40	3.0	0	2	3
199	2602	343	0	5.0	0	1	3
200	2102	343	6	5.0	0	2	3
201	1601	313	1	2.5	0	1	1
202	1401	342	46	5.0	0	2	1
203	2101	342	0	4.5	0	2	3
204	1200	342	1	3.5	0	2	1
205	1017	316	1	1.0	0	2	4
206	1310	342	1	5.0	0	2	0
207	2601	342	0	2.5	0	1	3
208	1005	340	0	4.5	0	1	1
209	2602	313	2	6.5	0	1	3
210	1011	340	38	3.0	0	2	1
211	1001	340	0	5.0	0	1	2
212	1308	340	0	2.5	0	2	3
213	2102	313	0	1.5	0	2	3
214	1307	340	9	1.5	0	2	0
215	1304	340	1	2.0	0	2	0
216	1003	340	61	7.0	0	2	0
217	2602	316	0	1.0	0	1	0
218	1311	340	4	3.0	0	1	3
219	1010	340	0	3.0	0	1	1
220	1310	340	2	4.5	0	2	3
221	1004	313	1	10.0	0	1	1
222	1002	340	0	2.5	0	2	3
223	1001	342	0	5.0	0	1	2
224	1309	342	0	2.5	0	2	0
225	201	313	2	7.5	0	2	2
226	1101	342	51	4.0	0	2	2
227	1017	340	98	6.0	0	2	4
228	1306	342	6	4.0	0	2	3
229	2601	313	2	6.5	-0	1	0
230	1016	340	2	7.0	0	2	0
231	1207	342	0	2.0	0	2	1
232	1308	342	0	2.5	0	2	3
233	610	316	82	7.0	0	2	3
234	1602	342	0	5.0	0	1	1
235	1311	342	1	6.0	0	1	0
236	1004	342	0	5.0	0	1	1
237	2601	316	0	2.5	0	1	0
238	1201	342	0	3.5	0	1	1
239	1005	342	0	4.5	0	1	1
240	1601	342	0	4.0	0	1	1
241	1311	316	0	2.5	0	1	0
242	2303	324	44	4.0	0	2	0
243	2303	326	72	6.0	0	2	3
244	2302	326	5	7.0	0	2	3
245	1202	326	2	6.0	0	2	1
246	1103	326	1	1.5	0	2	2
247	1602	326	0	5.0	0	1	1
248	610	326	14	1.0	0	2	3
249	1601	326	0	4.0	0	1	1
250	1401	326	83	7.0	0	2	1
251	1201	326	0	3.5	0	1	1
252	2101	326	2	4.5	0	2	3
253	1207	326	0	2.0	0	2	1
254	1102	326	8	5.0	0	2	3
255	2102	326	13	6.0	0	2	3

257	1200	326	10	5.0	0	2	1
258	2602	326	0	3.0	0	1	3
259	114	326	9	3.0	0	2	3
260	2601	326	0	2.5	0	1	3
261	201	326	1	5.0	0	2	2
262	201	334	0	2.0	1	2	2
263	1010	315	1	7.5	1	1	1
264	610	334	64	6.0	1	2	3
265	1309	315	0	2.5	1	2	3
266	1101	334	7	1.0	1	2	2
267	1004	315	0	5.0	1	1	1
268	1103	334	7	7.0	1	2	2
269	2602	315	0	3.0	1	1	3
270	1207	315	0	2.0	1	2	1
271	1401	334	2	1.0	1	2	1
272	2102	315	0	1.5	1	2	3
273	1011	315	4	2.0	1	2	1
274	1001	315	0	5.0	1	1	2
275	1102	334	5	4.0	1	2	3
276	1401	315	0	4.0	1	1	1
277	201	315	1	5.0	1	2	2
278	2101	315	0	4.5	1	2	3
279	114	334	19	6.0	1	2	3
280	1602	315	0	5.0	1	1	1
281	1310	315	0	1.5	1	2	3
282	1201	315	0	3.5	1	1	1
283	1005	315	0	4.5	1	1	1
284	1200	315	59	8.0	1	2	1
285	2601	315	1	6.0	1	1	3
286	1202	315	0	3.0	1	2	1

Obs.	COVER	AMP
1	4	1
2	4	1
3	2	1
4	9	1
5	4	1
6	2	1
7	9	1
8	4	1
9	9	1
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12	4	1
13	2	1
14	6	1
15	0	1
16	4	1
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20	9	1
21	2	1
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23	2	1
24	4	1
25	0	1
26	2	1
27	2	1
28	2	1
29	9	1
30	6	1
31	2	1
32	0	1

34	2	1
35	9	1
36	9	1
37	2	1
38	2	1
39	2	1
40	4	1
41	2	1
42	9	1
43	6	1
44	2	1
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85	4	1
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87	3	1
88	9	1
89	2	1
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91	4	1
92	2	1
93	1	1
94	2	1
95	0	1
96	4	1
97	2	1
98	2	1

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103	2	1
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105	6	1
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110	9	1
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159	1	2
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161	9	2
162	1	2
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173	4	2
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186	2	2
187	2	2
188	4	2
189	0	2
190	2	2
191	2	2
192	9	2
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