

COMPLETION REPORT  
PHASE I  
CONTRACT NO. EG-77-S-07-1691

VOLUME J  
APPENDIX IV  
MONTANA REACH DATA TABLES

# A RESOURCE SURVEY OF LOW-HEAD HYDROELECTRIC POTENTIAL PACIFIC NORTHWEST REGION

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## FORWARD

Due to the tremendous volume of information presented in this report, final publication has been split into ten volumes. The first volume (Volume A) contains the main report which describes study methodologies and sample data tables. The remaining nine volumes (Volumes B-J) contain sets of complete data tables for all the streams studied. Page iii of this volume contains a listing of the contents of all of the volumes. A listing of the distribution of the different report volumes is contained on pages 98 and 99 of Volume A.

Those desiring information from or copies of any of the reach sheets should contact the Idaho Water Resources Research Institute or the water research institute in the particular state in which the stream or streams of interest are located. Institute addresses are shown on the distribution list.

## REPORT VOLUME CONTENTS

- Volume A Main Report and Sample Appendices
- Volume B Appendix I, Washington Reach Data Tables
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- Volume E Appendix II Oregon Reach Data Tables
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MONTANA REACH INDEX

STREAM DESCRIPTION	REACH NUMBER	PAGE
I Clark Fork River (Main Stem)	04 - 500 - 480 - 350 - 000 - R0001 thru R0030	M1 - M30
A. Silver Bow Creek	04 - 500 - 480 - 350 - 110 - R0001 thru R0002	M31 - M32
B. Little Blackfoot River	04 - 500 - 480 - 350 - 140 - R0001 thru R0002	M33 - M34
C. Flint Creek	04 - 500 - 480 - 350 - 180 - R0001 thru R0003	M35 - M37
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I. St. Regis River	04 - 500 - 480 - 350 - 420 - R0001 thru R0002	M50 - M51
J. Thompson River	04 - 500 - 480 - 350 - 520 - R0001 thru R0004	M52 - M55
K. Prospect Creek	04 - 500 - 480 - 350 - 560 - R0001	M56
L. Beaver Creek	04 - 500 - 480 - 350 - 600 - R0001	M57

TABLE I  
MONTANA REACH INDEX

STREAM DESCRIPTION	REACH NUMBER	PAGE
M. Vermilion River	04 - 500 - 480 - 350 - 620 - R0001	M58
N. Bull River	04 - 500 - 480 - 350 - 740 - R0001	M59
O. Blackfoot River and tributaries	04 - 500 - 480 - 350 - 220 - R0001 thru R0014	M60 - M73
P. Bitterroot River and tributaries	04 - 500 - 480 - 350 - 260 - R0001 thru R0025	M74 - M98
Q. Flathead River and tributaries	04 - 500 - 480 - 350 - 440 - R0001 thru R0060	M99 - M158
II Kootenai River (Main Stem)	04 - 500 - 500 - 000 - 000 - R0001 thru R0008	M159 - M166
A. Tobacco River	04 - 500 - 500 - 280 - 000 - R0001 thru R0002	M167 - M168
B. Big Creek	04 - 500 - 500 - 320 - 000 - R0001	M169
C. Fisher River	04 - 500 - 500 - 340 - 000 - R0001 thru R0005	M170 - M174
D. Libby Creek	04 - 500 - 500 - 360 - 000 - R0001	M175
E. Pipe Creek	04 - 500 - 500 - 400 - 000 - R0001	M176

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MONTANA REACH INDEX

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STREAM DESCRIPTION	REACH NUMBER	PAGE
F. Lake Creek	04 - 500 - 500 - 460 - 000 - R0001 thru R0002	M177 - M178
G. Yaak River	04 - 500 - 500 - 500 - 000 - R0001 thru R0004	M179 - M182

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TABLE II  
FEASIBILITY, TRANSMISSION AND LOAD RESTRAINTS  
MONTANA

REACH IDENTIFICATION NUMBER	FEASIBILITY RESTRAINT				TRANSMISSION AND LOAD CONSIDERATIONS			
	LAND USE RESTRICTIONS	UTILITY DISPLACEMENT	BUILDING DISPLACEMENT	SPECIAL FISH PROBLEMS	DISTANCE TO NEAREST LINE Miles	LINE CAPACITY KVA	LOCAL MARKET	DISTANCE* TO CITY > 1000 Miles
04500480350-			CLARK	FORK	RIVER -	MAIN	STEM	
000R0001		X			1	100(MPC)	1,2,3	10
000R0002		X			2	100(MPC)	1,2	7
000R0003		X	X		<1	100(MPC)	1	3
000R0004		X	X		2	100(MPC)	1,2	11
000R0005		X			<1	100(MPC)	1	17
000R0006		X	X		<1	161(MPC)	1	27
000R0007		X			<1	161(MPC)	1,3	22
000R0008		X			<1	230(BPA)	1	9
000R0009		X	X		<1	230(BPA)	1	5
000R0010		X	X		<1	100(MPC)	1,2,3	1
000R0011		X	X		<1	100(MPC)	1	10
000R0012		X			<1	100(MPC)	1	18
000R0013		X			<1	100(MPC)	1	25
000R0014		X			<1	100(MPC)	1,2	16
000R0015		X			<1	100(MPC)	1	13
000R0016		X			<1	100(MPC)	1	9
000R0017		X	X		<1	100(MPC)	1,2	4
000R0018		X			<1	100(MPC)	1	2
000R0019		X			<1	100(MPC)	1,2	7
000R0020		X			7	100(MPC)	1	10
000R0021		X			8	100(MPC)	1	9
000R0022		X			5	500(BPA)	1,2	5

MPC = Montana Power Company

BPA = Bonneville Power Administration

\* Distance in air miles to nearest city with population greater than 1000

TABLE II  
FEASIBILITY, TRANSMISSION AND LOAD RESTRAINTS  
MONTANA

REACH IDENTIFICATION NUMBER	FEASIBILITY RESTRAINT				TRANSMISSION AND LOAD CONSIDERATIONS			
	LAND USE RESTRICTIONS	UTILITY DISPLACEMENT	BUILDING DISPLACEMENT	SPECIAL FISH PROBLEMS	DISTANCE TO NEAREST LINE Miles	LINE CAPACITY KVA	LOCAL MARKET	DISTANCE TO CITY >1000 Miles
04500480350-			CLARK	FORK	RIVER -	MAIN	STEM	(cont)
000R0023		X			3	500(BPA)	1	2
000R0024		X			<1	500(BPA)	1	7
000R0025		X			<1	230(BPA)	1	12
000R0026		X			<1	230(BPA)	1,2,3	4
000R0027		X			<1	230(BPA)	1	5
000R0028		X			2	230(BPA)	1	13
000R0029					<1	230(WWP)	1	24
000R0030					2	230(BPA)	1	28
04500480350-			SILVER	BOW	CREEK			
110R0001		X	X		<1	161(MPC)	1,2,3	9
110R0002		X			<1	100(MPC)	1	8
04500480350-			LITTLE	BLACKFOOT	RIVER			
140R0001		X	X		<1	100(MPC)	1	18
140R0002		X	X		6	100(MPC)	1	13
04500480350-				FLINT	CREEK			
180R0001		X	X		<1	100(MPC)	1	4

BPA = Bonneville Power Administration      WWP = Washington Water Power Co.  
MPC = Montana Power Company

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FEASIBILITY, TRANSMISSION AND LOAD RESTRAINTS  
MONTANA

REACH IDENTIFICATION NUMBER	FEASIBILITY RESTRAINT				TRANSMISSION AND LOAD CONSIDERATIONS			
	LAND USE RESTRICTIONS	UTILITY DISPLACEMENT	BUILDING DISPLACEMENT	SPECIAL FISH PROBLEMS	DISTANCE TO NEAREST LINE Miles	LINE CAPACITY KVA	LOCAL MARKET	DISTANCE TO CITY >1000 Miles
04500480350-				FLINT	CREEK	(cont)		
180R0002		x			<1	100(MPC)	1	13
180R0003		x	x		<1	100(MPC)	1	20
04500480350-				ROCK	CREEK			
200R0001	x				12	100(MPC)	None	16
200R0002		x		x	11	100(MPC)	None	13
200R0003		x			10	100(MPC)	None	11
200R0004		x			16	100(MPC)	None	16
200R0005		x			8	69(MPC)	None	20
200R0006		x			7	100(MPC)	1	10
04500480350-				NINEMILE	CREEK			
280R0001		x	x		6	100(MPC)	1	22
04500480350-				FISH	CREEK			
320R0001				x	9	100(MPC)	None	24
320R0002					6	100(MPC)	1	20
320R0003					4	100(MPC)	1	19

MPC = Montana Power Company

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FEASIBILITY, TRANSMISSION AND LOAD RESTRAINTS  
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REACH IDENTIFICATION NUMBER	FEASIBILITY RESTRAINT				TRANSMISSION AND LOAD CONSIDERATIONS			
	LAND USE RESTRICTIONS	UTILITY DISPLACEMENT	BUILDING DISPLACEMENT	SPECIAL FISH PROBLEMS	DISTANCE TO NEAREST LINE Miles	LINE CAPACITY KVA	LOCAL MARKET	DISTANCE TO CITY >1000 Miles
04500480350-360R0001		x	x	TROUT	CREEK	100(MPC)	1	4
04500480350-380R0001		x	x	CEDAR	CREEK	100(MPC)	1	2
04500480350-420R0001		x		ST. REGIS	RIVER	100(MPC)	1	15
04500480350-420R0002		x			RIVER	100(MPC)	1	20
04500480350-520R0001				THOMPSON	RIVER	230(BPA)	1	28
04500480350-520R0002		x			RIVER	230(BPA)	1	23
04500480350-520R0003		x			RIVER	100(MPC)	None	18
04500480350-520R0004		x			RIVER	100(MPC)	1	11
04500480350-560R0001		x		PROSPECT	CREEK	100(MPC)	1	9

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BPA = Bonneville Power Administration

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	LAND USE RESTRICTIONS	UTILITY DISPLACEMENT	BUILDING DISPLACEMENT	SPECIAL FISH PROBLEMS	DISTANCE TO NEAREST LINE Miles	LINE CAPACITY KVA	LOCAL MARKET	DISTANCE TO CITY >1000 Miles
04500480350-600R0001		x		BEAVER	CREEK	230(BPA)	1	11
04500480350-620R0001		x		VERMILLION	RIVER	230(BPA)	1	19
04500480350-740R0001	x	x		BULL	RIVER	230(BPA)	1	22

BPA = Bonneville Power Administration

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	LAND USE RESTRICTIONS	UTILITY DISPLACEMENT	BUILDING DISPLACEMENT	SPECIAL FISH PROBLEMS	DISTANCE TO NEAREST LINE Miles	LINE CAPACITY KVA	LOCAL MARKET	DISTANCE TO CITY >1000 Miles
04500480350-			BLACKFOOT	RIVER	BASIN			
220R0001		X	X		<1	230(MPC)	1	2
220R0002		X			<1	230(MPC)	None	6
220R0003		X			2	46(MEC)	1	14
220R0004		X			<1	230(MPC)	1	16
220R0005		X			3	230(MPC)	None	21
220R0006	X				11	46(MEC)	None	19
220R0007					4	46(MEC)	1	20
220R0008		X			<1	46(MEC)	1	25
220R0009		X			2	230(MPC)	1	25
220R0010		X	X		4	46(MEC)	1	25
220R0011		X	X		2	230(MPC)	1	26
220R0012		X			3	230(MPC)	1	24
220R0013		X		X	6	161(MPC)	1	16
220R0014		X	X	X	2	161(MPC)	1	11

MPC = Montana Power Company

MEC = Missoula Electric Coop, Inc.

TABLE II  
FEASIBILITY, TRANSMISSION AND LOAD RESTRAINTS  
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REACH IDENTIFICATION NUMBER	FEASIBILITY RESTRAINT				TRANSMISSION AND LOAD CONSIDERATIONS			
	LAND USE RESTRICTIONS	UTILITY DISPLACEMENT	BUILDING DISPLACEMENT	SPECIAL FISH PROBLEMS	DISTANCE TO NEAREST LINE Miles	LINE CAPACITY KVA	LOCAL MARKET	DISTANCE TO CITY >1000 Miles
04500480350-			BITTERROOT	RIVER	BASIN			
260R0001				x	30	69(MPC)	1	32
260R0002				x	27	69(MPC)	1	37
260R0003				x	23	69(MPC)	1	38
260R0004	x	x		x	18	69(MPC)	1	33
260R0005	x	x		x	13	69(MPC)	1	28
260R0006	x	x		x	8	69(MPC)	1	23
260R0007	x	x		x	23	69(MPC)	1	31
260R0008	x	x		x	18	69(MPC)	1	29
260R0009		x	x	x	12	69(MPC)	1	26
260R0010		x	x		5	69(MPC)	1	20
260R0011	x				4	69(MPC)	1	14
260R0012	x	x	x		<1	69(MPC)	1	14
260R0013	x				4	69(MPC)	1	12
260R0014		x	x		<1	69(MPC)	1	8
260R0015		x	x		8	69(MPC)	1	10
260R0016		x	x		<1	69(MPC)	1	<1
260R0017	x				1	69(MPC)	1	7
260R0018		x			<1	69(MPC)	1	6
260R0019		x			<1	69(MPC)	1,2	12
260R0020		x	x		<1	69(MPC)	1	21
260R0021		x	x		<1	69(MPC)	1	12
260R0022		x			14	100(MPC)	1	15

MPC = Montana Power Company

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FEASIBILITY, TRANSMISSION AND LOAD RESTRAINTS

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REACH IDENTIFICATION NUMBER	FEASIBILITY RESTRAINT				TRANSMISSION AND LOAD CONSIDERATIONS			
	LAND USE RESTRICTIONS	UTILITY DISPLACEMENT	BUILDING DISPLACEMENT	SPECIAL FISH PROBLEMS	DISTANCE TO NEAREST LINE Miles	LINE CAPACITY KVA	LOCAL MARKET	DISTANCE TO CITY >1000 Miles
04500480350-			BITTERROOT	RIVER	BASIN	(cont)		
260R0023		X	X		8	69(MPC)	1	8
260R0024		X			<1	69(MPC)	1	5
260R0025		X	X		<1	100(MPC)	1,2	4

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	LAND USE RESTRICTIONS	UTILITY DISPLACEMENT	BUILDING DISPLACEMENT	SPECIAL FISH PROBLEMS	DISTANCE TO NEAREST LINE Miles	LINE CAPACITY KVA	LOCAL MARKET	DISTANCE TO CITY >1000 Miles
04500480350-			FLATHEAD	RIVER	BASIN			
440R0001	X			X	22	46(MEC)	None	40
440R0002	X			X	20	46(MEC)	None	40
440R0003	X			X	24	46(MEC)	None	41
440R0004	X			X	30	46(MEC)	None	40
440R0005	X			X	27	46(MEC)	None	38
440R0006	X			X	30	46(MEC)	None	34
440R0007	X			X	32	46(MEC)	None	37
440R0008	X			X	30	34.5(BIA)	None	37
440R0009	X			X	28	34.5(BIA)	None	35
440R0010				X	26	34.5(BIA)	None	36
440R0011				X	26	34.5(BIA)	1	36
440R0012	X			X	38	34.5(BIA)	None	47
440R0013	X			X	30	34.5(BIA)	1	40
440R0014		X		X	22	34.5(BIA)	1	33
440R0015				X	16	34.5(BIA)	None	19
440R0016	X			X	28	34.5(BIA)	None	36
440R0017				X	25	34.5(BIA)	None	36
440R0018				X	23	34.5(BIA)	None	34
440R0019				X	24	34.5(BIA)	1	34
440R0020				X	22	34.5(BIA)	1	32
440R0021	X			X	20	34.5(BIA)	1	27
440R0022	X				11	34.5(BIA)	1	22

MEC = Missoula Electric Coop, Inc.

BIA = US Bureau of Indian Affairs

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REACH IDENTIFICATION NUMBER	FEASIBILITY RESTRAINT				TRANSMISSION AND LOAD CONSIDERATIONS			
	LAND USE RESTRICTIONS	UTILITY DISPLACEMENT	BUILDING DISPLACEMENT	SPECIAL FISH PROBLEMS	DISTANCE TO NEAREST LINE Miles	LINE CAPACITY KVA	LOCAL MARKET	DISTANCE TO CITY >1000 Miles
04500480350-			FLATHEAD	RIVER	BASIN	(cont)		
440R0023	X	X		X	13	34.5(BIA)	1	22
440R0024	X	X			10	34.5(FEC)	1	28
440R0025	X				6	34.5(FEC)	1	19
440R0026	X	X	X	X	3	34.5(BIA)	1	15
440R0027	X		X	X	25	115(BPA)	1	28
440R0028	X			X	23	115(BPA)	1	31
440R0029	X	X	X	X	21	115(BPA)	1	28
440R0030	X			X	20	115(BPA)	1	23
440R0031	X			X	19	115(BPA)	1	21
440R0032	X	X		X	14	34.5(FEC)	1	18
440R0033	X			X	8	34.5(FEC)	1	13
440R0034		X	X	X	2	34.5(FEC)	1,2,3	7
440R0035		X	X		<1	34.5(FEC)	1	1
440R0036		X	X	X	<1	115(BPA)	1	19
440R0037				X	10	230(BPA)	None	20
440R0038		X			7	115(BPA)	1	13
440R0039				X	3	115(BPA)	1	11
440R0040		X			<1	115(BPA)	1	6
440R0041		X	X	X	1	34.5(FEC)	1	6
440R0042				X	1	230(BPA)	1	15
440R0043		X	X	X	<1	115(BPA)	1	6
440R0044	X	X	X		17	230(MPC)	1	20

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	LAND USE RESTRICTIONS	UTILITY DISPLACEMENT	BUILDING DISPLACEMENT	SPECIAL FISH PROBLEMS	DISTANCE TO NEAREST LINE Miles	LINE CAPACITY KVA	LOCAL MARKET	DISTANCE TO CITY >1000 Miles
04500480350-			FLATHEAD	RIVER	BASIN	(cont)		
440R0045		X	X		16	34.5(BIA)	1	21
440R0046					15	34.5(BIA)	1	20
440R0047		X			9	34.5(BIA)	None	20
440R0048		X			8	34.5(BIA)	1	22
440R0049	X				6	34.5(BIA)	1	22
440R0050	X				4	34.5(BIA)	1	12
440R0051	X				2	100(MPC)	None	10
440R0052	X				14	230(BPA)	None	26
440R0053	X	X			3	230(BPA)	1	20
440R0054	X	X			<1	230(MPC)	None	17
440R0055	X	X			<1	230(MPC)	None	6
440R0056	X	X	X		1	230(BPA)	1	13
440R0057	X	X	X		4	161(MPC)	1	13
440R0058	X	X	X		1	34.5(FEC)	1,3	5
440R0059	X	X			3	230(BPA)	None	14
440R0060	X	X			8	100(MPC)	1	14

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	LAND USE RESTRICTIONS	UTILITY DISPLACEMENT	BUILDING DISPLACEMENT	SPECIAL FISH PROBLEMS	DISTANCE TO NEAREST LINE Miles	LINE CAPACITY KVA	LOCAL MARKET	DISTANCE TO CITY >1000 Miles
04500500000-			KOOTENAI	RIVER	MAIN	STEM		
000R0001					17	115(BPA)	1	20
000R0002		X			3	115(BPA)	1	8
000R0003		X	X		<1	115(BPA)	1,2,3	3
000R0004		X	X		<1	115(PPL)	1,2	3
000R0005				X	<1	115(PPL)	None	8
000R0006		X	X	X	<1	115(PPL)	1,2	2
000R0007		X	X	X	<1	115(BPA)	1	4
000R0008		X	X	X	<1	115(PPL)	1	14
04500500280-			TOBACCO	RIVER				
000R0001		X		X	<1	34.5(BPA)	1	14
000R0002		X	X	X	11	115(BPA)	1	3
04500500320-			BIG	CREEK				
000R0001				X	24	115(BPA)	None	18
04500500340-			FISHER	RIVER				
000R0001		X		X	<1	230(BPA)	1	27
000R0002		X	X	X	<1	115(BPA)	1	27

PPL = Pacific Power & Light Co.

BPA = Bonneville Power Administration

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REACH IDENTIFICATION NUMBER	FEASIBILITY RESTRAINT				TRANSMISSION AND LOAD CONSIDERATIONS			
	LAND USE RESTRICTIONS	UTILITY DISPLACEMENT	BUILDING DISPLACEMENT	SPECIAL FISH PROBLEMS	DISTANCE TO NEAREST LINE Miles	LINE CAPACITY KVA	LOCAL MARKET	DISTANCE TO CITY > 1000 Miles
04500500340-			FISHER	RIVER	(cont)			
000R0003	x	x		x	6	230(BPA)	None	20
000R0004	x	x		x	10	230(BPA)	None	20
000R0005	x	x		x	8	230(BPA)	None	13
04500500360-			LIBBY	CREEK				
000R0001	x	x	x		8	115(BPA)	1	7
04500500400-			PIPE	CREEK				
000R0001		x		x	2	115(PPL)	1	4
04500500460-			LAKE	CREEK				
000R0001					8	115(PPL)	1	10
000R0002		x	x		2	115(PPL)	1	5
04500500500-			YAAK	RIVER				
000R0001					29	115(BPA)	1	27
000R0002			x		22	115(PPL)	1	29
000R0003		x	x	x	14	115(BPA)	1	24

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BPA = Bonneville Power Administration

TABLE II  
FEASIBILITY, TRANSMISSION AND LOAD RESTRAINTS  
MONTANA

REACH IDENTIFICATION NUMBER	FEASIBILITY RESTRAINT				TRANSMISSION AND LOAD CONSIDERATIONS			
	LAND USE RESTRICTIONS	UTILITY DISPLACEMENT	BUILDING DISPLACEMENT	SPECIAL FISH PROBLEMS	DISTANCE TO NEAREST LINE Miles	LINE CAPACITY KVA	LOCAL MARKET	DISTANCE TO CITY >1000 Miles
04500500500- 000R0004			YAAK	RIVER  x	(cont)  5	115(BPA)	1	12

PPL = Pacific Power & Light Co.

BPA = Bonneville Power Administration

## REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 04-500-480-350-000-R0001

### I. LOCATION

A. State	<u>Montana</u>
B. County	<u>Deer Lodge</u>
C. Township, Range	<u>T5N, R9W</u>
D. Latitude, Longitude	<u>46°11', 112°46'</u>
E. Stream Name	<u>Clark Fork River</u>
F. Major Basin Name	<u>Clark Fork</u>
G. River Mile	<u>293.5 to 299.0</u>

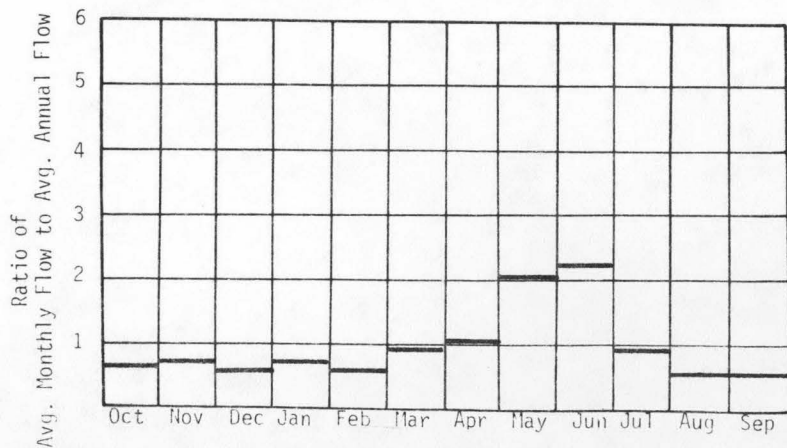
### II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

A. Upstream Elevation of Reach	<u>4850</u>	<u>Ft. MSL</u>
B. Downstream Elevation of Reach	<u>4730</u>	<u>Ft. MSL</u>
C. Total Available Head in Reach	<u>120</u>	<u>Ft.</u>
D. Average Slope in Reach	<u>21.8</u>	<u>Ft./Mi.</u>
E. Drainage Area above Reach Mouth	<u>734</u>	<u>Sq.Mi.</u>
F. Inflow Classification	<u>Partially Regulated</u>	

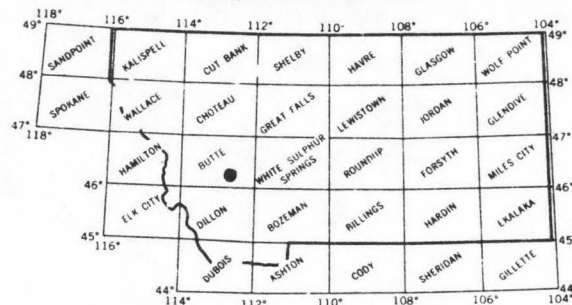
### III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	68	.69	6.06	1.00
80	90	.92	7.82	.97
50	163	1.66	11.92	.82
30	256	2.60	15.26	.67
10	680	6.92	21.20	.35

### IV. TYPICAL ANNUAL HYDROGRAPH AVERAGE ANNUAL FLOW = 259 CFS



### LOCATIONS FOR USGS 1:250,000 MAP SERIES



## REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 04-500-480-350-000-R0002

### I. LOCATION

A. State	<u>Montana</u>
B. County	<u>Powell</u>
C. Township, Range	<u>T6N, R9W</u>
D. Latitude, Longitude	<u>46°18', 112°44'</u>
E. Stream Name	<u>Clark Fork River</u>
F. Major Basin Name	<u>Clark Fork</u>
G. River Mile	<u>279.8 to 293.5</u>

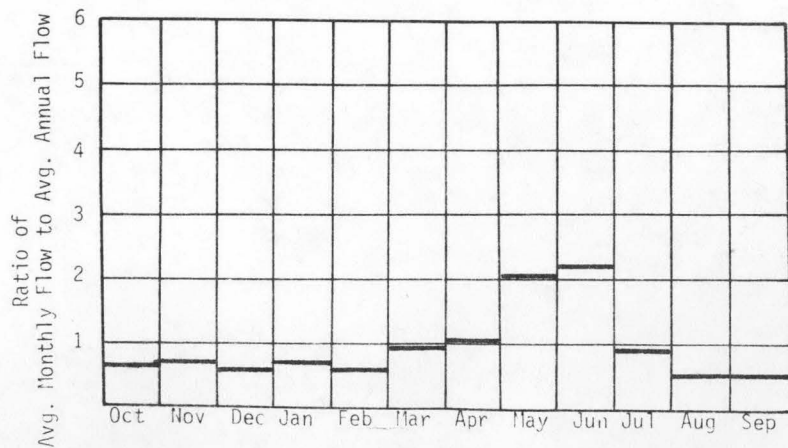
### II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

A. Upstream Elevation of Reach	<u>4730</u>	Ft. MSL
B. Downstream Elevation of Reach	<u>4520</u>	Ft. MSL
C. Total Available Head in Reach	<u>210</u>	Ft.
D. Average Slope in Reach	<u>15.3</u>	Ft./Mi.
E. Drainage Area above Reach Mouth	<u>945</u>	Sq. Mi.
F. Inflow Classification	<u>Partially Regulated</u>	

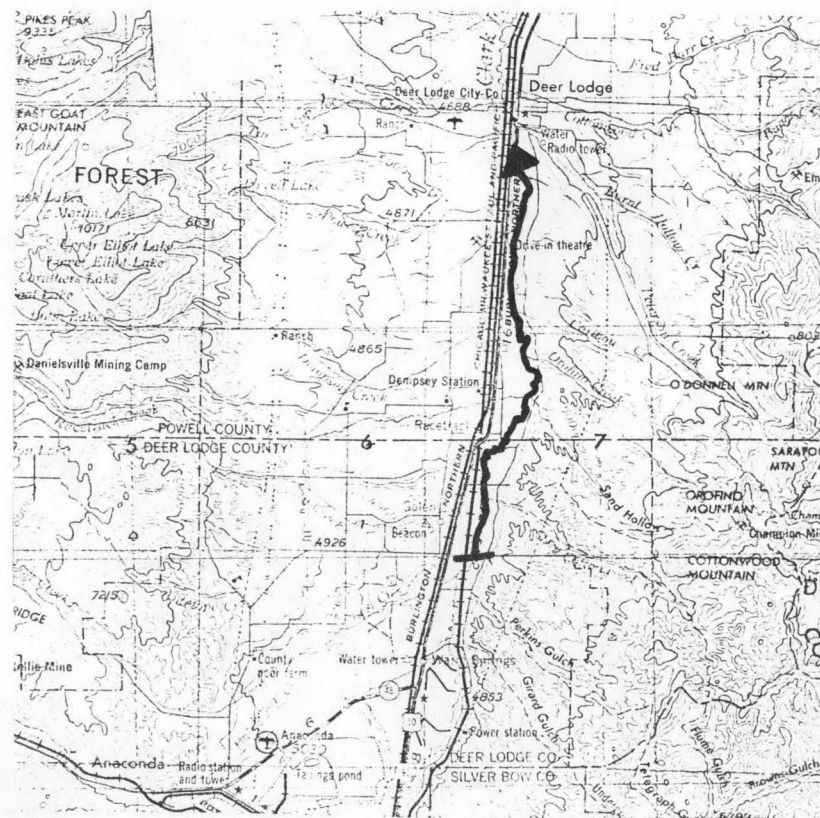
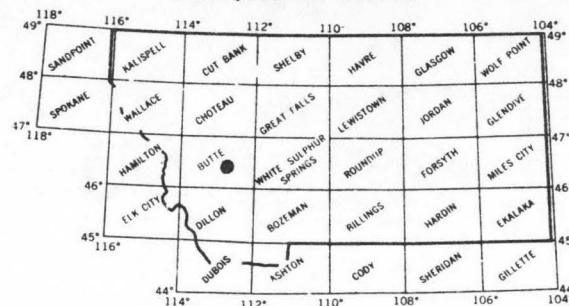
### III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	102	1.81	15.87	1.00
80	135	2.41	20.47	.97
50	244	4.35	31.23	.82
30	383	6.81	39.98	.67
10	1018	18.12	55.55	.35

### IV. TYPICAL ANNUAL HYDROGRAPH AVERAGE ANNUAL FLOW = 384 CFS



### LOCATIONS FOR USGS 1:250,000 MAP SERIES





## REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 04-500-480-350-000-R0003

### I. LOCATION

A. State	Montana
B. County	Powell
C. Township, Range	T8N, R9W
D. Latitude, Longitude	46°27', 112°44'
E. Stream Name	Clark Fork River
F. Major Basin Name	Clark Fork
G. River Mile	267.2 to 279.8

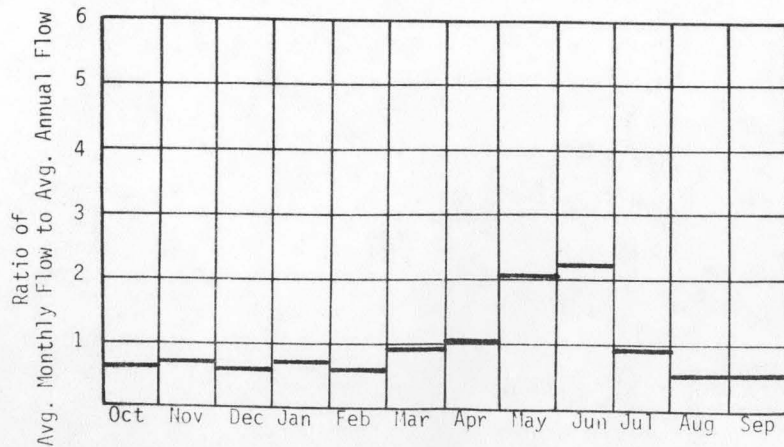
### II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

A. Upstream Elevation of Reach	4520	Ft. MSL
B. Downstream Elevation of Reach	4335	Ft. MSL
C. Total Available Head in Reach	185	Ft.
D. Average Slope in Reach	14.7	Ft./Mi.
E. Drainage Area above Reach Mouth	1147	Sq.Mi.
F. Inflow Classification	Partially Regulated	

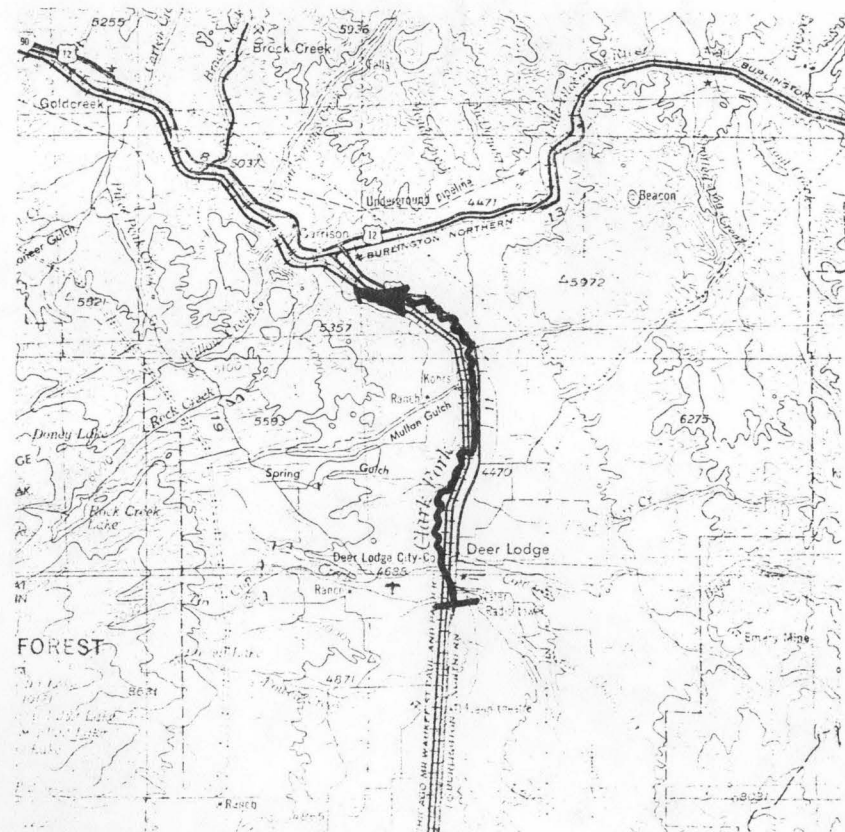
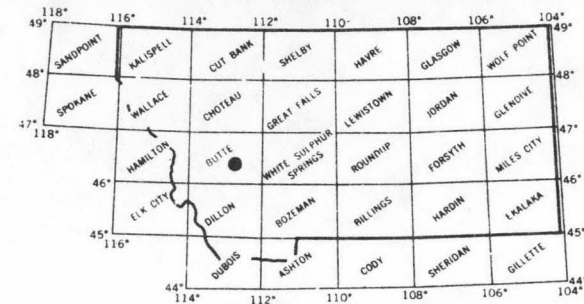
### III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	127	2.00	17.50	1.00
80	169	2.66	22.57	.97
50	306	4.79	34.43	.82
30	479	7.51	44.08	.67
10	1274	19.97	61.24	.35

### IV. TYPICAL ANNUAL HYDROGRAPH AVERAGE ANNUAL FLOW = 478 CFS



### LOCATIONS FOR USGS 1:250,000 MAP SERIES



## REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 04-500-480-350-000-R0004

### I. LOCATION

A. State	Montana
B. County	Powell
C. Township, Range	T9N, R10W
D. Latitude, Longitude	46°32', 112°50'
E. Stream Name	Clark Fork River
F. Major Basin Name	Clark Fork
G. River Mile	261.0 to 267.2

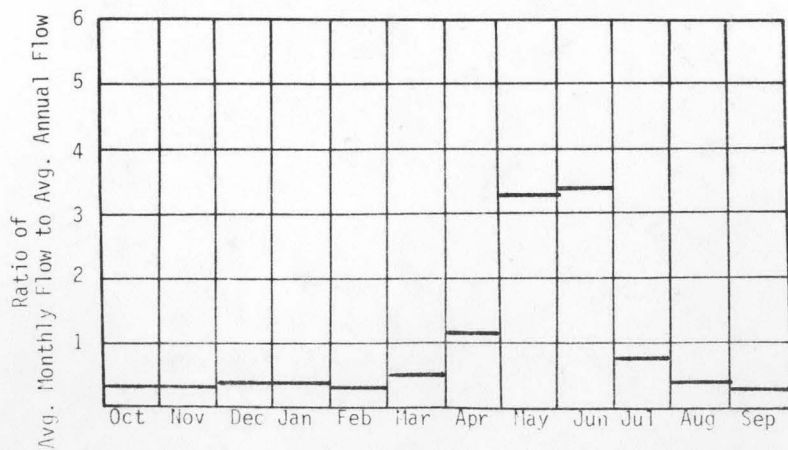
### II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

A. Upstream Elevation of Reach	4335	Ft. MSL
B. Downstream Elevation of Reach	4280	Ft. MSL
C. Total Available Head in Reach	55	Ft.
D. Average Slope in Reach	8.9	Ft./Mi.
E. Drainage Area above Reach Mouth	1689	Sq.Mi.
F. Inflow Classification	Partially Regulated	

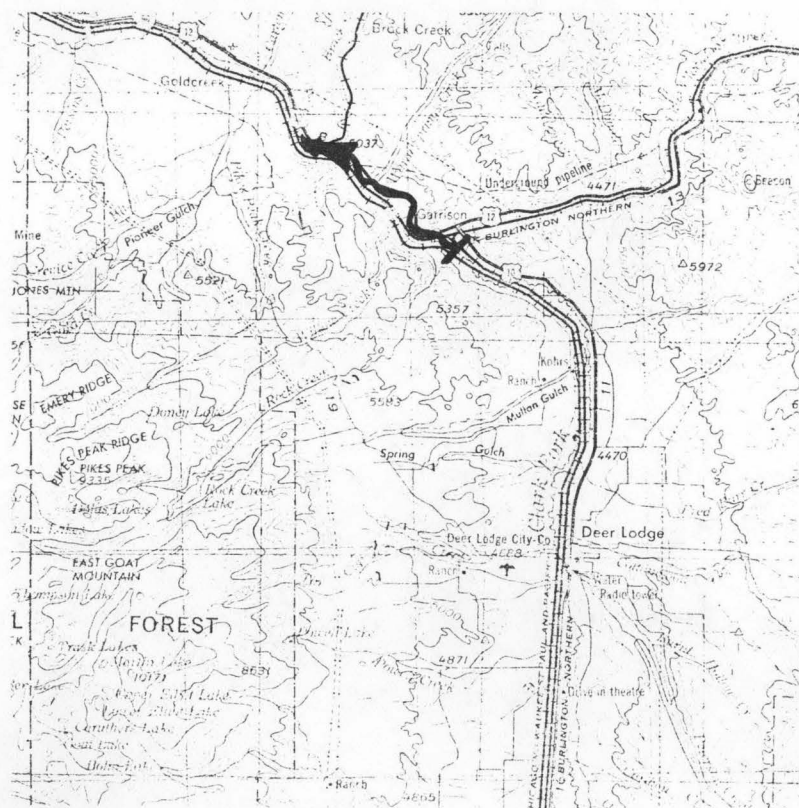
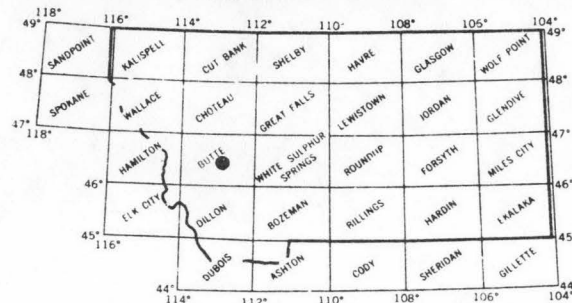
### III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	209	.97	8.53	1.00
80	256	1.19	10.23	.98
50	423	1.97	14.67	.85
30	668	3.11	18.28	.67
10	1740	8.11	25.58	.36

### IV. TYPICAL ANNUAL HYDROGRAPH AVERAGE ANNUAL FLOW = 650 CFS



### LOCATIONS FOR USGS 1:250,000 MAP SERIES



## REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 04-500-480-350-000-R0005

### I. LOCATION

A. State	<u>Montana</u>
B. County	<u>Powell</u>
C. Township, Range	<u>T10N, R11W</u>
D. Latitude, Longitude	<u>46°36', 112°57'</u>
E. Stream Name	<u>Clark Fork River</u>
F. Major Basin Name	<u>Clark Fork</u>
G. River Mile	<u>252.0 to 261.0</u>

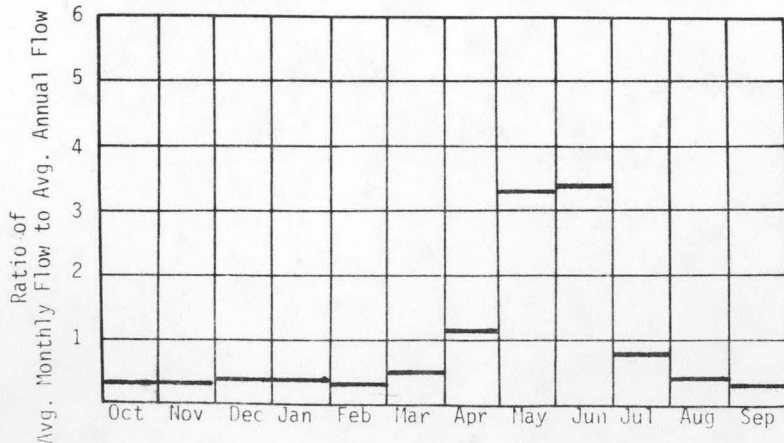
### II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

A. Upstream Elevation of Reach	<u>4280</u>	Ft. MSL
B. Downstream Elevation of Reach	<u>4065</u>	Ft. MSL
C. Total Available Head in Reach	<u>215</u>	Ft.
D. Average Slope in Reach	<u>23.9</u>	Ft./Mi.
E. Drainage Area above Reach Mouth	<u>1856</u>	Sq.Mi.
F. Inflow Classification	<u>Partially Regulated</u>	

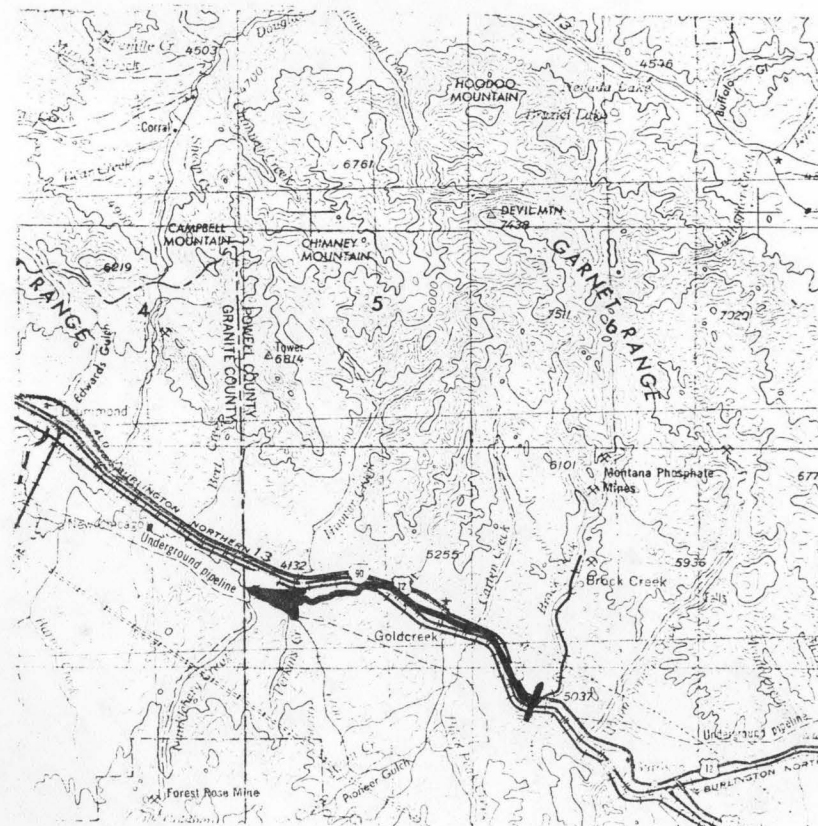
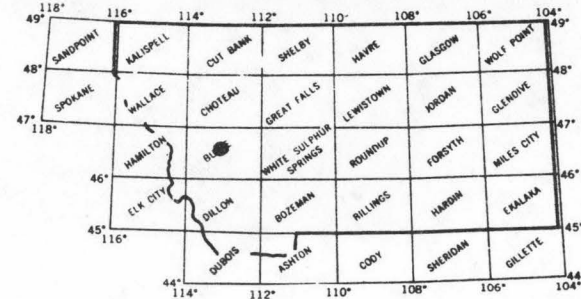
### III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	263	4.78	41.91	1.00
80	322	5.86	50.31	.98
50	532	9.69	72.13	.85
30	840	15.31	89.85	.67
10	2188	39.87	125.72	.36

### IV. TYPICAL ANNUAL HYDROGRAPH AVERAGE ANNUAL FLOW = 814 CFS



### LOCATIONS FOR USGS 1:250,000 MAP SERIES



## REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 04-500-480-350-000-R0006

### I. LOCATION

A. State	Montana
B. County	Granite
C. Township, Range	T10N, R12W
D. Latitude, Longitude	46°38', 113°06'
E. Stream Name	Clark Fork River
F. Major Basin Name	Clark Fork
G. River Mile	244.5 to 252.0

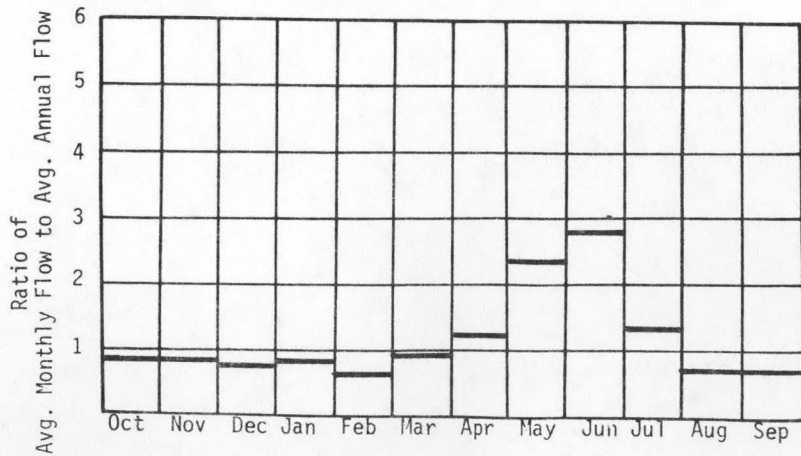
### II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

A. Upstream Elevation of Reach	4065	Ft. MSL
B. Downstream Elevation of Reach	3940	Ft. MSL
C. Total Available Head in Reach	125	Ft.
D. Average Slope in Reach	16.7	Ft./Mi.
E. Drainage Area above Reach Mouth	2379	Sq.Mi.
F. Inflow Classification	Partially Regulated	

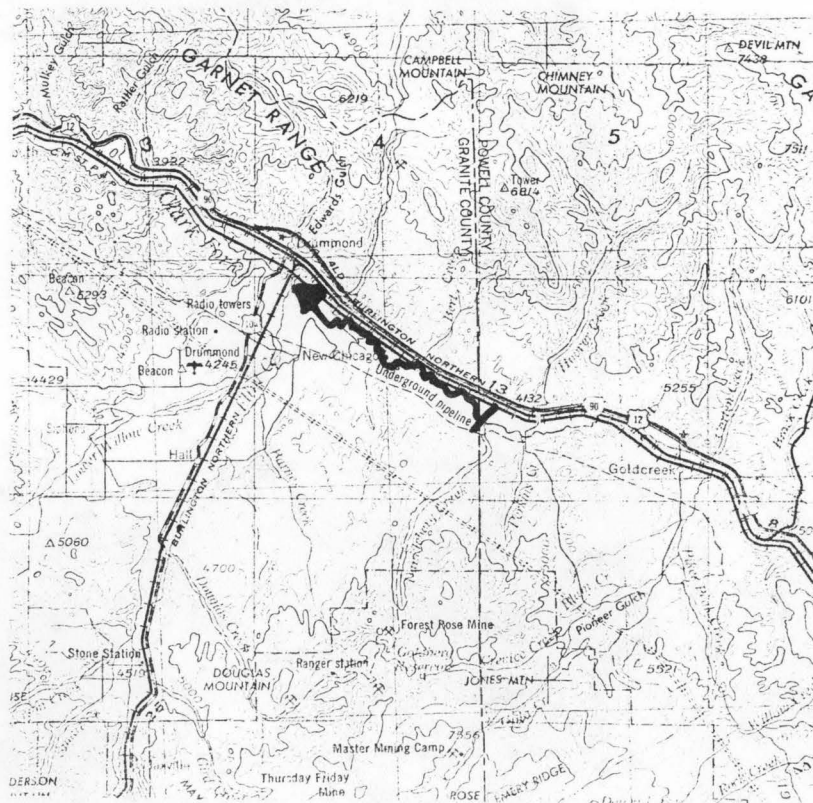
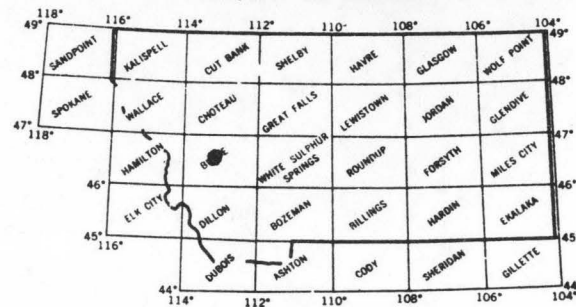
### III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	315	3.33	29.21	1.00
80	386	4.08	35.06	.98
50	637	6.75	50.28	.85
30	1007	10.67	62.62	.67
10	2623	27.79	87.63	.36

### IV. TYPICAL ANNUAL HYDROGRAPH AVERAGE ANNUAL FLOW = 974 CFS



### LOCATIONS FOR USGS 1:250,000 MAP SERIES



## REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 04-500-480-350-000-R0007

### I. LOCATION

A. State	<u>Montana</u>
B. County	<u>Granite</u>
C. Township, Range	<u>T11N, R13W</u>
D. Latitude, Longitude	<u>46°42', 113°16'</u>
E. Stream Name	<u>Clark Fork River</u>
F. Major Basin Name	<u>Clark Fork</u>
G. River Mile	<u>230.6 to 244.5</u>

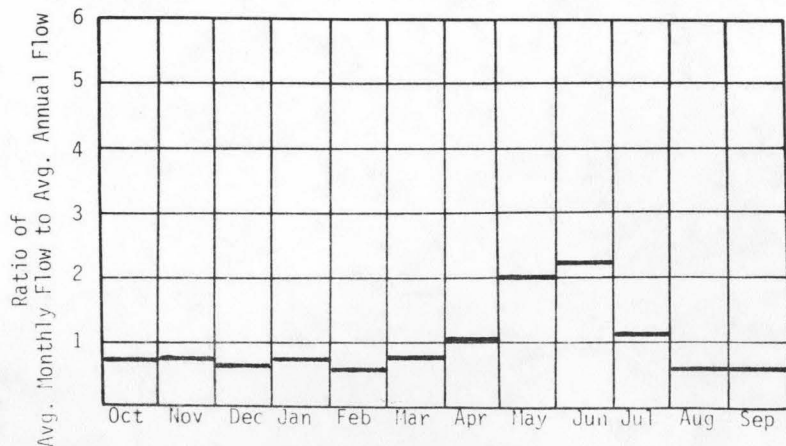
### II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

A. Upstream Elevation of Reach	<u>3940</u>	Ft. MSL
B. Downstream Elevation of Reach	<u>3745</u>	Ft. MSL
C. Total Available Head in Reach	<u>195</u>	Ft.
D. Average Slope in Reach	<u>14.0</u>	Ft./Mi.
E. Drainage Area above Reach Mouth	<u>2564</u>	Sq.Mi.
F. Inflow Classification	<u>Partially Regulated</u>	

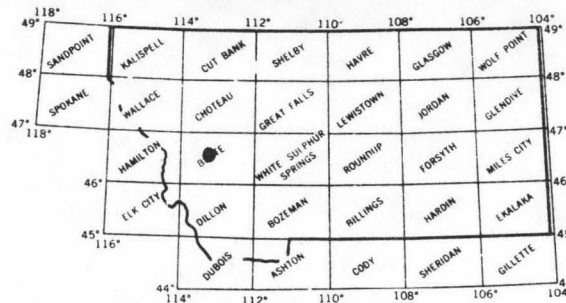
### III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	368	6.08	53.27	1.00
80	451	7.45	63.98	.98
50	745	12.31	91.67	.85
30	1178	19.47	114.26	.67
10	3067	50.68	159.84	.36

### IV. TYPICAL ANNUAL HYDROGRAPH AVERAGE ANNUAL FLOW = 1138 CFS



LOCATIONS FOR USGS  
1:250,000 MAP SERIES



## REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 04-500-480-350-000-R0008

### I. LOCATION

A. State	Montana
B. County	Granite
C. Township, Range	T11N, R15W
D. Latitude, Longitude	46°43', 113°30'
E. Stream Name	Clark Fork River
F. Major Basin Name	Clark Fork
G. River Mile	213.8 to 230.6

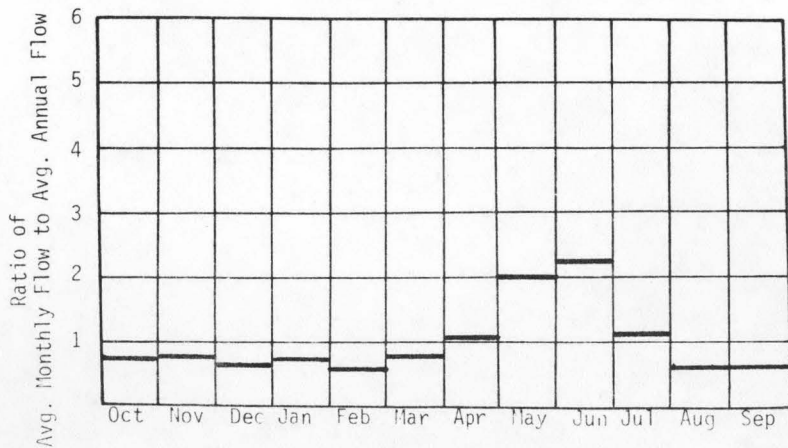
### II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

A. Upstream Elevation of Reach	3745	Ft. MSL
B. Downstream Elevation of Reach	3500	Ft. MSL
C. Total Available Head in Reach	245	Ft.
D. Average Slope in Reach	14.6	Ft./Mi.
E. Drainage Area above Reach Mouth	3556	Sq.Mi.
F. Inflow Classification	Partially Regulated	

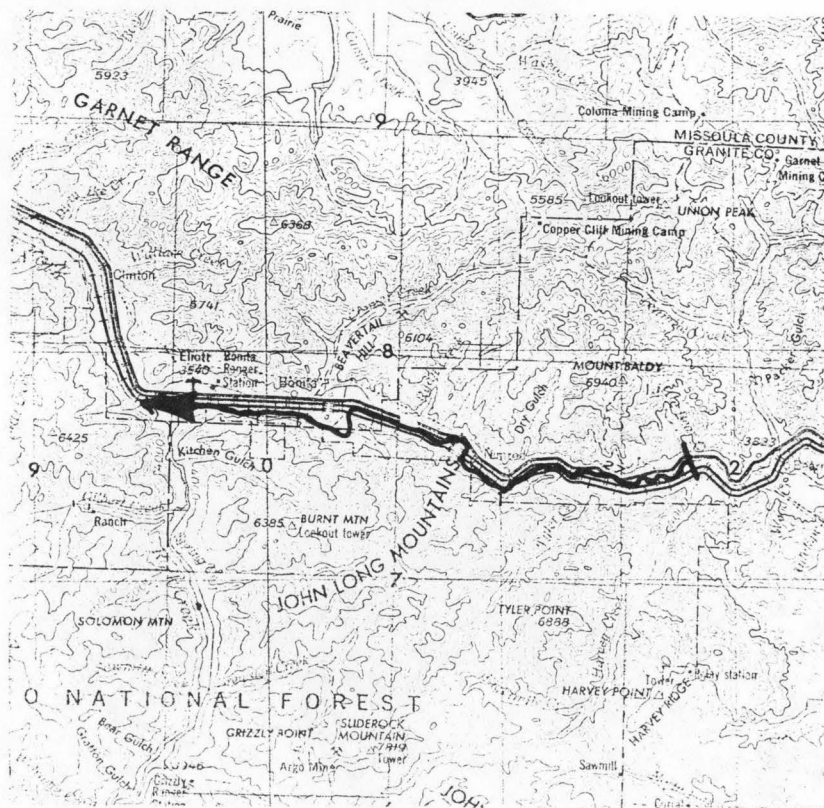
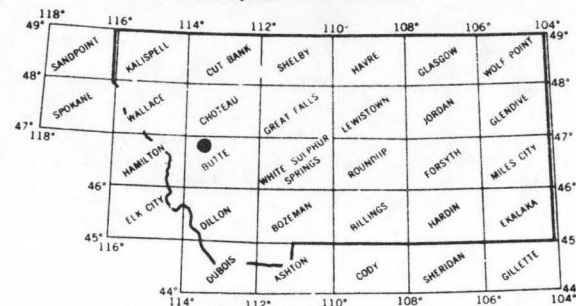
### III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	479	9.95	87.19	1.00
80	587	12.19	104.68	.98
50	971	20.16	150.08	.85
30	1534	31.85	186.94	.67
10	3995	82.95	261.58	.36

### IV. TYPICAL ANNUAL HYDROGRAPH AVERAGE ANNUAL FLOW = 1479 CFS



LOCATIONS FOR USGS  
1:250,000 MAP SERIES



## REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 04-500-480-350-000-R0009

### I. LOCATION

A. State	<u>Montana</u>
B. County	<u>Missoula</u>
C. Township, Range	<u>T12N, R17W</u>
D. Latitude, Longitude	<u>46°48', 113°47'</u>
E. Stream Name	<u>Clark Fork River</u>
F. Major Basin Name	<u>Clark Fork</u>
G. River Mile	<u>195.1 to 213.8</u>

### II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

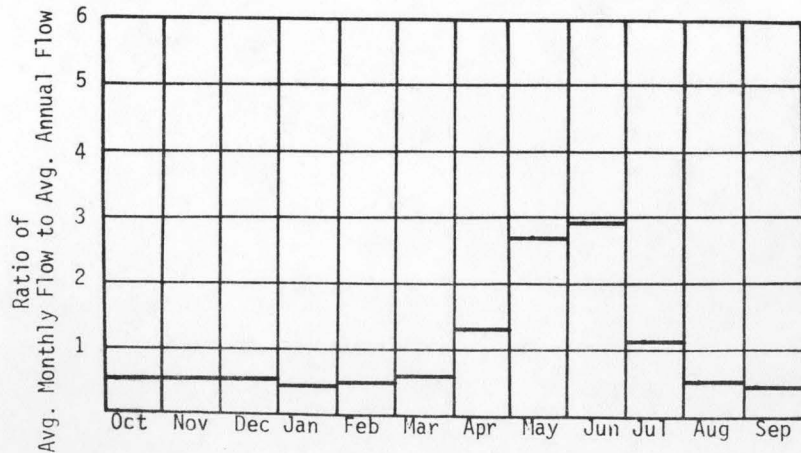
A. Upstream Elevation of Reach	<u>3500</u>	Ft. MSL
B. Downstream Elevation of Reach	<u>3200</u>	Ft. MSL
C. Total Available Head in Reach	<u>300</u>	Ft.
D. Average Slope in Reach	<u>16.0</u>	Ft./Mi.
E. Drainage Area above Reach Mouth	<u>6036</u>	Sq. Mi.
F. Inflow Classification	<u>Partially Regulated</u>	

### III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

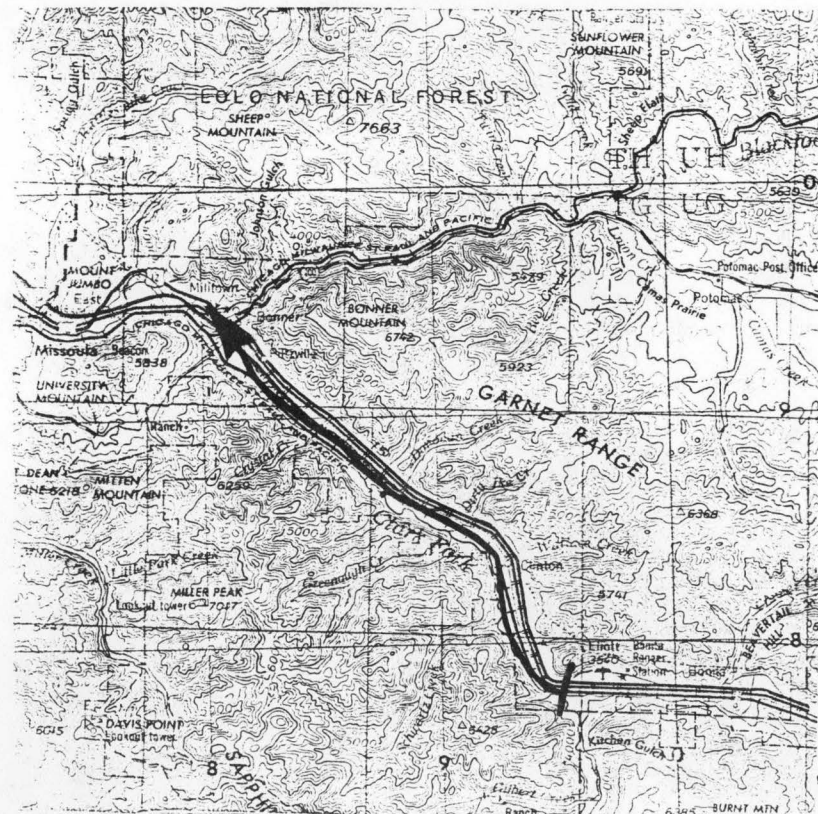
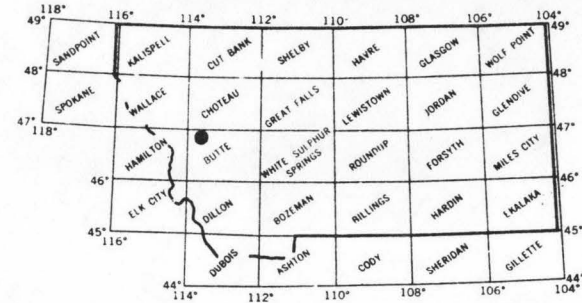
Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	834	21.20	185.74	1.00
80	1022	25.98	223.06	.98
50	1689	42.94	319.74	.85
30	2669	67.86	398.26	.67
10	6950	176.69	557.23	.36

### IV. TYPICAL ANNUAL HYDROGRAPH

AVERAGE ANNUAL FLOW = 2554 CFS



### LOCATIONS FOR USGS 1:250,000 MAP SERIES



## REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 04-500-480-350-000-R0010

### I. LOCATION

A. State	<u>Montana</u>
B. County	<u>Missoula</u>
C. Township, Range	<u>T13N. R19W</u>
D. Latitude, Longitude	<u>46°53', 114°01'</u>
E. Stream Name	<u>Clark Fork River</u>
F. Major Basin Name	<u>Clark Fork</u>
G. River Mile	<u>184.5 to 195.1</u>

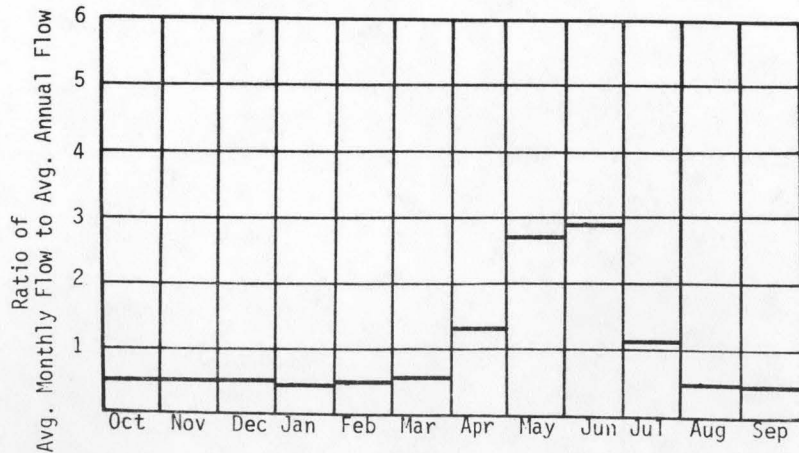
### II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

A. Upstream Elevation of Reach	<u>3200</u>	Ft. MSL
B. Downstream Elevation of Reach	<u>3090</u>	Ft. MSL
C. Total Available Head in Reach	<u>110</u>	Ft.
D. Average Slope in Reach	<u>10.4</u>	Ft./Mi.
E. Drainage Area above Reach Mouth	<u>9038</u>	Sq.Mi.
F. Inflow Classification	<u>Partially Regulated</u>	

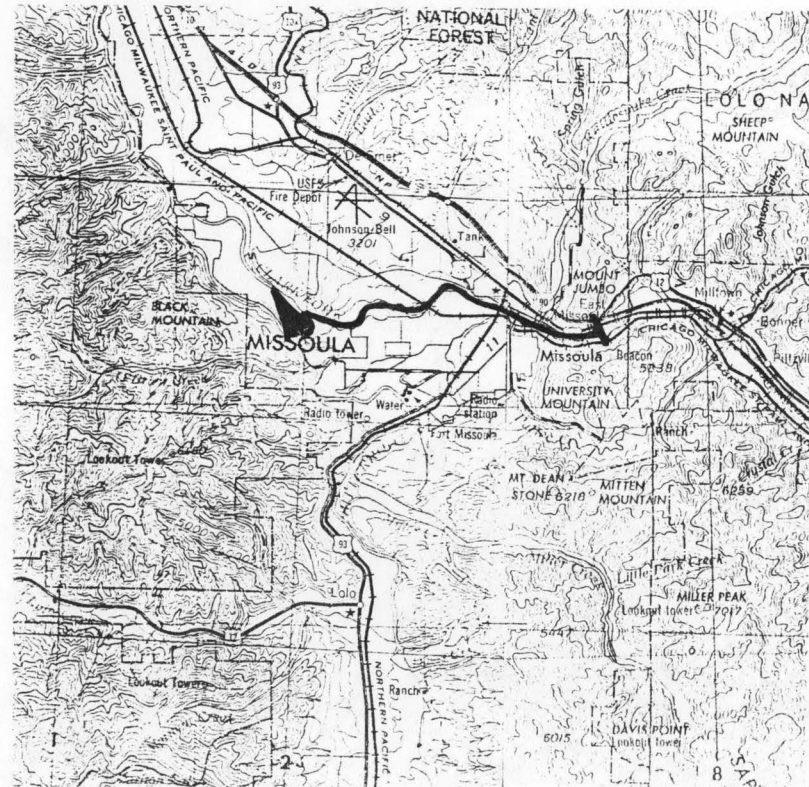
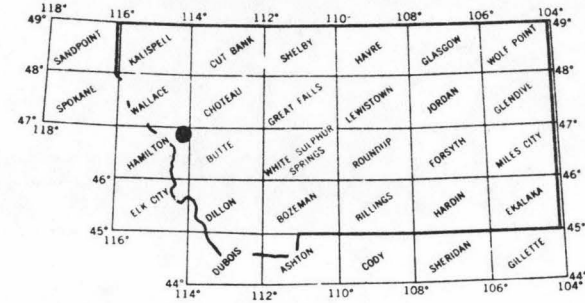
### III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	1355	12.63	110.67	1.00
80	1660	15.48	132.86	.98
50	2744	25.58	190.50	.85
30	4337	40.43	237.28	.67
10	11294	105.28	332.02	.36

### IV. TYPICAL ANNUAL HYDROGRAPH AVERAGE ANNUAL FLOW = 4454 CFS



LOCATIONS FOR USGS  
1:250,000 MAP SERIES





## REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 04-500-480-350-000-R0011

### I. LOCATION

A. State	Montana
B. County	Missoula
C. Township, Range	T13N, R21W
D. Latitude, Longitude	46°55', 114°11'
E. Stream Name	Clark Fork River
F. Major Basin Name	Clark Fork
G. River Mile	175.1 to 184.5

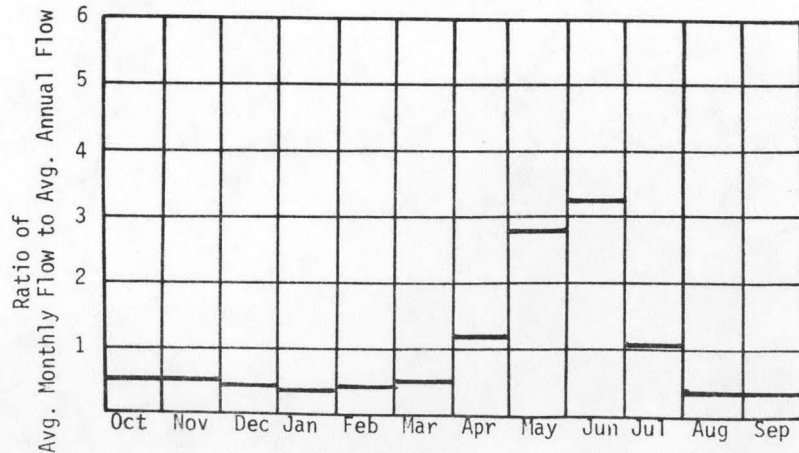
### II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

A. Upstream Elevation of Reach	3090	Ft. MSL
B. Downstream Elevation of Reach	3025	Ft. MSL
C. Total Available Head in Reach	65	Ft.
D. Average Slope in Reach	6.9	Ft./Mi.
E. Drainage Area above Reach Mouth	9190	Sq.Mi.
F. Inflow Classification	Partially Regulated	

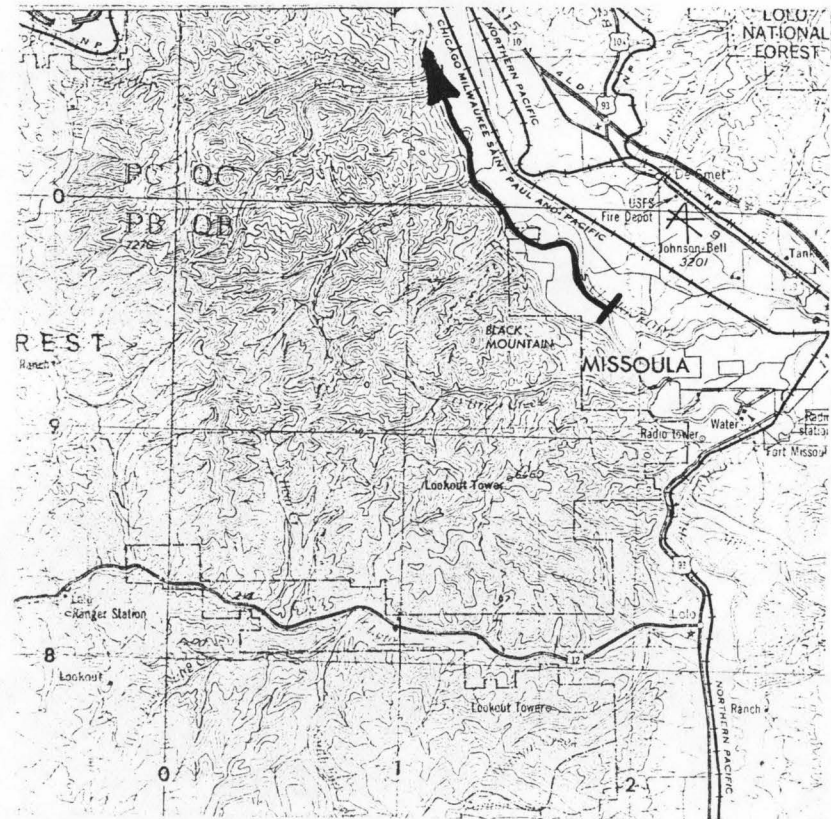
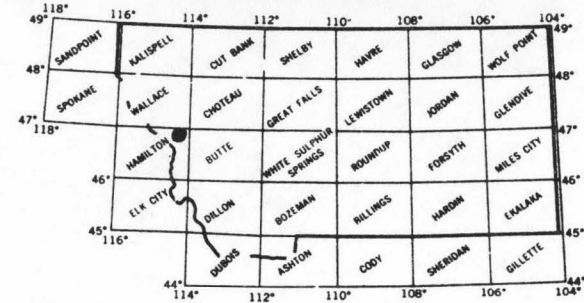
### III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	1676	9.23	80.87	1.00
80	2053	11.31	97.08	.98
50	3394	18.69	139.20	.85
30	5363	29.54	173.39	.67
10	13966	76.93	242.61	.36

### IV. TYPICAL ANNUAL HYDROGRAPH AVERAGE ANNUAL FLOW = 5622 CFS



LOCATIONS FOR USGS  
1:250,000 MAP SERIES



## REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 04-500-480-350-000-R0012

### I. LOCATION

A. State	<u>Montana</u>
B. County	<u>Missoula</u>
C. Township, Range	<u>T15N, R21W</u>
D. Latitude, Longitude	<u>47°01', 114°19'</u>
E. Stream Name	<u>Clark Fork River</u>
F. Major Basin Name	<u>Clark Fork</u>
G. River Mile	<u>159.1 to 175.1</u>

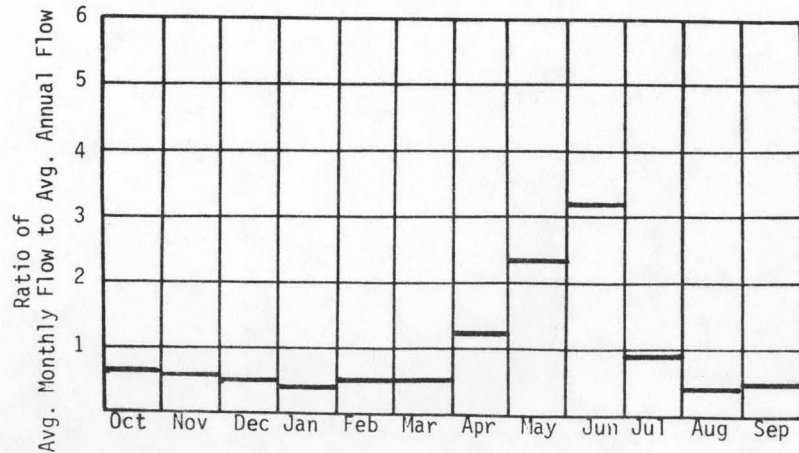
### II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

A. Upstream Elevation of Reach	<u>3025</u>	Ft. MSL
B. Downstream Elevation of Reach	<u>2950</u>	Ft. MSL
C. Total Available Head in Reach	<u>75</u>	Ft.
D. Average Slope in Reach	<u>4.7</u>	Ft./Mi.
E. Drainage Area above Reach Mouth	<u>9489</u>	Sq.Mi.
F. Inflow Classification	<u>Partially Regulated</u>	

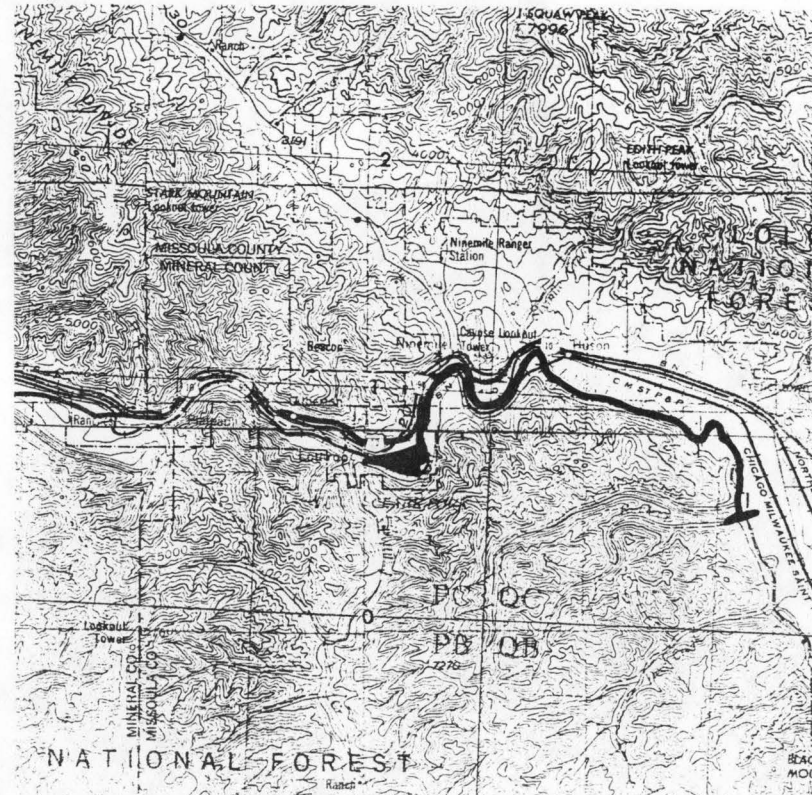
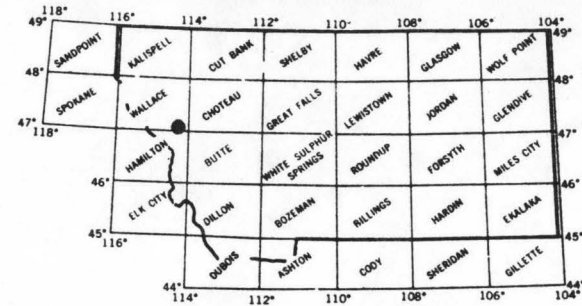
### III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	1713	10.89	95.40	1.00
80	2099	13.34	114.52	.98
50	3470	22.05	164.20	.85
30	5483	34.85	204.53	.67
10	14278	90.75	286.19	.36

### IV. TYPICAL ANNUAL HYDROGRAPH AVERAGE ANNUAL FLOW = 5758 CFS



### LOCATIONS FOR USGS 1:250,000 MAP SERIES



## REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 04-500-480-350-000-R0013

### I. LOCATION

A. State	Montana
B. County	Mineral
C. Township, Range	T14N, R23W
D. Latitude, Longitude	47°00', 114°29'
E. Stream Name	Clark Fork River
F. Major Basin Name	Clark Fork
G. River Mile	152.7 to 159.1

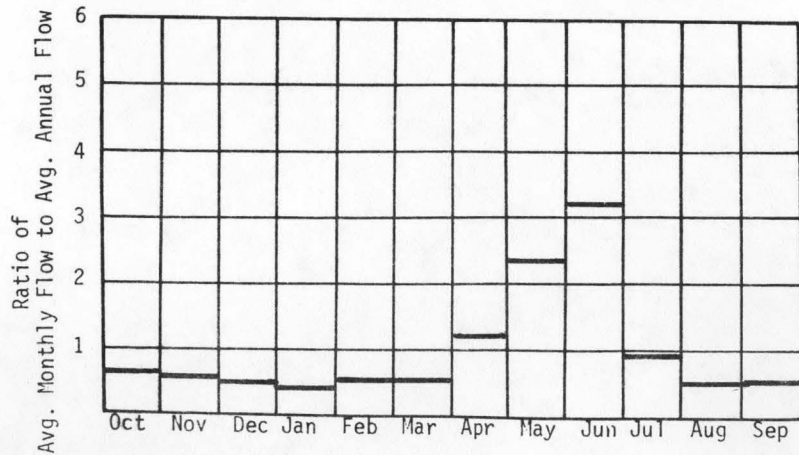
### II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

A. Upstream Elevation of Reach	2950	Ft. MSL
B. Downstream Elevation of Reach	2895	Ft. MSL
C. Total Available Head in Reach	55	Ft.
D. Average Slope in Reach	8.6	Ft./Mi.
E. Drainage Area above Reach Mouth	9611	Sq.Mi.
F. Inflow Classification	Partially Regulated	

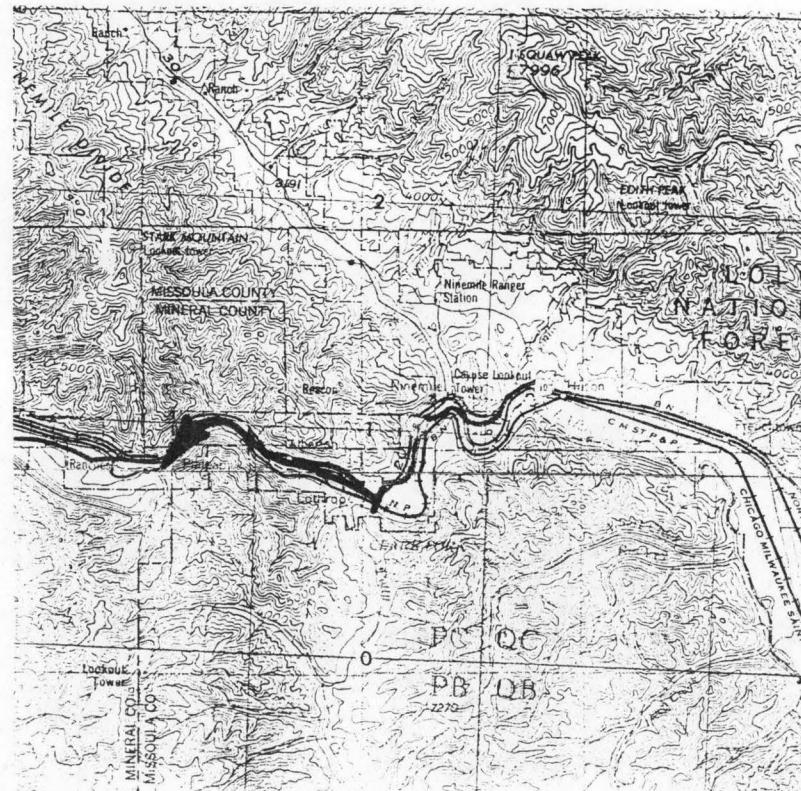
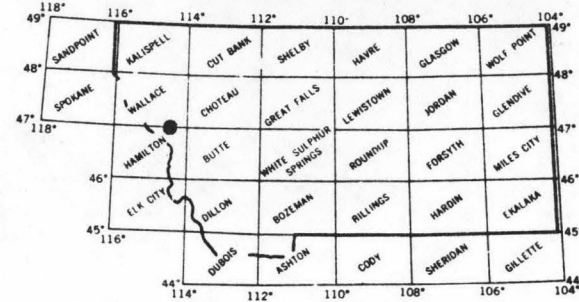
### III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	1752	8.17	71.54	1.00
80	2146	10.00	85.88	.98
50	3548	16.54	123.14	.85
30	5607	26.13	153.38	.67
10	14601	68.06	214.62	.36

### IV. TYPICAL ANNUAL HYDROGRAPH AVERAGE ANNUAL FLOW = 5900 CFS



### LOCATIONS FOR USGS 1:250,000 MAP SERIES



## REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 04-500-480-350-000-R0014

### I. LOCATION

A. State	Montana
B. County	Mineral
C. Township, Range	T15N, R24W
D. Latitude, Longitude	47°01', 114°39'
E. Stream Name	Clark Fork River
F. Major Basin Name	Clark Fork
G. River Mile	142.3 to 152.7

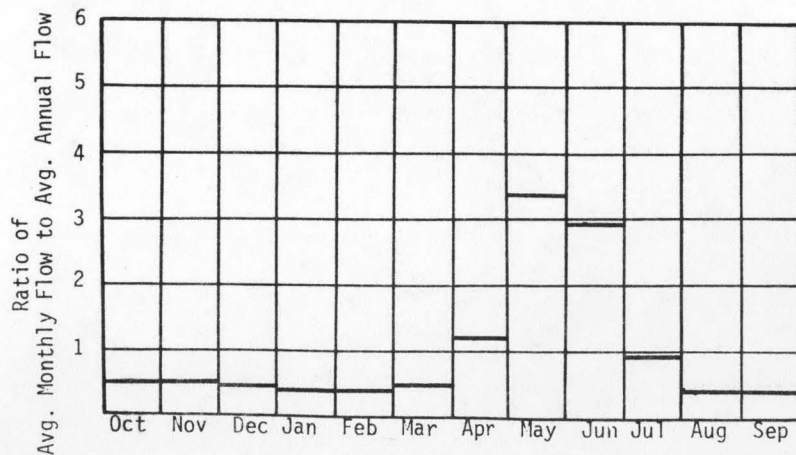
### II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

A. Upstream Elevation of Reach	2895	Ft. MSL
B. Downstream Elevation of Reach	2750	Ft. MSL
C. Total Available Head in Reach	145	Ft.
D. Average Slope in Reach	13.9	Ft./Mi.
E. Drainage Area above Reach Mouth	9917	Sq.Mi.
F. Inflow Classification	Partially Regulated	

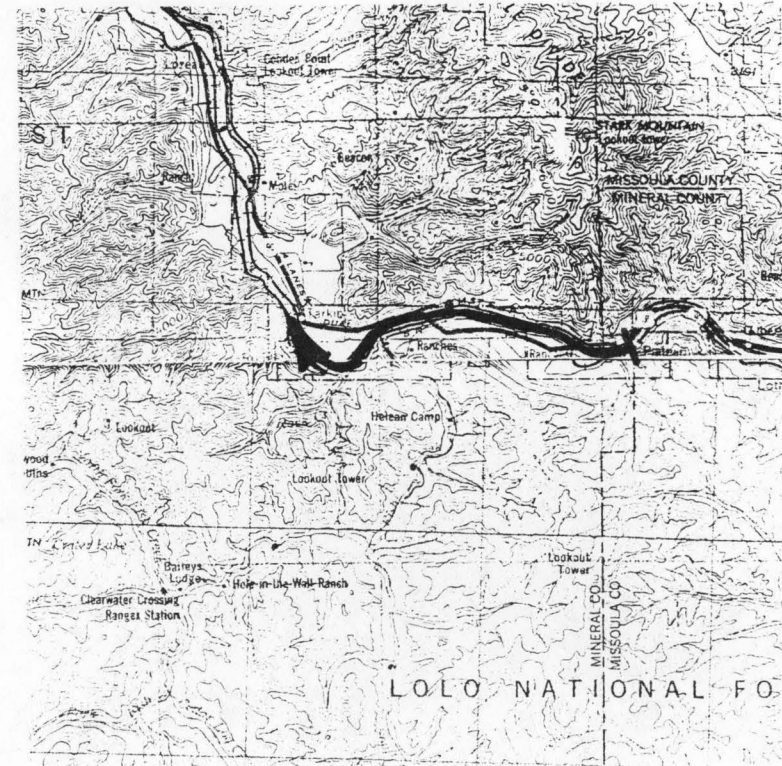
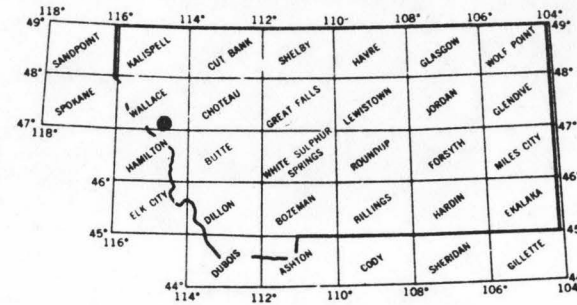
### III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	1805	22.18	194.30	1.00
80	2211	27.17	233.26	.98
50	3655	44.92	334.44	.85
30	5776	70.98	416.58	.67
10	15042	184.84	582.91	.36

### IV. TYPICAL ANNUAL HYDROGRAPH AVERAGE ANNUAL FLOW = 6092 CFS



### LOCATIONS FOR USGS 1:250,000 MAP SERIES



## REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 04-500-480-350-000-R0015

### I. LOCATION

A. State	<u>Montana</u>
B. County	<u>Mineral</u>
C. Township, Range	<u>T15N, R25W</u>
D. Latitude, Longitude	<u>47°02', 114°46'</u>
E. Stream Name	<u>Clark Fork River</u>
F. Major Basin Name	<u>Clark Fork</u>
G. River Mile	<u>138.3 to 142.3</u>

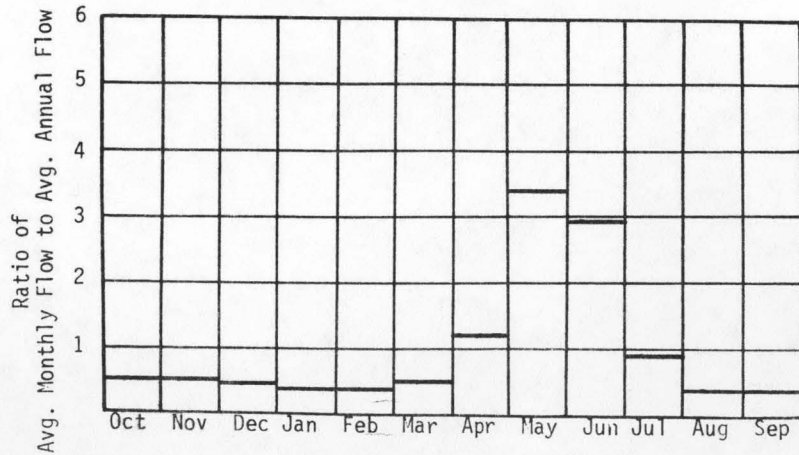
### II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

A. Upstream Elevation of Reach	<u>2750</u>	Ft. MSL
B. Downstream Elevation of Reach	<u>2730</u>	Ft. MSL
C. Total Available Head in Reach	<u>20</u>	Ft.
D. Average Slope in Reach	<u>5.0</u>	Ft./Mi.
E. Drainage Area above Reach Mouth	<u>9976</u>	Sq.Mi.
F. Inflow Classification	<u>Partially Regulated</u>	

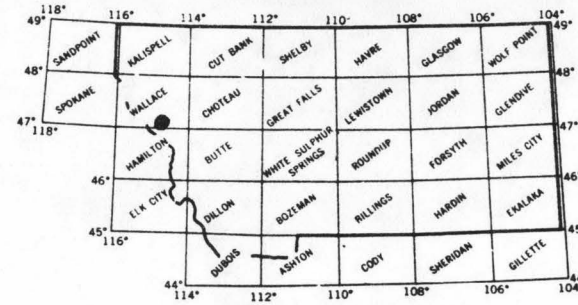
### III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	1605	2.72	23.83	1.00
80	2253	3.82	32.12	.96
50	3457	5.86	43.12	.84
30	5495	9.31	55.47	.68
10	15434	26.16	77.91	.34

### IV. TYPICAL ANNUAL HYDROGRAPH AVERAGE ANNUAL FLOW = 6264 CFS



LOCATIONS FOR USGS  
1:250,000 MAP SERIES



## REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 04-500-480-350-000-R0016

### I. LOCATION

A. State	<u>Montana</u>
B. County	<u>Mineral</u>
C. Township, Range	<u>T15N, R25W</u>
D. Latitude, Longitude	<u>47°06', 114°47'</u>
E. Stream Name	<u>Clark Fork River</u>
F. Major Basin Name	<u>Clark Fork</u>
G. River Mile	<u>134.3 to 138.3</u>

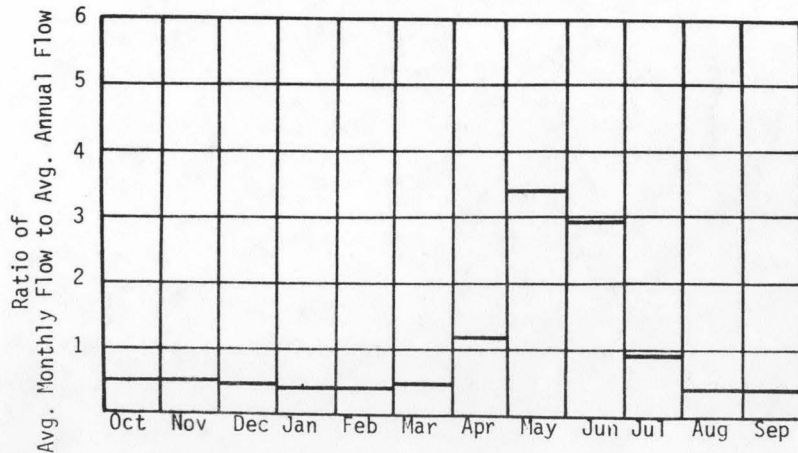
### II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

A. Upstream Elevation of Reach	<u>2730</u>	Ft. MSL
B. Downstream Elevation of Reach	<u>2710</u>	Ft. MSL
C. Total Available Head in Reach	<u>20</u>	Ft.
D. Average Slope in Reach	<u>5.0</u>	Ft./Mi.
E. Drainage Area above Reach Mouth	<u>10039</u>	Sq.Mi.
F. Inflow Classification	<u>Partially Regulated</u>	

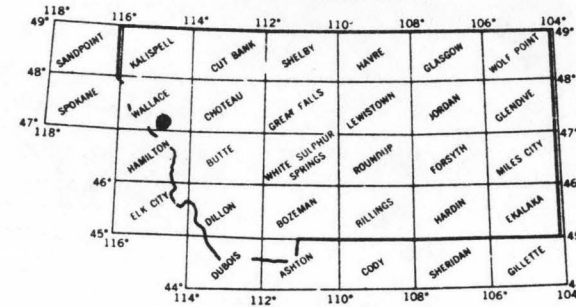
### III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	1616	2.74	24.00	1.00
80	2269	3.85	32.34	96
50	3481	5.90	43.42	84
30	5533	9.38	55.86	68
10	15541	26.34	78.45	34

### IV. TYPICAL ANNUAL HYDROGRAPH AVERAGE ANNUAL FLOW = 6310 CFS



LOCATIONS FOR USGS  
1:250,000 MAP SERIES



## REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 04-500-480-350-000-R0017

### I. LOCATION

A. State	Montana
B. County	Mineral
C. Township, Range	T16N. R26W
D. Latitude, Longitude	47°09', 114°50'
E. Stream Name	Clark Fork River
F. Major Basin Name	Clark Fork
G. River Mile	127.1 to 134.3

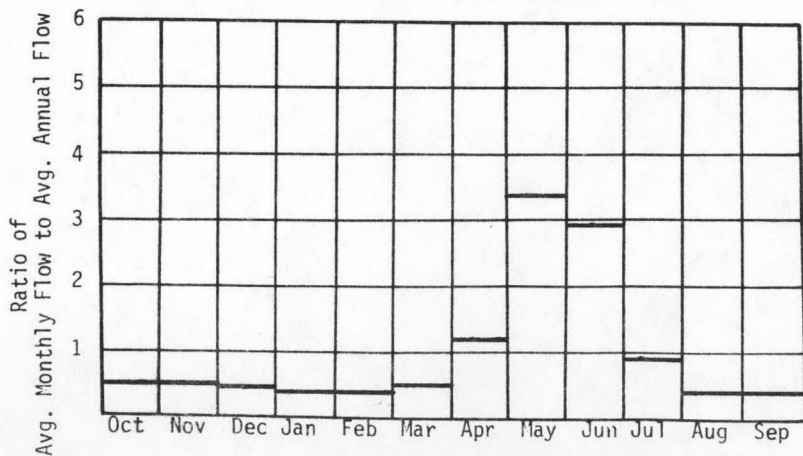
### II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

A. Upstream Elevation of Reach	2710	Ft. MSL
B. Downstream Elevation of Reach	2690	Ft. MSL
C. Total Available Head in Reach	20	Ft.
D. Average Slope in Reach	2.8	Ft./Mi.
E. Drainage Area above Reach Mouth	10224	Sq.Mi.
F. Inflow Classification	Partially Regulated	

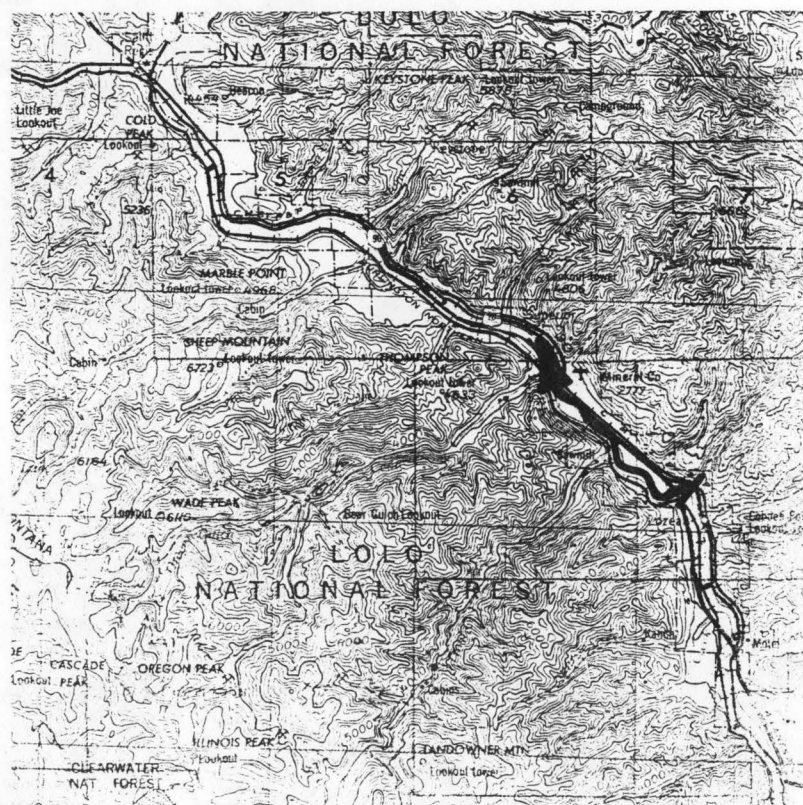
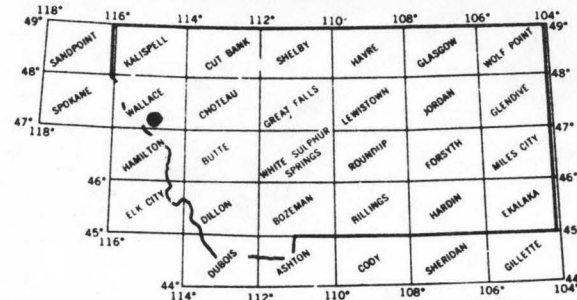
### III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	1645	2.79	24.42	1.00
80	2309	3.91	32.91	.96
50	3543	6.00	44.19	.84
30	5630	9.54	56.85	.68
10	15816	26.81	79.84	.34

### IV. TYPICAL ANNUAL HYDROGRAPH AVERAGE ANNUAL FLOW = 6430 CFS



### LOCATIONS FOR USGS 1:250,000 MAP SERIES



## REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 04-500-480-350-000-R0018

### I. LOCATION

A. State	Montana
B. County	Mineral
C. Township, Range	T17N, R26W
D. Latitude, Longitude	47°12', 114°56'
E. Stream Name	Clark Fork River
F. Major Basin Name	Clark Fork
G. River Mile	121.5 to 127.1

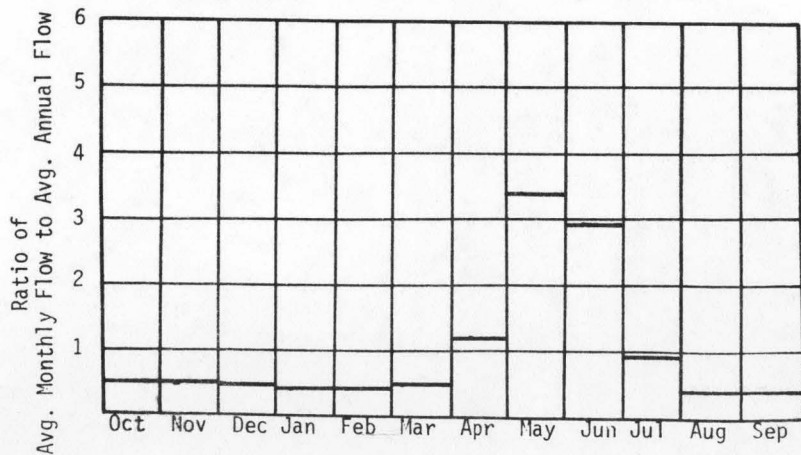
### II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

A. Upstream Elevation of Reach	2690	Ft. MSL
B. Downstream Elevation of Reach	2660	Ft. MSL
C. Total Available Head in Reach	30	Ft.
D. Average Slope in Reach	5.4	Ft./Mi.
E. Drainage Area above Reach Mouth	10330	Sq.Mi.
F. Inflow Classification	Partially Regulated	

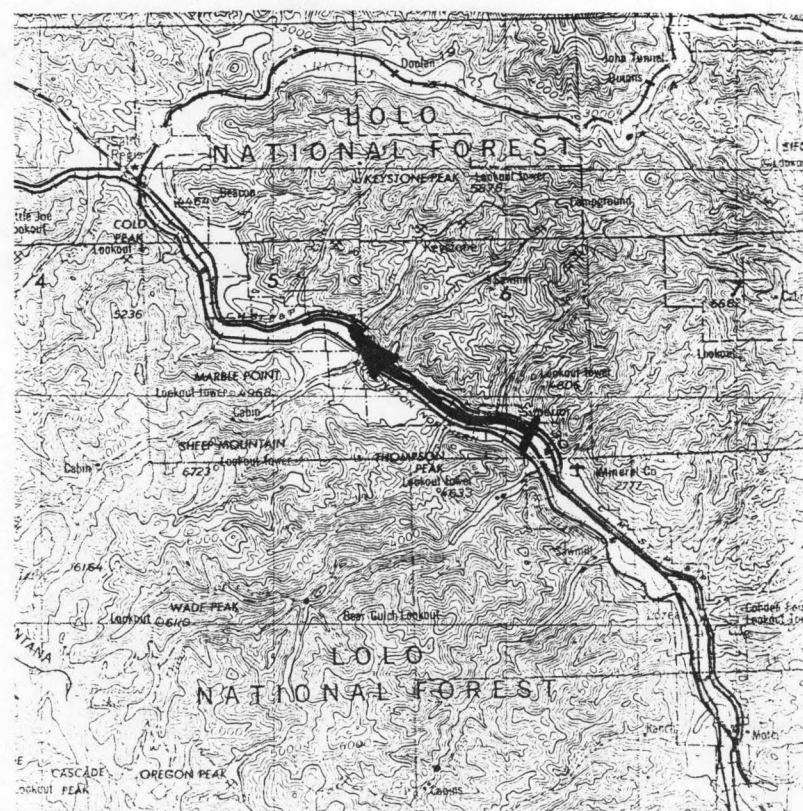
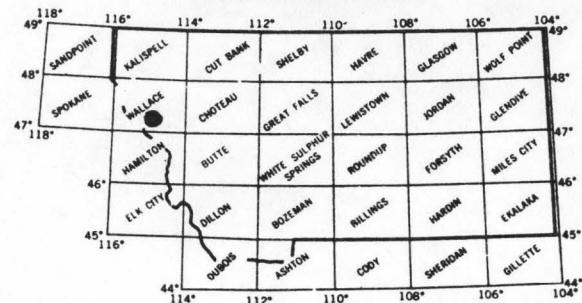
### III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	1679	4.27	37.40	1.00
80	2358	5.99	50.41	.96
50	3617	9.20	67.67	.84
30	5749	14.62	87.07	.68
10	16149	41.06	122.28	.34

### IV. TYPICAL ANNUAL HYDROGRAPH AVERAGE ANNUAL FLOW = 6576 CFS



### LOCATIONS FOR USGS 1:250,000 MAP SERIES





## REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 04-500-480-350-000-R0019

### I. LOCATION

A. State	<u>Montana</u>
B. County	<u>Mineral</u>
C. Township, Range	<u>T17N, R11E</u>
D. Latitude, Longitude	<u>47°16', 115°03'</u>
E. Stream Name	<u>Clark Fork River</u>
F. Major Basin Name	<u>Clark Fork</u>
G. River Mile	<u>112.9 to 121.5</u>

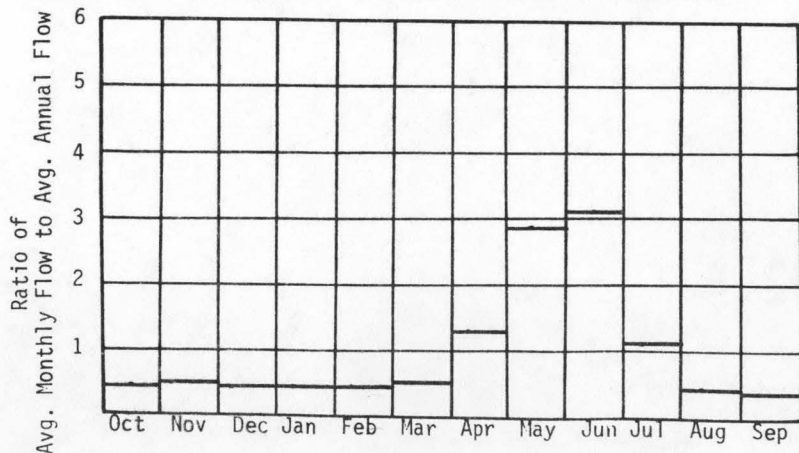
### II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

A. Upstream Elevation of Reach	<u>2660</u>	Ft. MSL
B. Downstream Elevation of Reach	<u>2630</u>	Ft. MSL
C. Total Available Head in Reach	<u>30</u>	Ft.
D. Average Slope in Reach	<u>3.5</u>	Ft./Mi.
E. Drainage Area above Reach Mouth	<u>10739</u>	Sq.Mi.
F. Inflow Classification	<u>Partially Regulated</u>	

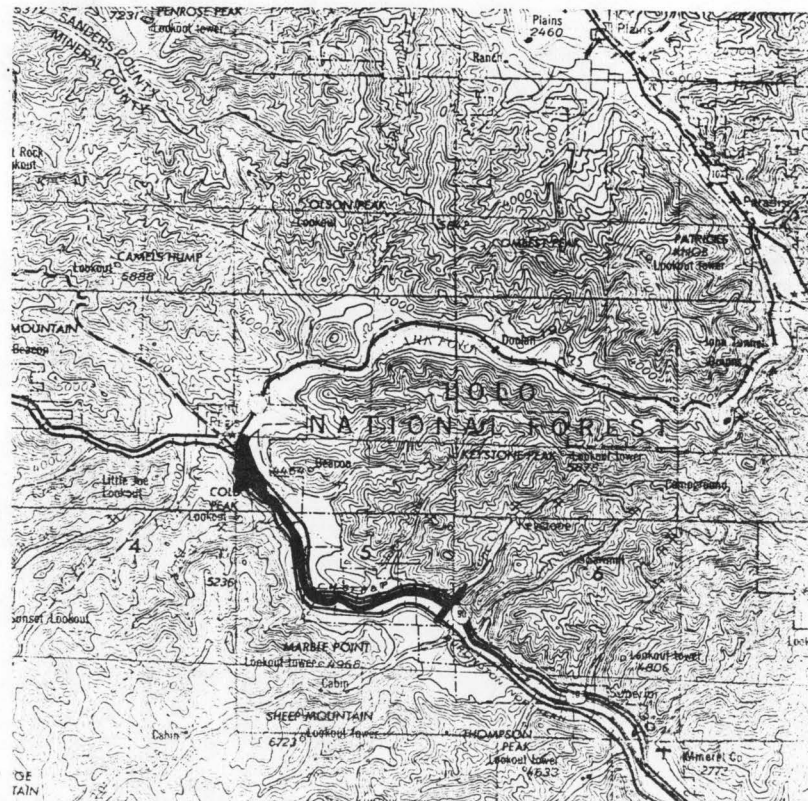
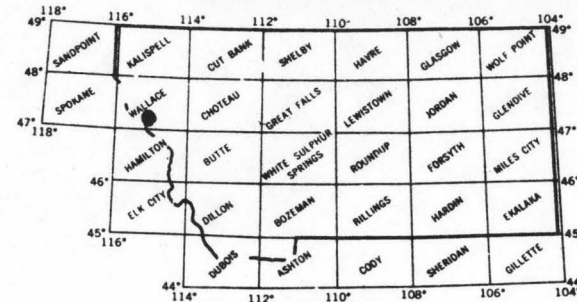
### III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	1742	4.43	38.80	1.00
80	2446	6.22	52.29	.96
50	3752	9.54	70.20	.84
30	5964	15.16	90.32	.68
10	16752	42.59	126.85	.34

### IV. TYPICAL ANNUAL HYDROGRAPH AVERAGE ANNUAL FLOW = 6840 CFS



### LOCATIONS FOR USGS 1:250,000 MAP SERIES



## REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # U4-500-480-350-000-ROU20

### I. LOCATION

A. State	<u>Montana</u>
B. County	<u>Mineral</u>
C. Township, Range	<u>T18N, R27W</u>
D. Latitude, Longitude	<u>47°21', 115°00'</u>
E. Stream Name	<u>Clark Fork River</u>
F. Major Basin Name	<u>Clark Fork</u>
G. River Mile	<u>99.7 to 112.9</u>

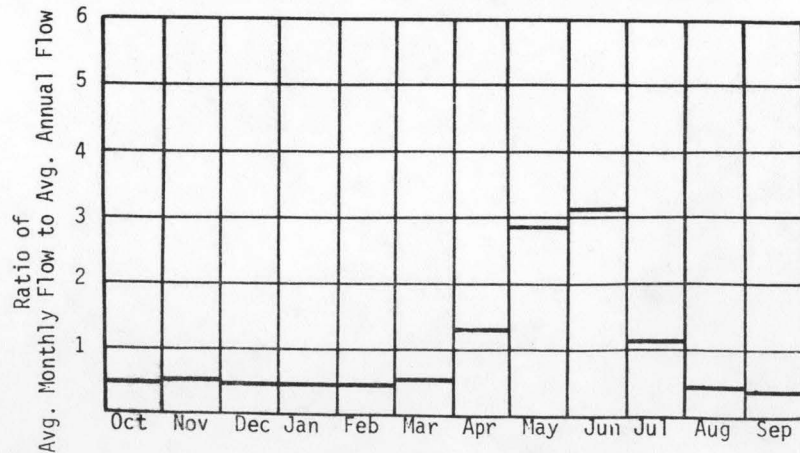
### II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

A. Upstream Elevation of Reach	<u>2630</u>	Ft. MSL
B. Downstream Elevation of Reach	<u>2555</u>	Ft. MSL
C. Total Available Head in Reach	<u>75</u>	Ft.
D. Average Slope in Reach	<u>5.7</u>	Ft./Mi.
E. Drainage Area above Reach Mouth	<u>10815</u>	Sq.Mi.
F. Inflow Classification	<u>Partially Regulated</u>	

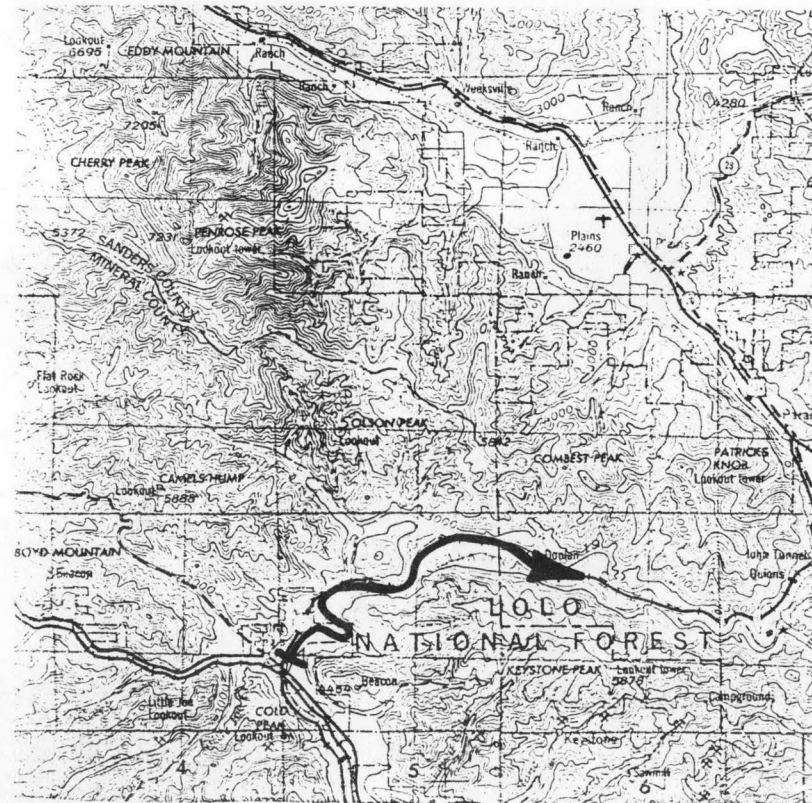
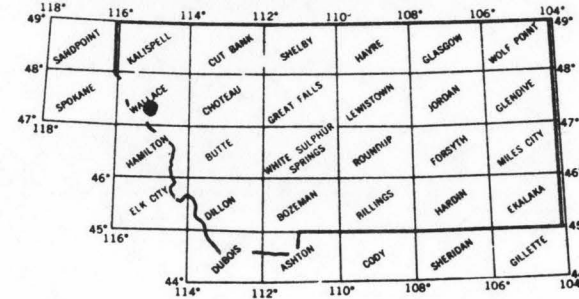
### III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	1800	11.44	100.24	1.00
80	2527	16.06	135.09	.96
50	3878	24.65	181.36	.84
30	6163	39.17	233.33	.68
10	17311	110.03	327.71	.34

### IV. TYPICAL ANNUAL HYDROGRAPH AVERAGE ANNUAL FLOW = 7084 CFS



### LOCATIONS FOR USGS 1:250,000 MAP SERIES



## REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 04-500-480-350-000-R0021

### I. LOCATION

A. State	<u>Montana</u>
B. County	<u>Sanders</u>
C. Township, Range	<u>T18N, R25W</u>
D. Latitude, Longitude	<u>47°18', 114°49'</u>
E. Stream Name	<u>Clark Fork River</u>
F. Major Basin Name	<u>Clark Fork</u>
G. River Mile	<u>89.8 to 99.7</u>

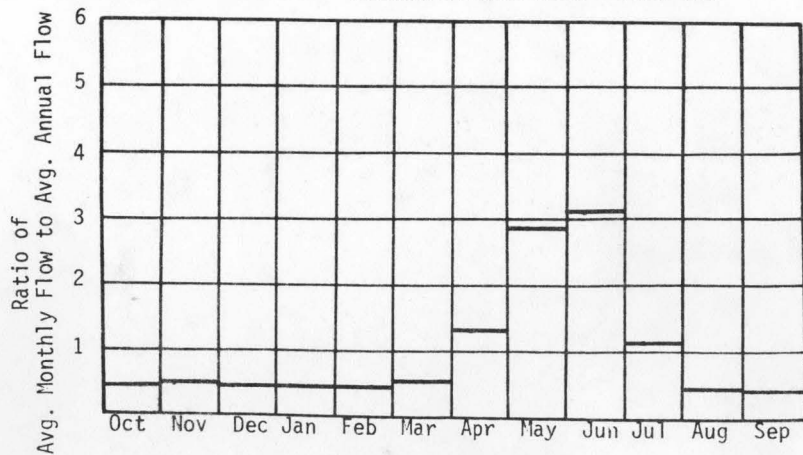
### II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

A. Upstream Elevation of Reach	<u>2555</u>	Ft. MSL
B. Downstream Elevation of Reach	<u>2475</u>	Ft. MSL
C. Total Available Head in Reach	<u>80</u>	Ft.
D. Average Slope in Reach	<u>8.1</u>	Ft./Mi.
E. Drainage Area above Reach Mouth	<u>10860</u>	Sq.Mi.
F. Inflow Classification	<u>Partially Regulated</u>	

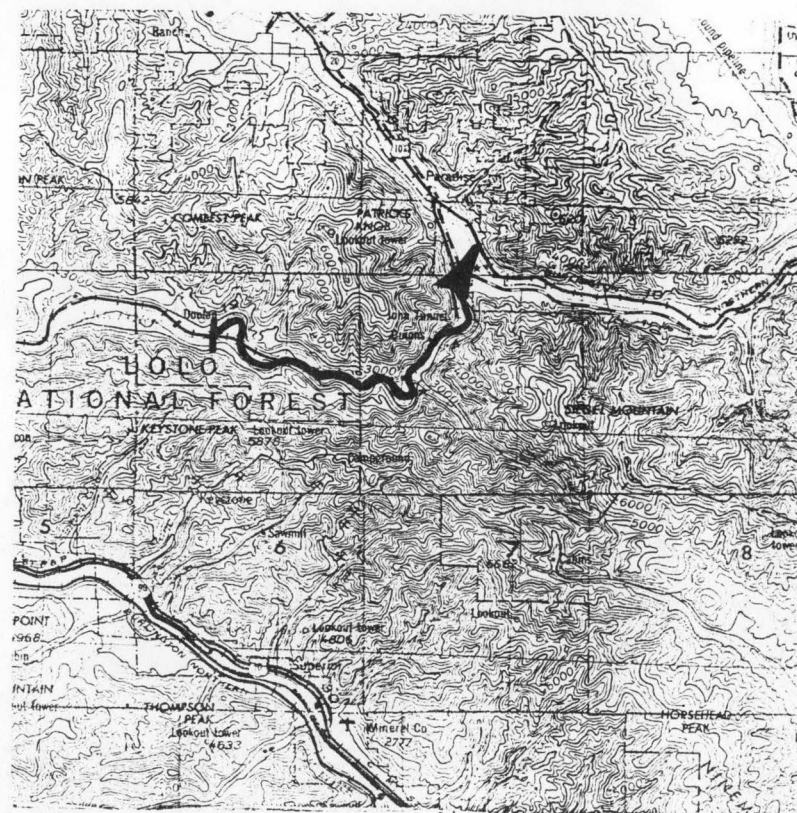
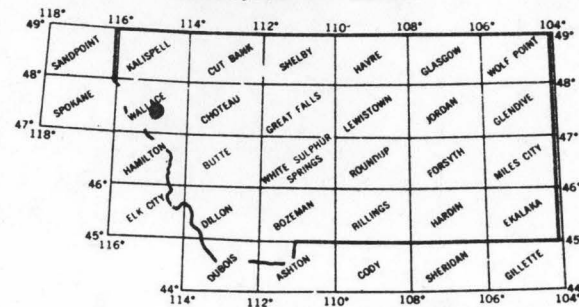
### III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	1812	12.28	107.60	1.00
80	2543	17.24	145.01	.96
50	3902	26.46	194.68	.84
30	6202	42.05	250.46	.68
10	17421	118.11	351.77	.34

### IV. TYPICAL ANNUAL HYDROGRAPH AVERAGE ANNUAL FLOW = 7132 CFS



LOCATIONS FOR USGS  
1:250,000 MAP SERIES



## REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 04-500-480-350-000-R0022

### I. LOCATION

A. State	Montana
B. County	Sanders
C. Township, Range	T19N, R25W
D. Latitude, Longitude	47°24', 114°50'
E. Stream Name	Clark Fork River
F. Major Basin Name	Clark Fork
G. River Mile	83.4 to 89.8

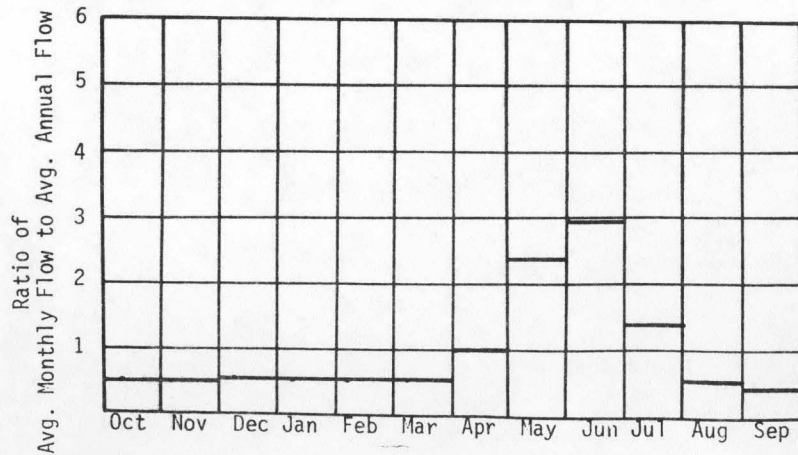
### II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

A. Upstream Elevation of Reach	2475	Ft. MSL
B. Downstream Elevation of Reach	2455	Ft. MSL
C. Total Available Head in Reach	20	Ft.
D. Average Slope in Reach	3.1	Ft./Mi.
E. Drainage Area above Reach Mouth	19764	Sq. Mi.
F. Inflow Classification	Partially Regulated	

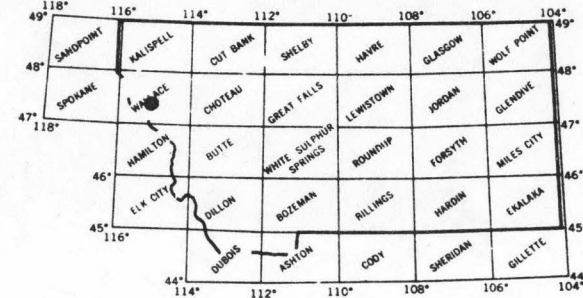
### III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	3366	5.70	49.97	1.00
80	4725	8.01	67.35	.96
50	7250	12.29	90.42	.84
30	11522	19.53	116.32	.68
10	32364	54.85	163.38	.34

### IV. TYPICAL ANNUAL HYDROGRAPH AVERAGE ANNUAL FLOW = 13666 CFS



### LOCATIONS FOR USGS 1:250,000 MAP SERIES



## REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 04-500-480-350-000-R0023

### I. LOCATION

A. State	Montana
B. County	Sanders
C. Township, Range	T20N, R26W
D. Latitude, Longitude	47°27', 114°56'
E. Stream Name	Clark Fork River
F. Major Basin Name	Clark Fork
G. River Mile	73.3 to 83.4

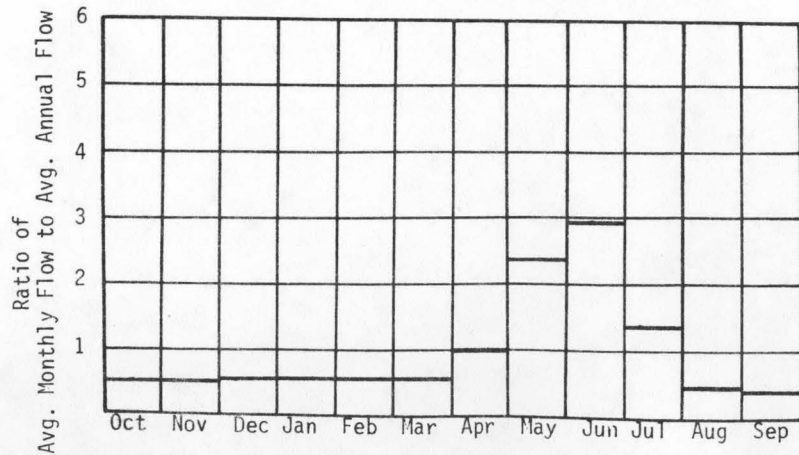
### II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

A. Upstream Elevation of Reach	2455	Ft. MSL
B. Downstream Elevation of Reach	2430	Ft. MSL
C. Total Available Head in Reach	25	Ft.
D. Average Slope in Reach	2.5	Ft./Mi.
E. Drainage Area above Reach Mouth	19866	Sq.Mi.
F. Inflow Classification	<u>Partially Regulated</u>	

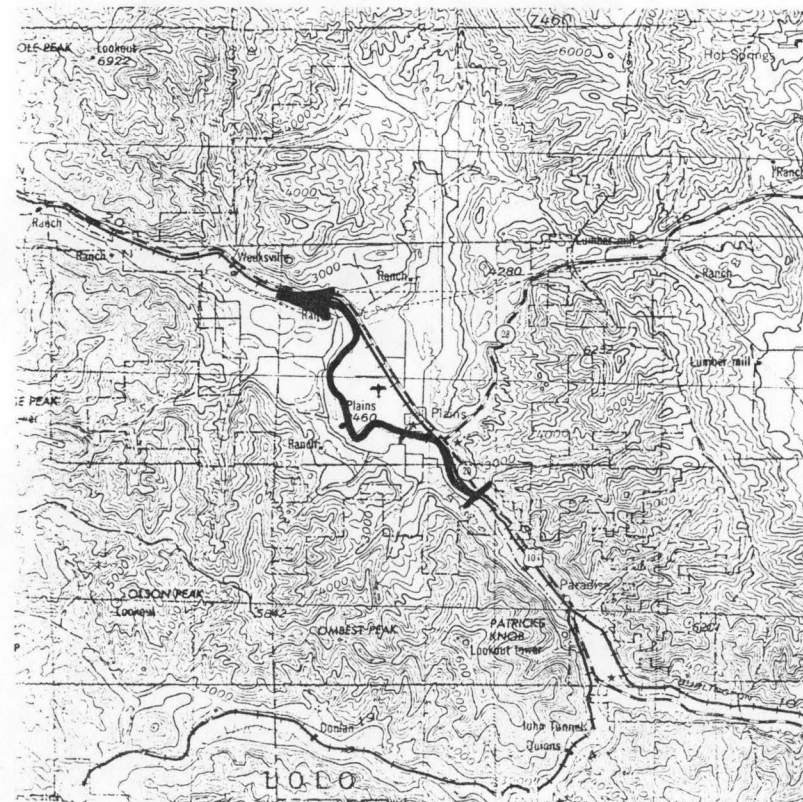
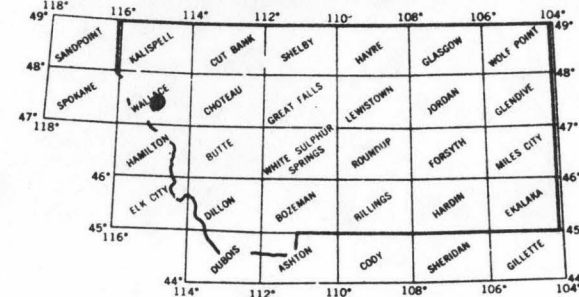
### III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	4925	10.43	91.40	1.00
80	6914	14.65	123.18	.96
50	10607	22.47	165.37	.84
30	16858	35.72	212.75	.68
10	47354	100.33	298.81	.34

### IV. TYPICAL ANNUAL HYDROGRAPH AVERAGE ANNUAL FLOW = 20221 CFS



### LOCATIONS FOR USGS 1:250,000 MAP SERIES



## REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 04-500-480-350-000-R0024

### I. LOCATION

A. State	Montana
B. County	Sanders
C. Township, Range	T20N, R27W
D. Latitude, Longitude	47°31', 114°59'
E. Stream Name	Clark Fork River
F. Major Basin Name	Clark Fork
G. River Mile	70.7 to 73.3

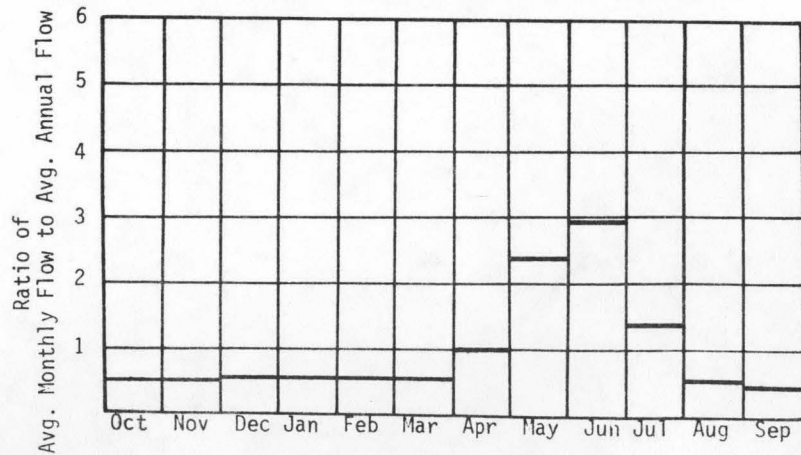
### II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

A. Upstream Elevation of Reach	2430	Ft. MSL
B. Downstream Elevation of Reach	2415	Ft. MSL
C. Total Available Head in Reach	15	Ft.
D. Average Slope in Reach	5.8	Ft./Mi.
E. Drainage Area above Reach Mouth	19960	Sq.Mi.
F. Inflow Classification	Partially Regulated	

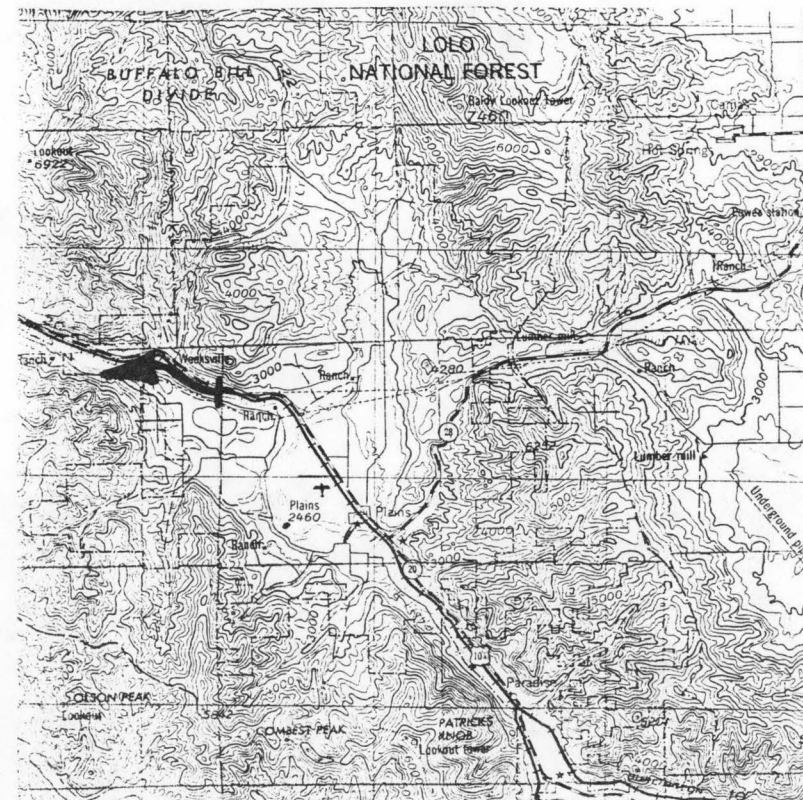
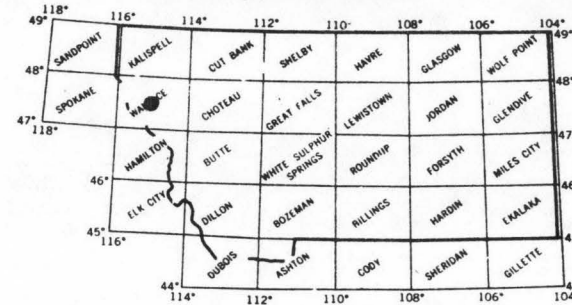
### III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	4946	6.29	55.08	1.00
80	6944	8.83	74.23	.96
50	10654	13.54	99.65	.84
30	16932	21.52	128.21	.68
10	47561	60.46	180.07	.34

### IV. TYPICAL ANNUAL HYDROGRAPH AVERAGE ANNUAL FLOW = 20312 CFS



### LOCATIONS FOR USGS 1:250,000 MAP SERIES



## REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 04-500-480-350-000-R0025

### I. LOCATION

A. State	Montana
B. County	Sanders
C. Township, Range	T21N, R27W
D. Latitude, Longitude	47°34', 115°16'
E. Stream Name	Clark Fork River
F. Major Basin Name	Clark Fork
G. River Mile	62.7 to 70.7

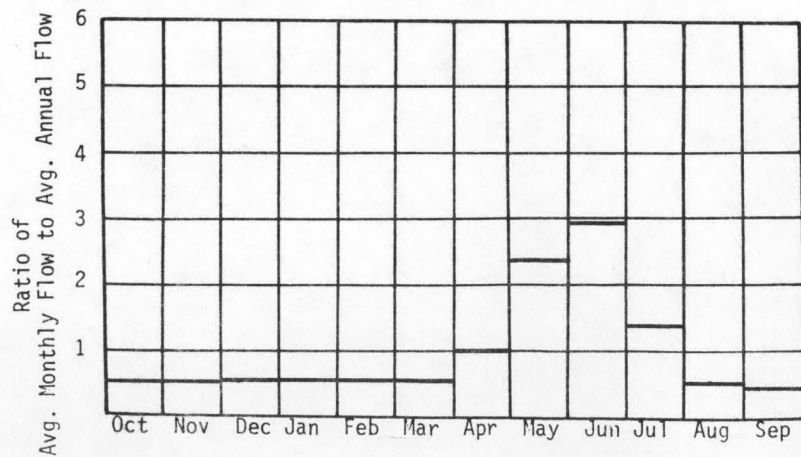
### II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

A. Upstream Elevation of Reach	2415	Ft. MSL
B. Downstream Elevation of Reach	2395	Ft. MSL
C. Total Available Head in Reach	20	Ft.
D. Average Slope in Reach	2.5	Ft./Mi.
E. Drainage Area above Reach Mouth	20010	Sq.Mi.
F. Inflow Classification	Partially Regulated	

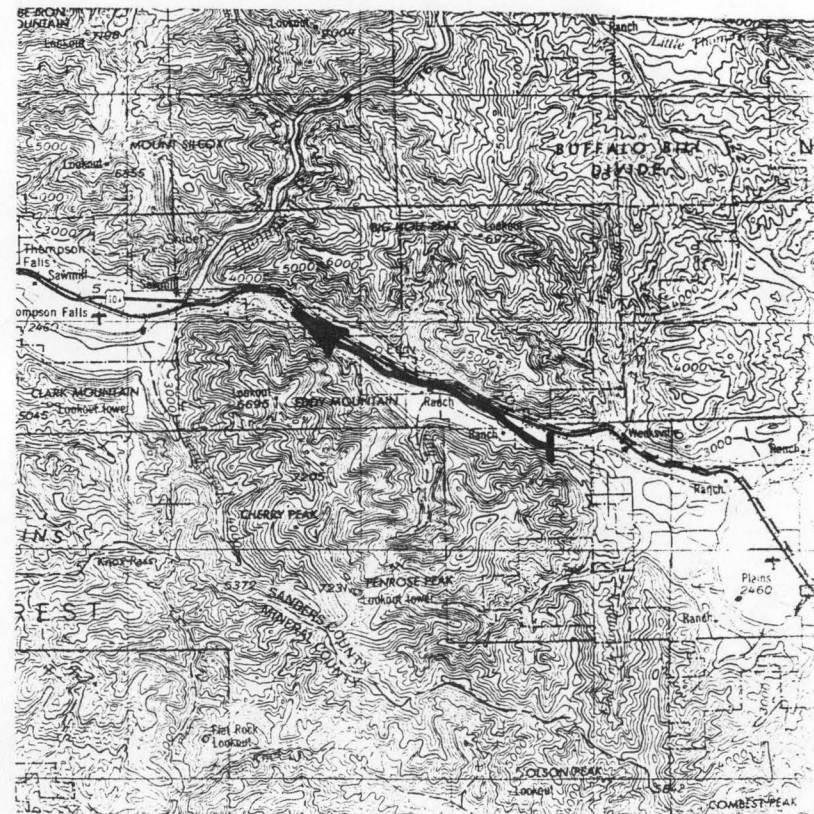
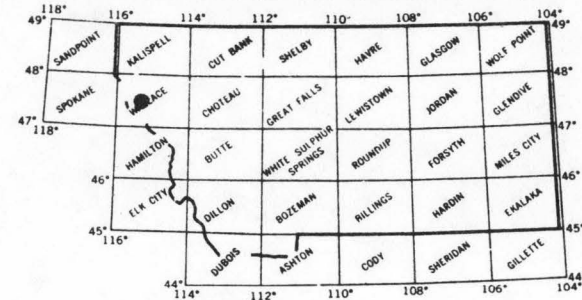
### III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	4966	8.42	73.74	1.00
80	6972	11.82	99.38	.96
50	10697	18.13	133.41	.84
30	17000	28.81	171.64	.68
10	47754	80.94	241.07	.34

### IV. TYPICAL ANNUAL HYDROGRAPH AVERAGE ANNUAL FLOW = 20396 CFS



### LOCATIONS FOR USGS 1:250,000 MAP SERIES



## REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 04-500-480-350-000-R0026

### I. LOCATION

A. State	Montana
B. County	Sanders
C. Township, Range	T21N. R29W
D. Latitude, Longitude	47°34', 115°09'
E. Stream Name	Clark Fork River
F. Major Basin Name	Clark Fork
G. River Mile	52.9 to 62.7

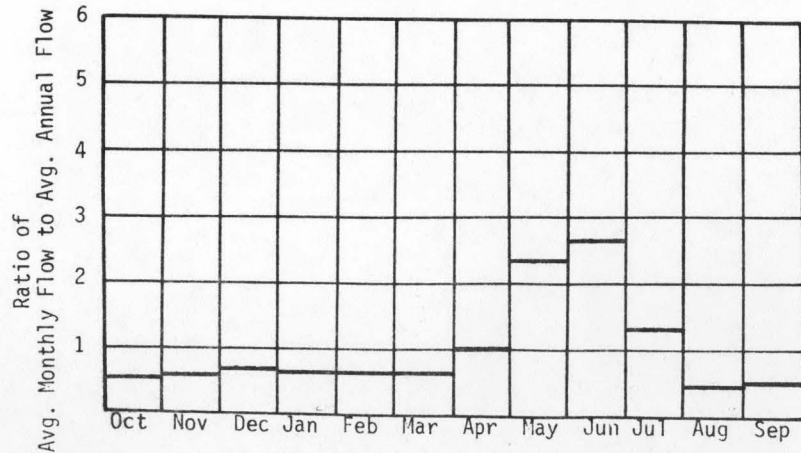
### II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

A. Upstream Elevation of Reach	2395		Ft. MSL
B. Downstream Elevation of Reach	2380		Ft. MSL
C. Total Available Head in Reach	15		Ft.
D. Average Slope in Reach	1.5		Ft./Mi.
E. Drainage Area above Reach Mouth	20883		Sq.Mi.
F. Inflow Classification	Partially Regulated		

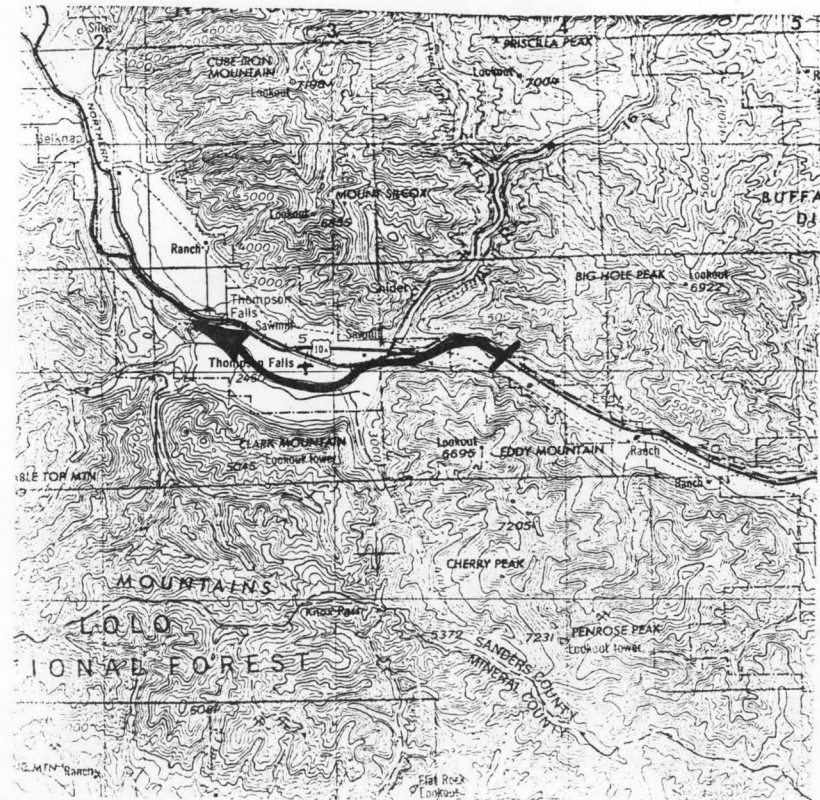
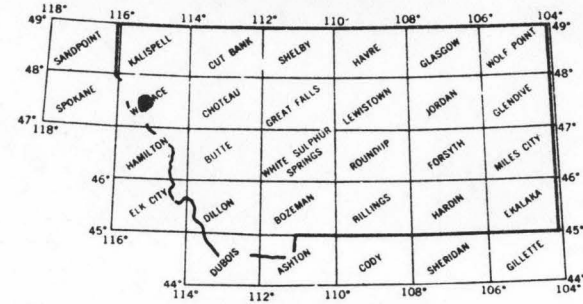
### III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	6467	8.22	72.02	1.00
80	9701	12.33	103.71	.96
50	14699	18.68	140.76	.86
30	20284	25.78	164.89	.73
10	48995	62.28	212.78	.39

### IV. TYPICAL ANNUAL HYDROGRAPH AVERAGE ANNUAL FLOW = 20938 CFS



### LOCATIONS FOR USGS 1:250,000 MAP SERIES





## REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 04-500-480-350-000-R0027

### I. LOCATION

A. State	Montana
B. County	Sanders
C. Township, Range	T22N, R30W
D. Latitude, Longitude	47°39', 115°24'
E. Stream Name	Clark Fork River
F. Major Basin Name	Clark Fork
G. River Mile	41.9 to 52.9

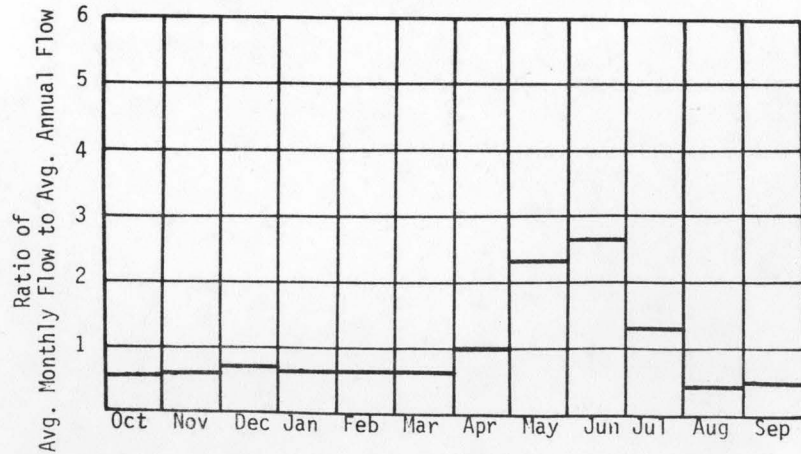
### II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

A. Upstream Elevation of Reach	2380	Ft. MSL
B. Downstream Elevation of Reach	2350	Ft. MSL
C. Total Available Head in Reach	30	Ft.
D. Average Slope in Reach	2.7	Ft./Mi.
E. Drainage Area above Reach Mouth	20965	Sq.Mi.
F. Inflow Classification	Partially Regulated	

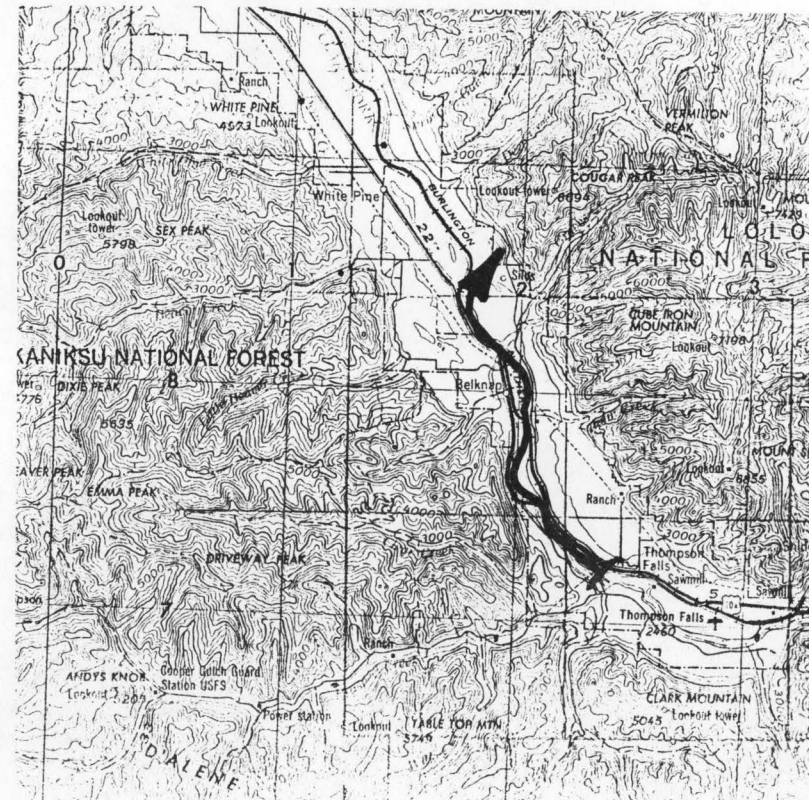
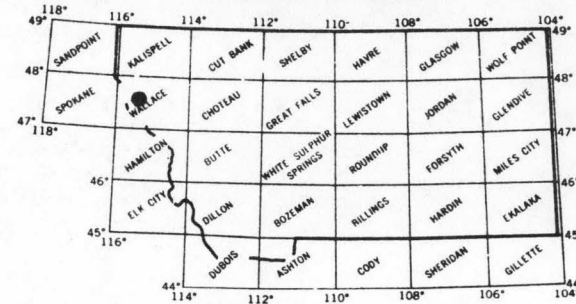
### III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	6638	16.88	147.83	1.00
80	9957	25.31	212.88	.96
50	15086	38.35	288.94	.86
30	20818	52.93	338.46	.73
10	50286	127.85	436.77	.39

### IV. TYPICAL ANNUAL HYDROGRAPH AVERAGE ANNUAL FLOW = 21503 CFS



LOCATIONS FOR USGS  
1:250,000 MAP SERIES



## REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 04-500-480-350-000-R0028

### I. LOCATION

A. State	<u>Montana</u>
B. County	<u>Sanders</u>
C. Township, Range	<u>T23N, R30W</u>
D. Latitude, Longitude	<u>47°46', 115°29'</u>
E. Stream Name	<u>Clark Fork River</u>
F. Major Basin Name	<u>Clark Fork</u>
G. River Mile	<u>33.5 to 41.9</u>

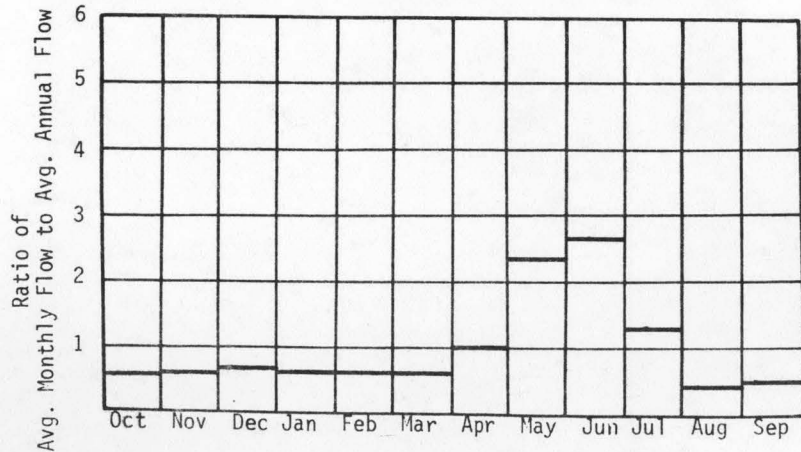
### II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

A. Upstream Elevation of Reach	<u>2350</u>	Ft. MSL
B. Downstream Elevation of Reach	<u>2335</u>	Ft. MSL
C. Total Available Head in Reach	<u>15</u>	Ft.
D. Average Slope in Reach	<u>1.8</u>	Ft./Mi.
E. Drainage Area above Reach Mouth	<u>21006</u>	Sq.Mi.
F. Inflow Classification	<u>Partially Regulated</u>	

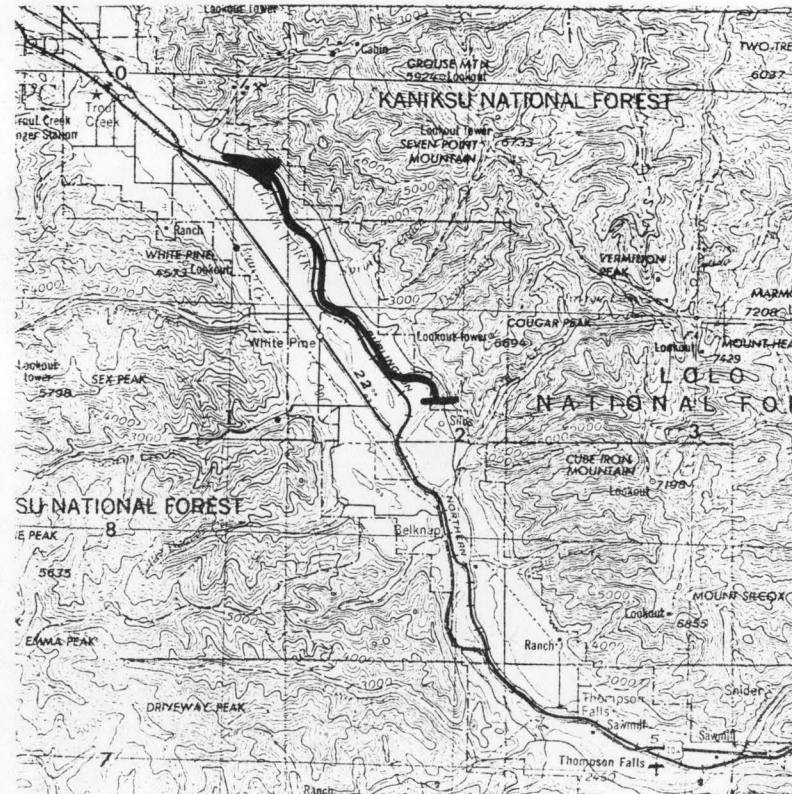
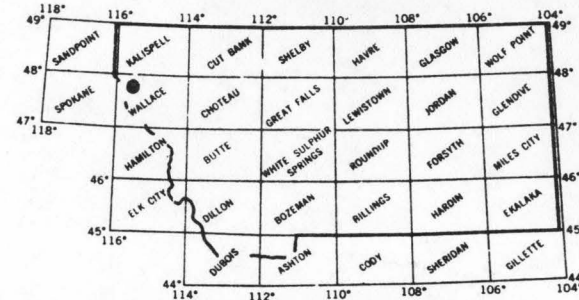
### III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	6663	8.47	74.19	1.00
80	9994	12.70	106.84	.96
50	15143	19.25	145.01	.86
30	20897	26.56	169.87	.73
10	50475	64.16	219.21	.39

### IV. TYPICAL ANNUAL HYDROGRAPH AVERAGE ANNUAL FLOW = 21586 CFS



### LOCATIONS FOR USGS 1:250,000 MAP SERIES



## REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 04-500-480-350-000-R0029

### I. LOCATION

A. State	<u>Montana</u>
B. County	<u>Sanders</u>
C. Township, Range	<u>T24N, R32W</u>
D. Latitude, Longitude	<u>47°52', 115°40'</u>
E. Stream Name	<u>Clark Fork River</u>
F. Major Basin Name	<u>Clark Fork</u>
G. River Mile	<u>18.3 to 33.5</u>

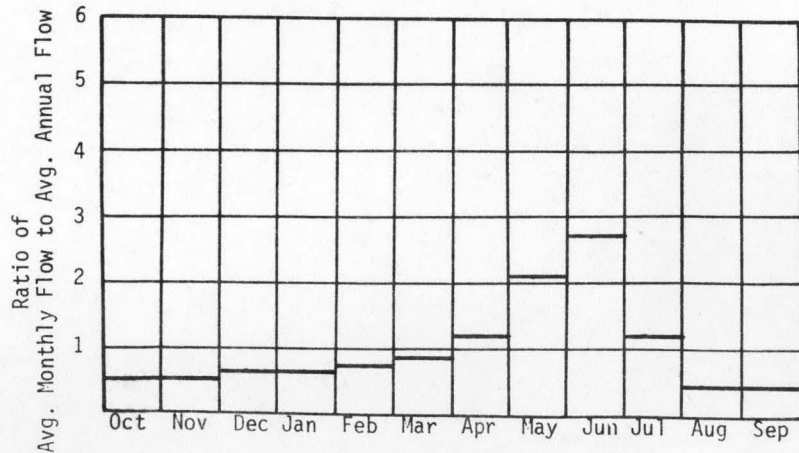
### II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

A. Upstream Elevation of Reach	<u>2335</u>	Ft. MSL
B. Downstream Elevation of Reach	<u>2220</u>	Ft. MSL
C. Total Available Head in Reach	<u>115</u>	Ft.
D. Average Slope in Reach	<u>7.6</u>	Ft./Mi.
E. Drainage Area above Reach Mouth	<u>21467</u>	Sq.Mi.
F. Inflow Classification	<u>Fully Regulated</u>	

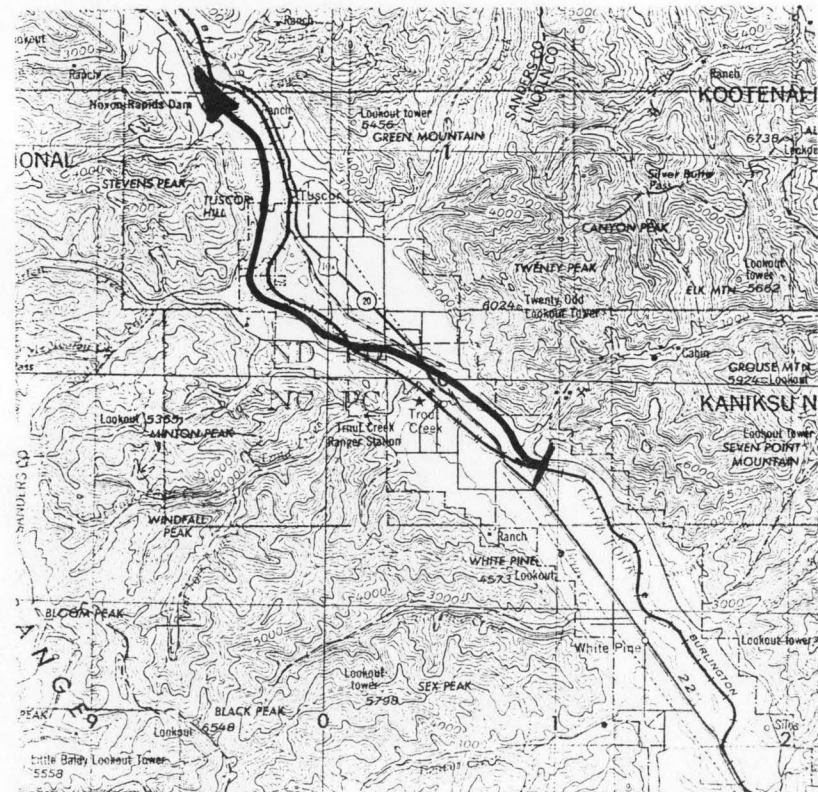
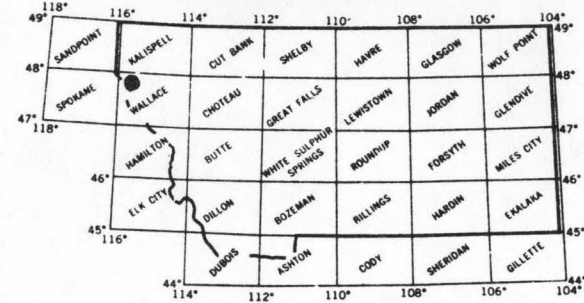
### III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	6779	66.06	578.71	1.00
80	10168	99.09	833.34	.96
50	15406	150.14	1131.11	.86
30	21260	207.20	1324.98	.73
10	51353	500.47	1709.82	.39

### IV. TYPICAL ANNUAL HYDROGRAPH AVERAGE ANNUAL FLOW = 21970 CFS



LOCATIONS FOR USGS  
1:250,000 MAP SERIES



## REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 04-500-480-350-000-R0030

### I. LOCATION

A. State	<u>Montana</u>
B. County	<u>Sanders</u>
C. Township, Range	<u>T27N, R34W</u>
D. Latitude, Longitude	<u>48°04', 115°57'</u>
E. Stream Name	<u>Clark Fork River</u>
F. Major Basin Name	<u>Clark Fork</u>
G. River Mile	<u>0.0 to 18.3</u>

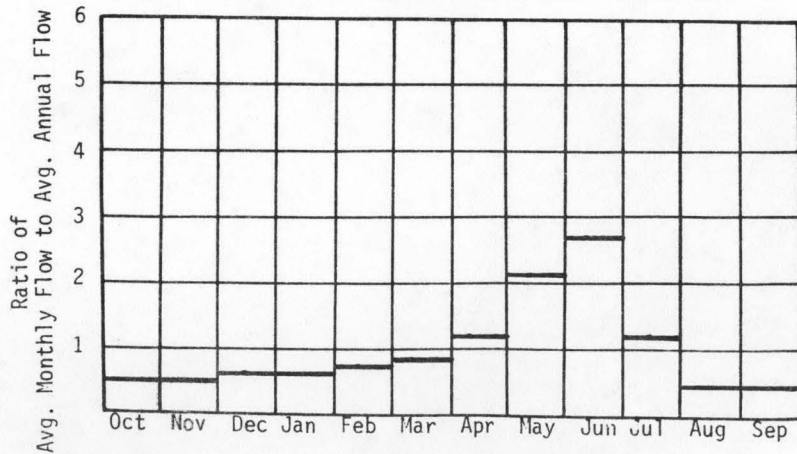
### II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

A. Upstream Elevation of Reach	<u>2220</u>	Ft. MSL
B. Downstream Elevation of Reach	<u>2065</u>	Ft. MSL
C. Total Available Head in Reach	<u>155</u>	Ft.
D. Average Slope in Reach	<u>8.5</u>	Ft./Mi.
E. Drainage Area above Reach Mouth	<u>21818</u>	Sq.Mi.
F. Inflow Classification	<u>Partially Regulated</u>	

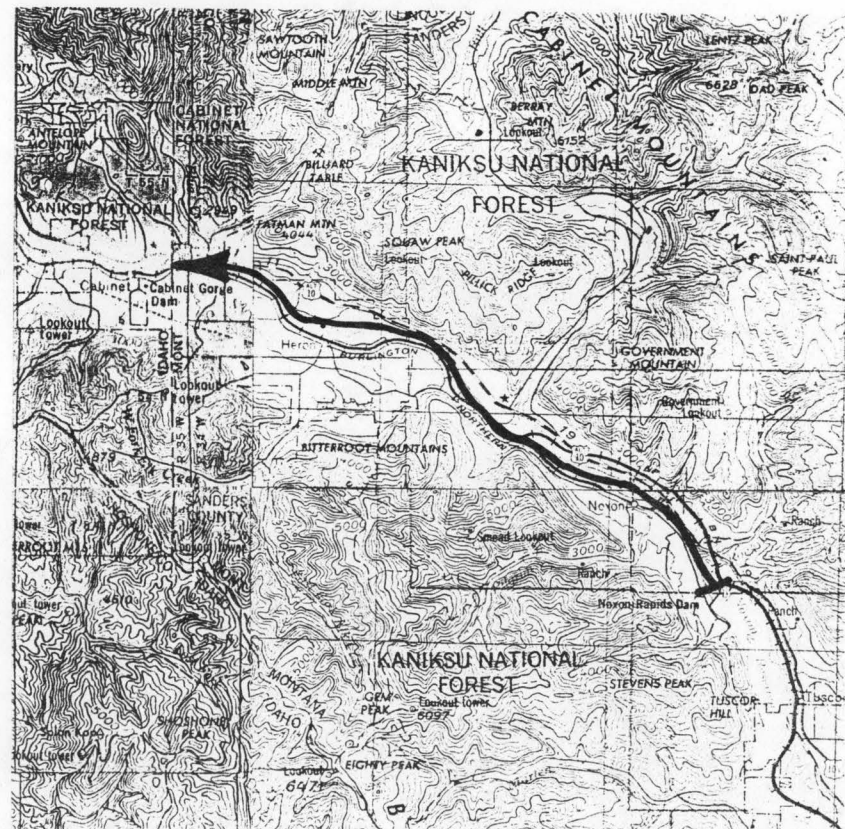
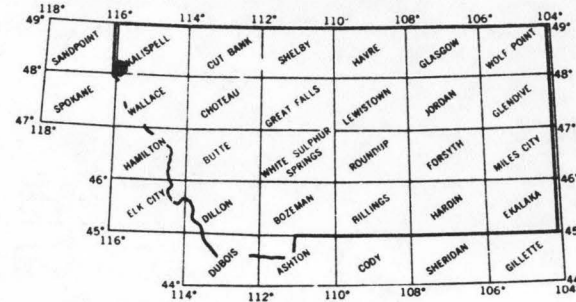
### III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	6980	91.68	803.12	1.00
80	10469	137.52	1156.49	.96
50	15863	208.36	1569.73	.86
30	21890	287.54	1838.77	.73
10	52875	694.54	2372.84	.39

### IV. TYPICAL ANNUAL HYDROGRAPH AVERAGE ANNUAL FLOW = 22635 CFS



### LOCATIONS FOR USGS 1:250,000 MAP SERIES



## REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 04-500-480-350-110-R0001

### I. LOCATION

A. State	<u>Montana</u>
B. County	<u>Silver Bow</u>
C. Township, Range	<u>T3N, R9W</u>
D. Latitude, Longitude	<u>46°00', 112°41'</u>
E. Stream Name	<u>Silver Bow Creek</u>
F. Major Basin Name	<u>Clark Fork</u>
G. River Mile	<u>16.3 to 17.1</u>

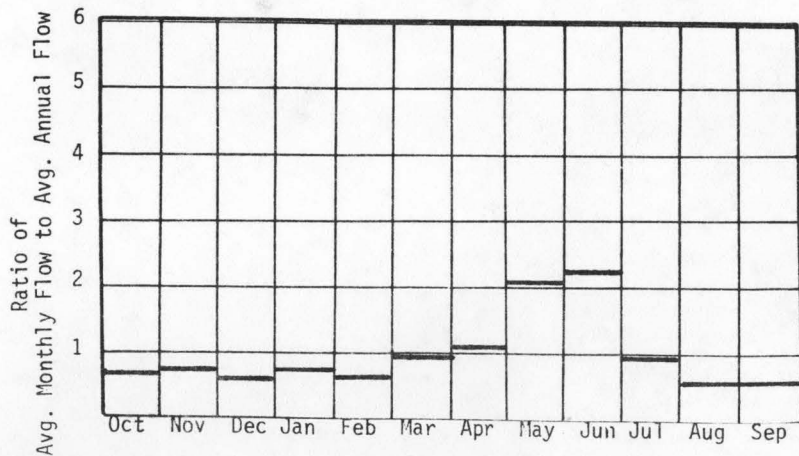
### II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

A. Upstream Elevation of Reach	<u>5295</u>	Ft. MSL
B. Downstream Elevation of Reach	<u>5280</u>	Ft. MSL
C. Total Available Head in Reach	<u>80</u>	Ft.
D. Average Slope in Reach	<u>18.8</u>	Ft./Mi.
E. Drainage Area above Reach Mouth	<u>262</u>	Sq.Mi.
F. Inflow Classification	<u>Unregulated</u>	

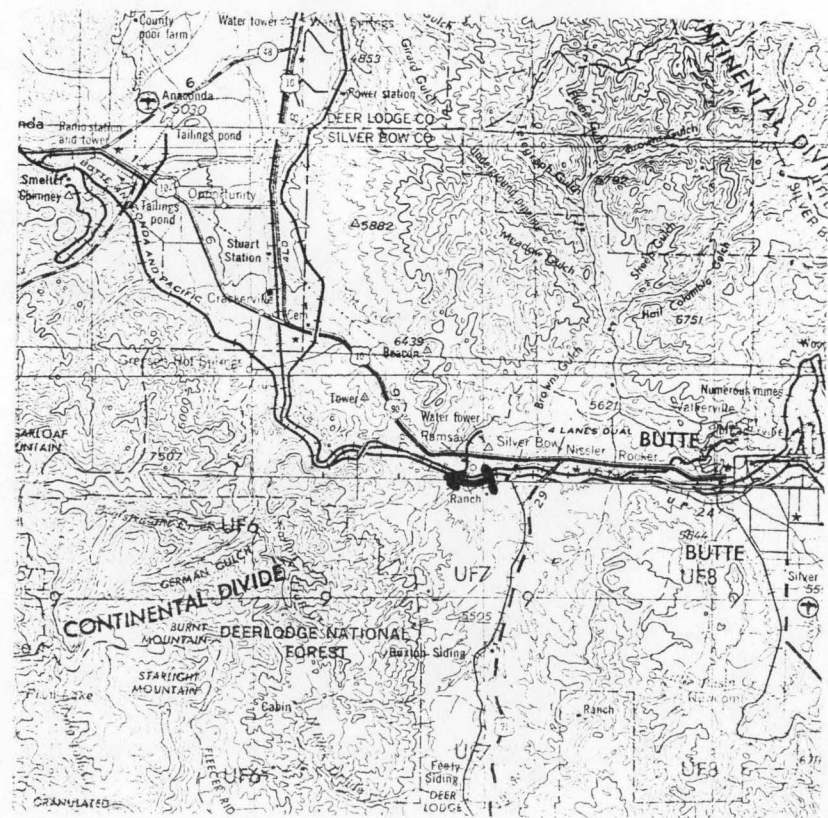
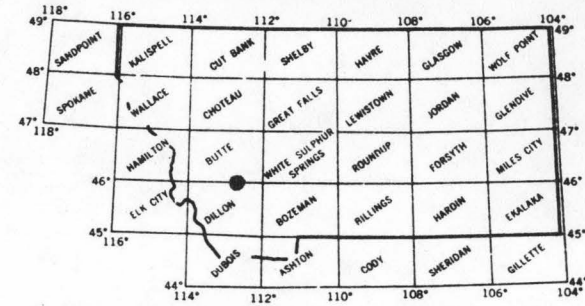
### III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	21	.14	1.22	1.00
80	27	.18	1.57	.97
50	49	.33	2.40	.82
30	77	.52	3.07	.67
10	205	1.39	4.26	.35

### IV. TYPICAL ANNUAL HYDROGRAPH AVERAGE ANNUAL FLOW = 84 CFS



LOCATIONS FOR USGS  
1:250,000 MAP SERIES



## REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 04-500-480-350-110-R0002

### I. LOCATION

A. State	Montana
B. County	Silver Bow
C. Township, Range	T4N, R10W
D. Latitude, Longitude	46°04', 112°48'
E. Stream Name	Silver Bow Creek
F. Major Basin Name	Clark Fork
G. River Mile	0.0 to 16.3

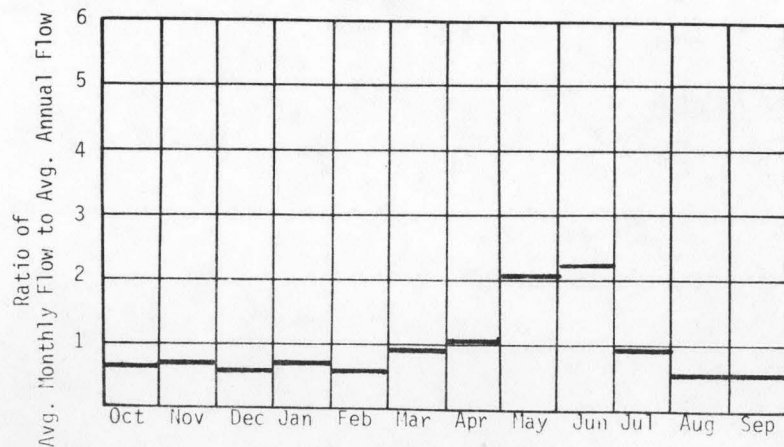
### II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

A. Upstream Elevation of Reach	5280	Ft. MSL
B. Downstream Elevation of Reach	4850	Ft. MSL
C. Total Available Head in Reach	430	Ft.
D. Average Slope in Reach	26.4	Ft./Mi.
E. Drainage Area above Reach Mouth	462	Sq.Mi.
F. Inflow Classification	Fully Regulated	

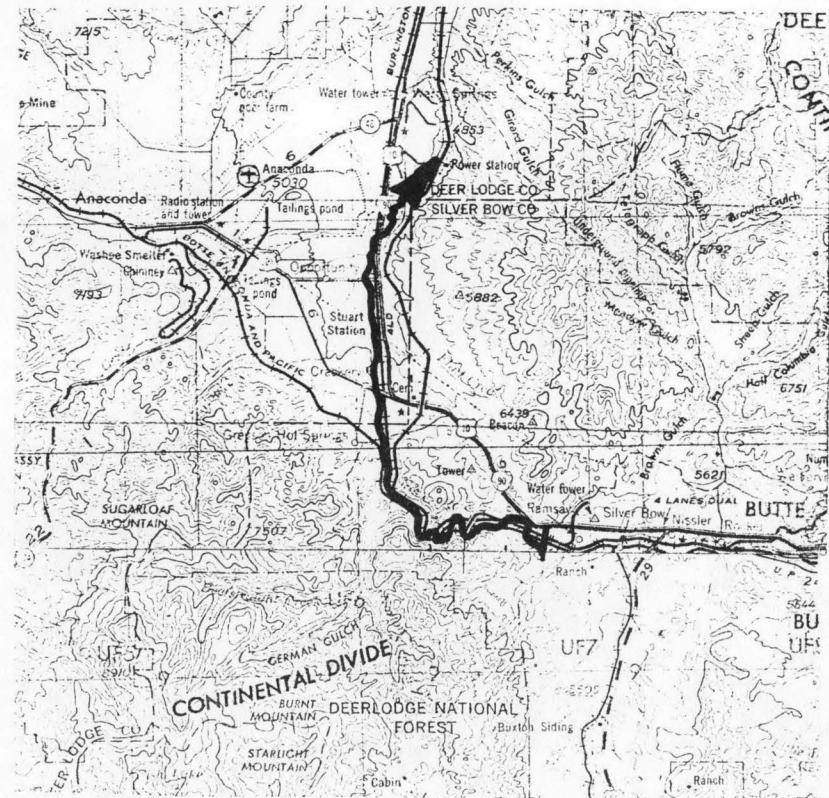
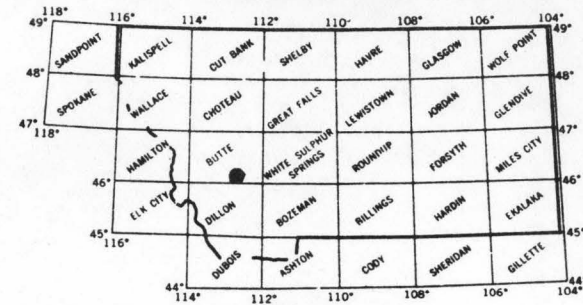
### III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	37	1.33	11.68	1.00
80	49	1.77	15.07	.97
50	88	3.20	22.99	.82
30	138	5.01	29.43	.67
10	366	13.34	40.89	.35

### IV. TYPICAL ANNUAL HYDROGRAPH AVERAGE ANNUAL FLOW = 144 CFS



### LOCATIONS FOR USGS 1:250,000 MAP SERIES



## REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 04-500-480-350-140-R0001

### I. LOCATION

A. State	Montana
B. County	Powell
C. Township, Range	T10N, R7W
D. Latitude, Longitude	46°34', 112°28'
E. Stream Name	Little Black Foot River
F. Major Basin Name	Clark Fork
G. River Mile	15.1 to 23.7

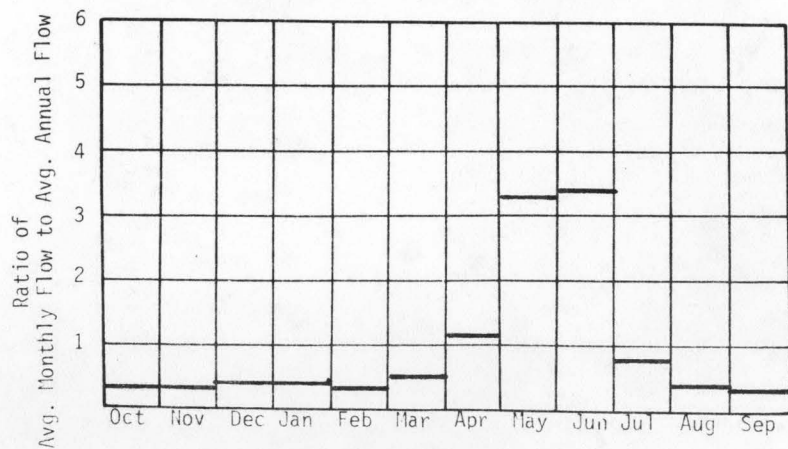
### II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

A. Upstream Elevation of Reach	5105	Ft. MSL
B. Downstream Elevation of Reach	4720	Ft. MSL
C. Total Available Head in Reach	450	Ft.
D. Average Slope in Reach	44.8	Ft./Mi.
E. Drainage Area above Reach Mouth	249	Sq.Mi.
F. Inflow Classification	Unregulated	

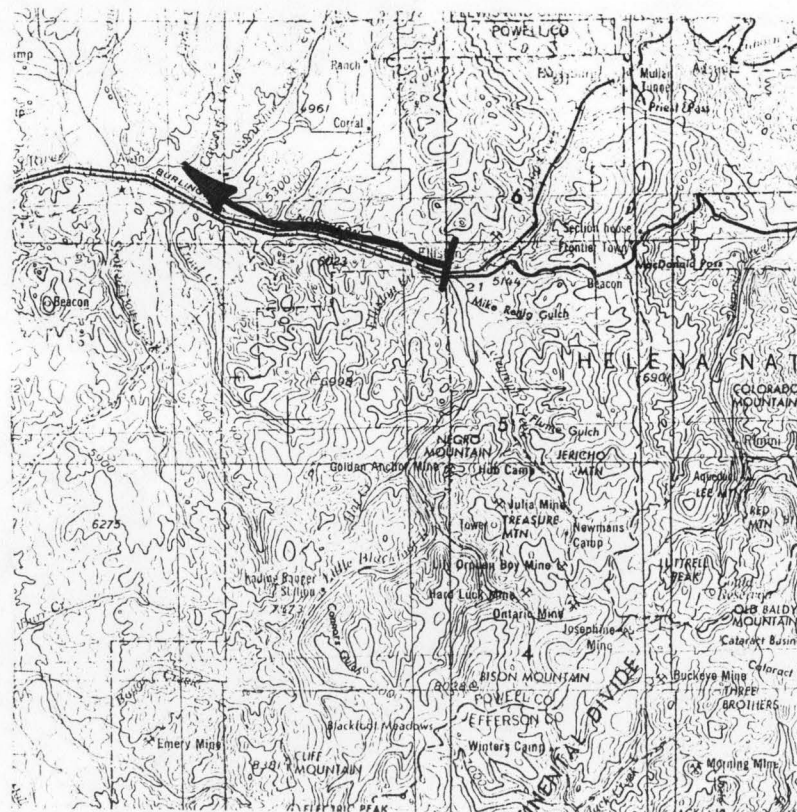
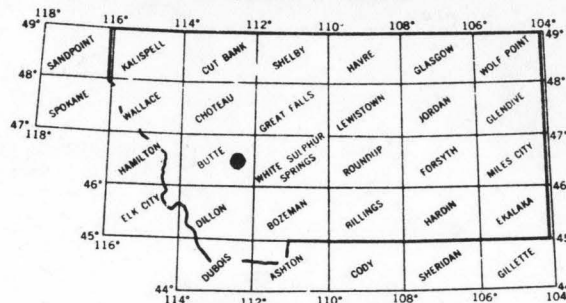
### III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	23	.86	7.55	1.00
80	30	1.15	9.74	.97
50	54	2.07	14.86	.82
30	85	3.24	19.02	.67
10	226	8.62	26.42	.35

### IV. TYPICAL ANNUAL HYDROGRAPH      AVERAGE ANNUAL FLOW = 92 CFS



### LOCATIONS FOR USGS 1:250,000 MAP SERIES



## REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 04-500-480-350-140-R0002

### I. LOCATION

A. State Montana  
 B. County Powell  
 C. Township, Range T10N, R9W  
 D. Latitude, Longitude 46°35', 112°40'  
 E. Stream Name Little Black Foot River  
 F. Major Basin Name Clark Fork  
 G. River Mile 3.6 to 15.1

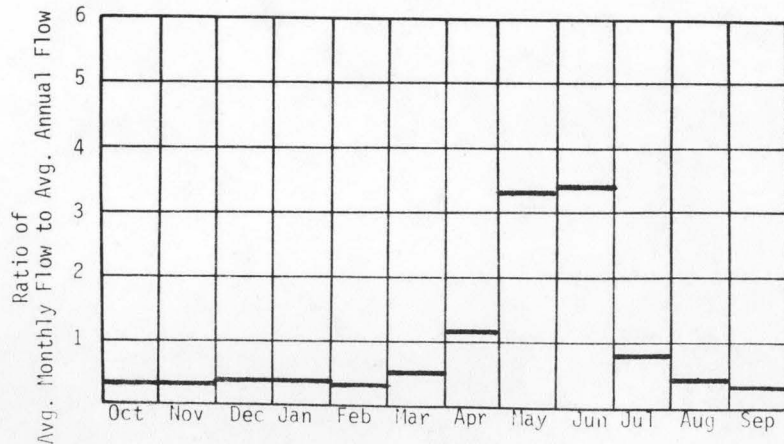
### II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

A. Upstream Elevation of Reach 4720 Ft. MSL  
 B. Downstream Elevation of Reach 4400 Ft. MSL  
 C. Total Available Head in Reach 320 Ft.  
 D. Average Slope in Reach 27.8 Ft./Mi.  
 E. Drainage Area above Reach Mouth 410 Sq.Mi.  
 F. Inflow Classification Unregulated

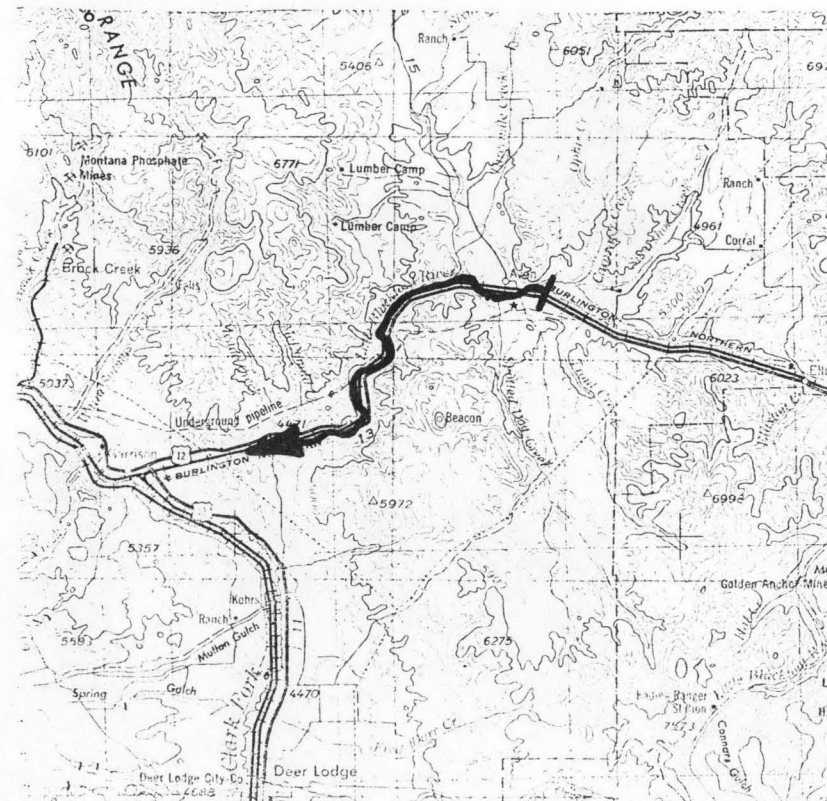
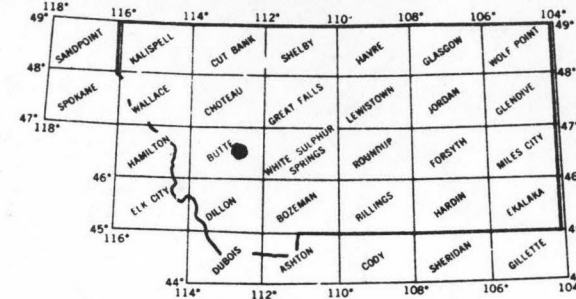
### III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	44	1.19	10.45	1.00
80	59	1.59	13.48	.97
50	106	2.86	20.57	.82
30	165	4.49	26.33	.67
10	440	11.93	36.58	.35

### IV. TYPICAL ANNUAL HYDROGRAPH AVERAGE ANNUAL FLOW = 171 CFS



### LOCATIONS FOR USGS 1:250,000 MAP SERIES





## REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 04-500-480-350-180-R0001

### I. LOCATION

A. State	Montana
B. County	Granite
C. Township, Range	T7N, R14W
D. Latitude, Longitude	46°23', 113°19'
E. Stream Name	Flint Creek
F. Major Basin Name	Clark Fork
G. River Mile	14.6 to 28.4

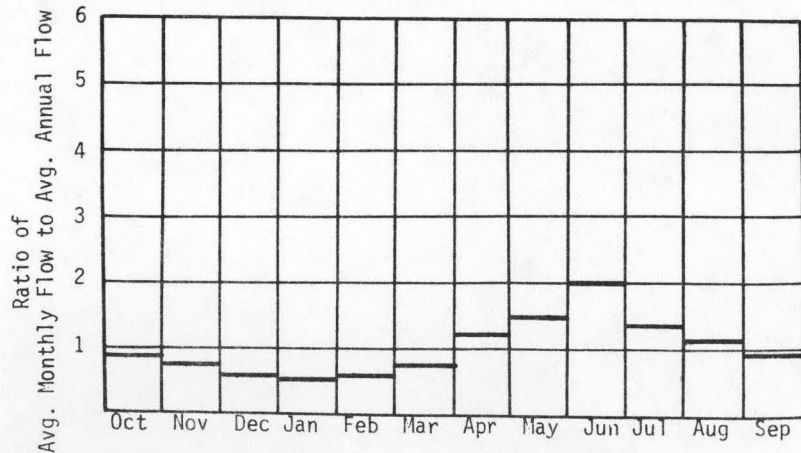
### II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

A. Upstream Elevation of Reach	5220	Ft. MSL
B. Downstream Elevation of Reach	4830	Ft. MSL
C. Total Available Head in Reach	455	Ft.
D. Average Slope in Reach	28.3	Ft./Mi.
E. Drainage Area above Reach Mouth	261	Sq.Mi.
F. Inflow Classification	Partially Regulated	

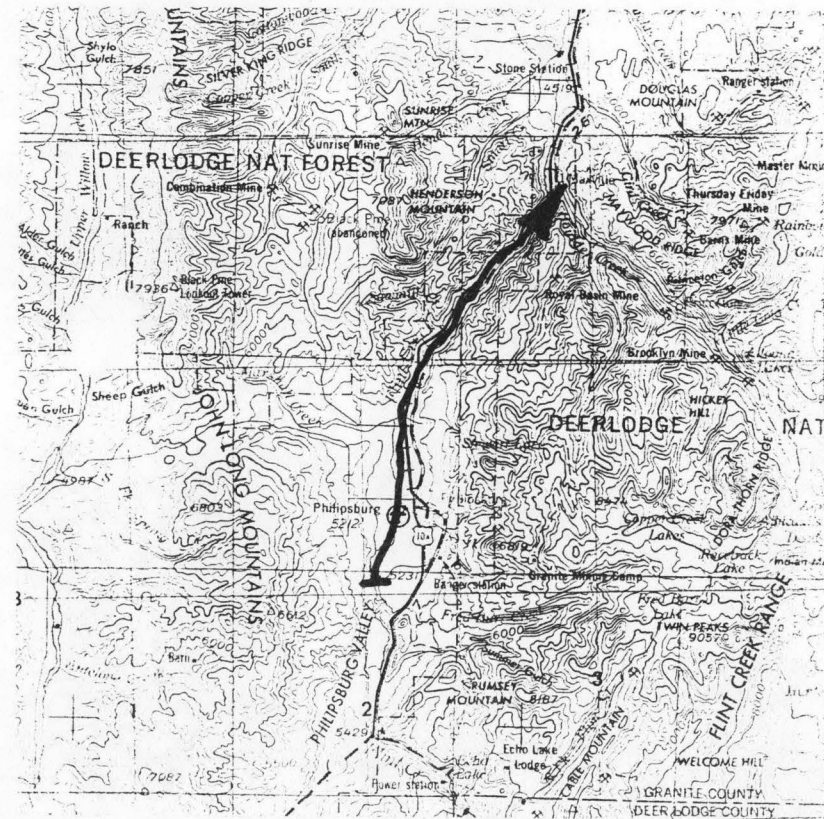
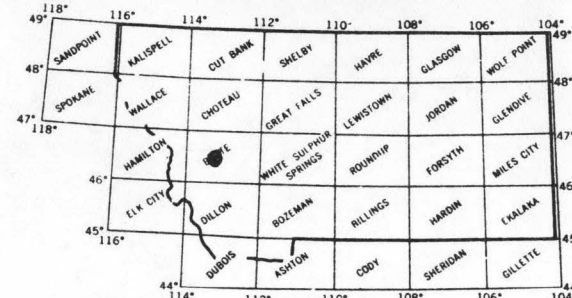
### III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	31	1.21	10.59	1.00
80	81	3.11	24.79	.91
50	180	6.95	47.51	.78
30	195	7.51	49.37	.75
10	280	10.80	53.91	.57

### IV. TYPICAL ANNUAL HYDROGRAPH AVERAGE ANNUAL FLOW = 112 CFS



### LOCATIONS FOR USGS 1:250,000 MAP SERIES



## REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 04-500-480-350-180-R0002

### I. LOCATION

A. State	Montana
B. County	Granite
C. Township, Range	T9N, R13W
D. Latitude, Longitude	46°31', 113°14'
E. Stream Name	Flint Creek
F. Major Basin Name	Clark Fork
G. River Mile	8.5 to 14.6

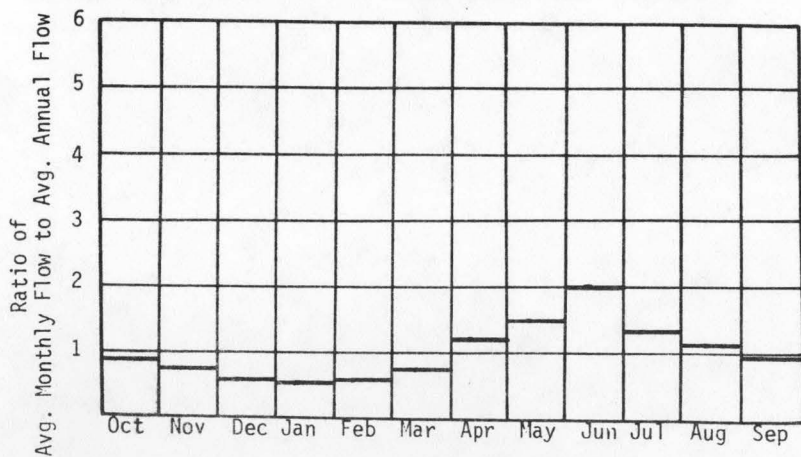
### II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

A. Upstream Elevation of Reach	4830	Ft. MSL
B. Downstream Elevation of Reach	4250	Ft. MSL
C. Total Available Head in Reach	580	Ft.
D. Average Slope in Reach	95.1	Ft./Mi.
E. Drainage Area above Reach Mouth	336	Sq.Mi.
F. Inflow Classification	Partially Regulated	

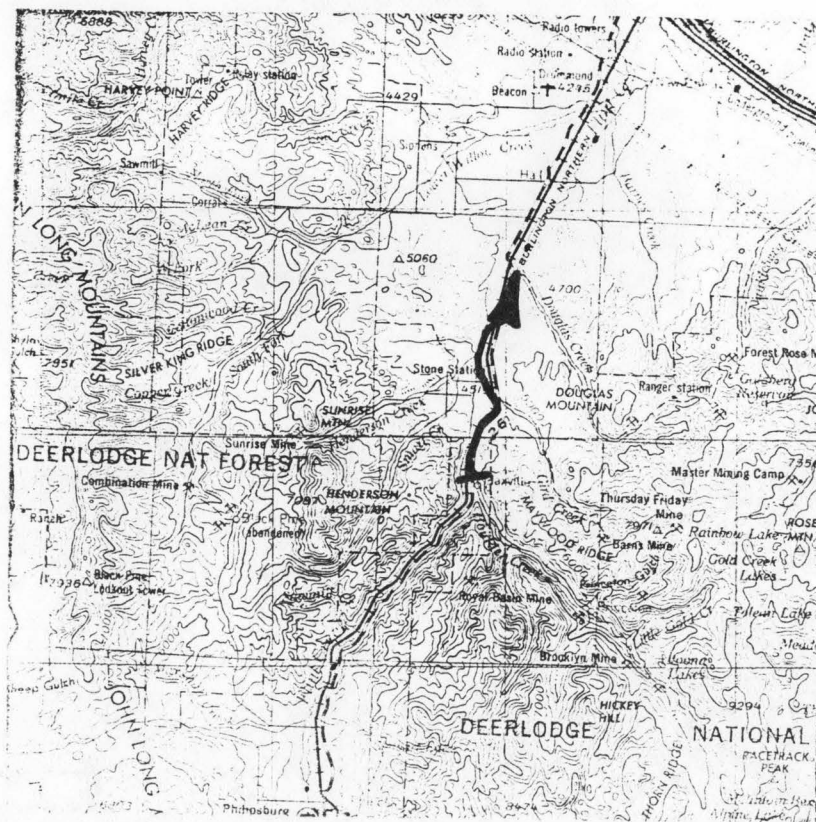
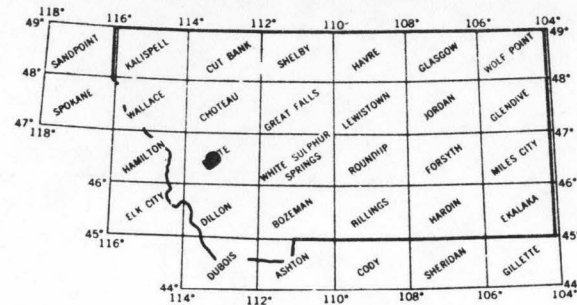
### III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	50	2.44	21.36	1.00
80	128	6.27	49.99	.91
50	285	14.02	95.82	.78
30	308	15.16	99.57	.75
10	443	21.77	108.72	.57

### IV. TYPICAL ANNUAL HYDROGRAPH AVERAGE ANNUAL FLOW = 172 CFS



LOCATIONS FOR USGS  
1:250,000 MAP SERIES



## REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 04-500-480-350-180-R0003

### I. LOCATION

A. State	<u>Montana</u>
B. County	<u>Granite</u>
C. Township, Range	<u>T10N, R13W</u>
D. Latitude, Longitude	<u>46°36', 113°10'</u>
E. Stream Name	<u>Flint Creek</u>
F. Major Basin Name	<u>Clark Fork</u>
G. River Mile	<u>0.4 to 8.5</u>

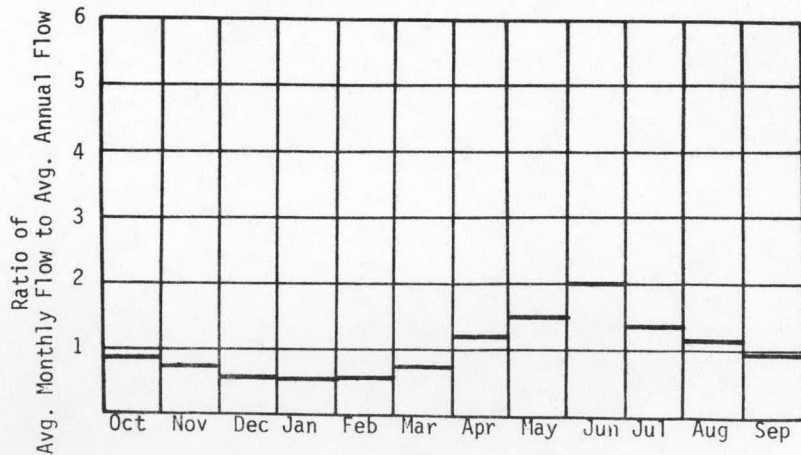
### II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

A. Upstream Elevation of Reach	<u>4250</u>	Ft. MSL
B. Downstream Elevation of Reach	<u>3960</u>	Ft. MSL
C. Total Available Head in Reach	<u>290</u>	Ft.
D. Average Slope in Reach	<u>35.8</u>	Ft./Mi.
E. Drainage Area above Reach Mouth	<u>488</u>	Sq.Mi.
F. Inflow Classification	<u>Partially Regulated</u>	

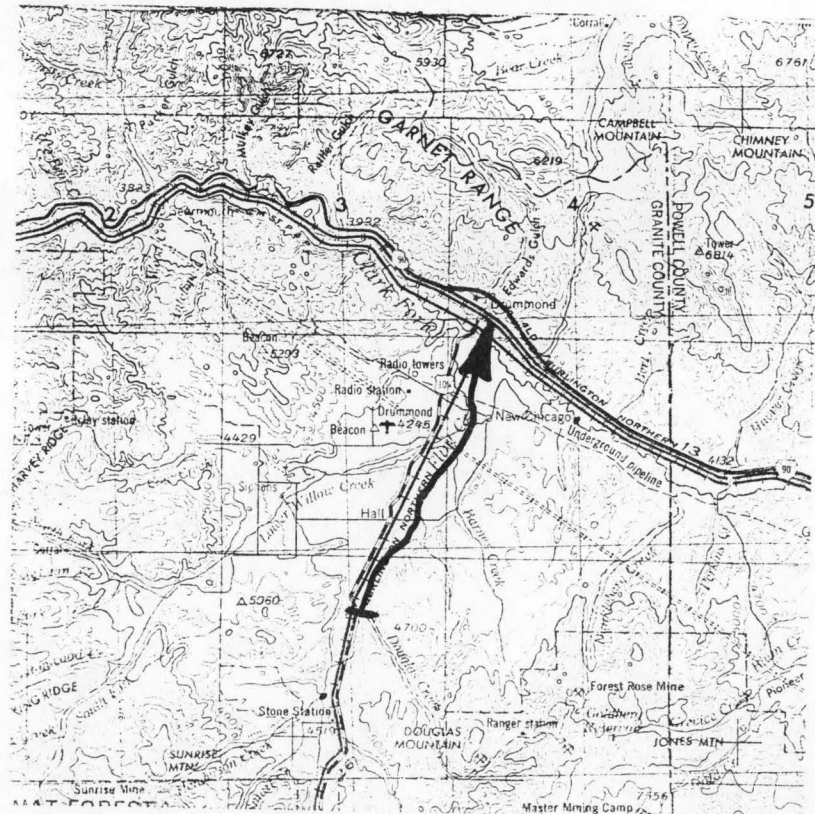
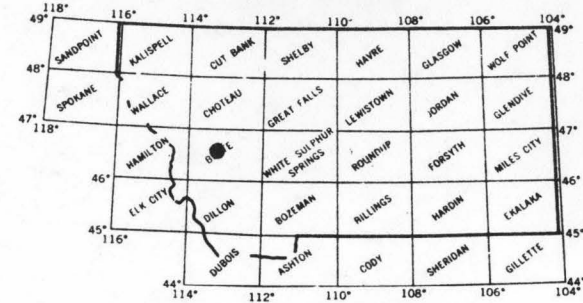
### III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	64	1.58	13.84	1.00
80	165	4.06	32.39	.91
50	370	9.08	62.07	.78
30	400	9.82	64.51	.75
10	574	14.11	70.44	.57

### IV. TYPICAL ANNUAL HYDROGRAPH AVERAGE ANNUAL FLOW = 220 CFS



LOCATIONS FOR USGS  
1:250,000 MAP SERIES



## REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 04-500-480-350-200-R0001

### I. LOCATION

A. State	Montana
B. County	Granite
C. Township, Range	T5N, R15W
D. Latitude, Longitude	46°09', 113°29'
E. Stream Name	Middle Fork Rock Creek
F. Major Basin Name	Clark Fork
G. River Mile	0.6 to 6.5

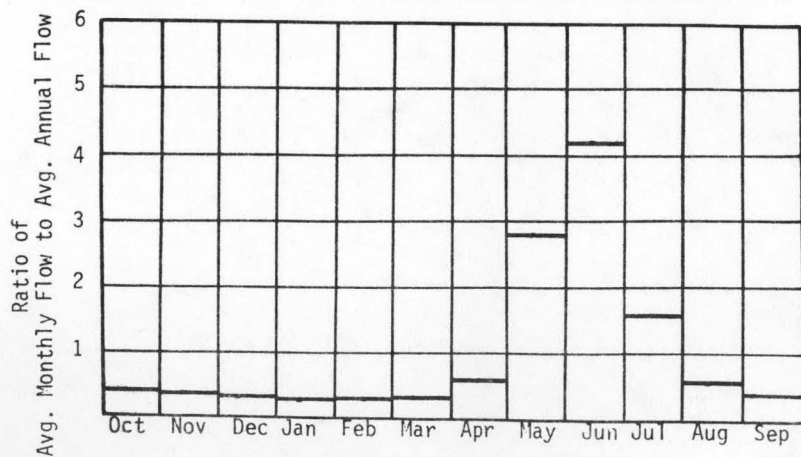
### II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

A. Upstream Elevation of Reach	5720	Ft. MSL
B. Downstream Elevation of Reach	5400	Ft. MSL
C. Total Available Head in Reach	385	Ft.
D. Average Slope in Reach	54.2	Ft./Mi.
E. Drainage Area above Reach Mouth	111	Sq.Mi.
F. Inflow Classification	Unregulated	

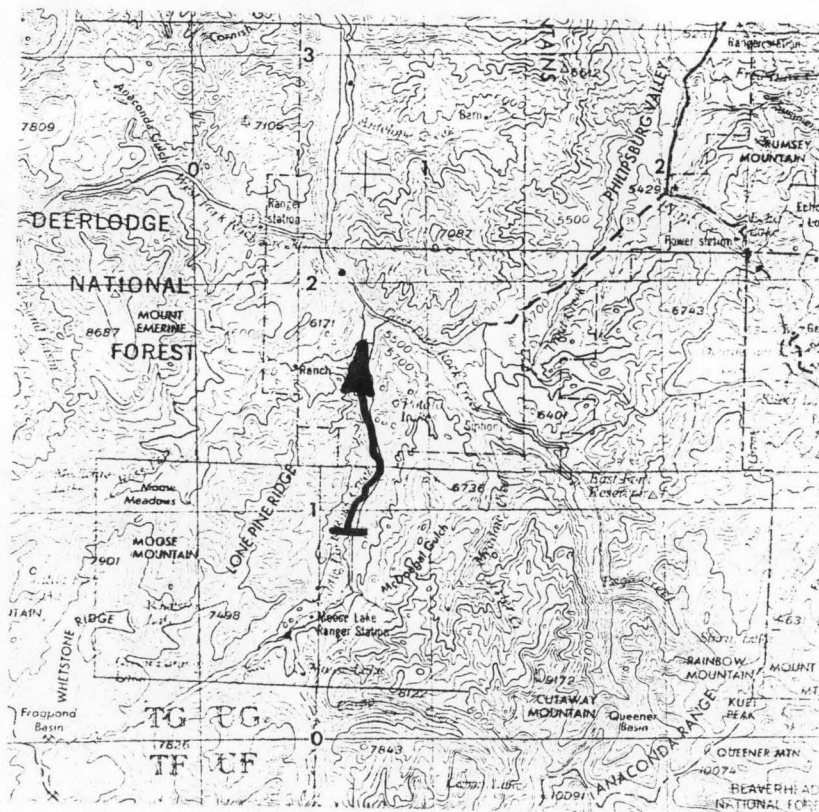
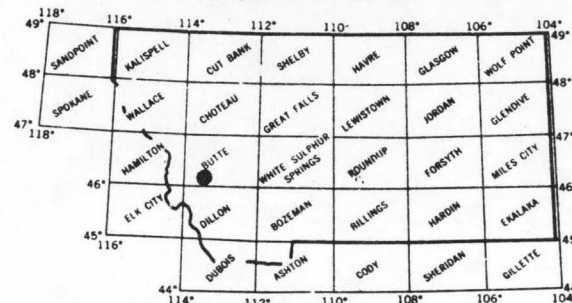
### III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	27	.89	7.77	1.00
80	30	.99	8.60	.99
50	44	1.45	11.06	.87
30	71	2.32	14.03	.69
10	247	8.06	21.18	.30

### IV. TYPICAL ANNUAL HYDROGRAPH AVERAGE ANNUAL FLOW = 100 CFS



### LOCATIONS FOR USGS 1:250,000 MAP SERIES



## REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 04-500-480-350-200-R0002

### I. LOCATION

A. State	Montana
B. County	Granite
C. Township, Range	T5N, R15W
D. Latitude, Longitude	46°12', 113°31'
E. Stream Name	Rock Creek
F. Major Basin Name	Clark Fork
G. River Mile	46.7 to 49.8

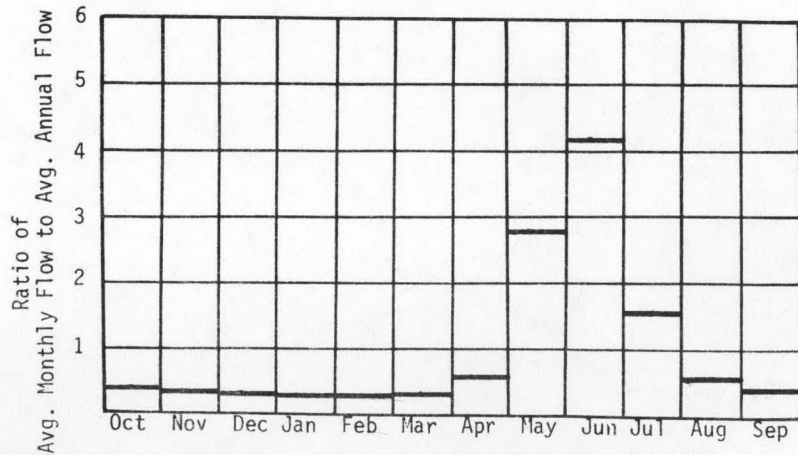
### II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

A. Upstream Elevation of Reach	5400	Ft. MSL
B. Downstream Elevation of Reach	5260	Ft. MSL
C. Total Available Head in Reach	140	Ft.
D. Average Slope in Reach	45.2	Ft./Mi.
E. Drainage Area above Reach Mouth	373	Sq.Mi.
F. Inflow Classification	Unregulated	

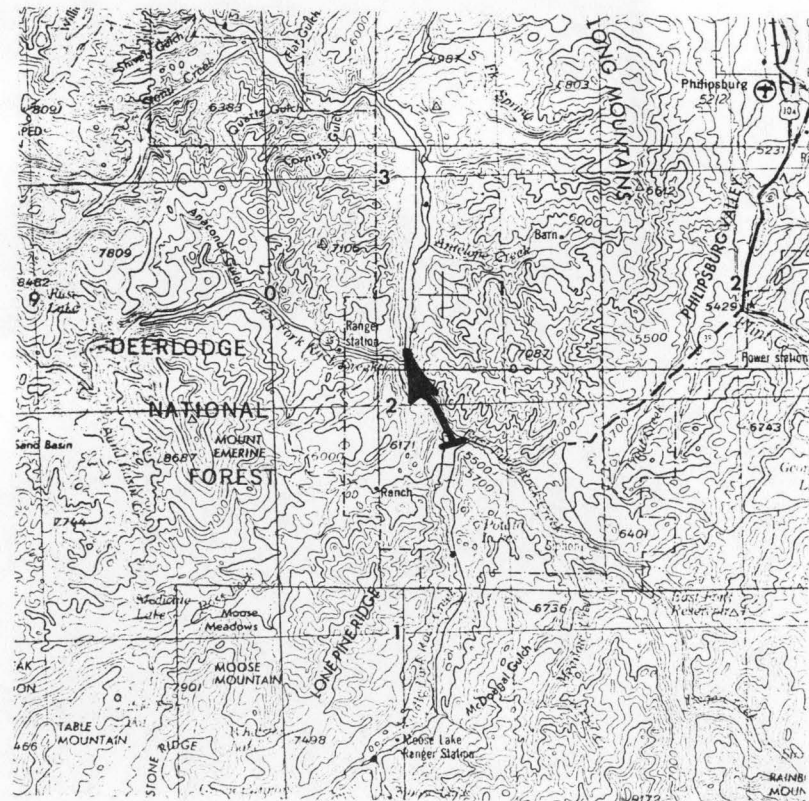
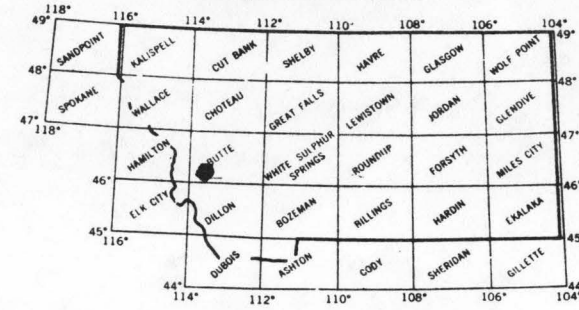
### III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	56	.66	5.81	1.00
80	62	.74	6.43	.99
50	91	1.08	8.27	.87
30	146	1.74	10.49	.69
10	508	6.03	15.84	.30

### IV. TYPICAL ANNUAL HYDROGRAPH AVERAGE ANNUAL FLOW = 196 CFS



### LOCATIONS FOR USGS 1:250,000 MAP SERIES



## REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 04-500-480-350-200-R0003

### I. LOCATION

A. State	Montana
B. County	Granite
C. Township, Range	T6N, R15W
D. Latitude, Longitude	46°17', 113°31'
E. Stream Name	Rock Creek
F. Major Basin Name	Clark Fork
G. River Mile	37.9 to 46.7

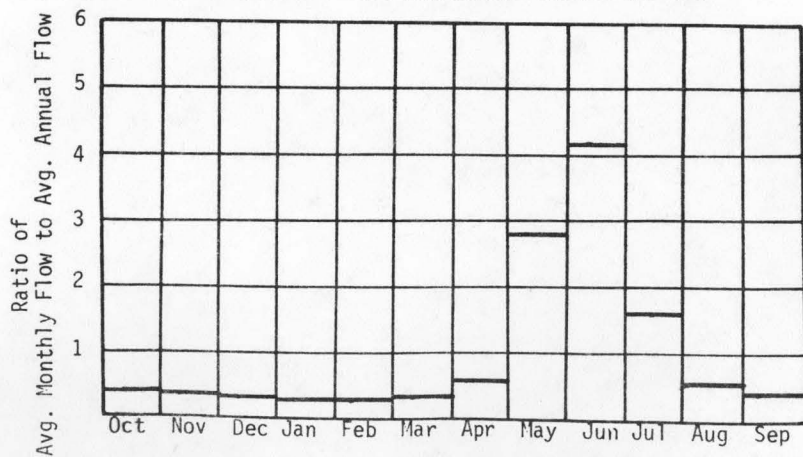
### II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

A. Upstream Elevation of Reach	5260	Ft. MSL
B. Downstream Elevation of Reach	4900	Ft. MSL
C. Total Available Head in Reach	360	Ft.
D. Average Slope in Reach	40.9	Ft./Mi.
E. Drainage Area above Reach Mouth	523	Sq.Mi.
F. Inflow Classification	Unregulated	

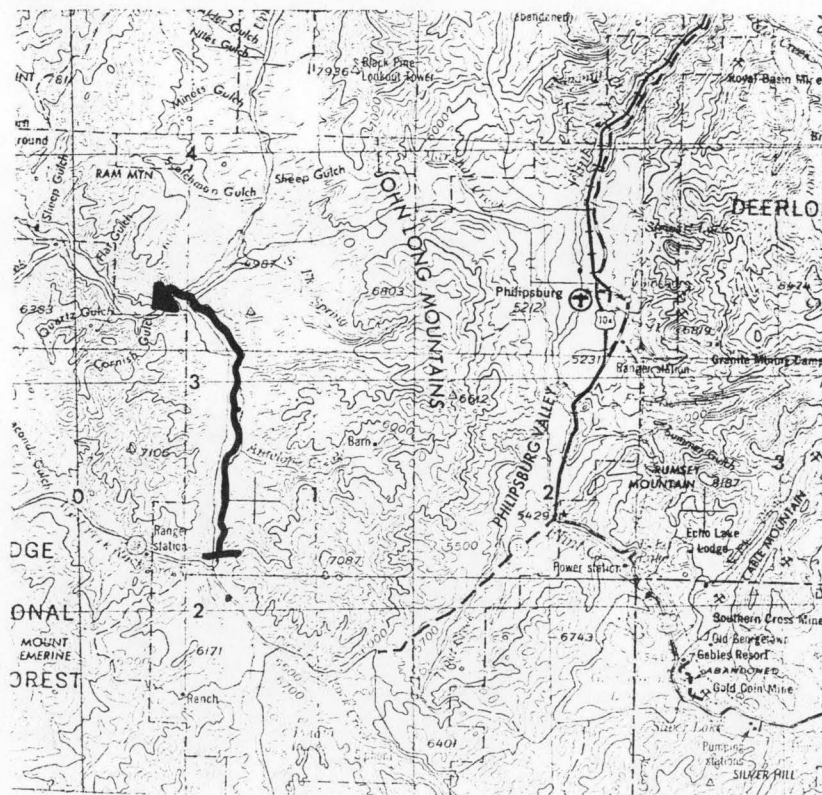
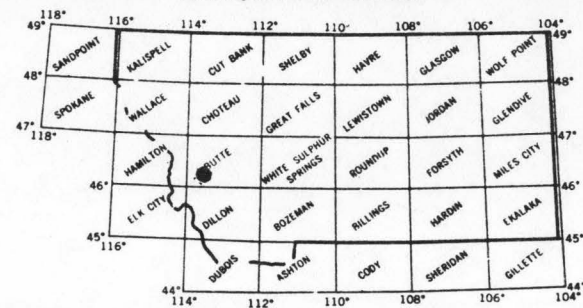
### III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	95	2.91	25.46	1.00
80	107	3.25	28.18	.99
50	156	4.76	36.24	.87
30	249	7.61	45.99	.69
10	866	26.42	69.43	.30

### IV. TYPICAL ANNUAL HYDROGRAPH AVERAGE ANNUAL FLOW = 328 CFS



### LOCATIONS FOR USGS 1:250,000 MAP SERIES



## REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 04-500-480-350-200-R0004

### I. LOCATION

A. State	Montana
B. County	Granite
C. Township, Range	T7N, R16W
D. Latitude, Longitude	46°21', 113°37'
E. Stream Name	Rock Creek
F. Major Basin Name	Clark Fork
G. River Mile	29.1 to 37.9

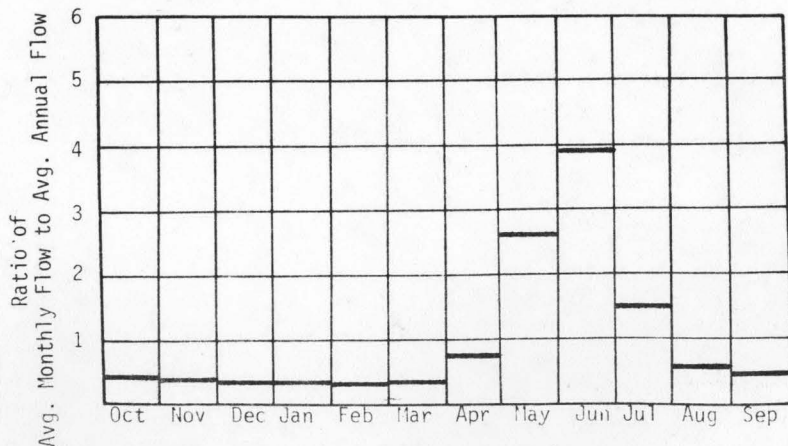
### II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

A. Upstream Elevation of Reach	4900	Ft. MSL
B. Downstream Elevation of Reach	4540	Ft. MSL
C. Total Available Head in Reach	360	Ft.
D. Average Slope in Reach	40.9	Ft./Mi.
E. Drainage Area above Reach Mouth	612	Sq.Mi.
F. Inflow Classification	Unregulated	

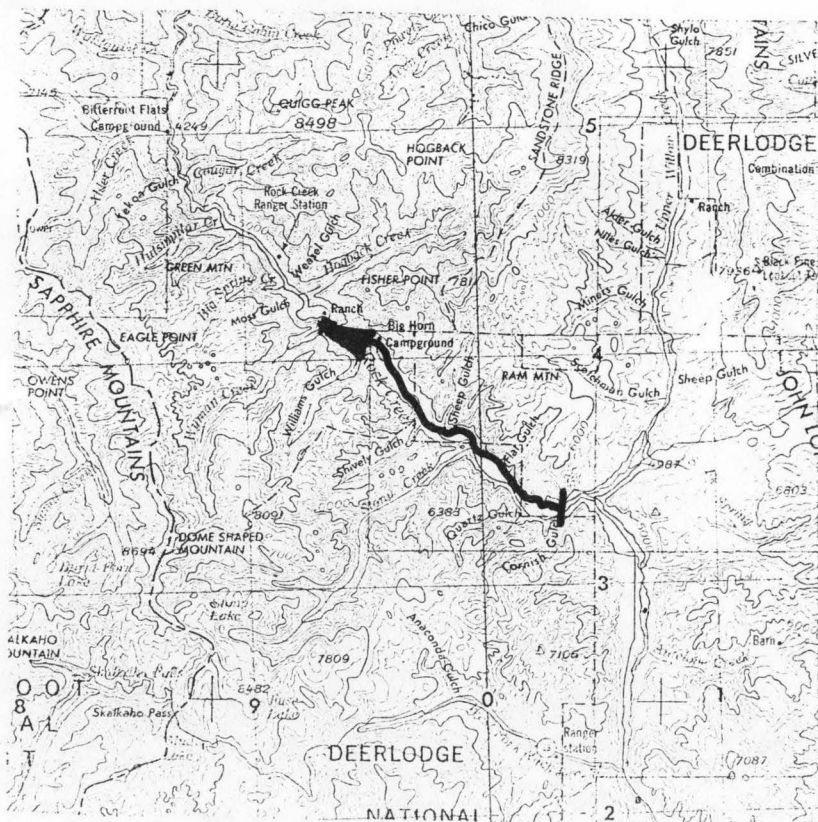
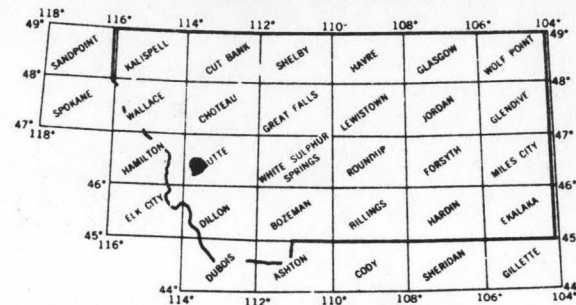
### III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	116	3.52	30.87	1.00
80	129	3.94	34.17	.99
50	189	5.77	43.94	.87
30	302	9.23	55.76	.69
10	1050	32.03	84.19	.30

### IV. TYPICAL ANNUAL HYDROGRAPH AVERAGE ANNUAL FLOW = 396 CFS



### LOCATIONS FOR USGS 1:250,000 MAP SERIES



## REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 04-500-480-350-200-R0005

### I. LOCATION

A. State	Montana
B. County	Granite
C. Township, Range	T9N, R17W
D. Latitude, Longitude	46°14', 113°48'
E. Stream Name	Rock Creek
F. Major Basin Name	Clark Fork
G. River Mile	11.9 to 29.1

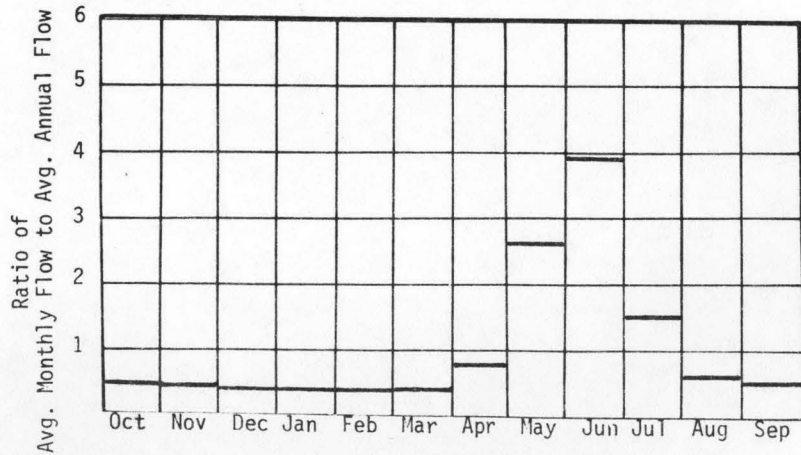
### II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

A. Upstream Elevation of Reach	4540	Ft. MSL
B. Downstream Elevation of Reach	3950	Ft. MSL
C. Total Available Head in Reach	590	Ft.
D. Average Slope in Reach	34.3	Ft./Mi.
E. Drainage Area above Reach Mouth	750	Sq.Mi.
F. Inflow Classification	Unregulated	

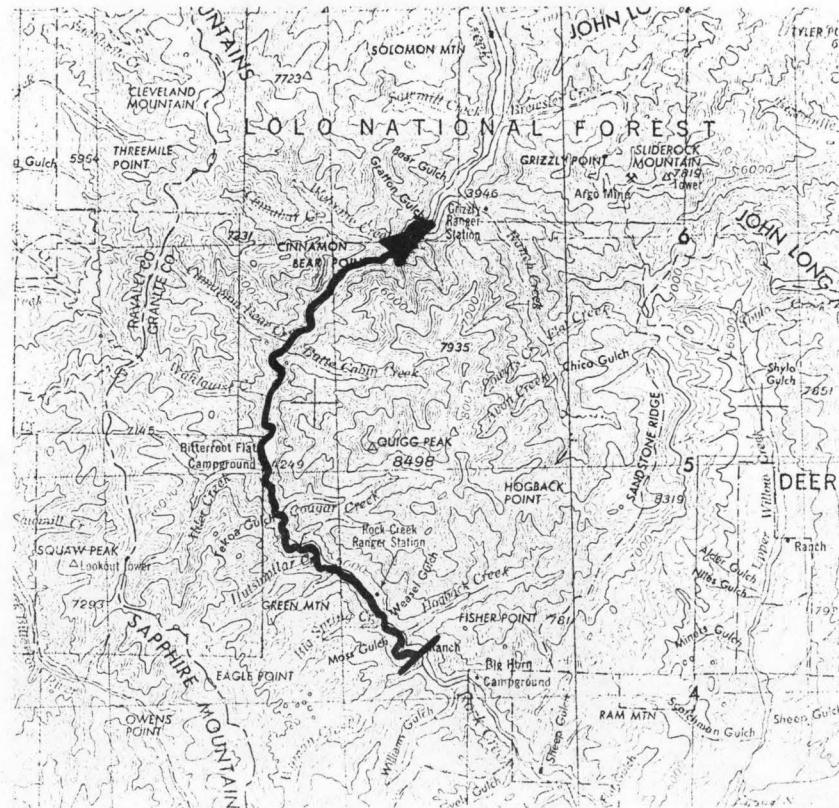
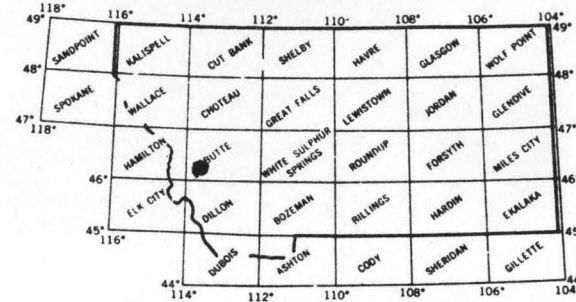
### III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	138	6.89	60.32	1.00
80	154	7.70	66.78	.99
50	225	11.27	85.88	.87
30	361	18.03	108.97	.69
10	1252	62.60	164.51	.30

### IV. TYPICAL ANNUAL HYDROGRAPH AVERAGE ANNUAL FLOW = 470 CFS



LOCATIONS FOR USGS  
1:250,000 MAP SERIES





## REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 04-500-480-350-200-R0006

### I. LOCATION

A. State	<u>Montana</u>
B. County	<u>Granite</u>
C. Township, Range	<u>T10N, R16W</u>
D. Latitude, Longitude	<u>46°38', 113°40'</u>
E. Stream Name	<u>Rock Creek</u>
F. Major Basin Name	<u>Clark Fork</u>
G. River Mile	<u>0.4 to 11.9</u>

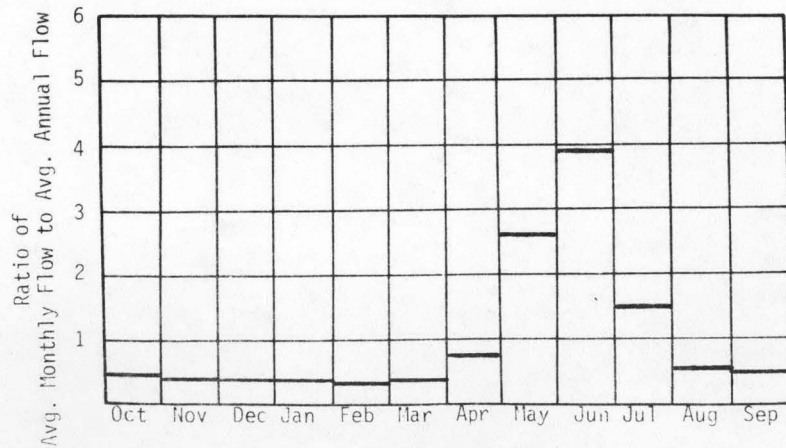
### II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

A. Upstream Elevation of Reach	<u>3950</u>	Ft. MSL
B. Downstream Elevation of Reach	<u>3530</u>	Ft. MSL
C. Total Available Head in Reach	<u>420</u>	Ft.
D. Average Slope in Reach	<u>36.5</u>	Ft./Mi.
E. Drainage Area above Reach Mouth	<u>885</u>	Sq.Mi.
F. Inflow Classification	<u>Unregulated</u>	

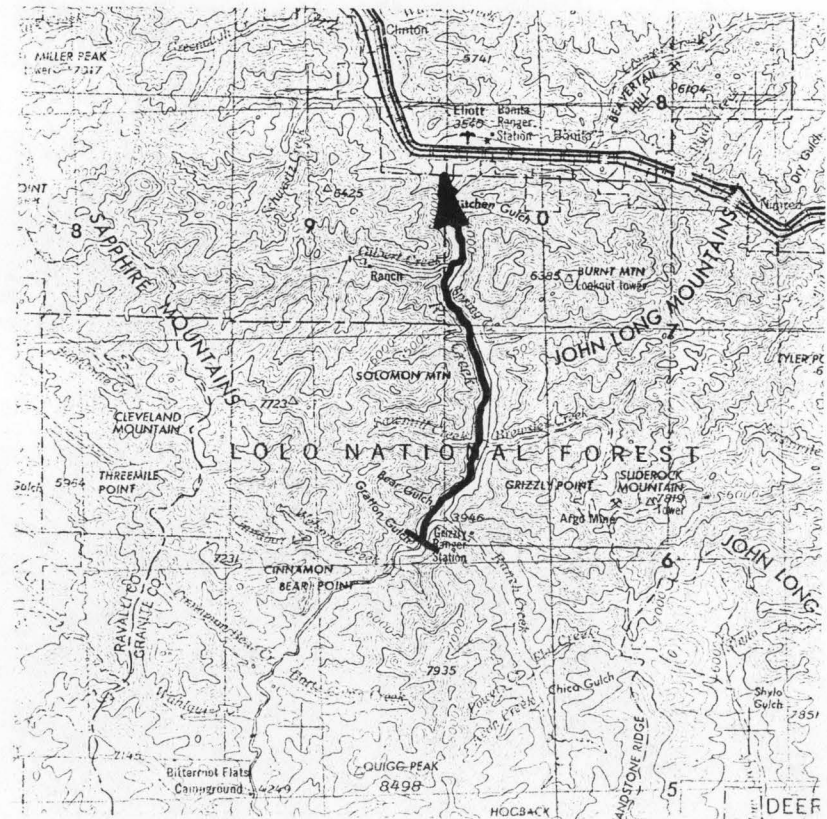
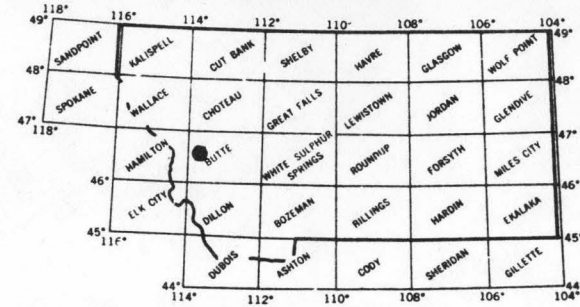
### III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	162	5.77	50.55	1.00
80	181	6.45	55.96	.99
50	265	9.44	71.97	.87
30	425	15.11	91.33	.69
10	1474	52.46	137.88	.30

### IV. TYPICAL ANNUAL HYDROGRAPH AVERAGE ANNUAL FLOW = 552 CFS



LOCATIONS FOR USGS  
1:250,000 MAP SERIES



## REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 04-500-480-350-280-R0001

### I. LOCATION

A. State	<u>Montana</u>
B. County	<u>Missoula</u>
C. Township, Range	<u>T15N, R23W</u>
D. Latitude, Longitude	<u>47°05', 114°27'</u>
E. Stream Name	<u>Ninemile Creek</u>
F. Major Basin Name	<u>Clark Fork</u>
G. River Mile	<u>1.9 to 9.3</u>

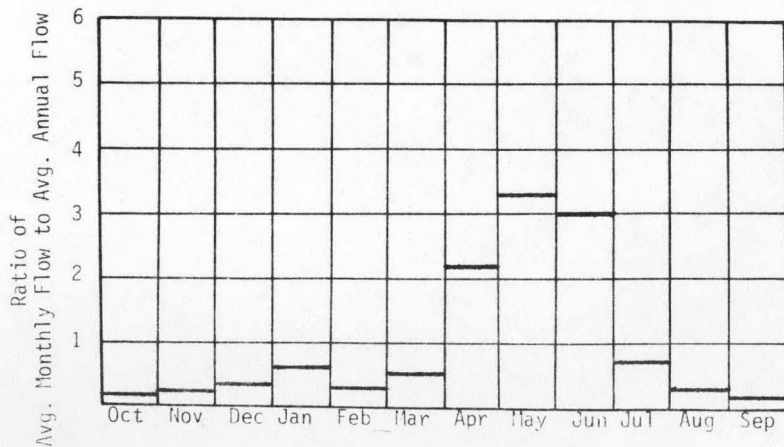
### II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

A. Upstream Elevation of Reach	<u>3230</u>	Ft. MSL
B. Downstream Elevation of Reach	<u>3030</u>	Ft. MSL
C. Total Available Head in Reach	<u>265</u>	Ft.
D. Average Slope in Reach	<u>27.0</u>	Ft./Mi.
E. Drainage Area above Reach Mouth	<u>177</u>	Sq.Mi.
F. Inflow Classification	<u>Unregulated</u>	

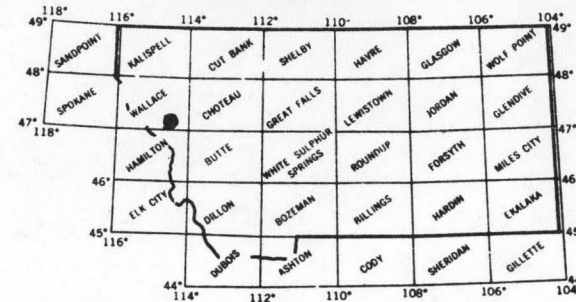
### III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	23	.51	4.46	1.00
80	28	.64	5.47	.98
50	50	1.12	8.04	.82
30	100	2.24	11.76	.60
10	302	6.78	18.42	.31

### IV. TYPICAL ANNUAL HYDROGRAPH AVERAGE ANNUAL FLOW = 120 CFS



### LOCATIONS FOR USGS 1:250,000 MAP SERIES



## REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 04-500-480-350-320-R0001

### I. LOCATION

A. State	Montana
B. County	Mineral
C. Township, Range	T13N, R24W
D. Latitude, Longitude	46°53', 114°41'
E. Stream Name	South Fork Fish Creek
F. Major Basin Name	Clark Fork
G. River Mile	0.8 to 6.3

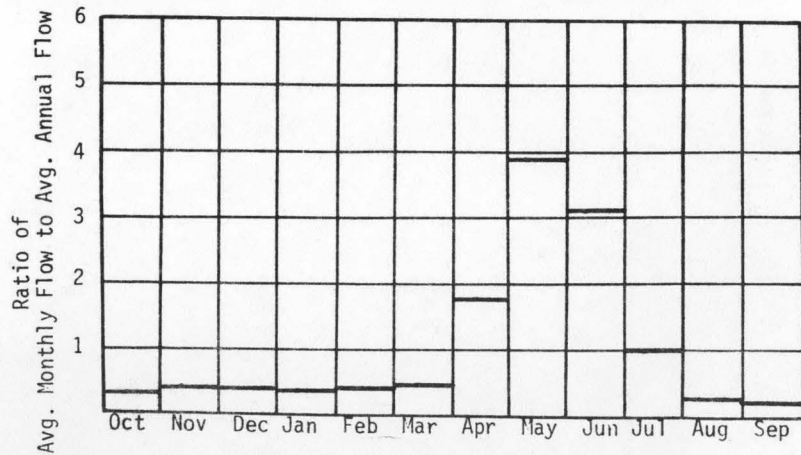
### II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

A. Upstream Elevation of Reach	3510	Ft. MSL
B. Downstream Elevation of Reach	3140	Ft. MSL
C. Total Available Head in Reach	435	Ft.
D. Average Slope in Reach	67.3	Ft./Mi.
E. Drainage Area above Reach Mouth	126	Sq.Mi.
F. Inflow Classification	Unregulated	

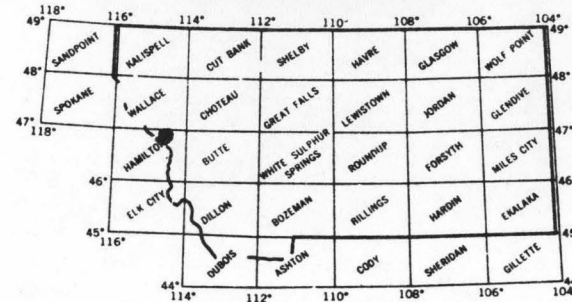
### III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	24	.87	7.63	1.00
80	30	1.09	9.37	.98
50	52	1.92	13.76	.82
30	104	3.83	20.14	.60
10	315	11.61	31.53	.31

### IV. TYPICAL ANNUAL HYDROGRAPH AVERAGE ANNUAL FLOW = 125 CFS



### LOCATIONS FOR USGS 1:250,000 MAP SERIES



## REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 04-500-480-350-320-R0002

### I. LOCATION

A. State	Montana
B. County	Mineral
C. Township, Range	T14N, R25W
D. Latitude, Longitude	46°55', 114°45'
E. Stream Name	North Fork Fish Creek
F. Major Basin Name	Clark Fork
G. River Mile	0.8 to 5.9

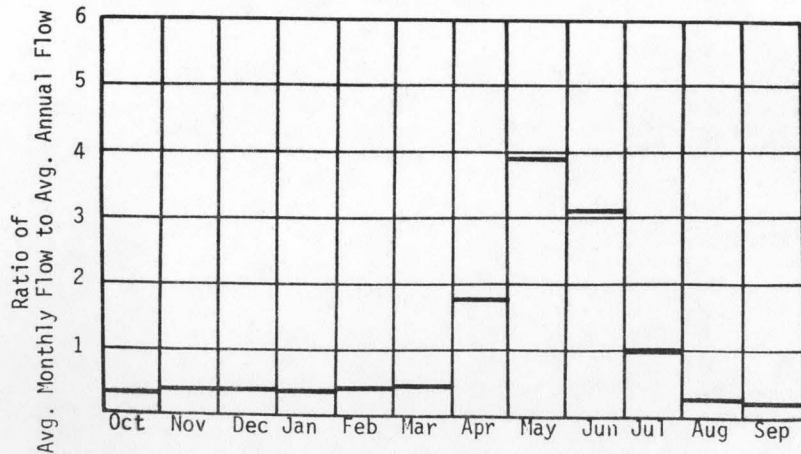
### II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

A. Upstream Elevation of Reach	3445	Ft.	MSL
B. Downstream Elevation of Reach	3140	Ft.	MSL
C. Total Available Head in Reach	370	Ft.	
D. Average Slope in Reach	59.8	Ft./Mi.	
E. Drainage Area above Reach Mouth	110	Sq.Mi.	
F. Inflow Classification	Unregulated		

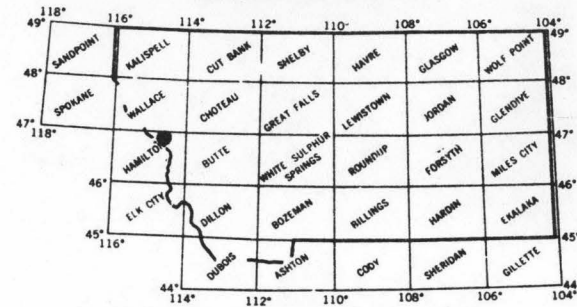
### III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	27	.84	7.38	1.00
80	34	1.06	9.06	.98
50	59	1.85	13.30	.82
30	118	3.70	19.47	.60
10	358	11.23	30.48	.31

### IV. TYPICAL ANNUAL HYDROGRAPH AVERAGE ANNUAL FLOW = 141 CFS



LOCATIONS FOR USGS  
1:250,000 MAP SERIES



## REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 04-500-480-350-320-R0003

### I. LOCATION

A. State	Montana
B. County	Mineral
C. Township, Range	T14N, R24W
D. Latitude, Longitude	46°57', 114°40'
E. Stream Name	Fish Creek
F. Major Basin Name	Clark Fork
G. River Mile	0.4 to 7.4

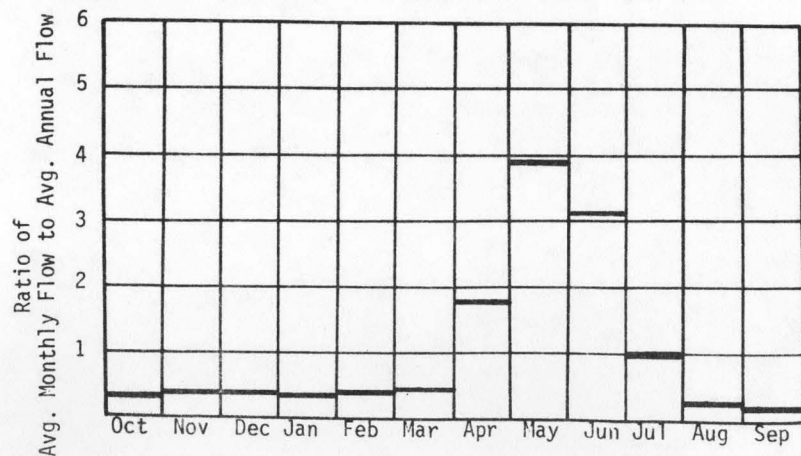
### II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

A. Upstream Elevation of Reach	3140	Ft. MSL
B. Downstream Elevation of Reach	2800	Ft. MSL
C. Total Available Head in Reach	340	Ft.
D. Average Slope in Reach	48.6	Ft./Mi.
E. Drainage Area above Reach Mouth	261	Sq.Mi.
F. Inflow Classification	Unregulated	

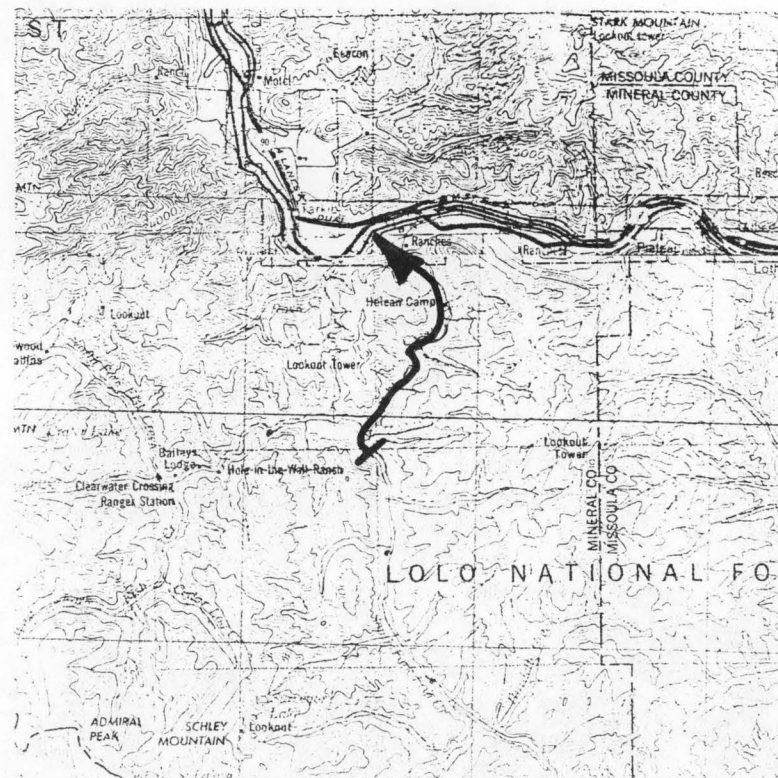
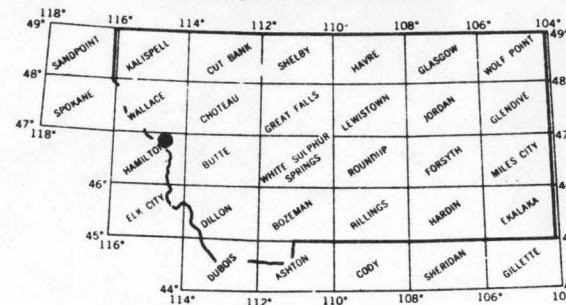
### III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	43	1.25	10.98	1.00
80	55	1.57	13.49	.98
50	96	2.76	19.81	.82
30	191	5.51	28.99	.60
10	580	16.71	45.38	.31

### IV. TYPICAL ANNUAL HYDROGRAPH AVERAGE ANNUAL FLOW = 222 CFS



### LOCATIONS FOR USGS 1:250,000 MAP SERIES



## REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 04-500-480-350-360-R0001

### I. LOCATION

A. State	Montana
B. County	Mineral
C. Township, Range	T16N, R26W
D. Latitude, Longitude	47°08', 114°51'
E. Stream Name	Trout Creek
F. Major Basin Name	Clark Fork
G. River Mile	0.6 to 1.5

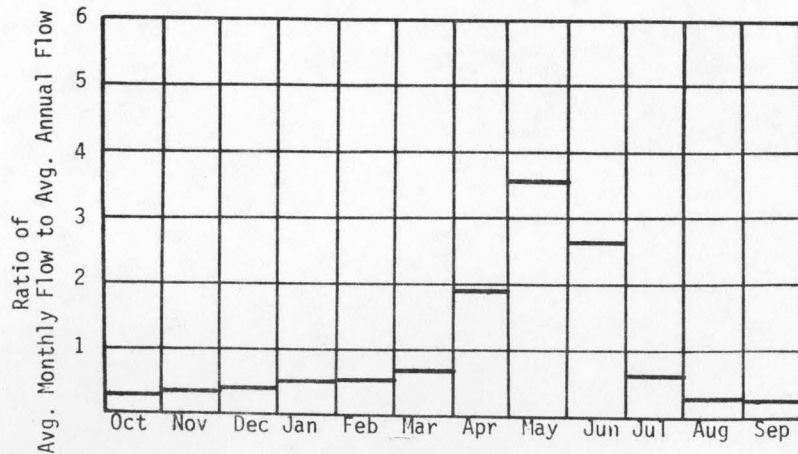
### II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

A. Upstream Elevation of Reach	2880	Ft. MSL
B. Downstream Elevation of Reach	2740	Ft. MSL
C. Total Available Head in Reach	205	Ft.
D. Average Slope in Reach	155.6	Ft./Mi.
E. Drainage Area above Reach Mouth	69	Sq.Mi.
F. Inflow Classification	Unregulated	

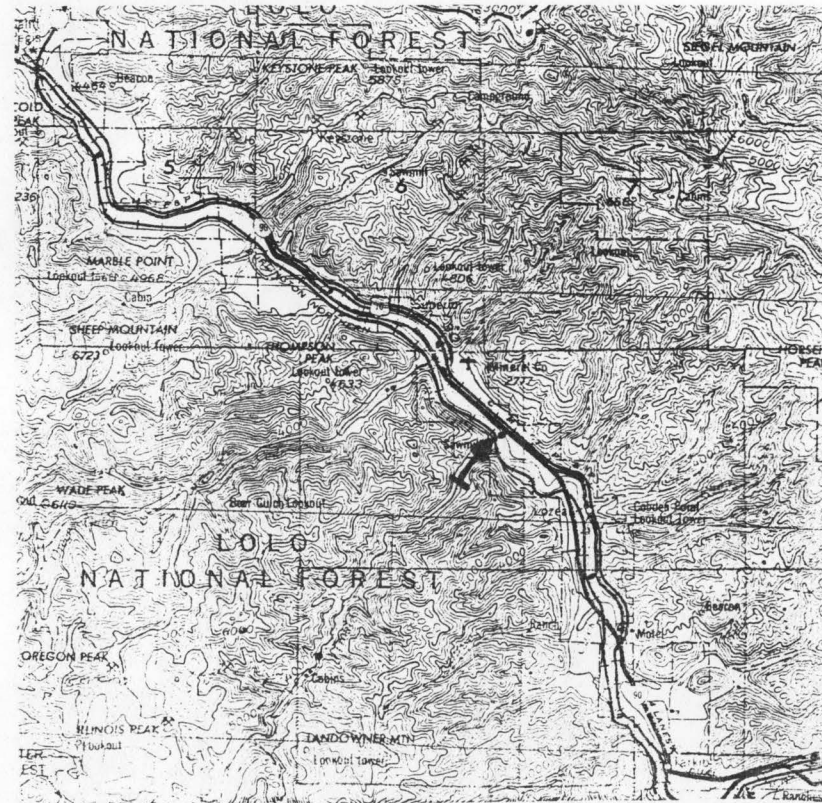
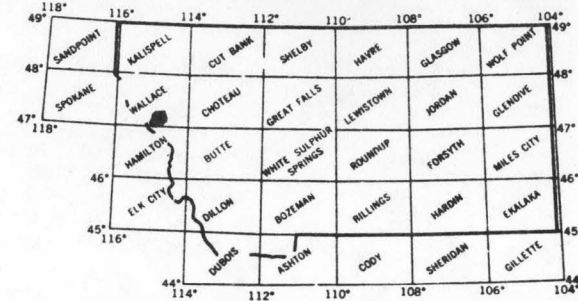
### III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	18	.31	2.74	1.00
80	22	.38	3.27	.98
50	39	.68	4.87	.82
30	77	1.34	7.02	.60
10	234	4.07	11.04	.31

### IV. TYPICAL ANNUAL HYDROGRAPH AVERAGE ANNUAL FLOW = 95 CFS



### LOCATIONS FOR USGS 1:250,000 MAP SERIES



## REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 04-500-480-350-380-R0001

### I. LOCATION

A. State	Montana
B. County	Mineral
C. Township, Range	T16N. R26W
D. Latitude, Longitude	47°10', 114°54'
E. Stream Name	Cedar Creek
F. Major Basin Name	Clark Fork
G. River Mile	1.0 to 2.1

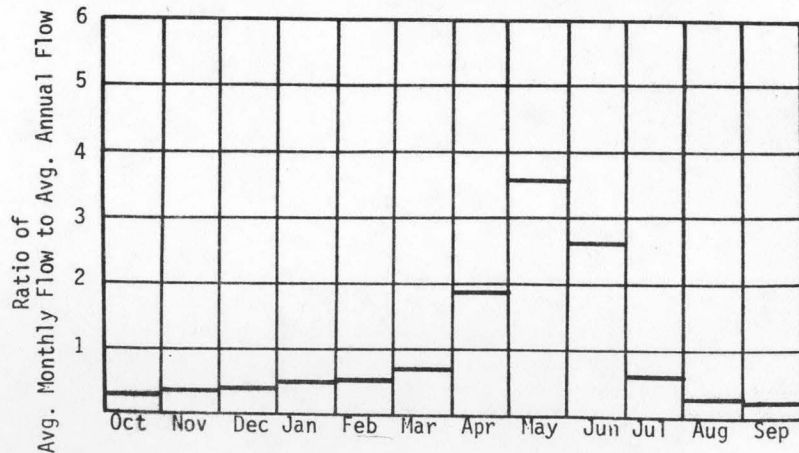
### II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

A. Upstream Elevation of Reach	2870	Ft. MSL
B. Downstream Elevation of Reach	2760	Ft. MSL
C. Total Available Head in Reach	175	Ft.
D. Average Slope in Reach	100	Ft./Mi.
E. Drainage Area above Reach Mouth	70	Sq.Mi.
F. Inflow Classification	Unregulated	

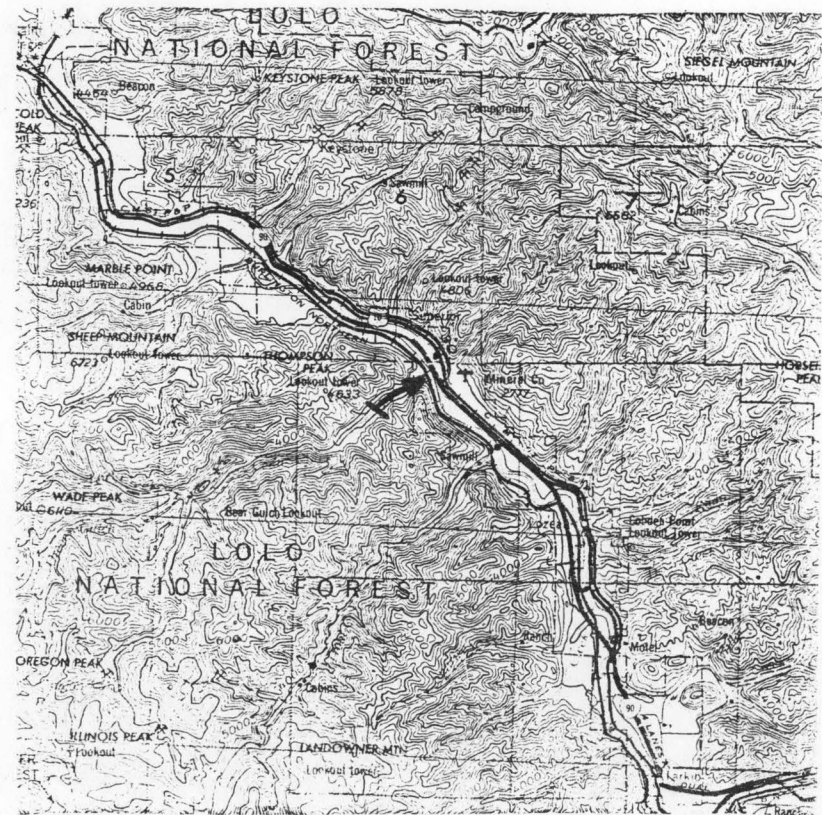
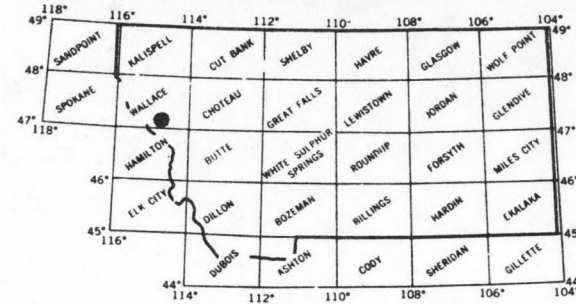
### III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	17	.25	2.22	1.00
80	21	.32	2.73	.98
50	38	.56	4.01	.82
30	75	1.12	5.86	.60
10	228	3.38	9.18	.31

### IV. TYPICAL ANNUAL HYDROGRAPH AVERAGE ANNUAL FLOW = 93 CFS



LOCATIONS FOR USGS  
1:250,000 MAP SERIES



## REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 04-500-480-350-420-ROU01

### I. LOCATION

A. State	Montana
B. County	Mineral
C. Township, Range	T19N, R30W
D. Latitude, Longitude	47°24', 115°26'
E. Stream Name	St. Regis River
F. Major Basin Name	Clark Fork
G. River Mile	16.2 to 21.6

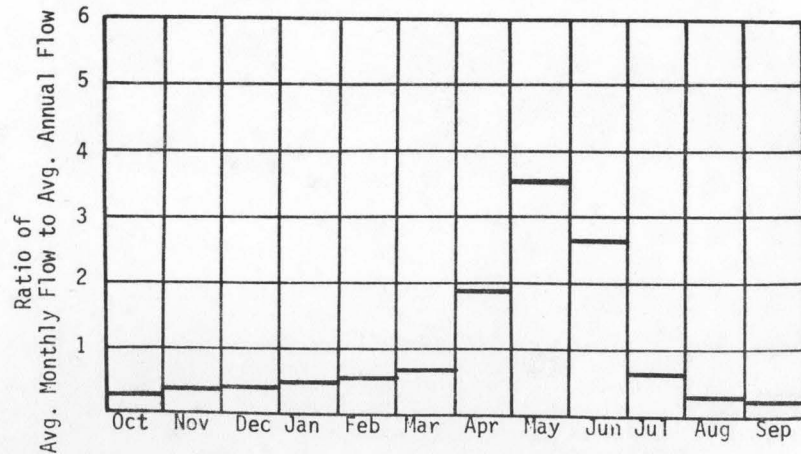
### II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

A. Upstream Elevation of Reach	3350	Ft. MSL
B. Downstream Elevation of Reach	3130	Ft. MSL
C. Total Available Head in Reach	285	Ft.
D. Average Slope in Reach	40.7	Ft./Mi.
E. Drainage Area above Reach Mouth	144	Sq. Mi.
F. Inflow Classification	Unregulated	

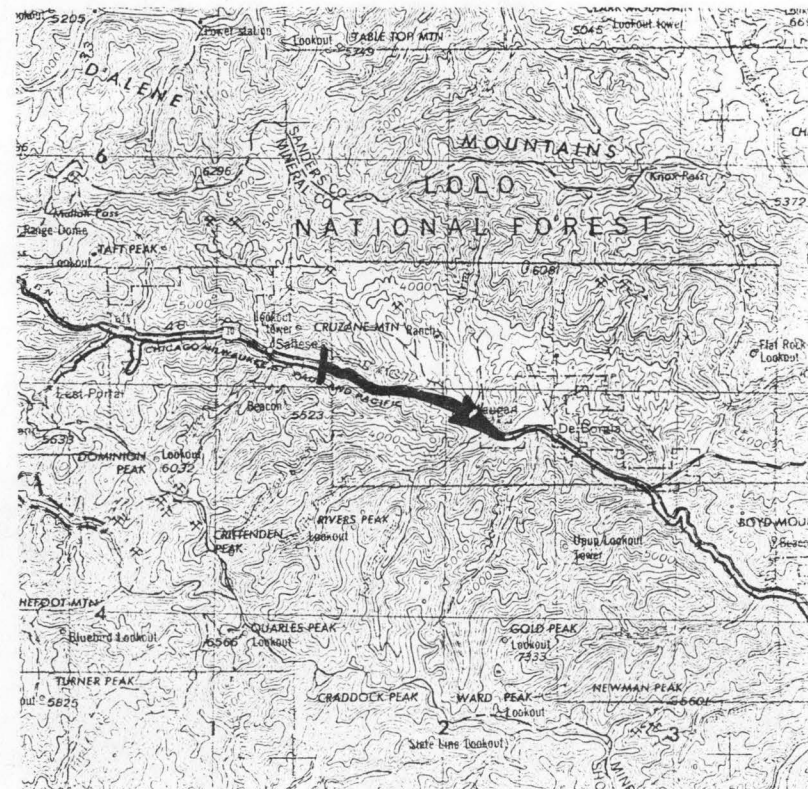
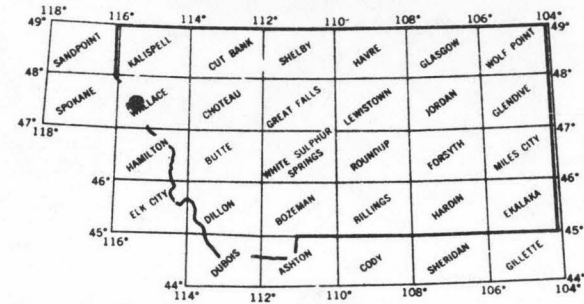
### III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	28	.68	5.93	1.00
80	35	.85	7.29	.98
50	62	1.49	10.71	.82
30	123	2.98	15.67	.60
10	374	9.03	24.53	.31

### IV. TYPICAL ANNUAL HYDROGRAPH AVERAGE ANNUAL FLOW = 146 CFS



LOCATIONS FOR USGS  
1:250,000 MAP SERIES





## REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 04-500-480-350-420-R0002

### I. LOCATION

A. State	Montana
B. County	Mineral
C. Township, Range	T18N, R29W
D. Latitude, Longitude	47°20', 115°16'
E. Stream Name	St. Regis River
F. Major Basin Name	Clark Fork
G. River Mile	1.5 to 16.2

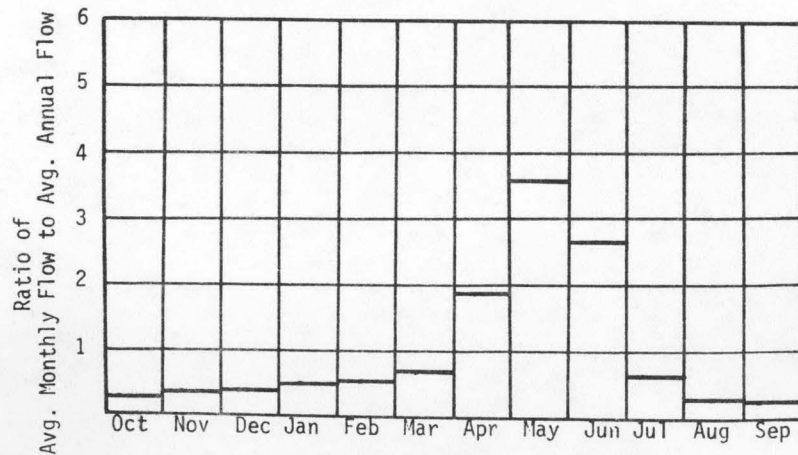
### II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

A. Upstream Elevation of Reach	3130	Ft. MSL
B. Downstream Elevation of Reach	2670	Ft. MSL
C. Total Available Head in Reach	460	Ft.
D. Average Slope in Reach	31.3	Ft./Mi.
E. Drainage Area above Reach Mouth	304	Sq.Mi.
F. Inflow Classification	Unregulated	

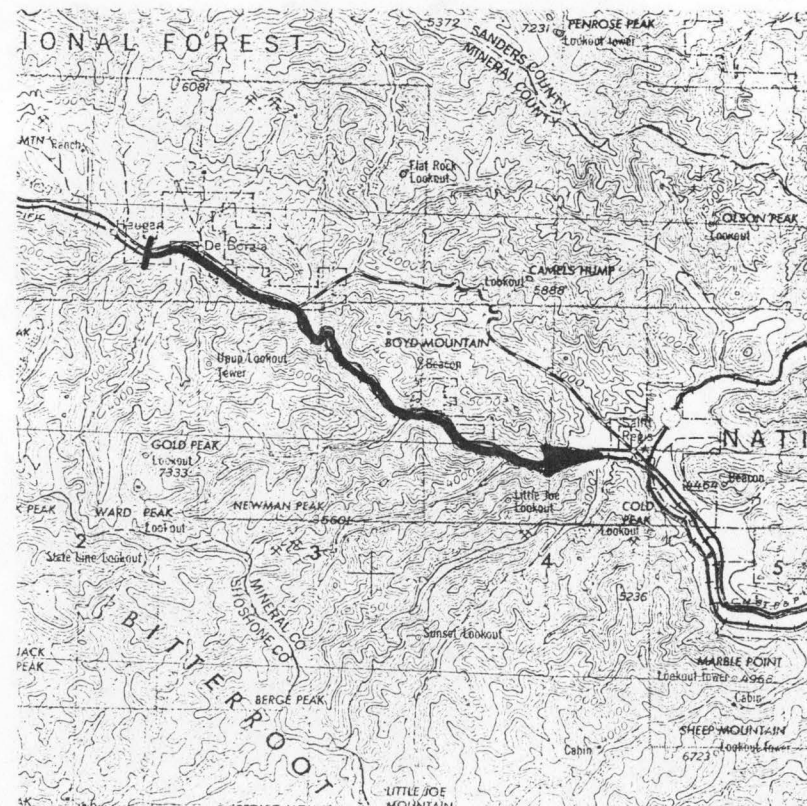
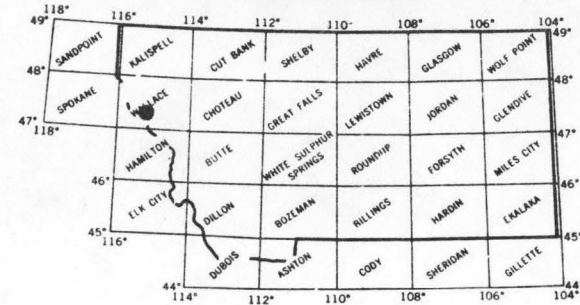
### III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	55	2.16	18.93	1.00
80	69	2.71	23.25	.98
50	122	4.75	34.14	.82
30	244	9.51	49.97	.60
10	739	28.81	78.23	.31

### IV. TYPICAL ANNUAL HYDROGRAPH AVERAGE ANNUAL FLOW = 281 CFS



LOCATIONS FOR USGS  
1:250,000 MAP SERIES



## REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 04-500-480-350-520-R0001

### I. LOCATION

A. State	<u>Montana</u>
B. County	<u>Sanders</u>
C. Township, Range	<u>T25N, R26W</u>
D. Latitude, Longitude	<u>47°55', 115°00'</u>
E. Stream Name	<u>Thompson River</u>
F. Major Basin Name	<u>Clark Fork</u>
G. River Mile	<u>30.6 to 35.4</u>

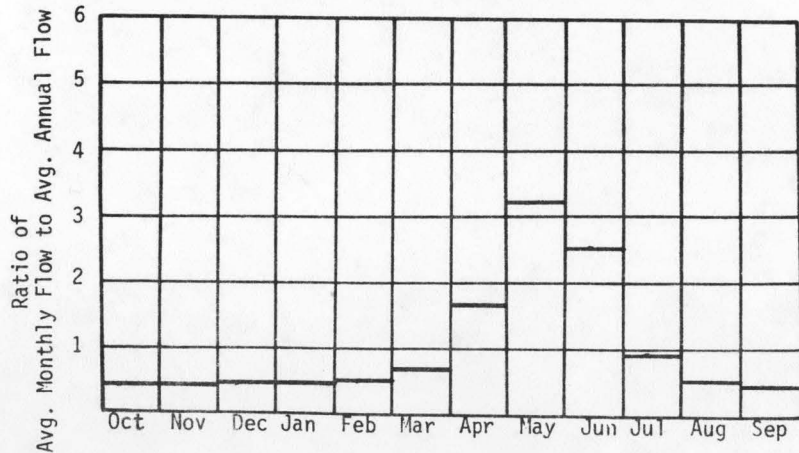
### II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

A. Upstream Elevation of Reach	<u>3295</u>	Ft. MSL
B. Downstream Elevation of Reach	<u>3215</u>	Ft. MSL
C. Total Available Head in Reach	<u>145</u>	Ft.
D. Average Slope in Reach	<u>16.7</u>	Ft./Mi.
E. Drainage Area above Reach Mouth	<u>187</u>	Sq.Mi.
F. Inflow Classification	<u>Partially Regulated</u>	

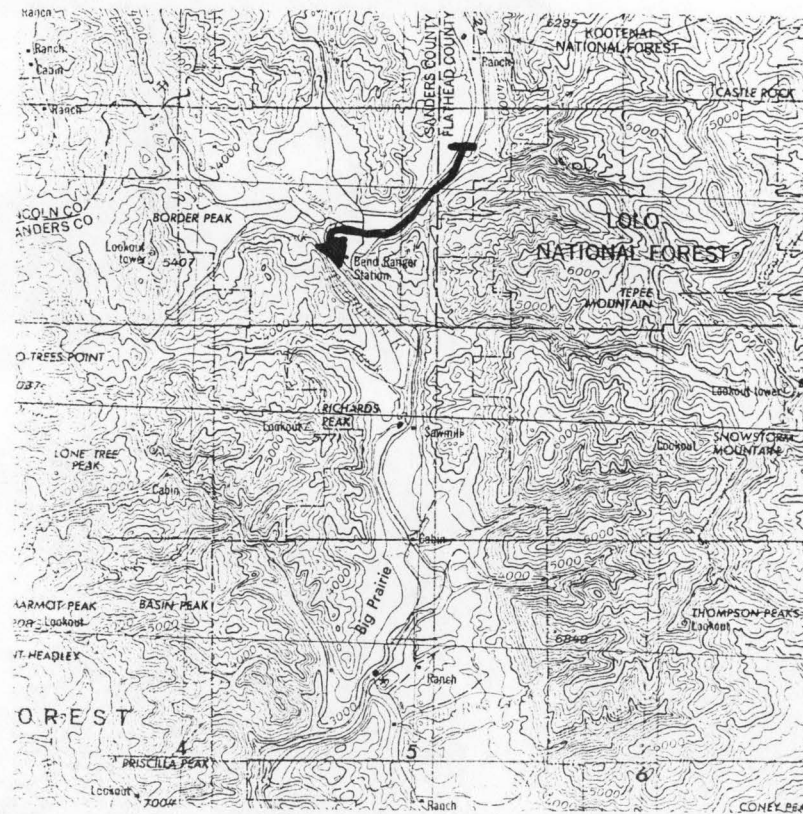
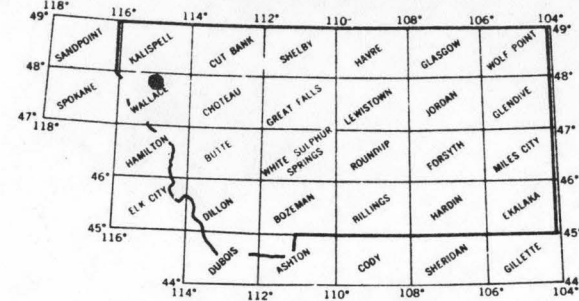
### III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	25	.30	2.65	1.00
80	31	.38	3.25	.98
50	54	.67	4.78	.82
30	108	1.33	6.99	.60
10	328	4.03	10.95	.31

### IV. TYPICAL ANNUAL HYDROGRAPH AVERAGE ANNUAL FLOW = 130 CFS



### LOCATIONS FOR USGS 1:250,000 MAP SERIES



## REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 04-500-480-350-520-R0002

### I. LOCATION

A. State	Montana
B. County	Sanders
C. Township, Range	T24N, R27W
D. Latitude, Longitude	47°50', 115°01'
E. Stream Name	Thompson River
F. Major Basin Name	Clark Fork
G. River Mile	18.9 to 30.6

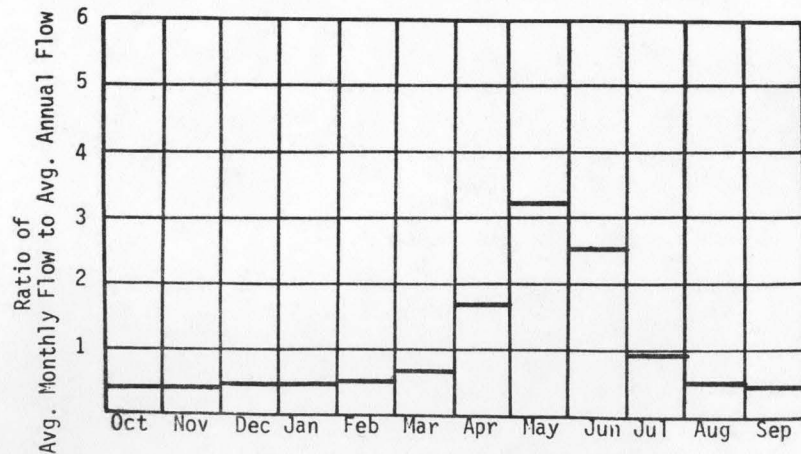
### II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

A. Upstream Elevation of Reach	3215	Ft. MSL
B. Downstream Elevation of Reach	2975	Ft. MSL
C. Total Available Head in Reach	240	Ft.
D. Average Slope in Reach	20.5	Ft./Mi.
E. Drainage Area above Reach Mouth	305	Sq.Mi.
F. Inflow Classification	Partially Regulated	

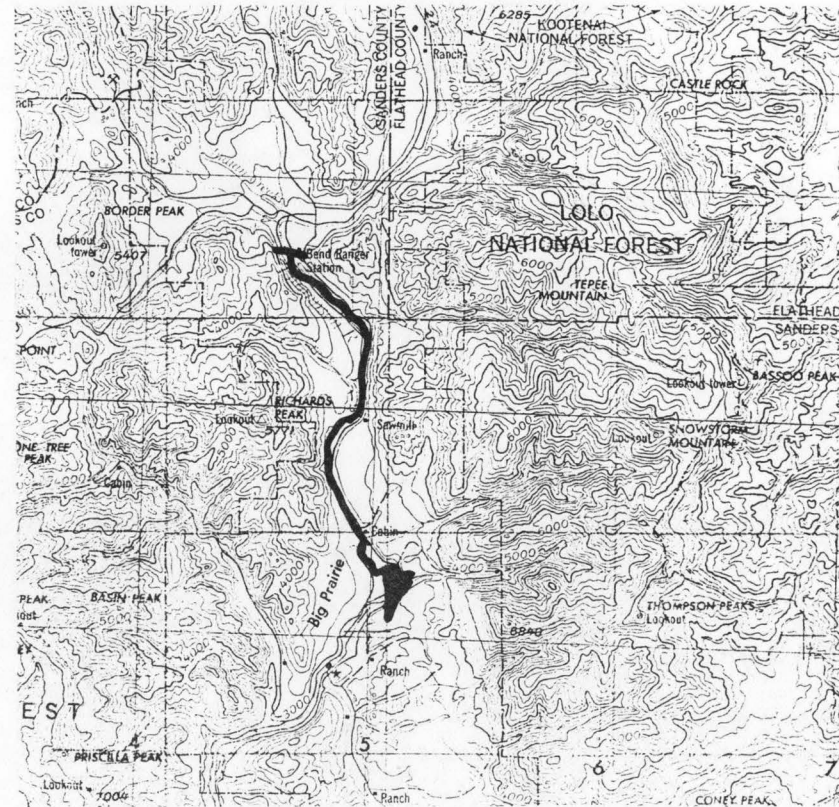
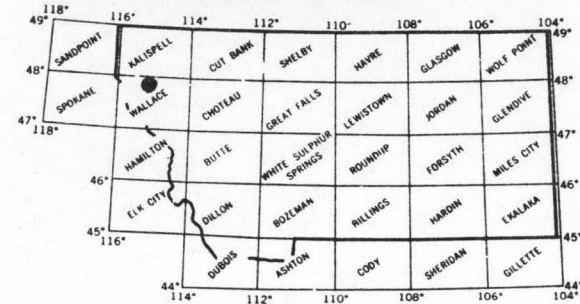
### III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	39	.80	7.03	1.00
80	49	1.01	8.63	.98
50	87	1.77	12.68	.82
30	174	3.53	18.56	.60
10	526	10.70	29.05	.31

### IV. TYPICAL ANNUAL HYDROGRAPH AVERAGE ANNUAL FLOW = 202 CFS



LOCATIONS FOR USGS  
1:250,000 MAP SERIES



## REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 04-500-480-350-520-R0003

### I. LOCATION

A. State	Montana
B. County	Sanders
C. Township, Range	T23N, R27W
D. Latitude, Longitude	47°44', 115°01'
E. Stream Name	Thompson River
F. Major Basin Name	Clark Fork
G. River Mile	13.9 to 18.9

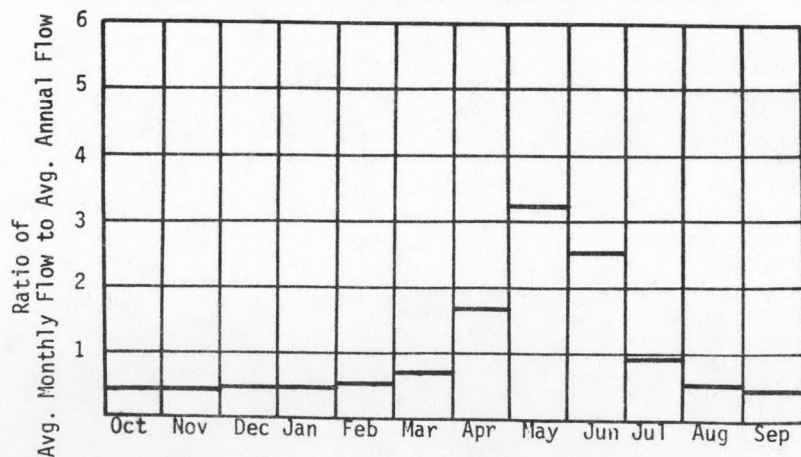
### II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

A. Upstream Elevation of Reach	2975	Ft. MSL
B. Downstream Elevation of Reach	2820	Ft. MSL
C. Total Available Head in Reach	155	Ft.
D. Average Slope in Reach	31.0	Ft./Mi.
E. Drainage Area above Reach Mouth	527	Sq.Mi.
F. Inflow Classification	Partially Regulated	

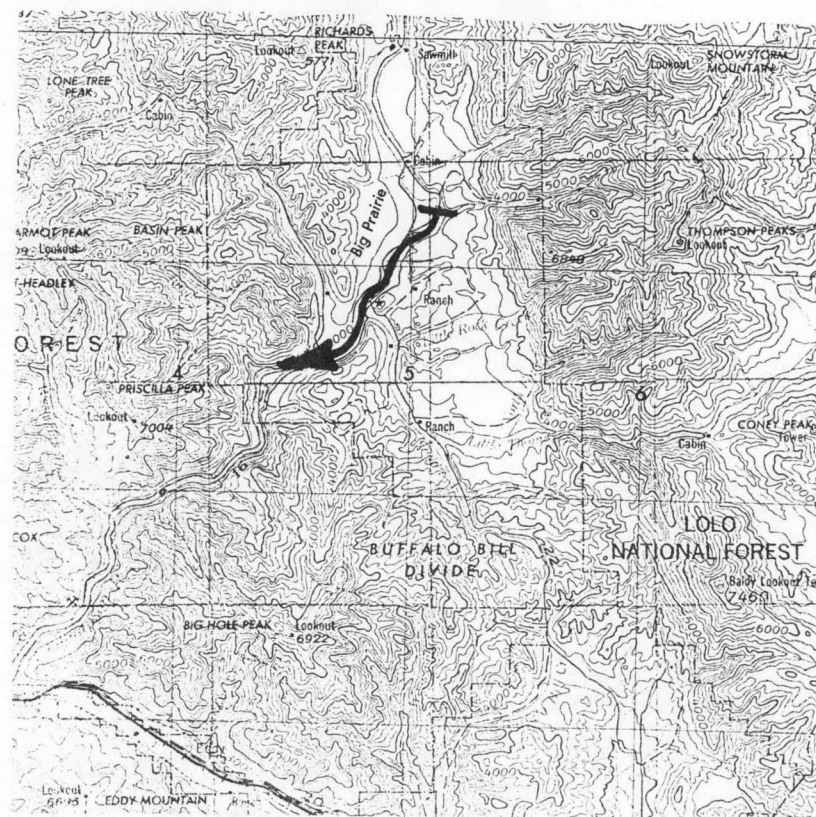
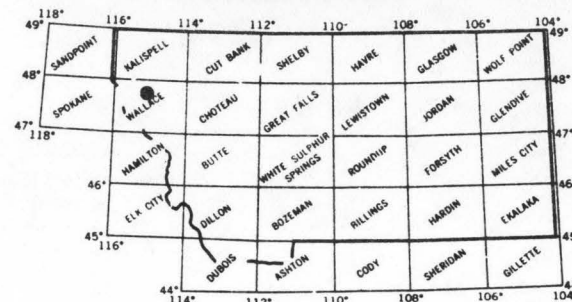
### III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	67	.88	7.73	1.00
80	84	1.11	9.50	.98
50	148	1.94	13.95	.82
30	296	3.88	20.41	.60
10	896	11.77	31.96	.31

### IV. TYPICAL ANNUAL HYDROGRAPH AVERAGE ANNUAL FLOW = 338 CFS



### LOCATIONS FOR USGS 1:250,000 MAP SERIES



## REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 04-500-480-350-520-R0004

### I. LOCATION

A. State	Montana
B. County	Sanders
C. Township, Range	T22N, R28W
D. Latitude, Longitude	47°37', 115°09'
E. Stream Name	Thompson River
F. Major Basin Name	Clark Fork
G. River Mile	1.4 to 13.9

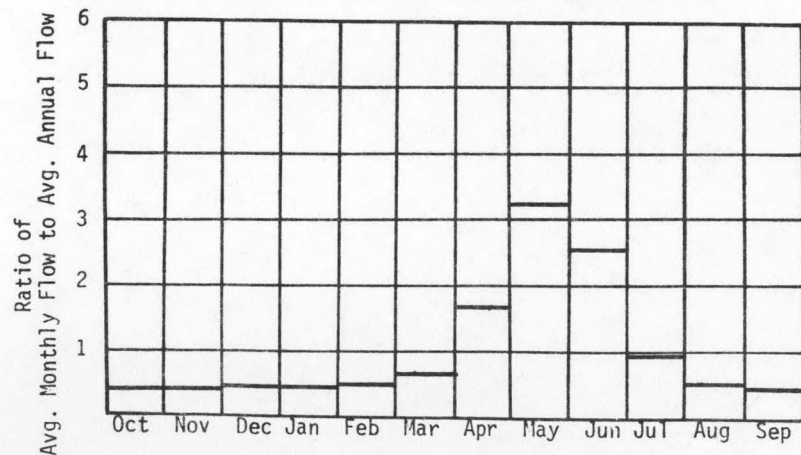
### II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

A. Upstream Elevation of Reach	2820	Ft. MSL
B. Downstream Elevation of Reach	2420	Ft. MSL
C. Total Available Head in Reach	400	Ft.
D. Average Slope in Reach	32.0	Ft./Mi.
E. Drainage Area above Reach Mouth	629	Sq.Mi.
F. Inflow Classification	Partially Regulated	

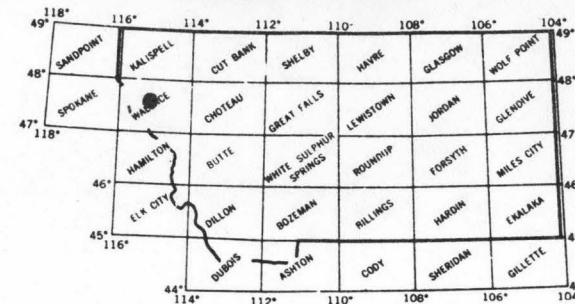
### III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	97	3.28	28.77	1.00
80	121	4.12	35.34	.98
50	213	7.23	51.91	.82
30	426	14.45	75.96	.60
10	1292	43.80	118.93	.31

### IV. TYPICAL ANNUAL HYDROGRAPH AVERAGE ANNUAL FLOW = 484 CFS



### LOCATIONS FOR USGS 1:250,000 MAP SERIES



## REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 04-500-480-350-560-R0001

### I. LOCATION

A. State	Montana
B. County	Sanders
C. Township, Range	T21N, R30W
D. Latitude, Longitude	47°34', 115°25'
E. Stream Name	Prospect Creek
F. Major Basin Name	Clark Fork
G. River Mile	0.1 to 7.8

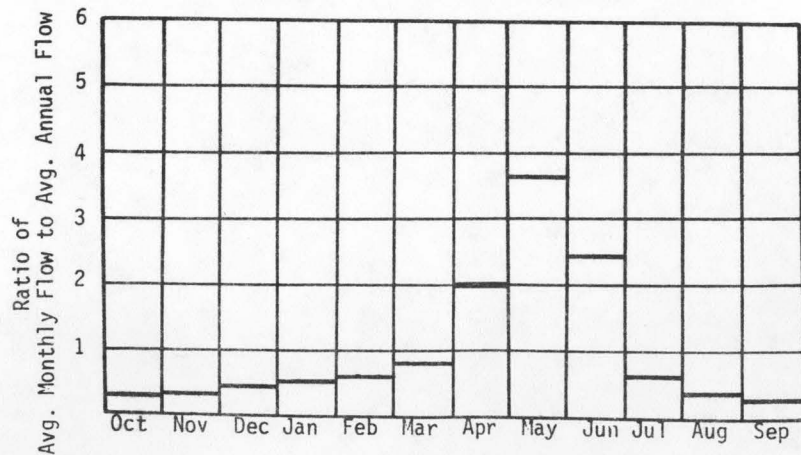
### II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

A. Upstream Elevation of Reach	2820	Ft. MSL
B. Downstream Elevation of Reach	2385	Ft. MSL
C. Total Available Head in Reach	500	Ft.
D. Average Slope in Reach	56.5	Ft./Mi.
E. Drainage Area above Reach Mouth	181	Sq.Mi.
F. Inflow Classification	Unregulated	

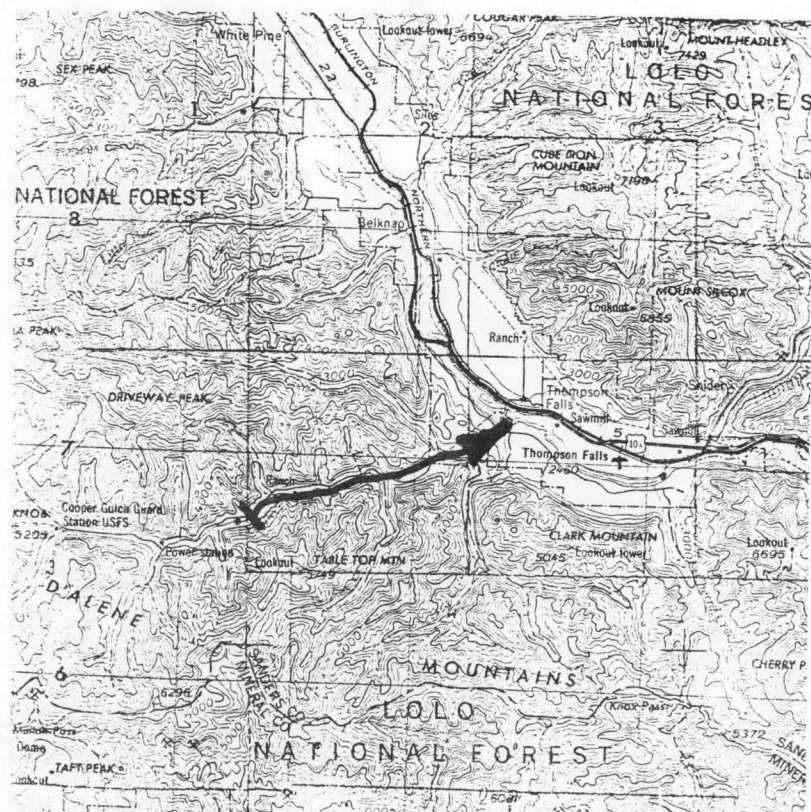
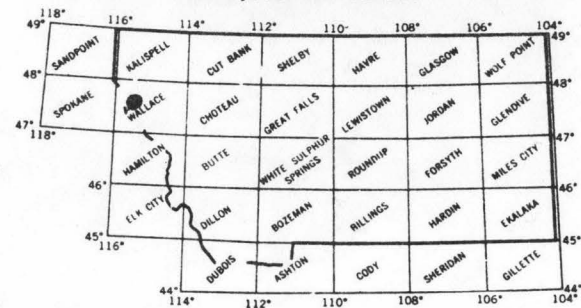
### III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	33	1.39	12.19	1.00
80	41	1.74	14.98	.98
50	72	3.06	22.00	.82
30	145	6.12	32.19	.60
10	438	18.56	50.40	.31

### IV. TYPICAL ANNUAL HYDROGRAPH AVERAGE ANNUAL FLOW = 170 CFS



### LOCATIONS FOR USGS 1:250,000 MAP SERIES



## REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 04-500-480-350-600-R0001

### I. LOCATION

A. State	Montana
B. County	Sanders
C. Township, Range	T23N, R31W
D. Latitude, Longitude	47°47', 115°32'
E. Stream Name	Beaver Creek
F. Major Basin Name	Clark Fork
G. River Mile	0.6 to 5.2

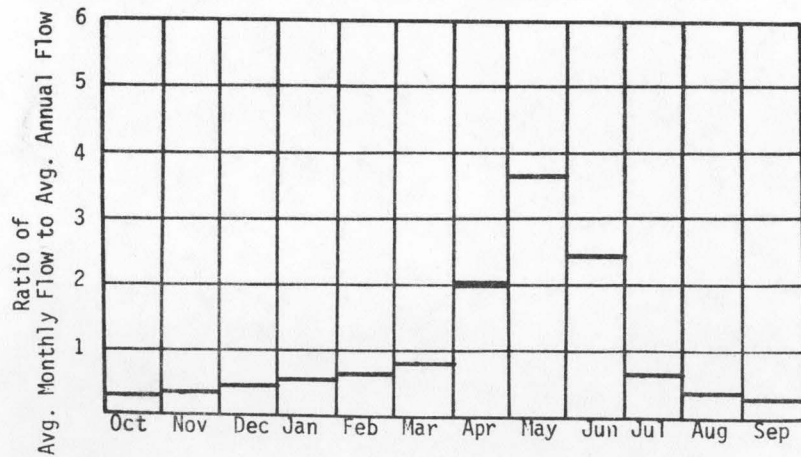
### II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

A. Upstream Elevation of Reach	2470	Ft. MSL
B. Downstream Elevation of Reach	2360	Ft. MSL
C. Total Available Head in Reach	175	Ft.
D. Average Slope in Reach	23.9	Ft./Mi.
E. Drainage Area above Reach Mouth	119	Sq.Mi.
F. Inflow Classification	Unregulated	

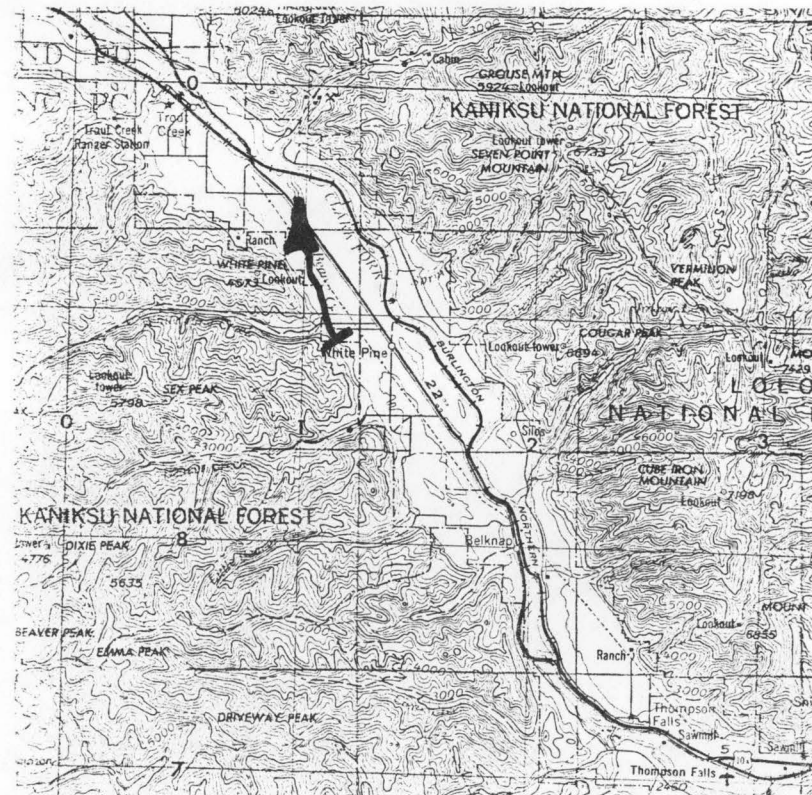
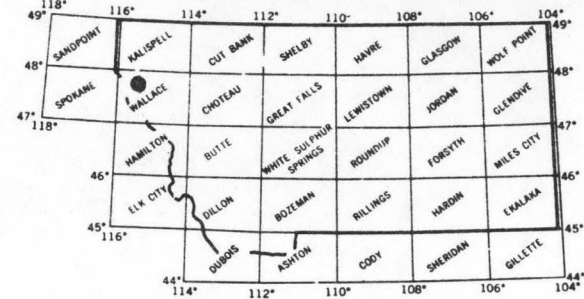
### III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	22	.33	2.88	1.00
80	28	.41	3.54	.98
50	49	.72	5.20	.82
30	98	1.45	7.61	.60
10	296	4.39	11.92	.31

### IV. TYPICAL ANNUAL HYDROGRAPH AVERAGE ANNUAL FLOW = 118 CFS



### LOCATIONS FOR USGS 1:250,000 MAP SERIES



## REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 04-500-480-350-620-ROU01

### I. LOCATION

A. State	Montana
B. County	Sanders
C. Township, Range	T24N, R30W
D. Latitude, Longitude	47°51', 115°28'
E. Stream Name	Vermilion River
F. Major Basin Name	Clark Fork
G. River Mile	2.2 to 6.7

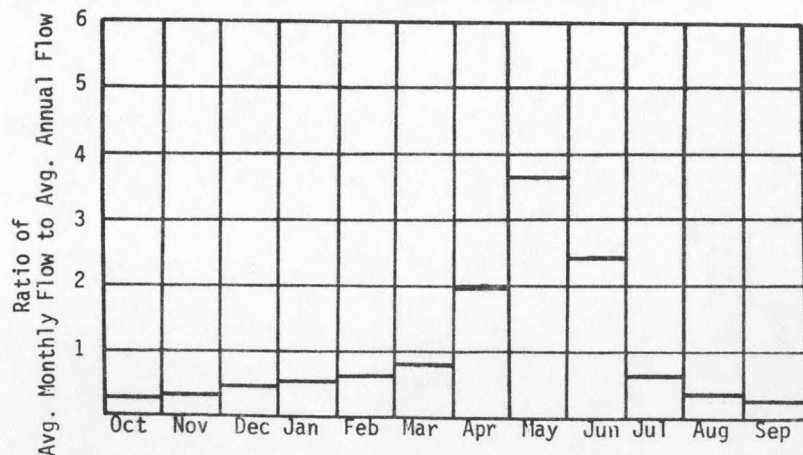
### II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

A. Upstream Elevation of Reach	2840	Ft. MSL
B. Downstream Elevation of Reach	2380	Ft. MSL
C. Total Available Head in Reach	525	Ft.
D. Average Slope in Reach	102.2	Ft./Mi.
E. Drainage Area above Reach Mouth	104	Sq.Mi.
F. Inflow Classification	Unregulated	

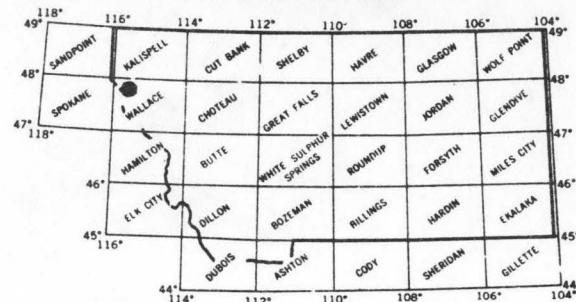
### III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	22	.97	8.48	1.00
80	27	1.21	10.41	.98
50	48	2.13	15.29	.82
30	96	4.26	22.38	.60
10	290	12.90	35.04	.31

### IV. TYPICAL ANNUAL HYDROGRAPH AVERAGE ANNUAL FLOW = 116 CFS



### LOCATIONS FOR USGS 1:250,000 MAP SERIES





## REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 04-500-480-350-740-R0001

### I. LOCATION

A. State	Montana
B. County	Sanders
C. Township, Range	T27N, R32W
D. Latitude, Longitude	48°06', 115°46'
E. Stream Name	Bull River
F. Major Basin Name	Clark Fork
G. River Mile	1.3 to 14.2

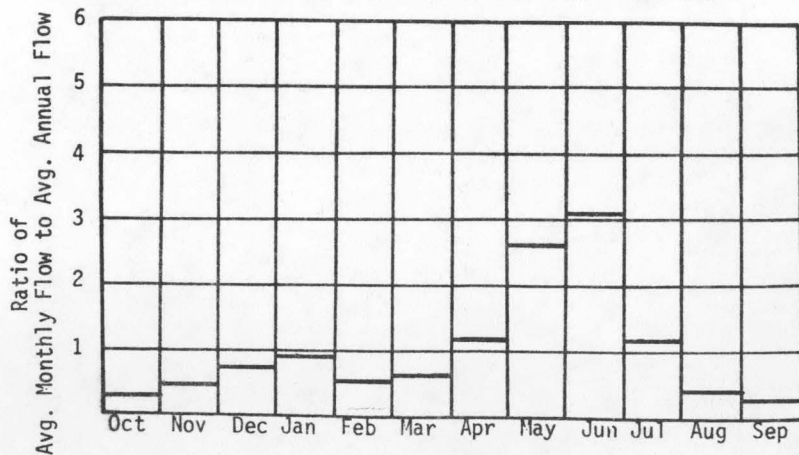
### II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

A. Upstream Elevation of Reach	2300	Ft. MSL
B. Downstream Elevation of Reach	2195	Ft. MSL
C. Total Available Head in Reach	170	Ft.
D. Average Slope in Reach	8.1	Ft./Mi.
E. Drainage Area above Reach Mouth	138	Sq.Mi.
F. Inflow Classification	Unregulated	

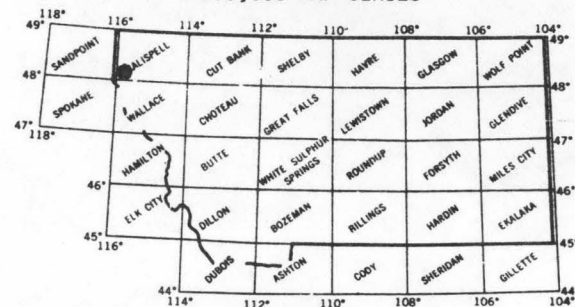
### III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	29	.41	3.62	1.00
80	36	.52	4.44	.98
50	63	.91	6.52	.82
30	126	1.82	9.55	.60
10	382	5.50	14.95	.31

### IV. TYPICAL ANNUAL HYDROGRAPH AVERAGE ANNUAL FLOW = 150 CFS



LOCATIONS FOR USGS  
1:250,000 MAP SERIES



## REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 04-500-480-350-220-R0001

### I. LOCATION

A. State	<u>Montana</u>
B. County	<u>Lewis and Clark</u>
C. Township, Range	<u>T14N, R8W</u>
D. Latitude, Longitude	<u>46°57', 112°38'</u>
E. Stream Name	<u>Blackfoot River</u>
F. Major Basin Name	<u>Blackfoot</u>
G. River Mile	<u>80.7 to 90.2</u>

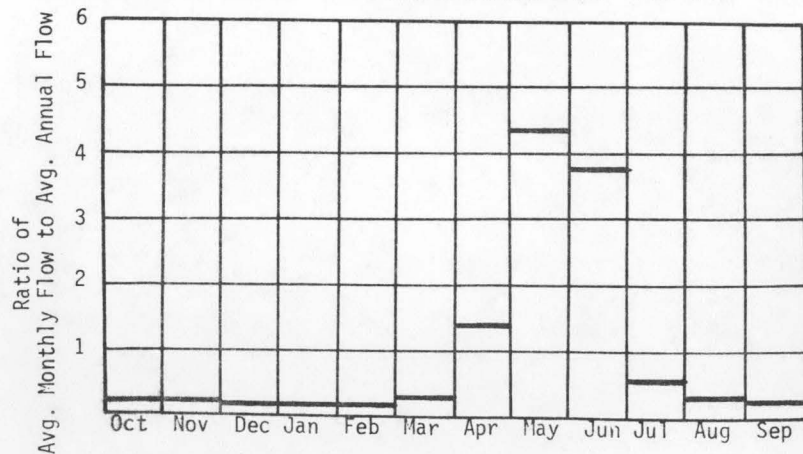
### II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

A. Upstream Elevation of Reach	<u>4680</u>	Ft. MSL
B. Downstream Elevation of Reach	<u>4455</u>	Ft. MSL
C. Total Available Head in Reach	<u>290</u>	Ft.
D. Average Slope in Reach	<u>23.7</u>	Ft./Mi.
E. Drainage Area above Reach Mouth	<u>382</u>	Sq.Mi.
F. Inflow Classification	<u>Unregulated</u>	

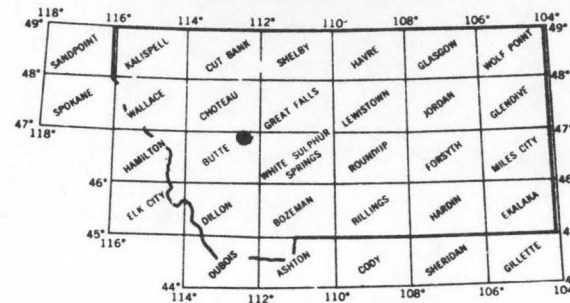
### III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	76	1.86	16.29	1.00
80	93	2.28	19.35	.97
50	127	3.13	24.68	.90
30	218	5.37	31.51	.67
10	772	18.97	49.86	.30

### IV. TYPICAL ANNUAL HYDROGRAPH AVERAGE ANNUAL FLOW = 276 CFS



### LOCATIONS FOR USGS 1:250,000 MAP SERIES



## REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 04-500-480-350-220-R0002

### I. LOCATION

A. State	Montana
B. County	Powell
C. Township, Range	T14N, R10W
D. Latitude, Longitude	46°57', 112°49'
E. Stream Name	Blackfoot River
F. Major Basin Name	Blackfoot
G. River Mile	67.5 to 80.7

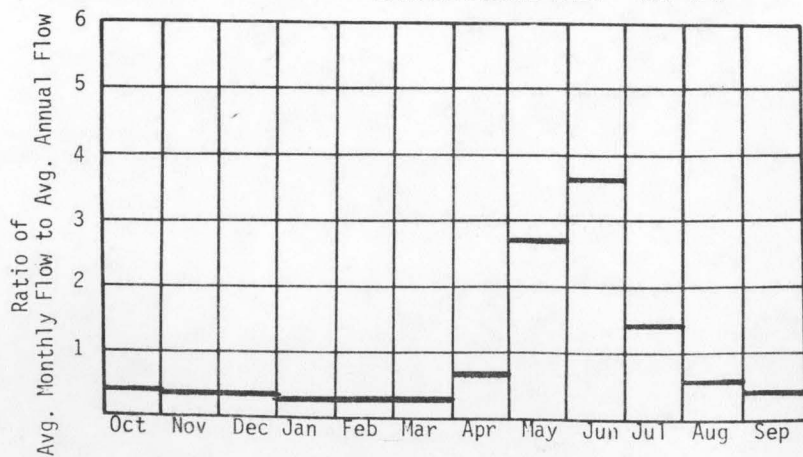
### II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

A. Upstream Elevation of Reach	4455	Ft. MSL
B. Downstream Elevation of Reach	4305	Ft. MSL
C. Total Available Head in Reach	150	Ft.
D. Average Slope in Reach	11.4	Ft./Mi.
E. Drainage Area above Reach Mouth	496	Sq.Mi.
F. Inflow Classification	Unregulated	

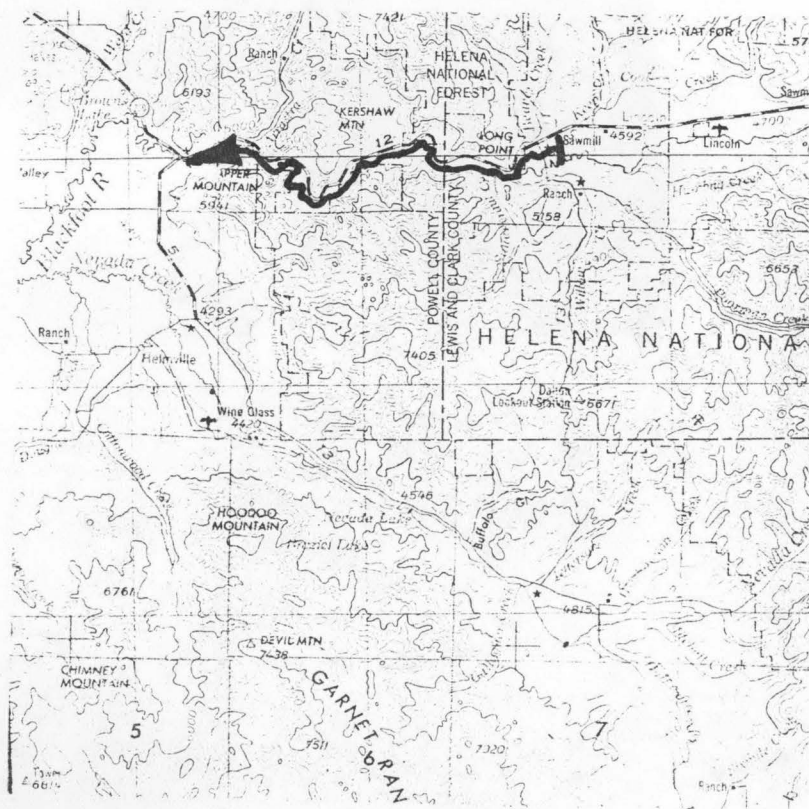
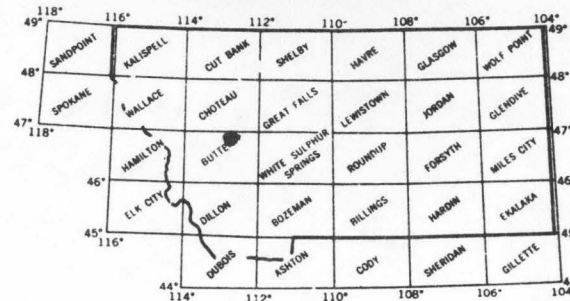
### III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	98	1.25	10.95	1.00
80	120	1.53	13.00	.97
50	165	2.10	16.59	.90
30	284	3.61	21.18	.67
10	1003	12.75	33.51	.30

### IV. TYPICAL ANNUAL HYDROGRAPH AVERAGE ANNUAL FLOW = 358 CFS



### LOCATIONS FOR USGS 1:250,000 MAP SERIES



## REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 04-500-480-350-22U-R0003

### I. LOCATION

A. State	Montana
B. County	Powell
C. Township, Range	T13N, R11W
D. Latitude, Longitude	46°51', 112°56'
E. Stream Name	Nevada Creek
F. Major Basin Name	Blackfoot
G. River Mile	.3 to 14.8

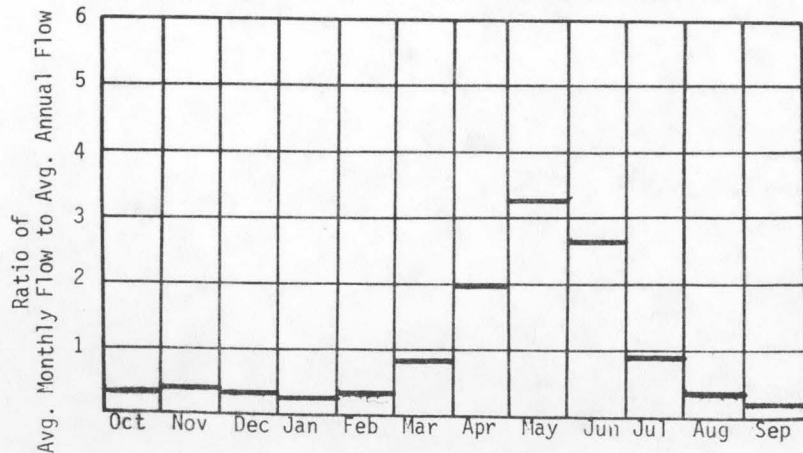
### II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

A. Upstream Elevation of Reach	4600	Ft. MSL
B. Downstream Elevation of Reach	4240	Ft. MSL
C. Total Available Head in Reach	425	Ft.
D. Average Slope in Reach	24.8	Ft./Mi.
E. Drainage Area above Reach Mouth	361	Sq.Mi.
F. Inflow Classification	Fully Regulated	

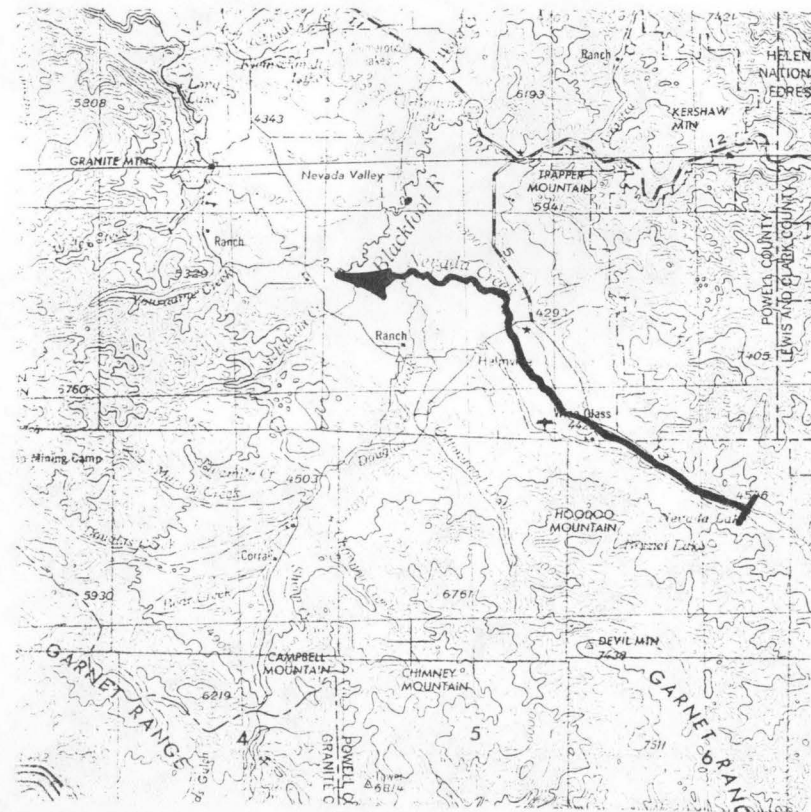
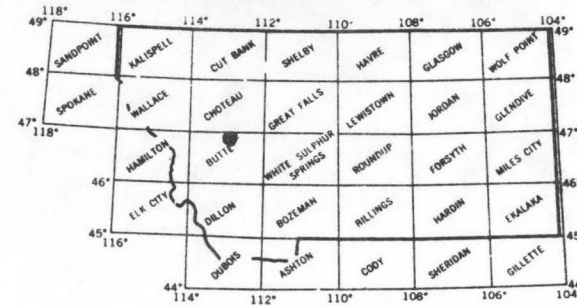
### III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	20	.73	6.38	1.00
80	25	.90	7.63	.97
50	49	1.77	12.37	.80
30	98	3.53	17.94	.58
10	430	15.49	32.56	.24

### IV. TYPICAL ANNUAL HYDROGRAPH AVERAGE ANNUAL FLOW = 152 CFS



LOCATIONS FOR USGS  
1:250,000 MAP SERIES



## REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 04-500-480-350-220-R0004

### I. LOCATION

A. State	Montana
B. County	Powell
C. Township, Range	T14N, R11W
D. Latitude, Longitude	46°55', 113°00'
E. Stream Name	Blackfoot River
F. Major Basin Name	Blackfoot
G. River Mile	54.1 to 67.5

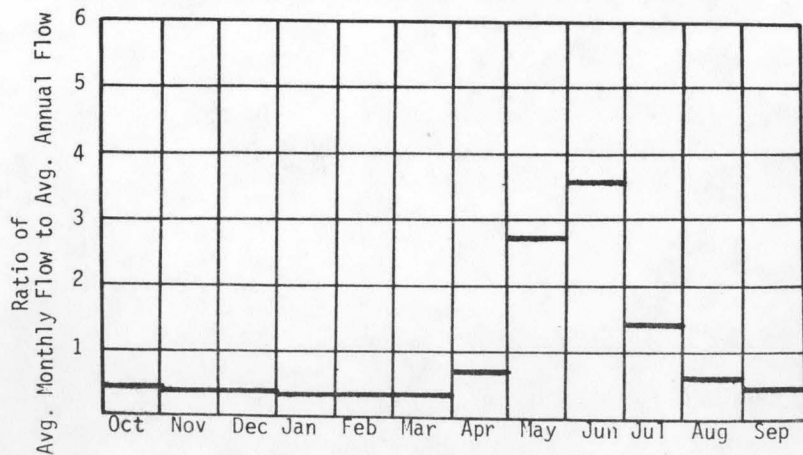
### II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

A. Upstream Elevation of Reach	4305	Ft. MSL
B. Downstream Elevation of Reach	4215	Ft. MSL
C. Total Available Head in Reach	90	Ft.
D. Average Slope in Reach	6.7	Ft./Mi.
E. Drainage Area above Reach Mouth	895	Sq.Mi.
F. Inflow Classification	Partially Regulated	

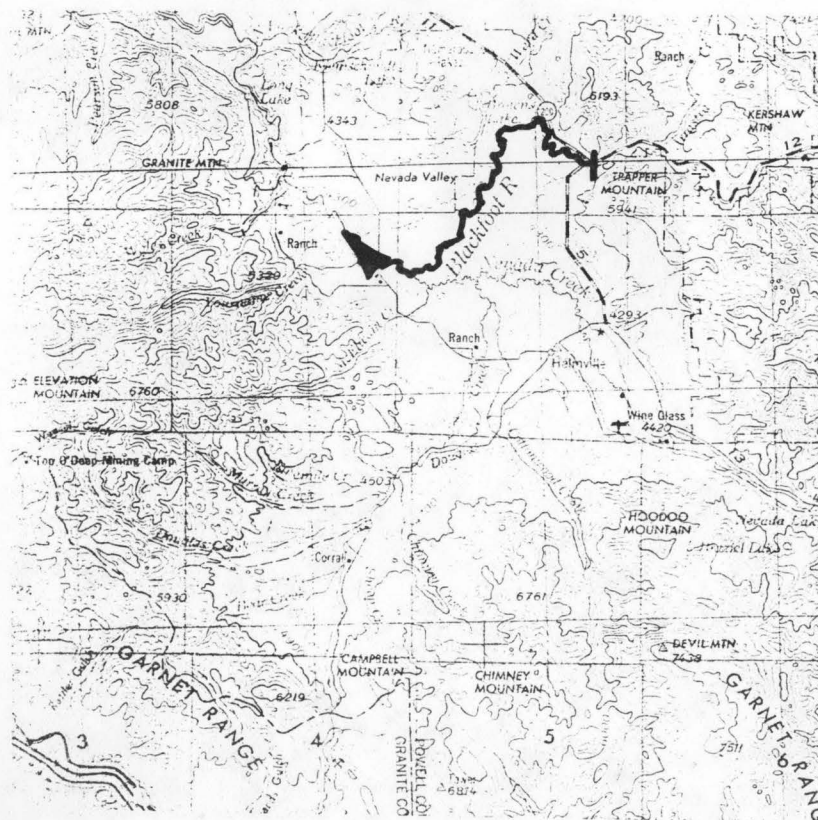
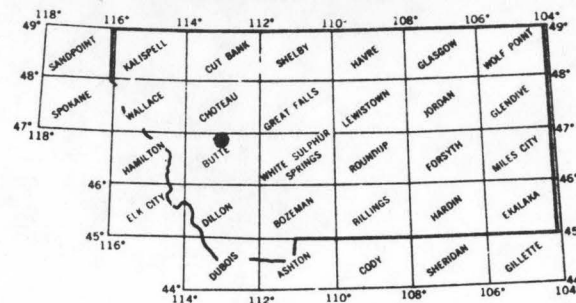
### III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	136	1.03	9.06	1.00
80	166	1.27	10.76	.97
50	228	1.74	13.72	.90
30	391	2.99	17.52	.67
10	1383	10.55	27.72	.30

### IV. TYPICAL ANNUAL HYDROGRAPH AVERAGE ANNUAL FLOW = 496 CFS



### LOCATIONS FOR USGS 1:250,000 MAP SERIES



## REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 04-500-480-350-220-R0005

### I. LOCATION

A. State	Montana
B. County	Powell
C. Township, Range	T14N, R12W
D. Latitude, Longitude	46°56', 113°07'
E. Stream Name	Blackfoot River
F. Major Basin Name	Blackfoot
G. River Mile	47.2 to 54.1

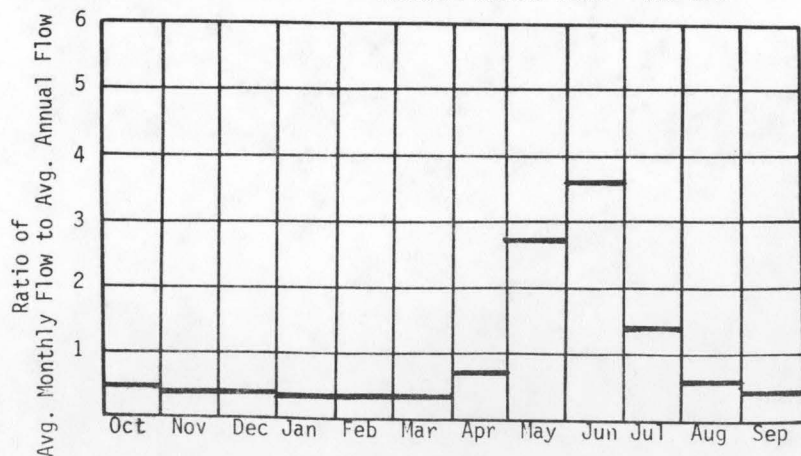
### II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

A. Upstream Elevation of Reach	4215	Ft. MSL
B. Downstream Elevation of Reach	4040	Ft. MSL
C. Total Available Head in Reach	175	Ft.
D. Average Slope in Reach	25.4	Ft./Mi.
E. Drainage Area above Reach Mouth	933	Sq.Mi.
F. Inflow Classification	Partially Regulated	

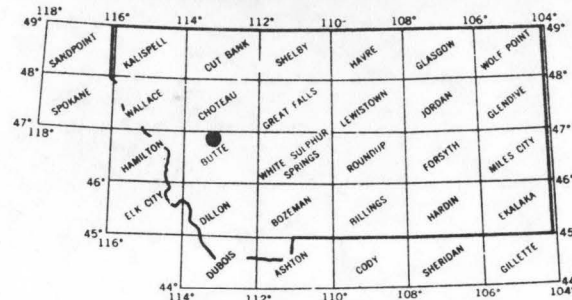
### III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	165	2.45	21.48	1.00
80	202	3.00	25.51	.97
50	278	4.13	32.55	.90
30	477	7.08	41.56	.67
10	1687	25.02	65.75	.30

### IV. TYPICAL ANNUAL HYDROGRAPH      AVERAGE ANNUAL FLOW = 605 CFS



LOCATIONS FOR USGS  
1:250,000 MAP SERIES



## REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 04-500-480-350-220-R0006

### I. LOCATION

A. State	Montana
B. County	Lewis and Clark
C. Township, Range	T16N, R11W
D. Latitude, Longitude	47°10', 112°55'
E. Stream Name	North Fork Blackfoot River
F. Major Basin Name	Blackfoot
G. River Mile	16.2 to 23.3

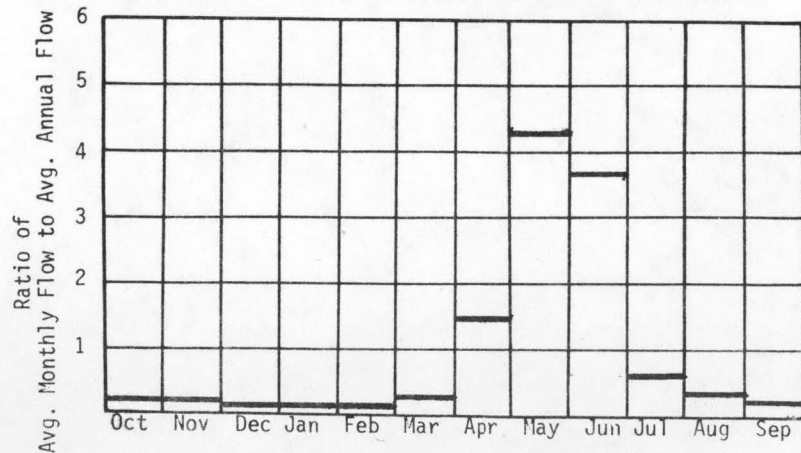
### II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

A. Upstream Elevation of Reach	5040	Ft. MSL
B. Downstream Elevation of Reach	4680	Ft. MSL
C. Total Available Head in Reach	425	Ft.
D. Average Slope in Reach	50.7	Ft./Mi.
E. Drainage Area above Reach Mouth	196	Sq. Mi.
F. Inflow Classification	Unregulated	

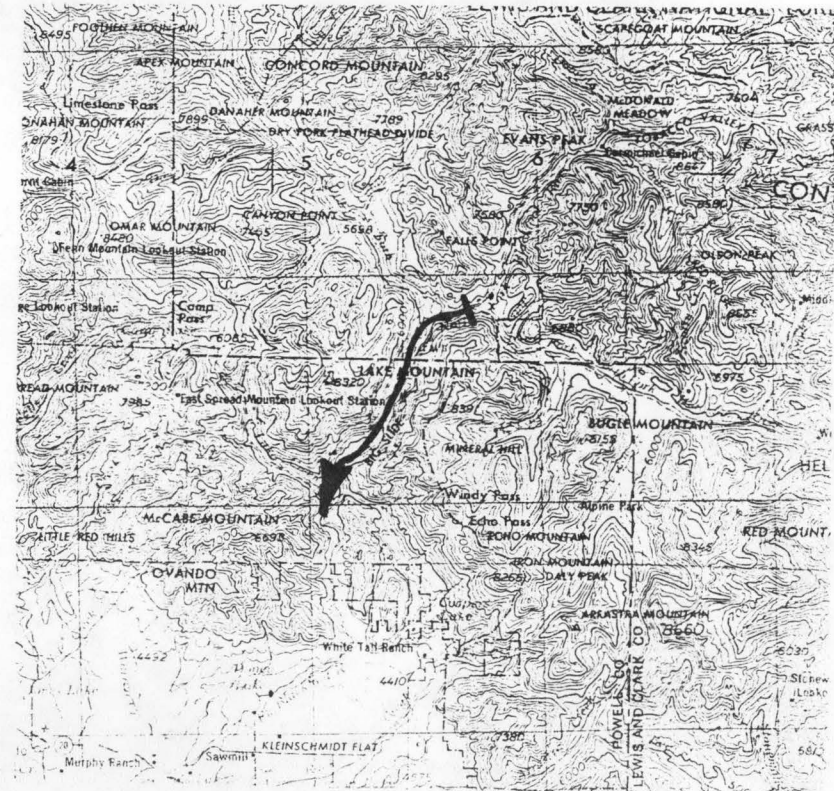
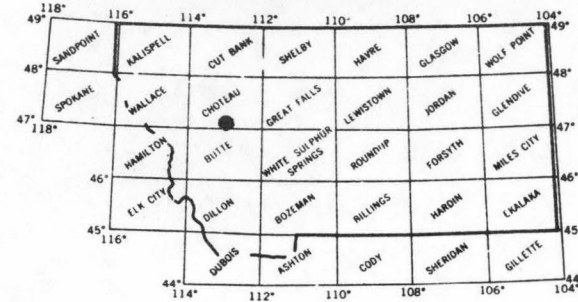
### III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	25	.89	7.80	1.00
80	31	1.10	9.34	.97
50	60	2.16	15.14	.80
30	120	4.32	21.95	.58
10	526	18.94	39.83	.24

### IV. TYPICAL ANNUAL HYDROGRAPH AVERAGE ANNUAL FLOW = 186 CFS



### LOCATIONS FOR USGS 1:250,000 MAP SERIES



## REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 04-500-480-350-220-R0007

### I. LOCATION

A. State	Montana
B. County	Powell
C. Township, Range	T15N, R11W
D. Latitude, Longitude	47°03', 113°00'
E. Stream Name	North Fork Blackfoot River
F. Major Basin Name	Blackfoot
G. River Mile	.5 to 16.2

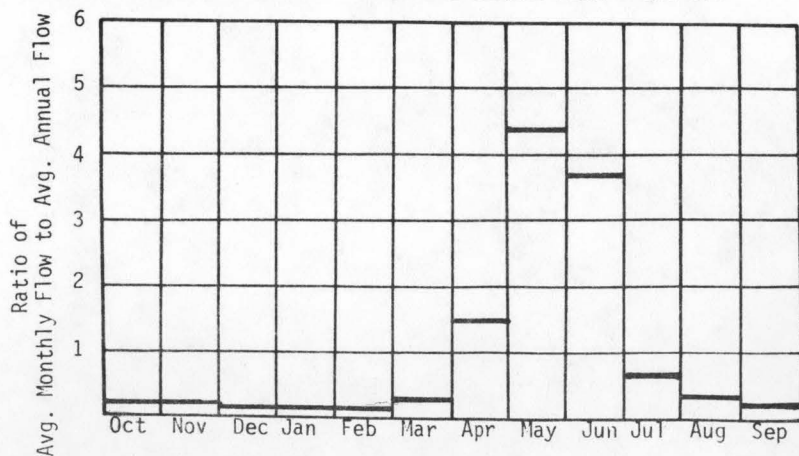
### II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

A. Upstream Elevation of Reach	4680	Ft. MSL
B. Downstream Elevation of Reach	4015	Ft. MSL
C. Total Available Head in Reach	665	Ft.
D. Average Slope in Reach	42.4	Ft./Mi.
E. Drainage Area above Reach Mouth	315	Sq.Mi.
F. Inflow Classification	unregulated	

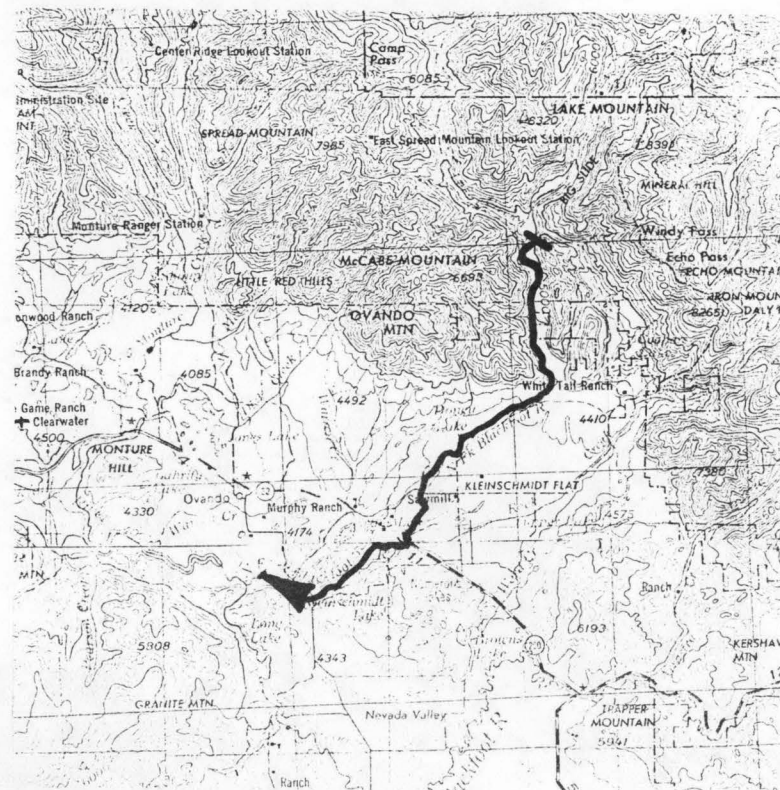
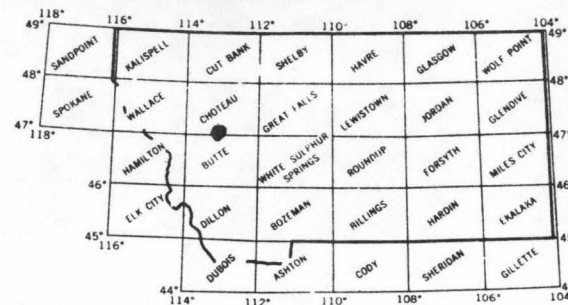
### III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	36	2.02	17.73	1.00
80	44	2.50	21.22	.97
50	87	4.91	34.40	.80
30	174	9.82	49.88	.58
10	764	43.06	90.52	.24

### IV. TYPICAL ANNUAL HYDROGRAPH      AVERAGE ANNUAL FLOW = 272 CFS



### LOCATIONS FOR USGS 1:250,000 MAP SERIES





## REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 04-500-480-350-220-R0008

### I. LOCATION

A. State	Montana
B. County	Powell
C. Township, Range	T15N, R13W
D. Latitude, Longitude	47°04', 113°11'
E. Stream Name	Monture Creek
F. Major Basin Name	Blackfoot
G. River Mile	1.4 to 8.8

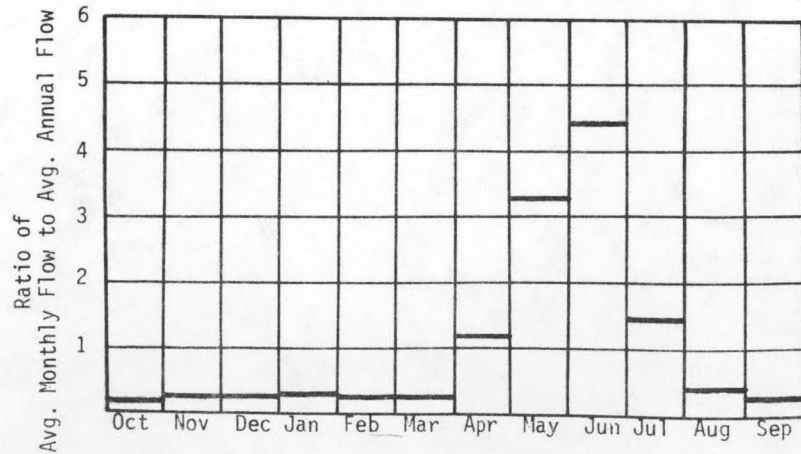
### II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

A. Upstream Elevation of Reach	4100	Ft. MSL
B. Downstream Elevation of Reach	3950	Ft. MSL
C. Total Available Head in Reach	215	Ft.
D. Average Slope in Reach	20.3	Ft./Mi.
E. Drainage Area above Reach Mouth	147	Sq.Mi.
F. Inflow Classification	Unregulated	

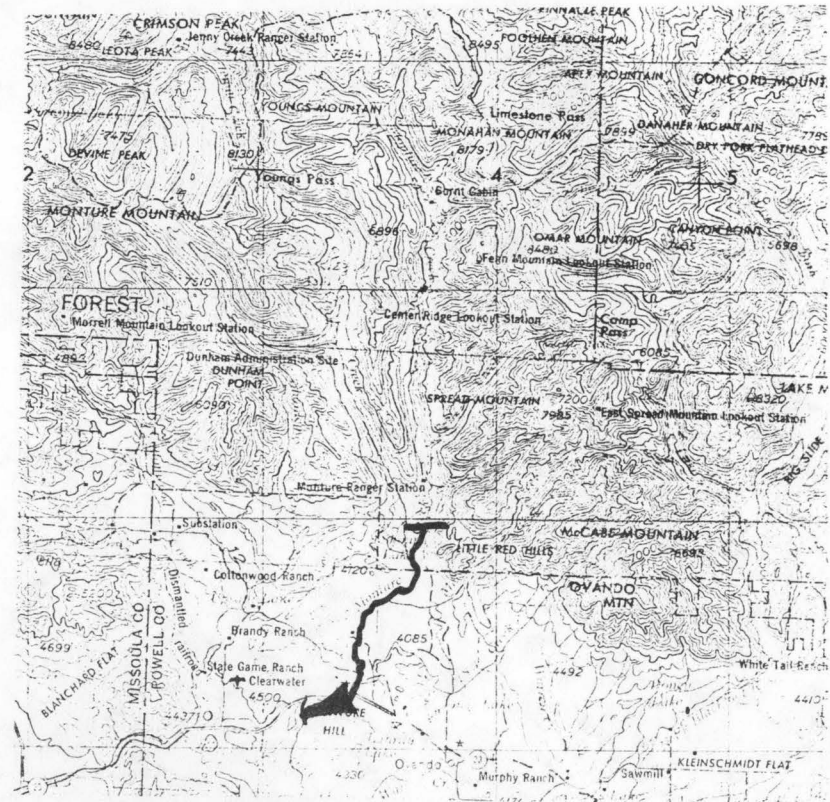
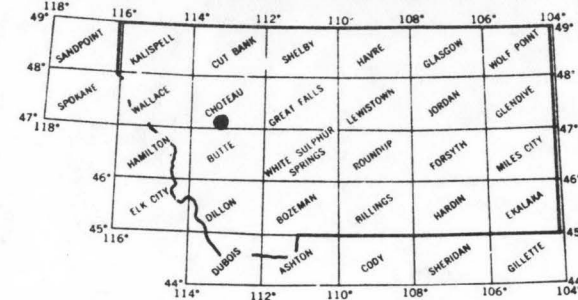
### III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	15	.27	2.39	1.00
80	18	.34	2.86	.97
50	36	.66	4.63	.80
30	73	1.32	6.71	.58
10	318	5.79	12.18	.24

### IV. TYPICAL ANNUAL HYDROGRAPH AVERAGE ANNUAL FLOW = 112 CFS



### LOCATIONS FOR USGS 1:250,000 MAP SERIES



## REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 04-500-480-350-220-R00U9

### I. LOCATION

A. State	Montana
B. County	Powell
C. Township, Range	T15N, R13W
D. Latitude, Longitude	47°01', 113°12'
E. Stream Name	Blackfoot River
F. Major Basin Name	Blackfoot
G. River Mile	37.5 to 47.2

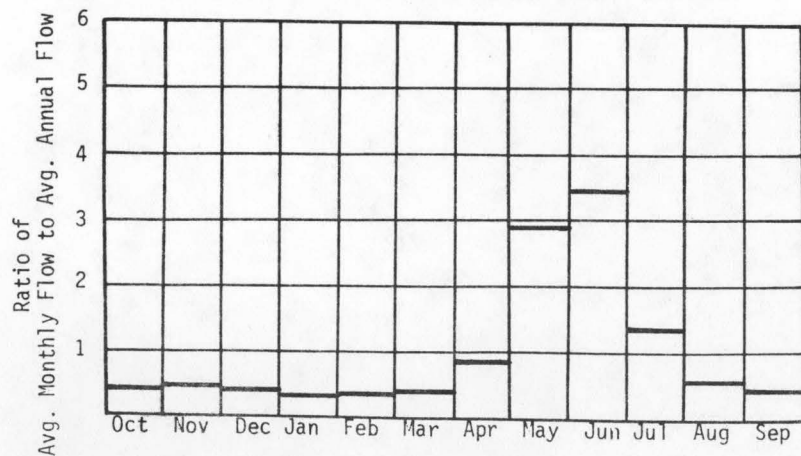
### II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

A. Upstream Elevation of Reach	4040	Ft. MSL
B. Downstream Elevation of Reach	3860	Ft. MSL
C. Total Available Head in Reach	180	Ft.
D. Average Slope in Reach	18.6	Ft./Mi.
E. Drainage Area above Reach Mouth	1532	Sq.Mi.
F. Inflow Classification	Partially Regulated	

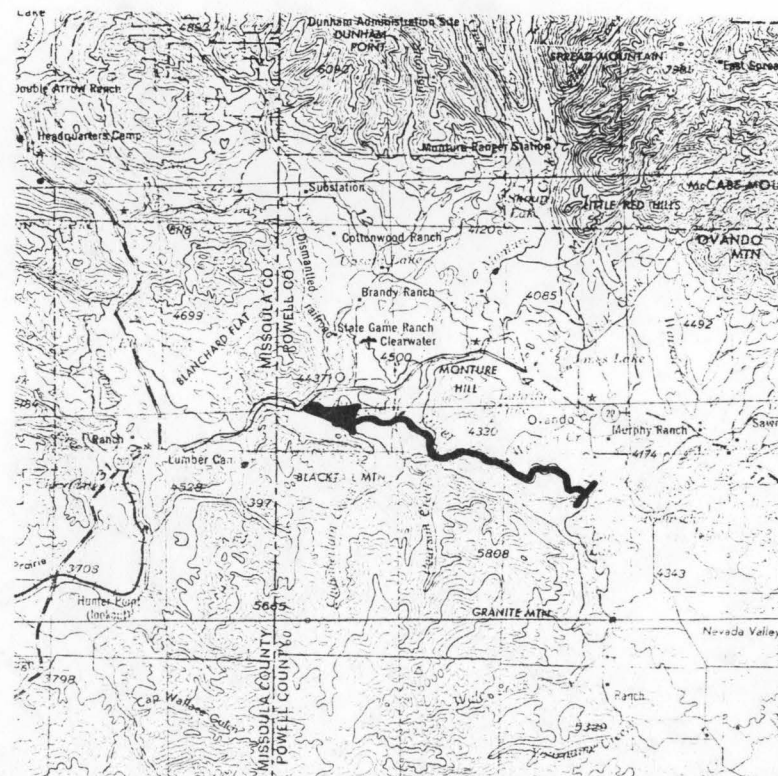
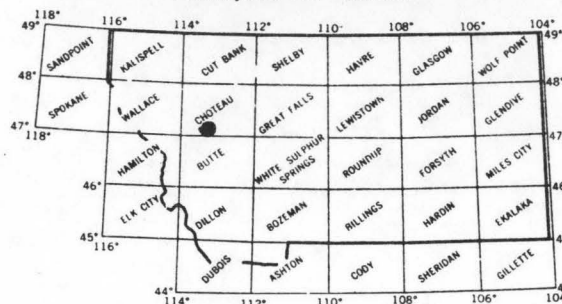
### III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	230	3.52	30.80	1.00
80	282	4.31	36.58	.97
50	388	5.92	46.67	.90
30	666	10.15	59.59	.67
10	2352	35.88	94.29	.30

### IV. TYPICAL ANNUAL HYDROGRAPH AVERAGE ANNUAL FLOW = 844 CFS



### LOCATIONS FOR USGS 1:250,000 MAP SERIES



## REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 04-500-480-350-220-R0010

### I. LOCATION

A. State	Montana
B. County	Missoula
C. Township, Range	T17N, R15W
D. Latitude, Longitude	47°13', 113°31'
E. Stream Name	Clearwater River
F. Major Basin Name	Blackfoot
G. River Mile	18.0 to 25.6

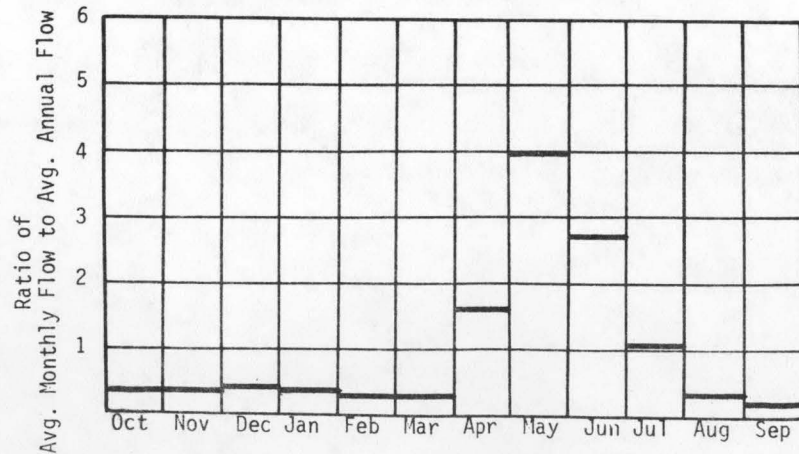
### II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

A. Upstream Elevation of Reach	4040	Ft. MSL
B. Downstream Elevation of Reach	3980	Ft. MSL
C. Total Available Head in Reach	125	Ft.
D. Average Slope in Reach	7.9	Ft./Mi.
E. Drainage Area above Reach Mouth	154	Sq. Mi.
F. Inflow Classification	Fully regulated	

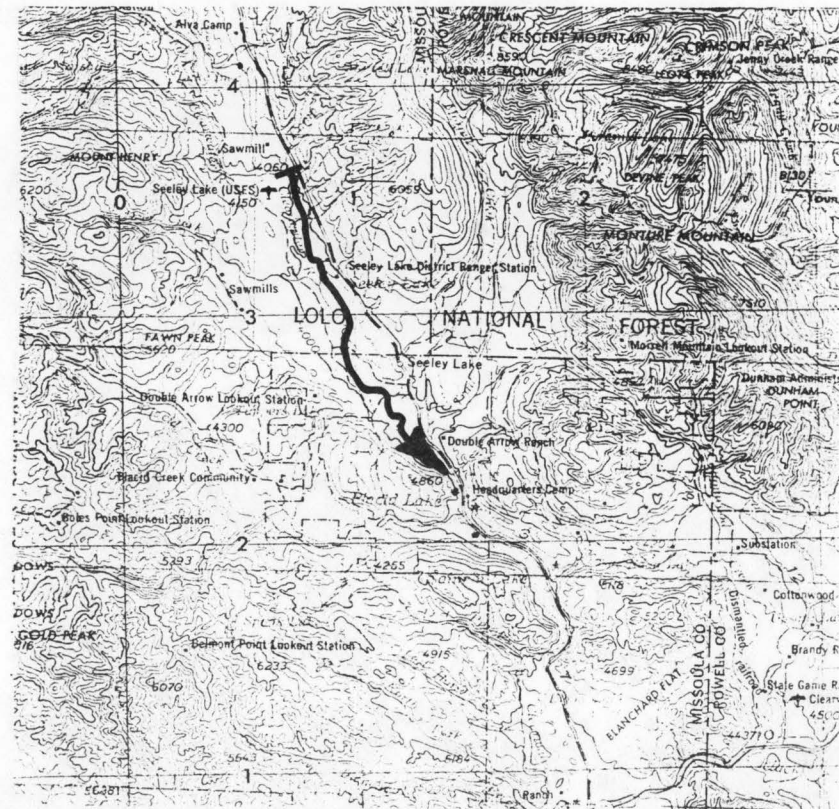
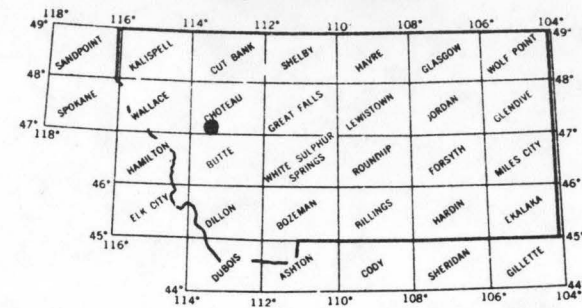
### III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	18	.19	1.70	1.00
80	23	.24	2.04	.97
50	44	.47	3.30	.80
30	89	.94	4.79	.58
10	390	4.13	8.69	.24

### IV. TYPICAL ANNUAL HYDROGRAPH AVERAGE ANNUAL FLOW = 138 CFS



### LOCATIONS FOR USGS 1:250,000 MAP SERIES



## REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 04-500-480-350-220-R0011

### I. LOCATION

A. State	Montana
B. County	Missoula
C. Township, Range	T16N, R15W
D. Latitude, Longitude	47°07', 113°26'
E. Stream Name	Clearwater River
F. Major Basin Name	Blackfoot
G. River Mile	4.5 to 18.0

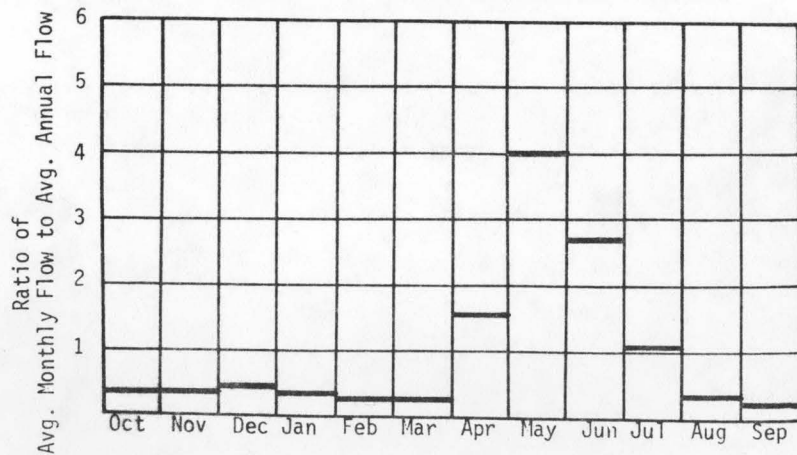
### II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

A. Upstream Elevation of Reach	3980	Ft. MSL
B. Downstream Elevation of Reach	3815	Ft. MSL
C. Total Available Head in Reach	165	Ft.
D. Average Slope in Reach	12.2	Ft./Mi.
E. Drainage Area above Reach Mouth	368	Sq.Mi.
F. Inflow Classification	Partially Regulated	

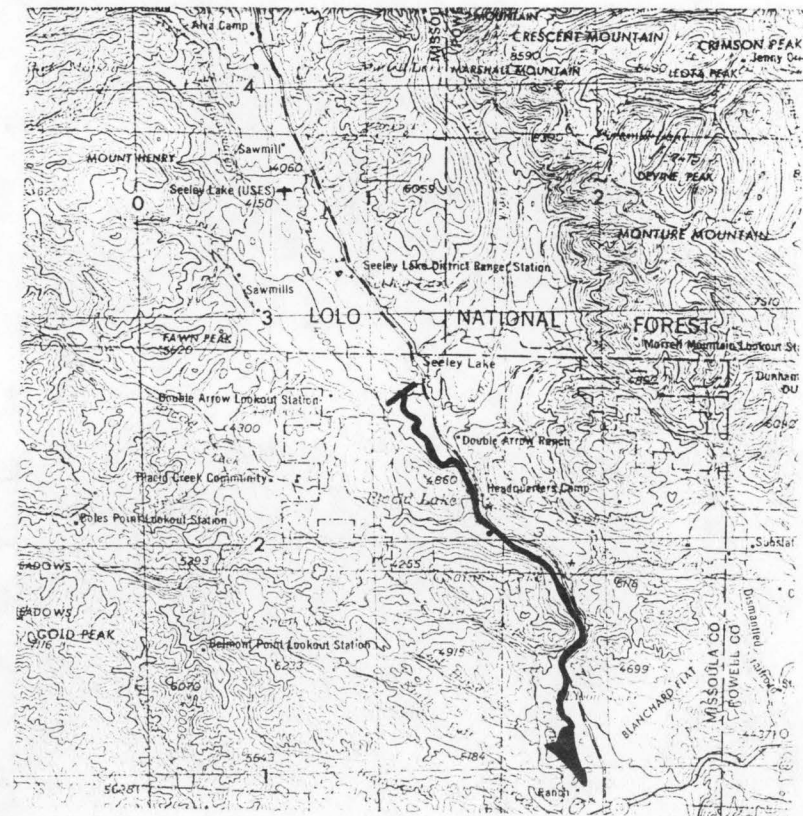
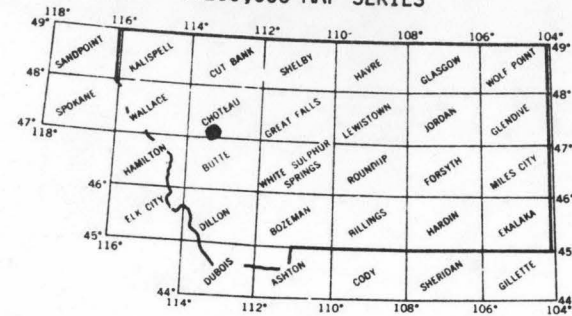
### III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	33	.46	4.02	1.00
80	40	.57	4.81	.97
50	80	1.11	7.80	.80
30	159	2.23	11.31	.58
10	698	9.76	20.52	.24

### IV. TYPICAL ANNUAL HYDROGRAPH AVERAGE ANNUAL FLOW = 248 CFS



LOCATIONS FOR USGS  
1:250,000 MAP SERIES



## REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 04-500-480-350-220-R0012

### I. LOCATION

A. State	Montana
B. County	Missoula
C. Township, Range	T14N, R14W
D. Latitude, Longitude	47°00', 113°19'
E. Stream Name	Blackfoot River
F. Major Basin Name	Blackfoot
G. River Mile	29.4 to 37.5

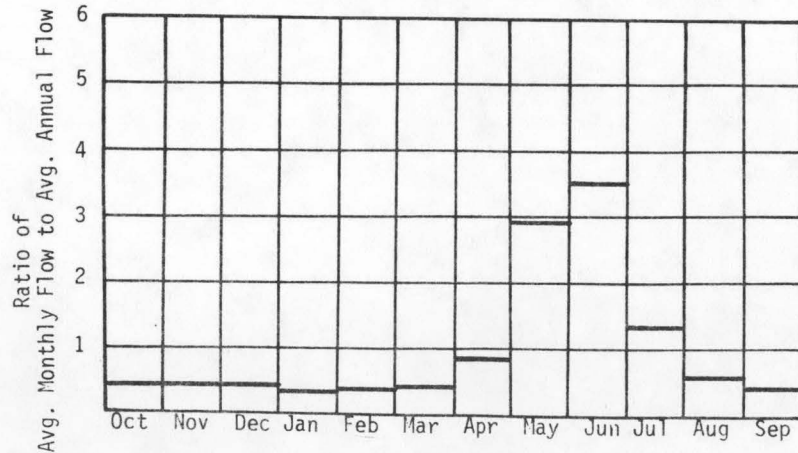
### II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

A. Upstream Elevation of Reach	3860	Ft. MSL
B. Downstream Elevation of Reach	3720	Ft. MSL
C. Total Available Head in Reach	140	Ft.
D. Average Slope in Reach	17.3	Ft./Mi.
E. Drainage Area above Reach Mouth	1966	Sq.Mi.
F. Inflow Classification	Partially Regulated	

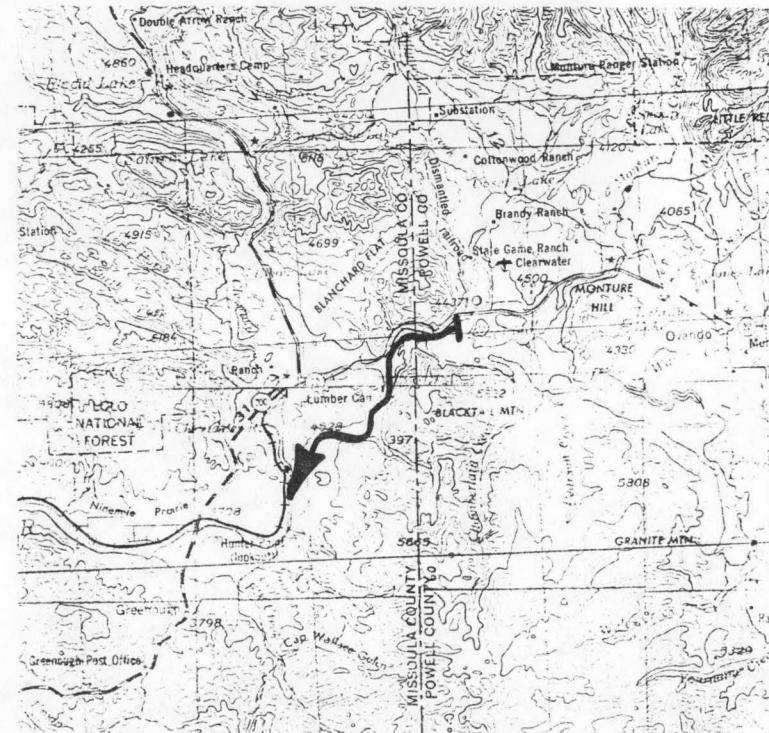
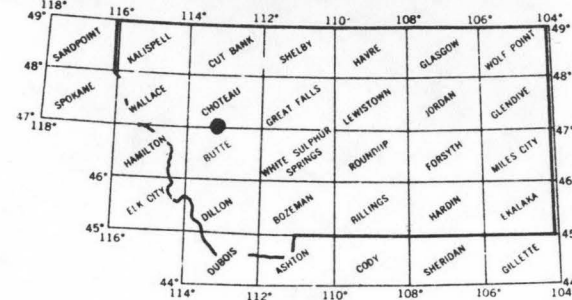
### III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	336	3.99	34.92	1.00
80	411	4.88	41.47	.97
50	566	6.71	52.91	.90
30	970	11.51	67.55	.67
10	3428	40.67	106.88	.30

### IV. TYPICAL ANNUAL HYDROGRAPH AVERAGE ANNUAL FLOW = 1232 CFS



LOCATIONS FOR USGS  
1:250,000 MAP SERIES



## REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 04-500-480-350-220-R0013

### I. LOCATION

A. State	Montana
B. County	Missoula
C. Township, Range	T14N, R14W
D. Latitude, Longitude	46°58', 113°23'
E. Stream Name	Blackfoot River
F. Major Basin Name	Blackfoot
G. River Mile	19.3 to 29.4

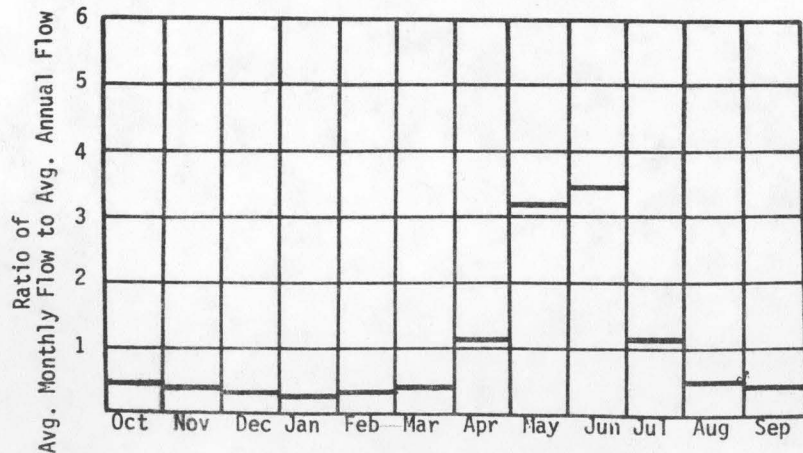
### II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

A. Upstream Elevation of Reach	3720	Ft. MSL
B. Downstream Elevation of Reach	3525	Ft. MSL
C. Total Available Head in Reach	195	Ft.
D. Average Slope in Reach	19.3	Ft./Mi.
E. Drainage Area above Reach Mouth	2072	Sq.Mi.
F. Inflow Classification	Partially Regulated	

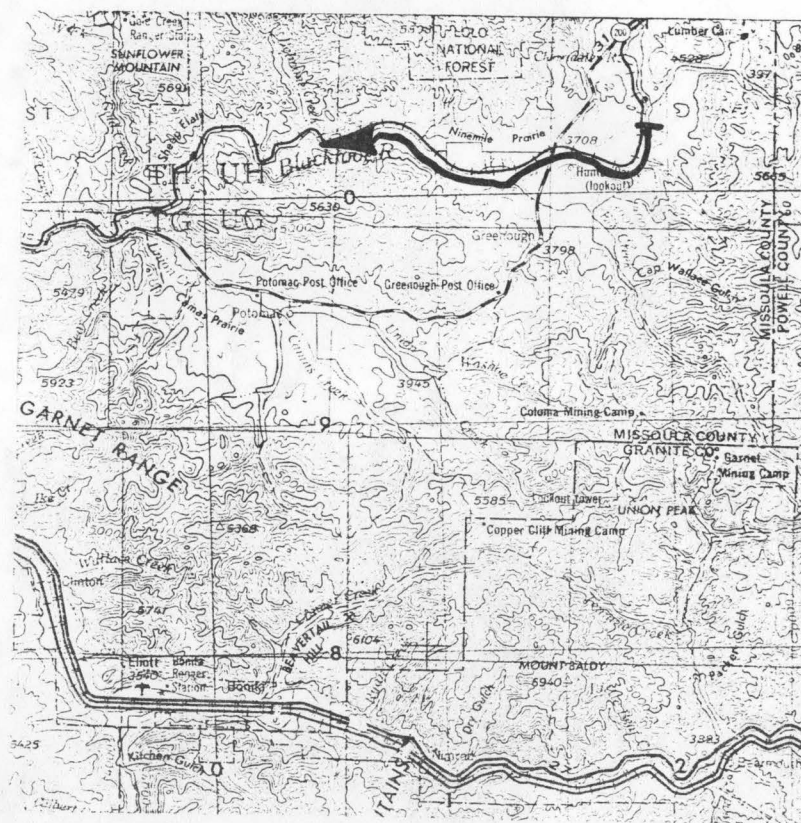
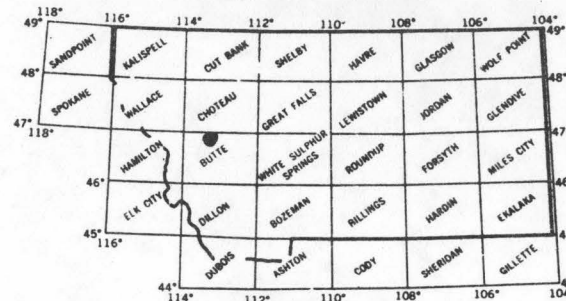
### III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	385	6.37	55.78	1.00
80	472	7.80	66.26	.97
50	649	10.72	84.53	.90
30	1113	18.39	107.93	.67
10	3932	64.98	170.76	.30

### IV. TYPICAL ANNUAL HYDROGRAPH AVERAGE ANNUAL FLOW = 1414 CFS



### LOCATIONS FOR USGS 1:250,000 MAP SERIES



## REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 04-500-480-350-220-R0014

### I. LOCATION

A. State	Montana
B. County	Missoula
C. Township, Range	T14N, R16W
D. Latitude, Longitude	46°55', 113°38'
E. Stream Name	Blackfoot River
F. Major Basin Name	Blackfoot
G. River Mile	6.3 to 19.3

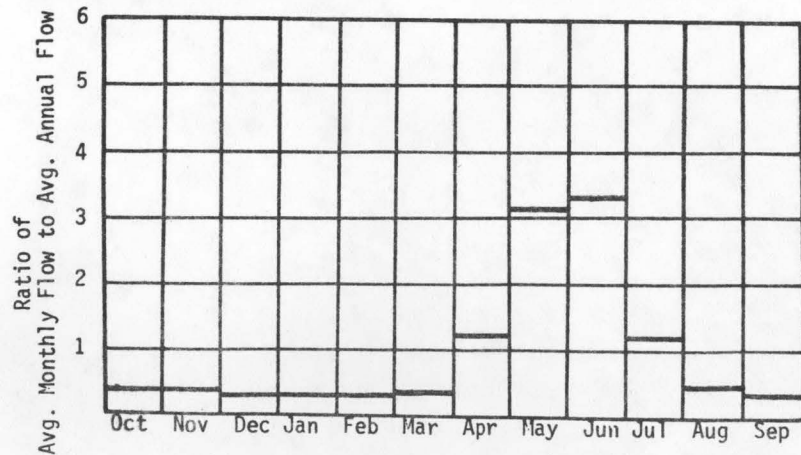
### II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

A. Upstream Elevation of Reach	3525	Ft. MSL
B. Downstream Elevation of Reach	3355	Ft. MSL
C. Total Available Head in Reach	170	Ft.
D. Average Slope in Reach	13.1	Ft./Mi.
E. Drainage Area above Reach Mouth	2325	Sq.Mi.
F. Inflow Classification	Partially Regulated	

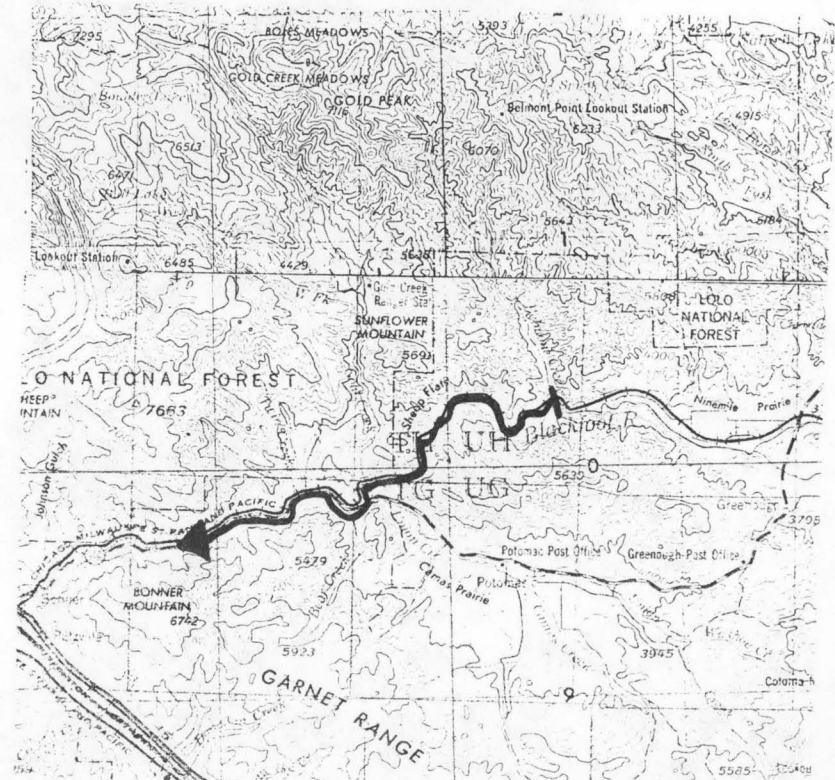
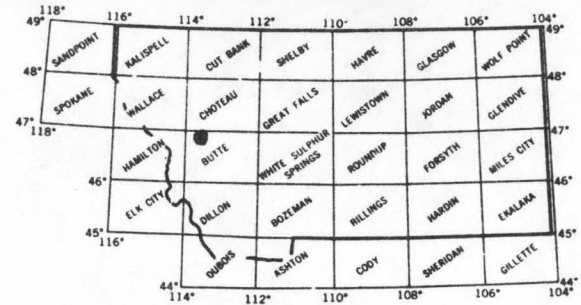
### III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	411	5.92	51.90	1.00
80	504	7.25	61.64	.97
50	692	9.97	78.64	.90
30	1187	17.11	100.41	.67
10	4196	60.45	158.86	.30

### IV. TYPICAL ANNUAL HYDROGRAPH AVERAGE ANNUAL FLOW = 1510 CFS



LOCATIONS FOR USGS  
1:250,000 MAP SERIES



## REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 04-500-480-350-260-R0001

### I. LOCATION

A. State	<u>Montana</u>
B. County	<u>Ravalli</u>
C. Township, Range	<u>T3S, R22W</u>
D. Latitude, Longitude	<u>45°36', 114°18'</u>
E. Stream Name	<u>West Fork Bitterroot River</u>
F. Major Basin Name	<u>Bitterroot</u>
G. River Mile	<u>27.3 to 28.1</u>

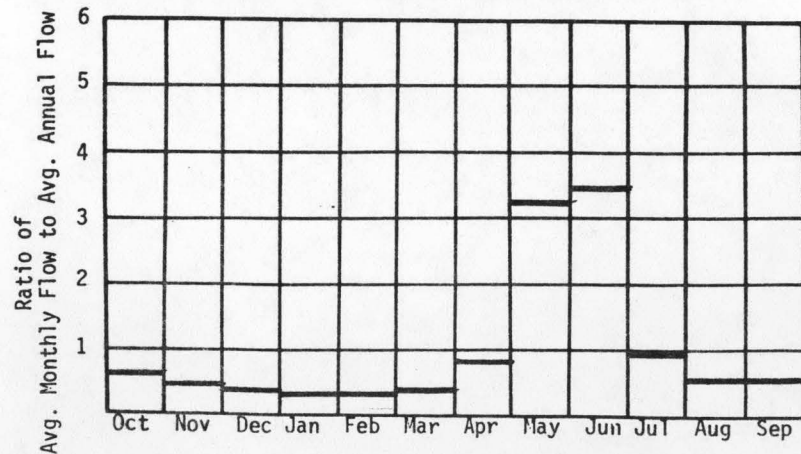
### II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

A. Upstream Elevation of Reach	<u>5040</u>	<u>Ft. MSL</u>
B. Downstream Elevation of Reach	<u>4970</u>	<u>Ft. MSL</u>
C. Total Available Head in Reach	<u>135</u>	<u>Ft.</u>
D. Average Slope in Reach	<u>87.5</u>	<u>Ft./Mi.</u>
E. Drainage Area above Reach Mouth	<u>90</u>	<u>Sq.Mi.</u>
F. Inflow Classification	<u>Unregulated</u>	

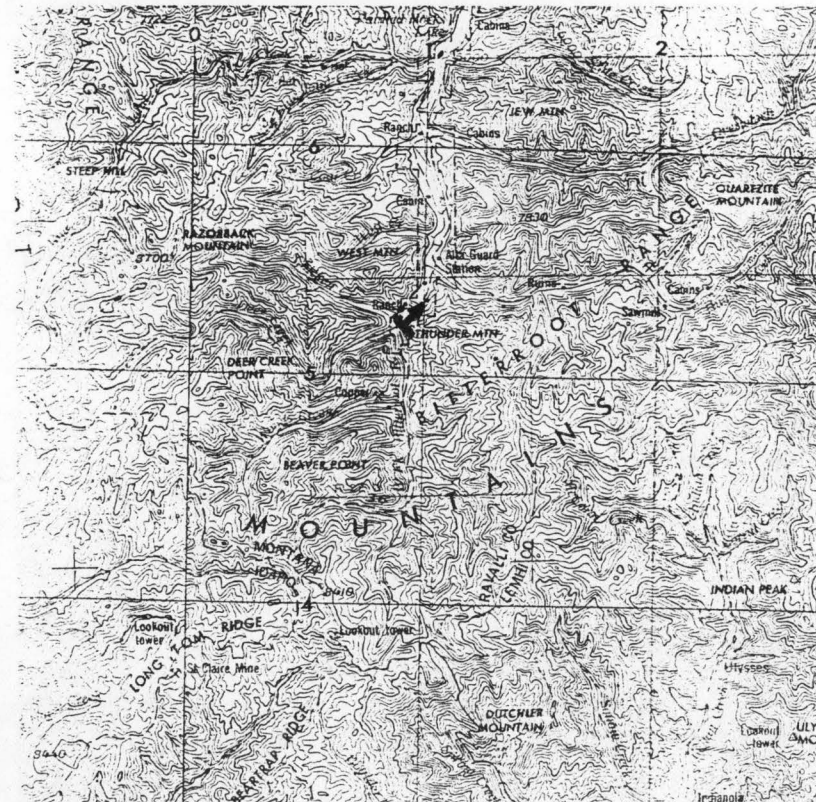
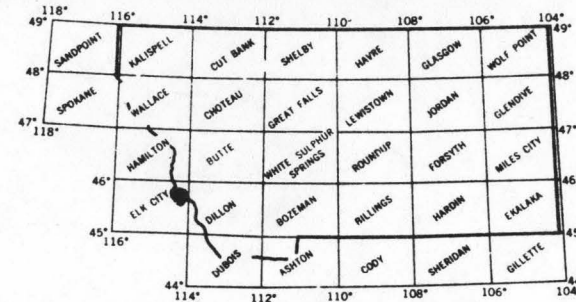
### III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	22	.25	2.22	1.00
80	26	.30	2.51	.96
50	47	.53	3.83	.82
30	81	.92	5.19	.64
10	326	3.73	8.82	.27

### IV. TYPICAL ANNUAL HYDROGRAPH AVERAGE ANNUAL FLOW = 111 CFS



### LOCATIONS FOR USGS 1:250,000 MAP SERIES





## REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 04-500-480-350-260-R0002

### I. LOCATION

A. State	<u>Montana</u>
B. County	<u>Ravalli</u>
C. Township, Range	<u>T2S, R22W</u>
D. Latitude, Longitude	<u>45°38', 114°17'</u>
E. Stream Name	<u>West Fork Bitterroot River</u>
F. Major Basin Name	<u>Bitterroot</u>
G. River Mile	<u>21.9 to 27.3</u>

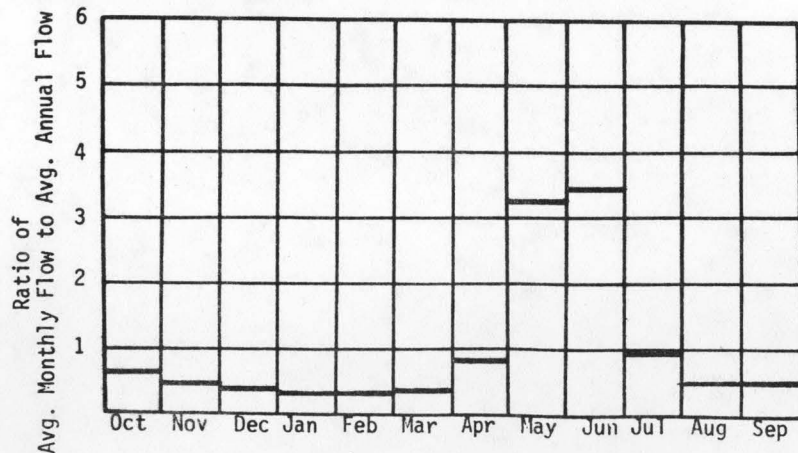
### II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

A. Upstream Elevation of Reach	<u>4970</u>	<u>Ft. MSL</u>
B. Downstream Elevation of Reach	<u>4770</u>	<u>Ft. MSL</u>
C. Total Available Head in Reach	<u>200</u>	<u>Ft.</u>
D. Average Slope in Reach	<u>37.0</u>	<u>Ft./Mi.</u>
E. Drainage Area above Reach Mouth	<u>224</u>	<u>Sq.Mi.</u>
F. Inflow Classification	<u>Unregulated</u>	

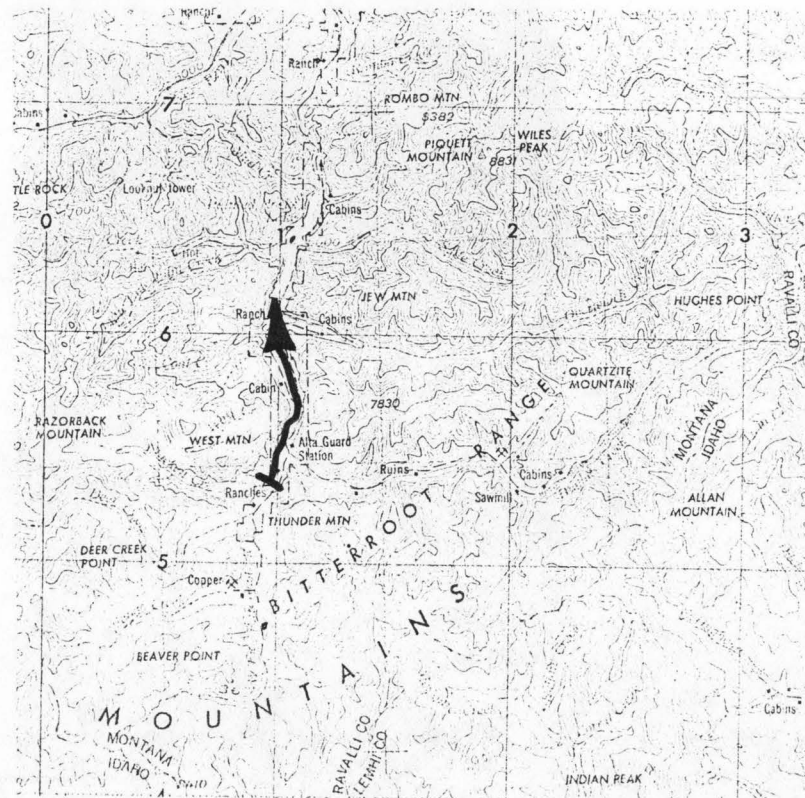
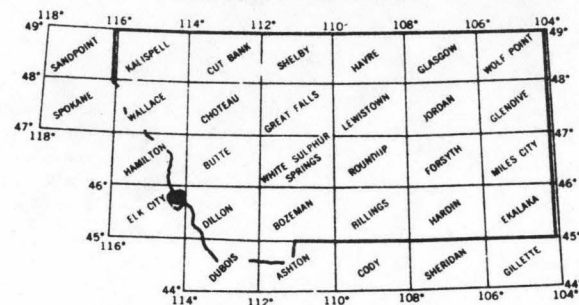
### III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	36	.61	5.30	1.00
80	42	.71	5.99	.96
50	75	1.27	9.14	.82
30	130	2.21	12.37	.64
10	525	8.90	21.05	.27

### IV. TYPICAL ANNUAL HYDROGRAPH AVERAGE ANNUAL FLOW = 178 CFS



LOCATIONS FOR USGS  
1:250,000 MAP SERIES



## REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 04-500-480-350-260-R0003

### I. LOCATION

A. State	<u>Montana</u>
B. County	<u>Ravalli</u>
C. Township, Range	<u>T1S, R22W</u>
D. Latitude, Longitude	<u>45°42', 114°17'</u>
E. Stream Name	<u>West Fork Bitterroot River</u>
F. Major Basin Name	<u>Bitterroot</u>
G. River Mile	<u>18.3 to 21.9</u>

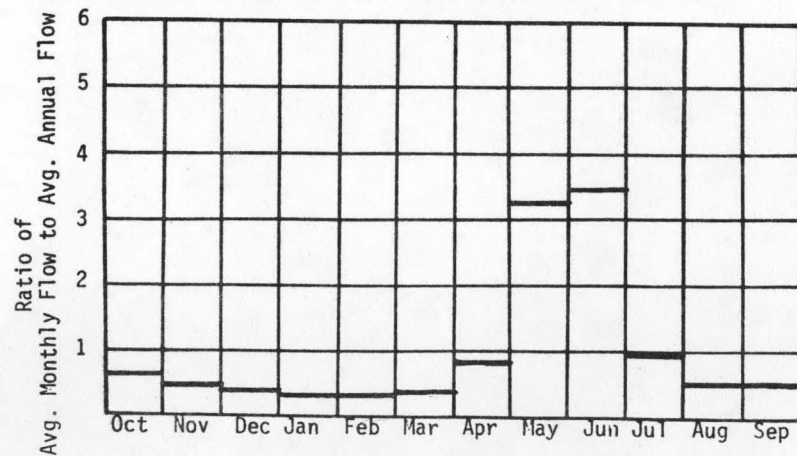
### II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

A. Upstream Elevation of Reach	<u>4770</u>	Ft. MSL
B. Downstream Elevation of Reach	<u>4595</u>	Ft. MSL
C. Total Available Head in Reach	<u>175</u>	Ft.
D. Average Slope in Reach	<u>48.6</u>	Ft./Mi.
E. Drainage Area above Reach Mouth	<u>319</u>	Sq. Mi.
F. Inflow Classification	<u>Fully Regulated</u>	

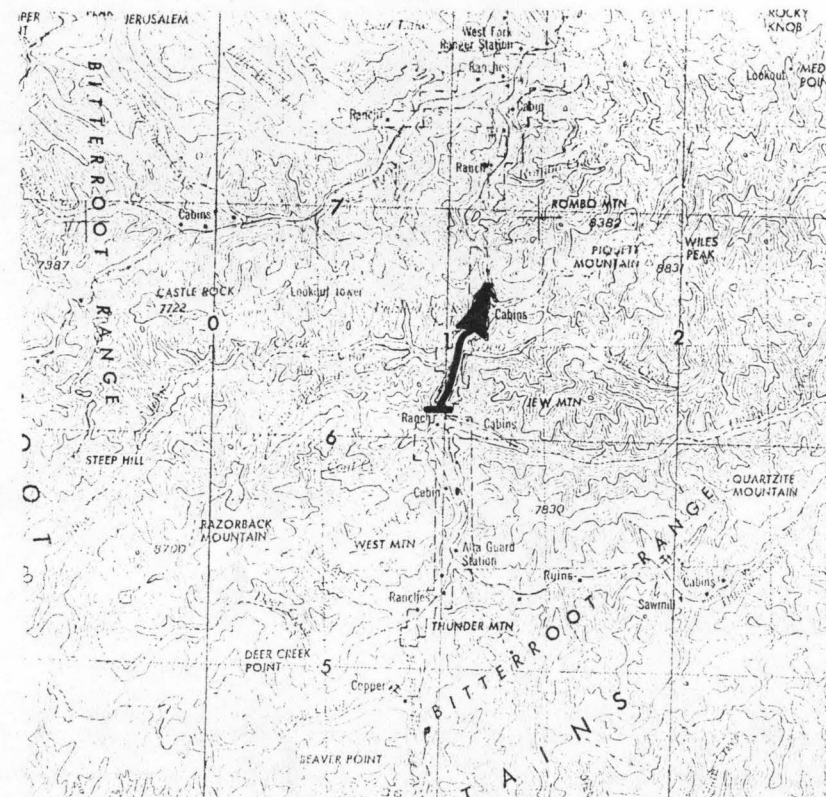
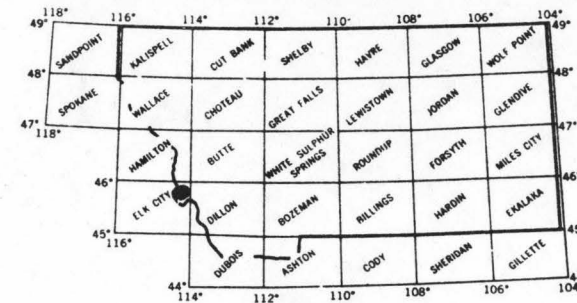
### III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	56	.83	7.26	1.00
80	66	.98	8.20	.96
50	118	1.74	12.52	.82
30	204	3.02	16.95	.64
10	822	12.19	28.83	.27

### IV. TYPICAL ANNUAL HYDROGRAPH AVERAGE ANNUAL FLOW = 280 CFS



### LOCATIONS FOR USGS 1:250,000 MAP SERIES



## REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 04-500-480-350-260-R0004

### I. LOCATION

A. State	Montana
B. County	Ravalli
C. Township, Range	T1S, R22W
D. Latitude, Longitude	45°46', 114°17'
E. Stream Name	West Fork Bitterroot River
F. Major Basin Name	Bitterroot
G. River Mile	11.9 to 18.3

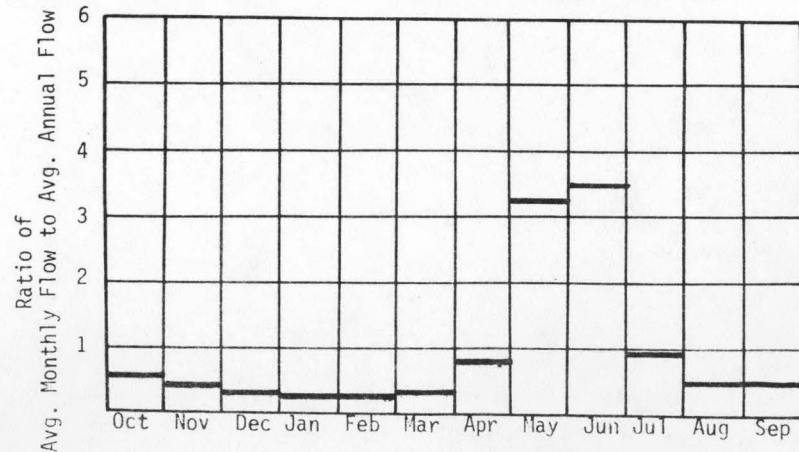
### II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

A. Upstream Elevation of Reach	4595	Ft. MSL
B. Downstream Elevation of Reach	4360	Ft. MSL
C. Total Available Head in Reach	235	Ft.
D. Average Slope in Reach	36.7	Ft./Mi.
E. Drainage Area above Reach Mouth	445	Sq.Mi.
F. Inflow Classification	Partially Regulated	

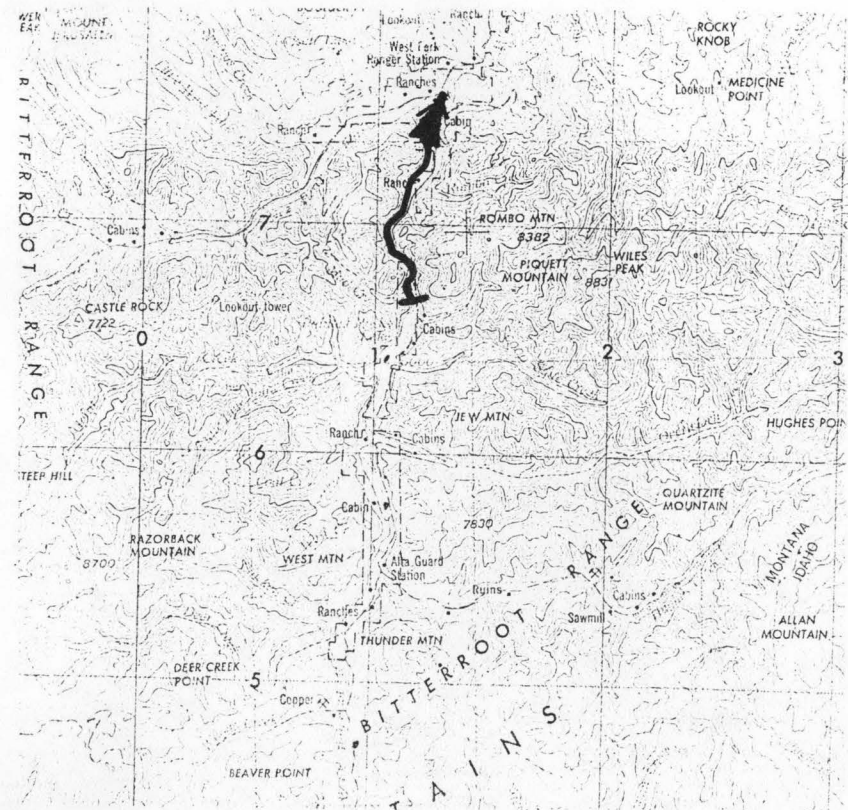
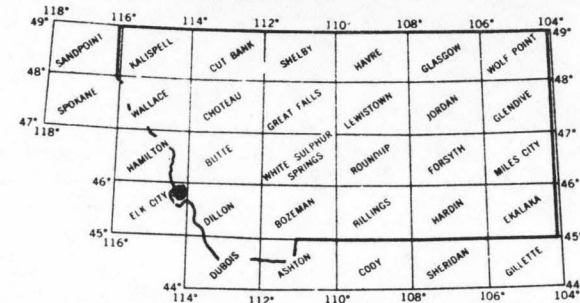
### III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	73	1.46	12.81	1.00
80	86	1.72	14.47	.96
50	154	3.08	22.09	.82
30	268	5.33	29.91	.64
10	1080	21.51	50.87	.27

### IV. TYPICAL ANNUAL HYDROGRAPH AVERAGE ANNUAL FLOW = 367 CFS



LOCATIONS FOR USGS  
1:250,000 MAP SERIES



## REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 04-500-480-350-260-R0005

### I. LOCATION

A. State	Montana
B. County	Ravalli
C. Township, Range	T1N, R21W
D. Latitude, Longitude	45°53', 114°13'
E. Stream Name	West Fork Bitterroot River
F. Major Basin Name	Bitterroot
G. River Mile	5.6 to 11.9

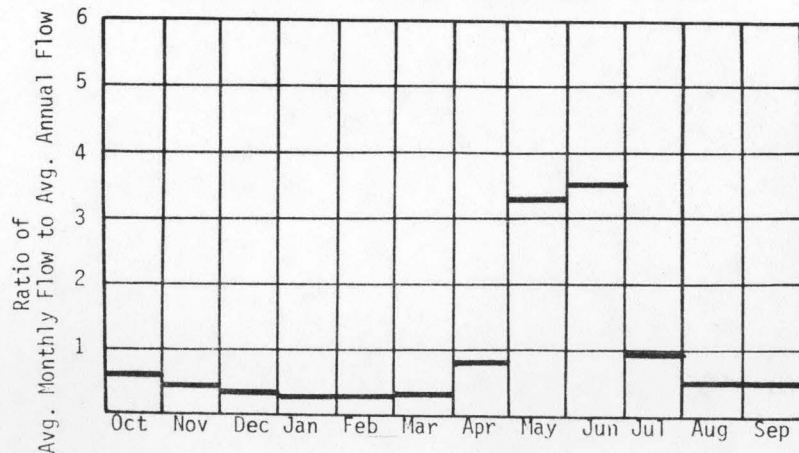
### II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

A. Upstream Elevation of Reach	4360	Ft. MSL
B. Downstream Elevation of Reach	4190	Ft. MSL
C. Total Available Head in Reach	170	Ft.
D. Average Slope in Reach	27.0	Ft./Mi.
E. Drainage Area above Reach Mouth	515	Sq.Mi.
F. Inflow Classification	Partially Regulated	

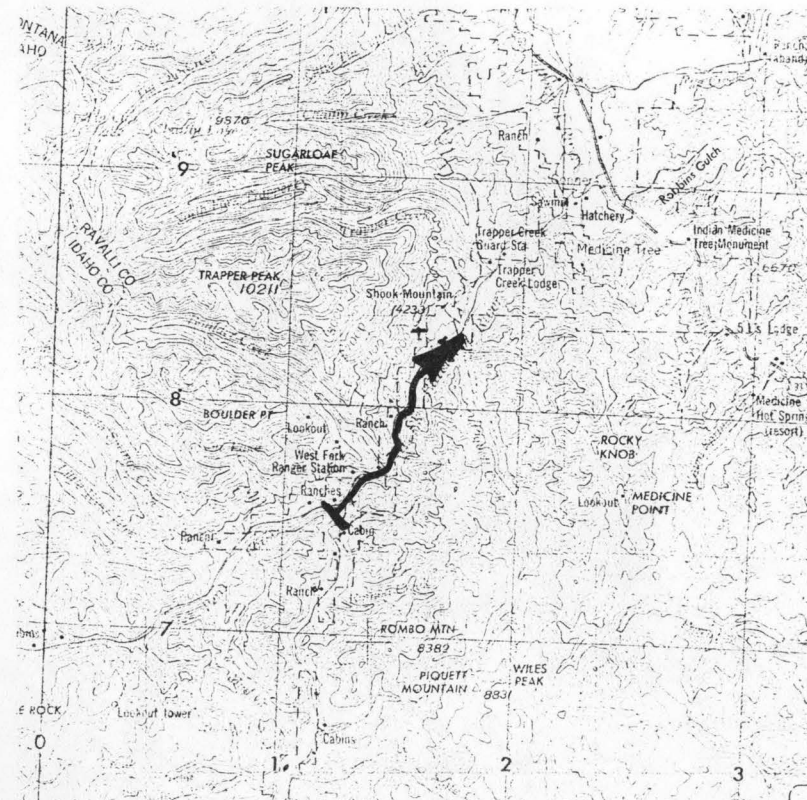
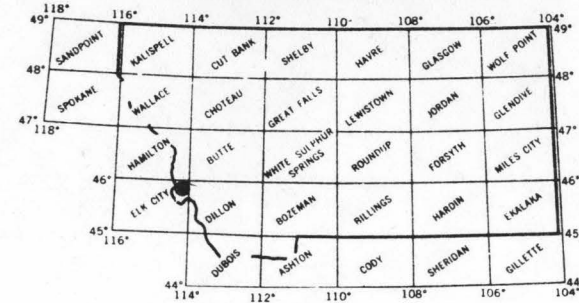
### III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	89	1.29	11.28	1.00
80	105	1.51	12.74	.96
50	188	2.71	19.45	.82
30	326	4.69	26.32	.64
10	1314	18.93	44.77	.27

### IV. TYPICAL ANNUAL HYDROGRAPH AVERAGE ANNUAL FLOW = 446 CFS



### LOCATIONS FOR USGS 1:250,000 MAP SERIES



## REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 04-500-480-350-260-R0006

### I. LOCATION

A. State	Montana
B. County	Ravalli
C. Township, Range	T2N, R20W
D. Latitude, Longitude	45°56', 114°07'
E. Stream Name	West Fork Bitterroot River
F. Major Basin Name	Bitterroot
G. River Mile	0.3 to 5.6

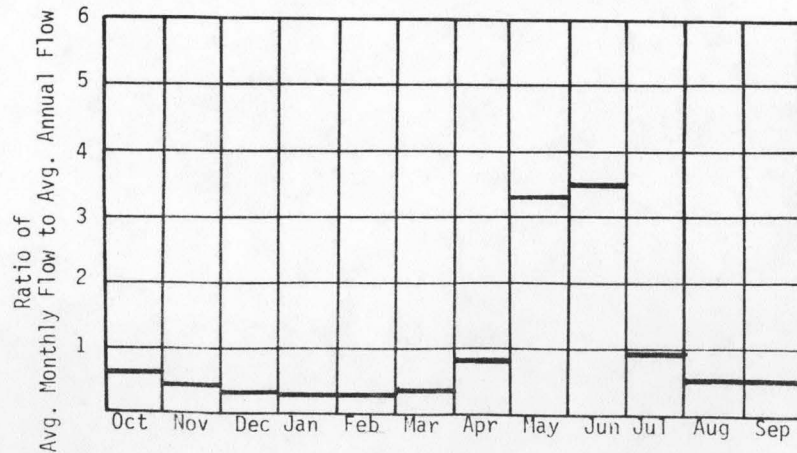
### II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

A. Upstream Elevation of Reach	4190	Ft. MSL
B. Downstream Elevation of Reach	4020	Ft. MSL
C. Total Available Head in Reach	170	Ft.
D. Average Slope in Reach	32.1	Ft./Mi.
E. Drainage Area above Reach Mouth	560	Sq.Mi.
F. Inflow Classification	Partially Regulated	

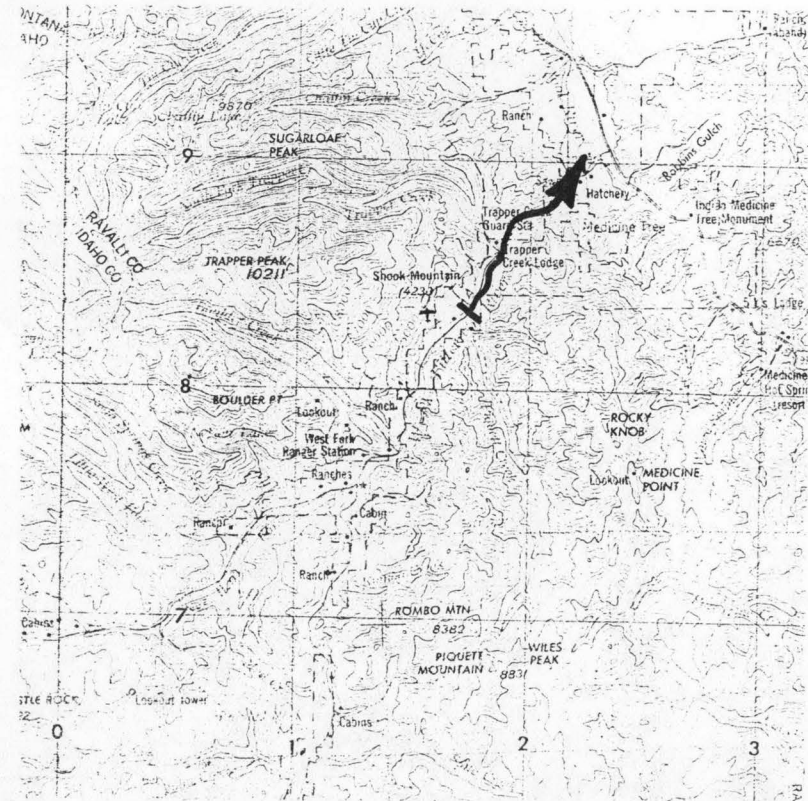
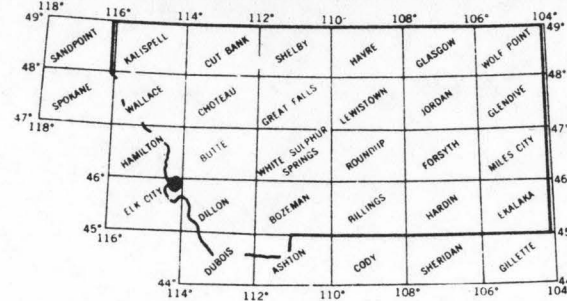
### III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	100	1.44	12.62	1.00
80	118	1.70	14.26	.96
50	210	3.03	21.77	.82
30	365	5.26	29.47	.64
10	1471	21.19	50.12	.27

### IV. TYPICAL ANNUAL HYDROGRAPH AVERAGE ANNUAL FLOW = 500 CFS



### LOCATIONS FOR USGS 1:250,000 MAP SERIES



## REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 04-500-480-350-260-R0007

### I. LOCATION

A. State	<u>Montana</u>
B. County	<u>Ravalli</u>
C. Township, Range	<u>T2N, R17W</u>
D. Latitude, Longitude	<u>45°55', 113°44'</u>
E. Stream Name	<u>East Fork Bitterroot River</u>
F. Major Basin Name	<u>Bitterroot</u>
G. River Mile	<u>25.1 to 25.5</u>

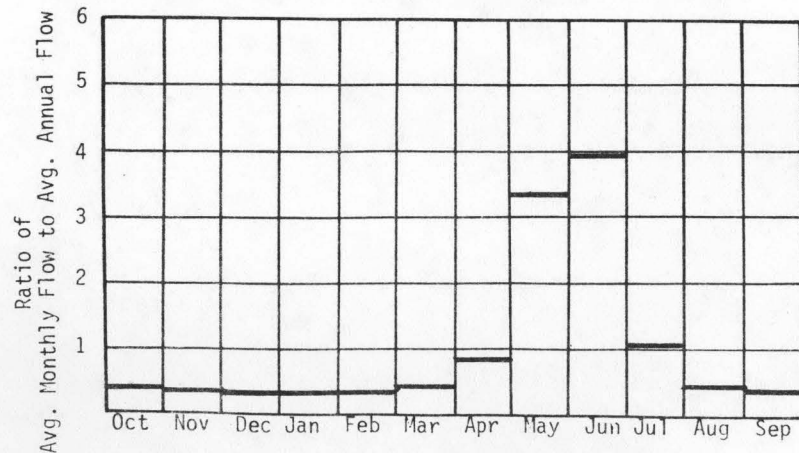
### II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

A. Upstream Elevation of Reach	<u>5360</u>	Ft. MSL
B. Downstream Elevation of Reach	<u>5150</u>	Ft. MSL
C. Total Available Head in Reach	<u>275</u>	Ft.
D. Average Slope in Reach	<u>525</u>	Ft./Mi.
E. Drainage Area above Reach Mouth	<u>120</u>	Sq.Mi.
F. Inflow Classification	<u>Unregulated</u>	

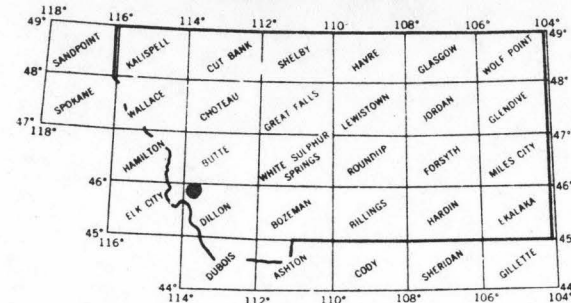
### III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	23	.54	4.69	1.00
80	27	.63	5.30	.96
50	48	1.13	8.09	.82
30	84	1.95	10.95	.64
10	338	7.88	18.63	.27

### IV. TYPICAL ANNUAL HYDROGRAPH AVERAGE ANNUAL FLOW = 115 CFS



LOCATIONS FOR USGS  
1:250,000 MAP SERIES



## REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 04-500-480-350-260-R0008

### I. LOCATION

A. State	Montana
B. County	Ravalli
C. Township, Range	T1N, R19W
D. Latitude, Longitude	45°51', 113°58'
E. Stream Name	East Fork Bitterroot River
F. Major Basin Name	Bitterroot
G. River Mile	11.5 to 25.1

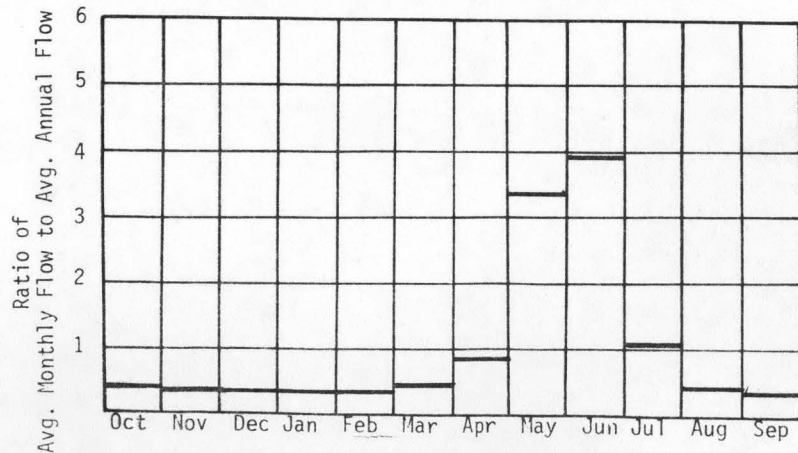
### II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

A. Upstream Elevation of Reach	5150	Ft. MSL
B. Downstream Elevation of Reach	4440	Ft. MSL
C. Total Available Head in Reach	710	Ft.
D. Average Slope in Reach	52.2	Ft./Mi.
E. Drainage Area above Reach Mouth	270	Sq.Mi.
F. Inflow Classification	Unregulated	

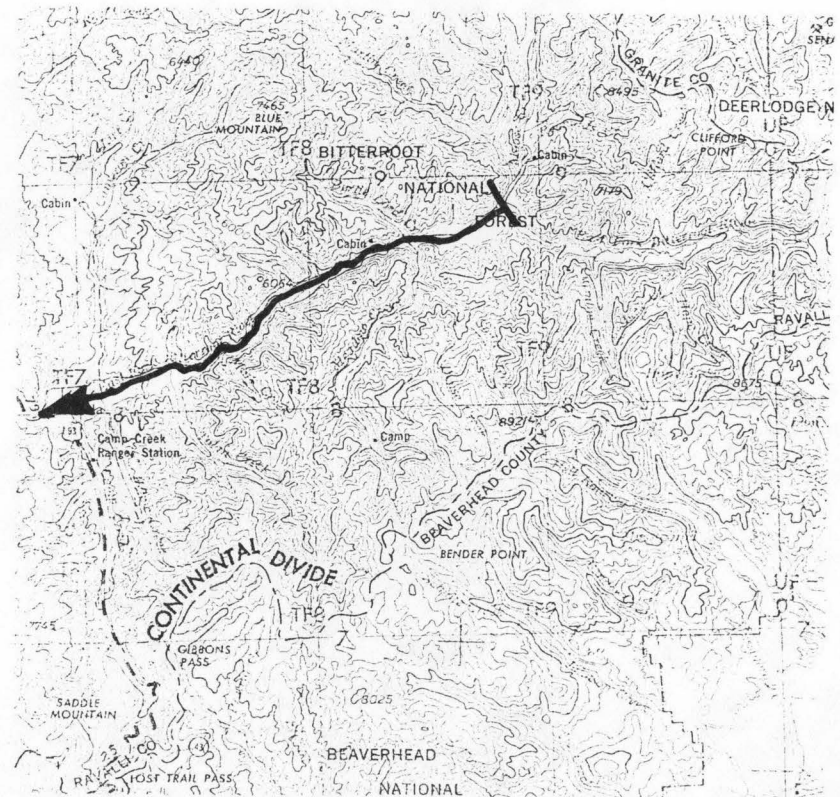
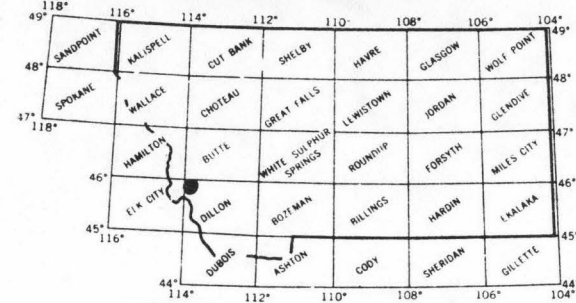
### III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	40	2.41	21.15	1.00
80	47	2.84	23.88	.96
50	84	5.08	36.47	.82
30	146	8.80	49.36	.64
10	590	35.50	83.96	.27

### IV. TYPICAL ANNUAL HYDROGRAPH AVERAGE ANNUAL FLOW = 200 CFS



LOCATIONS FOR USGS  
1:250,000 MAP SERIES



## REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 04-500-480-350-260-R0009

### I. LOCATION

A. State	<u>Montana</u>	
B. County	<u>Ravalli</u>	
C. Township, Range	<u>T2N, R20W</u>	
D. Latitude, Longitude	<u>45°56', 114°07'</u>	
E. Stream Name	<u>East Fork Bitterroot River</u>	
F. Major Basin Name	<u>Bitterroot</u>	
G. River Mile	<u>0.4 to 11.5</u>	

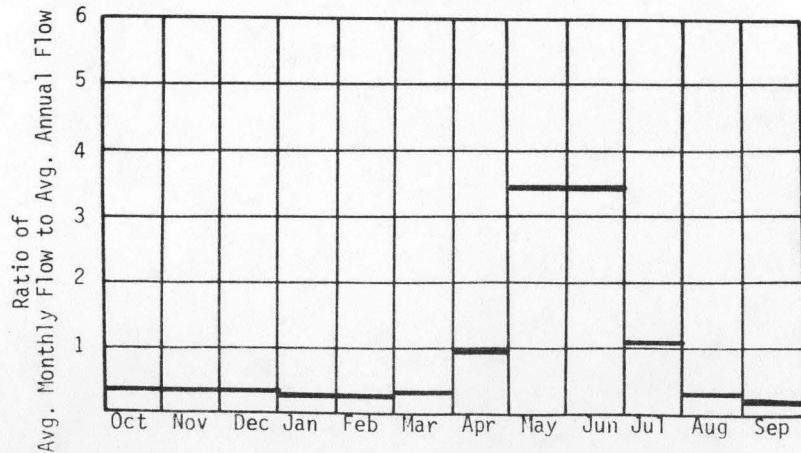
### II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

A. Upstream Elevation of Reach	<u>4440</u>	Ft. MSL
B. Downstream Elevation of Reach	<u>4030</u>	Ft. MSL
C. Total Available Head in Reach	<u>410</u>	Ft.
D. Average Slope in Reach	<u>36.9</u>	Ft./Mi.
E. Drainage Area above Reach Mouth	<u>412</u>	Sq.Mi.
F. Inflow Classification	<u>Unregulated</u>	

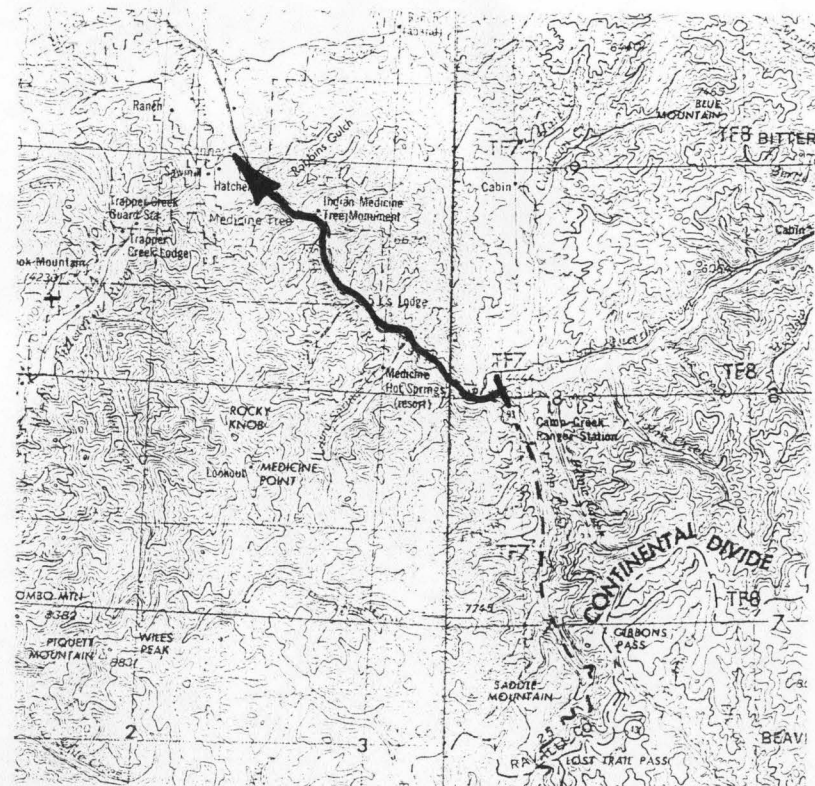
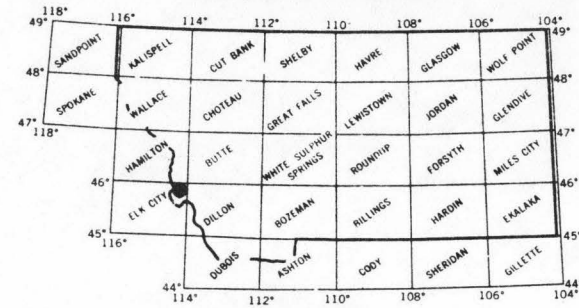
### III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	59	2.07	18.09	1.00
80	70	2.43	20.43	.96
50	125	4.34	31.19	.82
30	217	7.53	42.22	.64
10	874	30.37	71.83	.27

### IV. TYPICAL ANNUAL HYDROGRAPH AVERAGE ANNUAL FLOW = 297 CFS



LOCATIONS FOR USGS  
1:250,000 MAP SERIES





## REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 04-500-480-350-260-RU010

### I. LOCATION

A. State	Montana
B. County	Ravalli
C. Township, Range	T3N, R21W
D. Latitude, Longitude	45°59', 114°08'
E. Stream Name	Bitterroot River
F. Major Basin Name	Bitterroot
G. River Mile	72.9 to 76.0

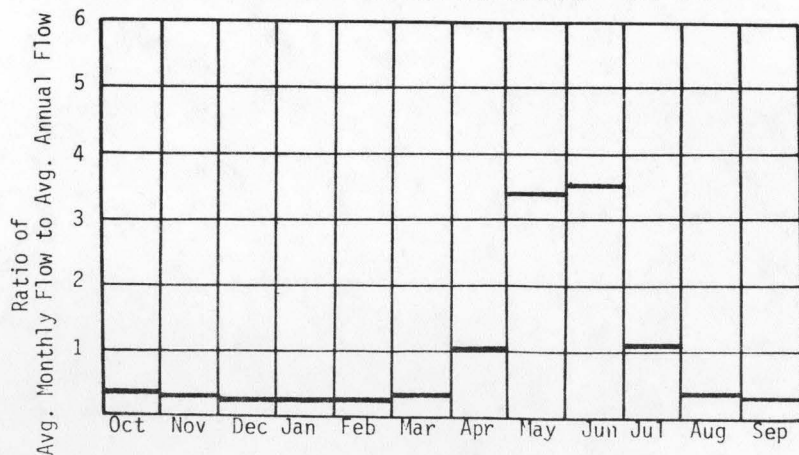
### II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

A. Upstream Elevation of Reach	4030	Ft. MSL
B. Downstream Elevation of Reach	3950	Ft. MSL
C. Total Available Head in Reach	80	Ft.
D. Average Slope in Reach	25.8	Ft./Mi.
E. Drainage Area above Reach Mouth	1054	Sq.Mi.
F. Inflow Classification	Partially Regulated	

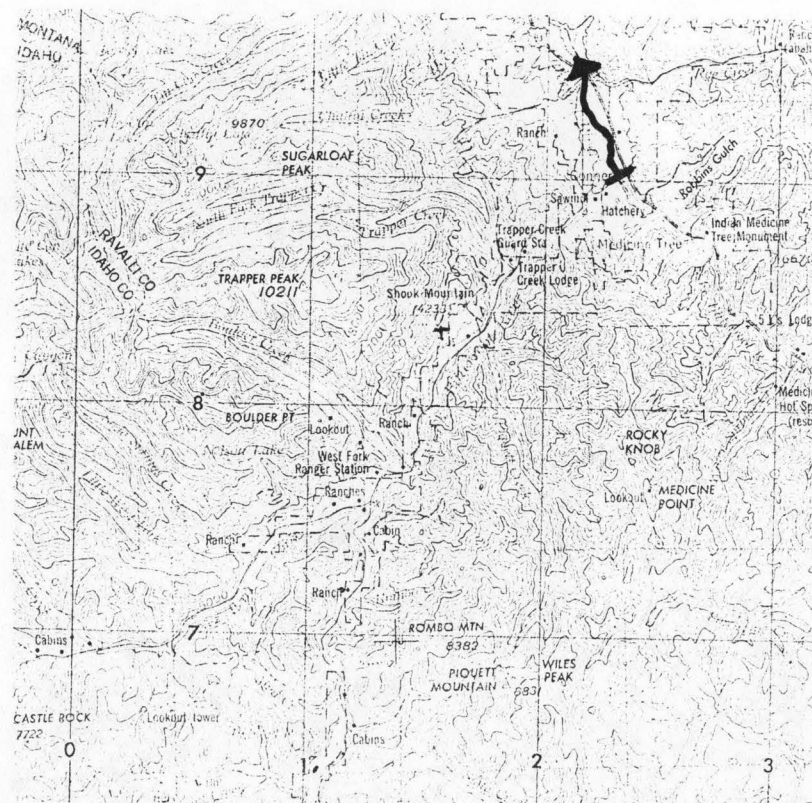
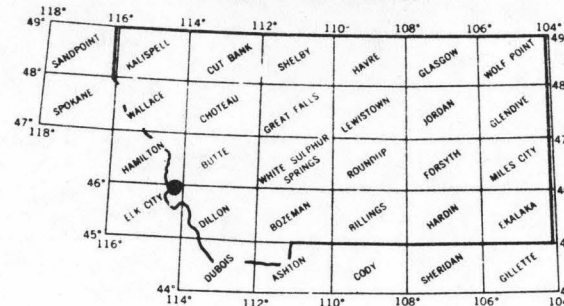
### III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	136	.92	8.10	1.00
80	160	1.08	9.30	.98
50	279	1.89	13.74	.83
30	542	3.67	19.63	.61
10	1949	13.21	32.41	.28

### IV. TYPICAL ANNUAL HYDROGRAPH AVERAGE ANNUAL FLOW = 662 CFS



LOCATIONS FOR USGS  
1:250,000 MAP SERIES



## REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 04-500-480-350-260-R0011

### I. LOCATION

A. State	Montana
B. County	Ravalli
C. Township, Range	T4N, R21W
D. Latitude, Longitude	46°03', 114°16'
E. Stream Name	Rock Creek
F. Major Basin Name	Bitterroot
G. River Mile	3.5 to 7.4

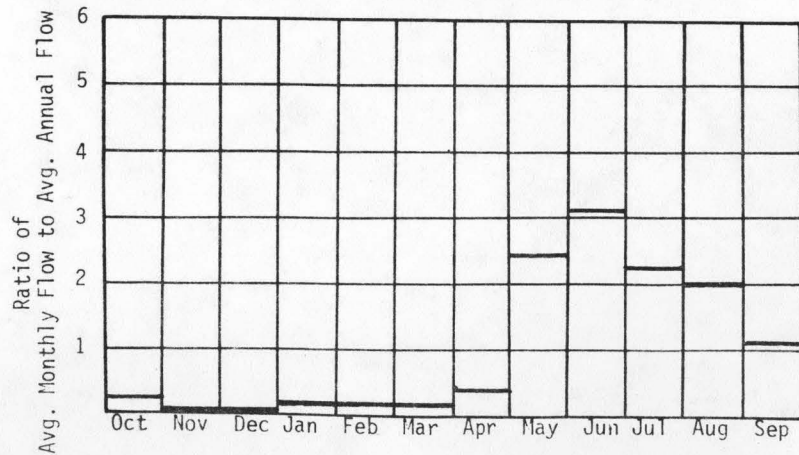
### II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

A. Upstream Elevation of Reach	4400	Ft. MSL
B. Downstream Elevation of Reach	4180	Ft. MSL
C. Total Available Head in Reach	285	Ft.
D. Average Slope in Reach	56.4	Ft./Mi.
E. Drainage Area above Reach Mouth	55	Sq.Mi.
F. Inflow Classification	Fully Regulated	

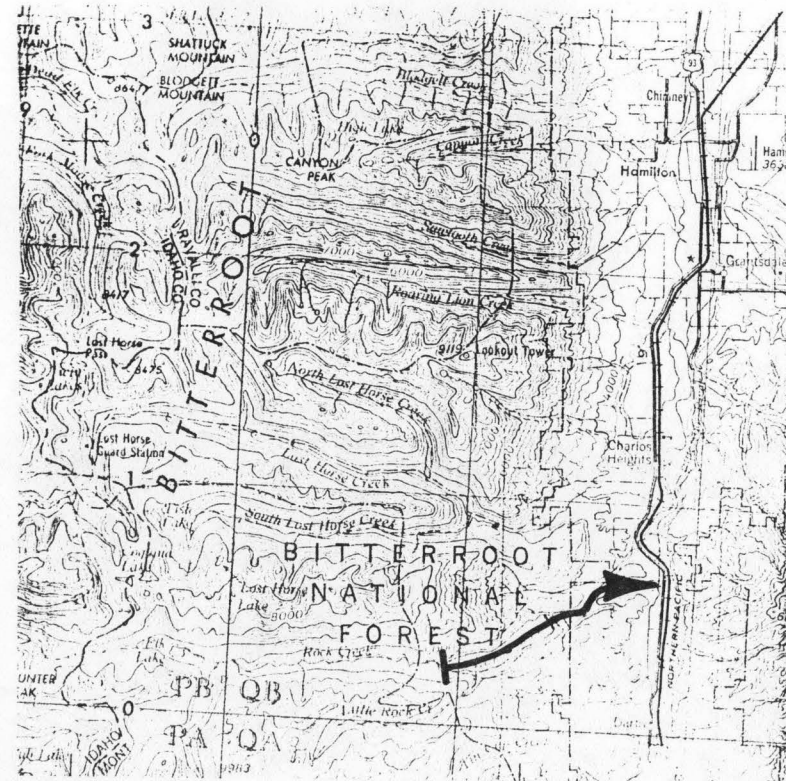
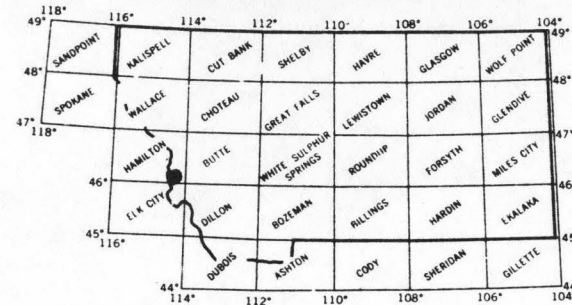
### III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	11	.28	2.41	1.00
80	18	.43	3.54	.95
50	44	1.06	7.02	.76
30	96	2.32	10.99	.54
10	326	7.87	19.31	.28

### IV. TYPICAL ANNUAL HYDROGRAPH AVERAGE ANNUAL FLOW = 111 CFS



### LOCATIONS FOR USGS 1:250,000 MAP SERIES



## REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 04-500-480-350-260-R0012

### I. LOCATION

A. State	<u>Montana</u>
B. County	<u>Ravalli</u>
C. Township, Range	<u>T3N, R21W</u>
D. Latitude, Longitude	<u>46°02', 114°10'</u>
E. Stream Name	<u>Bitterroot River</u>
F. Major Basin Name	<u>Bitterroot</u>
G. River Mile	<u>65.3 to 72.9</u>

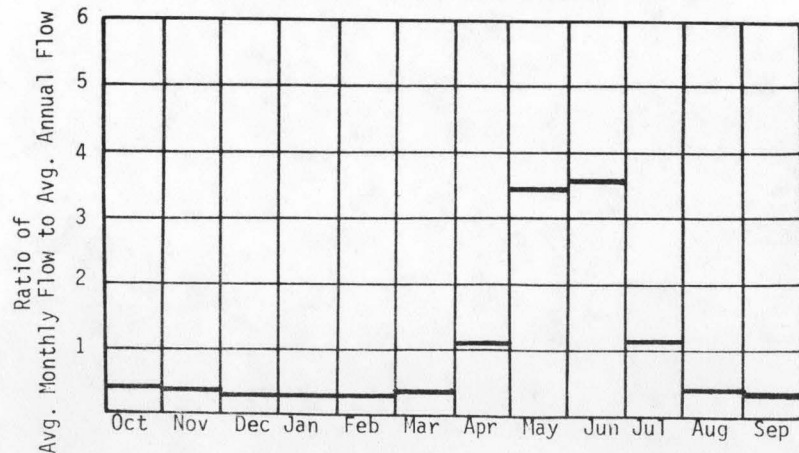
### II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

A. Upstream Elevation of Reach	<u>3950</u>	Ft. MSL
B. Downstream Elevation of Reach	<u>3780</u>	Ft. MSL
C. Total Available Head in Reach	<u>170</u>	Ft.
D. Average Slope in Reach	<u>22.4</u>	Ft./Mi.
E. Drainage Area above Reach Mouth	<u>1200</u>	Sq.Mi.
F. Inflow Classification	<u>Partially Regulated</u>	

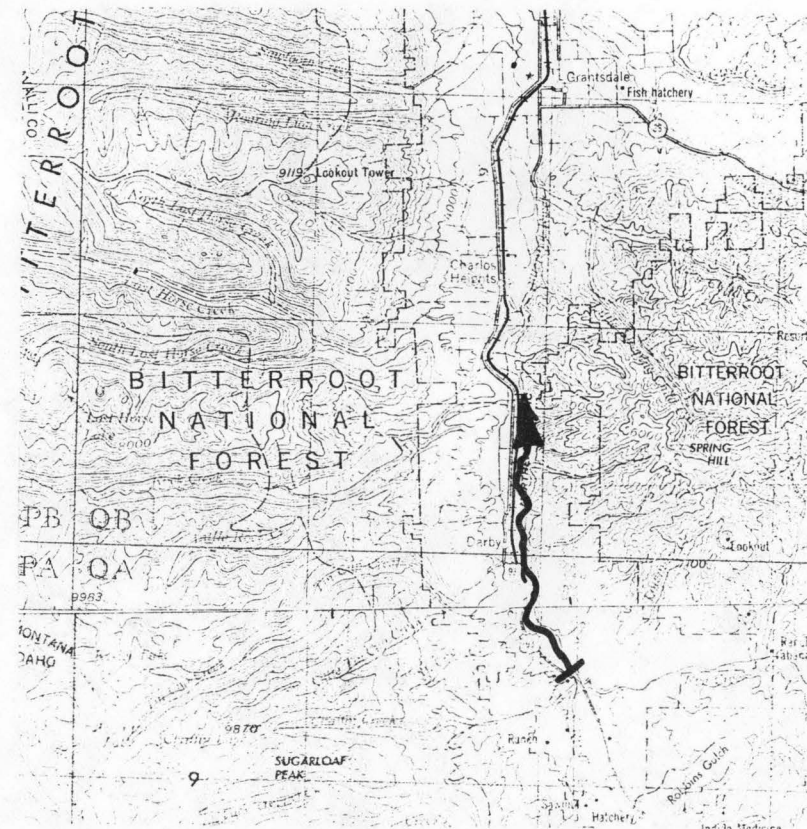
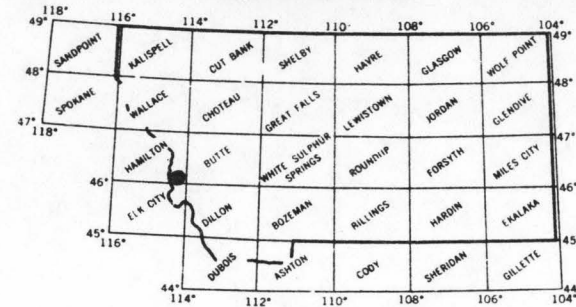
### III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	178	2.57	22.53	1.00
80	209	3.01	25.86	.98
50	365	5.25	38.20	.83
30	709	10.21	54.57	.61
10	2550	36.74	90.11	.28

### IV. TYPICAL ANNUAL HYDROGRAPH AVERAGE ANNUAL FLOW = 867 CFS



### LOCATIONS FOR USGS 1:250,000 MAP SERIES



## REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 04-500-480-350-260-R0013

### I. LOCATION

A. State	<u>Montana</u>
B. County	<u>Ravalli</u>
C. Township, Range	<u>T4N, R22W</u>
D. Latitude, Longitude	<u>46°06', 114°16'</u>
E. Stream Name	<u>Lost Horse Creek</u>
F. Major Basin Name	<u>Bitterroot</u>
G. River Mile	<u>4.7 to 6.0</u>

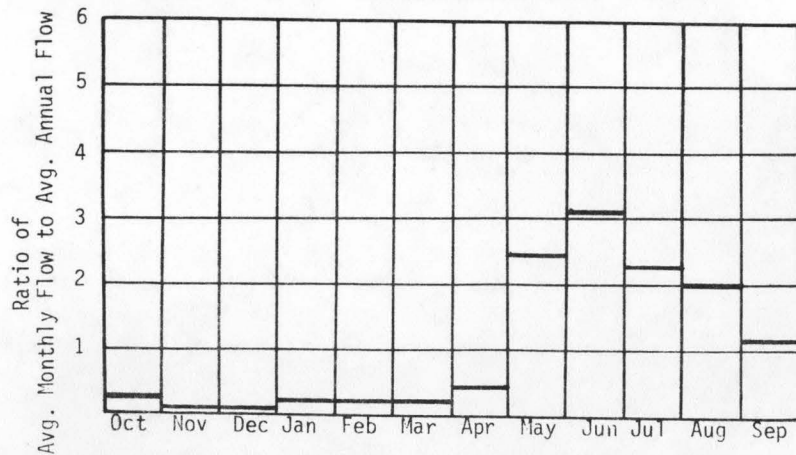
### II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

A. Upstream Elevation of Reach	<u>4290</u>	Ft. MSL
B. Downstream Elevation of Reach	<u>4240</u>	Ft. MSL
C. Total Available Head in Reach	<u>115</u>	Ft.
D. Average Slope in Reach	<u>38.5</u>	Ft./Mi.
E. Drainage Area above Reach Mouth	<u>68</u>	Sq.Mi.
F. Inflow Classification	<u>Unregulated</u>	

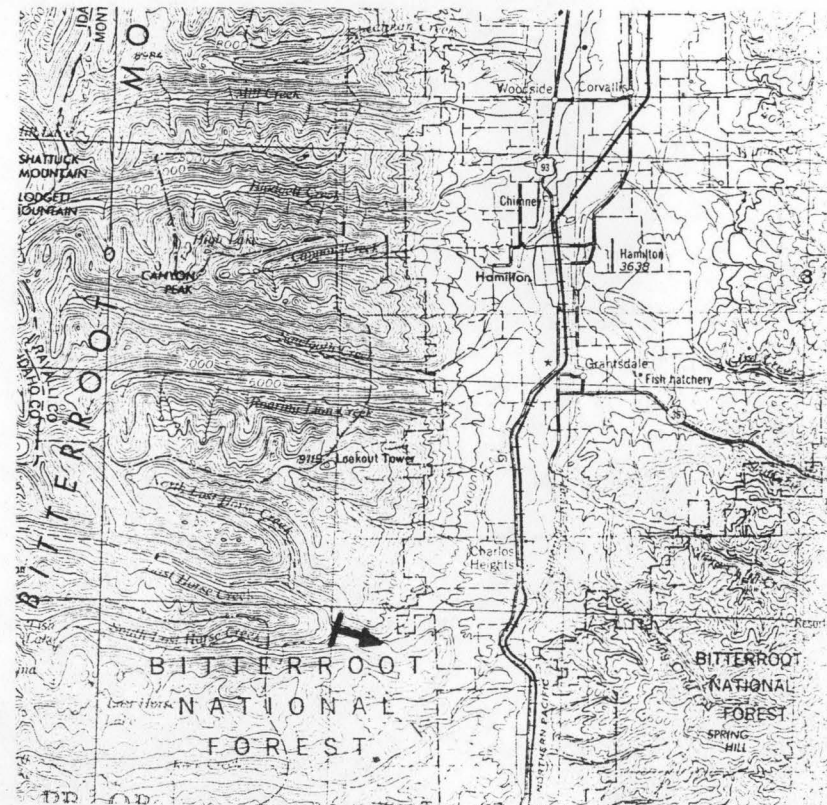
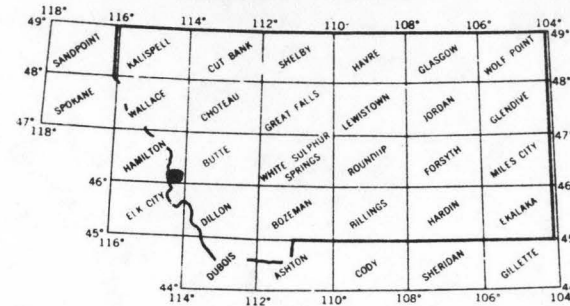
### III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	13	.13	1.11	1.00
80	20	.20	1.63	.95
50	50	.49	3.23	.76
30	110	1.07	5.06	.54
10	372	3.63	8.89	.28

### IV. TYPICAL ANNUAL HYDROGRAPH AVERAGE ANNUAL FLOW = 126 CFS



LOCATIONS FOR USGS  
1:250,000 MAP SERIES



## REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 04-500-480-350-260-R0014

### I. LOCATION

A. State	<u>Montana</u>
B. County	<u>Ravalli</u>
C. Township, Range	<u>T4N, R21W</u>
D. Latitude, Longitude	<u>46°08', 114°10'</u>
E. Stream Name	<u>Bitterroot River</u>
F. Major Basin Name	<u>Bitterroot</u>
G. River Mile	<u>59.0 to 65.3</u>

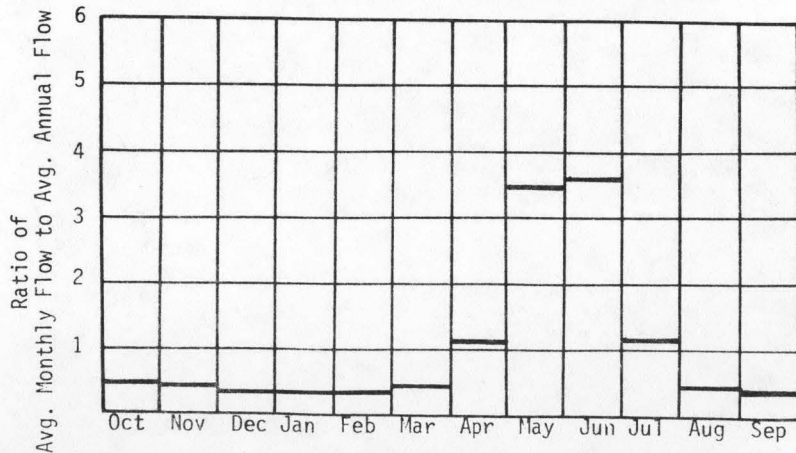
### II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

A. Upstream Elevation of Reach	<u>3780</u>	Ft. MSL
B. Downstream Elevation of Reach	<u>3640</u>	Ft. MSL
C. Total Available Head in Reach	<u>140</u>	Ft.
D. Average Slope in Reach	<u>22.2</u>	Ft./Mi.
E. Drainage Area above Reach Mouth	<u>1405</u>	Sq.Mi.
F. Inflow Classification	<u>Partially Regulated</u>	

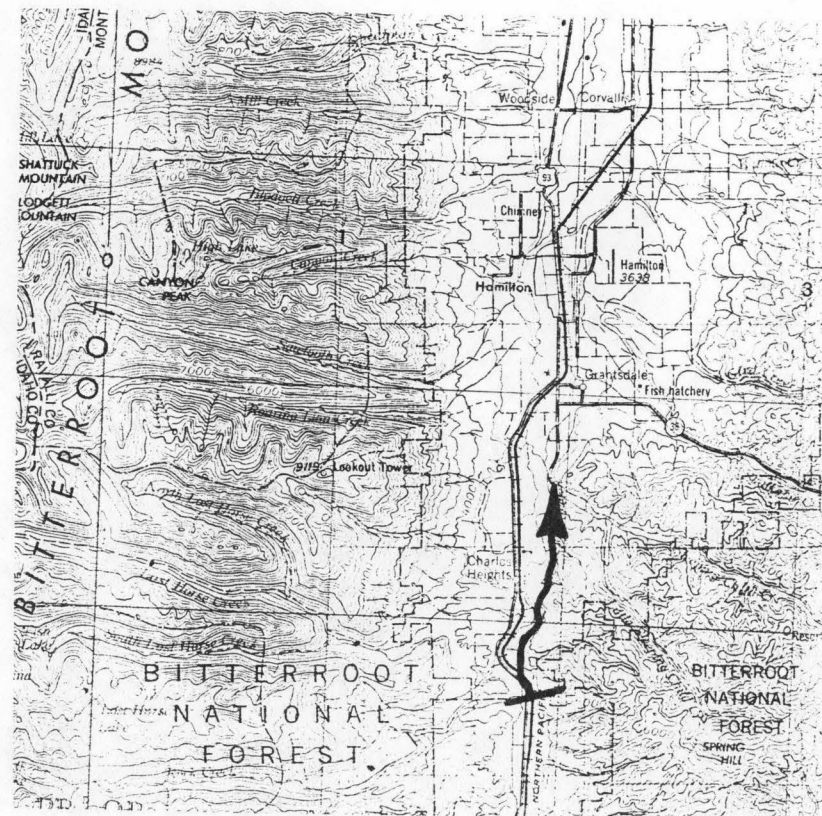
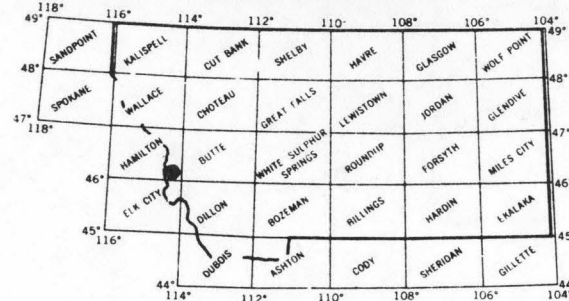
### III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	228	2.71	23.72	1.00
80	267	3.17	27.24	.98
50	466	5.53	40.23	.83
30	907	10.76	57.47	.61
10	3261	38.69	94.90	.28

### IV. TYPICAL ANNUAL HYDROGRAPH AVERAGE ANNUAL FLOW = 1108 CFS



### LOCATIONS FOR USGS 1:250,000 MAP SERIES



## REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 04-500-480-350-260-R0015

### I. LOCATION

A. State	Montana
B. County	Ravalli
C. Township, Range	T5N, R19W
D. Latitude, Longitude	48°10', 114°00'
E. Stream Name	Skalkaho Creek
F. Major Basin Name	Bitterroot
G. River Mile	5.4 to 12.6

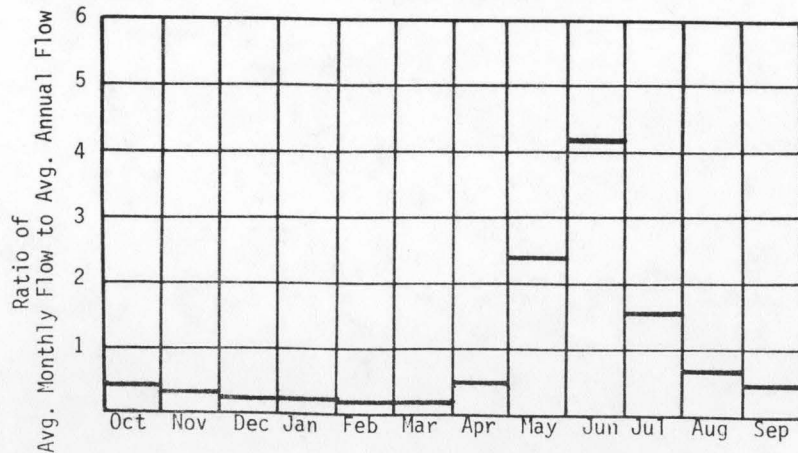
### II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

A. Upstream Elevation of Reach	4440	Ft. MSL
B. Downstream Elevation of Reach	3930	Ft. MSL
C. Total Available Head in Reach	575	Ft.
D. Average Slope in Reach	70.8	Ft./Mi.
E. Drainage Area above Reach Mouth	112	Sq.Mi.
F. Inflow Classification	Unregulated	

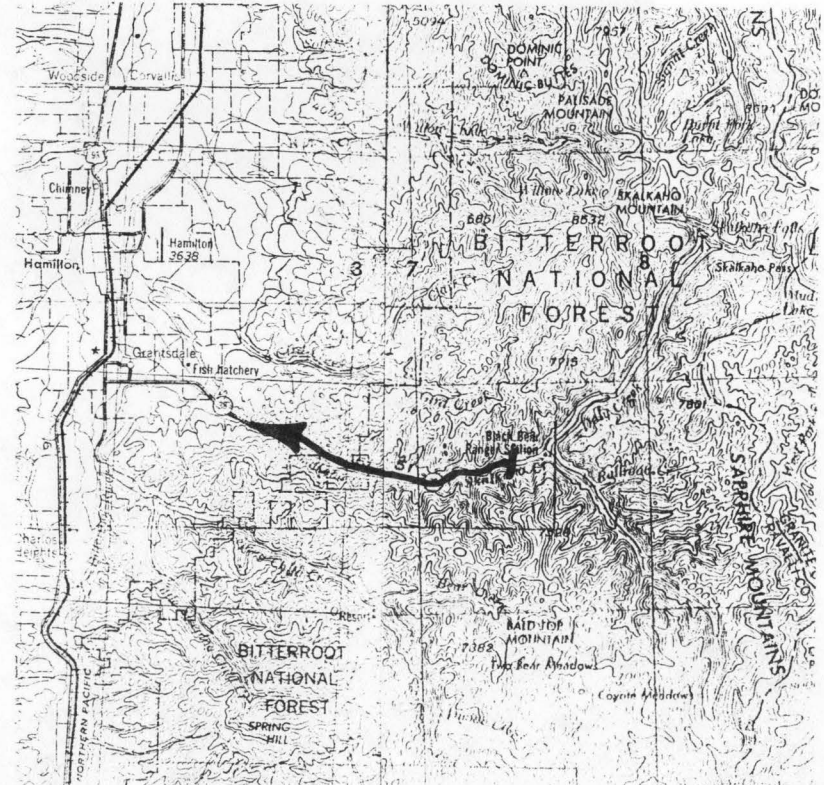
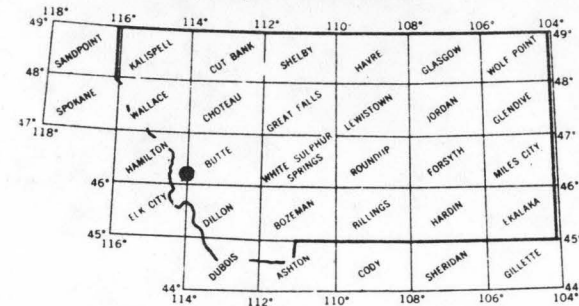
### III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	12	.60	5.26	1.00
80	19	.93	7.71	.95
50	47	2.30	15.30	.76
30	104	5.06	23.94	.54
10	352	17.15	42.07	.28

### IV. TYPICAL ANNUAL HYDROGRAPH AVERAGE ANNUAL FLOW = 120 CFS



LOCATIONS FOR USGS  
1:250,000 MAP SERIES



## REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 04-500-480-350-260-R0016

### I. LOCATION

A. State	<u>Montana</u>
B. County	<u>Ravalli</u>
C. Township, Range	<u>T6N, R21W</u>
D. Latitude, Longitude	<u>46°14', 114°10'</u>
E. Stream Name	<u>Bitterroot River</u>
F. Major Basin Name	<u>Bitterroot</u>
G. River Mile	<u>49.6 to 59.0</u>

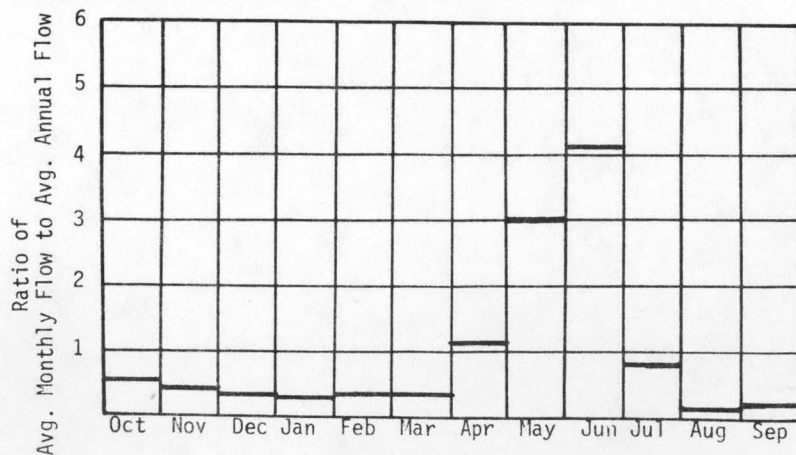
### II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

A. Upstream Elevation of Reach	<u>3640</u>	Ft. MSL
B. Downstream Elevation of Reach	<u>3475</u>	Ft. MSL
C. Total Available Head in Reach	<u>165</u>	Ft.
D. Average Slope in Reach	<u>17.6</u>	Ft./Mi.
E. Drainage Area above Reach Mouth	<u>1705</u>	Sq.Mi.
F. Inflow Classification	<u>Partially Regulated</u>	

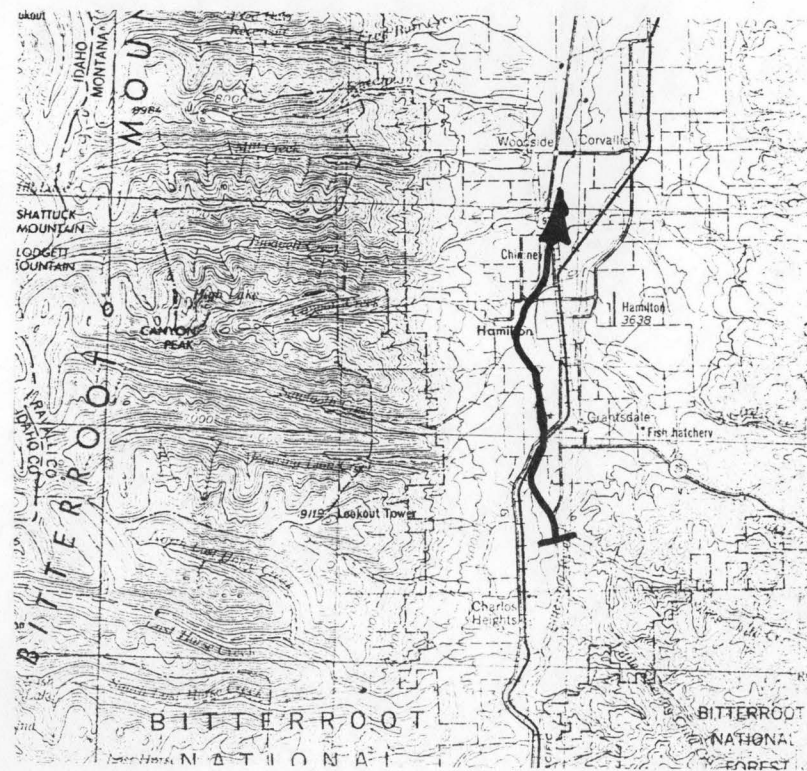
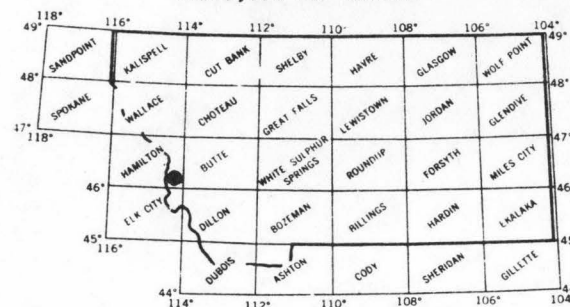
### III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	296	4.13	36.20	1.00
80	346	4.84	41.56	.98
50	604	8.44	61.38	.83
30	1174	16.41	87.70	.61
10	4222	59.04	144.80	.28

### IV. TYPICAL ANNUAL HYDROGRAPH AVERAGE ANNUAL FLOW = 1435 CFS



LOCATIONS FOR USGS  
1:250,000 MAP SERIES



## REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 04-500-480-350-260-R0017

### I. LOCATION

A. State	Montana
B. County	Ravalli
C. Township, Range	T7N, R20W
D. Latitude, Longitude	46°21', 114°08'
E. Stream Name	Sheatman Creek
F. Major Basin Name	Bitterroot
G. River Mile	1.0 to 1.5

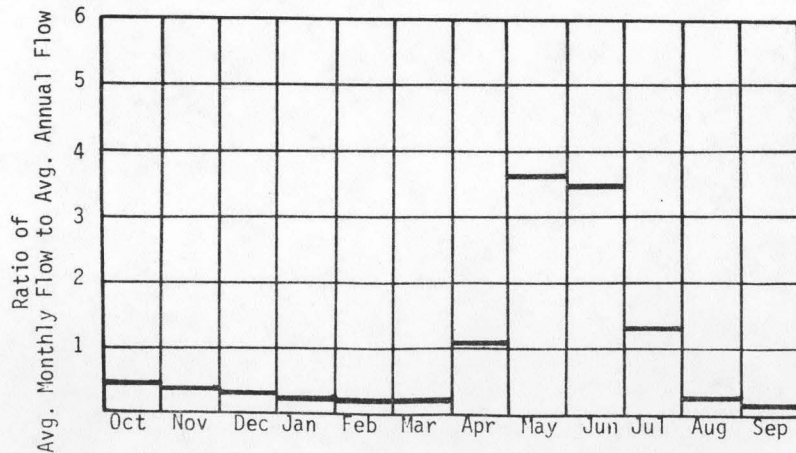
### II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

A. Upstream Elevation of Reach	3470	Ft. MSL
B. Downstream Elevation of Reach	3430	Ft. MSL
C. Total Available Head in Reach	105	Ft.
D. Average Slope in Reach	80	Ft./Mi.
E. Drainage Area above Reach Mouth	67	Sq.Mi.
F. Inflow Classification	Unregulated	

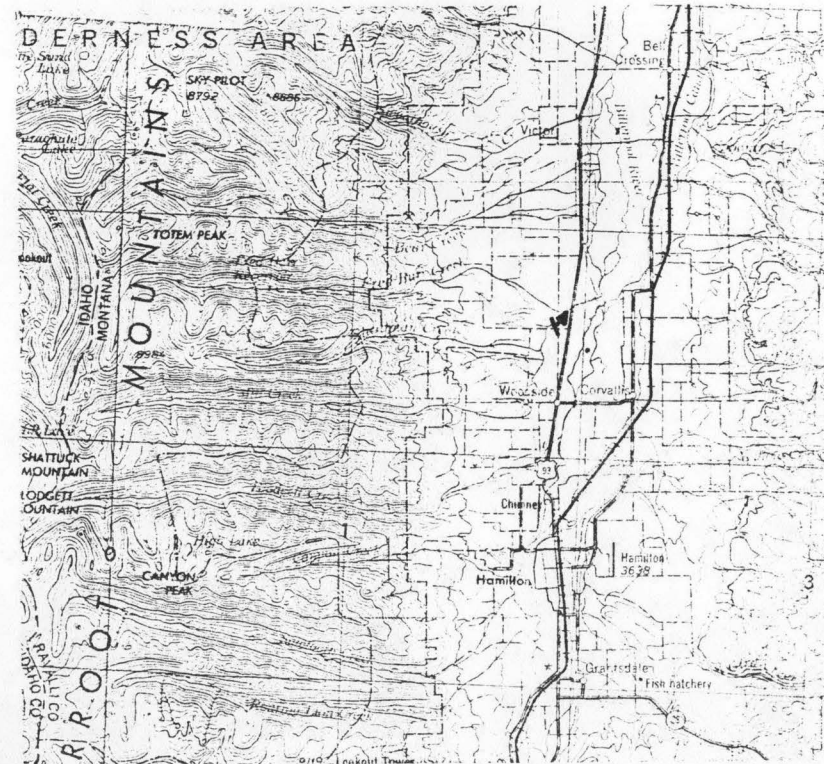
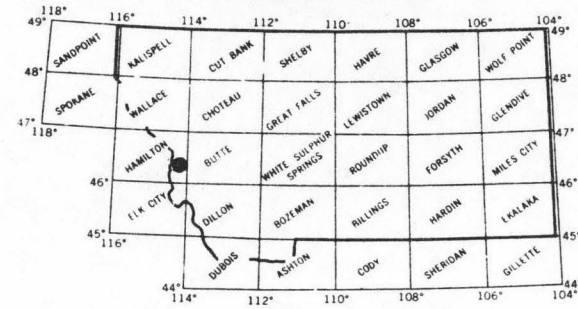
### III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	10	.09	.78	1.00
80	15	.14	1.14	.95
50	38	.34	2.27	.76
30	84	.75	3.55	.54
10	286	2.54	6.24	.28

### IV. TYPICAL ANNUAL HYDROGRAPH AVERAGE ANNUAL FLOW = 97 CFS



### LOCATIONS FOR USGS 1:250,000 MAP SERIES





## REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 04-500-480-350-260-R0018

### I. LOCATION

A. State	Montana
B. County	Ravalli
C. Township, Range	T7N, R20W
D. Latitude, Longitude	46°20', 114°08'
E. Stream Name	Bitterroot River
F. Major Basin Name	Bitterroot
G. River Mile	45.1 to 49.6

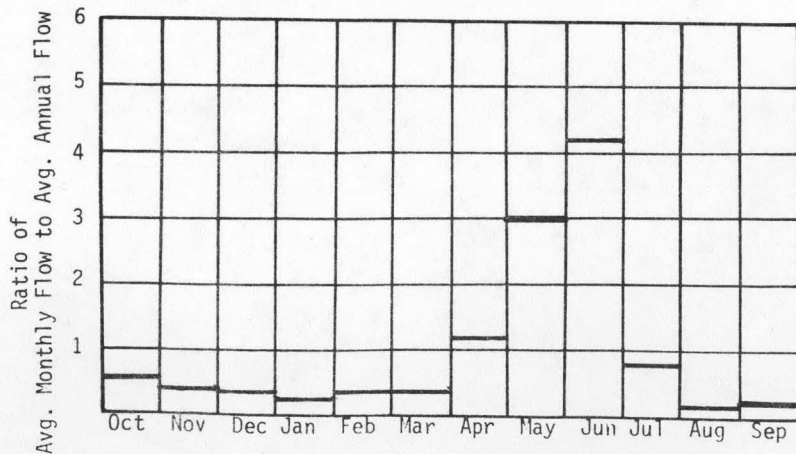
### II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

A. Upstream Elevation of Reach	3475	Ft. MSL
B. Downstream Elevation of Reach	3405	Ft. MSL
C. Total Available Head in Reach	70	Ft.
D. Average Slope in Reach	15.6	Ft./Mi.
E. Drainage Area above Reach Mouth	1855	Sq.Mi.
F. Inflow Classification	Partially Regulated	

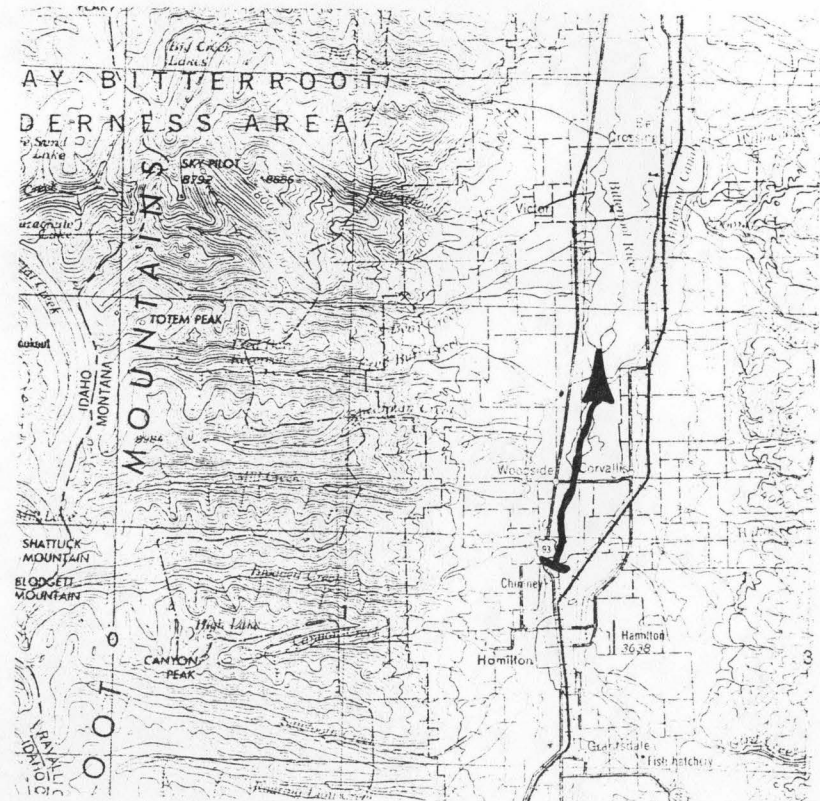
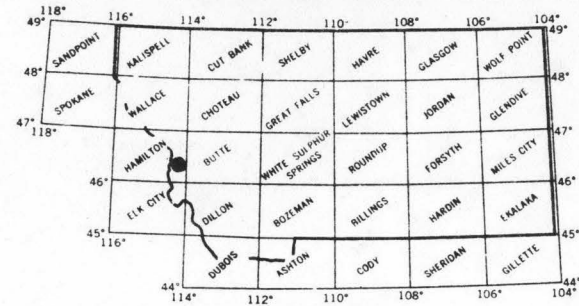
### III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	340	2.02	17.66	1.00
80	398	2.36	20.27	.98
50	694	4.12	29.94	.83
30	1349	8.00	42.78	.61
10	4854	28.79	70.63	.28

### IV. TYPICAL ANNUAL HYDROGRAPH AVERAGE ANNUAL FLOW = 1650 CFS



### LOCATIONS FOR USGS 1:250,000 MAP SERIES



## REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 04-500-480-350-260-R0019

### I. LOCATION

A. State	Montana
B. County	Ravalli
C. Township, Range	T8N, R20W
D. Latitude, Longitude	46°25', 114°08'
E. Stream Name	Bitterroot River
F. Major Basin Name	Bitterroot
G. River Mile	39.6 to 45.1

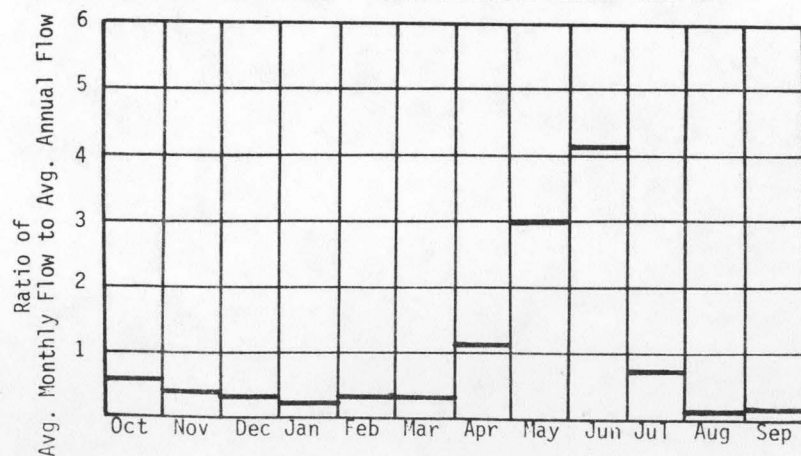
### II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

A. Upstream Elevation of Reach	3405	Ft. MSL
B. Downstream Elevation of Reach	3305	Ft. MSL
C. Total Available Head in Reach	100	Ft.
D. Average Slope in Reach	18.2	Ft./Mi.
E. Drainage Area above Reach Mouth	1974	Sq.Mi.
F. Inflow Classification	Partially Regulated	

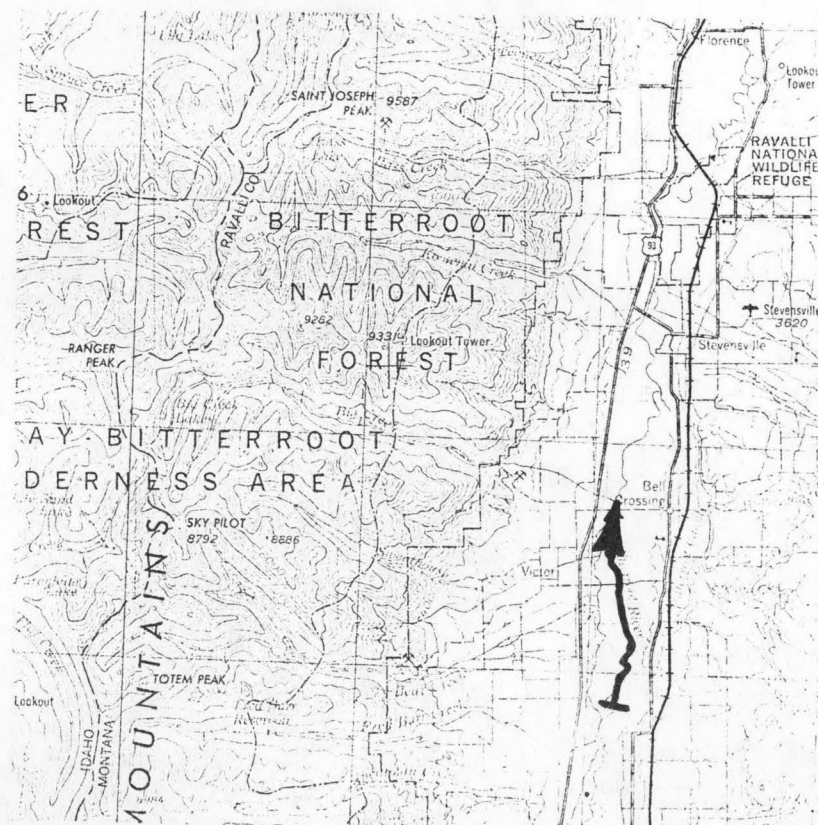
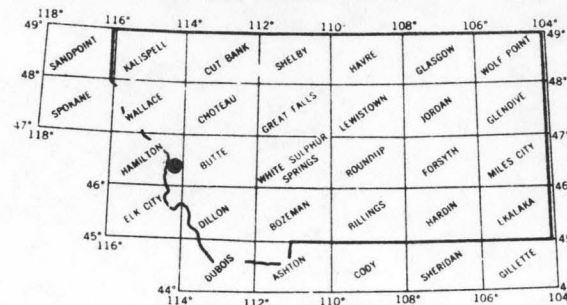
### III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	369	3.13	27.40	1.00
80	432	3.66	31.45	.98
50	754	6.39	46.45	.83
30	1466	12.42	66.37	.61
10	5272	44.68	109.59	.28

### IV. TYPICAL ANNUAL HYDROGRAPH AVERAGE ANNUAL FLOW = 1792 CFS



### LOCATIONS FOR USGS 1:250,000 MAP SERIES



## REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 04-500-480-350-260-R0020

### I. LOCATION

A. State	Montana
B. County	Ravalli
C. Township, Range	T8N, R20W
D. Latitude, Longitude	46°29', 114°06'
E. Stream Name	Bitterroot River
F. Major Basin Name	Bitterroot
G. River Mile	32.5 to 39.6

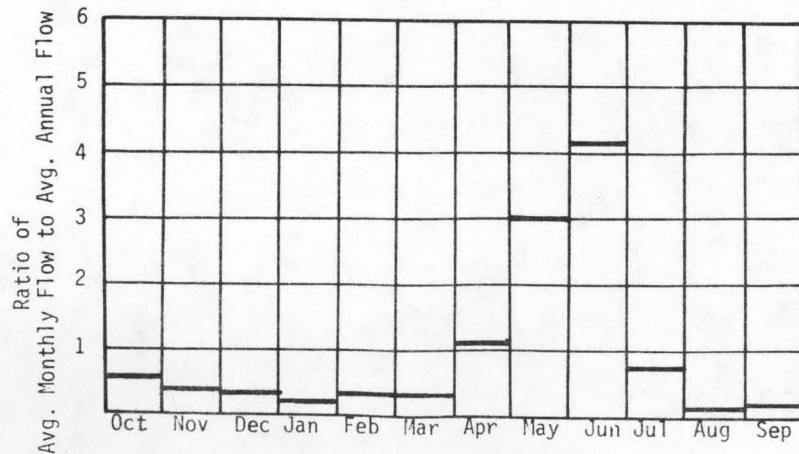
### II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

A. Upstream Elevation of Reach	3305	Ft. MSL
B. Downstream Elevation of Reach	3240	Ft. MSL
C. Total Available Head in Reach	65	Ft.
D. Average Slope in Reach	9.2	Ft./Mi.
E. Drainage Area above Reach Mouth	2200	Sq.Mi.
F. Inflow Classification	Partially Regulated	

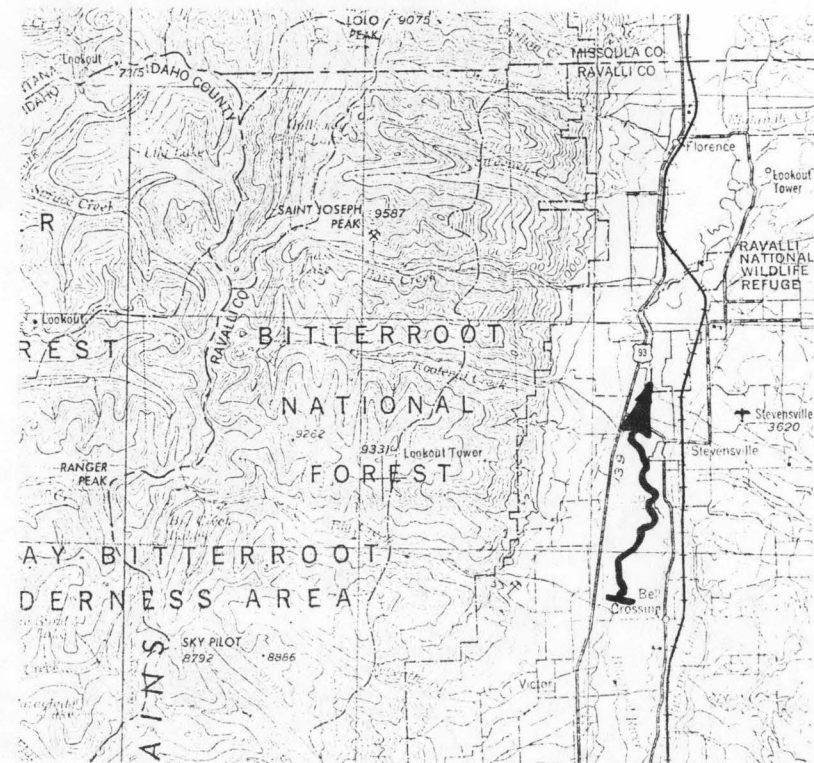
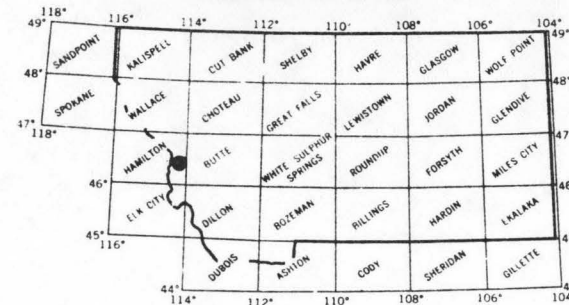
### III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	403	2.22	19.43	1.00
80	472	2.60	22.30	.98
50	823	4.53	32.94	.83
30	1599	8.81	47.07	.61
10	5752	31.68	77.72	.28

### IV. TYPICAL ANNUAL HYDROGRAPH AVERAGE ANNUAL FLOW = 1955 CFS



### LOCATIONS FOR USGS 1:250,000 MAP SERIES



## REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 04-500-480-350-260-R0021

### I. LOCATION

A. State	<u>Montana</u>
B. County	<u>Ravalli</u>
C. Township, Range	<u>T10N, R20W</u>
D. Latitude, Longitude	<u>46°35', 114°05'</u>
E. Stream Name	<u>Bitterroot River</u>
F. Major Basin Name	<u>Bitterroot</u>
G. River Mile	<u>25.4 to 32.5</u>

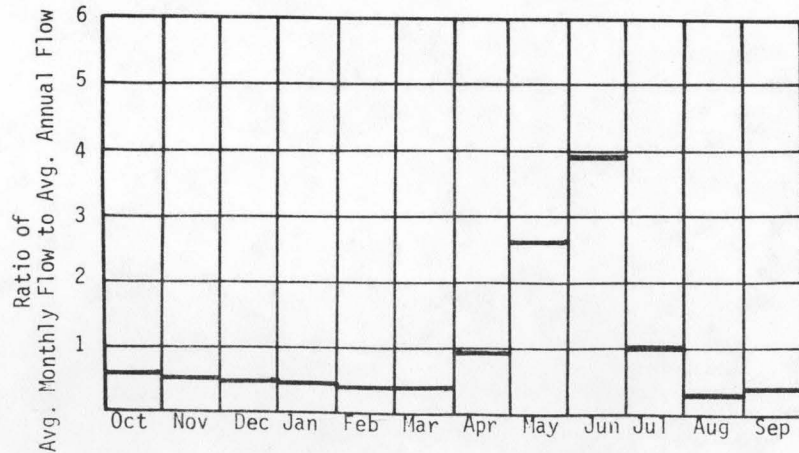
### II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

A. Upstream Elevation of Reach	<u>3240</u>	Ft. MSL
B. Downstream Elevation of Reach	<u>3195</u>	Ft. MSL
C. Total Available Head in Reach	<u>45</u>	Ft.
D. Average Slope in Reach	<u>6.3</u>	Ft./Mi.
E. Drainage Area above Reach Mouth	<u>2352</u>	Sq.Mi.
F. Inflow Classification	<u>Partially Regulated</u>	

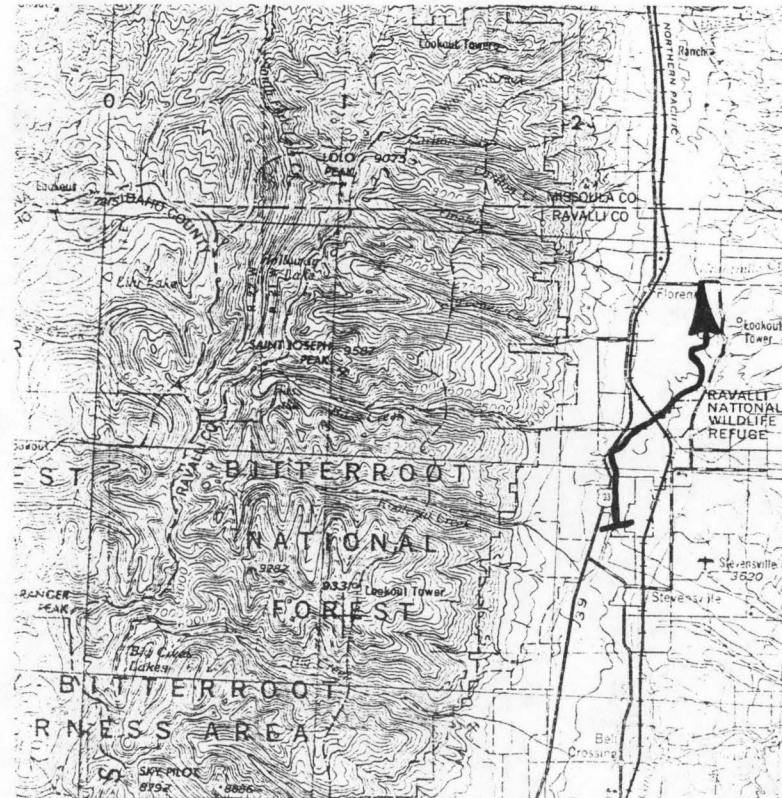
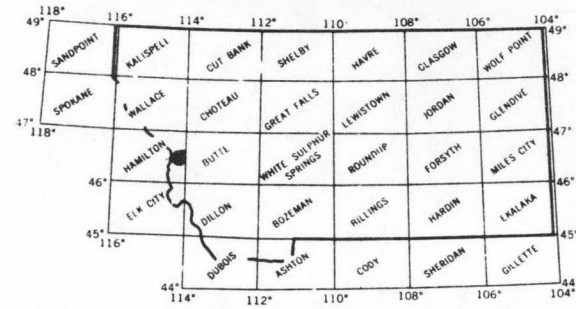
### III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	432	1.65	14.43	1.00
80	506	1.93	16.56	.98
50	882	3.36	24.46	.83
30	1715	6.54	34.95	.61
10	6170	23.53	57.71	.28

### IV. TYPICAL ANNUAL HYDROGRAPH AVERAGE ANNUAL FLOW = 2097 CFS



LOCATIONS FOR USGS  
1:250,000 MAP SERIES



## REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 04-500-480-350-260-R0022

### I. LOCATION

A. State	Montana
B. County	Missoula
C. Township, Range	T12N, R22W
D. Latitude, Longitude	46°47', 114°23'
E. Stream Name	Lolo Creek
F. Major Basin Name	Bitterroot
G. River Mile	13.9 to 20.3

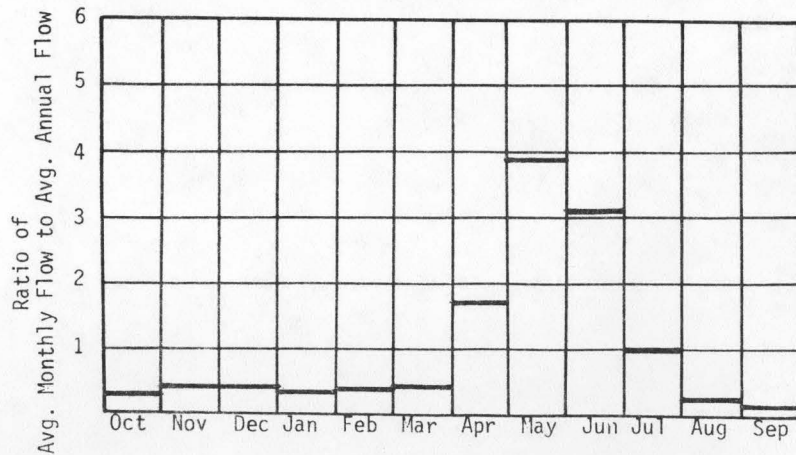
### II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

A. Upstream Elevation of Reach	3885	Ft. MSL
B. Downstream Elevation of Reach	3650	Ft. MSL
C. Total Available Head in Reach	300	Ft.
D. Average Slope in Reach	36.7	Ft./Mi.
E. Drainage Area above Reach Mouth	142	Sq.Mi.
F. Inflow Classification	Unregulated	

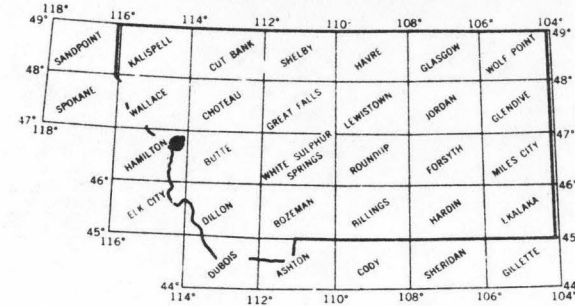
### III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	29	.73	6.42	1.00
80	36	.92	7.79	.97
50	68	1.74	12.36	.81
30	138	3.51	18.14	.59
10	515	13.09	30.97	.27

### IV. TYPICAL ANNUAL HYDROGRAPH AVERAGE ANNUAL FLOW = 175 CFS



### LOCATIONS FOR USGS 1:250,000 MAP SERIES



## REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 04-500-480-350-260-R0023

### I. LOCATION

A. State	<u>Montana</u>
B. County	<u>Missoula</u>
C. Township, Range	<u>T12N, R21W</u>
D. Latitude, Longitude	<u>46°45', 114°15'</u>
E. Stream Name	<u>Lolo Creek</u>
F. Major Basin Name	<u>Bitterroot</u>
G. River Mile	<u>4.8 to 13.9</u>

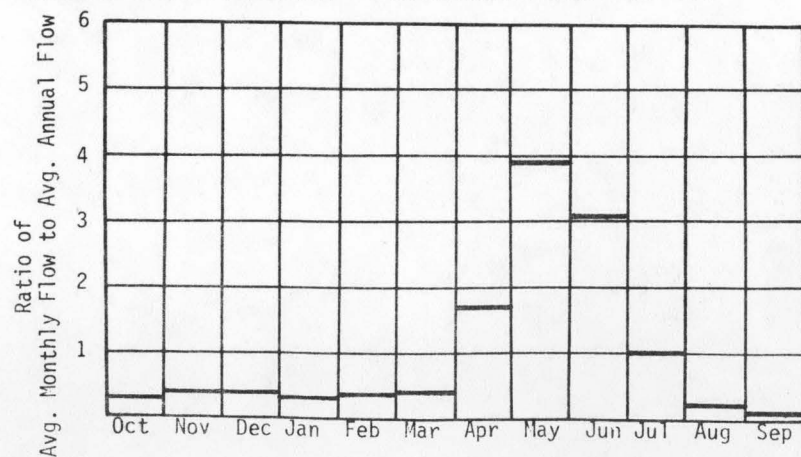
### II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

A. Upstream Elevation of Reach	<u>3650</u>	Ft. MSL
B. Downstream Elevation of Reach	<u>3280</u>	Ft. MSL
C. Total Available Head in Reach	<u>370</u>	Ft.
D. Average Slope in Reach	<u>40.7</u>	Ft./Mi.
E. Drainage Area above Reach Mouth	<u>250</u>	Sq.Mi.
F. Inflow Classification	<u>Unregulated</u>	

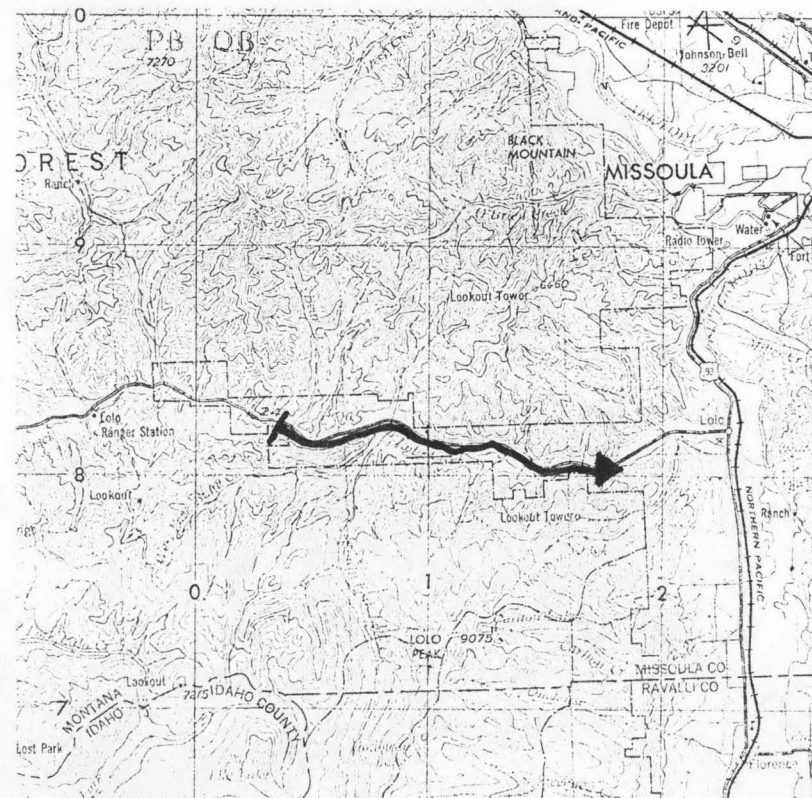
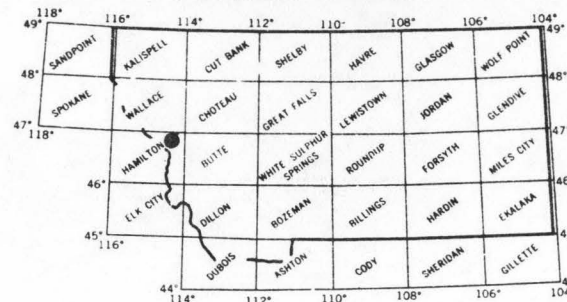
### III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	42	1.33	11.63	1.00
80	53	1.66	14.10	.97
50	101	3.15	22.37	.81
30	203	6.35	32.83	.59
10	756	23.71	56.07	.27

### IV. TYPICAL ANNUAL HYDROGRAPH AVERAGE ANNUAL FLOW = 257 CFS



### LOCATIONS FOR USGS 1:250,000 MAP SERIES



## REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 04-500-480-350-260-R0024

### I. LOCATION

A. State	Montana
B. County	Missoula
C. Township, Range	T11N, R20W
D. Latitude, Longitude	46°42', 114°03'
E. Stream Name	Bitterroot River
F. Major Basin Name	Bitterroot
G. River Mile	14.2 to 25.4

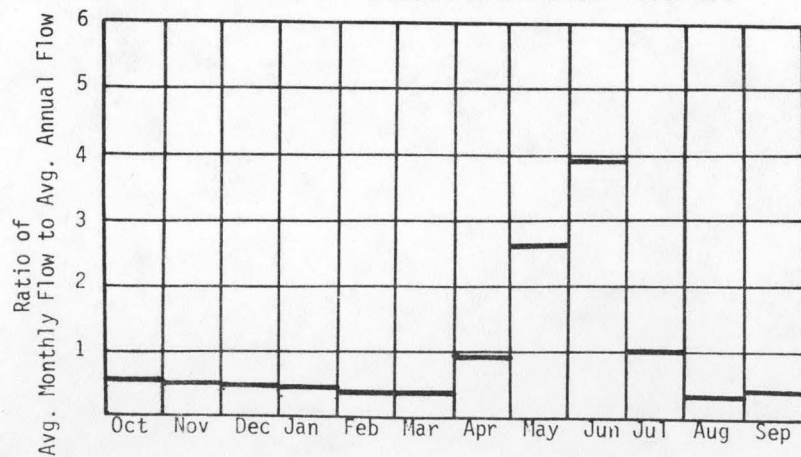
### II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

A. Upstream Elevation of Reach	3195	Ft. MSL
B. Downstream Elevation of Reach	3150	Ft. MSL
C. Total Available Head in Reach	45	Ft.
D. Average Slope in Reach	4.0	Ft./Mi.
E. Drainage Area above Reach Mouth	2744	Sq.Mi.
F. Inflow Classification	Partially Regulated	

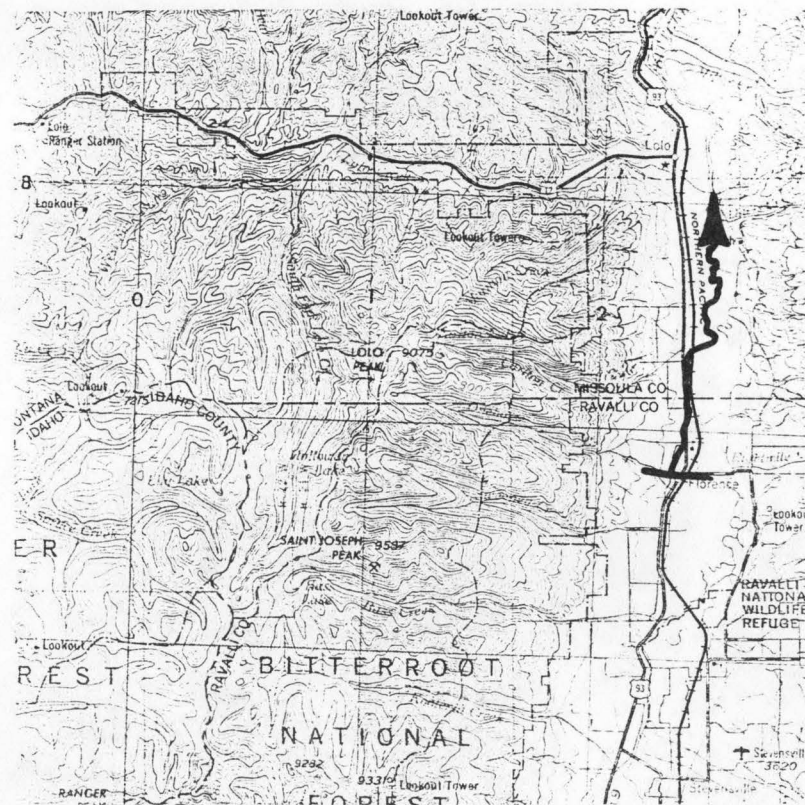
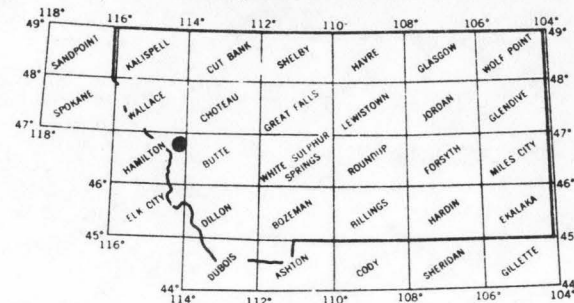
### III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	486	1.85	16.22	1.00
80	569	2.17	18.62	.98
50	992	3.78	27.51	.83
30	1928	7.35	39.30	.61
10	6937	26.45	64.89	.28

### IV. TYPICAL ANNUAL HYDROGRAPH AVERAGE ANNUAL FLOW = 2358 CFS



### LOCATIONS FOR USGS 1:250,000 MAP SERIES



## REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 04-500-480-350-260-R0025

### I. LOCATION

A. State	Montana
B. County	Missoula
C. Township, Range	T12N, R20W
D. Latitude, Longitude	46°48', 114°03'
E. Stream Name	Bitterroot River
F. Major Basin Name	Bitterroot
G. River Mile	1.6 to 14.2

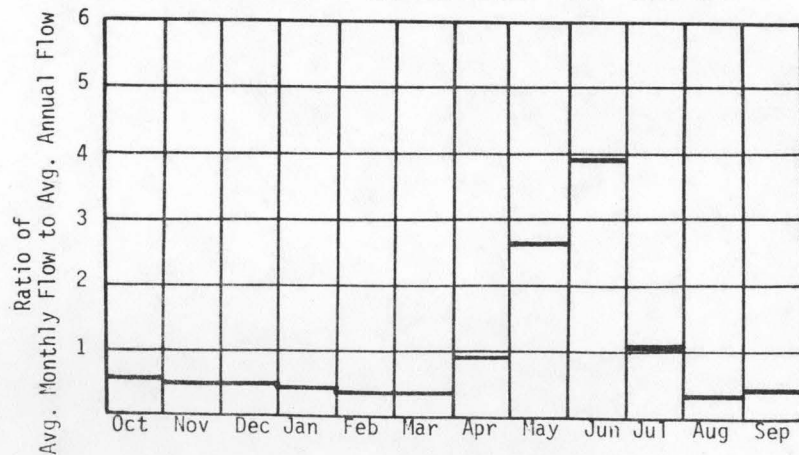
### II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

A. Upstream Elevation of Reach	3150	Ft. MSL
B. Downstream Elevation of Reach	3095	Ft. MSL
C. Total Available Head in Reach	55	Ft.
D. Average Slope in Reach	4.4	Ft./Mi.
E. Drainage Area above Reach Mouth	2848	Sq.Mi.
F. Inflow Classification	Partially Regulated	

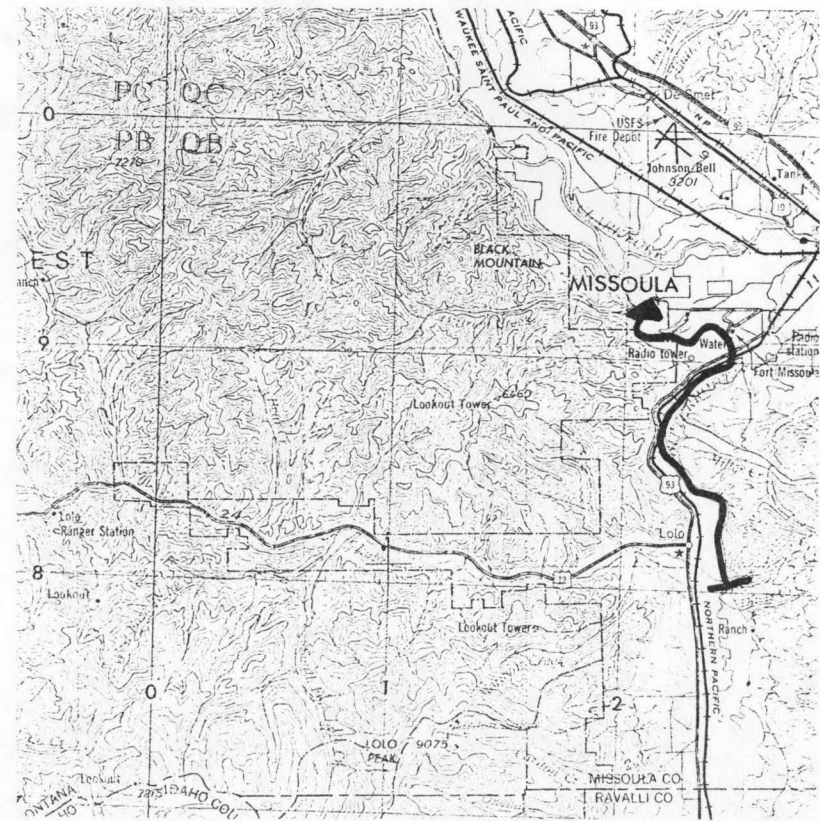
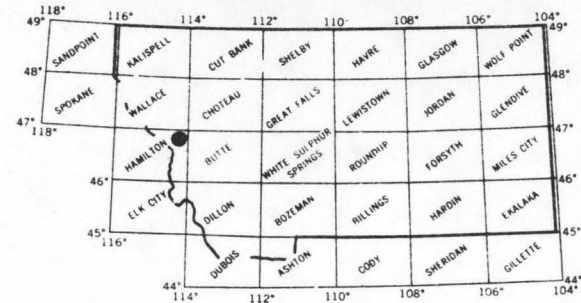
### III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	535	2.49	21.84	1.00
80	627	2.92	25.08	.98
50	1093	5.09	37.04	.83
30	2125	9.90	52.92	.61
10	7643	35.62	87.38	.28

### IV. TYPICAL ANNUAL HYDROGRAPH AVERAGE ANNUAL FLOW = 2598 CFS



### LOCATIONS FOR USGS 1:250,000 MAP SERIES





## REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 04-500-480-350-440-R0001

### I. LOCATION

A. State	Montana
B. County	Powell
C. Township, Range	T19N, R12W
D. Latitude, Longitude	47°25', 113°08'
E. Stream Name	Danaher Creek
F. Major Basin Name	Flathead
G. River Mile	0.5 to 4.6

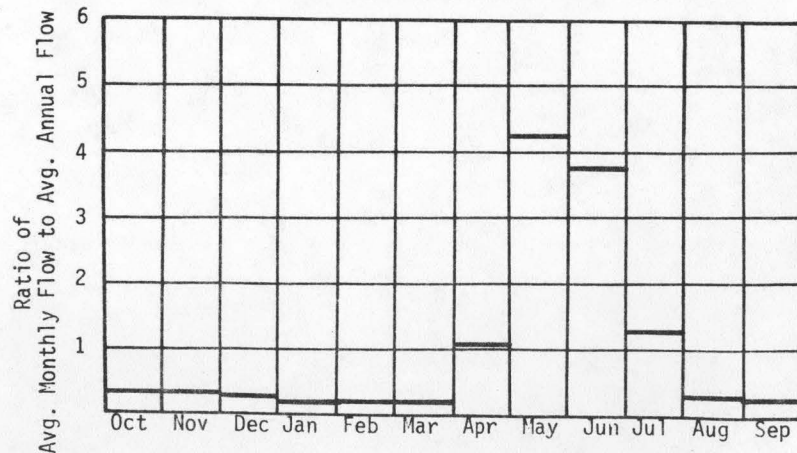
### II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

A. Upstream Elevation of Reach	4890	Ft. MSL
B. Downstream Elevation of Reach	4715	Ft. MSL
C. Total Available Head in Reach	240	Ft.
D. Average Slope in Reach	42.7	Ft./Mi.
E. Drainage Area above Reach Mouth	131	Sq.Mi.
F. Inflow Classification	Unregulated	

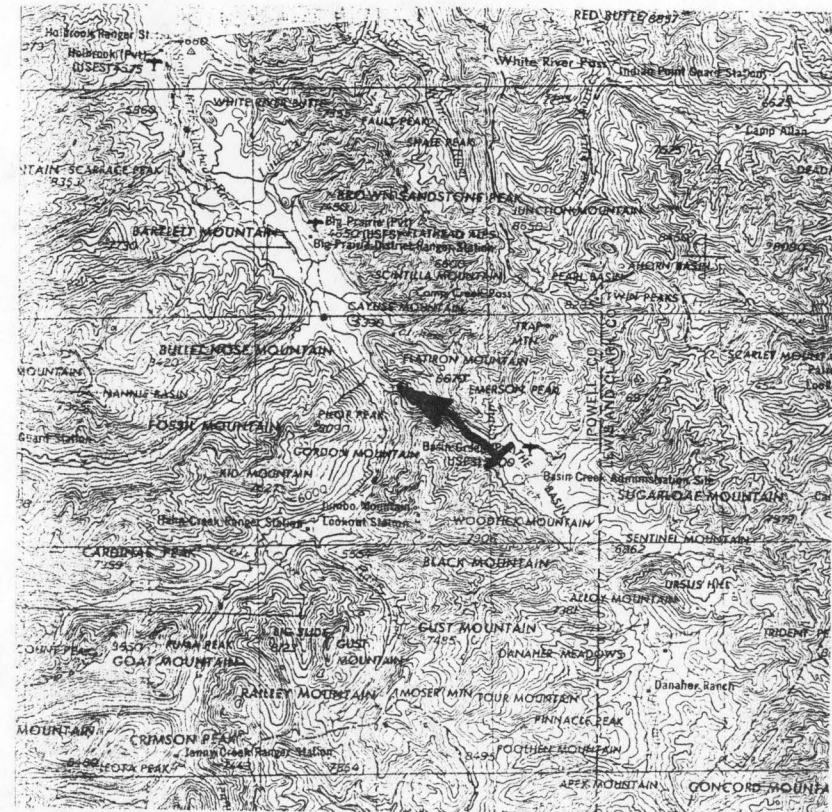
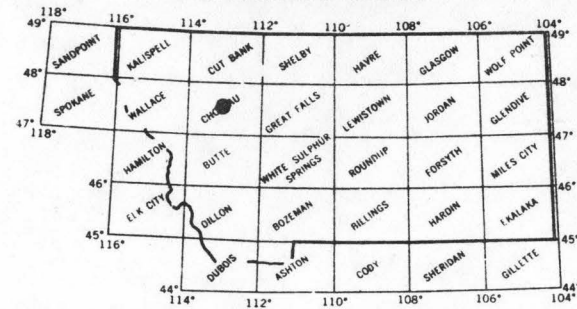
### III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	13	.27	2.34	1.00
80	17	.35	3.00	.97
50	41	.84	5.67	.77
30	106	2.15	9.99	.53
10	386	7.85	18.57	.27

### IV. TYPICAL ANNUAL HYDROGRAPH AVERAGE ANNUAL FLOW = 130 CFS



LOCATIONS FOR USGS  
1:250,000 MAP SERIES



## REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 04-500-480-350-440-R0002

### I. LOCATION

A. State	Montana
B. County	Powell
C. Township, Range	T19N, R13W
D. Latitude, Longitude	47°24', 113°11'
E. Stream Name	Youngs Creek
F. Major Basin Name	Flathead
G. River Mile	0.5 to 5.7

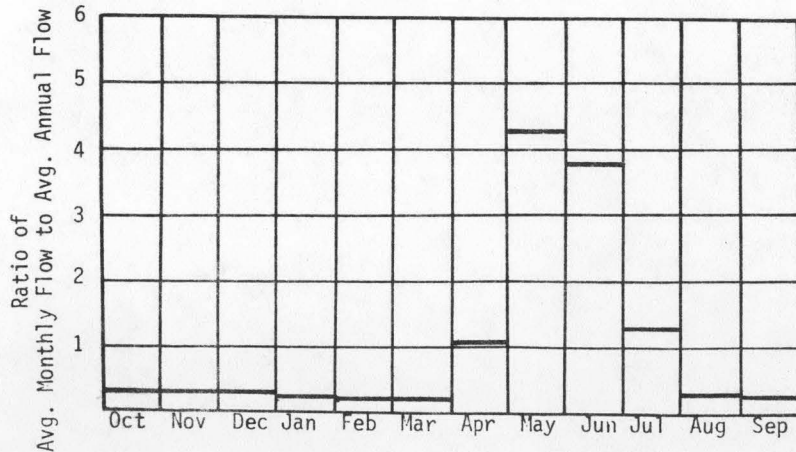
### II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

A. Upstream Elevation of Reach	4890	Ft. MSL
B. Downstream Elevation of Reach	4720	Ft. MSL
C. Total Available Head in Reach	235	Ft.
D. Average Slope in Reach	32.7	Ft./Mi.
E. Drainage Area above Reach Mouth	121	Sq.Mi.
F. Inflow Classification	Unregulated	

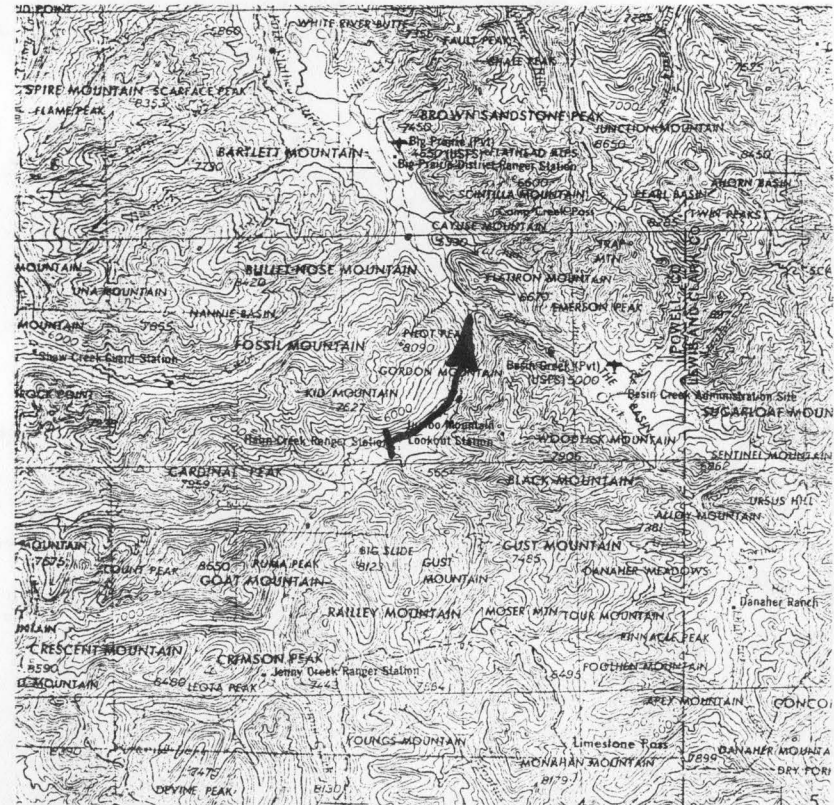
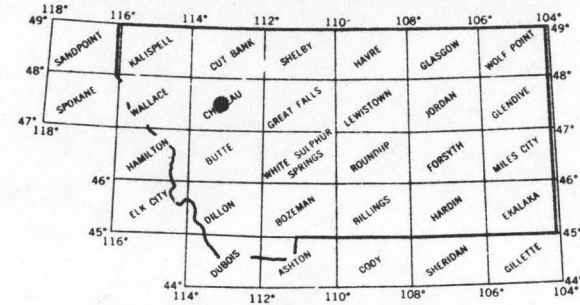
### III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	16	.32	2.79	1.00
80	21	.42	3.58	.97
50	50	1.00	6.76	.77
30	129	2.56	11.91	.53
10	470	9.36	22.14	.27

### IV. TYPICAL ANNUAL HYDROGRAPH AVERAGE ANNUAL FLOW = 156 CFS



### LOCATIONS FOR USGS 1:250,000 MAP SERIES



## REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 04-500-480-350-440-R0003

### I. LOCATION

A. State	<u>Montana</u>
B. County	<u>Powell</u>
C. Township, Range	<u>T19N, R12W</u>
D. Latitude, Longitude	<u>47°28', 113°12'</u>
E. Stream Name	<u>South Fork Flathead River</u>
F. Major Basin Name	<u>Flathead</u>
G. River Mile	<u>82.4 to 90.1</u>

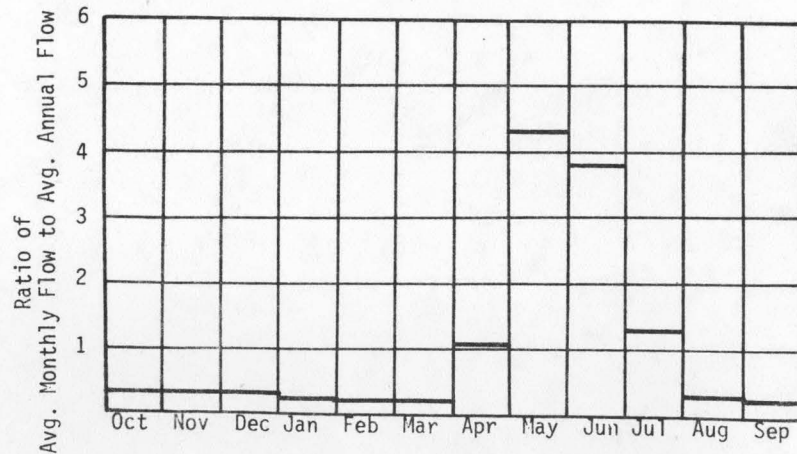
### II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

A. Upstream Elevation of Reach	<u>4715</u>	Ft. MSL
B. Downstream Elevation of Reach	<u>4600</u>	Ft. MSL
C. Total Available Head in Reach	<u>115</u>	Ft.
D. Average Slope in Reach	<u>14.9</u>	Ft./Mi.
E. Drainage Area above Reach Mouth	<u>358</u>	Sq.Mi.
F. Inflow Classification	<u>Unregulated</u>	

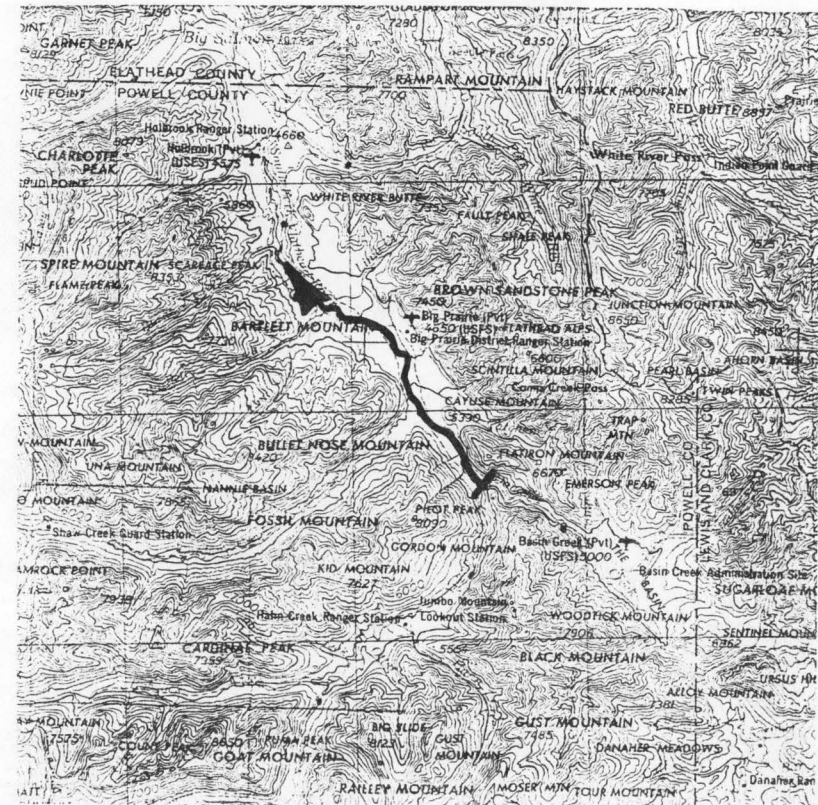
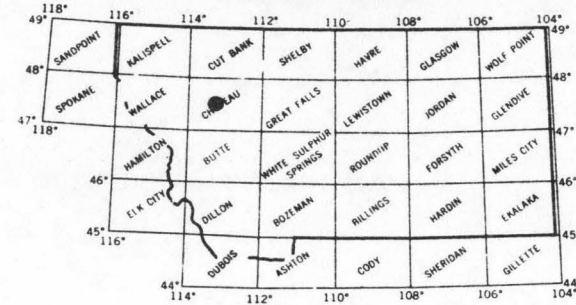
### III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	36	.35	3.11	1.00
80	48	.47	3.99	.97
50	114	1.12	7.53	.77
30	293	2.86	13.27	.53
10	1070	10.43	24.66	.27

### IV. TYPICAL ANNUAL HYDROGRAPH AVERAGE ANNUAL FLOW = 340 CFS



### LOCATIONS FOR USGS 1:250,000 MAP SERIES



## REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 04-500-480-350-440-R0004

### I. LOCATION

A. State	Montana
B. County	Flathead
C. Township, Range	T21N, R13W
D. Latitude, Longitude	47°34', 113°16'
E. Stream Name	White River
F. Major Basin Name	Flathead
G. River Mile	0.9 to 3.3

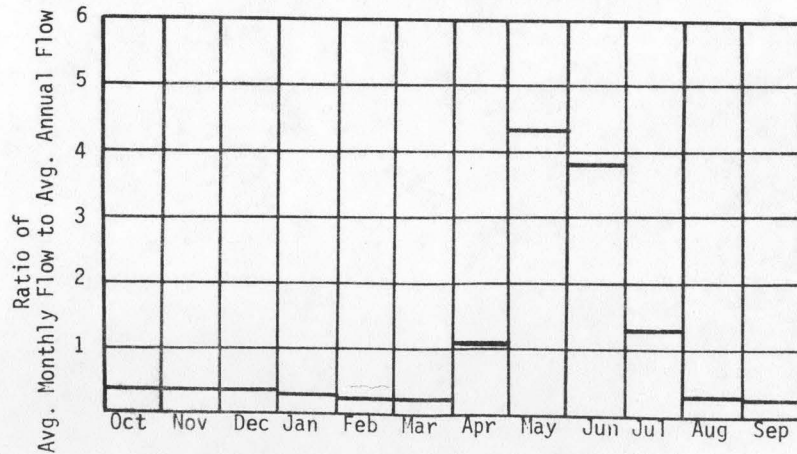
### II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

A. Upstream Elevation of Reach	4520	Ft. MSL
B. Downstream Elevation of Reach	4390	Ft. MSL
C. Total Available Head in Reach	195	Ft.
D. Average Slope in Reach	54.2	Ft./Mi.
E. Drainage Area above Reach Mouth	84	Sq.Mi.
F. Inflow Classification	Unregulated	

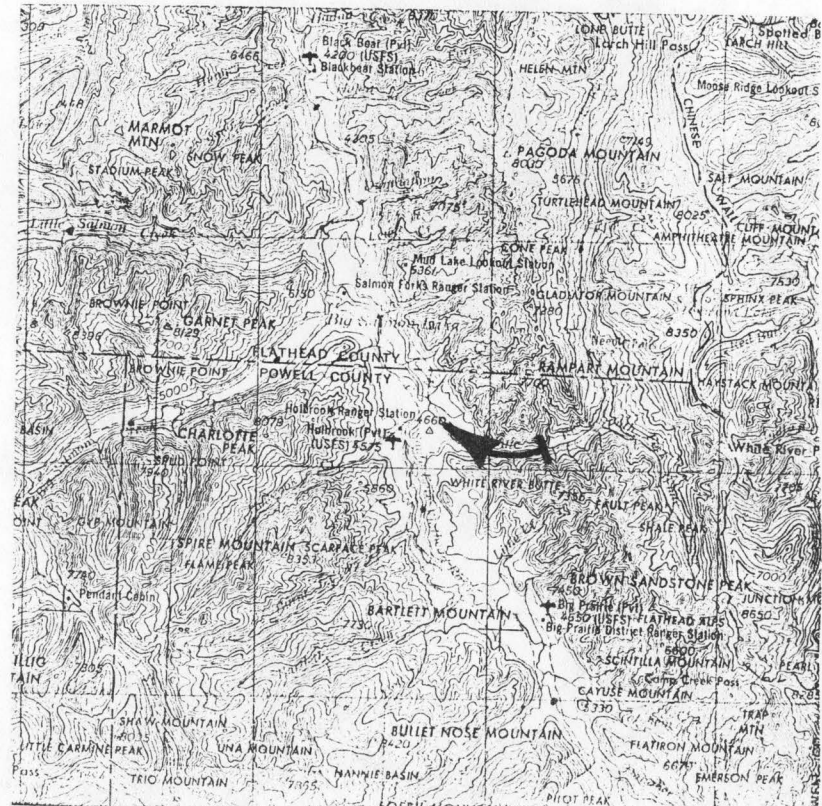
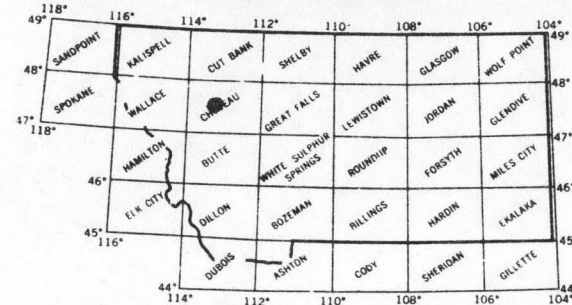
### III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	11	.19	1.64	1.00
80	15	.25	2.11	.97
50	36	.59	3.98	.77
30	92	1.51	7.02	.53
10	334	5.52	13.05	.27

### IV. TYPICAL ANNUAL HYDROGRAPH AVERAGE ANNUAL FLOW = 114 CFS



LOCATIONS FOR USGS  
1:250,000 MAP SERIES



## REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 04-500-480-350-440-R0005

### I. LOCATION

A. State	Montana
B. County	Powell
C. Township, Range	T20N, R13W
D. Latitude, Longitude	47°33', 113°18'
E. Stream Name	South Fork Flathead River
F. Major Basin Name	Flathead
G. River Mile	75.8 to 82.4

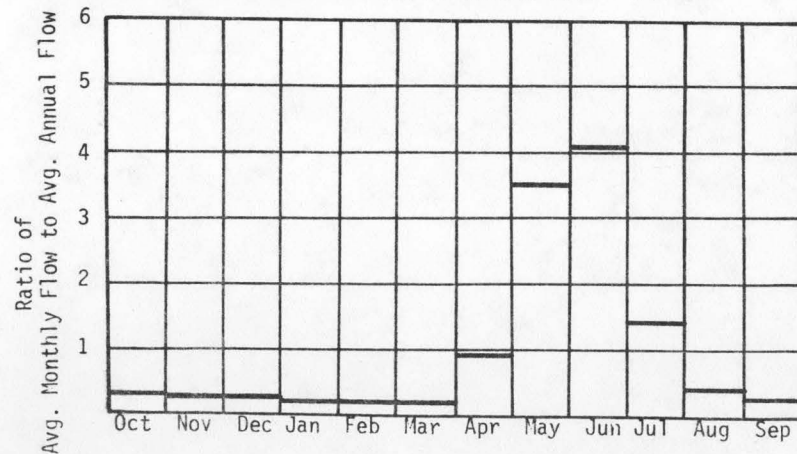
### II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

A. Upstream Elevation of Reach	4600	Ft. MSL
B. Downstream Elevation of Reach	4350	Ft. MSL
C. Total Available Head in Reach	250	Ft.
D. Average Slope in Reach	37.9	Ft./Mi.
E. Drainage Area above Reach Mouth	512	Sq.Mi.
F. Inflow Classification	Unregulated	

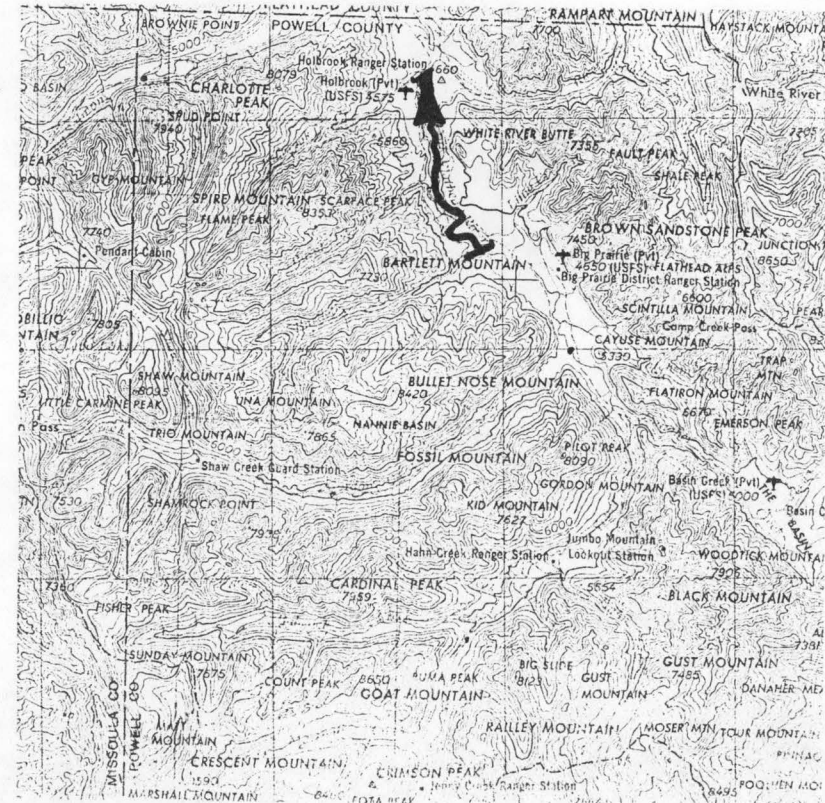
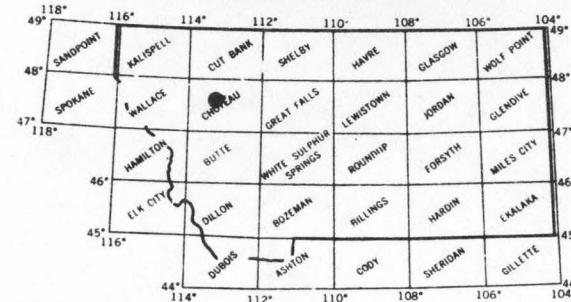
### III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	77	1.62	14.20	1.00
80	101	2.15	18.23	.97
50	241	5.10	34.40	.77
30	616	13.06	60.64	.53
10	2250	47.67	112.75	.27

### IV. TYPICAL ANNUAL HYDROGRAPH AVERAGE ANNUAL FLOW = 704 CFS



### LOCATIONS FOR USGS 1:250,000 MAP SERIES



## REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 04-500-480-350-440-R0006

### I. LOCATION

A. State	Montana
B. County	Powell
C. Township, Range	T21N, R14W
D. Latitude, Longitude	47°36', 113°23'
E. Stream Name	Big Salmon Creek
F. Major Basin Name	Flathead
G. River Mile	0.7 to 4.8

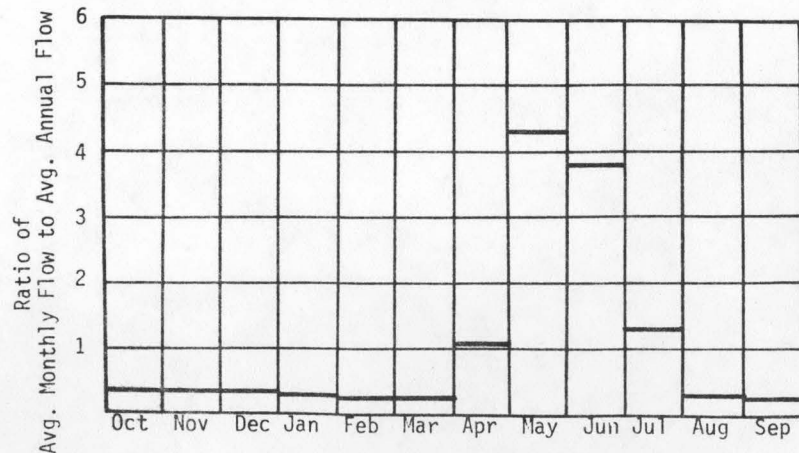
### II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

A. Upstream Elevation of Reach	4340	Ft. MSL
B. Downstream Elevation of Reach	4300	Ft. MSL
C. Total Available Head in Reach	105	Ft.
D. Average Slope in Reach	9.8	Ft./Mi.
E. Drainage Area above Reach Mouth	78	Sq.Mi.
F. Inflow Classification	Fully Regulated	

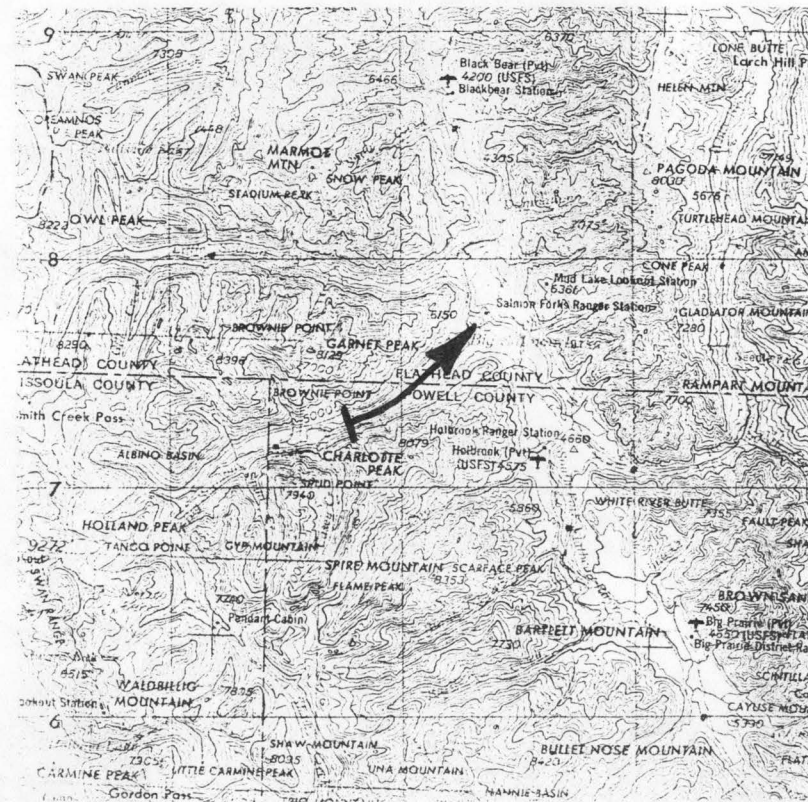
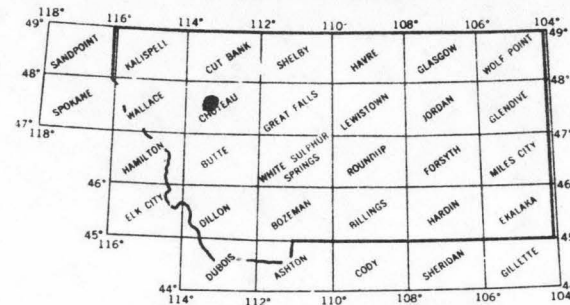
### III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	12	.11	.95	1.00
80	16	.14	1.22	.97
50	39	.34	2.31	.77
30	99	.88	4.08	.53
10	360	3.20	7.58	.27

### IV. TYPICAL ANNUAL HYDROGRAPH AVERAGE ANNUAL FLOW = 122 CFS



### LOCATIONS FOR USGS 1:250,000 MAP SERIES



## REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 04-500-480-350-440-R0007

### I. LOCATION

A. State	<u>Montana</u>
B. County	<u>Flathead</u>
C. Township, Range	<u>T22N, R14W</u>
D. Latitude, Longitude	<u>47°37', 113°20'</u>
E. Stream Name	<u>South Fork Flathead River</u>
F. Major Basin Name	<u>Flathead</u>
G. River Mile	<u>68.5 to 75.8</u>

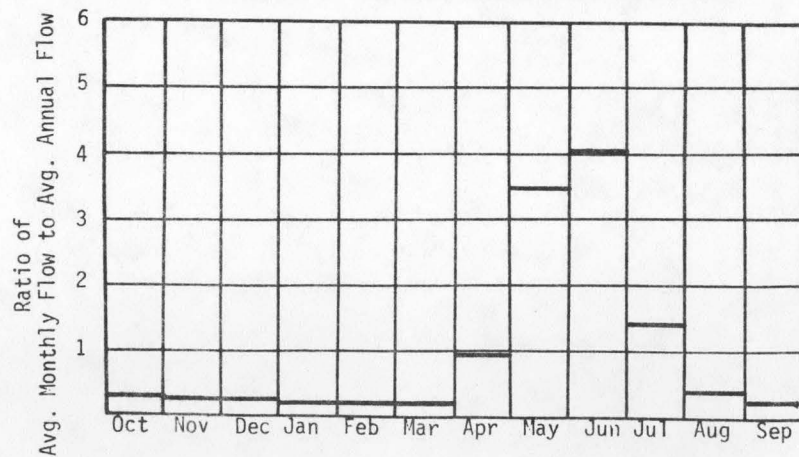
### II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

A. Upstream Elevation of Reach	<u>4350</u>	Ft. MSL
B. Downstream Elevation of Reach	<u>4180</u>	Ft. MSL
C. Total Available Head in Reach	<u>170</u>	Ft.
D. Average Slope in Reach	<u>23.3</u>	Ft./Mi.
E. Drainage Area above Reach Mouth	<u>677</u>	Sq.Mi.
F. Inflow Classification	<u>Partially Regulated</u>	

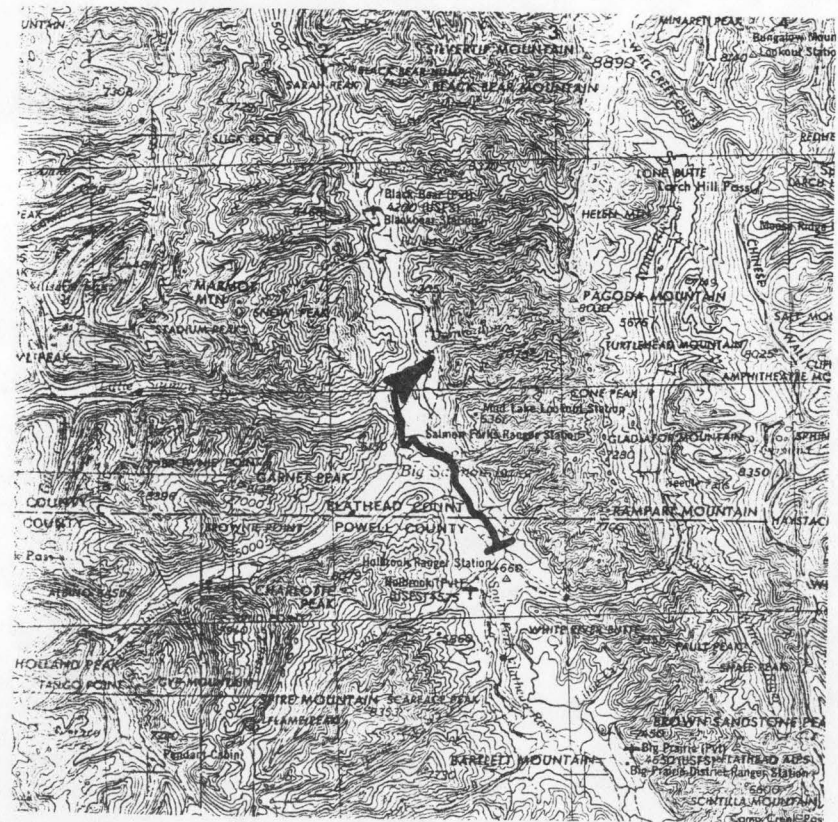
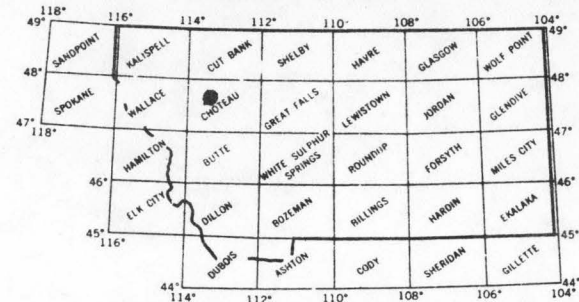
### III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	116	1.67	14.62	1.00
80	153	2.21	18.77	.97
50	365	5.25	35.44	.77
30	934	13.45	62.46	.53
10	3408	49.10	116.13	.27

### IV. TYPICAL ANNUAL HYDROGRAPH AVERAGE ANNUAL FLOW = 1062 CFS



LOCATIONS FOR USGS  
1:250,000 MAP SERIES



## REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 04-500-480-350-440-R0008

### I. LOCATION

A. State	Montana
B. County	Flathead
C. Township, Range	T22N, R14W
D. Latitude, Longitude	47°42', 113°23'
E. Stream Name	South Fork Flathead River
F. Major Basin Name	Flathead
G. River Mile	61.1 to 68.5

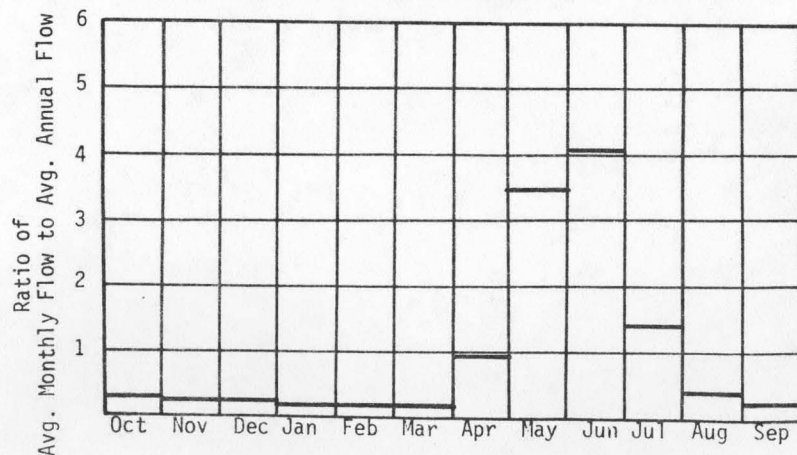
### II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

A. Upstream Elevation of Reach	4180	Ft. MSL
B. Downstream Elevation of Reach	4040	Ft. MSL
C. Total Available Head in Reach	140	Ft.
D. Average Slope in Reach	18.9	Ft./Mi.
E. Drainage Area above Reach Mouth	723	Sq.Mi.
F. Inflow Classification	Partially Regulated	

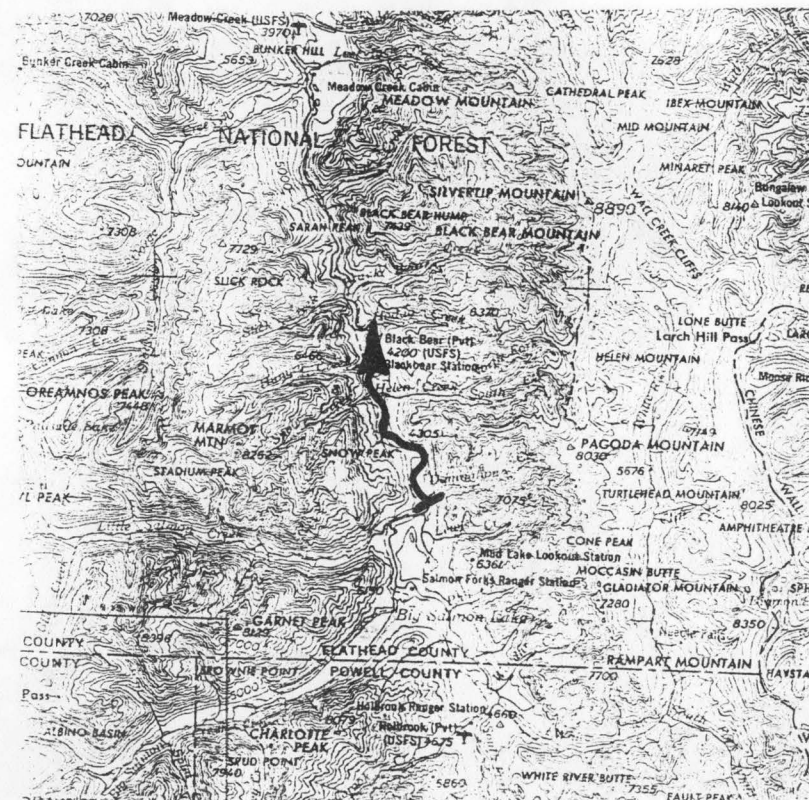
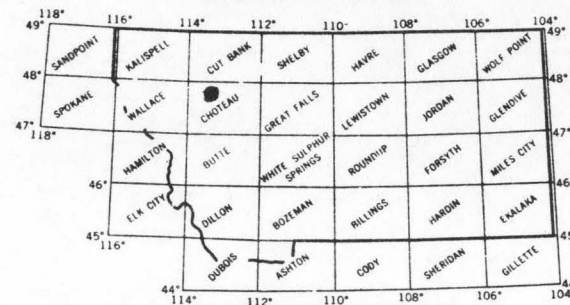
### III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	142	1.69	14.81	1.00
80	189	2.24	19.01	.97
50	448	5.32	35.89	.77
30	1148	13.62	63.25	.53
10	4191	49.72	117.61	.27

### IV. TYPICAL ANNUAL HYDROGRAPH AVERAGE ANNUAL FLOW = 1303 CFS



LOCATIONS FOR USGS  
1:250,000 MAP SERIES





## REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 04-500-480-350-440-R0009

### I. LOCATION

A. State	Montana
B. County	Flathead
C. Township, Range	T23N, R14W
D. Latitude, Longitude	47°47', 113°25'
E. Stream Name	South Fork Flathead River
F. Major Basin Name	Flathead
G. River Mile	54.2 to 61.1

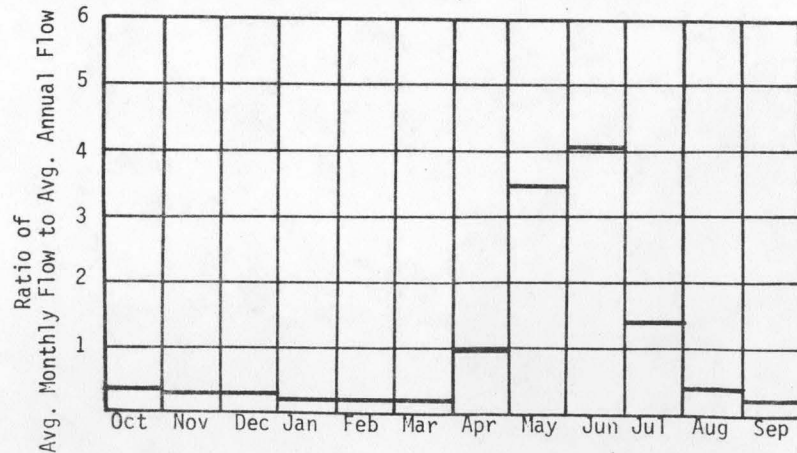
### II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

A. Upstream Elevation of Reach	4040	Ft. MSL
B. Downstream Elevation of Reach	3880	Ft. MSL
C. Total Available Head in Reach	160	Ft.
D. Average Slope in Reach	23.2	Ft./Mi.
E. Drainage Area above Reach Mouth	783	Sq.Mi.
F. Inflow Classification	Partially Regulated	

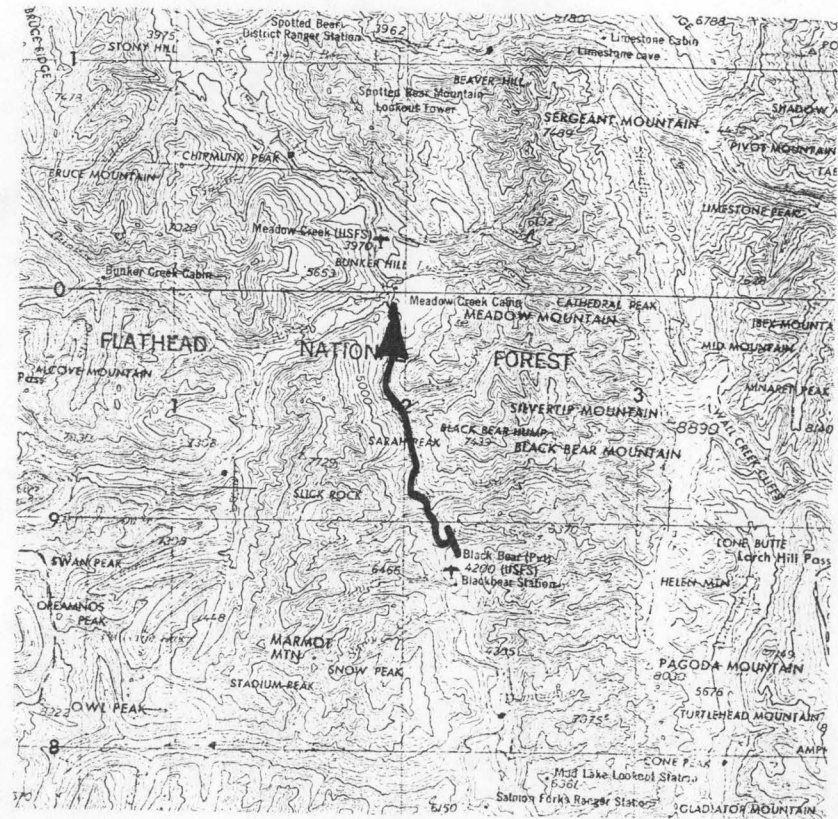
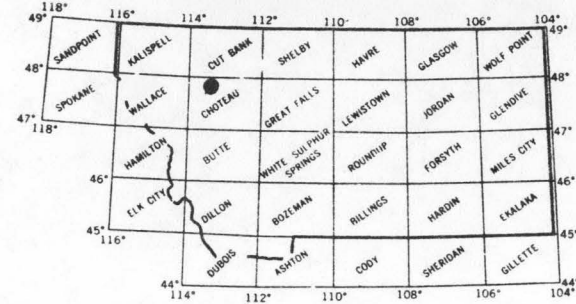
### III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	154	2.09	18.31	1.00
80	204	2.77	23.51	.97
50	485	6.58	44.38	.77
30	1243	16.85	78.22	.53
10	4535	61.49	145.44	.27

### IV. TYPICAL ANNUAL HYDROGRAPH AVERAGE ANNUAL FLOW = 1409 CFS



### LOCATIONS FOR USGS 1:250,000 MAP SERIES



## REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 04-500-480-350-440-R0010

### I. LOCATION

A. State	Montana
B. County	Flathead
C. Township, Range	T24N, R15W
D. Latitude, Longitude	47°49', 113°27'
E. Stream Name	Bunker Creek
F. Major Basin Name	Flathead
G. River Mile	0.5 to 4.1

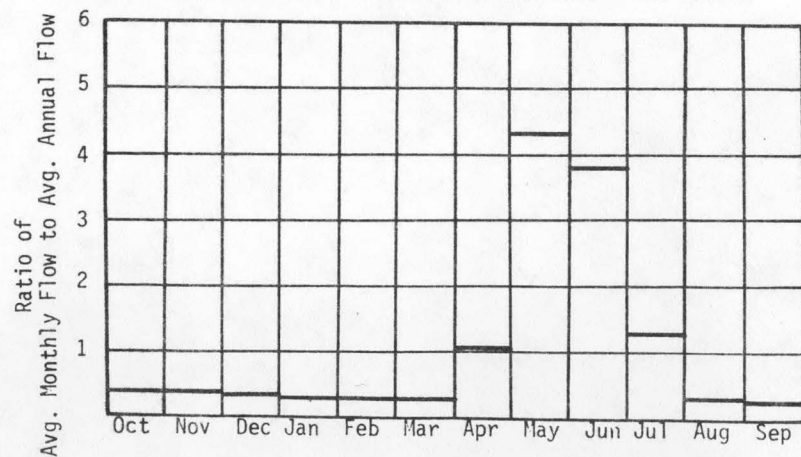
### II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

A. Upstream Elevation of Reach	4020	Ft. MSL
B. Downstream Elevation of Reach	3880	Ft. MSL
C. Total Available Head in Reach	205	Ft.
D. Average Slope in Reach	38.9	Ft./Mi.
E. Drainage Area above Reach Mouth	104	Sq. Mi.
F. Inflow Classification	Unregulated	

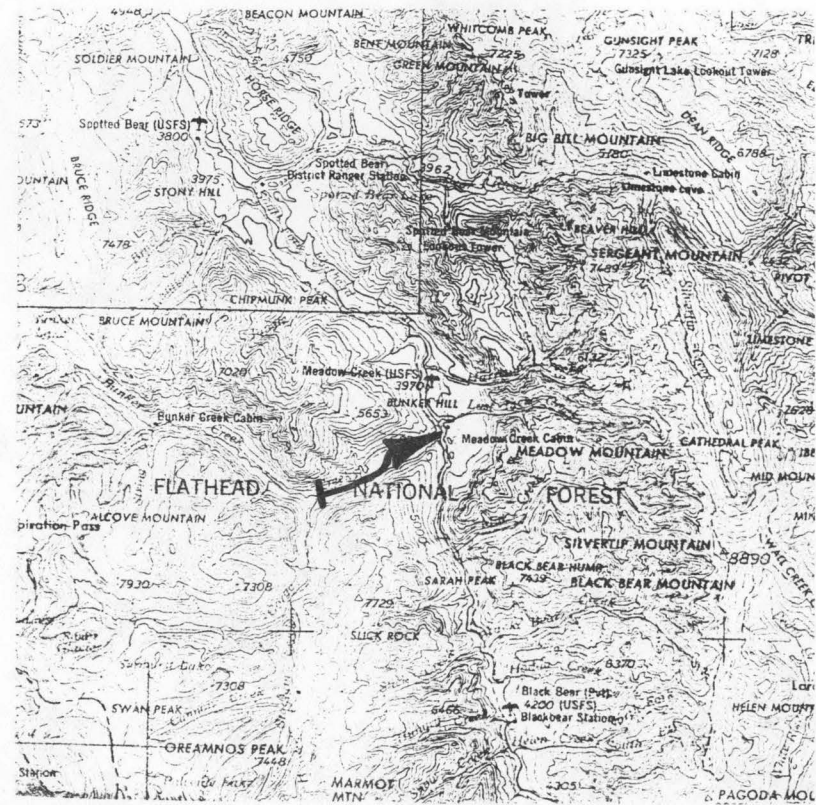
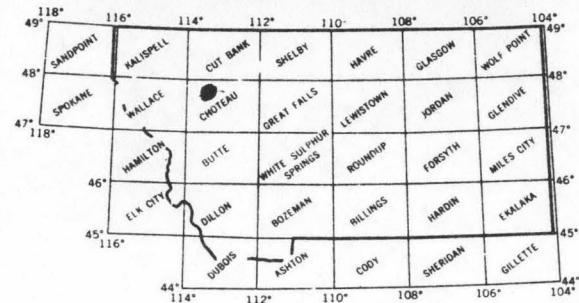
### III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	19	.33	2.90	1.00
80	25	.44	3.73	.97
50	60	1.04	7.03	.77
30	154	2.67	12.40	.53
10	561	9.75	23.05	.27

### IV. TYPICAL ANNUAL HYDROGRAPH AVERAGE ANNUAL FLOW = 184 CFS



### LOCATIONS FOR USGS 1:250,000 MAP SERIES



## REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 04-500-480-350-440-R0011

### I. LOCATION

A. State	<u>Montana</u>
B. County	<u>Flathead</u>
C. Township, Range	<u>T25N, R15W</u>
D. Latitude, Longitude	<u>47°53', 113°29'</u>
E. Stream Name	<u>South Fork Flathead River</u>
F. Major Basin Name	<u>Flathead</u>
G. River Mile	<u>44.4 to 54.2</u>

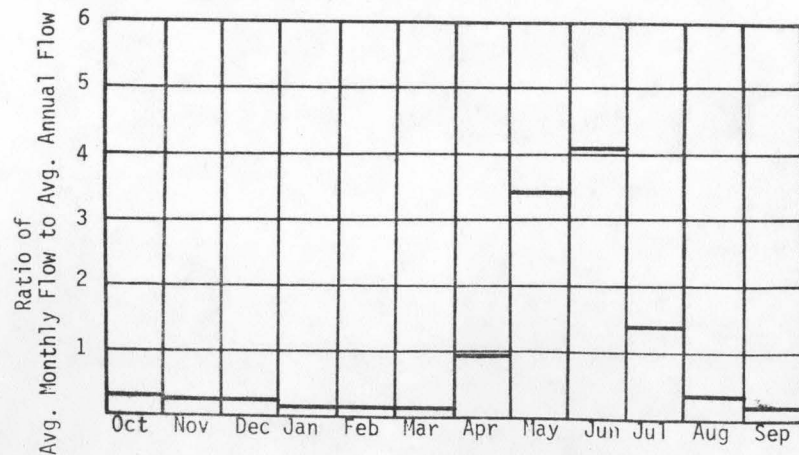
### II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

A. Upstream Elevation of Reach	<u>3880</u>	Ft. MSL
B. Downstream Elevation of Reach	<u>3735</u>	Ft. MSL
C. Total Available Head in Reach	<u>145</u>	Ft.
D. Average Slope in Reach	<u>14.8</u>	Ft./Mi.
E. Drainage Area above Reach Mouth	<u>957</u>	Sq.Mi.
F. Inflow Classification	<u>Partially Regulated</u>	

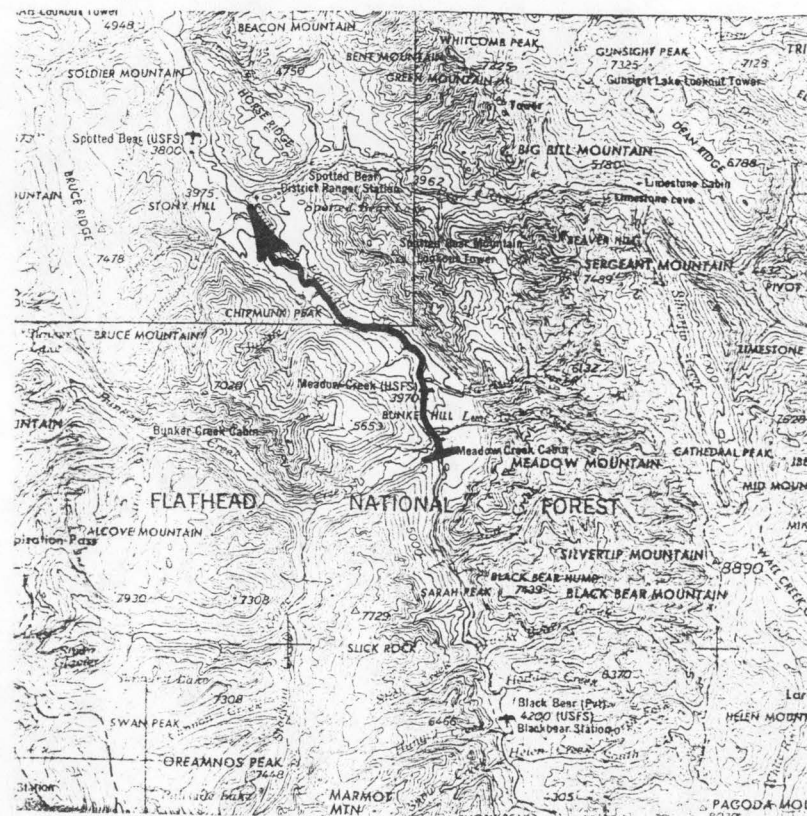
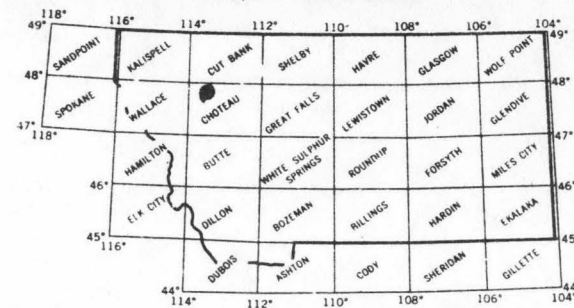
### III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	183	2.25	19.70	1.00
80	242	2.97	25.27	.97
50	575	7.07	47.66	.77
30	1472	18.09	83.98	.53
10	5372	66.01	156.13	.27

### IV. TYPICAL ANNUAL HYDROGRAPH AVERAGE ANNUAL FLOW = 1690 CFS



### LOCATIONS FOR USGS 1:250,000 MAP SERIES



## REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 04-500-480-350-440-R0012

### I. LOCATION

A. State	Montana
B. County	Flathead
C. Township, Range	T24N, R13W
D. Latitude, Longitude	47°52', 113°12'
E. Stream Name	Spotted Bear River
F. Major Basin Name	Flathead
G. River Mile	16.2 to 20.3

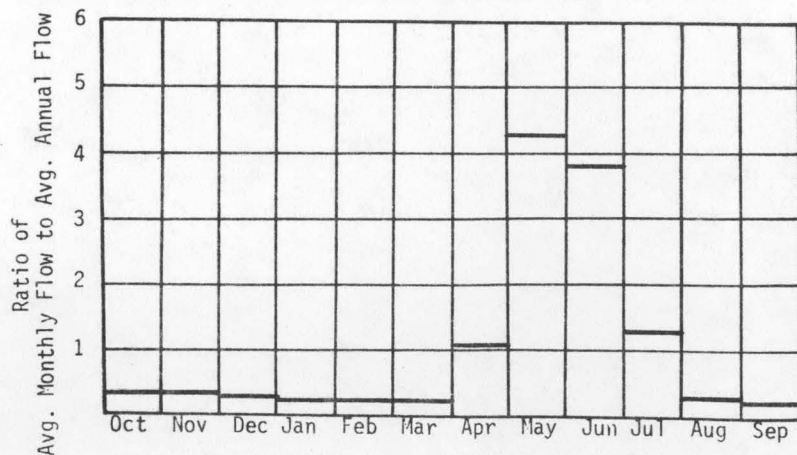
### II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

A. Upstream Elevation of Reach	4830	Ft. MSL
B. Downstream Elevation of Reach	4420	Ft. MSL
C. Total Available Head in Reach	475	Ft.
D. Average Slope in Reach	100.0	Ft./Mi.
E. Drainage Area above Reach Mouth	84	Sq.Mi.
F. Inflow Classification	Unregulated	

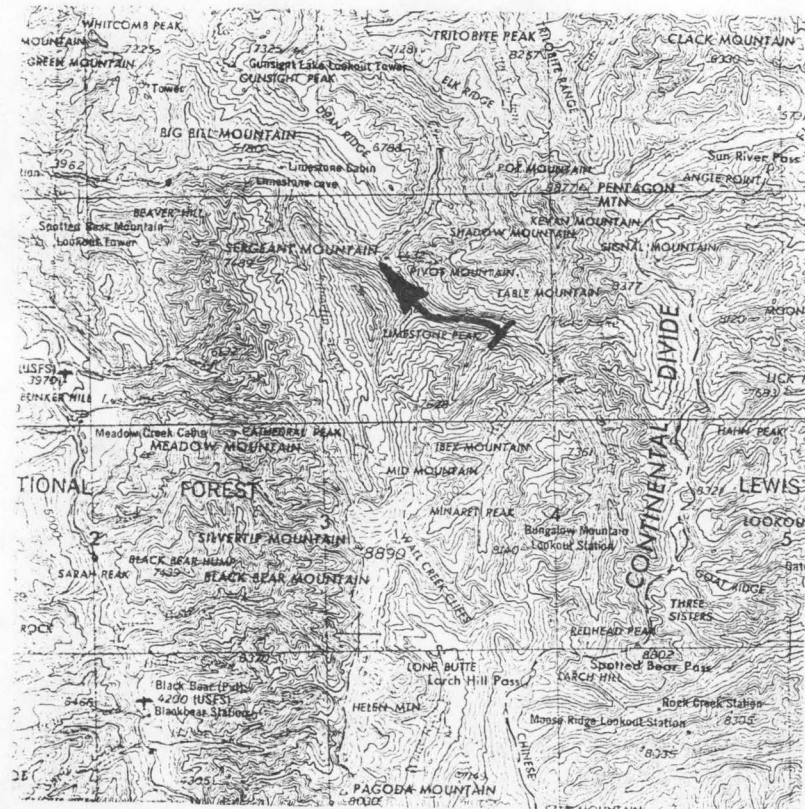
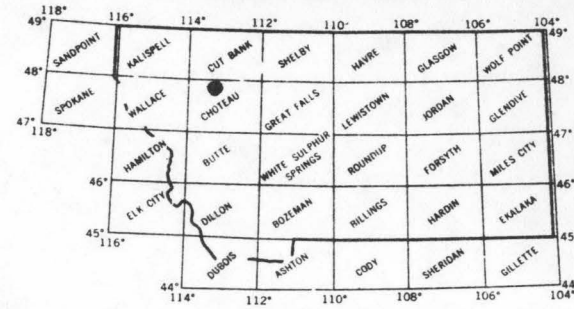
### III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	12	.46	4.06	1.00
80	15	.61	5.22	.97
50	36	1.46	9.85	.77
30	93	3.74	17.36	.53
10	339	13.65	32.28	.27

### IV. TYPICAL ANNUAL HYDROGRAPH AVERAGE ANNUAL FLOW = 115 CFS



LOCATIONS FOR USGS  
1:250,000 MAP SERIES



## REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 04-500-480-350-440-R0013

### I. LOCATION

A. State	<u>Montana</u>
B. County	<u>Flathead</u>
C. Township, Range	<u>T25N, R14W</u>
D. Latitude, Longitude	<u>47°55', 113°22'</u>
E. Stream Name	<u>Spotted Bear River</u>
F. Major Basin Name	<u>Flathead</u>
G. River Mile	<u>0.7 to 16.2</u>

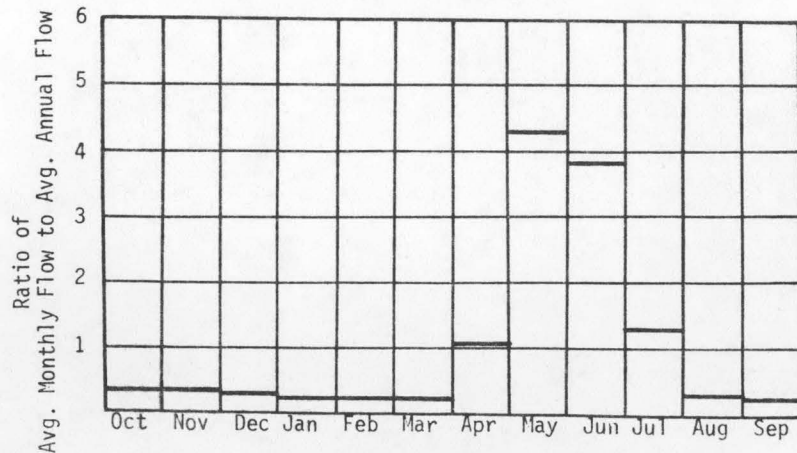
### II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

A. Upstream Elevation of Reach	<u>4420</u>	Ft. MSL
B. Downstream Elevation of Reach	<u>3740</u>	Ft. MSL
C. Total Available Head in Reach	<u>680</u>	Ft.
D. Average Slope in Reach	<u>43.9</u>	Ft./Mi.
E. Drainage Area above Reach Mouth	<u>184</u>	Sq. Mi.
F. Inflow Classification	<u>Unregulated</u>	

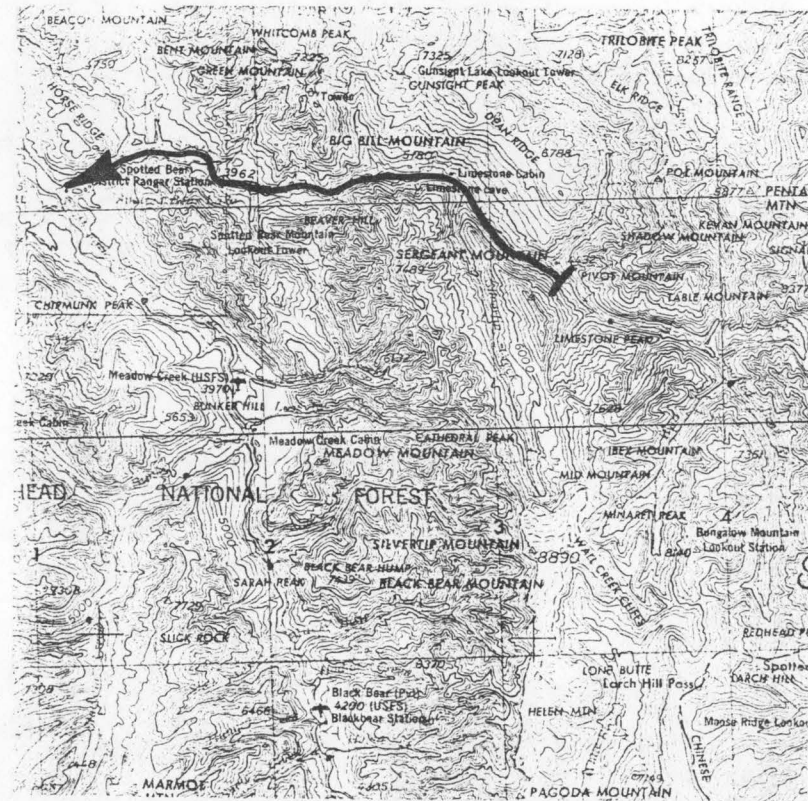
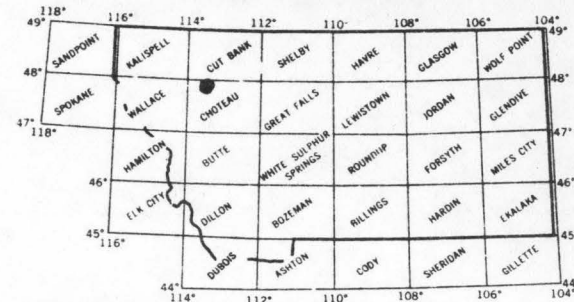
### III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	22	1.26	11.02	1.00
80	29	1.66	14.15	.97
50	69	3.96	26.70	.77
30	176	10.14	47.06	.53
10	642	37.00	87.50	.27

### IV. TYPICAL ANNUAL HYDROGRAPH AVERAGE ANNUAL FLOW = 208 CFS



### LOCATIONS FOR USGS 1:250,000 MAP SERIES





## REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 04-500-480-350-440-R0015

### I. LOCATION

A. State	<u>Montana</u>
B. County	<u>Flathead</u>
C. Township, Range	<u>T28N, R17W</u>
D. Latitude, Longitude	<u>48°12', 113°47'</u>
E. Stream Name	<u>South Fork Flathead River</u>
F. Major Basin Name	<u>Flathead</u>
G. River Mile	<u>3.9 to 40.1</u>

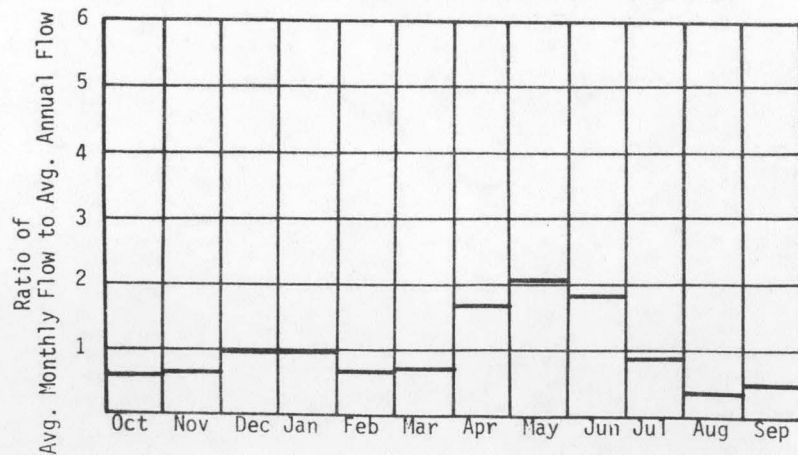
### II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

A. Upstream Elevation of Reach	<u>3620</u>	Ft. MSL
B. Downstream Elevation of Reach	<u>3240</u>	Ft. MSL
C. Total Available Head in Reach	<u>380</u>	Ft.
D. Average Slope in Reach	<u>10.5</u>	Ft./Mi.
E. Drainage Area above Reach Mouth	<u>1663</u>	Sq.Mi.
F. Inflow Classification	<u>Fully Regulated</u>	

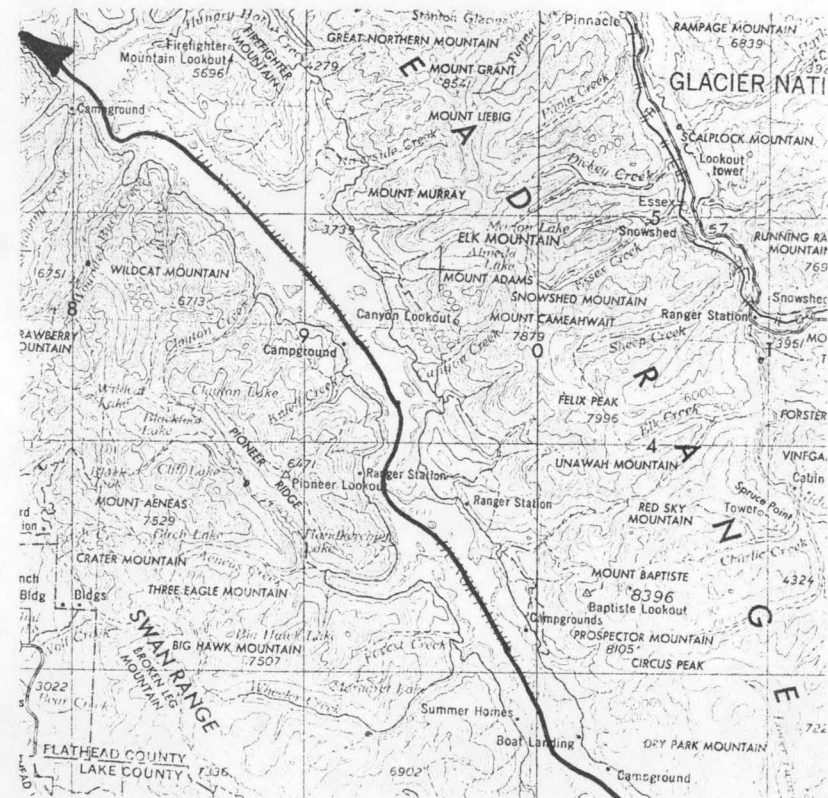
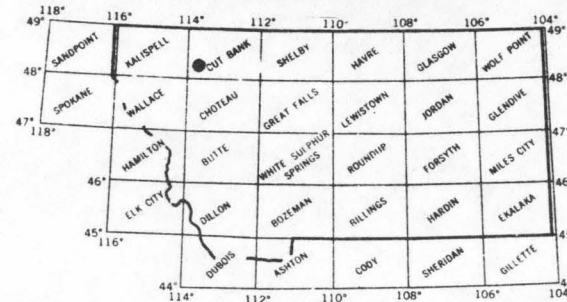
### III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	291	9.38	82.20	1.00
80	386	12.42	105.53	.97
50	917	29.53	199.19	.77
30	2348	75.62	351.09	.53
10	8570	275.98	652.75	.27

### IV. TYPICAL ANNUAL HYDROGRAPH AVERAGE ANNUAL FLOW = 3008 CFS



### LOCATIONS FOR USGS 1:250,000 MAP SERIES



## REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 04-500-480-350-440-R0016

### I. LOCATION

A. State	<u>Montana</u>
B. County	<u>Flathead</u>
C. Township, Range	<u>T27N, R12W</u>
D. Latitude, Longitude	<u>48°02', 113°03'</u>
E. Stream Name	<u>Middle Fork Flathead River</u>
F. Major Basin Name	<u>Flathead</u>
G. River Mile	<u>69.0 to 77.3</u>

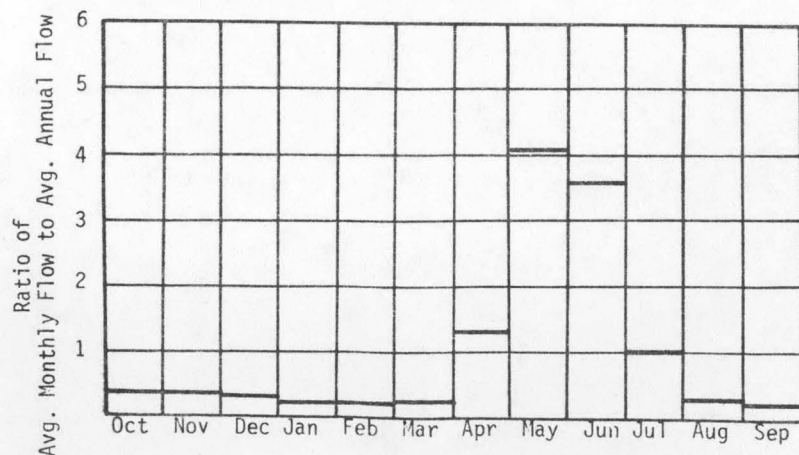
### II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

A. Upstream Elevation of Reach	<u>5220</u>	Ft. MSL
B. Downstream Elevation of Reach	<u>4940</u>	Ft. MSL
C. Total Available Head in Reach	<u>345</u>	Ft.
D. Average Slope in Reach	<u>33.7</u>	Ft./Mi.
E. Drainage Area above Reach Mouth	<u>135</u>	Sq.Mi.
F. Inflow Classification	<u>Unregulated</u>	

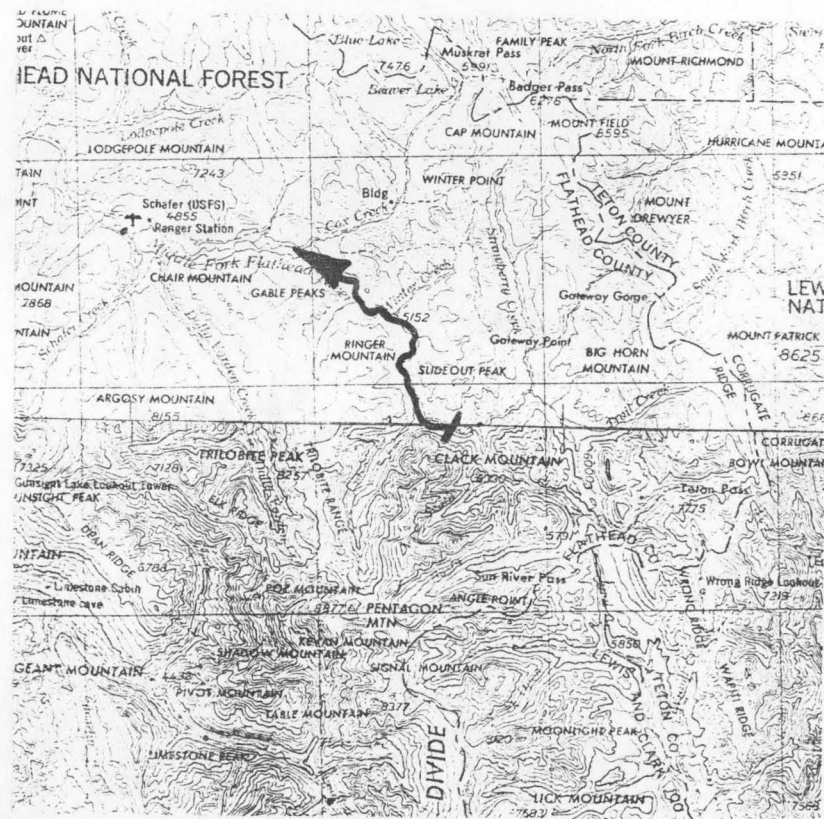
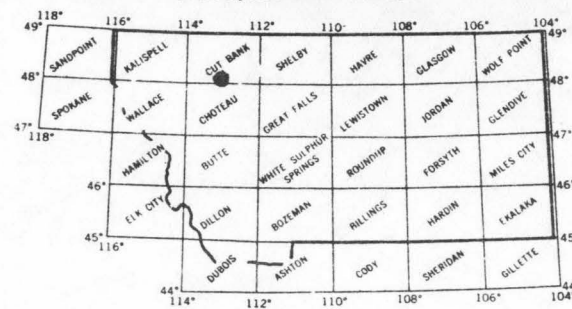
### III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	18	.53	4.68	1.00
80	23	.68	5.75	.97
50	47	1.38	9.41	.78
30	102	2.98	14.88	.57
10	406	11.87	27.04	.26

### IV. TYPICAL ANNUAL HYDROGRAPH AVERAGE ANNUAL FLOW = 136 CFS



LOCATIONS FOR USGS  
1:250,000 MAP SERIES





## REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 04-500-480-350-440-R0017

### I. LOCATION

A. State	Montana	
B. County	Flathead	
C. Township, Range	T27N, R13W	
D. Latitude, Longitude	48°04', 113°15'	
E. Stream Name	Middle Fork Flathead River	
F. Major Basin Name	Flathead	
G. River Mile	56.6 to 69.0	

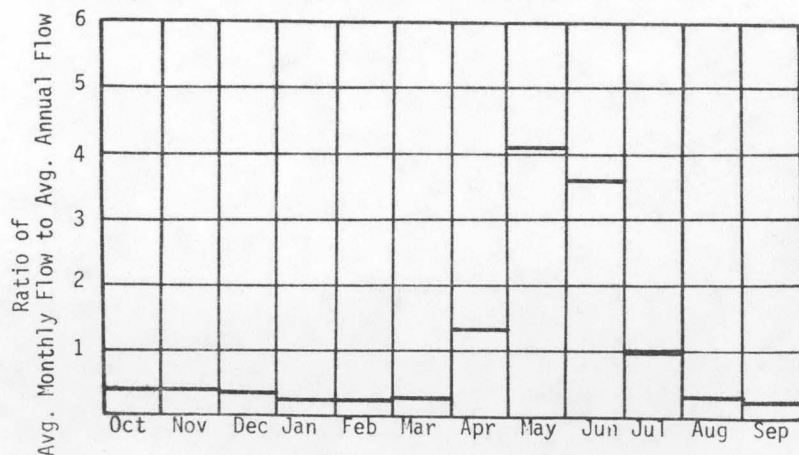
### II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

A. Upstream Elevation of Reach	4940	Ft. MSL
B. Downstream Elevation of Reach	4495	Ft. MSL
C. Total Available Head in Reach	445	Ft.
D. Average Slope in Reach	35.9	Ft./Mi.
E. Drainage Area above Reach Mouth	285	Sq.Mi.
F. Inflow Classification	Unregulated	

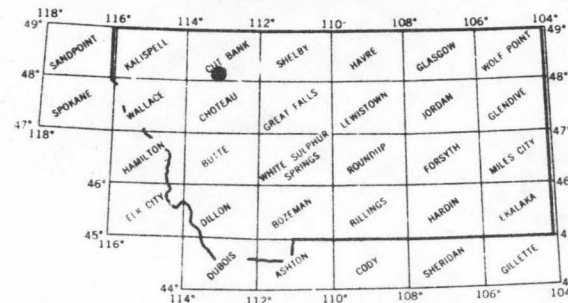
### III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	43	1.63	14.32	1.00
80	55	2.07	17.59	.97
50	112	4.21	28.78	.78
30	242	9.21	45.52	.57
10	963	36.32	82.71	.26

### IV. TYPICAL ANNUAL HYDROGRAPH AVERAGE ANNUAL FLOW = 308 CFS



### LOCATIONS FOR USGS 1:250,000 MAP SERIES



## REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 04-500-480-350-440-R0018

### I. LOCATION

A. State	<u>Montana</u>
B. County	<u>Flathead</u>
C. Township, Range	<u>T28N, R14W</u>
D. Latitude, Longitude	<u>48°09', 113°23'</u>
E. Stream Name	<u>Middle Fork Flathead River</u>
F. Major Basin Name	<u>Flathead</u>
G. River Mile	<u>51.0 to 56.6</u>

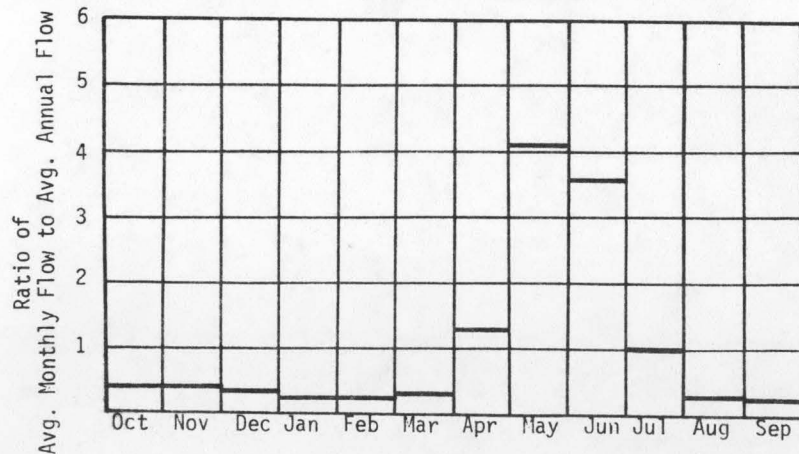
### II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

A. Upstream Elevation of Reach	<u>4495</u>	Ft. MSL
B. Downstream Elevation of Reach	<u>4280</u>	Ft. MSL
C. Total Available Head in Reach	<u>215</u>	Ft.
D. Average Slope in Reach	<u>38.4</u>	Ft./Mi.
E. Drainage Area above Reach Mouth	<u>350</u>	Sq.Mi.
F. Inflow Classification	<u>Unregulated</u>	

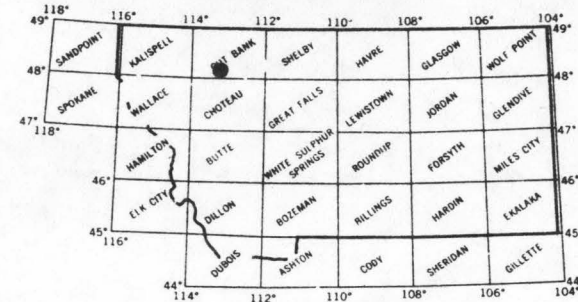
### III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	71	1.29	11.29	1.00
80	90	1.63	13.87	.97
50	182	3.32	22.70	.78
30	395	7.19	35.90	.57
10	1572	28.64	65.24	.26

### IV. TYPICAL ANNUAL HYDROGRAPH AVERAGE ANNUAL FLOW = 496 CFS



### LOCATIONS FOR USGS 1:250,000 MAP SERIES



## REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 04-500-480-350-440-R0019

### I. LOCATION

A. State	Montana
B. County	Flathead
C. Township, Range	T28N, R15W
D. Latitude, Longitude	48°09', 113°29'
E. Stream Name	Middle Fork Flathead River
F. Major Basin Name	Flathead
G. River Mile	44.8 to 51.0

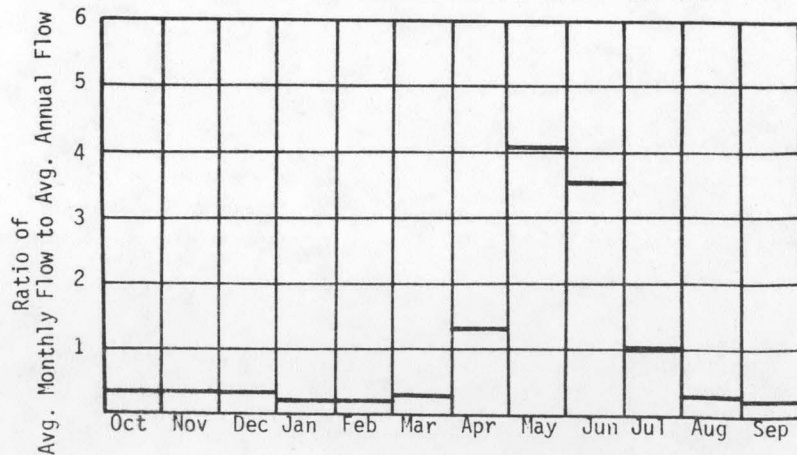
### II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

A. Upstream Elevation of Reach	4280	Ft. MSL
B. Downstream Elevation of Reach	4065	Ft. MSL
C. Total Available Head in Reach	215	Ft.
D. Average Slope in Reach	34.7	Ft./Mi.
E. Drainage Area above Reach Mouth	402	Sq.Mi.
F. Inflow Classification	Unregulated	

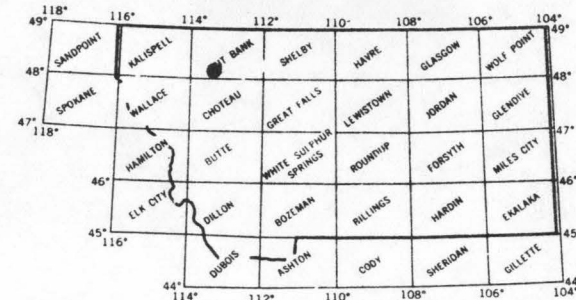
### III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	87	1.59	13.95	1.00
80	111	2.02	17.14	.97
50	225	4.10	28.05	.78
30	487	8.88	44.35	.57
10	1942	35.38	80.59	.26

### IV. TYPICAL ANNUAL HYDROGRAPH AVERAGE ANNUAL FLOW = 610 CFS



### LOCATIONS FOR USGS 1:250,000 MAP SERIES



## REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 04-500-480-350-440-R0020

### I. LOCATION

A. State	Montana
B. County	Flathead
C. Township, Range	T28N, R15W
D. Latitude, Longitude	48°13', 113°34'
E. Stream Name	Middle Fork Flathead River
F. Major Basin Name	Flathead
G. River Mile	35.8 to 44.8

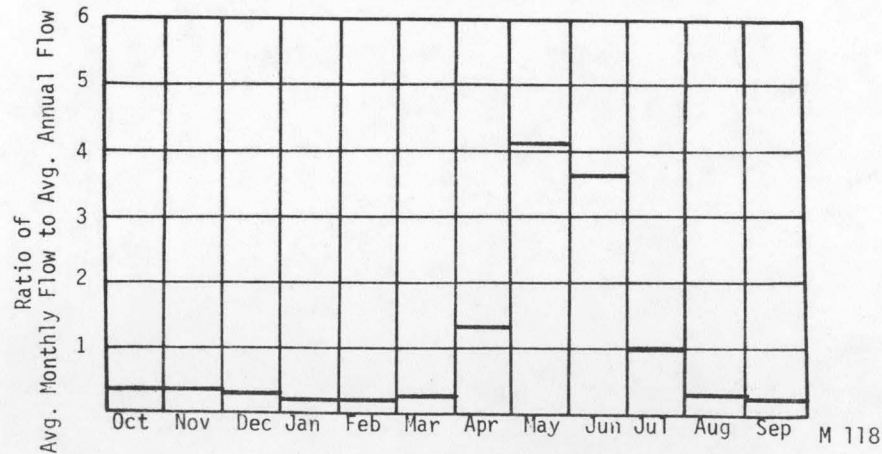
### II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

A. Upstream Elevation of Reach	4065	Ft. MSL
B. Downstream Elevation of Reach	3750	Ft. MSL
C. Total Available Head in Reach	315	Ft.
D. Average Slope in Reach	35.0	Ft./Mi.
E. Drainage Area above Reach Mouth	503	Sq.Mi.
F. Inflow Classification	Unregulated	

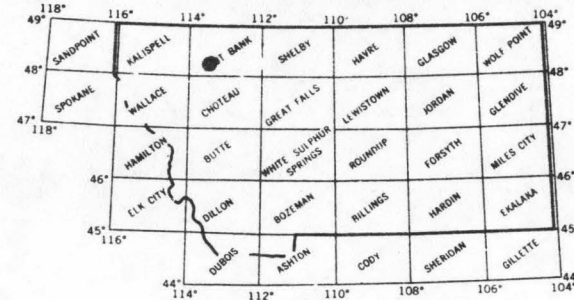
### III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	111	2.95	25.84	1.00
80	140	3.74	31.75	.97
50	285	7.61	51.97	.78
30	616	16.46	82.17	.57
10	2456	65.56	149.33	.26

### IV. TYPICAL ANNUAL HYDROGRAPH AVERAGE ANNUAL FLOW = 768 CFS



### LOCATIONS FOR USGS 1:250,000 MAP SERIES



## REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 04-500-480-350-440-R0021

### I. LOCATION

A. State	Montana
B. County	Flathead
C. Township, Range	T29N, R16W
D. Latitude, Longitude	48°18', 113°36'
E. Stream Name	Middle Fork Flathead River
F. Major Basin Name	Flathead
G. River Mile	29.8 to 35.8

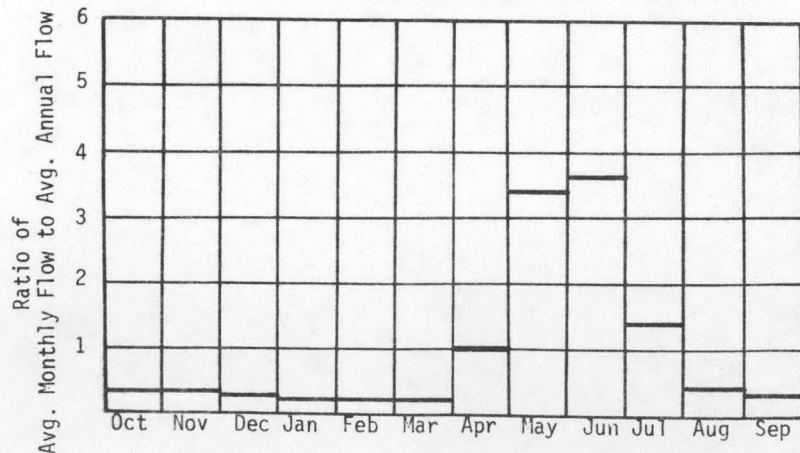
### II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

A. Upstream Elevation of Reach	3750	Ft. MSL
B. Downstream Elevation of Reach	3595	Ft. MSL
C. Total Available Head in Reach	155	Ft.
D. Average Slope in Reach	25.8	Ft./Mi.
E. Drainage Area above Reach Mouth	624	Sq.Mi.
F. Inflow Classification	Unregulated	

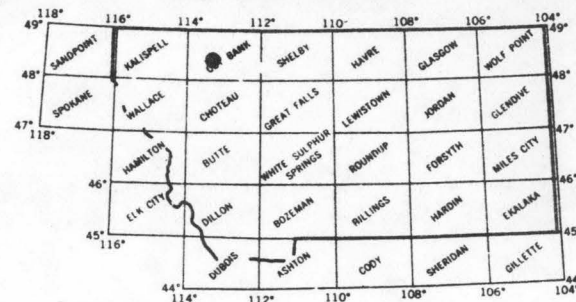
### III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	150	1.97	17.28	1.00
80	190	2.50	21.24	.97
50	387	5.09	34.75	.78
30	838	11.01	54.95	.57
10	3338	43.85	99.87	.26

### IV. TYPICAL ANNUAL HYDROGRAPH AVERAGE ANNUAL FLOW = 1040 CFS



### LOCATIONS FOR USGS 1:250,000 MAP SERIES



## REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 04-500-480-350-440-R0022

### I. LOCATION

A. State	<u>Montana</u>
B. County	<u>Flathead</u>
C. Township, Range	<u>T31N, R17W</u>
D. Latitude, Longitude	<u>48°28', 113°44'</u>
E. Stream Name	<u>Nyack Creek</u>
F. Major Basin Name	<u>Flathead</u>
G. River Mile	<u>.9 to 7.7</u>

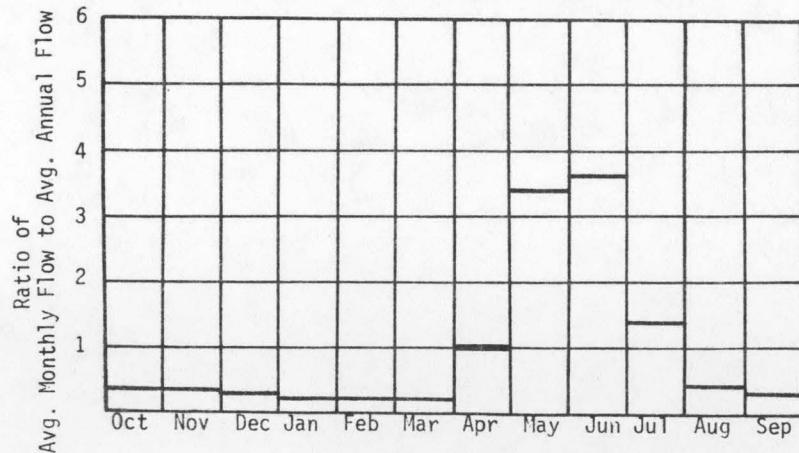
### II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

A. Upstream Elevation of Reach	<u>3590</u>	Ft. MSL
B. Downstream Elevation of Reach	<u>3335</u>	Ft. MSL
C. Total Available Head in Reach	<u>320</u>	Ft.
D. Average Slope in Reach	<u>37.5</u>	Ft./Mi.
E. Drainage Area above Reach Mouth	<u>78</u>	Sq. Mi.
F. Inflow Classification	<u>Unregulated</u>	

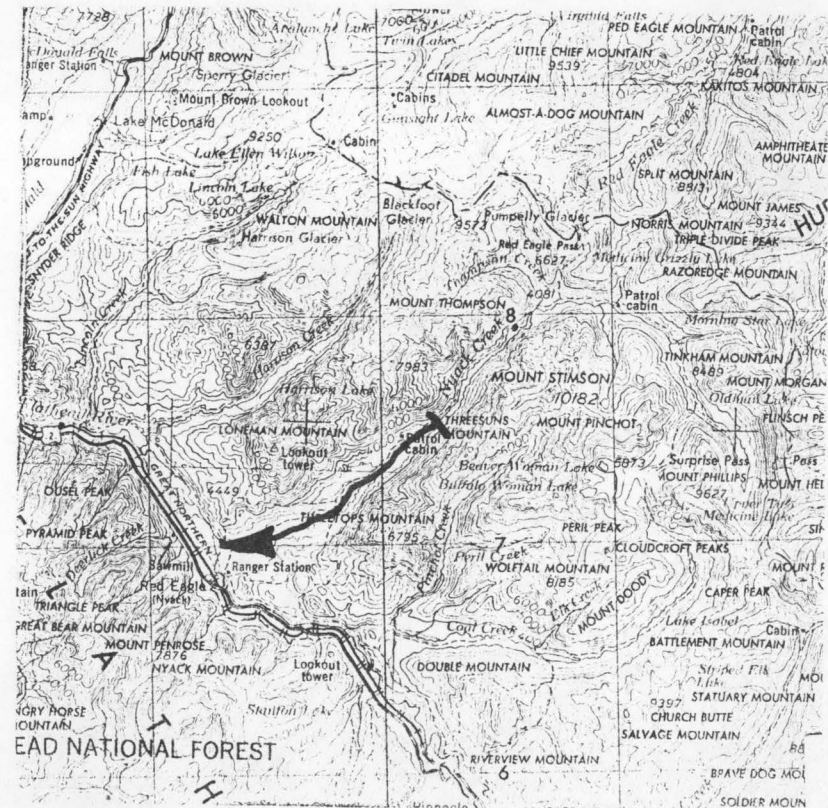
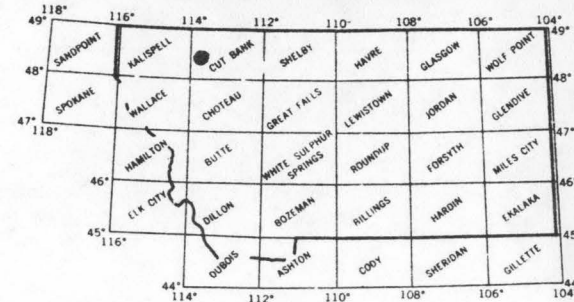
### III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	19	.52	4.58	1.00
80	24	.66	5.62	.97
50	50	1.35	9.20	.78
30	107	2.91	14.55	.57
10	428	11.61	26.44	.26

### IV. TYPICAL ANNUAL HYDROGRAPH AVERAGE ANNUAL FLOW = 142 CFS



### LOCATIONS FOR USGS 1:250,000 MAP SERIES



## REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 04-500-480-350-440-R0023

### I. LOCATION

A. State	<u>Montana</u>
B. County	<u>Flathead</u>
C. Township, Range	<u>T31N, R17W</u>
D. Latitude, Longitude	<u>48°24', 113°43'</u>
E. Stream Name	<u>Middle Fork Flathead River</u>
F. Major Basin Name	<u>Flathead</u>
G. River Mile	<u>15.8 to 29.8</u>

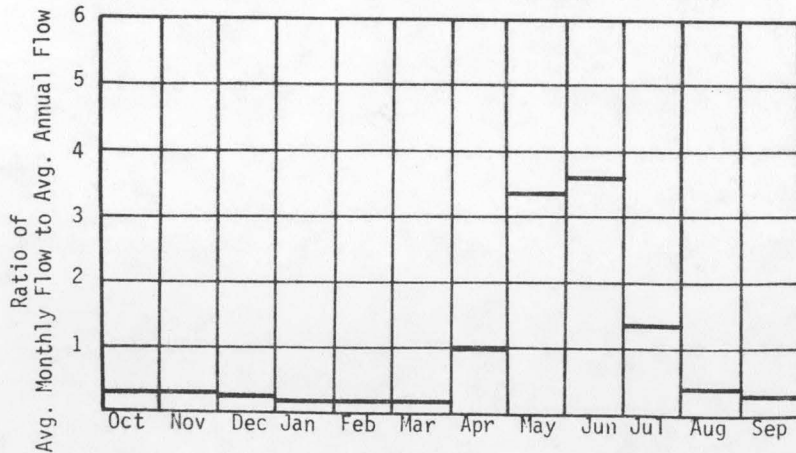
### II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

A. Upstream Elevation of Reach	<u>3595</u>	Ft. MSL
B. Downstream Elevation of Reach	<u>3320</u>	Ft. MSL
C. Total Available Head in Reach	<u>275</u>	Ft.
D. Average Slope in Reach	<u>19.6</u>	Ft./Mi.
E. Drainage Area above Reach Mouth	<u>840</u>	Sq. Mi.
F. Inflow Classification	<u>Unregulated</u>	

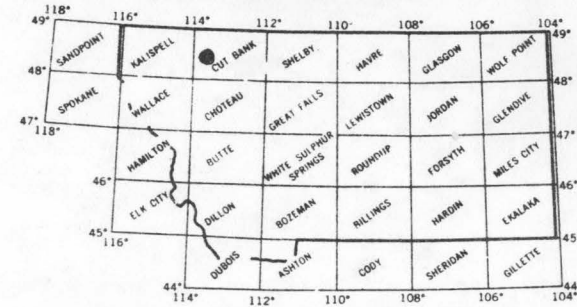
### III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	221	5.15	45.12	1.00
80	280	6.53	55.45	.97
50	571	13.31	90.93	.78
30	1235	28.78	143.71	.57
10	4920	114.66	261.15	.26

### IV. TYPICAL ANNUAL HYDROGRAPH AVERAGE ANNUAL FLOW = 1528 CFS



LOCATIONS FOR USGS  
1:250,000 MAP SERIES



## REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 04-500-480-350-440-R0024

### I. LOCATION

A. State	Montana
B. County	Flathead
C. Township, Range	T34N, R18W
D. Latitude, Longitude	48°41', 113°49'
E. Stream Name	McDonald Creek
F. Major Basin Name	Flathead
G. River Mile	11.1 to 21.7

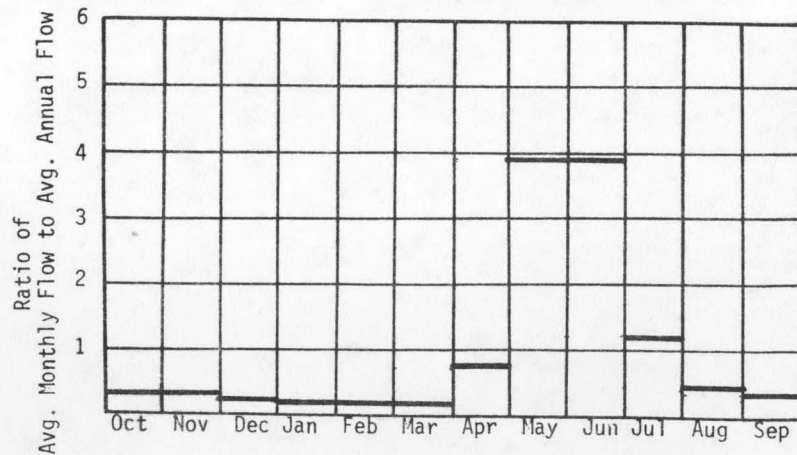
### II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

A. Upstream Elevation of Reach	3660	Ft. MSL
B. Downstream Elevation of Reach	3275	Ft. MSL
C. Total Available Head in Reach	450	Ft.
D. Average Slope in Reach	36.3	Ft./Mi.
E. Drainage Area above Reach Mouth	107	Sq.Mi.
F. Inflow Classification	Unregulated	

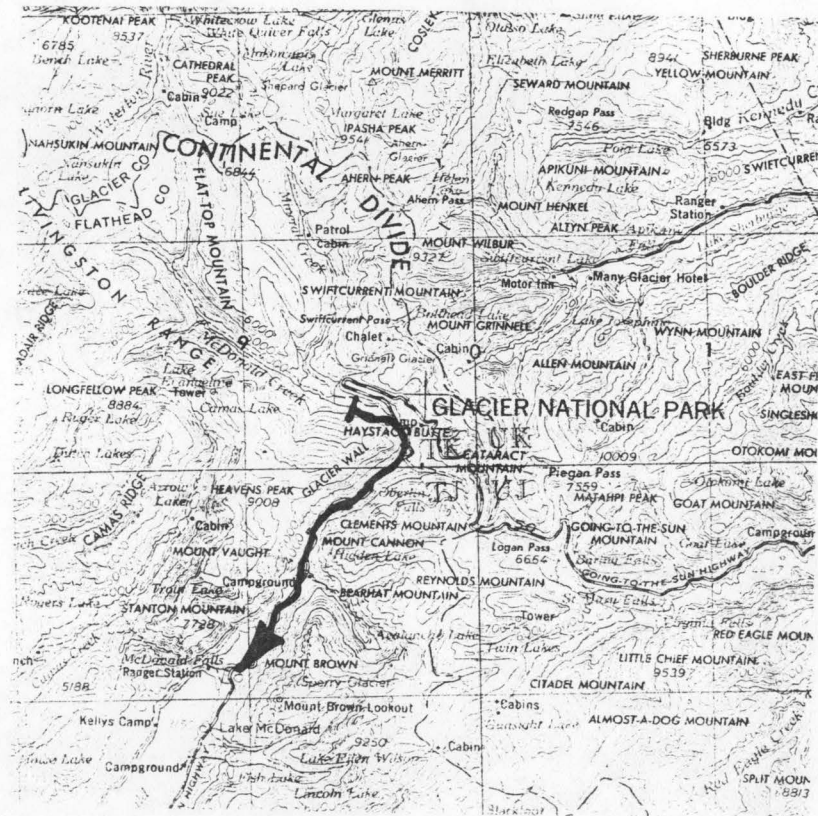
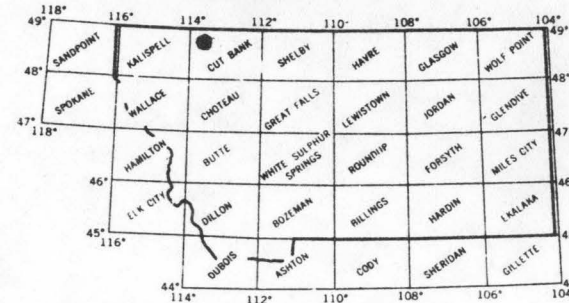
### III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	25	.96	8.42	1.00
80	32	1.22	10.34	.97
50	65	2.48	16.93	.78
30	141	5.36	26.77	.57
10	560	21.36	48.64	.26

### IV. TYPICAL ANNUAL HYDROGRAPH AVERAGE ANNUAL FLOW - 183 CFS



### LOCATIONS FOR USGS 1:250,000 MAP SERIES





## REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 04-500-480-350-440-R0025

### I. LOCATION

A. State	Montana
B. County	Flathead
C. Township, Range	T33N. R18W
D. Latitude, Longitude	48°35', 113°55'
E. Stream Name	McDonald Creek
F. Major Basin Name	Flathead
G. River Mile	1.5 to 11.1

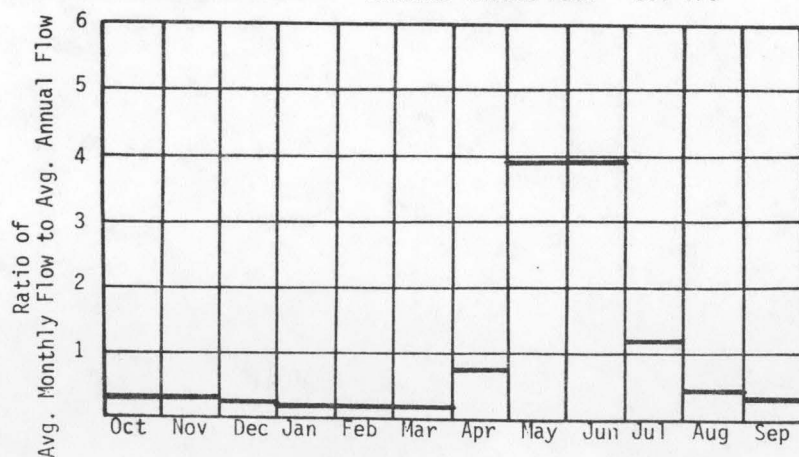
### II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

A. Upstream Elevation of Reach	3275	Ft. MSL
B. Downstream Elevation of Reach	3150	Ft. MSL
C. Total Available Head in Reach	125	Ft.
D. Average Slope in Reach	13.0	Ft./Mi.
E. Drainage Area above Reach Mouth	182	Sq.Mi.
F. Inflow Classification	Fully Regulated	

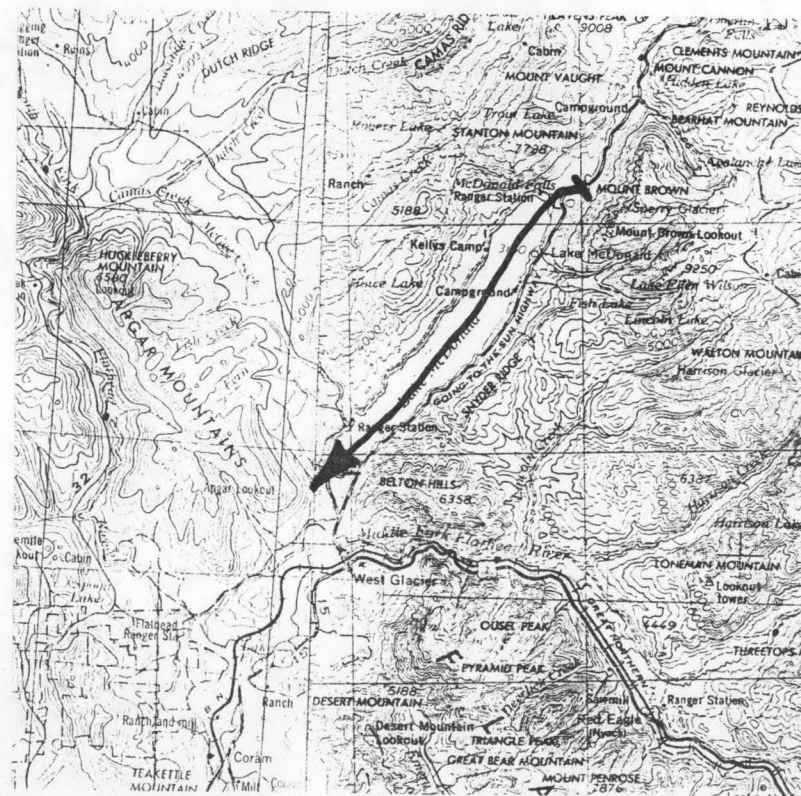
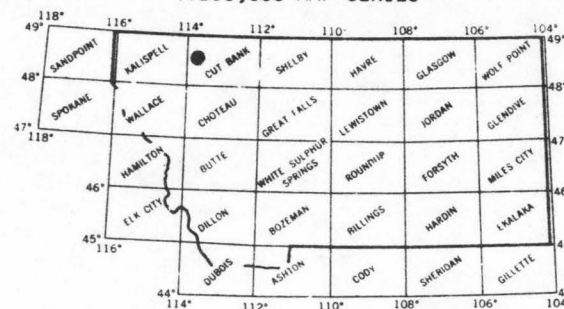
### III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	42	.45	3.93	1.00
80	54	.57	4.83	.97
50	109	1.16	7.91	.78
30	236	2.50	12.51	.57
10	942	9.98	22.73	.26

### IV. TYPICAL ANNUAL HYDROGRAPH AVERAGE ANNUAL FLOW = 301 CFS



LOCATIONS FOR USGS  
1:250,000 MAP SERIES



## REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 04-500-480-350-440-R0026

### I. LOCATION

A. State	<u>Montana</u>
B. County	<u>Flathead</u>
C. Township, Range	<u>T32N, R18W</u>
D. Latitude, Longitude	<u>48°30', 113° 54'</u>
E. Stream Name	<u>Middle Fork Flathead River</u>
F. Major Basin Name	<u>Flathead</u>
G. River Mile	<u>3.7 to 15.8</u>

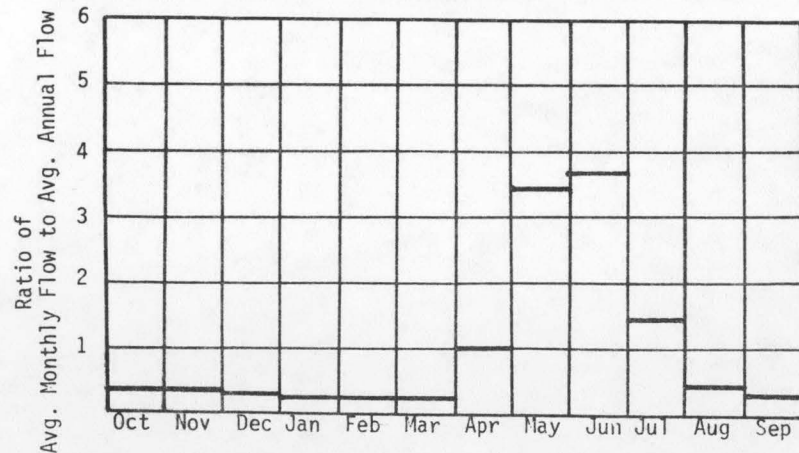
### II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

A. Upstream Elevation of Reach	<u>3320</u>	<u>Ft. MSL</u>
B. Downstream Elevation of Reach	<u>3125</u>	<u>Ft. MSL</u>
C. Total Available Head in Reach	<u>195</u>	<u>Ft.</u>
D. Average Slope in Reach	<u>16.1</u>	<u>Ft./Mi.</u>
E. Drainage Area above Reach Mouth	<u>1120</u>	<u>Sq.Mi.</u>
F. Inflow Classification	<u>Partially Regulated</u>	

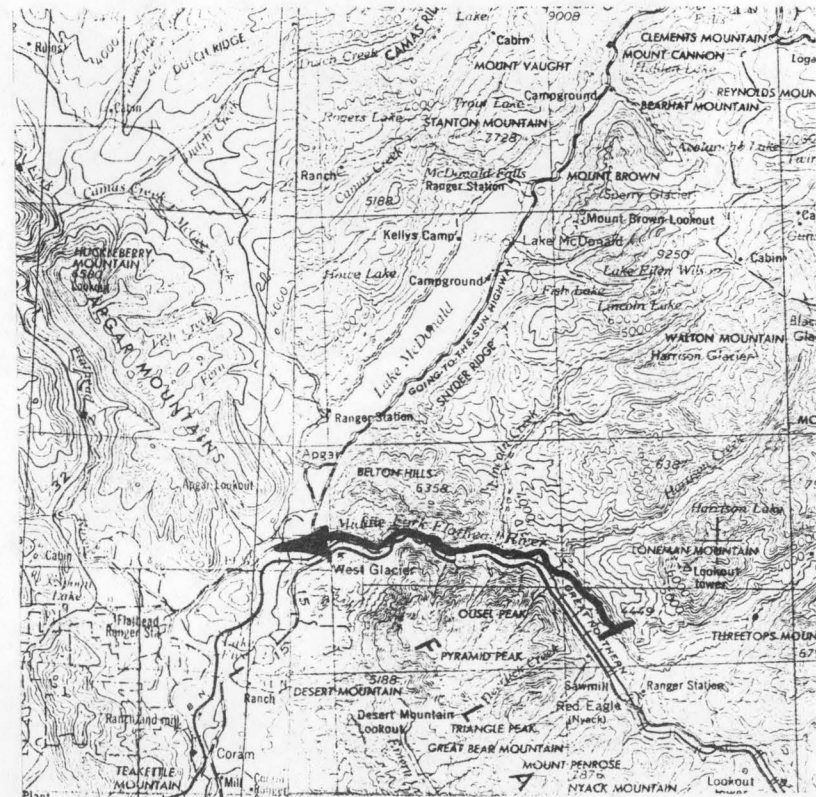
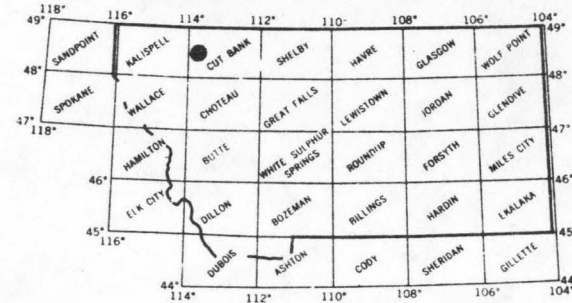
### III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	302	4.99	43.75	1.00
80	383	6.33	53.75	.97
50	779	12.87	87.97	.78
30	1686	27.86	139.10	.57
10	6716	110.98	252.78	.26

### IV. TYPICAL ANNUAL HYDROGRAPH AVERAGE ANNUAL FLOW = 2244 CFS



LOCATIONS FOR USGS  
1:250,000 MAP SERIES



## REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 04-500-480-350-440-R0027

### I. LOCATION

A. State	<u>Montana</u>
B. County	<u>Flathead</u>
C. Township, Range	<u>R22W, T37N</u>
D. Latitude, Longitude	<u>48°57', 114°26'</u>
E. Stream Name	<u>North Fork Flathead</u> River
F. Major Basin Name	<u>Flathead</u>
G. River Mile	<u>190.3 to 198.2</u>

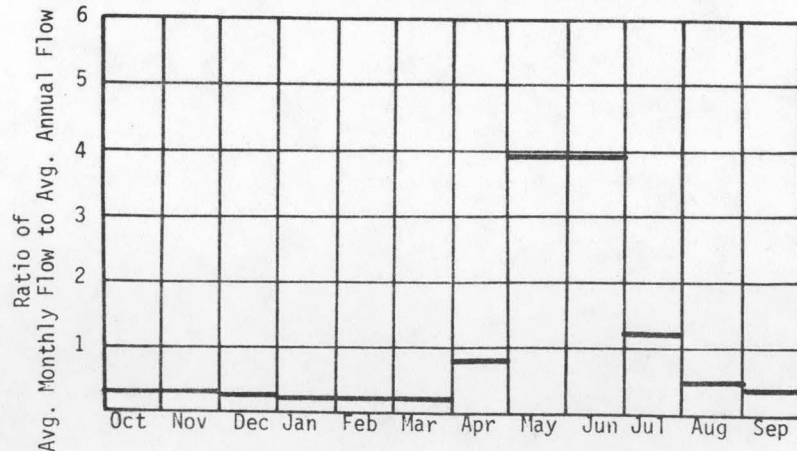
### II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

A. Upstream Elevation of Reach	<u>3980</u>	Ft. MSL
B. Downstream Elevation of Reach	<u>3865</u>	Ft. MSL
C. Total Available Head in Reach	<u>180</u>	Ft.
D. Average Slope in Reach	<u>14.6</u>	Ft./Mi.
E. Drainage Area above Reach Mouth	<u>616</u>	Sq.Mi.
F. Inflow Classification	<u>Partially Regulated</u>	

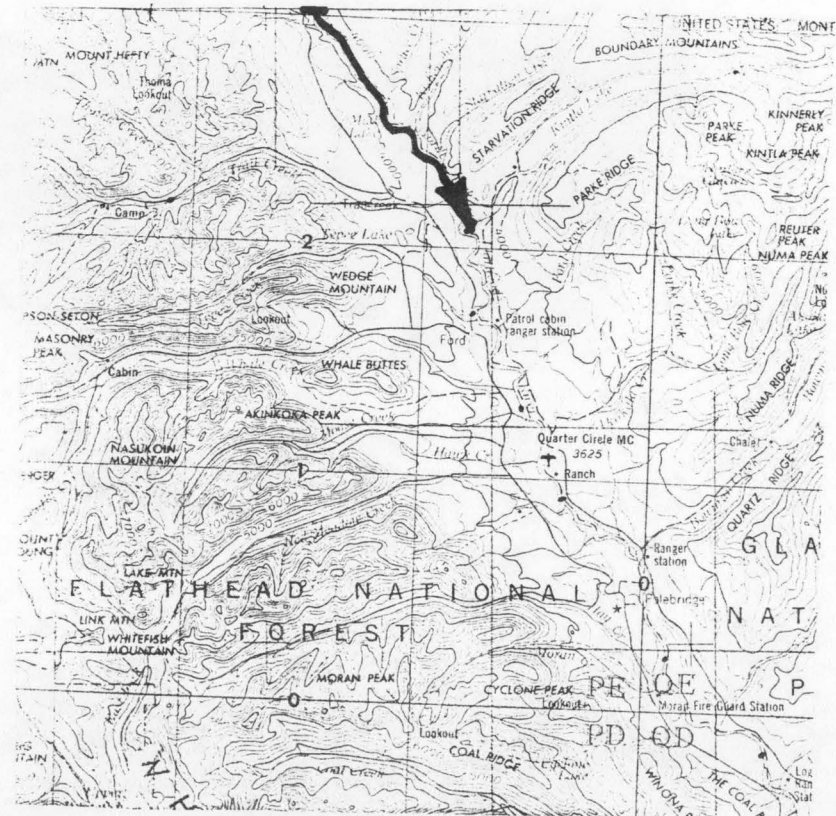
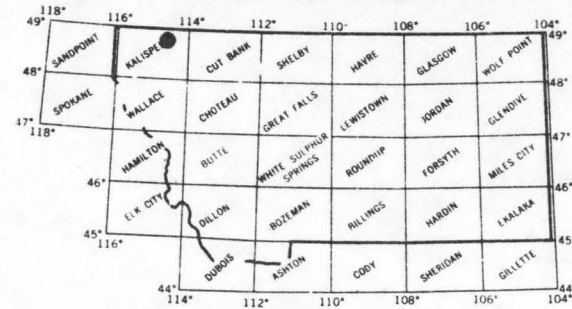
### III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	163	2.49	21.80	1.00
80	207	3.15	26.79	.97
50	421	6.42	43.84	.78
30	910	13.88	69.32	.57
10	3626	55.31	125.98	.26

### IV. TYPICAL ANNUAL HYDROGRAPH AVERAGE ANNUAL FLOW = 1129 CFS



LOCATIONS FOR USGS  
1:250,000 MAP SERIES



## REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 04-500-480-350-440-R0028

### I. LOCATION

A. State	Montana
B. County	Flathead
C. Township, Range	T36N, R22W
D. Latitude, Longitude	48°50', 114°21'
E. Stream Name	North Fork Flathead River
F. Major Basin Name	Flathead
G. River Mile	184.2 to 190.3

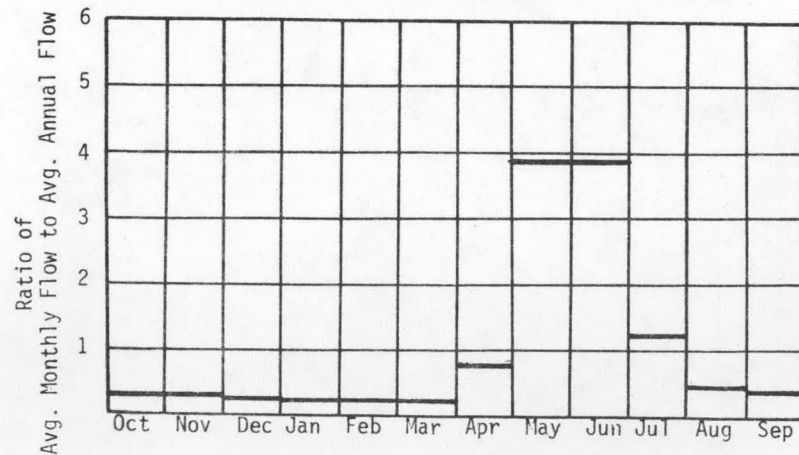
### II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

A. Upstream Elevation of Reach	3865	Ft. MSL
B. Downstream Elevation of Reach	3635	Ft. MSL
C. Total Available Head in Reach	230	Ft.
D. Average Slope in Reach	37.7	Ft./Mi.
E. Drainage Area above Reach Mouth	717	Sq. Mi.
F. Inflow Classification	Partially Regulated	

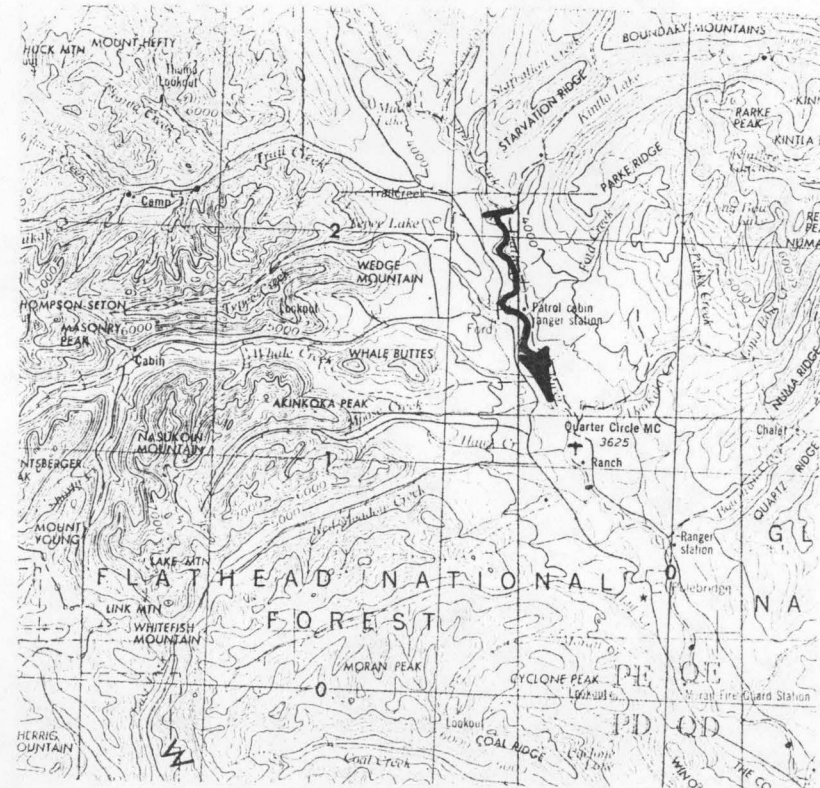
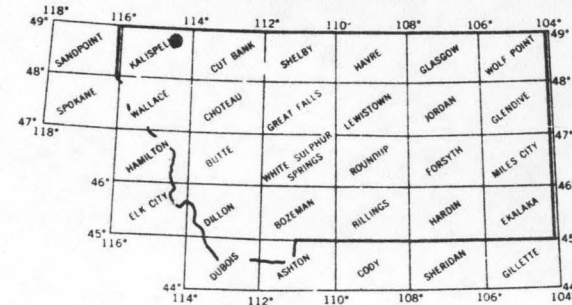
### III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	196	3.81	33.39	1.00
80	248	4.83	41.03	.97
50	504	9.83	67.14	.78
30	1091	21.26	106.17	.57
10	4346	84.71	192.94	.26

### IV. TYPICAL ANNUAL HYDROGRAPH AVERAGE ANNUAL FLOW = 1351 CFS



### LOCATIONS FOR USGS 1:250,000 MAP SERIES



## REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 04-500-480-350-440-R0029

### I. LOCATION

A. State	<u>Montana</u>
B. County	<u>Flathead</u>
C. Township, Range	<u>T35N, R21W</u>
D. Latitude, Longitude	<u>48°48', 114°19'</u>
E. Stream Name	<u>North Fork Flathead River</u>
F. Major Basin Name	<u>Flathead</u>
G. River Mile	<u>178.1 to 184.2</u>

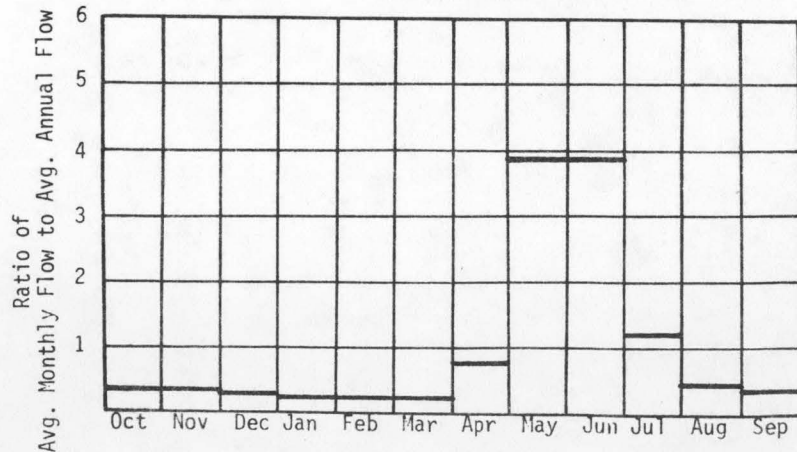
### II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

A. Upstream Elevation of Reach	<u>3635</u>	Ft. MSL
B. Downstream Elevation of Reach	<u>3540</u>	Ft. MSL
C. Total Available Head in Reach	<u>95</u>	Ft.
D. Average Slope in Reach	<u>15.6</u>	Ft./Mi.
E. Drainage Area above Reach Mouth	<u>878</u>	Sq.Mi.
F. Inflow Classification	<u>Partially Regulated</u>	

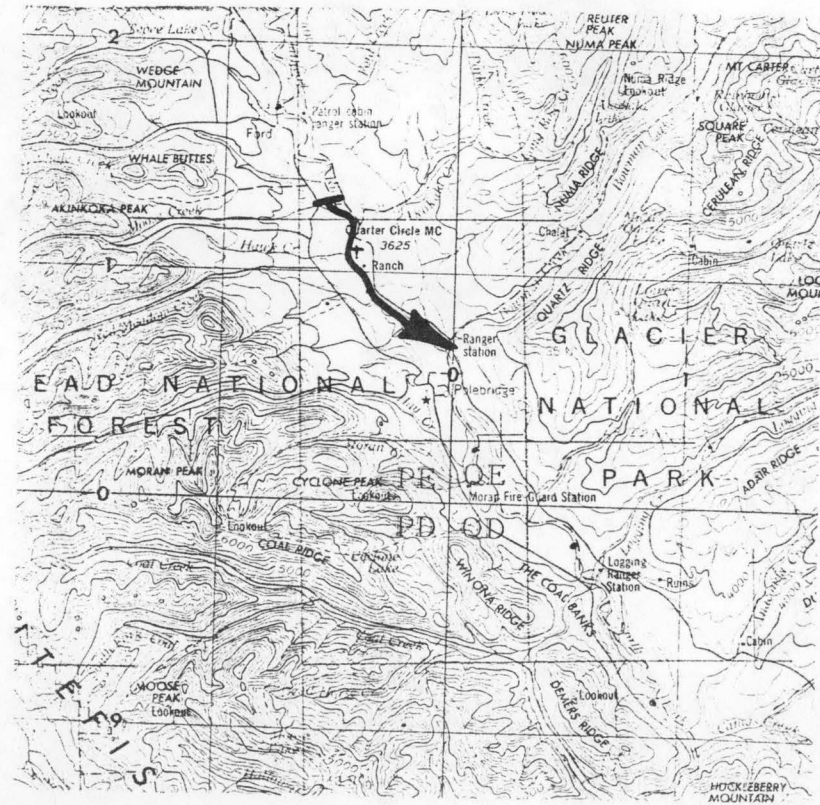
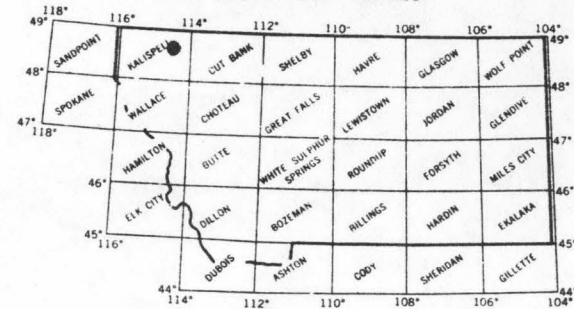
### III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	233	1.88	16.43	1.00
80	295	2.38	20.18	.97
50	601	4.84	33.06	.78
30	1300	10.47	52.26	.57
10	5178	41.69	94.95	.26

### IV. TYPICAL ANNUAL HYDROGRAPH AVERAGE ANNUAL FLOW = 1610 CFS



LOCATIONS FOR USGS  
1:250,000 MAP SERIES



## REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 04-500-480-350-440-R0030

### I. LOCATION

A. State	<u>Montana</u>
B. County	<u>Flathead</u>
C. Township, Range	<u>T34N, R21W</u>
D. Latitude, Longitude	<u>48°45', 114°16'</u>
E. Stream Name	<u>North Fork Flathead River</u>
F. Major Basin Name	<u>Flathead</u>
G. River Mile	<u>172.4 to 178.1</u>

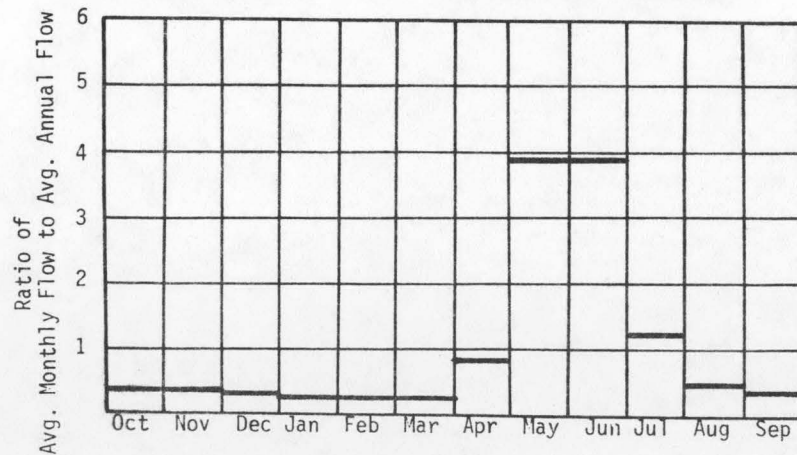
### II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

A. Upstream Elevation of Reach	<u>3540</u>	Ft. MSL
B. Downstream Elevation of Reach	<u>3440</u>	Ft. MSL
C. Total Available Head in Reach	<u>100</u>	Ft.
D. Average Slope in Reach	<u>17.5</u>	Ft./Mi.
E. Drainage Area above Reach Mouth	<u>989</u>	Sq. Mi.
F. Inflow Classification	<u>Partially Regulated</u>	

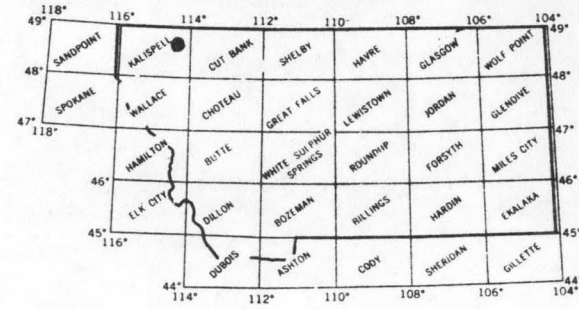
### III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	264	2.24	19.62	1.00
80	335	2.84	24.10	.97
50	681	5.77	39.44	.78
30	1474	12.49	62.37	.57
10	5872	49.76	113.34	.26

### IV. TYPICAL ANNUAL HYDROGRAPH AVERAGE ANNUAL FLOW = 1896 CFS



LOCATIONS FOR USGS  
1:250,000 MAP SERIES



## REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 04-500-480-350-440-R0031

### I. LOCATION

A. State	<u>Montana</u>
B. County	<u>Flathead</u>
C. Township, Range	<u>T34N, R20W</u>
D. Latitude, Longitude	<u>48°42', 114°12'</u>
E. Stream Name	<u>North Fork Flathead River</u>
F. Major Basin Name	<u>Flathead</u>
G. River Mile	<u>169.7 to 172.4</u>

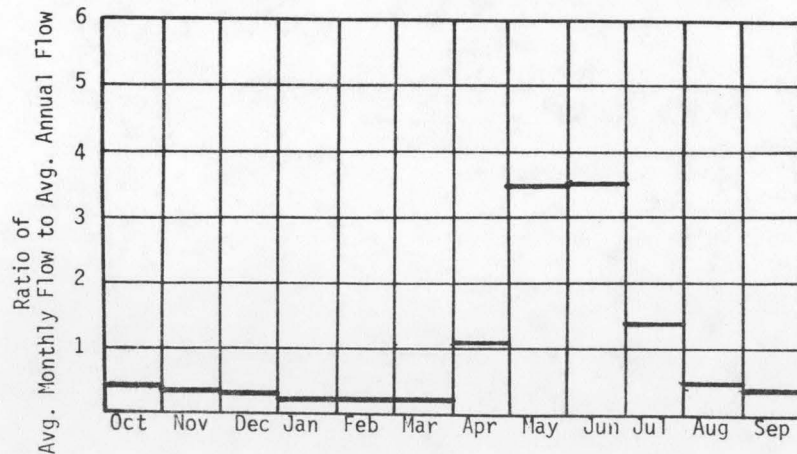
### II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

A. Upstream Elevation of Reach	<u>3440</u>	Ft. MSL
B. Downstream Elevation of Reach	<u>3415</u>	Ft. MSL
C. Total Available Head in Reach	<u>25</u>	Ft.
D. Average Slope in Reach	<u>9.3</u>	Ft./Mi.
E. Drainage Area above Reach Mouth	<u>1120</u>	Sq.Mi.
F. Inflow Classification	<u>Partially Regulated</u>	

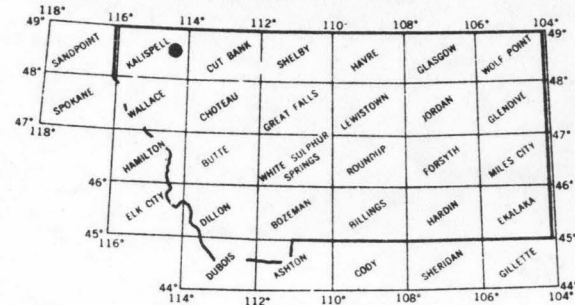
### III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	292	.62	5.42	1.00
80	370	.78	6.66	.97
50	752	1.59	10.89	.78
30	1628	3.45	17.22	.57
10	6486	13.74	31.30	.26

### IV. TYPICAL ANNUAL HYDROGRAPH AVERAGE ANNUAL FLOW = 2149 CFS



### LOCATIONS FOR USGS 1:250,000 MAP SERIES



## REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 04-500-480-350-440-R0032

### I. LOCATION

A. State	Montana
B. County	Flathead
C. Township, Range	T33N, R20W
D. Latitude, Longitude	48°39', 114°10'
E. Stream Name	North Fork Flathead River
F. Major Basin Name	Flathead
G. River Mile	161.9 to 169.7

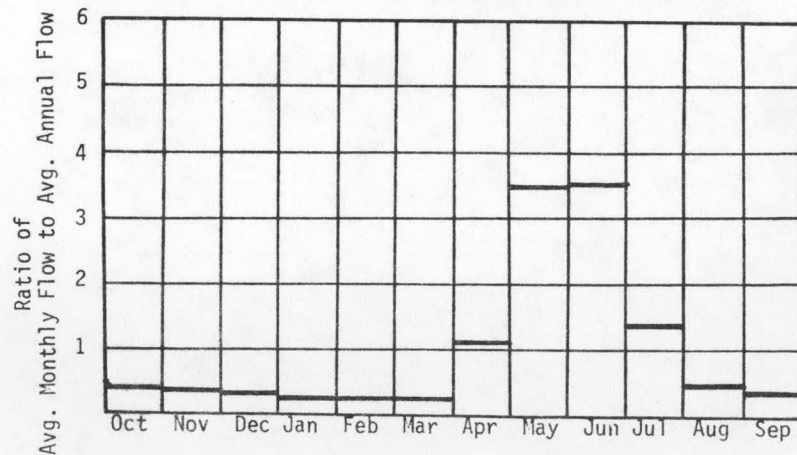
### II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

A. Upstream Elevation of Reach	3415	Ft. MSL
B. Downstream Elevation of Reach	3300	Ft. MSL
C. Total Available Head in Reach	115	Ft.
D. Average Slope in Reach	14.7	Ft./Mi.
E. Drainage Area above Reach Mouth	1334	Sq.Mi.
F. Inflow Classification	Partially Regulated	

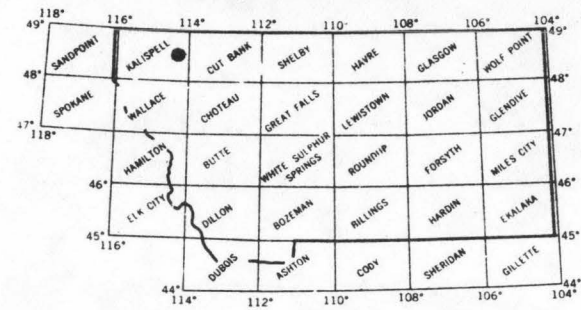
### III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	331	3.22	28.22	1.00
80	419	4.08	34.68	.97
50	852	8.30	56.74	.78
30	1844	17.97	89.73	.57
10	7346	71.59	163.06	.26

### IV. TYPICAL ANNUAL HYDROGRAPH AVERAGE ANNUAL FLOW = 2504 CFS



LOCATIONS FOR USGS  
1:250,000 MAP SERIES





## REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 04-500-480-350-440-R0033

### I. LOCATION

A. State	<u>Montana</u>
B. County	<u>Flathead</u>
C. Township, Range	<u>T32N, R20W</u>
D. Latitude, Longitude	<u>48°33', 114°07'</u>
E. Stream Name	<u>North Fork Flathead River</u>
F. Major Basin Name	<u>Flathead</u>
G. River Mile	<u>152.7 to 161.9</u>

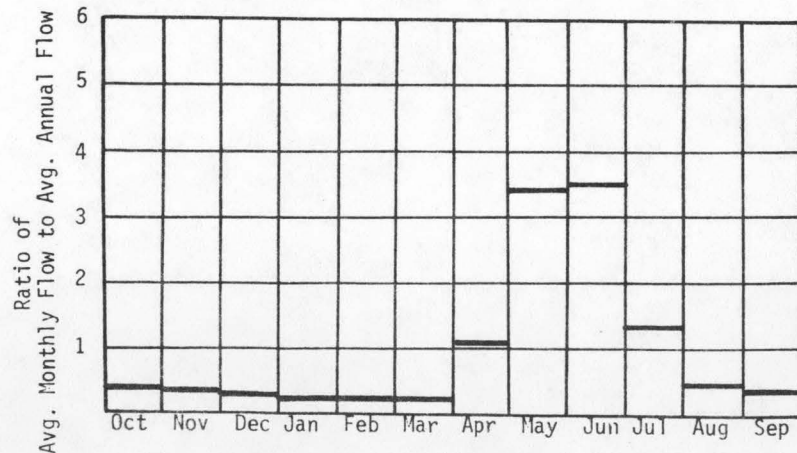
### II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

A. Upstream Elevation of Reach	<u>3300</u>	Ft. MSL
B. Downstream Elevation of Reach	<u>3150</u>	Ft. MSL
C. Total Available Head in Reach	<u>150</u>	Ft.
D. Average Slope in Reach	<u>16.3</u>	Ft./Mi.
E. Drainage Area above Reach Mouth	<u>1385</u>	Sq. Mi.
F. Inflow Classification	<u>Partially Regulated</u>	

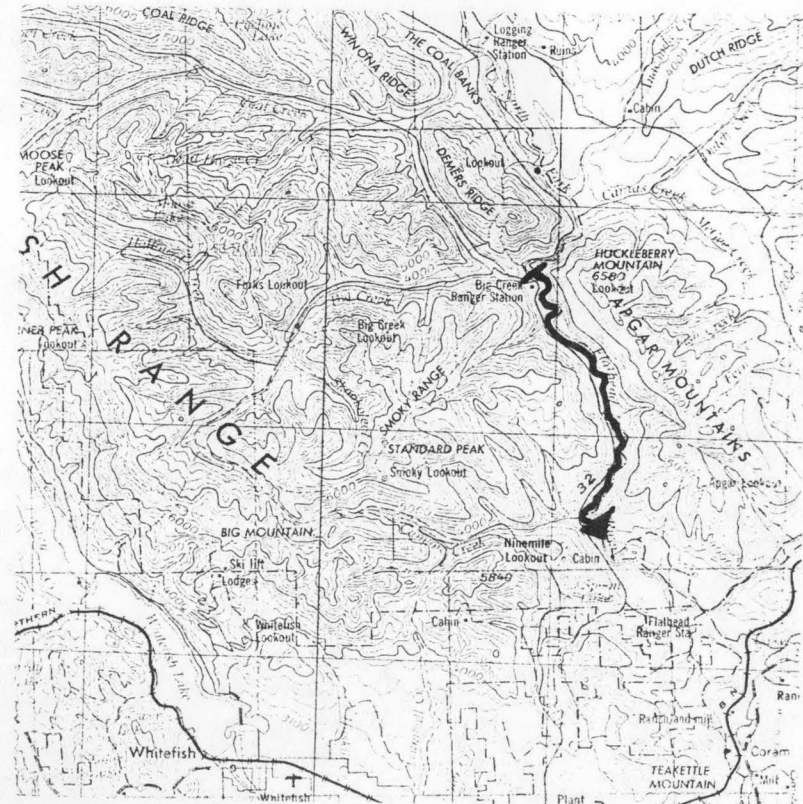
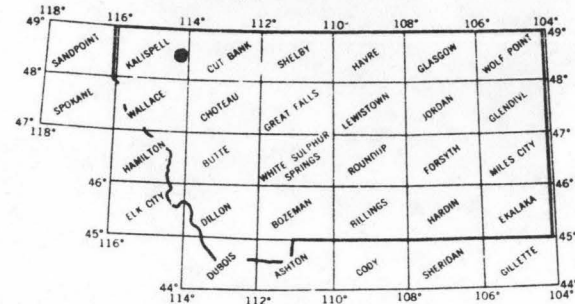
### III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	359	4.57	40.02	1.00
80	455	5.79	49.17	.97
50	926	11.78	80.46	.78
30	2004	25.48	127.23	.57
10	7986	101.52	231.21	.26

### IV. TYPICAL ANNUAL HYDROGRAPH AVERAGE ANNUAL FLOW = 2768 CFS



### LOCATIONS FOR USGS 1:250,000 MAP SERIES



## REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 04-500-480-350-440-R0034

### I. LOCATION

A. State	Montana
B. County	Flathead
C. Township, Range	T31N, R19W
D. Latitude, Longitude	48°25', 114°03'
E. Stream Name	Flathead River
F. Major Basin Name	Flathead
G. River Mile	134.2 to 152.7

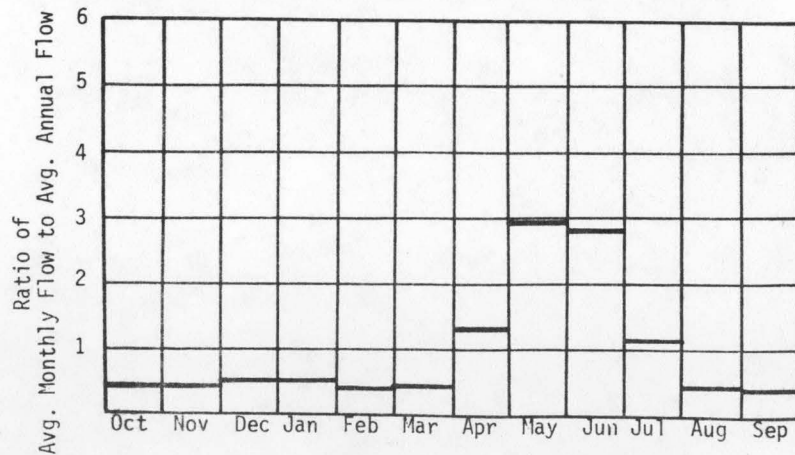
### II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

A. Upstream Elevation of Reach	3240	Ft. MSL
B. Downstream Elevation of Reach	2985	Ft. MSL
C. Total Available Head in Reach	255	Ft.
D. Average Slope in Reach	13.8	Ft./Mi.
E. Drainage Area above Reach Mouth	4288	Sq. Mi.
F. Inflow Classification	Partially Regulated	

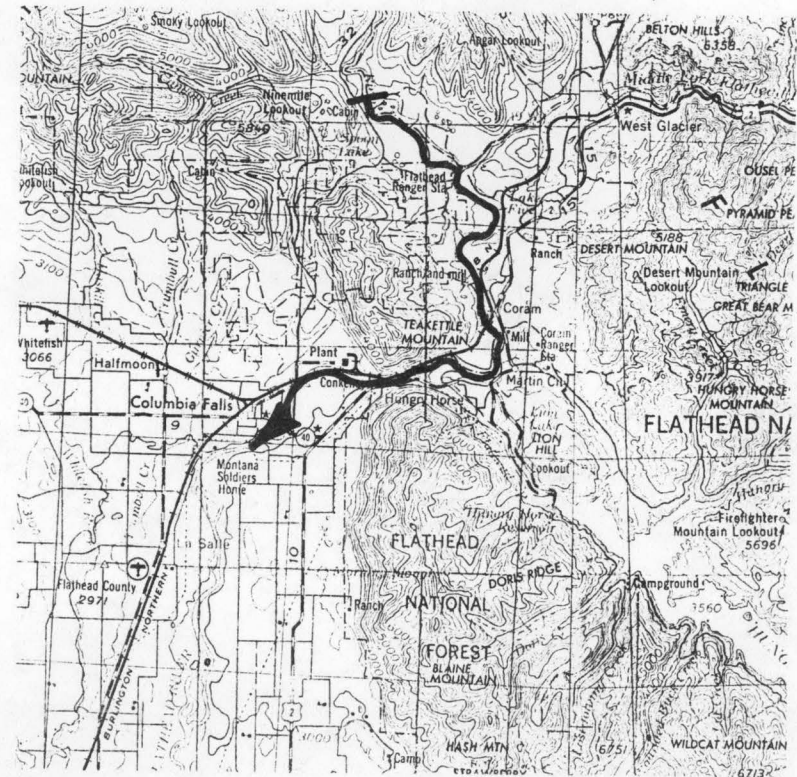
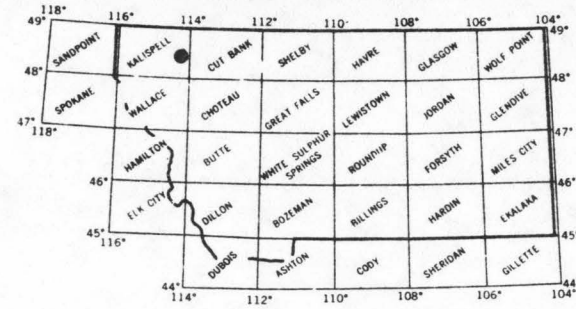
### III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	1166	25.19	220.64	1.00
80	1597	34.50	290.15	.96
50	3433	74.18	506.86	.78
30	6131	132.49	707.98	.61
10	15966	345.03	1027.63	.34

### IV. TYPICAL ANNUAL HYDROGRAPH AVERAGE ANNUAL FLOW = 6057 CFS



### LOCATIONS FOR USGS 1:250,000 MAP SERIES



## REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 04-500-480-350-440-R0035

### I. LOCATION

A. State	<u>Montana</u>
B. County	<u>Flathead</u>
C. Township, Range	<u>T31N, R22W</u>
D. Latitude, Longitude	<u>48°25', 114°21'</u>
E. Stream Name	<u>Whitefish River</u>
F. Major Basin Name	<u>Flathead</u>
G. River Mile	<u>9.0 to 24.6</u>

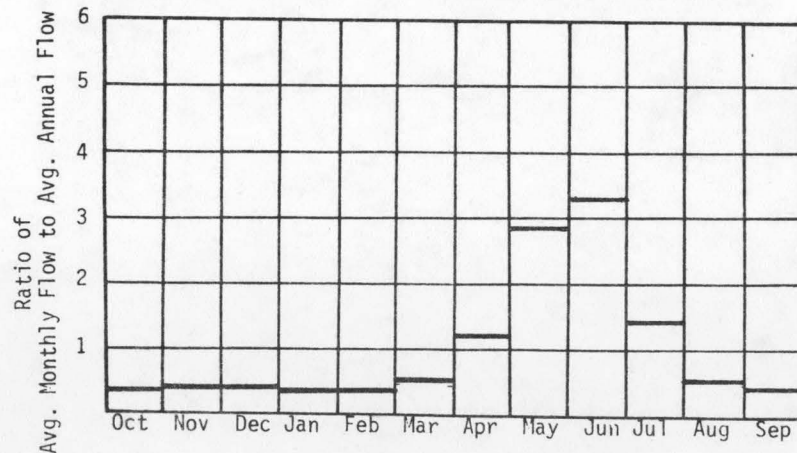
### II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

A. Upstream Elevation of Reach	<u>3010</u>	Ft. MSL
B. Downstream Elevation of Reach	<u>2975</u>	Ft. MSL
C. Total Available Head in Reach	<u>100</u>	Ft.
D. Average Slope in Reach	<u>2.2</u>	Ft./Mi.
E. Drainage Area above Reach Mouth	<u>178</u>	Sq. Mi.
F. Inflow Classification	<u>Partially Regulated</u>	

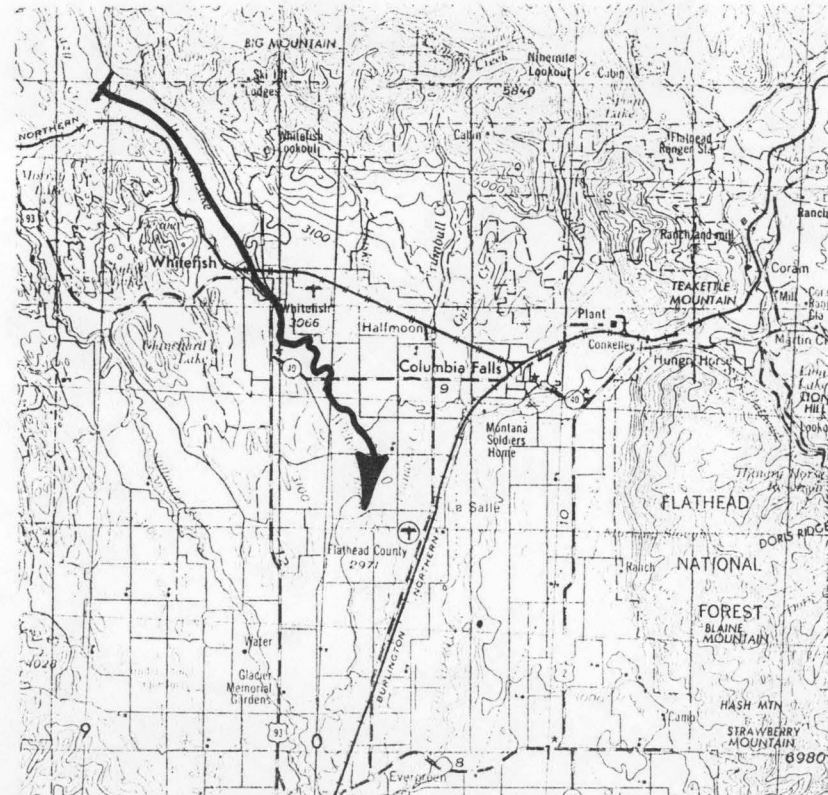
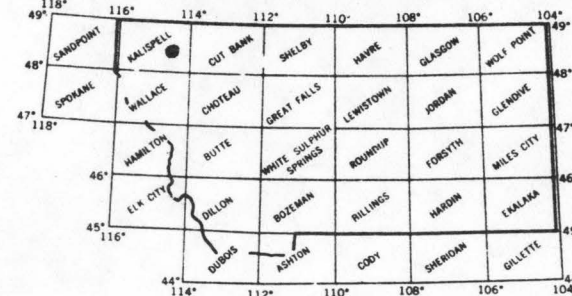
### III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	22	.19	1.65	1.00
80	29	.24	2.07	.97
50	56	.47	3.30	.80
30	109	.92	4.84	.60
10	383	3.25	7.96	.28

### IV. TYPICAL ANNUAL HYDROGRAPH AVERAGE ANNUAL FLOW = 128 CFS



LOCATIONS FOR USGS  
1:250,000 MAP SERIES



## REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 04-500-480-350-440-R0036

### I. LOCATION

A. State	<u>Montana</u>
B. County	<u>Flathead</u>
C. Township, Range	<u>T33N, R24W</u>
D. Latitude, Longitude	<u>48°35', 114°38'</u>
E. Stream Name	<u>Stillwater River</u>
F. Major Basin Name	<u>Flathead</u>
G. River Mile	<u>31.6 to 41.5</u>

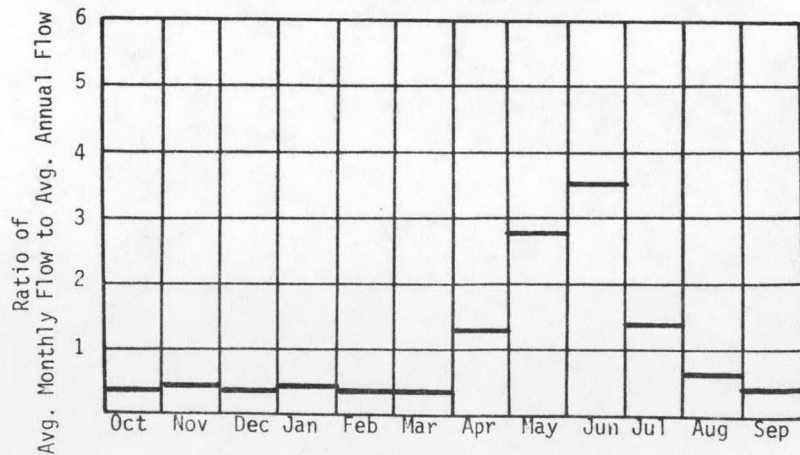
### II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

A. Upstream Elevation of Reach	<u>3225</u>	Ft. MSL
B. Downstream Elevation of Reach	<u>3075</u>	Ft. MSL
C. Total Available Head in Reach	<u>215</u>	Ft.
D. Average Slope in Reach	<u>15.2</u>	Ft./Mi.
E. Drainage Area above Reach Mouth	<u>170</u>	Sq.Mi.
F. Inflow Classification	<u>Partially Regulated</u>	

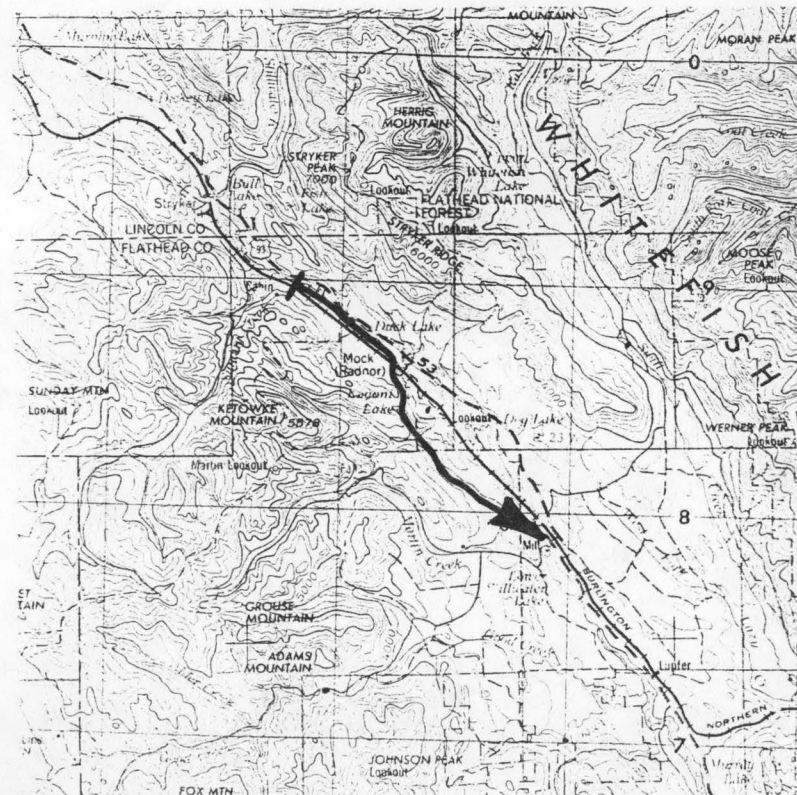
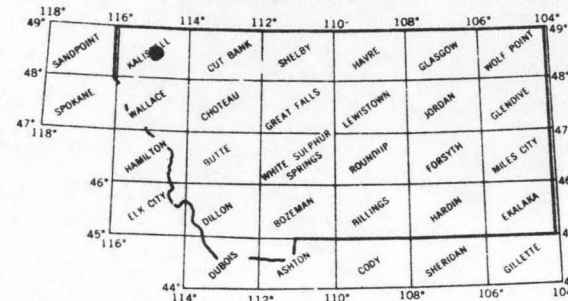
### III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	22	.40	3.55	1.00
80	29	.52	4.45	.97
50	56	1.01	7.09	.80
30	109	1.98	10.42	.60
10	383	6.98	17.12	.28

### IV. TYPICAL ANNUAL HYDROGRAPH AVERAGE ANNUAL FLOW = 128 CFS



LOCATIONS FOR USGS  
1:250,000 MAP SERIES



## REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 04-500-480-350-440-R0037

### I. LOCATION

A. State	<u>Montana</u>
B. County	<u>Flathead</u>
C. Township, Range	<u>T30N, R24W</u>
D. Latitude, Longitude	<u>48°22', 114°40'</u>
E. Stream Name	<u>Griffin Creek</u>
F. Major Basin Name	<u>Flathead</u>
G. River Mile	<u>0.0 to 0.5</u>

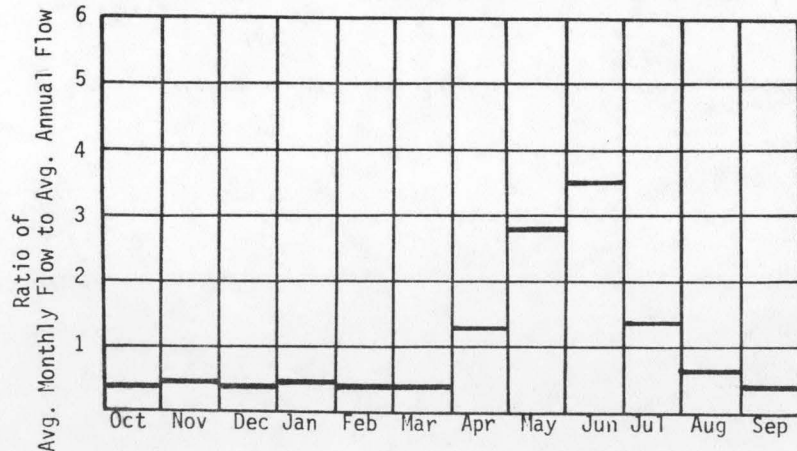
### II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

A. Upstream Elevation of Reach	<u>3995</u>	Ft. MSL
B. Downstream Elevation of Reach	<u>3980</u>	Ft. MSL
C. Total Available Head in Reach	<u>80</u>	Ft.
D. Average Slope in Reach	<u>30.0</u>	Ft./Mi.
E. Drainage Area above Reach Mouth	<u>145</u>	Sq.Mi.
F. Inflow Classification	<u>Unregulated</u>	

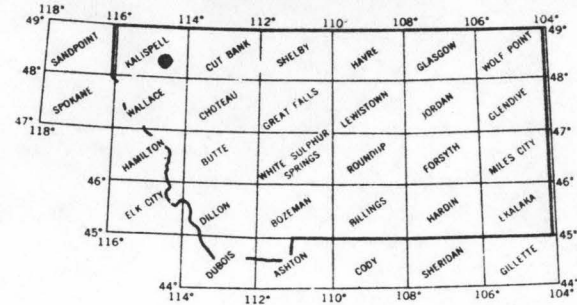
### III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	15	.10	.91	1.00
80	20	.13	1.14	.97
50	38	.26	1.81	.80
30	75	.51	2.66	.60
10	263	1.78	4.37	.28

### IV. TYPICAL ANNUAL HYDROGRAPH AVERAGE ANNUAL FLOW = 92 CFS



### LOCATIONS FOR USGS 1:250,000 MAP SERIES



## REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 04-500-480-350-440-R0038

### I. LOCATION

A. State	<u>Montana</u>
B. County	<u>Flathead</u>
C. Township, Range	<u>T31N, R24W</u>
D. Latitude, Longitude	<u>48°25', 114°39'</u>
E. Stream Name	<u>Logan Creek</u>
F. Major Basin Name	<u>Flathead</u>
G. River Mile	<u>6.8 to 15.4</u>

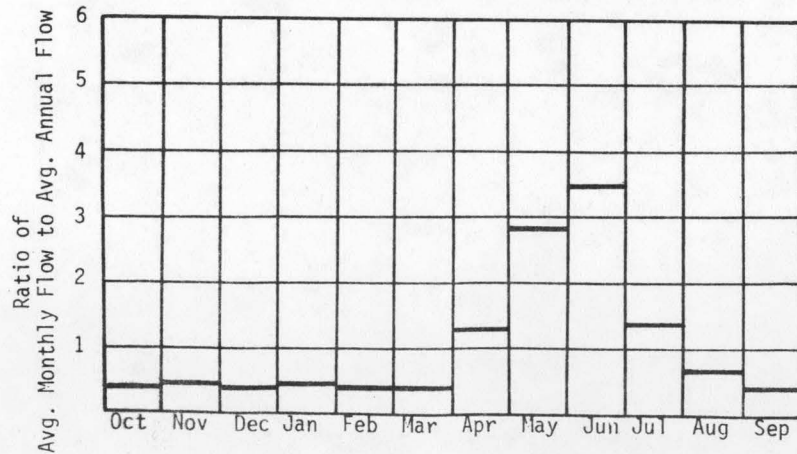
### II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

A. Upstream Elevation of Reach	<u>3980</u>	Ft. MSL
B. Downstream Elevation of Reach	<u>3340</u>	Ft. MSL
C. Total Available Head in Reach	<u>640</u>	Ft.
D. Average Slope in Reach	<u>74.4</u>	Ft./Mi.
E. Drainage Area above Reach Mouth	<u>201</u>	Sq.Mi.
F. Inflow Classification	<u>Fully Regulated</u>	

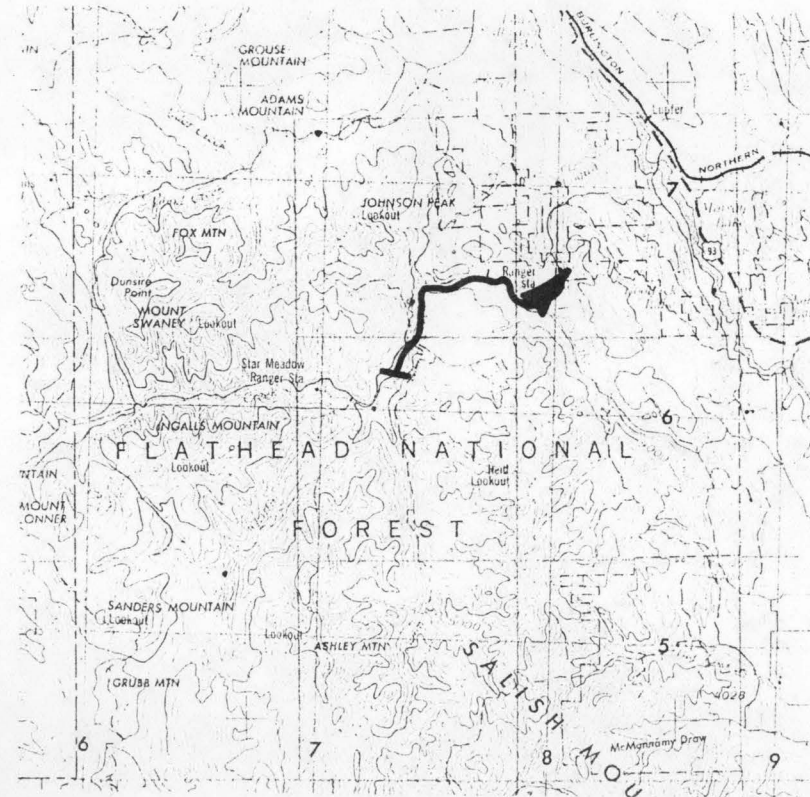
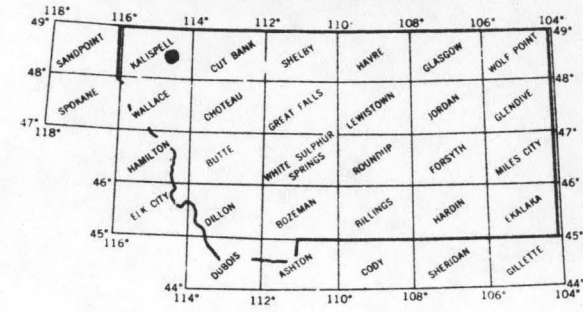
### III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	21	1.15	10.03	1.00
80	27	1.48	12.58	.97
50	53	2.86	20.06	.80
30	103	5.61	29.47	.60
10	364	19.74	48.42	.28

### IV. TYPICAL ANNUAL HYDROGRAPH AVERAGE ANNUAL FLOW = 122 CFS



LOCATIONS FOR USGS  
1:250,000 MAP SERIES



## REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 04-500-480-350-440-R0039

### I. LOCATION

A. State	<u>Montana</u>
B. County	<u>Flathead</u>
C. Township, Range	<u>T31N, R23W</u>
D. Latitude, Longitude	<u>48°27', 114°34'</u>
E. Stream Name	<u>Logan Creek</u>
F. Major Basin Name	<u>Flathead</u>
G. River Mile	<u>4 to 6.8</u>

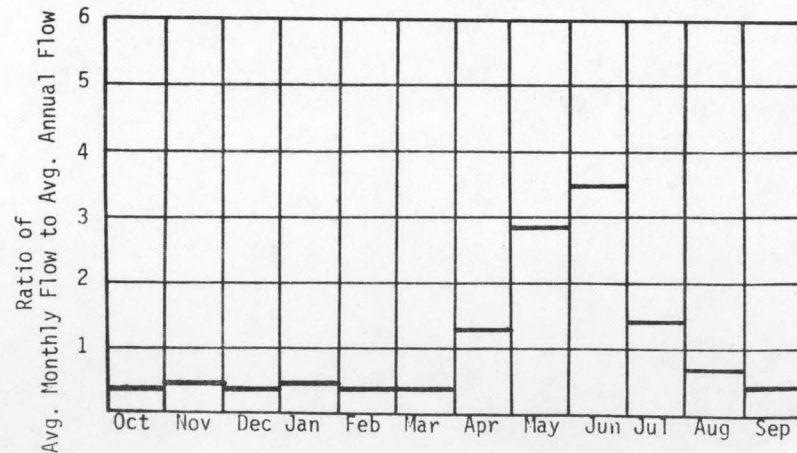
### II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

A. Upstream Elevation of Reach	<u>3340</u>	Ft. MSL
B. Downstream Elevation of Reach	<u>2990</u>	Ft. MSL
C. Total Available Head in Reach	<u>350</u>	Ft.
D. Average Slope in Reach	<u>54.7</u>	Ft./Mi.
E. Drainage Area above Reach Mouth	<u>306</u>	Sq. Mi.
F. Inflow Classification	<u>Partially Regulated</u>	

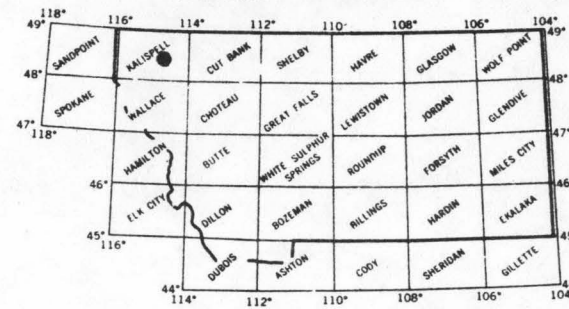
### III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	31	.93	8.17	1.00
80	41	1.21	10.25	.97
50	79	2.33	16.34	.80
30	154	4.57	24.00	.60
10	542	16.08	39.43	.28

### IV. TYPICAL ANNUAL HYDROGRAPH AVERAGE ANNUAL FLOW = 178 CFS



LOCATIONS FOR USGS  
1:250,000 MAP SERIES



## REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 04-500-480-350-440-R0040

### I. LOCATION

A. State	<u>Montana</u>
B. County	<u>Flathead</u>
C. Township, Range	<u>T31N, R23W</u>
D. Latitude, Longitude	<u>48°25', 114°29'</u>
E. Stream Name	<u>Stillwater River</u>
F. Major Basin Name	<u>Flathead</u>
G. River Mile	<u>10.9 to 31.6</u>

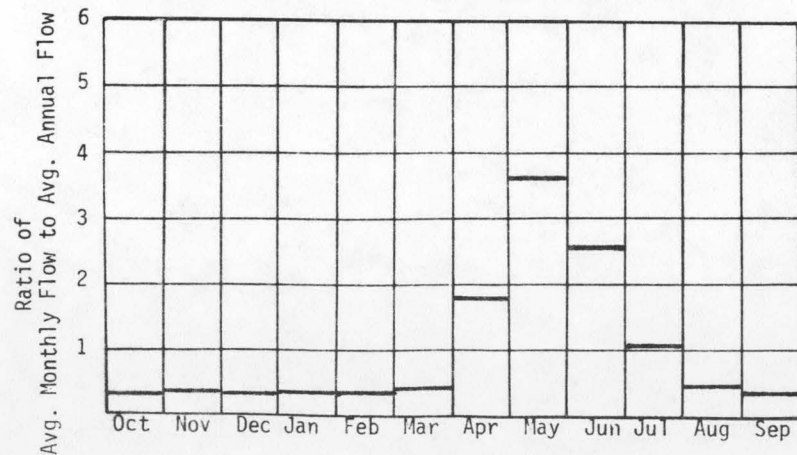
### II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

A. Upstream Elevation of Reach	<u>3075</u>	Ft. MSL
B. Downstream Elevation of Reach	<u>2955</u>	Ft. MSL
C. Total Available Head in Reach	<u>120</u>	Ft.
D. Average Slope in Reach	<u>5.8</u>	Ft./Mi.
E. Drainage Area above Reach Mouth	<u>546</u>	Sq.Mi.
F. Inflow Classification	<u>Partially Regulated</u>	

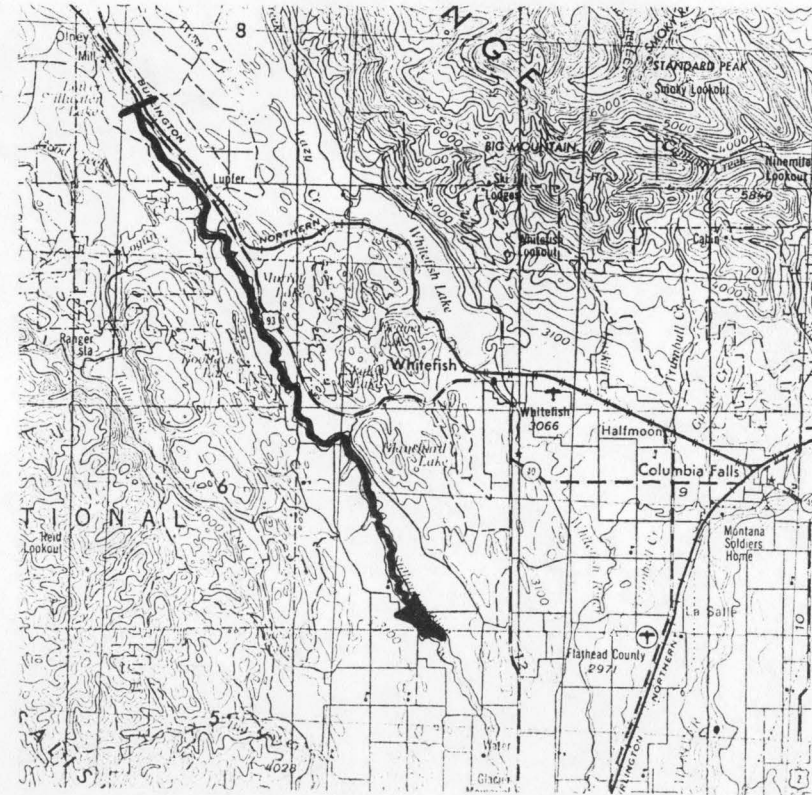
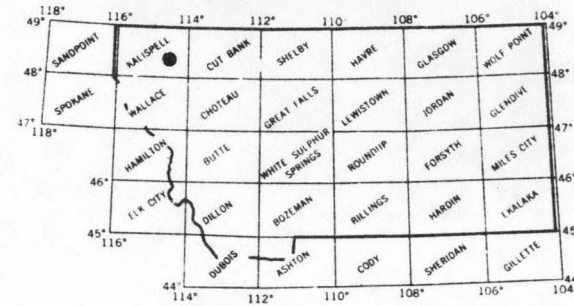
### III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	60	.61	5.35	1.00
80	78	.79	6.71	.97
50	150	1.53	10.70	.80
30	294	2.99	15.71	.60
10	1035	10.53	25.82	.28

### IV. TYPICAL ANNUAL HYDROGRAPH AVERAGE ANNUAL FLOW = 330 CFS



### LOCATIONS FOR USGS 1:250,000 MAP SERIES





## REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 04-500-480-350-440-R0041

### I. LOCATION

A. State	<u>Montana</u>
B. County	<u>Flathead</u>
C. Township, Range	<u>T29N, R20W</u>
D. Latitude, Longitude	<u>48°17', 114°13'</u>
E. Stream Name	<u>Flathead River</u>
F. Major Basin Name	<u>Flathead</u>
G. River Mile	<u>121.2 to 134.2</u>

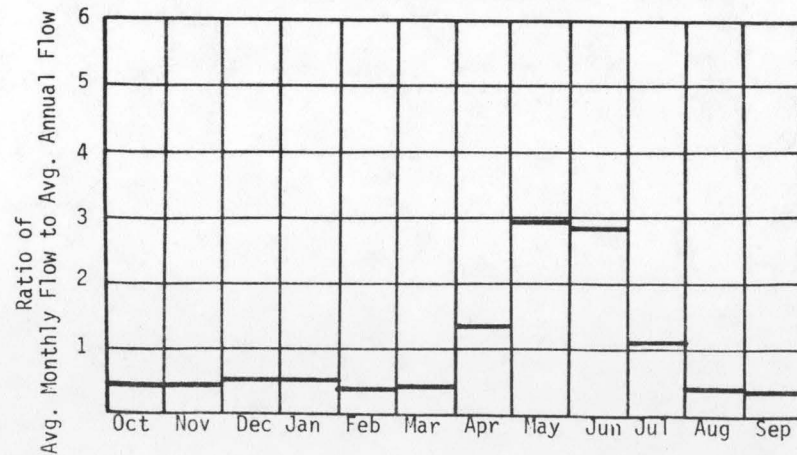
### II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

A. Upstream Elevation of Reach	<u>2985</u>	Ft. MSL
B. Downstream Elevation of Reach	<u>2910</u>	Ft. MSL
C. Total Available Head in Reach	<u>75</u>	Ft.
D. Average Slope in Reach	<u>5.8</u>	Ft./Mi.
E. Drainage Area above Reach Mouth	<u>5208</u>	Sq.Mi.
F. Inflow Classification	<u>Partially Regulated</u>	

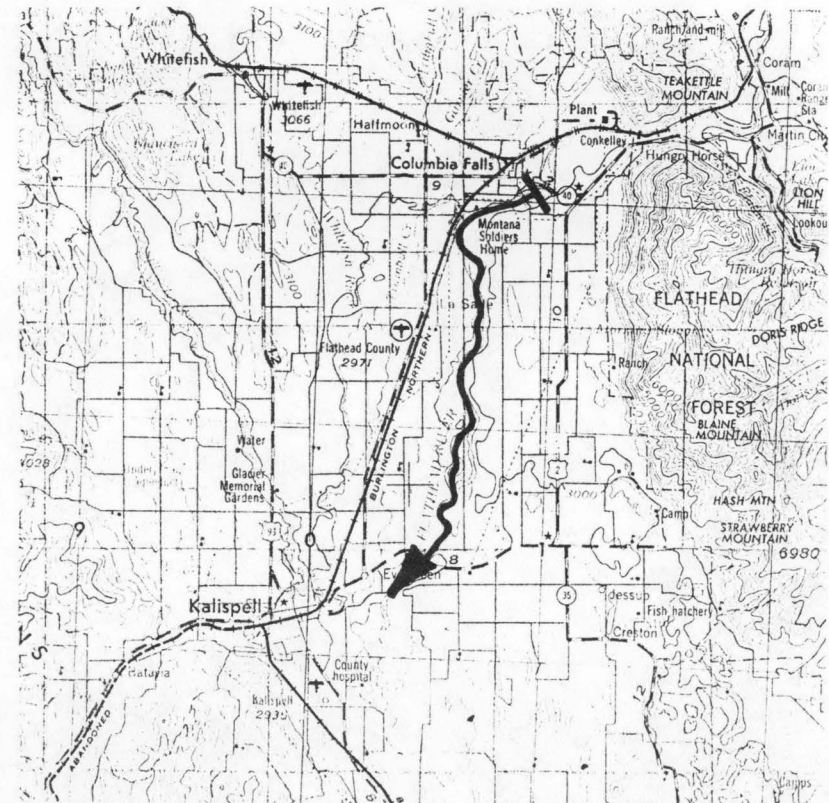
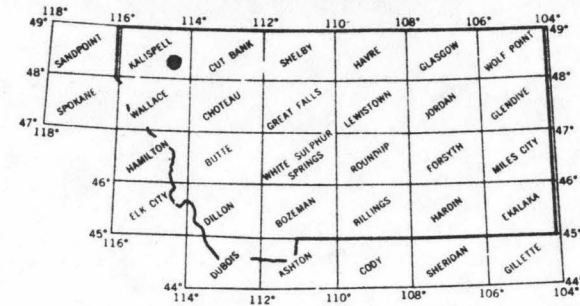
### III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	1828	11.62	101.76	1.00
80	2504	15.91	133.82	.96
50	5383	34.21	233.77	.78
30	9614	61.10	326.52	.61
10	25036	159.13	473.94	.34

### IV. TYPICAL ANNUAL HYDROGRAPH AVERAGE ANNUAL FLOW = 9796 CFS



### LOCATIONS FOR USGS 1:250,000 MAP SERIES



## REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 04-500-480-350-440-R0042

### I. LOCATION

A. State	Montana
B. County	Flathead
C. Township, Range	T27N, R22W
D. Latitude, Longitude	48°06', 114°28'
E. Stream Name	Ashley Creek
F. Major Basin Name	Flathead
G. River Mile	22.3 to 23.2

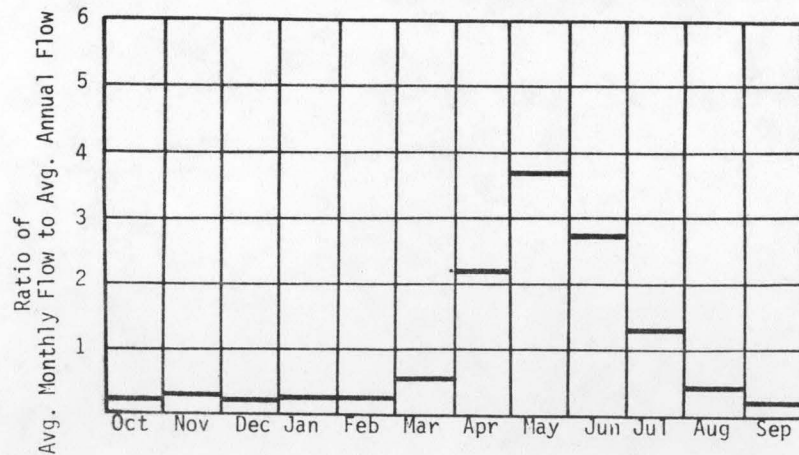
### II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

A. Upstream Elevation of Reach	3155	Ft. MSL
B. Downstream Elevation of Reach	3145	Ft. MSL
C. Total Available Head in Reach	75	Ft.
D. Average Slope in Reach	11.1	Ft./Mi.
E. Drainage Area above Reach Mouth	168	Sq.Mi.
F. Inflow Classification	Partially Regulated	

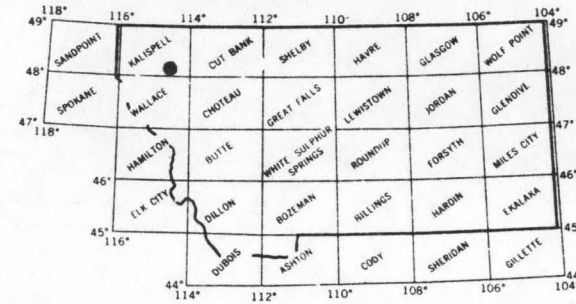
### III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	15	.09	.83	1.00
80	19	.12	1.04	.97
50	37	.24	1.65	.80
30	73	.46	2.43	.60
10	256	1.63	3.99	.28

### IV. TYPICAL ANNUAL HYDROGRAPH AVERAGE ANNUAL FLOW = 90 CFS



LOCATIONS FOR USGS  
1:250,000 MAP SERIES



## REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 04-500-480-350-440-R0043

### I. LOCATION

A. State	<u>Montana</u>
B. County	<u>Flathead</u>
C. Township, Range	<u>T28N. R21W</u>
D. Latitude, Longitude	<u>48°09', 114°13'</u>
E. Stream Name	<u>Flathead River</u>
F. Major Basin Name	<u>Flathead</u>
G. River Mile	<u>105.8 to 121.2</u>

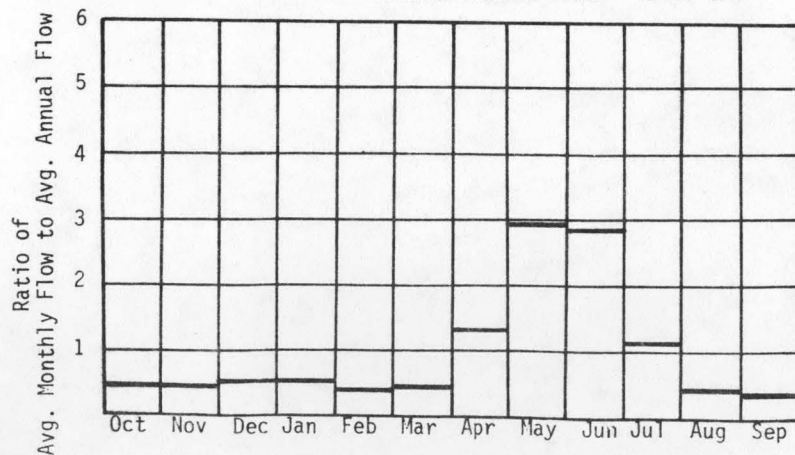
### II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

A. Upstream Elevation of Reach	<u>2910</u>	Ft. MSL
B. Downstream Elevation of Reach	<u>2905</u>	Ft. MSL
C. Total Available Head in Reach	<u>5</u>	Ft.
D. Average Slope in Reach	<u>0.3</u>	Ft./Mi.
E. Drainage Area above Reach Mouth	<u>5565</u>	Sq.Mi.
F. Inflow Classification	<u>Partially Regulated</u>	

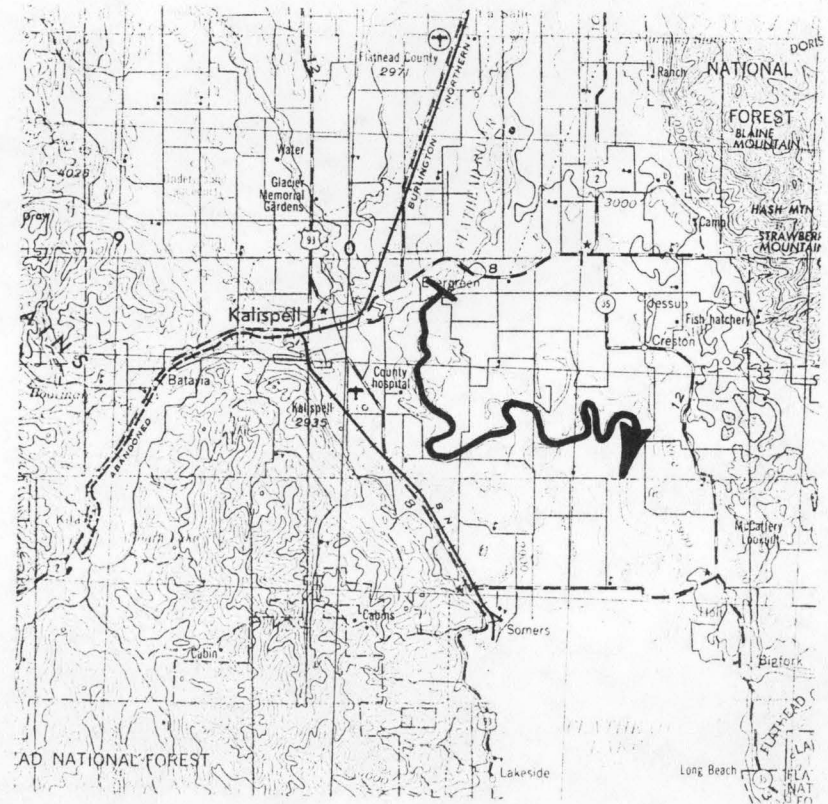
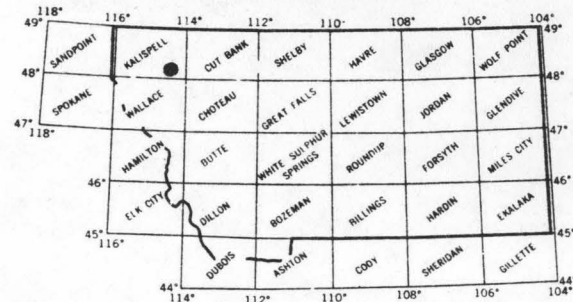
### III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	1942	.82	7.21	1.00
80	2660	1.13	9.48	.96
50	5719	2.42	16.56	.78
30	10214	4.33	23.13	.61
10	26600	11.27	33.57	.34

### IV. TYPICAL ANNUAL HYDROGRAPH AVERAGE ANNUAL FLOW = 10440 CFS



LOCATIONS FOR USGS  
1:250,000 MAP SERIES



## REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 04-500-480-350-440-R0044

### I. LOCATION

A. State	Montana
B. County	Missoula
C. Township, Range	T20N, R16W
D. Latitude, Longitude	47°28', 113°40'
E. Stream Name	Swan River
F. Major Basin Name	Flathead
G. River Mile	51.6 to 59.8

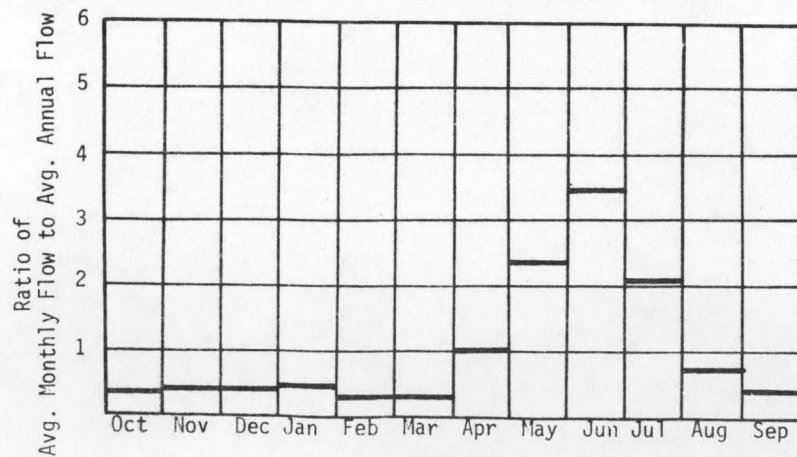
### II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

A. Upstream Elevation of Reach	4000	Ft. MSL
B. Downstream Elevation of Reach	3680	Ft. MSL
C. Total Available Head in Reach	385	Ft.
D. Average Slope in Reach	39.0	Ft./Mi.
E. Drainage Area above Reach Mouth	190	Sq.Mi.
F. Inflow Classification	Partially Regulated	

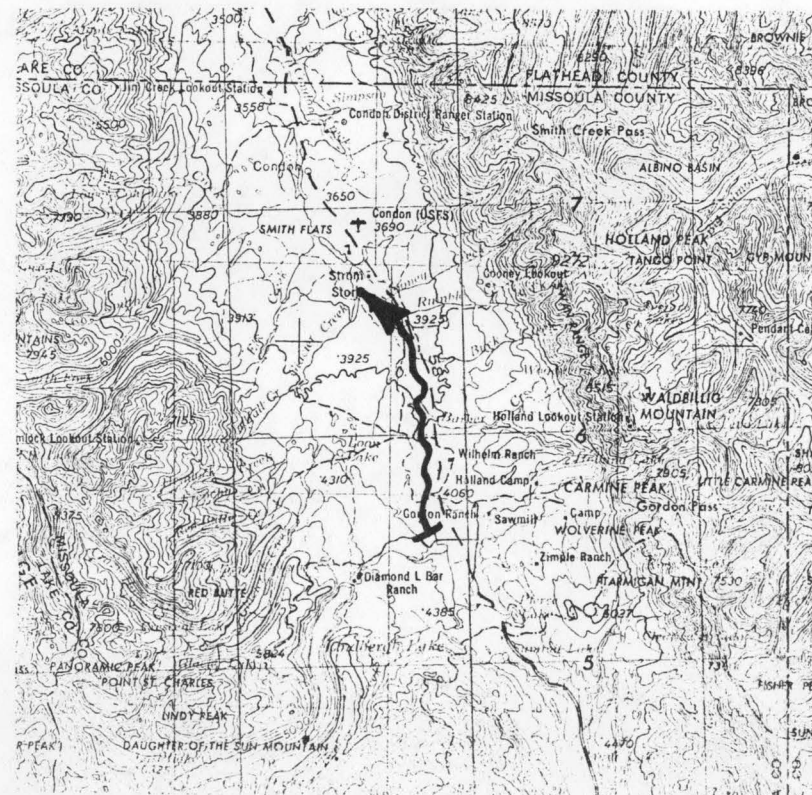
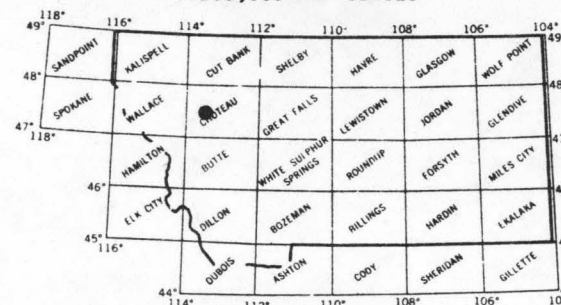
### III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	30	.98	8.61	1.00
80	43	1.40	11.81	.96
50	95	3.11	20.96	.77
30	182	5.93	30.14	.58
10	538	17.55	47.67	.31

### IV. TYPICAL ANNUAL HYDROGRAPH AVERAGE ANNUAL FLOW = 176 CFS



LOCATIONS FOR USGS  
1:250,000 MAP SERIES



## REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 04-500-480-350-440-R0045

### I. LOCATION

A. State	Montana
B. County	Missoula
C. Township, Range	T21N, R17W
D. Latitude, Longitude	47°34', 113°45'
E. Stream Name	Swan River
F. Major Basin Name	Flathead
G. River Mile	44.8 to 51.6

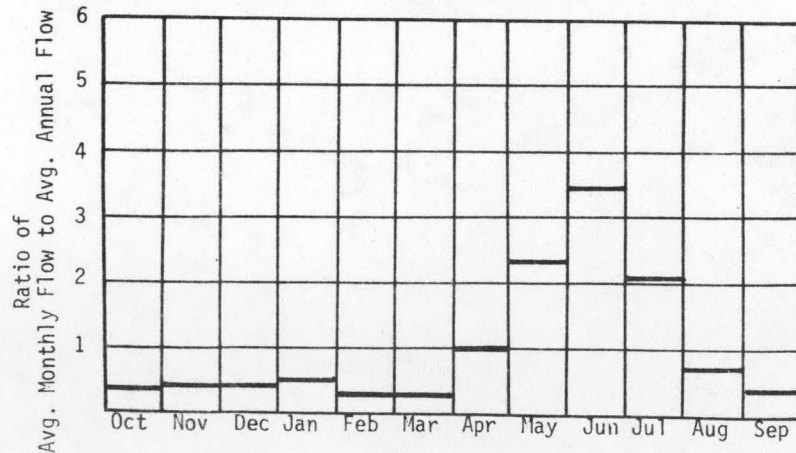
### II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

A. Upstream Elevation of Reach	3680	Ft. MSL
B. Downstream Elevation of Reach	3480	Ft. MSL
C. Total Available Head in Reach	200	Ft.
D. Average Slope in Reach	29.4	Ft./Mi.
E. Drainage Area above Reach Mouth	296	Sq.Mi.
F. Inflow Classification	Partially Regulated	

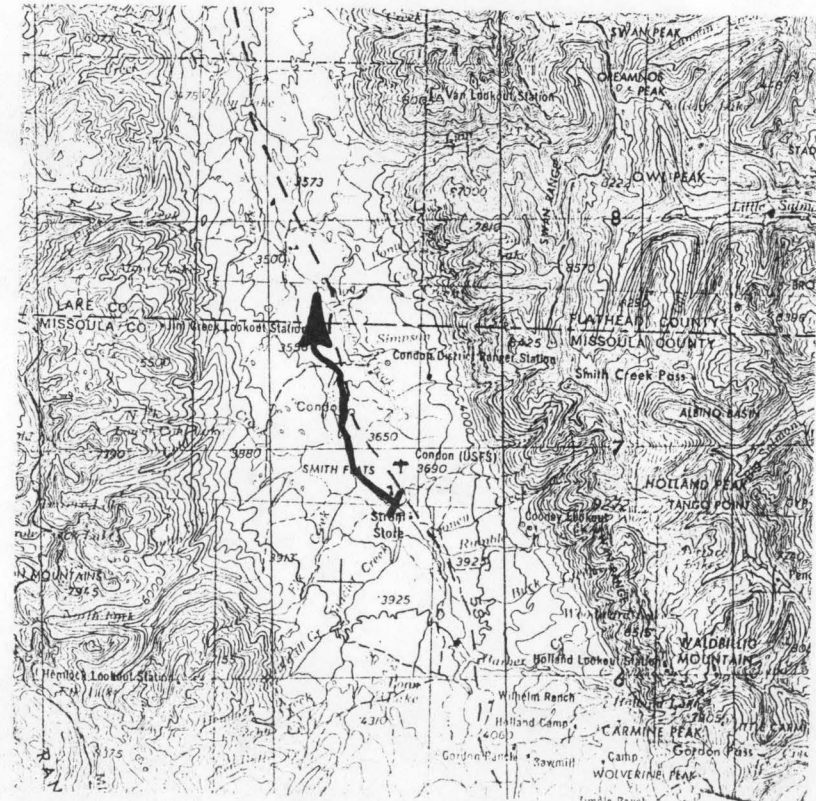
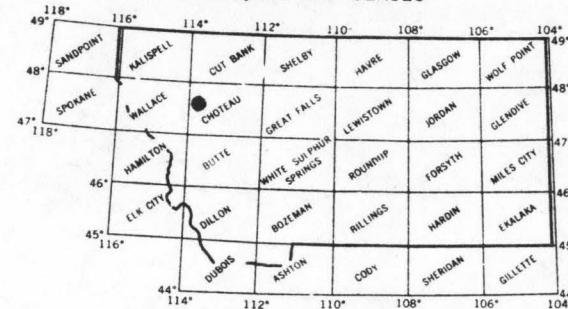
### III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	62	1.06	9.26	1.00
80	89	1.51	12.70	.96
50	197	3.34	22.54	.77
30	377	6.38	32.43	.58
10	1114	18.88	51.27	.31

### IV. TYPICAL ANNUAL HYDROGRAPH AVERAGE ANNUAL FLOW = 354 CFS



LOCATIONS FOR USGS  
1:250,000 MAP SERIES



## REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 04-500-480-350-440-R0046

### I. LOCATION

A. State	Montana
B. County	Lake
C. Township, Range	T22N, R17W
D. Latitude, Longitude	47°39', 113°48'
E. Stream Name	Swan River
F. Major Basin Name	Flathead
G. River Mile	38.9 to 44.8

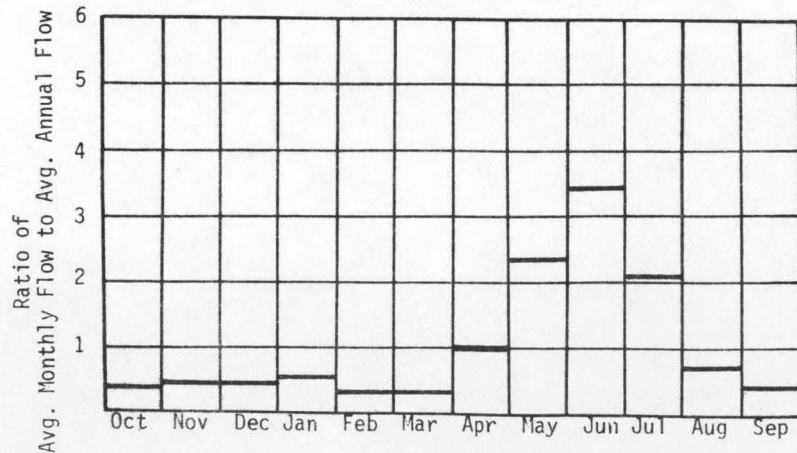
### II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

A. Upstream Elevation of Reach	3480	Ft. MSL
B. Downstream Elevation of Reach	3350	Ft. MSL
C. Total Available Head in Reach	130	Ft.
D. Average Slope in Reach	22.0	Ft./Mi.
E. Drainage Area above Reach Mouth	396	Sq. Mi.
F. Inflow Classification	Partially Regulated	

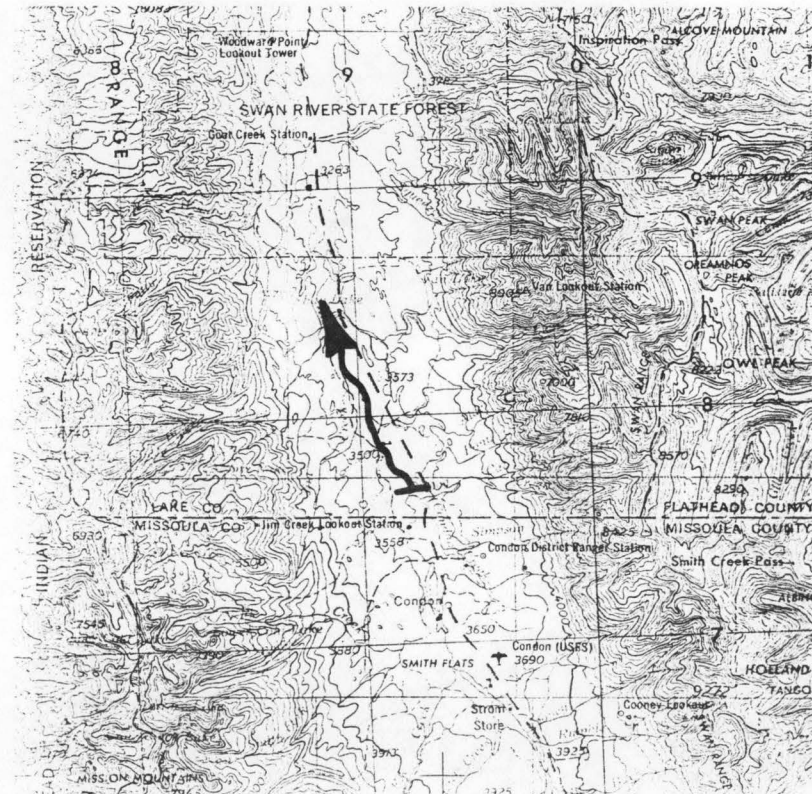
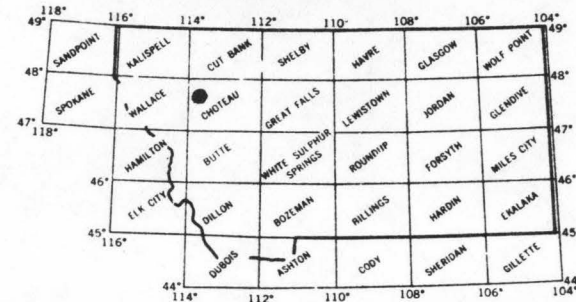
### III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	95	1.04	9.14	1.00
80	135	1.49	12.53	.96
50	299	3.30	22.24	.77
30	572	6.30	31.99	.58
10	1691	18.63	50.59	.31

### IV. TYPICAL ANNUAL HYDROGRAPH AVERAGE ANNUAL FLOW - 532 CFS



### LOCATIONS FOR USGS 1:250,000 MAP SERIES



## REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 04-500-480-350-440-R0047

### I. LOCATION

A. State	Montana
B. County	Lake
C. Township, Range	T23N, R17W
D. Latitude, Longitude	47°44', 113°50'
E. Stream Name	Swan River
F. Major Basin Name	Flathead
G. River Mile	31.2 to 38.9

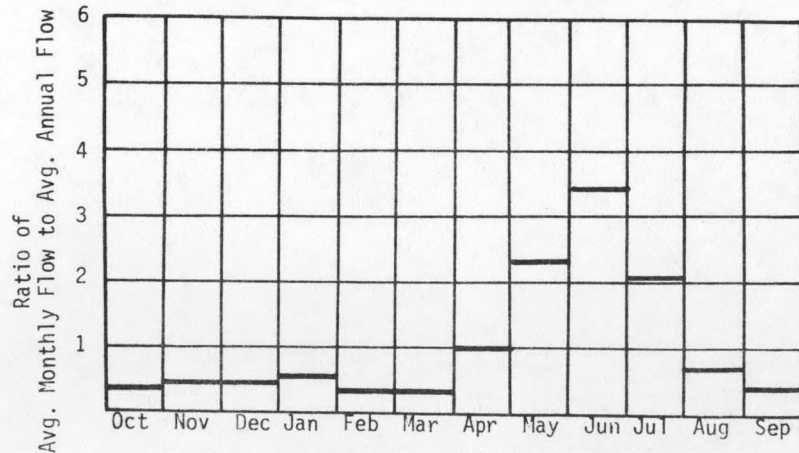
### II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

A. Upstream Elevation of Reach	3350	Ft. MSL
B. Downstream Elevation of Reach	3165	Ft. MSL
C. Total Available Head in Reach	185	Ft.
D. Average Slope in Reach	24.0	Ft./Mi.
E. Drainage Area above Reach Mouth	498	Sq.Mi.
F. Inflow Classification	Partially Regulated	

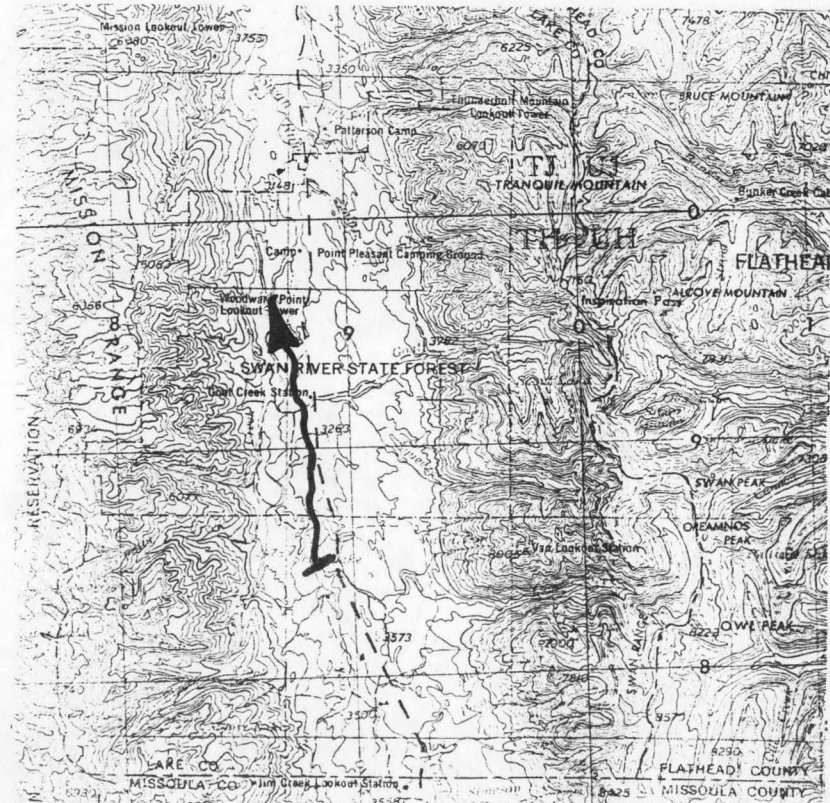
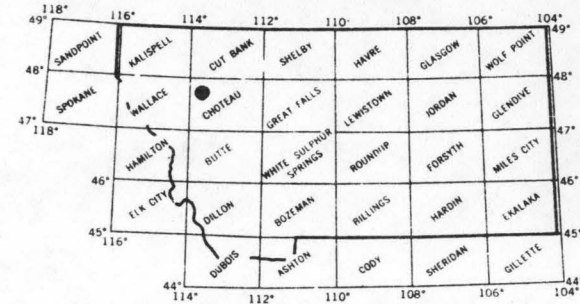
### III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	128	2.00	17.54	1.00
80	182	2.86	24.05	.96
50	404	6.33	42.68	.77
30	771	12.08	61.39	.58
10	2280	35.75	97.07	.31

### IV. TYPICAL ANNUAL HYDROGRAPH AVERAGE ANNUAL FLOW = 714 CFS



### LOCATIONS FOR USGS 1:250,000 MAP SERIES



## REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 04-500-480-350-440-R0048

### I. LOCATION

A. State	<u>Montana</u>
B. County	<u>Lake</u>
C. Township, Range	<u>T24N, R18W</u>
D. Latitude, Longitude	<u>47°50', 113°51'</u>
E. Stream Name	<u>Swan River</u>
F. Major Basin Name	<u>Flathead</u>
G. River Mile	<u>20.6 to 31.2</u>

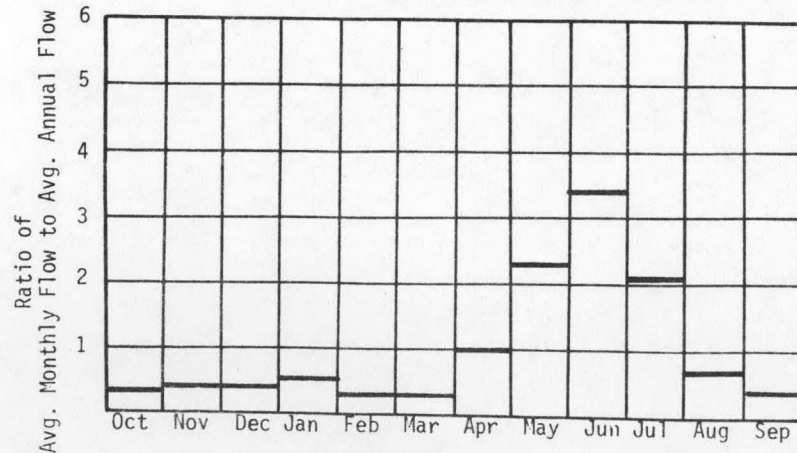
### II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

A. Upstream Elevation of Reach	<u>3165</u>	Ft. MSL
B. Downstream Elevation of Reach	<u>3070</u>	Ft. MSL
C. Total Available Head in Reach	<u>95</u>	Ft.
D. Average Slope in Reach	<u>9.0</u>	Ft./Mi.
E. Drainage Area above Reach Mouth	<u>588</u>	Sq.Mi.
F. Inflow Classification	<u>Partially Regulated</u>	

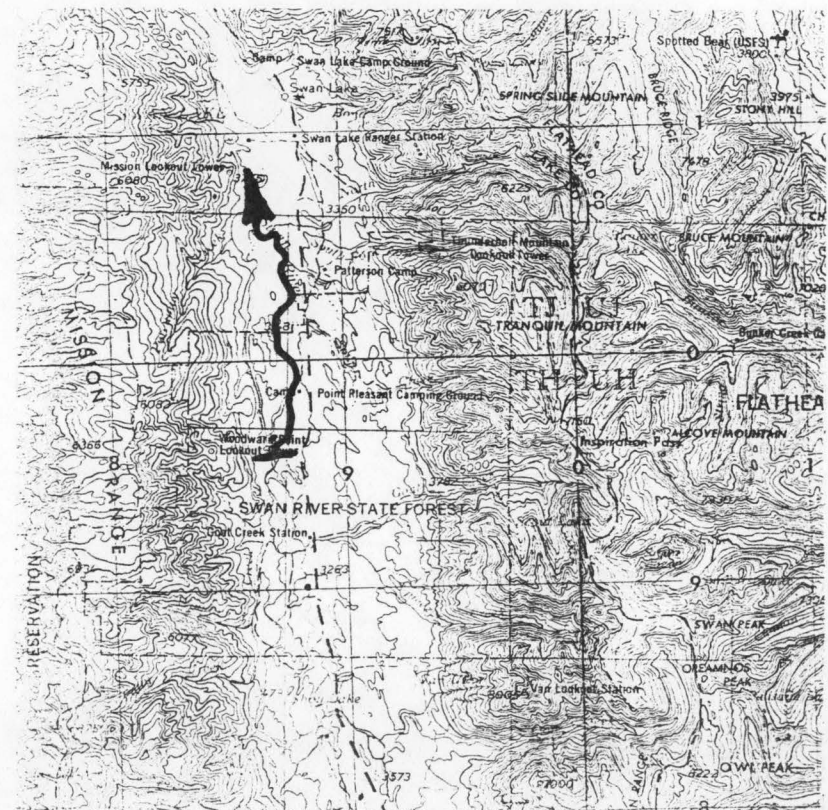
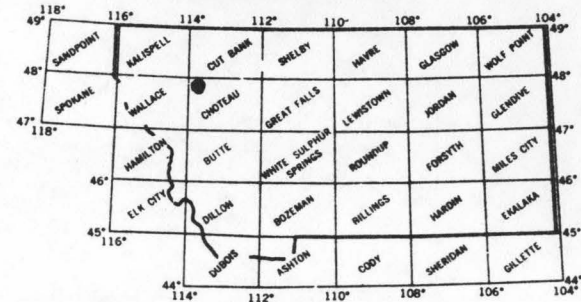
### III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	158	1.28	11.17	1.00
80	226	1.82	15.32	.96
50	501	4.03	27.19	.77
30	956	7.70	39.11	.58
10	2829	22.78	61.85	.31

### IV. TYPICAL ANNUAL HYDROGRAPH AVERAGE ANNUAL FLOW = 883 CFS



### LOCATIONS FOR USGS 1:250,000 MAP SERIES





## REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 04-500-480-350-440-R0049

### I. LOCATION

A. State	Montana
B. County	Lake
C. Township, Range	T25N, R18W
D. Latitude, Longitude	47°58', 113°55'
E. Stream Name	Swan River
F. Major Basin Name	Flathead
G. River Mile	8.8 to 20.6

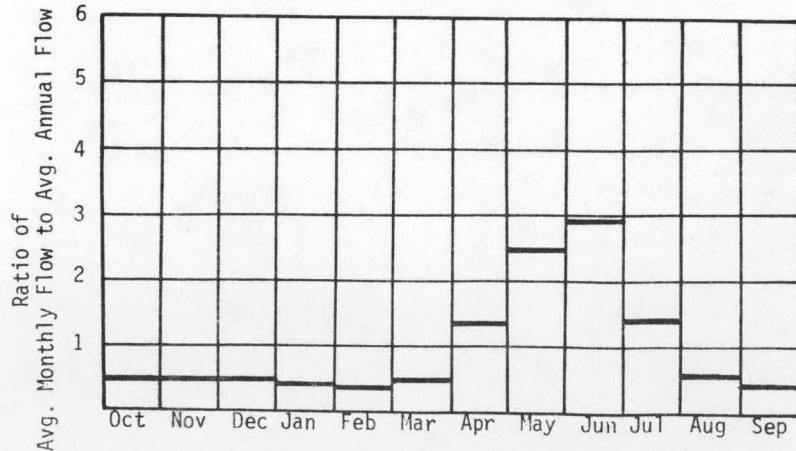
### II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

A. Upstream Elevation of Reach	3070	Ft. MSL
B. Downstream Elevation of Reach	3060	Ft. MSL
C. Total Available Head in Reach	10	Ft.
D. Average Slope in Reach	0.8	Ft./Mi.
E. Drainage Area above Reach Mouth	663	Sq.Mi.
F. Inflow Classification	Fully Regulated	

### III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

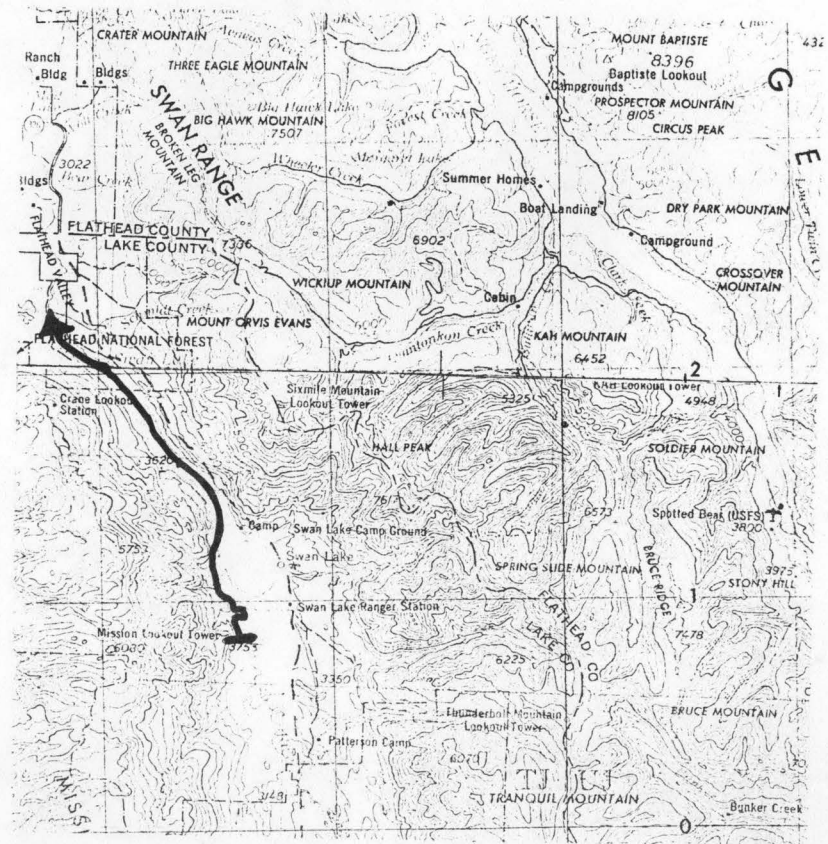
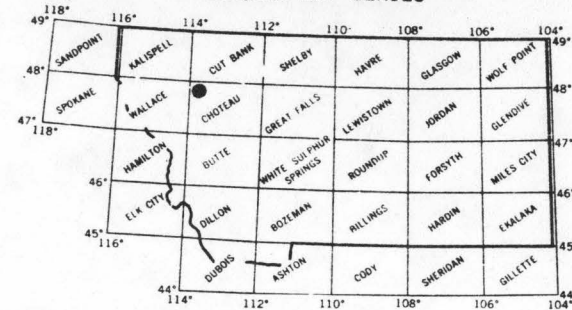
Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	180	.15	1.34	1.00
80	258	.22	1.84	.96
50	570	.48	3.26	.77
30	1089	.92	4.69	.58
10	3223	2.73	7.42	.31

### IV. TYPICAL ANNUAL HYDROGRAPH AVERAGE ANNUAL FLOW = 1004 CFS



M 147

### LOCATIONS FOR USGS 1:250,000 MAP SERIES



## REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 04-500-480-350-440-R0050

### I. LOCATION

A. State	<u>Montana</u>
B. County	<u>Lake</u>
C. Township, Range	<u>T24N, R20W</u>
D. Latitude, Longitude	<u>47°52', 114°08'</u>
E. Stream Name	<u>Flathead River</u>
F. Major Basin Name	<u>Flathead</u>
G. River Mile	<u>68.5 to 105.8</u>

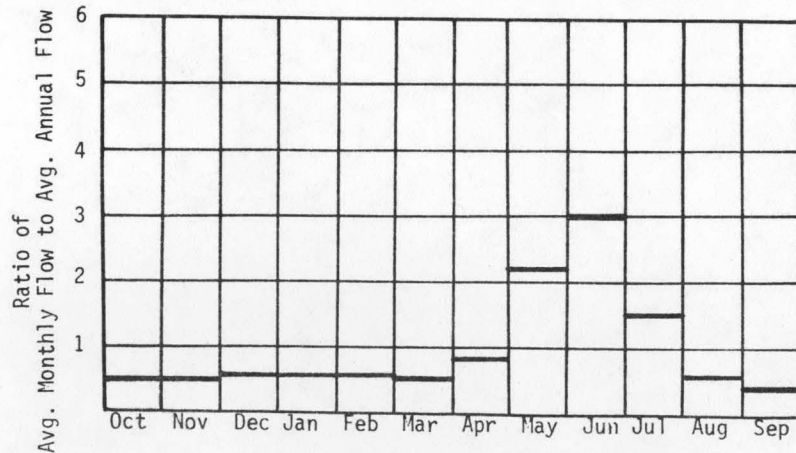
### II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

A. Upstream Elevation of Reach	<u>2905</u>	Ft. MSL
B. Downstream Elevation of Reach	<u>2695</u>	Ft. MSL
C. Total Available Head in Reach	<u>210</u>	Ft.
D. Average Slope in Reach	<u>5.6</u>	Ft./Mi.
E. Drainage Area above Reach Mouth	<u>6880</u>	Sq.Mi.
F. Inflow Classification	<u>Fully Regulated</u>	

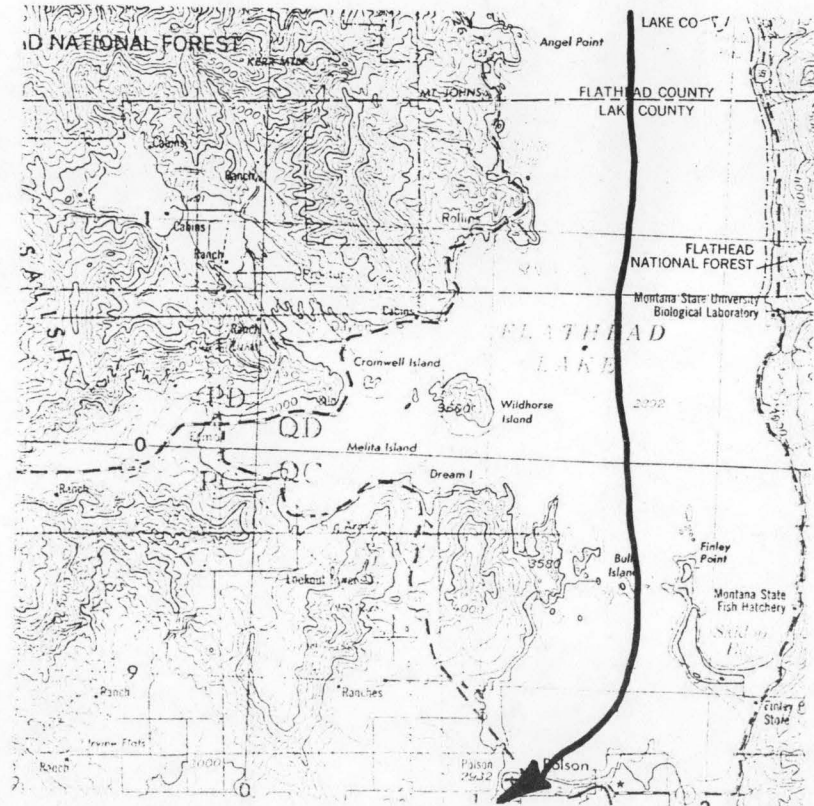
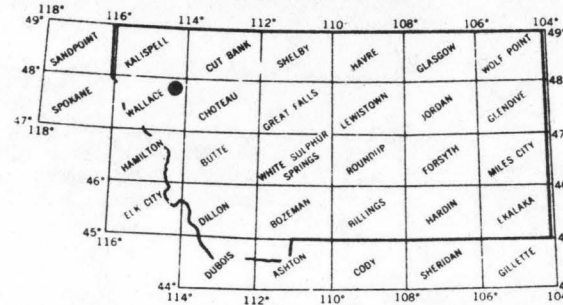
### III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	2119	37.71	330.33	1.00
80	2903	51.66	434.41	.96
50	6241	111.06	758.86	.78
30	11146	198.36	1059.96	.61
10	29026	516.56	1538.53	.34

### IV. TYPICAL ANNUAL HYDROGRAPH AVERAGE ANNUAL FLOW = 11440 CFS



### LOCATIONS FOR USGS 1:250,000 MAP SERIES



## REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 04-500-480-350-440-R0051

### I. LOCATION

A. State	<u>Montana</u>
B. County	<u>Lake</u>
C. Township, Range	<u>T22N, R22W</u>
D. Latitude, Longitude	<u>47°37', 114°22'</u>
E. Stream Name	<u>Flathead River</u>
F. Major Basin Name	<u>Flathead</u>
G. River Mile	<u>48.9 to 68.5</u>

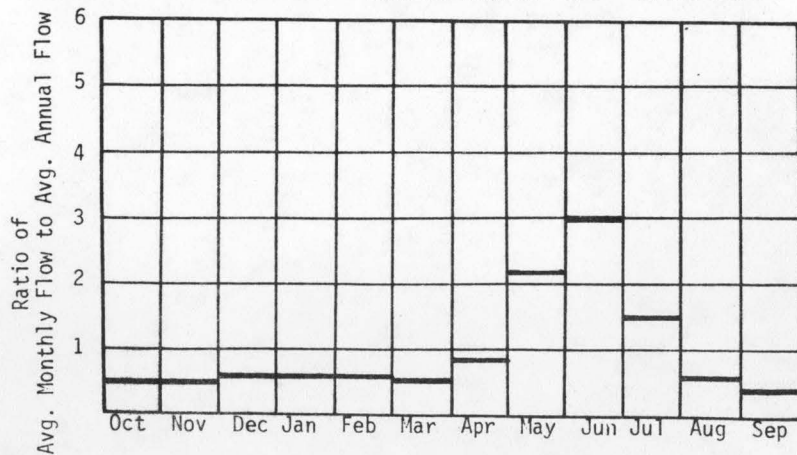
### II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

A. Upstream Elevation of Reach	<u>2695</u>	Ft. MSL
B. Downstream Elevation of Reach	<u>2585</u>	Ft. MSL
C. Total Available Head in Reach	<u>110</u>	Ft.
D. Average Slope in Reach	<u>5.6</u>	Ft./Mi.
E. Drainage Area above Reach Mouth	<u>7023</u>	Sq.Mi.
F. Inflow Classification	<u>Partially Regulated</u>	

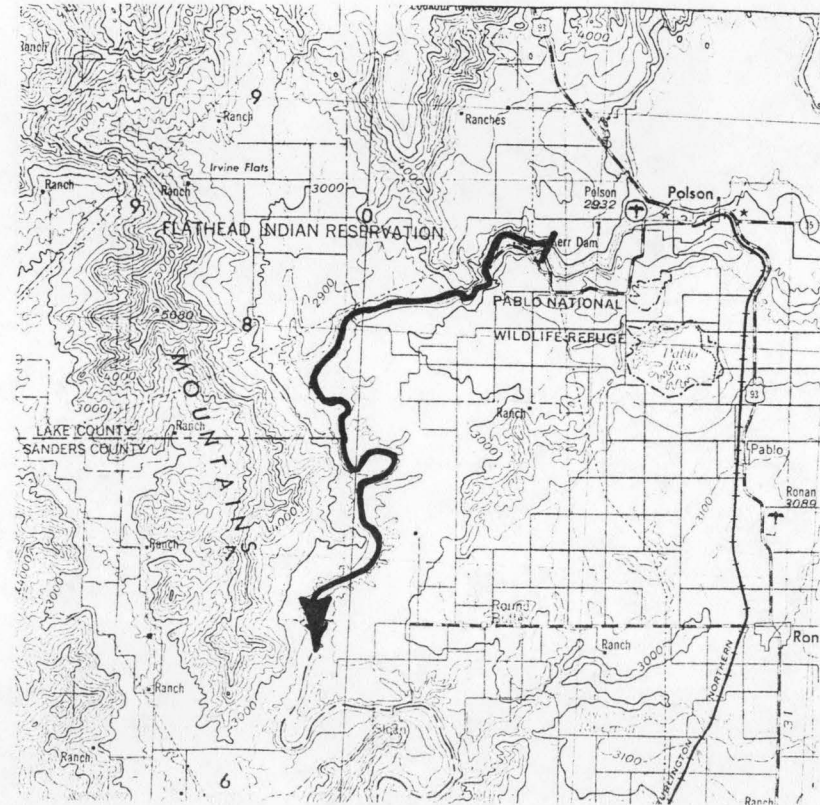
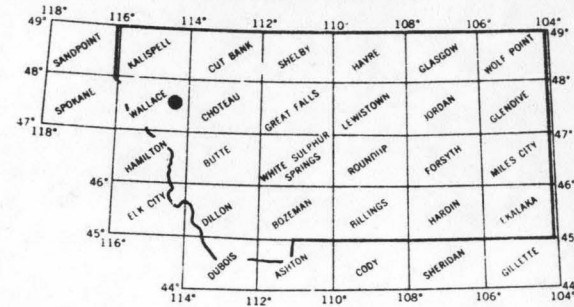
### III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	2276	21.22	185.90	1.00
80	3118	29.07	244.47	.96
50	6705	62.50	427.05	.78
30	11975	111.63	596.50	.61
10	31184	290.70	865.82	.34

### IV. TYPICAL ANNUAL HYDROGRAPH AVERAGE ANNUAL FLOW = 12330 CFS



LOCATIONS FOR USGS  
1:250,000 MAP SERIES



## REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 04-500-480-350-440-R0052

### I. LOCATION

A. State	<u>Montana</u>
B. County	<u>Sanders</u>
C. Township, Range	<u>T24N, R24W</u>
D. Latitude, Longitude	<u>47°50', 114°40'</u>
E. Stream Name	<u>Little Bitterroot River</u>
F. Major Basin Name	<u>Flathead</u>
G. River Mile	<u>31.6 to 46.8</u>

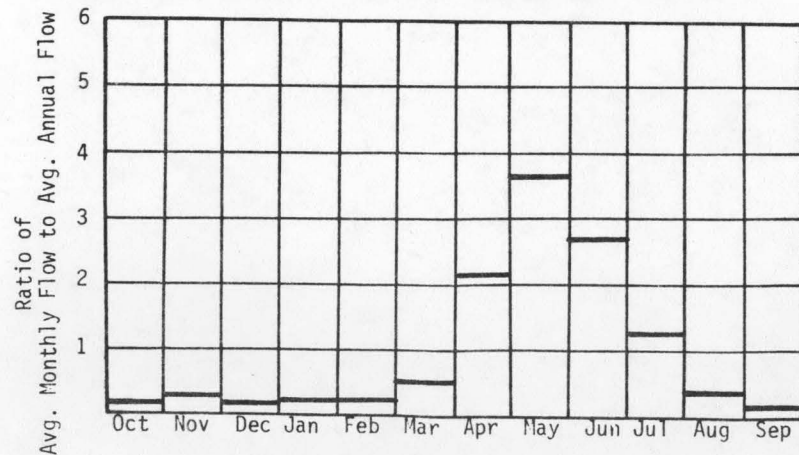
### II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

A. Upstream Elevation of Reach	<u>3355</u>	Ft. MSL
B. Downstream Elevation of Reach	<u>2770</u>	Ft. MSL
C. Total Available Head in Reach	<u>650</u>	Ft.
D. Average Slope in Reach	<u>38.5</u>	Ft./Mi.
E. Drainage Area above Reach Mouth	<u>255</u>	Sq.Mi.
F. Inflow Classification	<u>Partially Regulated</u>	

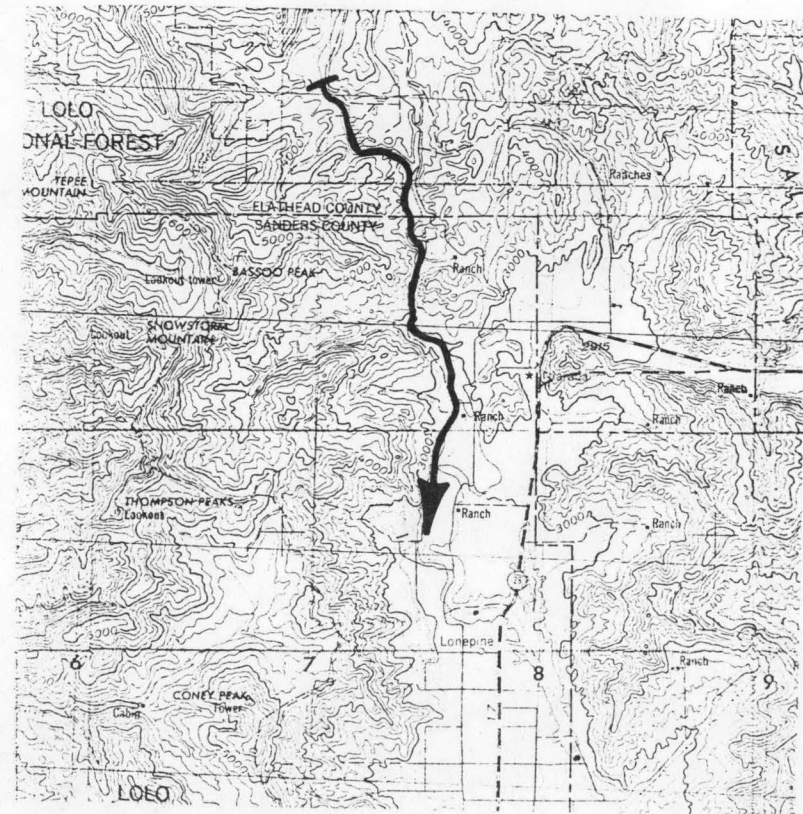
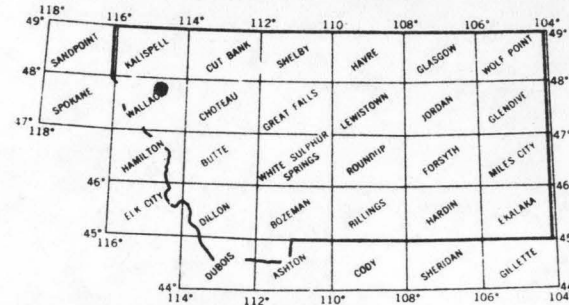
### III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	28	1.53	13.38	1.00
80	34	1.90	16.15	.97
50	59	3.27	23.81	.83
30	99	5.43	30.91	.65
10	308	16.97	46.07	.31

### IV. TYPICAL ANNUAL HYDROGRAPH AVERAGE ANNUAL FLOW = 106 CFS



### LOCATIONS FOR USGS 1:250,000 MAP SERIES



## REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 04-500-480-350-440-R0053

### I. LOCATION

A. State	<u>Montana</u>
B. County	<u>Lake</u>
C. Township, Range	<u>T22N, R23W</u>
D. Latitude, Longitude	<u>47°40', 114°35'</u>
E. Stream Name	<u>Little Bitterroot River</u>
F. Major Basin Name	<u>Flathead</u>
G. River Mile	<u>18.9 to 31.6</u>

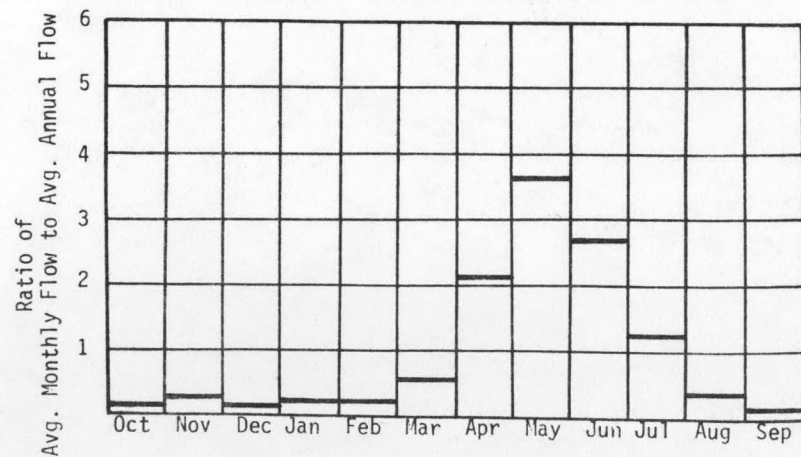
### II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

A. Upstream Elevation of Reach	<u>2770</u>	Ft. MSL
B. Downstream Elevation of Reach	<u>2715</u>	Ft. MSL
C. Total Available Head in Reach	<u>55</u>	Ft.
D. Average Slope in Reach	<u>4.3</u>	Ft./Mi.
E. Drainage Area above Reach Mouth	<u>502</u>	Sq.Mi.
F. Inflow Classification	<u>Partially Regulated</u>	

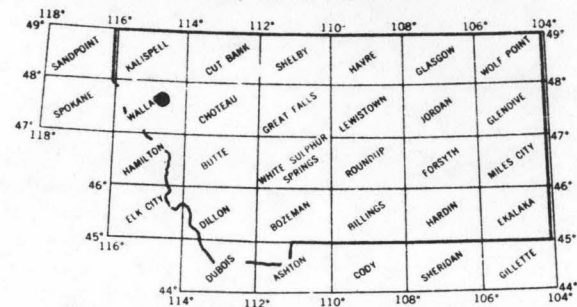
### III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	58	.27	2.37	1.00
80	72	.34	2.87	.97
50	125	.58	4.23	.83
30	207	.96	5.49	.65
10	646	3.01	8.18	.31

### IV. TYPICAL ANNUAL HYDROGRAPH AVERAGE ANNUAL FLOW = 210 CFS



### LOCATIONS FOR USGS 1:250,000 MAP SERIES



## REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 04-500-480-350-440-R0054

### I. LOCATION

A. State	<u>Montana</u>
B. County	<u>Sanders</u>
C. Township, Range	<u>T20N, R23W</u>
D. Latitude, Longitude	<u>47°32', 114°27'</u>
E. Stream Name	<u>Little Bitterroot River</u>
F. Major Basin Name	<u>Flathead</u>
G. River Mile	<u>.6 to 18.9</u>

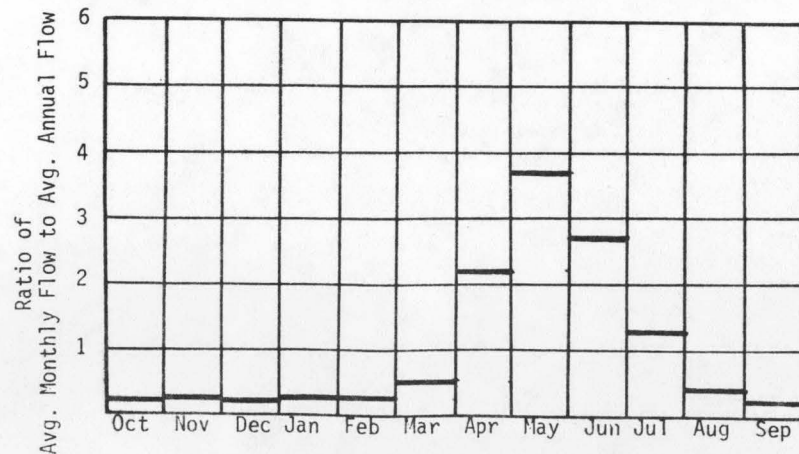
### II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

A. Upstream Elevation of Reach	<u>2715</u>	Ft. MSL
B. Downstream Elevation of Reach	<u>2580</u>	Ft. MSL
C. Total Available Head in Reach	<u>135</u>	Ft.
D. Average Slope in Reach	<u>7.4</u>	Ft./Mi.
E. Drainage Area above Reach Mouth	<u>612</u>	Sq.Mi.
F. Inflow Classification	<u>Partially Regulated</u>	

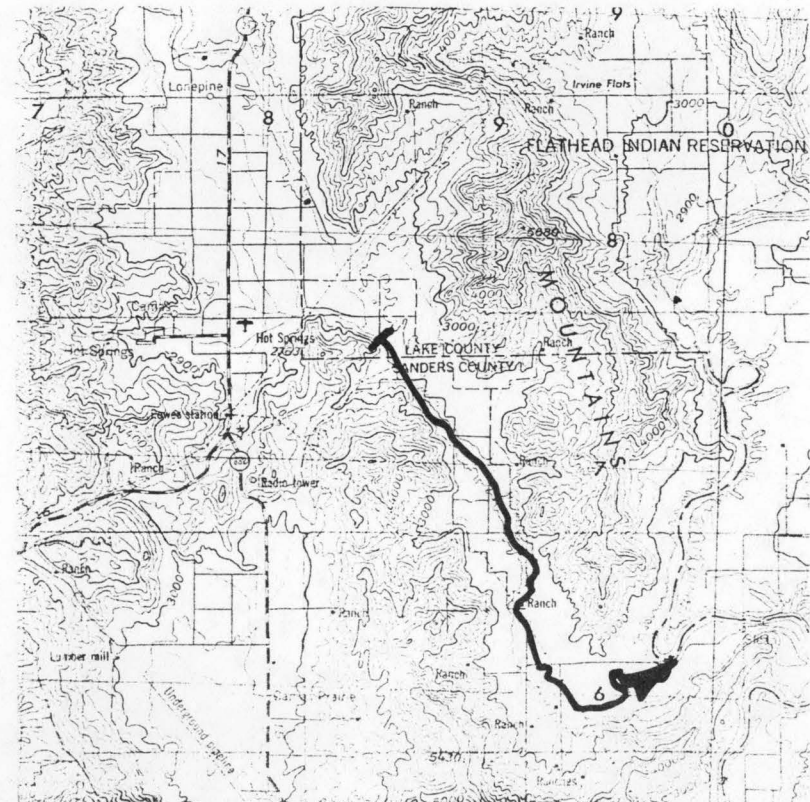
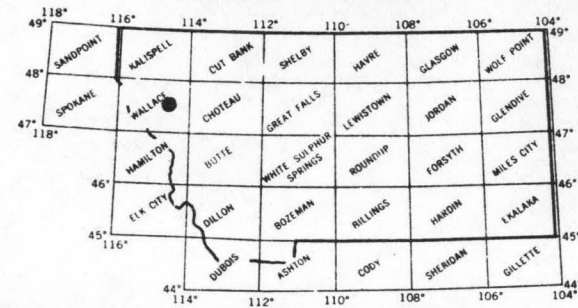
### III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	85	.98	8.56	1.00
80	106	1.22	10.33	.97
50	183	2.10	15.24	.83
30	304	3.47	19.78	.65
10	949	10.86	29.48	.31

### IV. TYPICAL ANNUAL HYDROGRAPH AVERAGE ANNUAL FLOW = 303 CFS



LOCATIONS FOR USGS  
1:250,000 MAP SERIES



## REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 04-500-480-350-440-R0055

### I. LOCATION

A. State	Montana
B. County	Lake
C. Township, Range	T19N, R20W
D. Latitude, Longitude	47°22', 114°12'
E. Stream Name	Post Creek
F. Major Basin Name	Flathead
G. River Mile	2.1 to 8.3

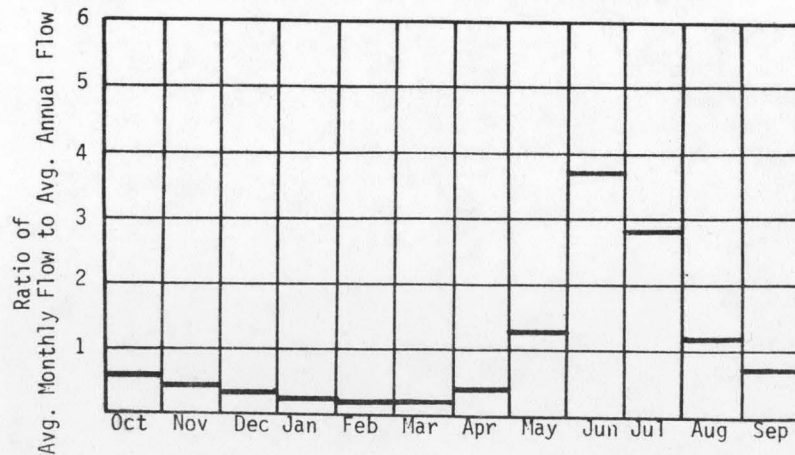
### II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

A. Upstream Elevation of Reach	2690	Ft. MSL
B. Downstream Elevation of Reach	2520	Ft. MSL
C. Total Available Head in Reach	235	Ft.
D. Average Slope in Reach	27.4	Ft./Mi.
E. Drainage Area above Reach Mouth	252	Sq.Mi.
F. Inflow Classification	Partially Regulated	

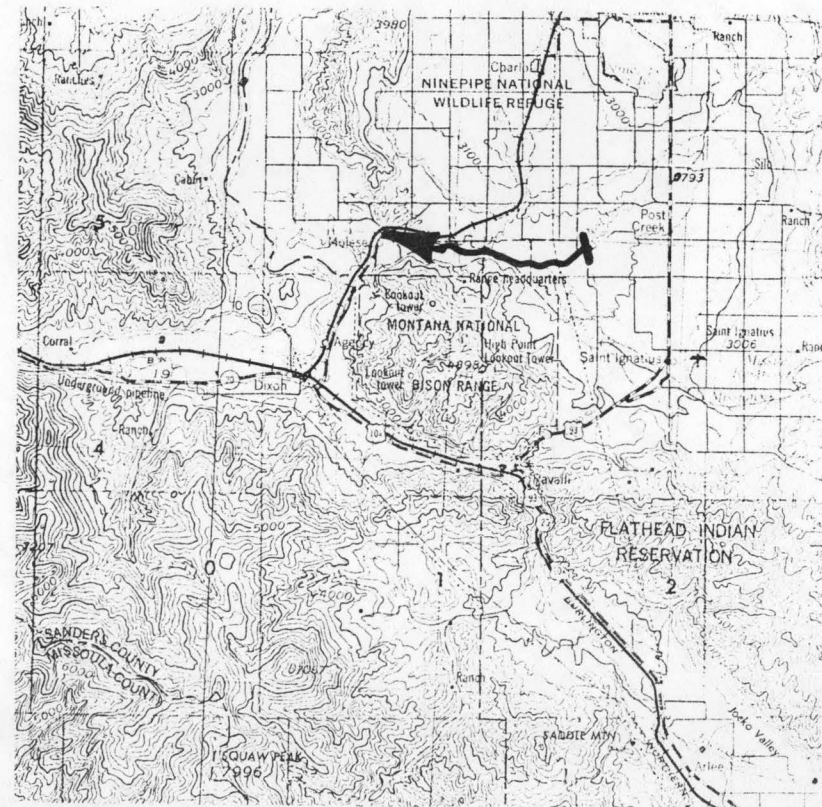
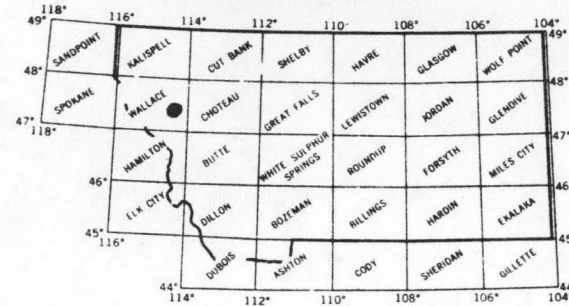
### III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	42	.84	7.38	1.00
80	53	1.05	8.91	.97
50	91	1.81	13.13	.83
30	150	3.00	17.05	.65
10	470	9.36	25.42	.31

### IV. TYPICAL ANNUAL HYDROGRAPH AVERAGE ANNUAL FLOW = 156 CFS



### LOCATIONS FOR USGS 1:250,000 MAP SERIES



## REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 04-500-480-350-440-R0056

### I. LOCATION

A. State	Montana
B. County	Sanders
C. Township, Range	T19N, R22W
D. Latitude, Longitude	47°26', 114°20'
E. Stream Name	Flathead River
F. Major Basin Name	Flathead
G. River Mile	25.1 to 48.9

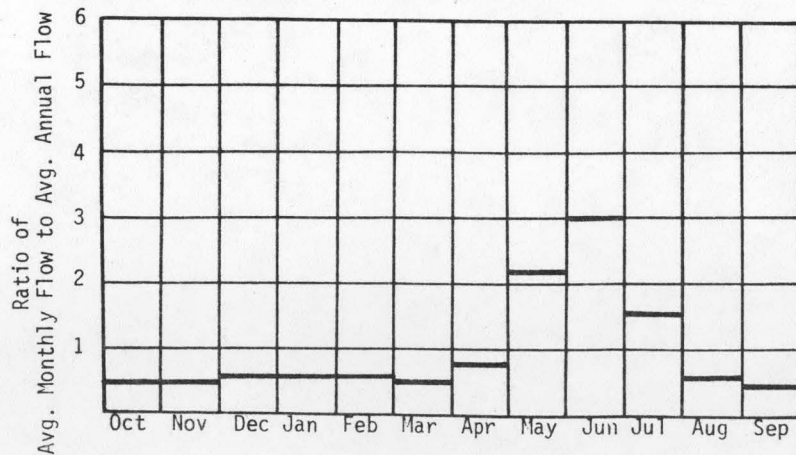
### II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

A. Upstream Elevation of Reach	2585	Ft. MSL
B. Downstream Elevation of Reach	2515	Ft. MSL
C. Total Available Head in Reach	70	Ft.
D. Average Slope in Reach	2.9	Ft./Mi.
E. Drainage Area above Reach Mouth	8161	Sq.Mi.
F. Inflow Classification	Partially Regulated	

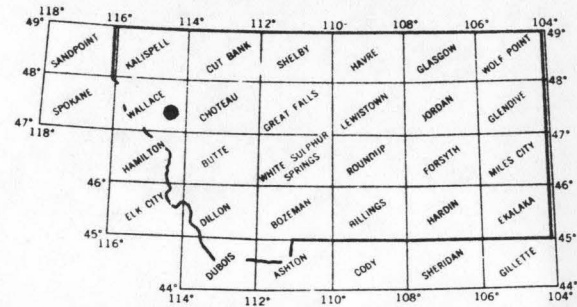
### III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	2370	14.06	123.17	1.00
80	3247	19.26	161.97	.96
50	6981	41.41	282.95	.78
30	12468	73.96	395.22	.61
10	32468	192.61	573.66	.34

### IV. TYPICAL ANNUAL HYDROGRAPH AVERAGE ANNUAL FLOW = 12859 CFS



LOCATIONS FOR USGS  
1:250,000 MAP SERIES





## REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 04-500-480-350-440-R0057

### I. LOCATION

A. State	Montana
B. County	Lake
C. Township, Range	T16N, R19W
D. Latitude, Longitude	47°09', 114°01'
E. Stream Name	Jocko River
F. Major Basin Name	Flathead
G. River Mile	13.5 to 24.5

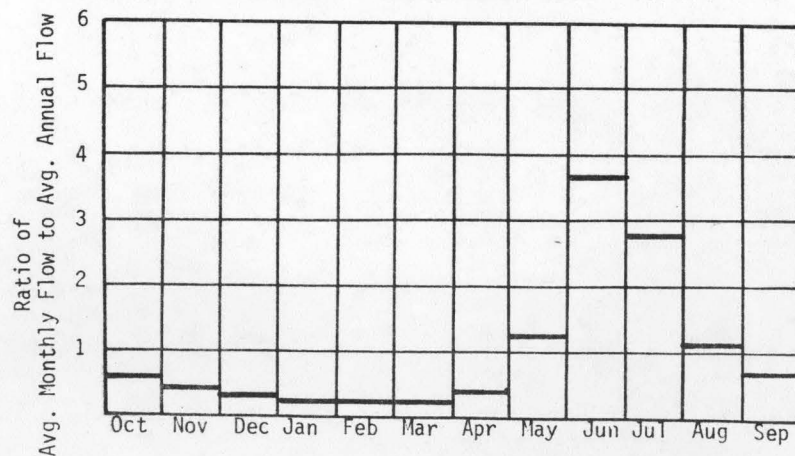
### II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

A. Upstream Elevation of Reach	3615	Ft. MSL
B. Downstream Elevation of Reach	2910	Ft. MSL
C. Total Available Head in Reach	770	Ft.
D. Average Slope in Reach	64.1	Ft./Mi.
E. Drainage Area above Reach Mouth	221	Sq.Mi.
F. Inflow Classification	Unregulated	

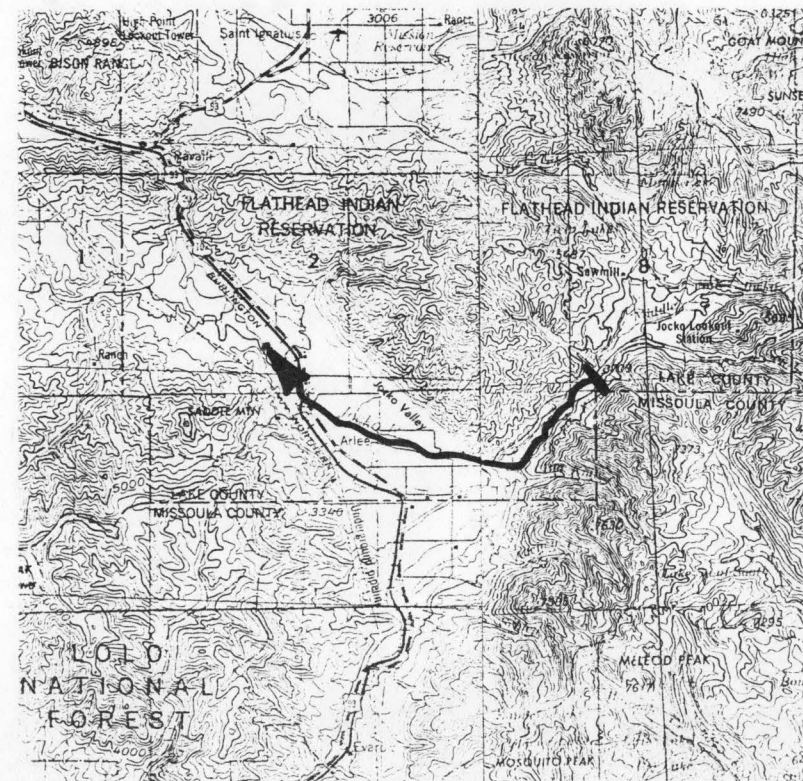
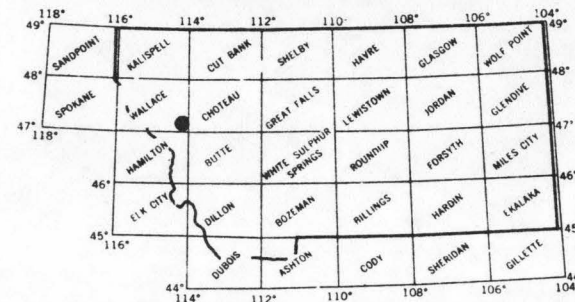
### III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	45	2.92	25.62	1.00
80	56	3.64	30.93	.97
50	96	6.27	45.60	.83
30	159	10.40	59.21	.65
10	498	32.50	88.25	.31

### IV. TYPICAL ANNUAL HYDROGRAPH AVERAGE ANNUAL FLOW = 164 CFS



### LOCATIONS FOR USGS 1:250,000 MAP SERIES



## REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 04-500-480-350-440-R0058

### I. LOCATION

A. State	Montana
B. County	Lake
C. Township, Range	T18N, R20W
D. Latitude, Longitude	47°17', 114°11'
E. Stream Name	Jocko River
F. Major Basin Name	Flathead
G. River Mile	.4 to 13.5

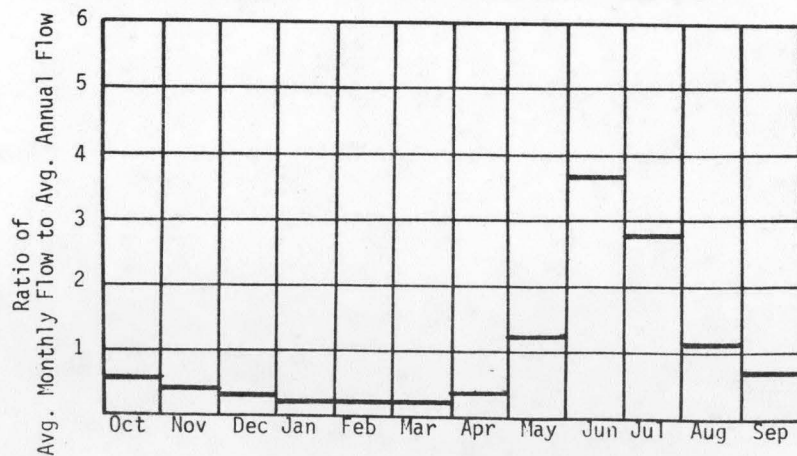
### II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

A. Upstream Elevation of Reach	2910	Ft. MSL
B. Downstream Elevation of Reach	2520	Ft. MSL
C. Total Available Head in Reach	390	Ft.
D. Average Slope in Reach	29.8	Ft./Mi.
E. Drainage Area above Reach Mouth	355	Sq.Mi.
F. Inflow Classification	Unregulated	

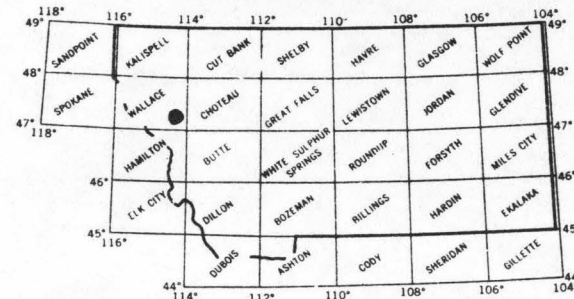
### III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	72	2.37	20.79	1.00
80	89	2.95	25.10	.97
50	154	5.09	37.01	.83
30	255	8.44	48.06	.65
10	798	26.37	71.62	.31

### IV. TYPICAL ANNUAL HYDROGRAPH AVERAGE ANNUAL FLOW = 256 CFS



### LOCATIONS FOR USGS 1:250,000 MAP SERIES



## REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 04-500-480-350-440-R0059

### I. LOCATION

A. State	<u>Montana</u>
B. County	<u>Sanders</u>
C. Township, Range	<u>T18N, R22W</u>
D. Latitude, Longitude	<u>47°20', 114°23'</u>
E. Stream Name	<u>Flathead River</u>
F. Major Basin Name	<u>Flathead</u>
G. River Mile	<u>15.4 to 25.1</u>

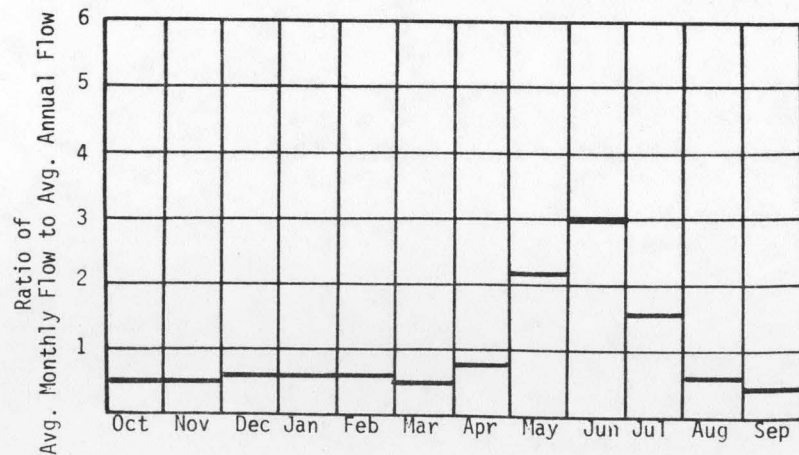
### II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

A. Upstream Elevation of Reach	<u>2515</u>	Ft. MSL
B. Downstream Elevation of Reach	<u>2495</u>	Ft. MSL
C. Total Available Head in Reach	<u>20</u>	Ft.
D. Average Slope in Reach	<u>2.1</u>	Ft./Mi.
E. Drainage Area above Reach Mouth	<u>8610</u>	Sq.Mi.
F. Inflow Classification	<u>Partially Regulated</u>	

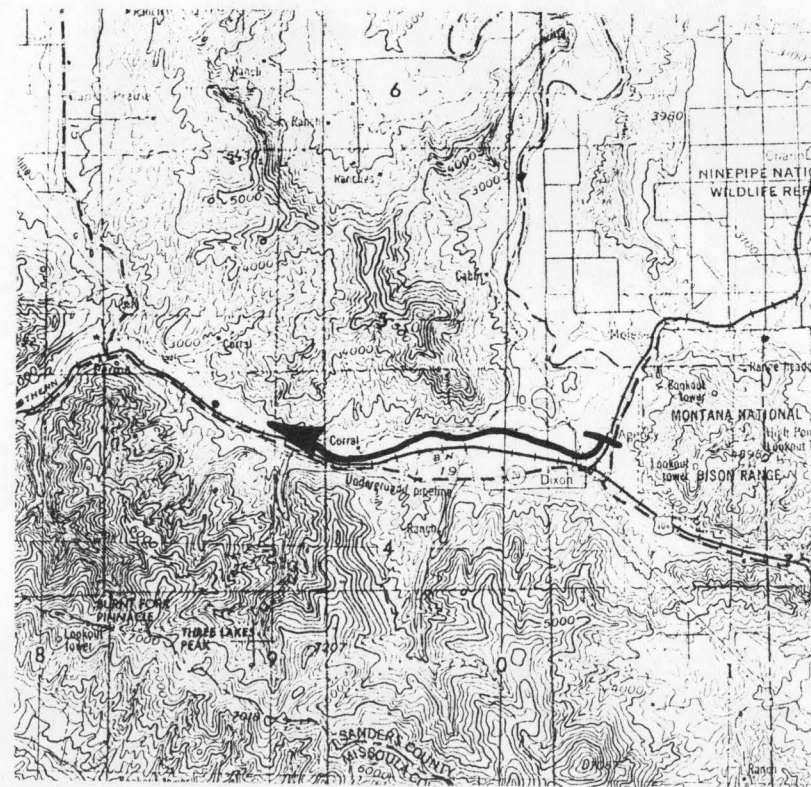
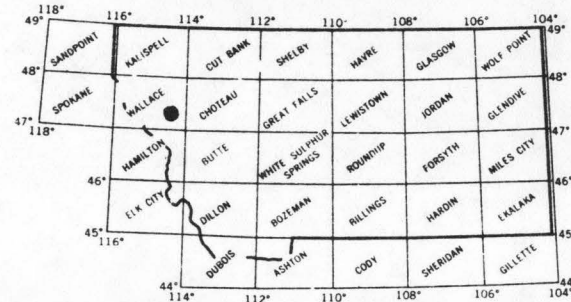
### III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	2499	4.23	37.10	1.00
80	3423	5.80	48.79	.96
50	7359	12.47	85.22	.78
30	13144	22.28	119.04	.61
10	34228	58.01	172.79	.34

### IV. TYPICAL ANNUAL HYDROGRAPH AVERAGE ANNUAL FLOW = 13584 CFS



### LOCATIONS FOR USGS 1:250,000 MAP SERIES



## REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 04-500-480-350-440-R0060

### I. LOCATION

A. State	Montana
B. County	Sanders
C. Township, Range	T18N, R24W
D. Latitude, Longitude	47°21', 114°38'
E. Stream Name	Flathead River
F. Major Basin Name	Flathead
G. River Mile	.4 to 15.4

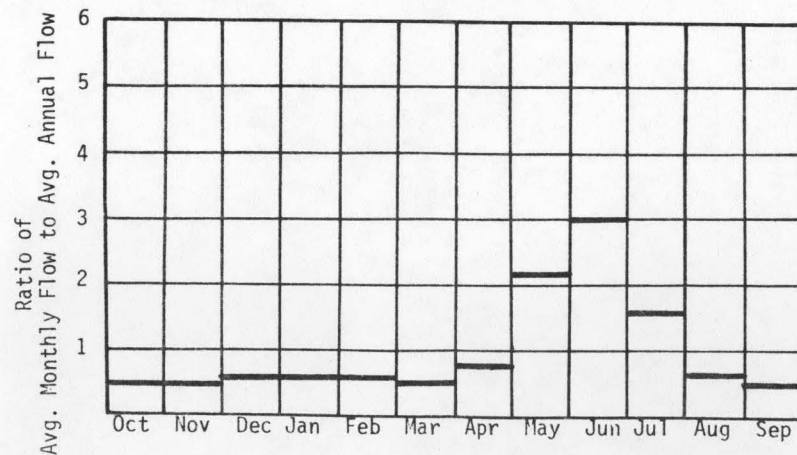
### II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

A. Upstream Elevation of Reach	2495	Ft. MSL
B. Downstream Elevation of Reach	2480	Ft. MSL
C. Total Available Head in Reach	15	Ft.
D. Average Slope in Reach	1.0	Ft./Mi.
E. Drainage Area above Reach Mouth	8836	Sq.Mi.
F. Inflow Classification	Partially Regulated	

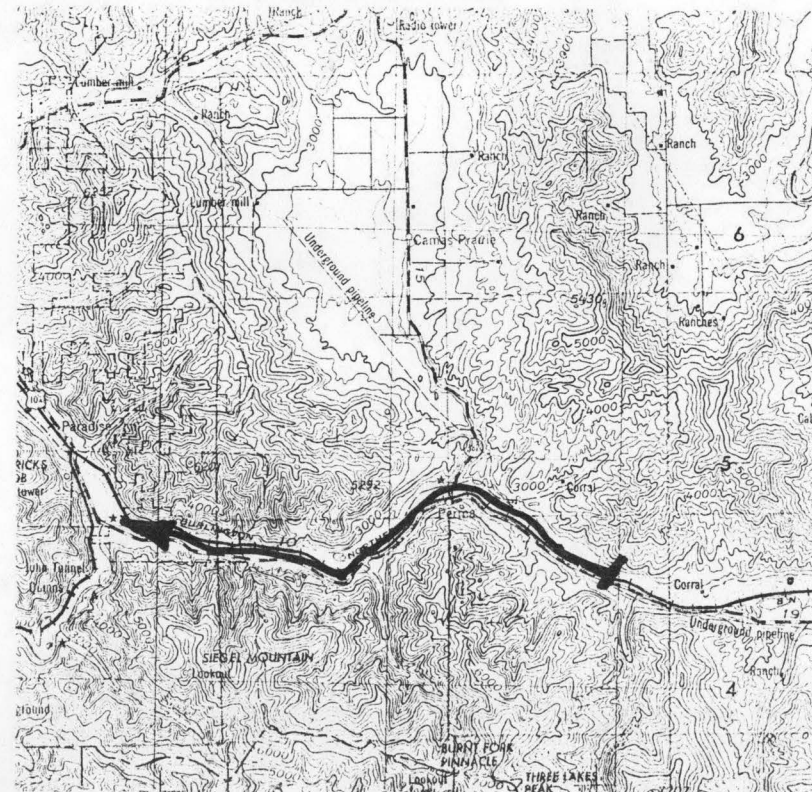
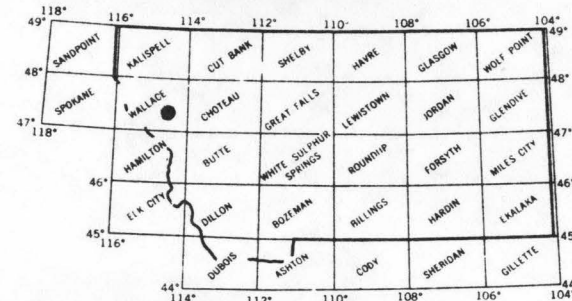
### III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	2556	3.25	28.46	1.00
80	3502	4.45	37.43	.96
50	7528	9.57	65.39	.78
30	13446	17.09	91.34	.61
10	35016	44.51	132.57	.34

### IV. TYPICAL ANNUAL HYDROGRAPH AVERAGE ANNUAL FLOW = 13910 CFS



### LOCATIONS FOR USGS 1:250,000 MAP SERIES



## REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 04-500-500-000-000-R0001

### I. LOCATION

A. State	<u>Montana</u>
B. County	<u>Lincoln</u>
C. Township, Range	<u>T34N, R29W</u>
D. Latitude, Longitude	<u>48°40', 115°19'</u>
E. Stream Name	<u>Kootenai River</u>
F. Major Basin Name	<u>Kootenai</u>
G. River Mile	<u>45.2 to 95.6</u>

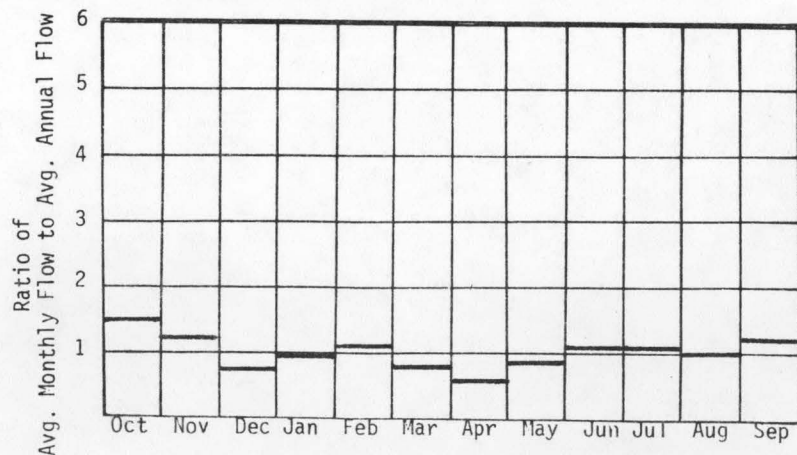
### II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

A. Upstream Elevation of Reach	<u>2315</u>	Ft. MSL
B. Downstream Elevation of Reach	<u>2110</u>	Ft. MSL
C. Total Available Head in Reach	<u>270</u>	Ft.
D. Average Slope in Reach	<u>4.1</u>	Ft./Mi.
E. Drainage Area above Reach Mouth	<u>8897</u>	Sq.Mi.
F. Inflow Classification	<u>Fully Regulated</u>	

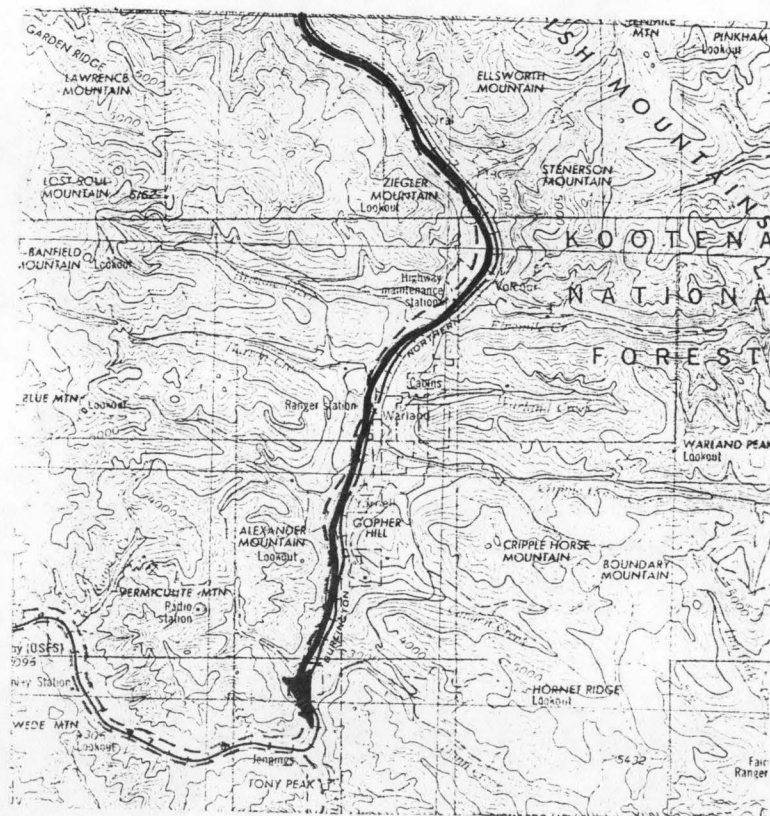
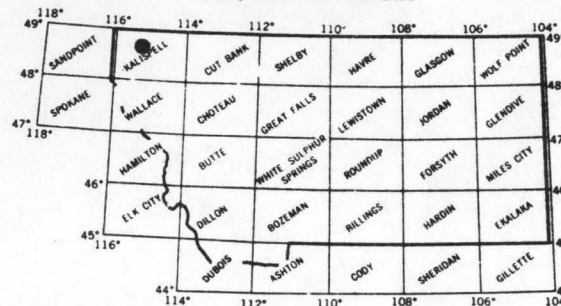
### III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	2479	56.72	496.83	1.00
80	3305	75.62	635.94	.96
50	6610	151.24	1059.90	.80
30	13338	305.18	1577.31	.59
10	29508	675.18	2188.40	.37

### IV. TYPICAL ANNUAL HYDROGRAPH AVERAGE ANNUAL FLOW = 11078 CFS



### LOCATIONS FOR USGS 1:250,000 MAP SERIES



## REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 04-500-500-000-000-R0002

### I. LOCATION

A. State	<u>Montana</u>
B. County	<u>Lincoln</u>
C. Township, Range	<u>T30N, R30W</u>
D. Latitude, Longitude	<u>48°22', 115°22'</u>
E. Stream Name	<u>Kootenai River</u>
F. Major Basin Name	<u>Kootenai</u>
G. River Mile	<u>38.6 to 45.2</u>

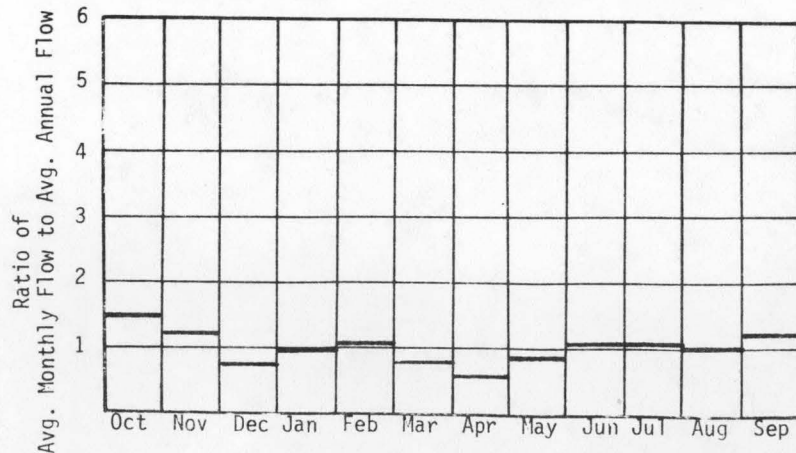
### II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

A. Upstream Elevation of Reach	<u>2110</u>	Ft. MSL
B. Downstream Elevation of Reach	<u>2070</u>	Ft. MSL
C. Total Available Head in Reach	<u>40</u>	Ft.
D. Average Slope in Reach	<u>6.1</u>	Ft./Mi.
E. Drainage Area above Reach Mouth	<u>9762</u>	Sq.Mi.
F. Inflow Classification	<u>Partially Regulated</u>	

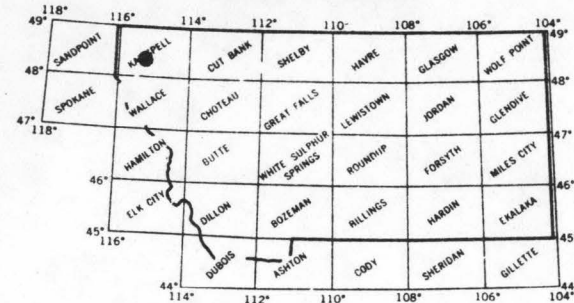
### III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	2686	9.11	79.77	1.00
80	3582	12.14	102.10	.96
50	7163	24.28	170.17	.80
30	14454	49.00	253.23	.59
10	31978	108.40	351.35	.37

### IV. TYPICAL ANNUAL HYDROGRAPH AVERAGE ANNUAL FLOW = 12008 CFS



### LOCATIONS FOR USGS 1:250,000 MAP SERIES



## REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 04-500-500-000-000-R0003

### I. LOCATION

A. State	<u>Montana</u>
B. County	<u>Lincoln</u>
C. Township, Range	<u>T31N, R30W</u>
D. Latitude, Longitude	<u>48°25', 115°29'</u>
E. Stream Name	<u>Kootenai River</u>
F. Major Basin Name	<u>Kootenai</u>
G. River Mile	<u>31.4 to 38.6</u>

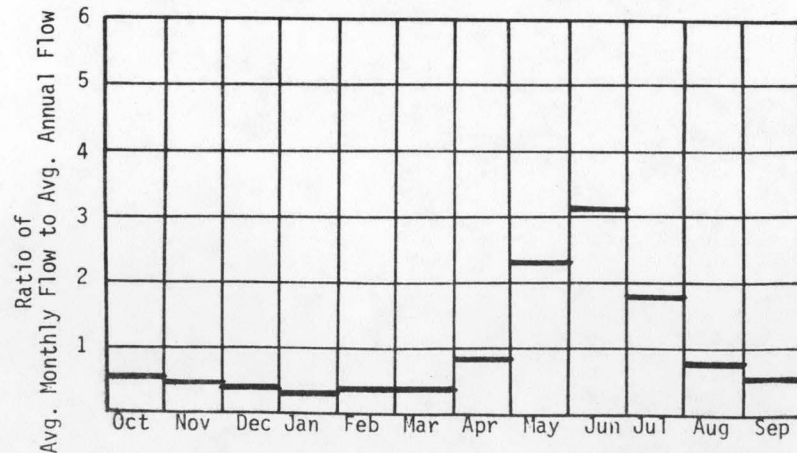
### II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

A. Upstream Elevation of Reach	<u>2070</u>	Ft. MSL
B. Downstream Elevation of Reach	<u>2045</u>	Ft. MSL
C. Total Available Head in Reach	<u>25</u>	Ft.
D. Average Slope in Reach	<u>3.5</u>	Ft./Mi.
E. Drainage Area above Reach Mouth	<u>10025</u>	Sq.Mi.
F. Inflow Classification	<u>Partially Regulated</u>	

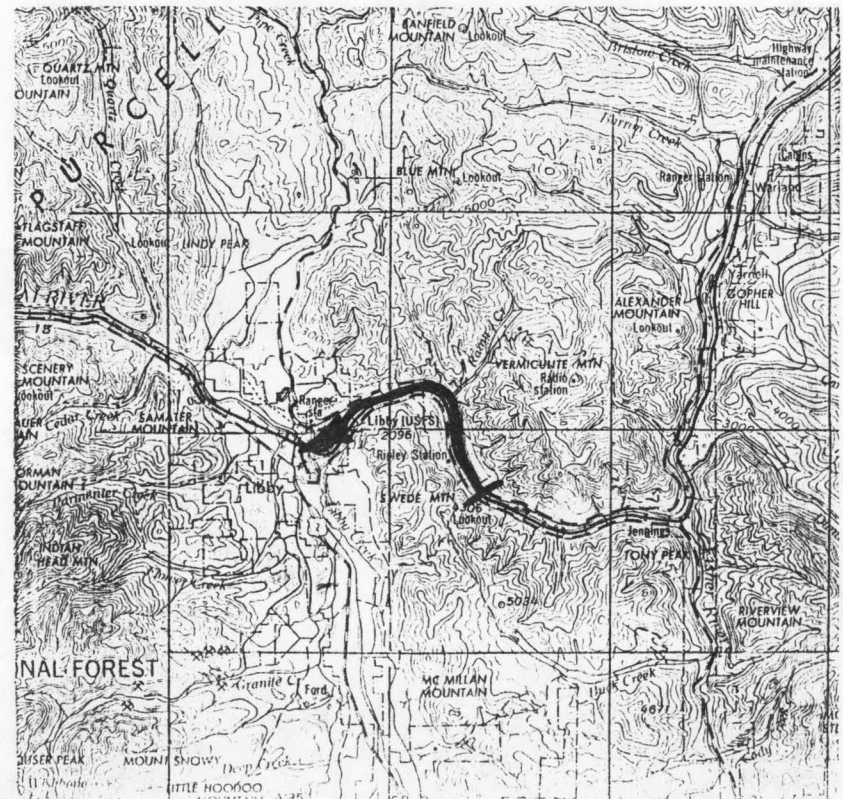
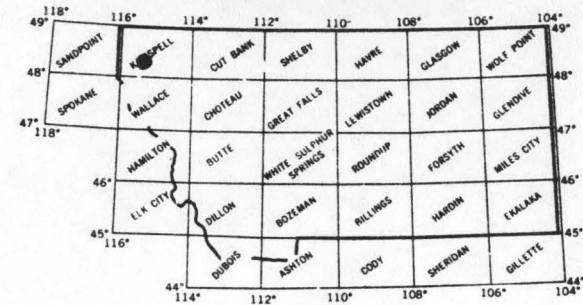
### III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	2805	5.94	52.05	1.00
80	3739	7.92	66.63	.96
50	7479	15.85	111.04	.80
30	15091	31.97	165.25	.59
10	33388	70.74	229.27	.37

### IV. TYPICAL ANNUAL HYDROGRAPH AVERAGE ANNUAL FLOW = 12539 CFS



### LOCATIONS FOR USGS 1:250,000 MAP SERIES



## REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 04-500-500-000-000-R0004

### I. LOCATION

A. State	Montana
B. County	Lincoln
C. Township, Range	T31N, R31W
D. Latitude, Longitude	48°25', 115°36'
E. Stream Name	Kootenai River
F. Major Basin Name	Kootenai
G. River Mile	26.0 to 31.4

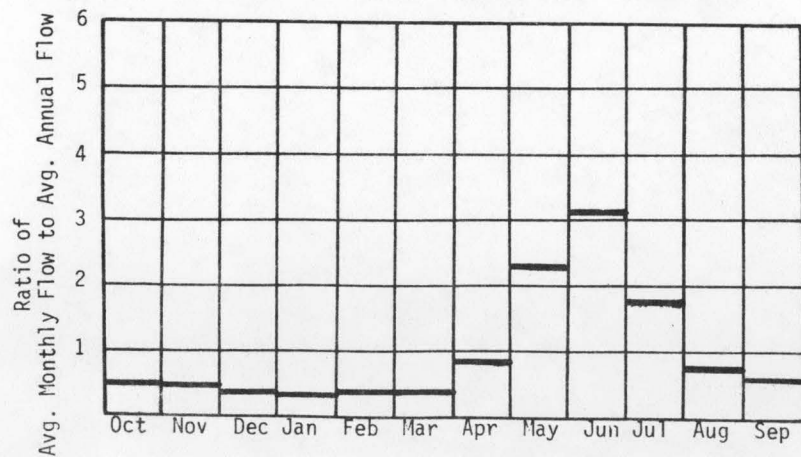
### II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

A. Upstream Elevation of Reach	2045	Ft. MSL
B. Downstream Elevation of Reach	2020	Ft. MSL
C. Total Available Head in Reach	25	Ft.
D. Average Slope in Reach	4.6	Ft./Mi.
E. Drainage Area above Reach Mouth	10255	Sq.Mi.
F. Inflow Classification	Partially Regulated	

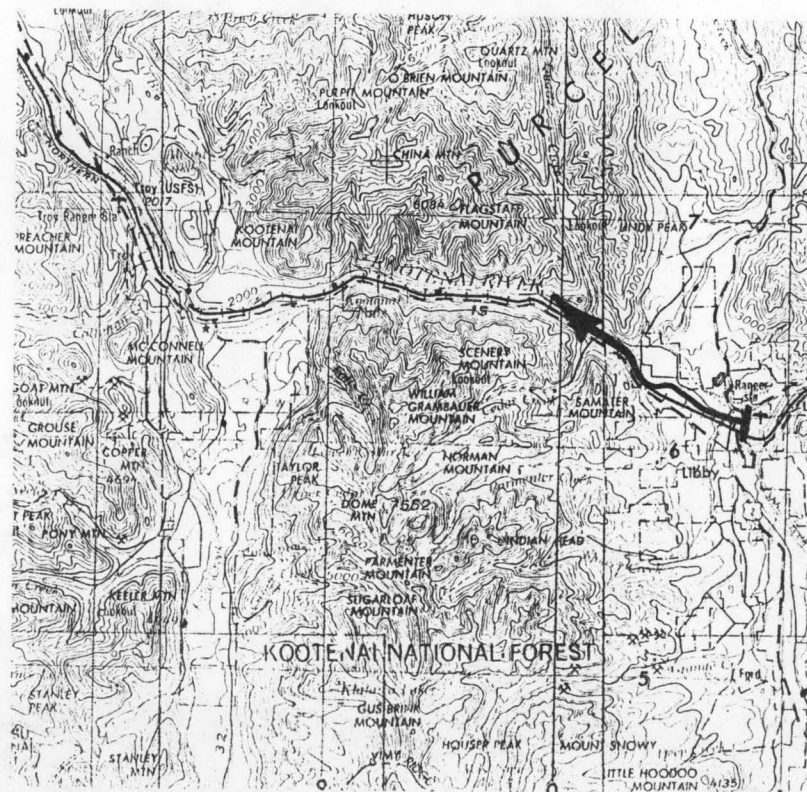
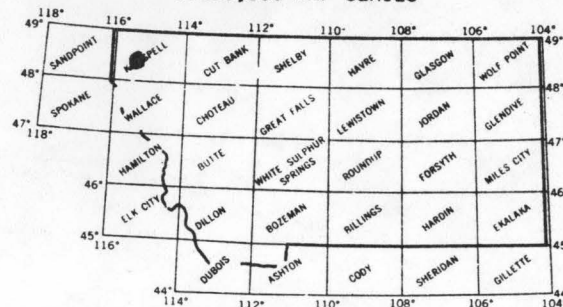
### III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	2869	6.08	53.24	1.00
80	3825	8.10	68.15	.96
50	7650	16.21	113.58	.80
30	15436	32.70	169.03	.59
10	34151	72.35	234.51	.37

### IV. TYPICAL ANNUAL HYDROGRAPH AVERAGE ANNUAL FLOW = 12826 CFS



### LOCATIONS FOR USGS 1:250,000 MAP SERIES





## REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 04-500-500-000-000-R0005

### I. LOCATION

A. State	<u>Montana</u>
B. County	<u>Lincoln</u>
C. Township, Range	<u>T31N, R32W</u>
D. Latitude, Longitude	<u>48°27', 115°43'</u>
E. Stream Name	<u>Kootenai River</u>
F. Major Basin Name	<u>Kootenai</u>
G. River Mile	<u>17.8 to 26.0</u>

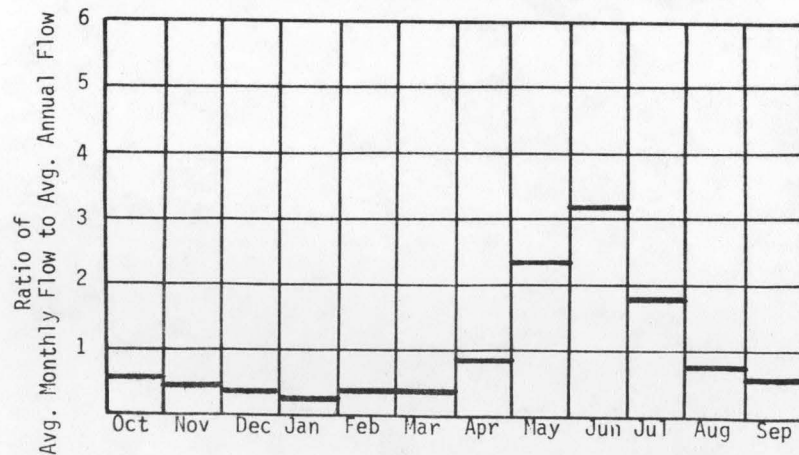
### II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

A. Upstream Elevation of Reach	<u>2020</u>	Ft. MSL
B. Downstream Elevation of Reach	<u>1900</u>	Ft. MSL
C. Total Available Head in Reach	<u>120</u>	Ft.
D. Average Slope in Reach	<u>14.6</u>	Ft./Mi.
E. Drainage Area above Reach Mouth	<u>10288</u>	Sq.Mi.
F. Inflow Classification	<u>Partially Regulated</u>	

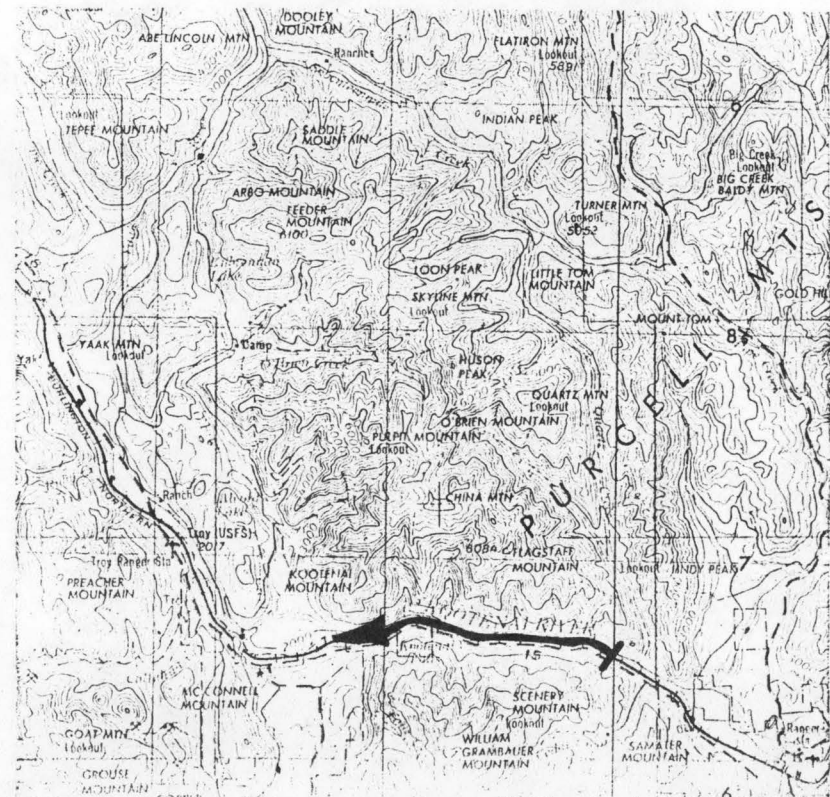
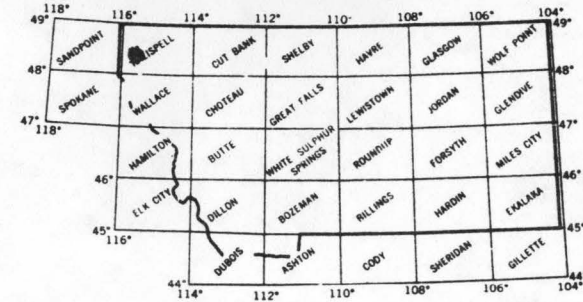
### III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	2902	29.51	258.54	1.00
80	3870	39.35	330.93	.96
50	7739	78.70	551.56	.80
30	15617	158.81	820.81	.59
10	34550	351.36	1138.81	.37

### IV. TYPICAL ANNUAL HYDROGRAPH AVERAGE ANNUAL FLOW = 12977 CFS



### LOCATIONS FOR USGS 1:250,000 MAP SERIES



## REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 04-500-500-000-000-R0006

### I. LOCATION

A. State	Montana
B. County	Lincoln
C. Township, Range	T31N, R33W
D. Latitude, Longitude	48°12'7", 115°52'
E. Stream Name	Kootenai River
F. Major Basin Name	Kootenai
G. River Mile	13.2 to 17.8

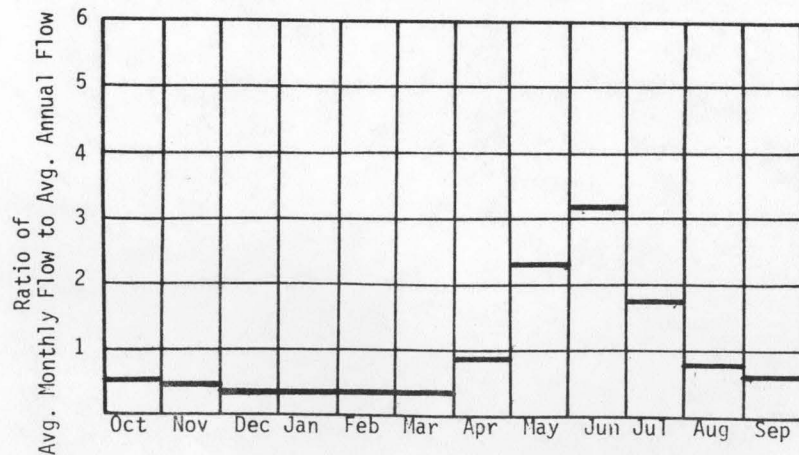
### II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

A. Upstream Elevation of Reach	1900	Ft. MSL
B. Downstream Elevation of Reach	1870	Ft. MSL
C. Total Available Head in Reach	30	Ft.
D. Average Slope in Reach	6.5	Ft./Mi.
E. Drainage Area above Reach Mouth	10642	Sq. Mi.
F. Inflow Classification	Partially Regulated	

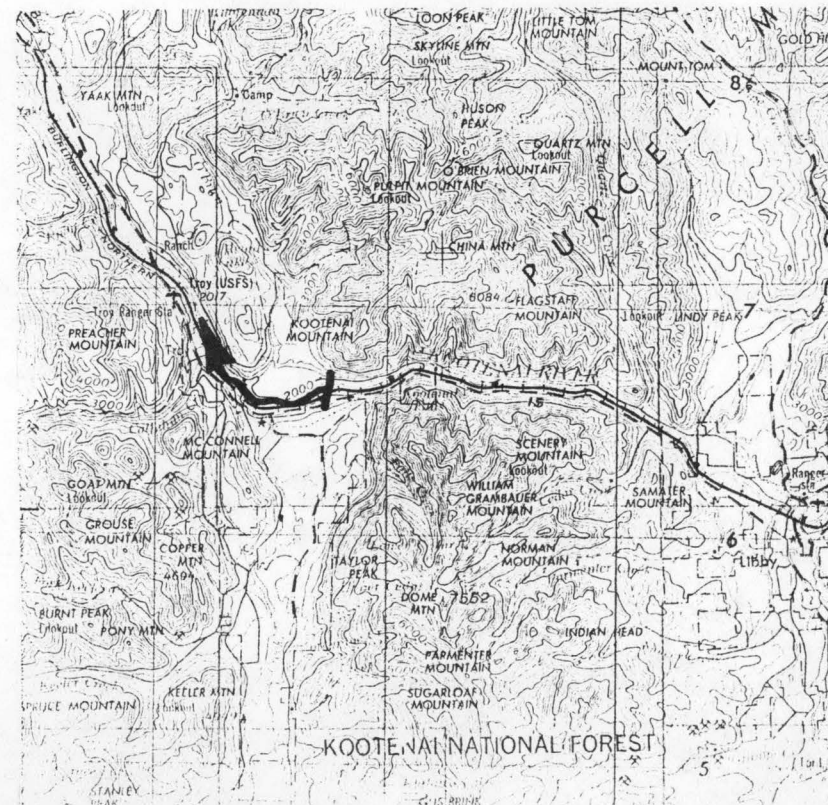
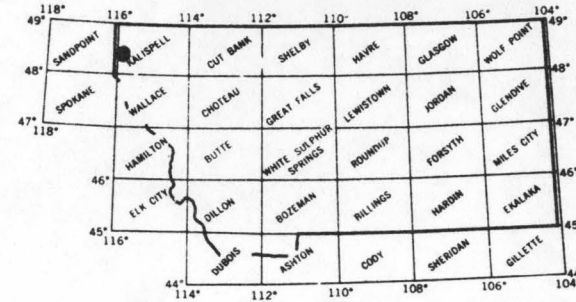
### III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	2976	7.57	66.28	1.00
80	3968	10.09	84.84	.96
50	7936	20.18	141.39	.80
30	16013	40.71	210.42	.59
10	35428	90.07	291.94	.37

### IV. TYPICAL ANNUAL HYDROGRAPH AVERAGE ANNUAL FLOW = 13308 CFS



### LOCATIONS FOR USGS 1:250,000 MAP SERIES



## REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 04-500-500-000-000-R0007

### I. LOCATION

A. State	<u>Montana</u>
B. County	<u>Lincoln</u>
C. Township, Range	<u>T32N, R34W</u>
D. Latitude, Longitude	<u>48°31', 115°57'</u>
E. Stream Name	<u>Kootenai River</u>
F. Major Basin Name	<u>Kootenai</u>
G. River Mile	<u>6.1 to 13.2</u>

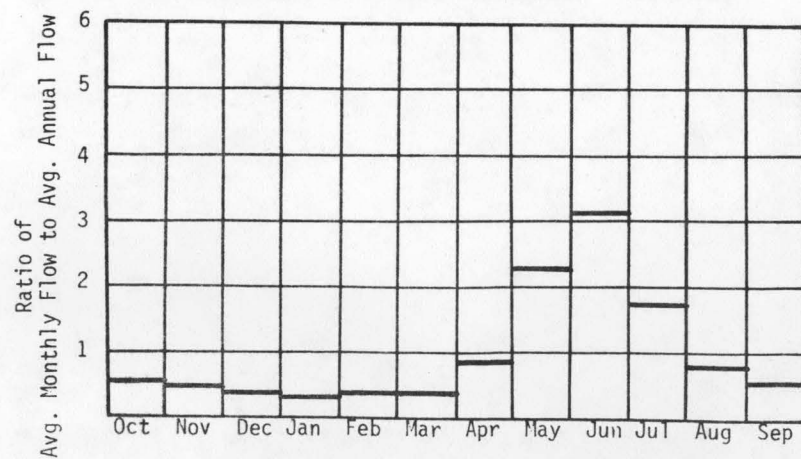
### II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

A. Upstream Elevation of Reach	<u>1870</u>	Ft. MSL
B. Downstream Elevation of Reach	<u>1835</u>	Ft. MSL
C. Total Available Head in Reach	<u>35</u>	Ft.
D. Average Slope in Reach	<u>4.9</u>	Ft./Mi.
E. Drainage Area above Reach Mouth	<u>10680</u>	Sq.Mi.
F. Inflow Classification	<u>Partially Regulated</u>	

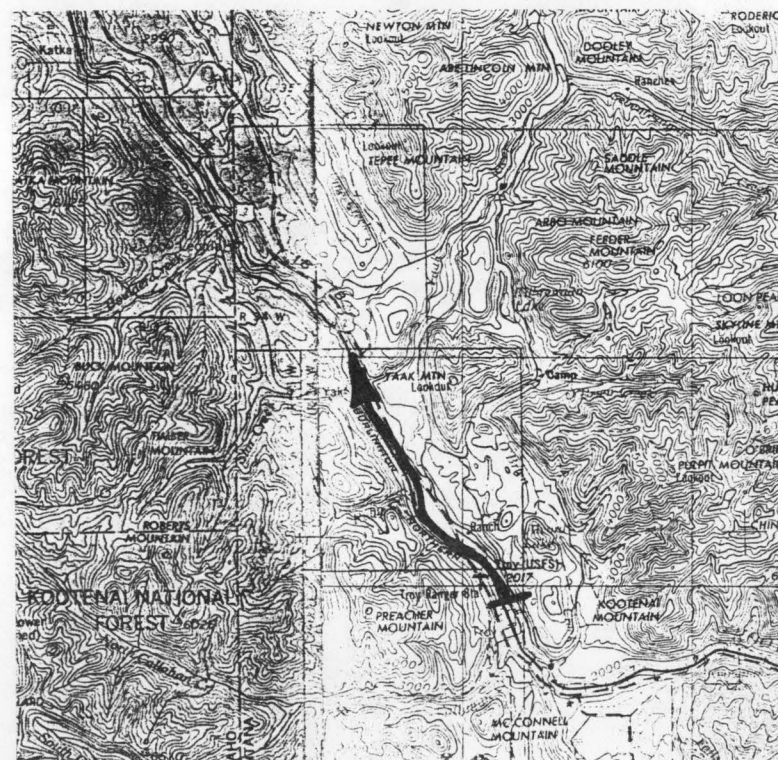
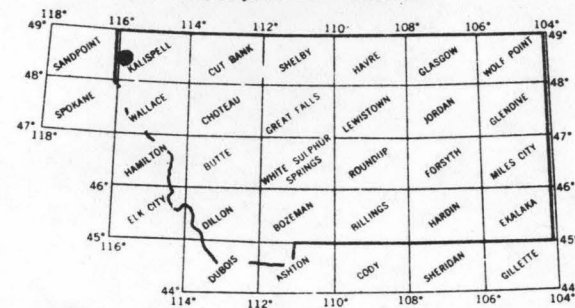
### III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	3051	9.05	79.27	1.00
80	4068	12.07	101.47	.96
50	8136	24.13	169.12	.80
30	16417	48.69	251.67	.59
10	36321	107.73	349.18	.37

### IV. TYPICAL ANNUAL HYDROGRAPH AVERAGE ANNUAL FLOW = 13644 CFS



### LOCATIONS FOR USGS 1:250,000 MAP SERIES



## REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 04-500-500-000-000-R0008

### I. LOCATION

A. State	<u>Montana</u>
B. County	<u>Lincoln</u>
C. Township, Range	<u>T33N, R34W</u>
D. Latitude, Longitude	<u>48°36', 116°00'</u>
E. Stream Name	<u>Kootenai River</u>
F. Major Basin Name	<u>Kootenai</u>
G. River Mile	<u>0.0 to 6.1</u>

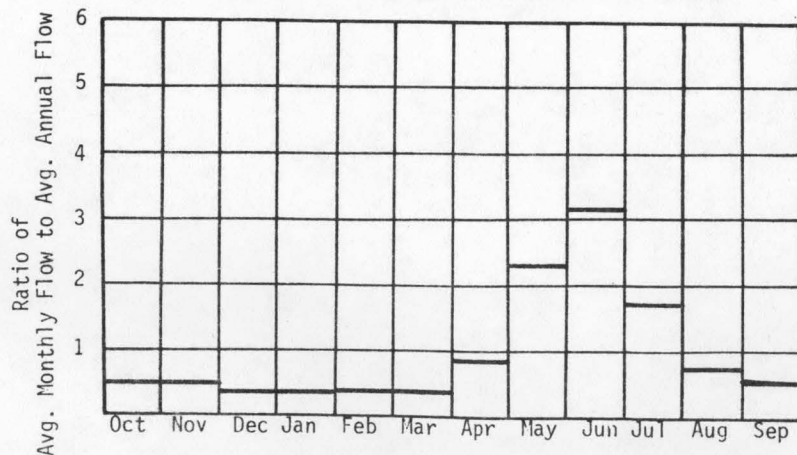
### II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

A. Upstream Elevation of Reach	<u>1835</u>	Ft. MSL
B. Downstream Elevation of Reach	<u>1825</u>	Ft. MSL
C. Total Available Head in Reach	<u>10</u>	Ft.
D. Average Slope in Reach	<u>1.6</u>	Ft./Mi.
E. Drainage Area above Reach Mouth	<u>11376</u>	Sq.Mi.
F. Inflow Classification	<u>Partially Regulated</u>	

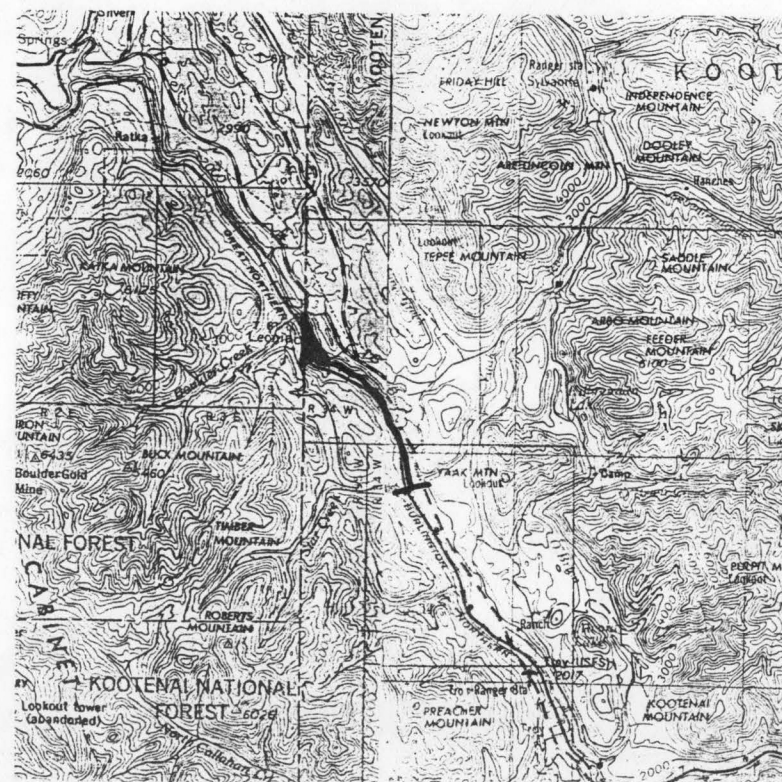
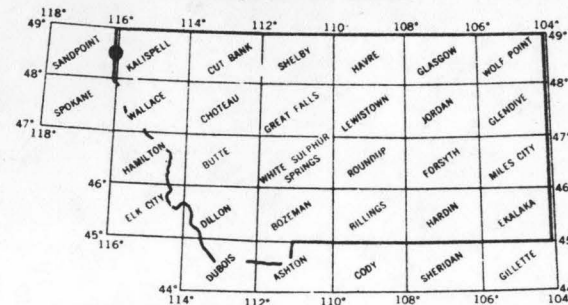
### III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	3156	2.67	23.43	1.00
80	4208	3.57	29.99	.96
50	8417	7.13	49.99	.80
30	16983	14.39	74.39	.59
10	37574	31.84	103.21	.37

### IV. TYPICAL ANNUAL HYDROGRAPH AVERAGE ANNUAL FLOW = 14116 CFS



### LOCATIONS FOR USGS 1:250,000 MAP SERIES



## REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 04-500-500-280-000-R0001

### I. LOCATION

A. State	<u>Montana</u>
B. County	<u>Lincoln</u>
C. Township, Range	<u>T34N, R25W</u>
D. Latitude, Longitude	<u>48°42', 114°53'</u>
E. Stream Name	<u>Tobacco River</u>
F. Major Basin Name	<u>Kootenai</u>
G. River Mile	<u>16.7 to 30.1</u>

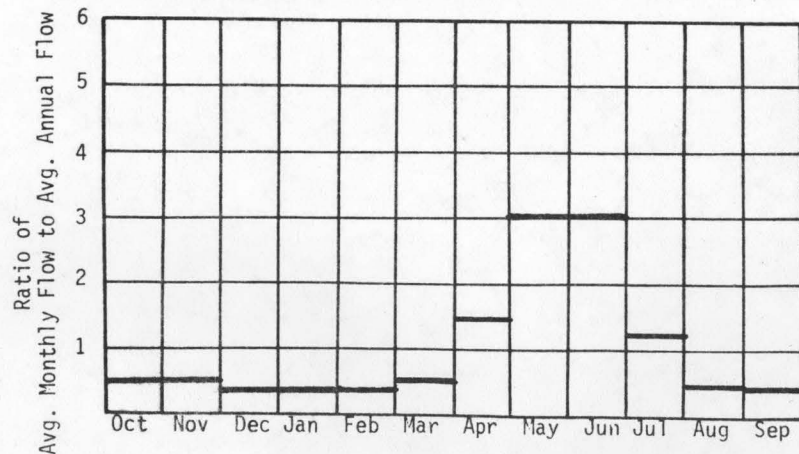
### II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

A. Upstream Elevation of Reach	<u>3320</u>	Ft. MSL
B. Downstream Elevation of Reach	<u>2840</u>	Ft. MSL
C. Total Available Head in Reach	<u>545</u>	Ft.
D. Average Slope in Reach	<u>35.8</u>	Ft./Mi.
E. Drainage Area above Reach Mouth	<u>262</u>	Sq.Mi.
F. Inflow Classification	<u>Partially Regulated</u>	

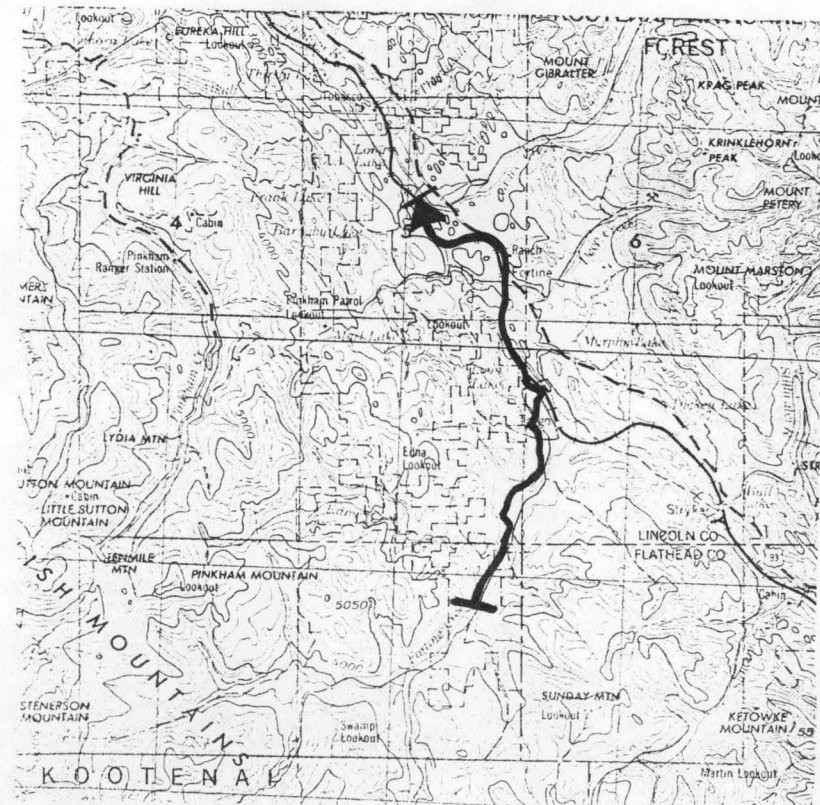
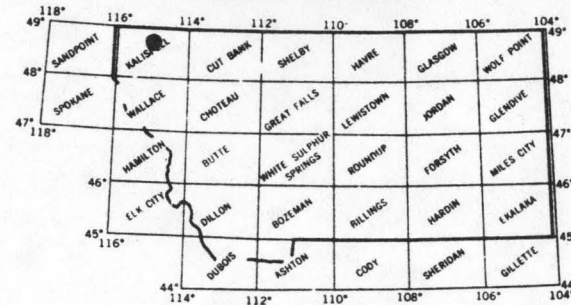
### III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	33	1.52	13.31	1.00
80	42	1.94	16.50	.97
50	77	3.55	25.16	.81
30	144	6.67	35.64	.61
10	457	21.11	57.32	.31

### IV. TYPICAL ANNUAL HYDROGRAPH AVERAGE ANNUAL FLOW = 140 CFS



### LOCATIONS FOR USGS 1:250,000 MAP SERIES



## REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 04-500-500-280-000-R0002

### I. LOCATION

A. State	Montana
B. County	Lincoln
C. Township, Range	T36N, R36W
D. Latitude, Longitude	48°51', 115°00'
E. Stream Name	Tobacco River
F. Major Basin Name	Kootenai
G. River Mile	5.7 to 16.7

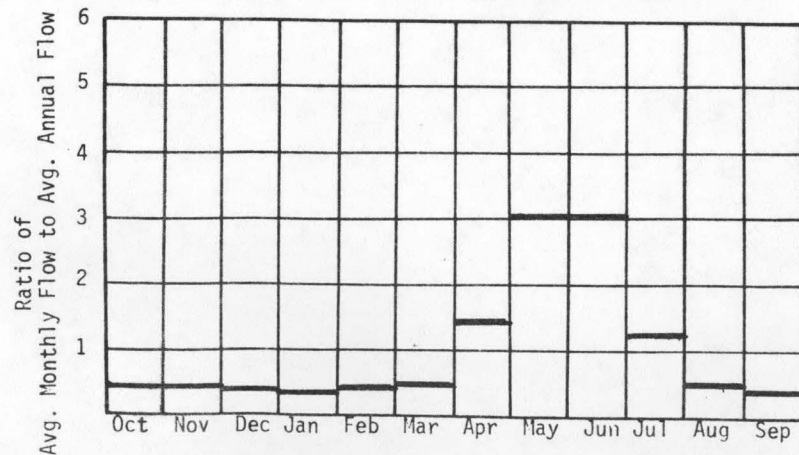
### II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

A. Upstream Elevation of Reach	2840	Ft. MSL
B. Downstream Elevation of Reach	2515	Ft. MSL
C. Total Available Head in Reach	325	Ft.
D. Average Slope in Reach	29.5	Ft./Mi.
E. Drainage Area above Reach Mouth	432	Sq.Mi.
F. Inflow Classification	Partially Regulated	

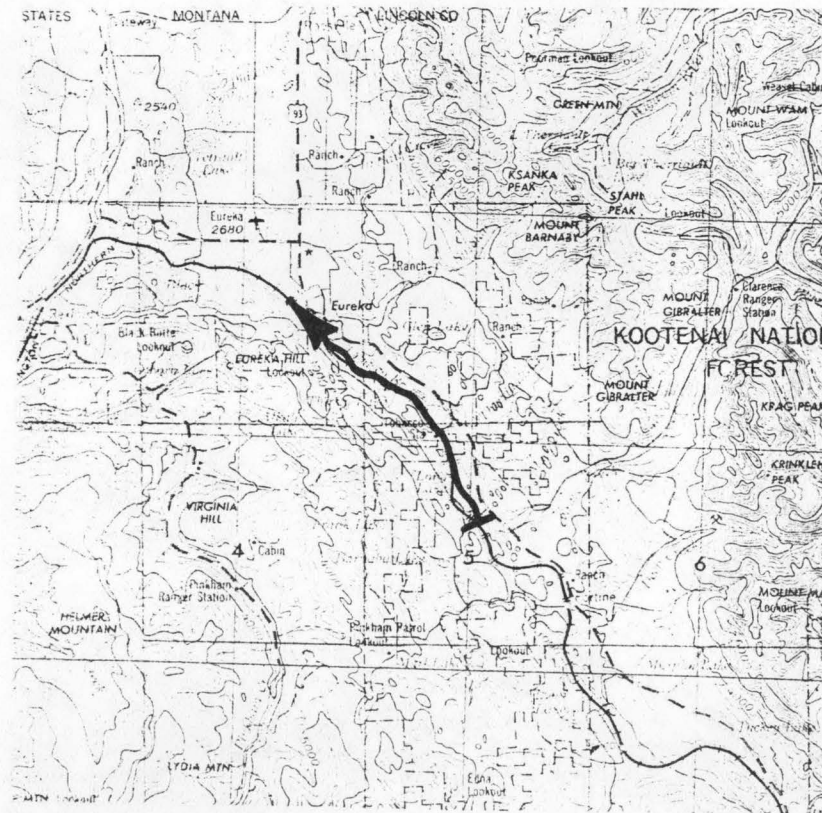
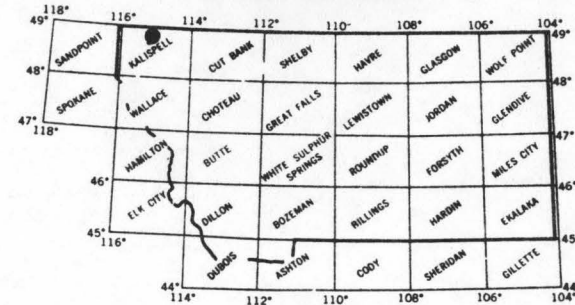
### III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	56	1.55	13.62	1.00
80	72	1.99	16.88	.97
50	132	3.63	25.74	.81
30	248	6.82	36.46	.61
10	784	21.59	58.64	.31

### IV. TYPICAL ANNUAL HYDROGRAPH AVERAGE ANNUAL FLOW = 264 CFS



### LOCATIONS FOR USGS 1:250,000 MAP SERIES



## REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 04-500-500-320-000-R0001

### I. LOCATION

A. State	Montana
B. County	Lincoln
C. Township, Range	T35N, R29W
D. Latitude, Longitude	48°45', 115°23'
E. Stream Name	Big Creek
F. Major Basin Name	Kootenai
G. River Mile	1.6 to 6.6

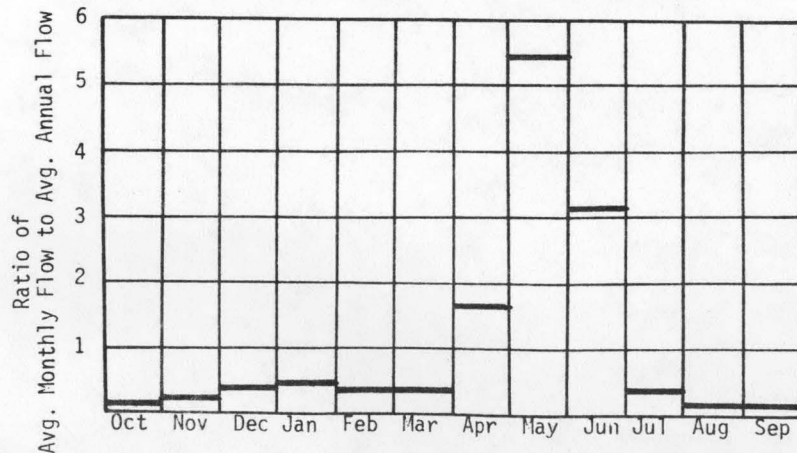
### II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

A. Upstream Elevation of Reach	2980	Ft. MSL
B. Downstream Elevation of Reach	2440	Ft. MSL
C. Total Available Head in Reach	605	Ft.
D. Average Slope in Reach	108.0	Ft./Mi.
E. Drainage Area above Reach Mouth	140.0	Sq. Mi.
F. Inflow Classification	Unregulated	

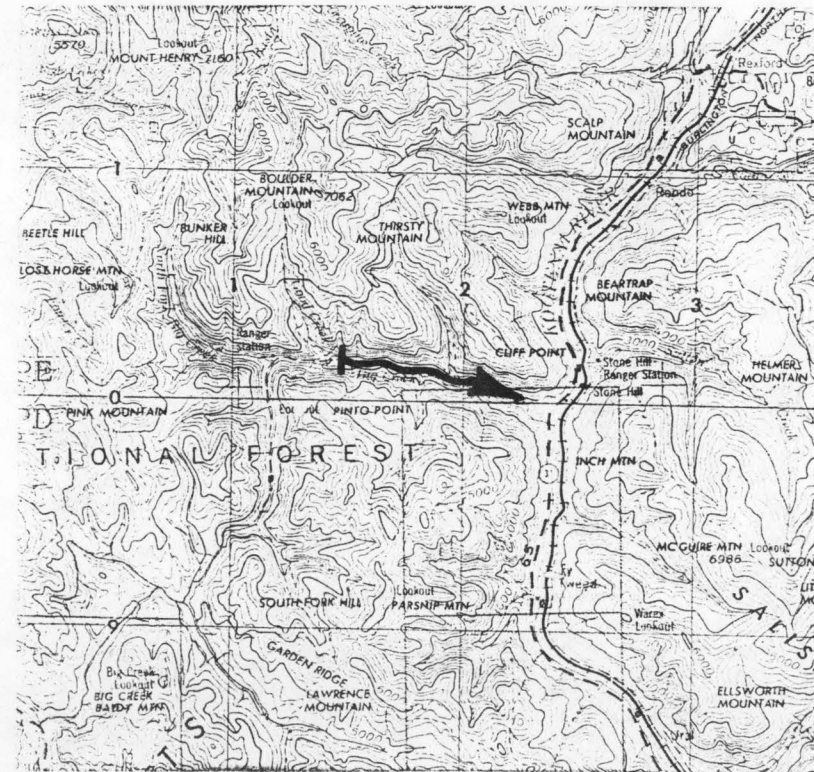
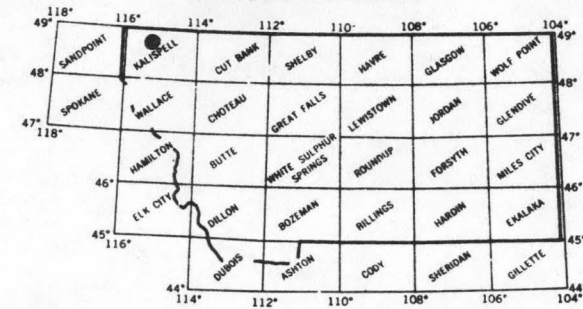
### III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	28	1.42	12.48	1.00
80	36	1.82	15.47	.97
50	65	3.32	23.59	.81
30	122	6.25	33.42	.61
10	386	19.79	53.74	.31

### IV. TYPICAL ANNUAL HYDROGRAPH AVERAGE ANNUAL FLOW = 114 CFS



LOCATIONS FOR USGS  
1:250,000 MAP SERIES



## REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 04-500-500-340-000-R0001

### I. LOCATION

A. State	<u>Montana</u>
B. County	<u>Lincoln</u>
C. Township, Range	<u>T27N. R27W</u>
D. Latitude, Longitude	<u>48°08', 115°07'</u>
E. Stream Name	<u>Pleasant Valley Fisher River</u>
F. Major Basin Name	<u>Kootenai</u>
G. River Mile	<u>36.0 to 49.0</u>

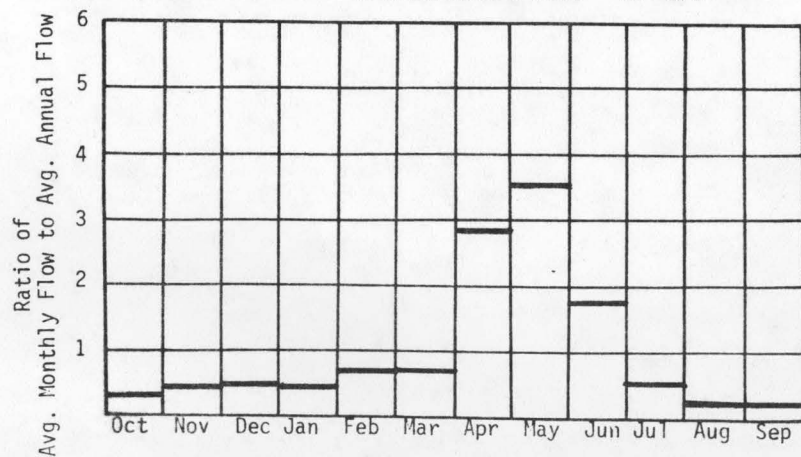
### II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

A. Upstream Elevation of Reach	<u>3470</u>	Ft. MSL
B. Downstream Elevation of Reach	<u>3320</u>	Ft. MSL
C. Total Available Head in Reach	<u>215</u>	Ft.
D. Average Slope in Reach	<u>11.5</u>	Ft./Mi.
E. Drainage Area above Reach Mouth	<u>242</u>	Sq.Mi.
F. Inflow Classification	<u>Partially Regulated</u>	

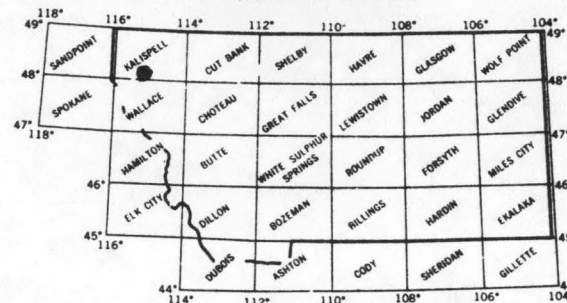
### III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	30	.54	4.76	1.00
80	38	.69	5.90	.97
50	70	1.27	8.99	.81
30	131	2.38	12.74	.61
10	414	7.54	20.48	.31

### IV. TYPICAL ANNUAL HYDROGRAPH AVERAGE ANNUAL FLOW = 124 CFS



### LOCATIONS FOR USGS 1:250,000 MAP SERIES





## REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 04-500-500-340-000-R0002

### I. LOCATION

A. State	<u>Montana</u>
B. County	<u>Lincoln</u>
C. Township, Range	<u>T26N, R29W</u>
D. Latitude, Longitude	<u>48°03', 115°17'</u>
E. Stream Name	<u>Fisher River</u>
F. Major Basin Name	<u>Kootenai</u>
G. River Mile	<u>24.4 to 36.0</u>

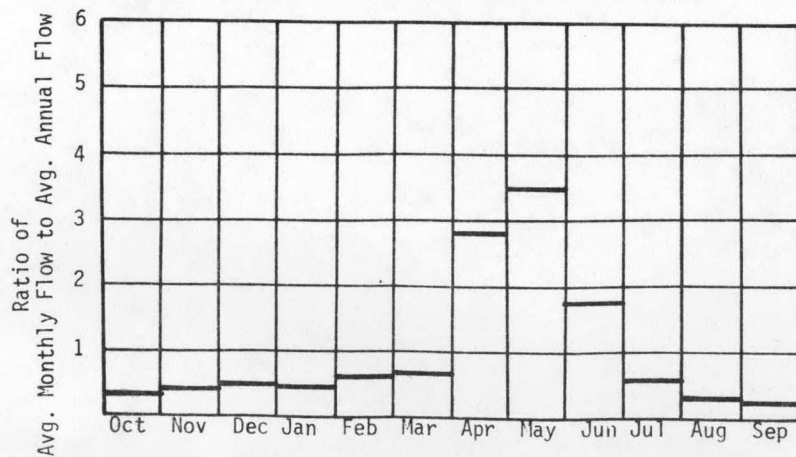
### II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

A. Upstream Elevation of Reach	<u>3320</u>	Ft. MSL
B. Downstream Elevation of Reach	<u>2910</u>	Ft. MSL
C. Total Available Head in Reach	<u>410</u>	Ft.
D. Average Slope in Reach	<u>35.3</u>	Ft./Mi.
E. Drainage Area above Reach Mouth	<u>416</u>	Sq.Mi.
F. Inflow Classification	<u>Partially Regulated</u>	

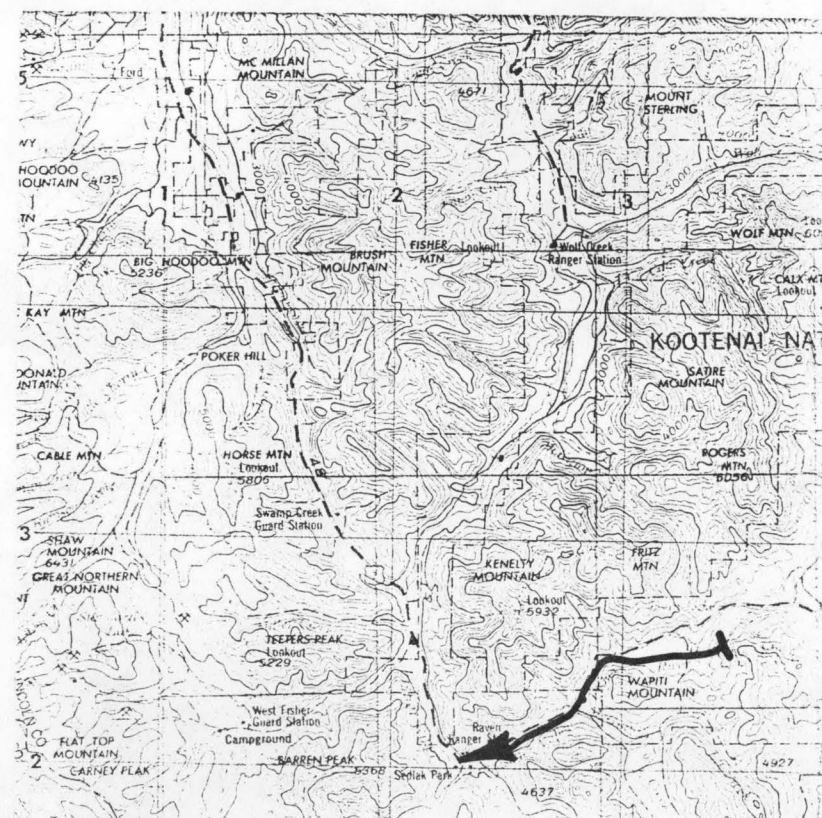
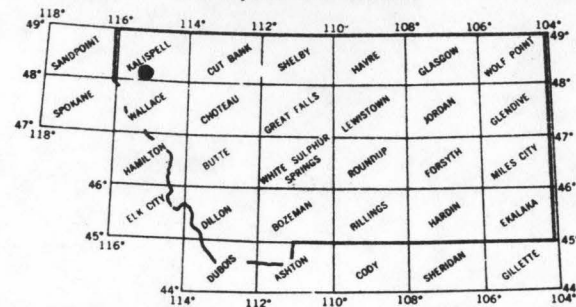
### III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	49	1.72	15.03	1.00
80	63	2.19	18.63	.97
50	115	4.00	28.41	.81
30	217	7.53	40.25	.61
10	686	23.84	64.73	.31

### IV. TYPICAL ANNUAL HYDROGRAPH AVERAGE ANNUAL FLOW = 226 CFS



### LOCATIONS FOR USGS 1:250,000 MAP SERIES



## REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 04-500-500-340-000-R0003

### I. LOCATION

A. State	<u>Montana</u>
B. County	<u>Lincoln</u>
C. Township, Range	<u>T28N, R29W</u>
D. Latitude, Longitude	<u>48°09', 115°19'</u>
E. Stream Name	<u>Fisher River</u>
F. Major Basin Name	<u>Kootenai</u>
G. River Mile	<u>12.8 to 24.4</u>

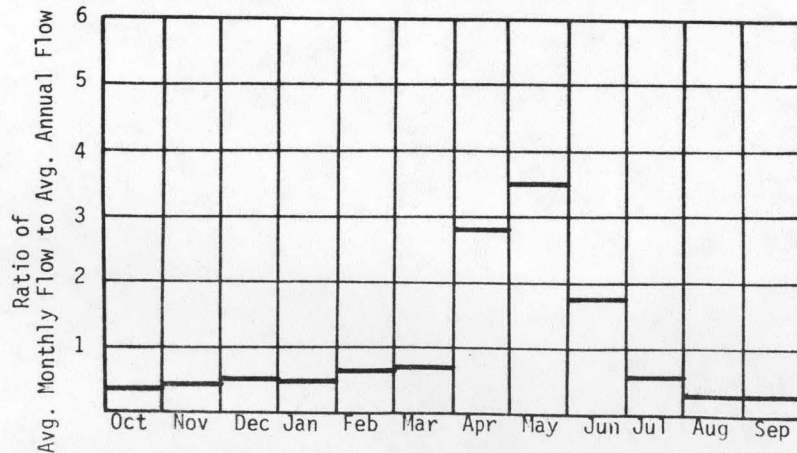
### II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

A. Upstream Elevation of Reach	<u>2910</u>	Ft. MSL
B. Downstream Elevation of Reach	<u>2520</u>	Ft. MSL
C. Total Available Head in Reach	<u>390</u>	Ft.
D. Average Slope in Reach	<u>33.6</u>	Ft./Mi.
E. Drainage Area above Reach Mouth	<u>556</u>	Sq.Mi.
F. Inflow Classification	<u>Partially Regulated</u>	

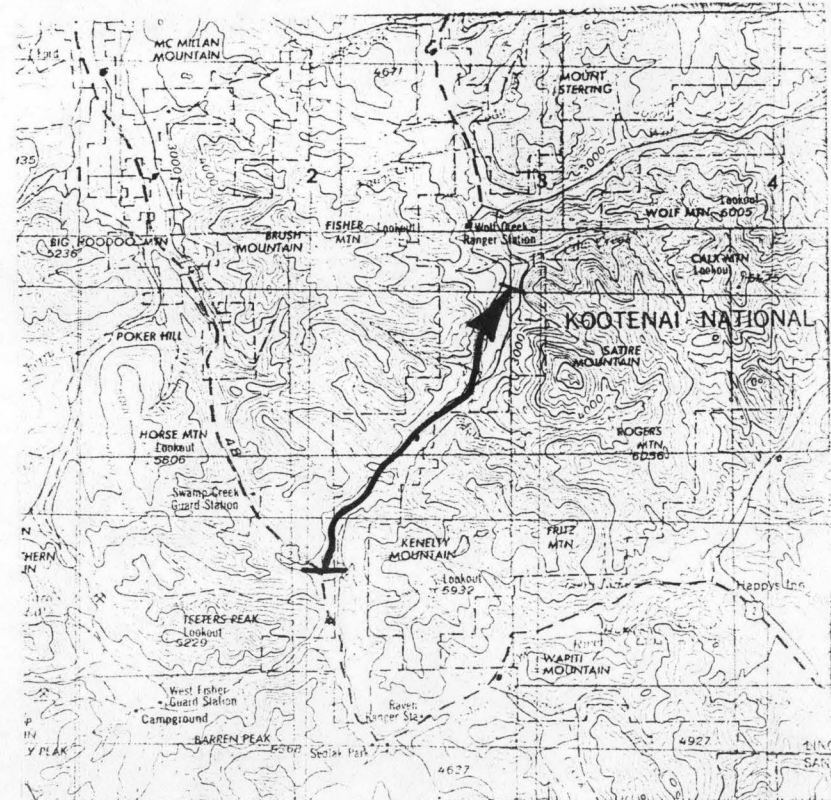
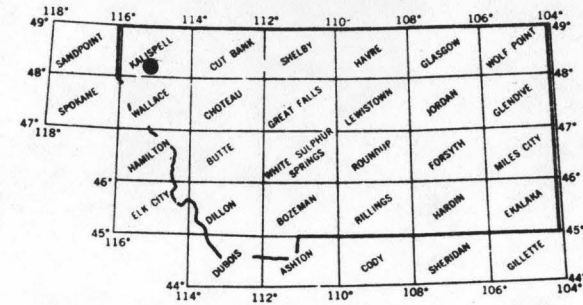
### III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	75	2.48	21.72	1.00
80	96	3.17	26.92	.97
50	175	5.79	41.05	.81
30	329	10.88	58.15	.61
10	1042	34.44	93.52	.31

### IV. TYPICAL ANNUAL HYDROGRAPH AVERAGE ANNUAL FLOW = 360 CFS



### LOCATIONS FOR USGS 1:250,000 MAP SERIES



## REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 04-500-500-340-000-R0004

### I. LOCATION

A. State	<u>Montana</u>
B. County	<u>Lincoln</u>
C. Township, Range	<u>T29N, R29W</u>
D. Latitude, Longitude	<u>48°14', 115°18'</u>
E. Stream Name	<u>Fisher River</u>
F. Major Basin Name	<u>Kootenai</u>
G. River Mile	<u>8.8 to 12.8</u>

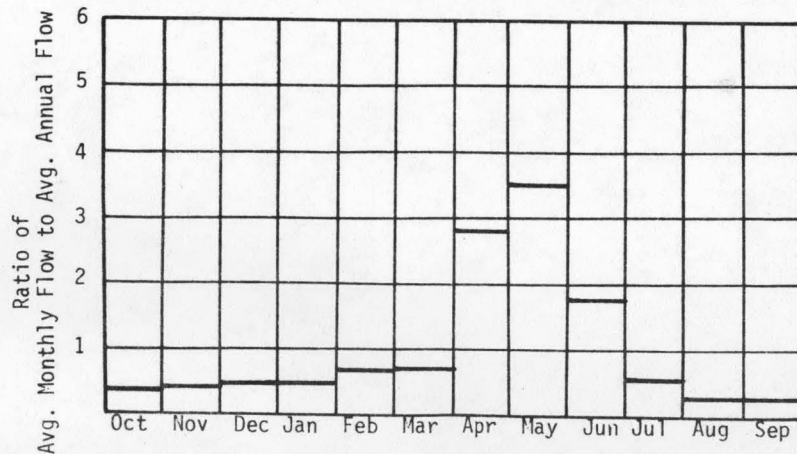
### II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

A. Upstream Elevation of Reach	<u>2520</u>	Ft. MSL
B. Downstream Elevation of Reach	<u>2440</u>	Ft. MSL
C. Total Available Head in Reach	<u>80</u>	Ft.
D. Average Slope in Reach	<u>20.0</u>	Ft./Mi.
E. Drainage Area above Reach Mouth	<u>780</u>	Sq.Mi.
F. Inflow Classification	<u>Partially Regulated</u>	

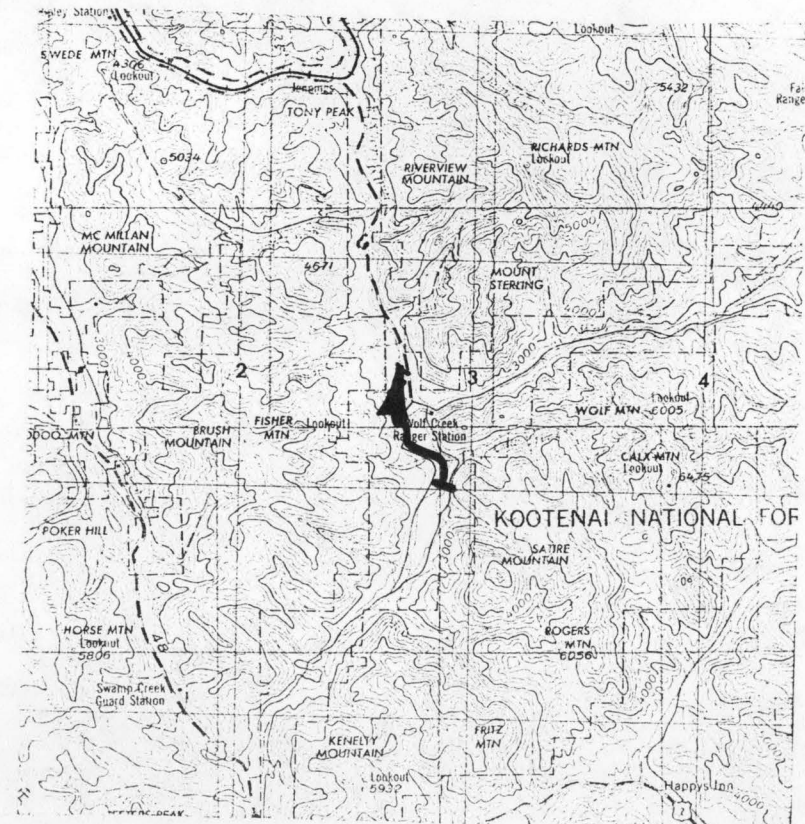
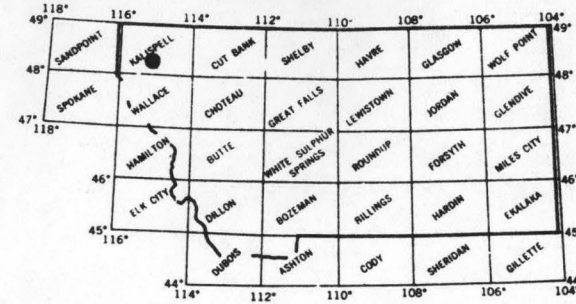
### III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	99	.67	5.87	1.00
80	126	.86	7.27	.97
50	230	1.56	11.09	.81
30	434	2.94	15.71	.61
10	1372	9.30	25.26	.31

### IV. TYPICAL ANNUAL HYDROGRAPH AVERAGE ANNUAL FLOW = 485 CFS



### LOCATIONS FOR USGS 1:250,000 MAP SERIES



## REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 04-500-500-340-000-R0005

### I. LOCATION

A. State	<u>Montana</u>
B. County	<u>Lincoln</u>
C. Township, Range	<u>T29N, R29W</u>
D. Latitude, Longitude	<u>48°18', 115°19'</u>
E. Stream Name	<u>Fisher River</u>
F. Major Basin Name	<u>Kootenai</u>
G. River Mile	<u>0.9 to 8.8</u>

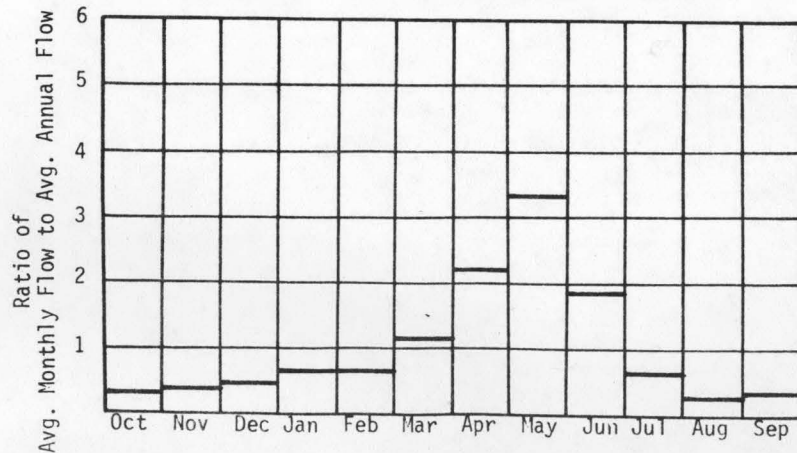
### II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

A. Upstream Elevation of Reach	<u>2440</u>	Ft. MSL
B. Downstream Elevation of Reach	<u>2130</u>	Ft. MSL
C. Total Available Head in Reach	<u>310</u>	Ft.
D. Average Slope in Reach	<u>39.2</u>	Ft./Mi.
E. Drainage Area above Reach Mouth	<u>840</u>	Sq.Mi.
F. Inflow Classification	<u>Partially Regulated</u>	

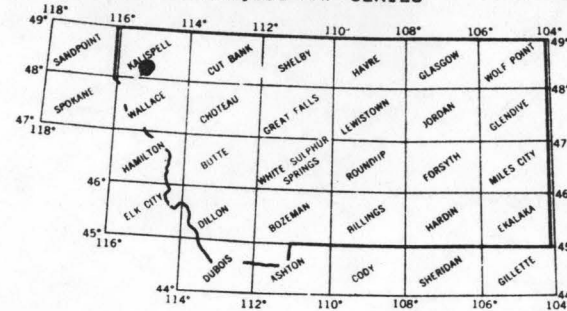
### III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	115	3.02	26.50	1.00
80	147	3.86	32.84	.97
50	269	7.06	50.08	.81
30	505	13.27	70.93	.61
10	1599	42.01	114.08	.31

### IV. TYPICAL ANNUAL HYDROGRAPH AVERAGE ANNUAL FLOW = 570 CFS



LOCATIONS FOR USGS  
1:250,000 MAP SERIES



## REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 04-500-500-360-000-R0001

### I. LOCATION

A. State	Montana
B. County	<u>Lincoln</u>
C. Township, Range	<u>T29N, R31W</u>
D. Latitude, Longitude	<u>48°18', 115°31'</u>
E. Stream Name	<u>Libby Creek</u>
F. Major Basin Name	<u>Kootenai</u>
G. River Mile	<u>1.5 to 12.8</u>

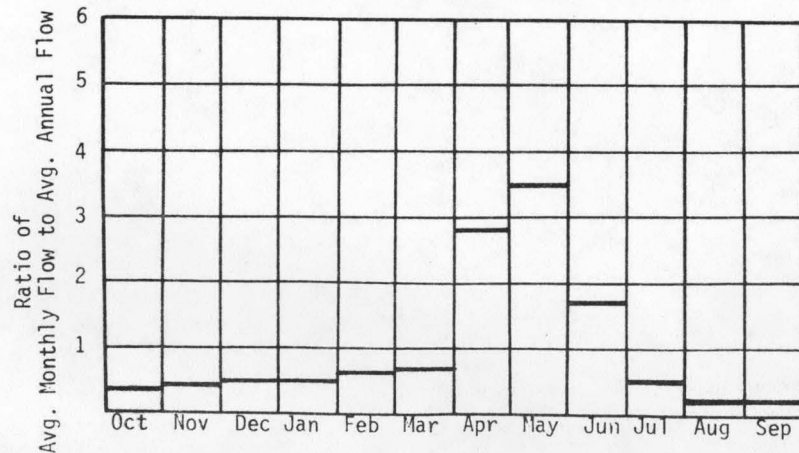
### II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

A. Upstream Elevation of Reach	<u>2690</u>	Ft. MSL
B. Downstream Elevation of Reach	<u>2115</u>	Ft. MSL
C. Total Available Head in Reach	<u>640</u>	Ft.
D. Average Slope in Reach	<u>50.9</u>	Ft./Mi.
E. Drainage Area above Reach Mouth	<u>220</u>	Sq. Mi.
F. Inflow Classification	<u>Partially Regulated</u>	

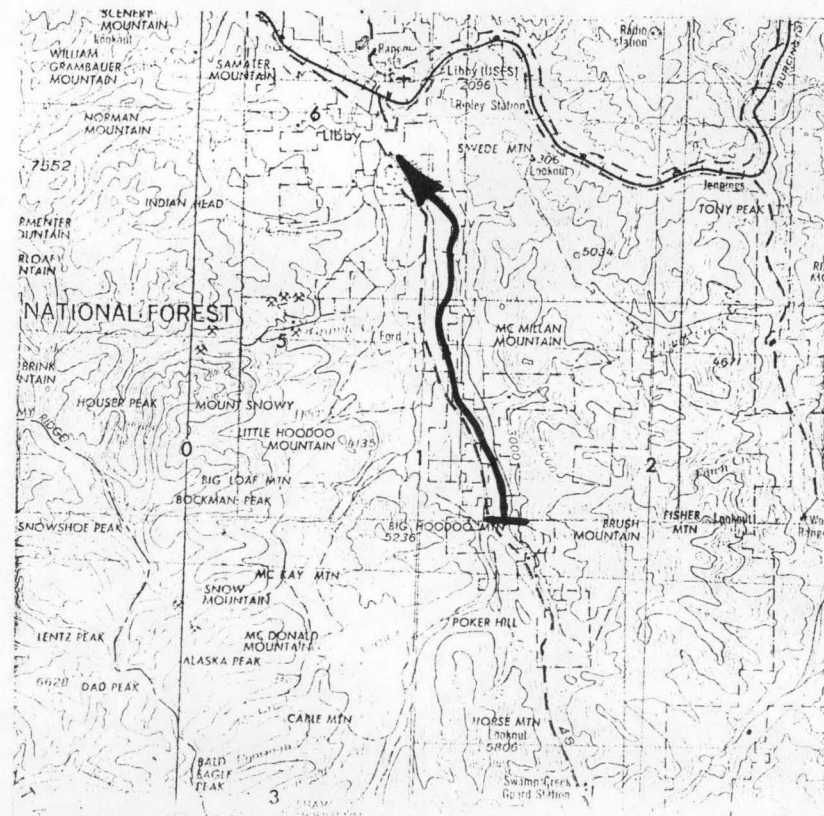
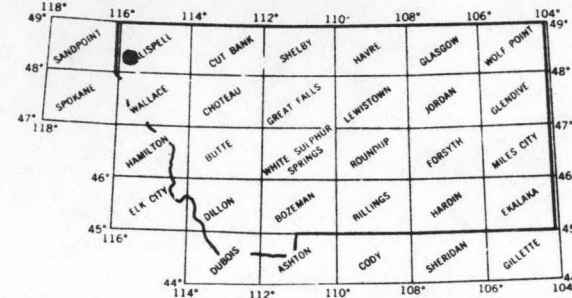
### III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	29	1.56	13.67	1.00
80	36	1.97	16.29	.96
50	68	3.67	25.73	.80
30	143	7.75	40.04	.59
10	533	28.91	68.37	.27

### IV. TYPICAL ANNUAL HYDROGRAPH AVERAGE ANNUAL FLOW = 169 CFS



### LOCATIONS FOR USGS 1:250,000 MAP SERIES



## REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 04-500-500-400-000-R0001

### I. LOCATION

A. State	Montana
B. County	Lincoln
C. Township, Range	T31N, R31W
D. Latitude, Longitude	48°27', 115°34'
E. Stream Name	Pipe Creek
F. Major Basin Name	Kootenai
G. River Mile	0.4 to 4.9

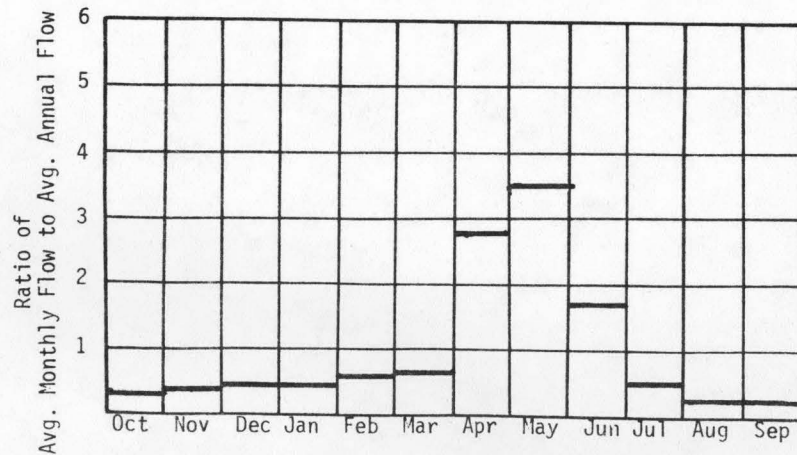
### II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

A. Upstream Elevation of Reach	2560	Ft. MSL
B. Downstream Elevation of Reach	2060	Ft. MSL
C. Total Available Head in Reach	565	Ft.
D. Average Slope in Reach	111.1	Ft./Mi.
E. Drainage Area above Reach Mouth	109	Sq.Mi.
F. Inflow Classification	Unregulated	

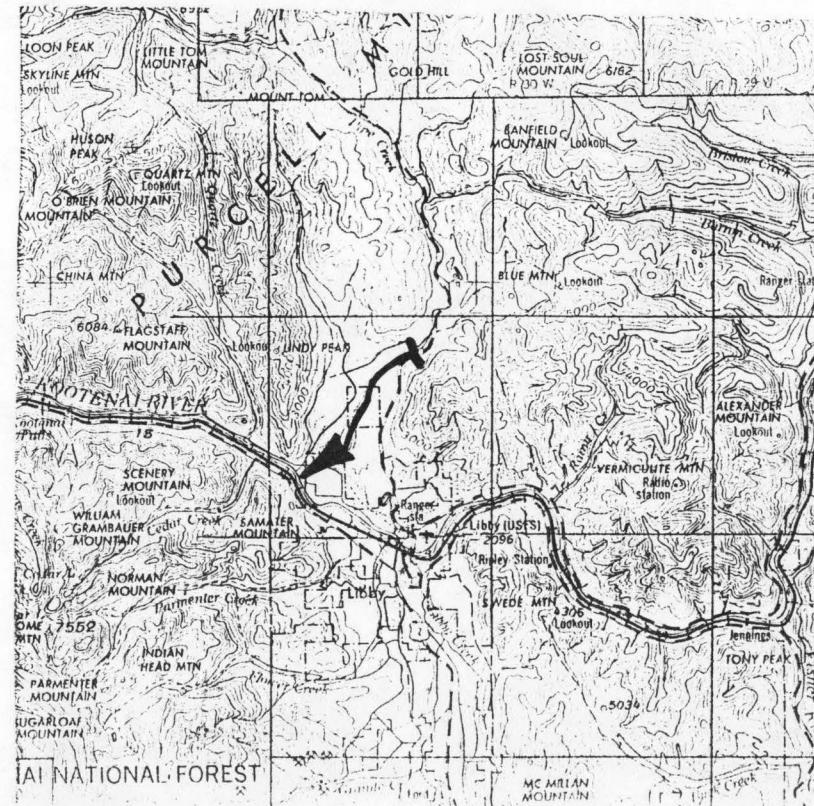
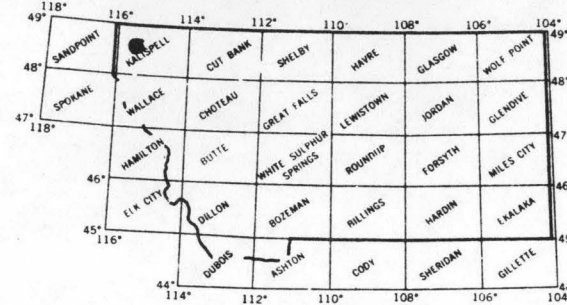
### III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	17	.83	7.27	1.00
80	22	1.03	8.66	.96
50	41	1.95	13.68	.80
30	86	4.12	21.29	.59
10	321	15.37	36.35	.27

### IV. TYPICAL ANNUAL HYDROGRAPH AVERAGE ANNUAL FLOW = 89 CFS



### LOCATIONS FOR USGS 1:250,000 MAP SERIES



## REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 04-500-500-460-000-R001

### I. LOCATION

A. State	Montana
B. County	Lincoln
C. Township, Range	T30N, R33W
D. Latitude, Longitude	48° 19', 115° 52'
E. Stream Name	Lake Creek
F. Major Basin Name	Kootenai
G. River Mile	7.2 to 12.8

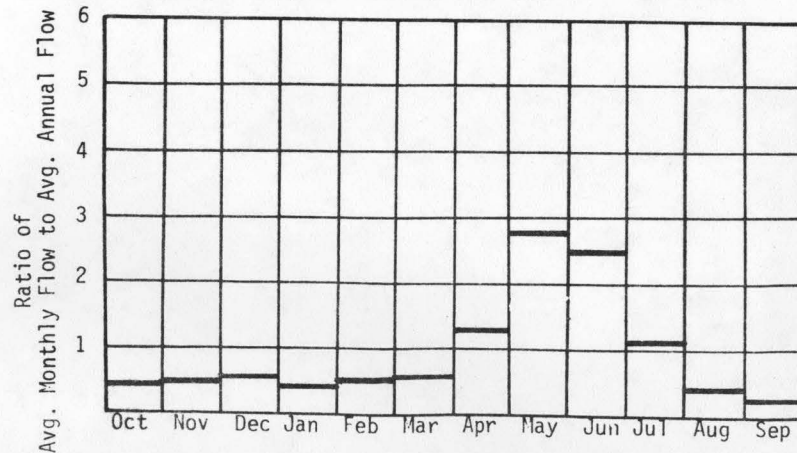
### II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

A. Upstream Elevation of Reach	2320	Ft. MSL
B. Downstream Elevation of Reach	2205	Ft. MSL
C. Total Available Head in Reach	180	Ft.
D. Average Slope in Reach	20.5	Ft./Mi.
E. Drainage Area above Reach Mouth	113	Sq.Mi.
F. Inflow Classification	Fully Regulated	

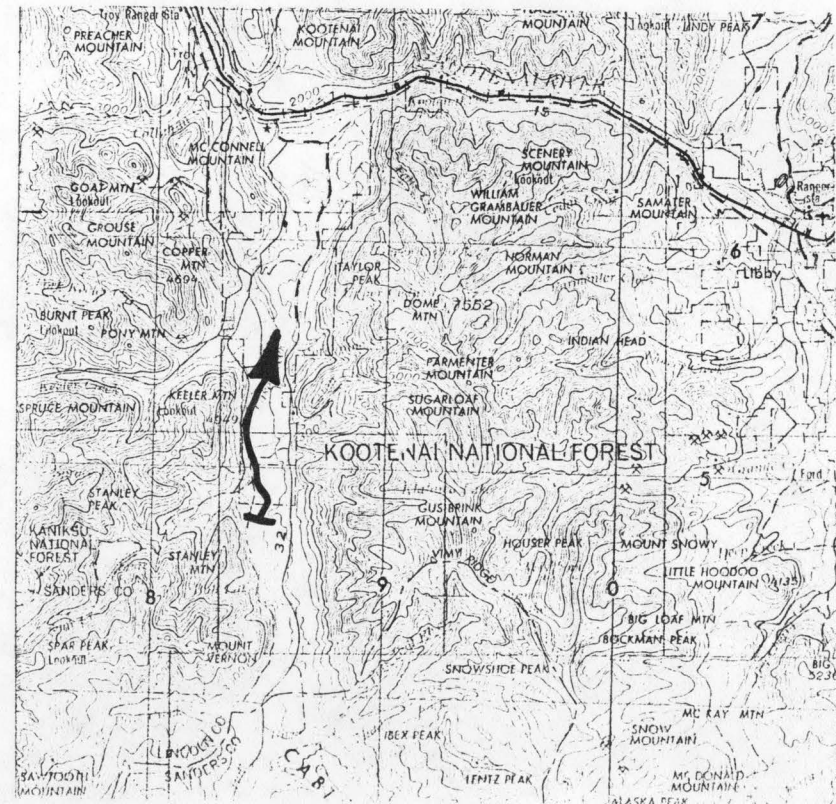
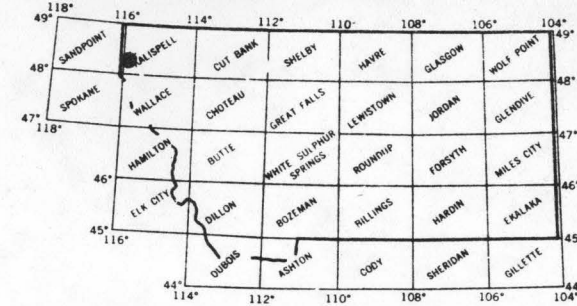
### III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	23	.35	3.07	1.00
80	28	.43	3.65	.96
50	54	.82	5.77	.80
30	114	1.74	8.98	.59
10	425	6.48	15.33	.27

### IV. TYPICAL ANNUAL HYDROGRAPH AVERAGE ANNUAL FLOW = 128 CFS



### LOCATIONS FOR USGS 1:250,000 MAP SERIES



## REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 04-500-500-460-000-R0002

### I. LOCATION

A. State	<u>Montana</u>
B. County	<u>Lincoln</u>
C. Township, Range	<u>T30N, R33W</u>
D. Latitude, Longitude	<u>48°24', 115°50'</u>
E. Stream Name	<u>Lake Creek</u>
F. Major Basin Name	<u>Kootenai</u>
G. River Mile	<u>0.8 to 7.2</u>

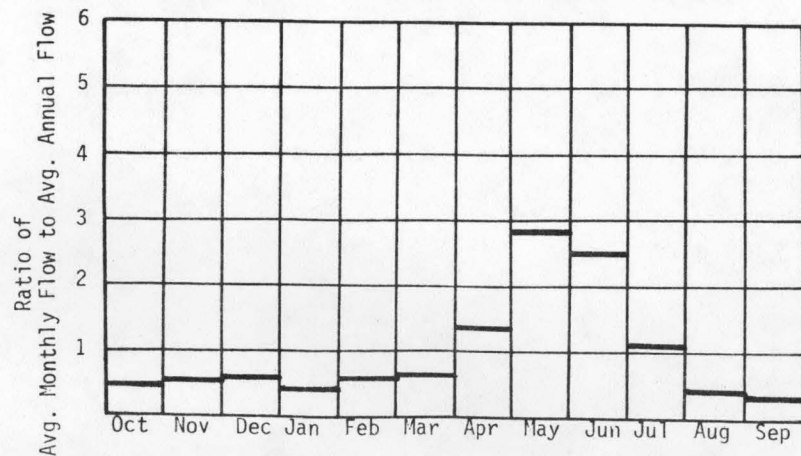
### II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

A. Upstream Elevation of Reach	<u>2205</u>	Ft. MSL
B. Downstream Elevation of Reach	<u>1885</u>	Ft. MSL
C. Total Available Head in Reach	<u>320</u>	Ft.
D. Average Slope in Reach	<u>50.0</u>	Ft./Mi.
E. Drainage Area above Reach Mouth	<u>209</u>	Sq.Mi.
F. Inflow Classification	<u>Partially Regulated</u>	

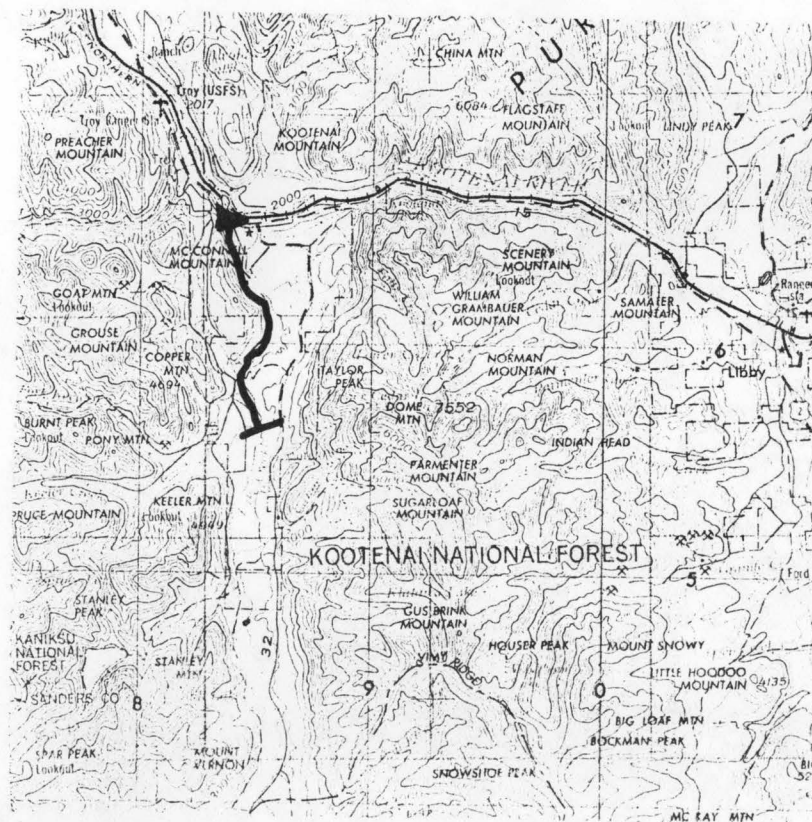
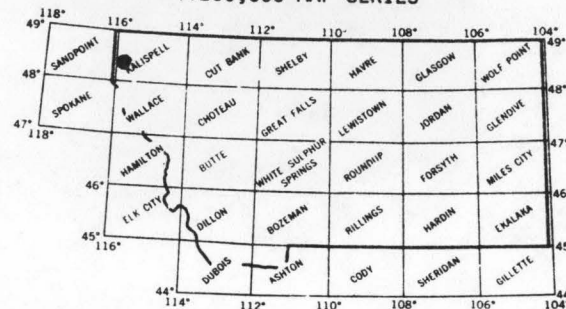
### III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	40	1.07	9.42	1.00
80	49	1.33	11.22	.96
50	93	2.53	17.72	.80
30	197	5.33	27.57	.59
10	734	19.91	47.08	.27

### IV. TYPICAL ANNUAL HYDROGRAPH AVERAGE ANNUAL FLOW = 245 CFS



### LOCATIONS FOR USGS 1:250,000 MAP SERIES





## REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 04-500-500-500-000-R0001

### I. LOCATION

A. State	<u>Montana</u>
B. County	<u>Lincoln</u>
C. Township, Range	<u>T37N, R31W</u>
D. Latitude, Longitude	<u>48°57', 115°37'</u>
E. Stream Name	<u>Yaak River</u>
F. Major Basin Name	<u>Kootenai</u>
G. River Mile	<u>39.2 to 46.9</u>

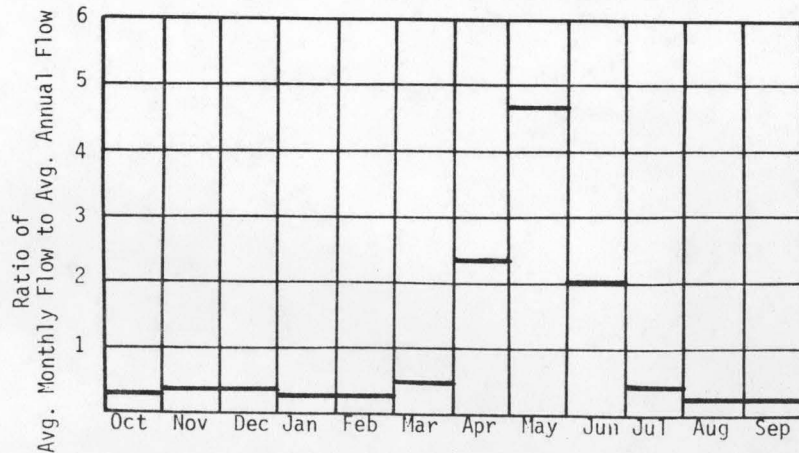
### II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

A. Upstream Elevation of Reach	<u>3180</u>	Ft. MSL
B. Downstream Elevation of Reach	<u>2990</u>	Ft. MSL
C. Total Available Head in Reach	<u>255</u>	Ft.
D. Average Slope in Reach	<u>24.7</u>	Ft./Mi.
E. Drainage Area above Reach Mouth	<u>327</u>	Sq.Mi.
F. Inflow Classification	<u>Unregulated</u>	

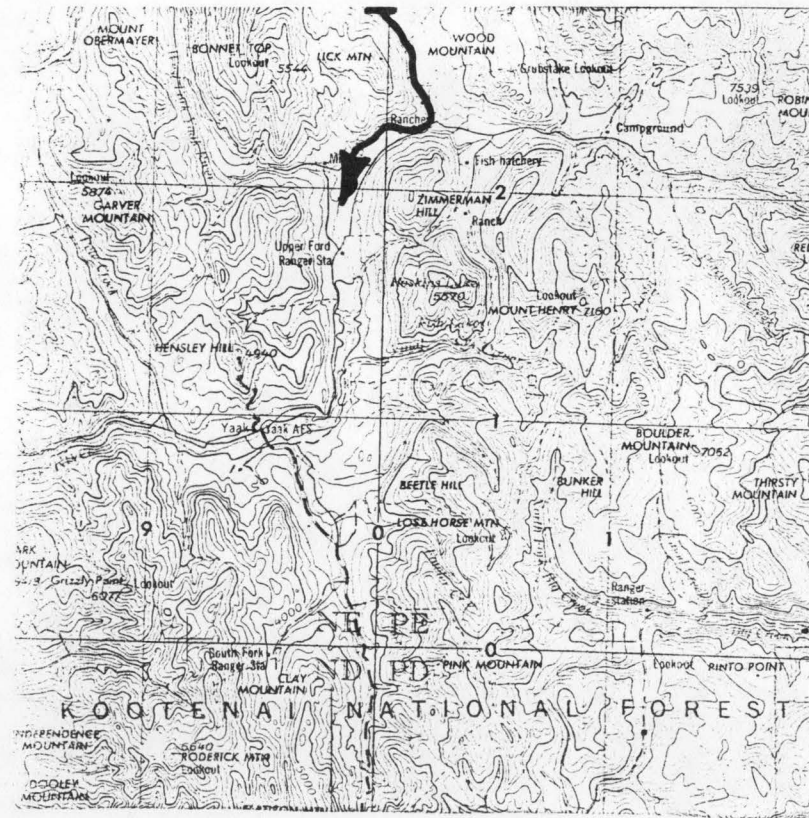
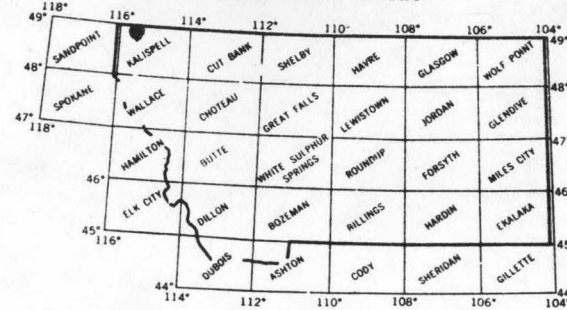
### III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	44	.95	8.36	1.00
80	55	1.18	9.96	.96
50	104	2.24	15.73	.80
30	219	4.74	24.49	.59
10	818	17.68	41.81	.27

### IV. TYPICAL ANNUAL HYDROGRAPH AVERAGE ANNUAL FLOW = 276 CFS



LOCATIONS FOR USGS  
1:250,000 MAP SERIES



## REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 04-500-500-500-000-R0002

### I. LOCATION

A. State	Montana
B. County	Lincoln
C. Township, Range	T36N, R31W
D. Latitude, Longitude	48°51', 115°40'
E. Stream Name	Yaak River
F. Major Basin Name	Kootenai
G. River Mile	27.0 to 39.2

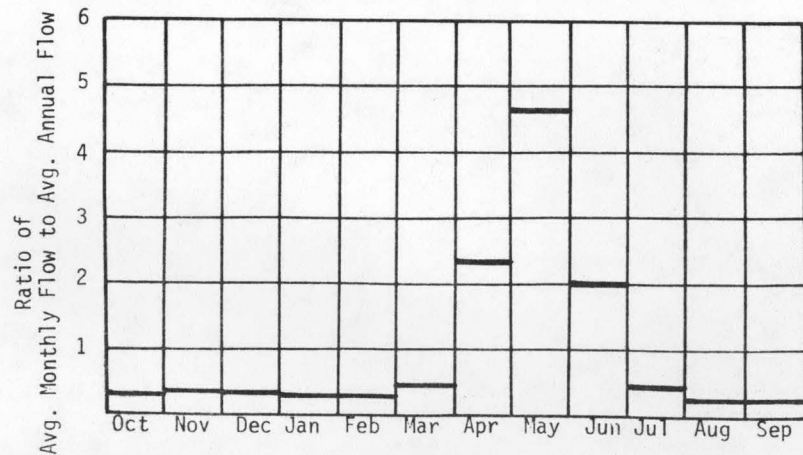
### II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

A. Upstream Elevation of Reach	2990	Ft. MSL
B. Downstream Elevation of Reach	2905	Ft. MSL
C. Total Available Head in Reach	85	Ft.
D. Average Slope in Reach	7.0	Ft./Mi.
E. Drainage Area above Reach Mouth	489	Sq. Mi.
F. Inflow Classification	Unregulated	

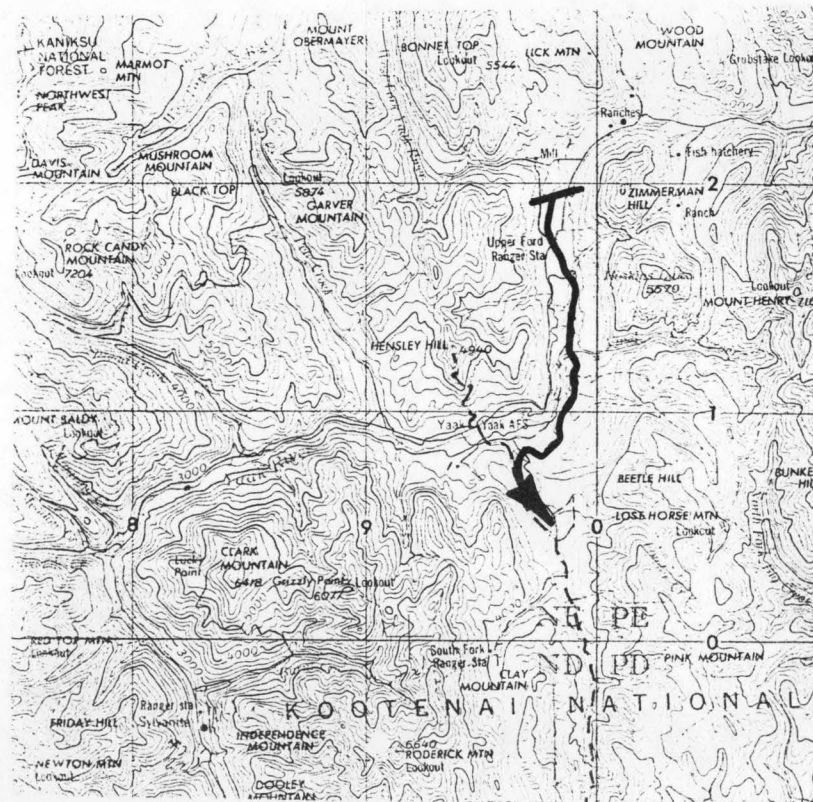
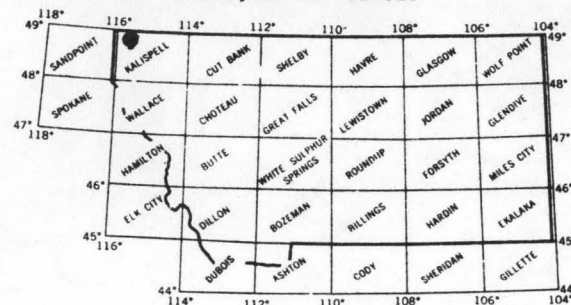
### III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	68	.49	4.32	1.00
80	85	.61	5.15	.96
50	161	1.16	8.13	.80
30	340	2.45	12.65	.59
10	1268	9.13	21.60	.27

### IV. TYPICAL ANNUAL HYDROGRAPH AVERAGE ANNUAL FLOW = 446 CFS



### LOCATIONS FOR USGS 1:250,000 MAP SERIES



## REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 04-500-500-500-000-R0003

### I. LOCATION

A. State	Montana
B. County	Lincoln
C. Township, Range	T35N, R32W
D. Latitude, Longitude	48°48', 115°53'
E. Stream Name	Yaak River
F. Major Basin Name	Kootenai
G. River Mile	13.6 to 27.0

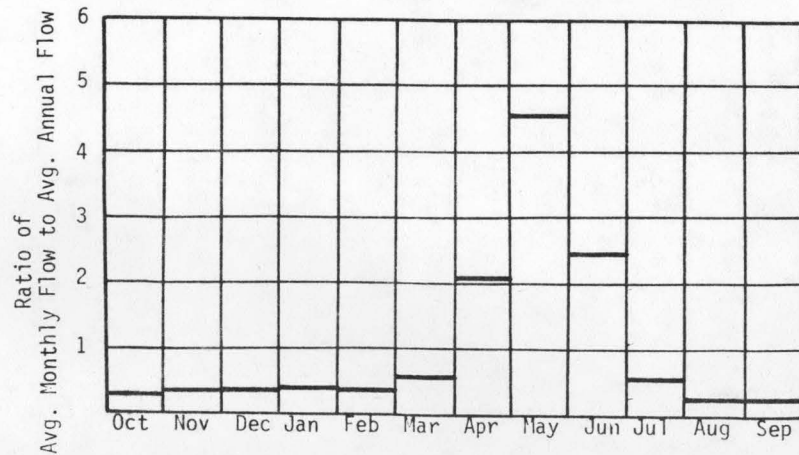
### II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

A. Upstream Elevation of Reach	2905	Ft. MSL
B. Downstream Elevation of Reach	2660	Ft. MSL
C. Total Available Head in Reach	245	Ft.
D. Average Slope in Reach	18.3	Ft./Mi.
E. Drainage Area above Reach Mouth	642	Sq.Mi.
F. Inflow Classification	Unregulated	

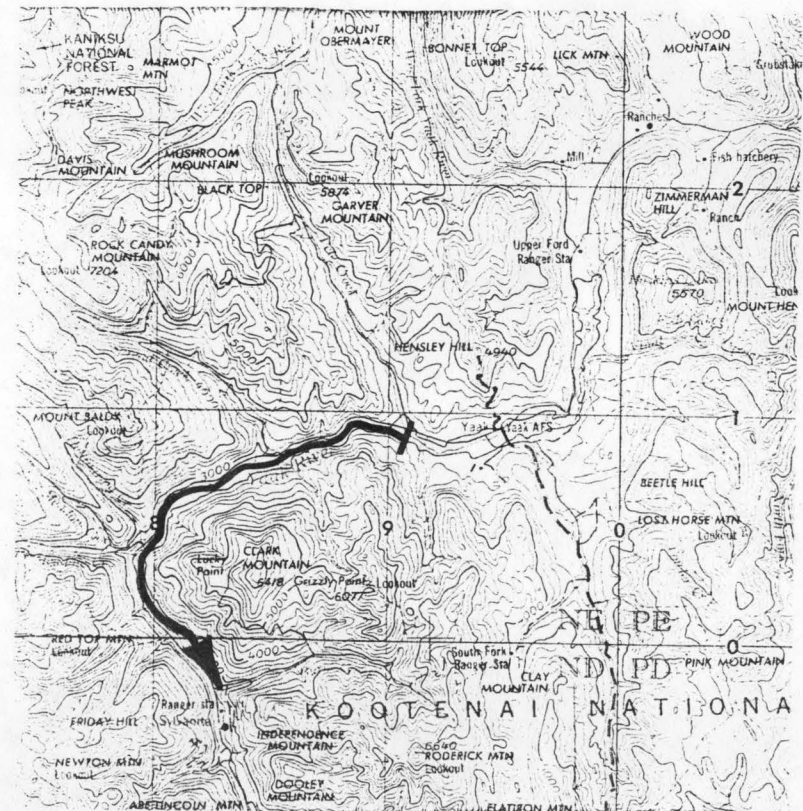
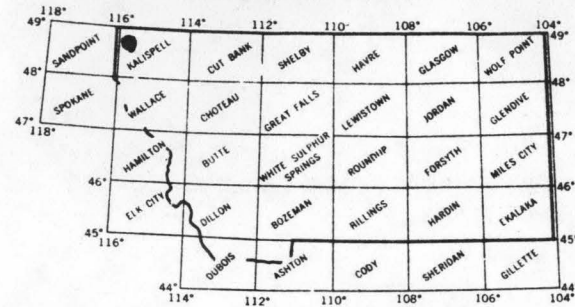
### III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	93	1.92	16.82	1.00
80	115	2.38	20.04	.96
50	218	4.52	31.65	.80
30	459	9.53	49.26	.59
10	1713	35.57	84.12	.27

### IV. TYPICAL ANNUAL HYDROGRAPH AVERAGE ANNUAL FLOW = 614 CFS



### LOCATIONS FOR USGS 1:250,000 MAP SERIES



## REACH HYDRO POTENTIAL CHARACTERISTICS

REACH # 04-500-500-500-000-R0004

### I. LOCATION

A. State	Montana
B. County	Lincoln
C. Township, Range	T33N, R33W
D. Latitude, Longitude	48°38', 115°53'
E. Stream Name	Yaak River
F. Major Basin Name	Kootenai
G. River Mile	0.8 to 13.6

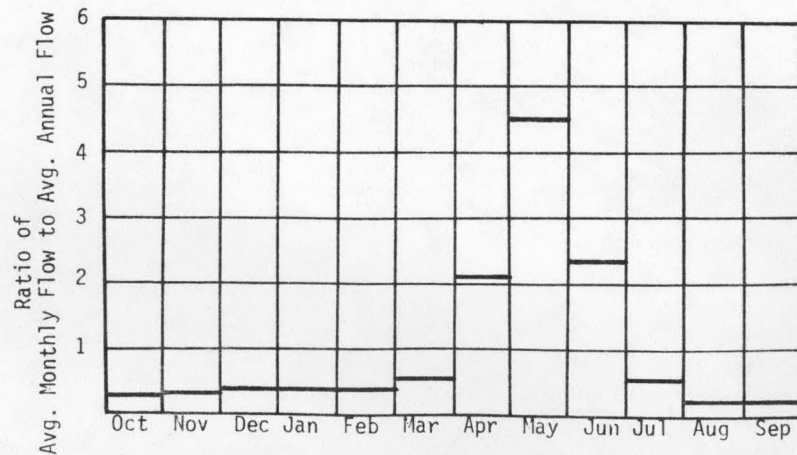
### II. HYDROLOGIC AND HYDRAULIC CHARACTERISTICS

A. Upstream Elevation of Reach	2660	Ft. MSL
B. Downstream Elevation of Reach	1840	Ft. MSL
C. Total Available Head in Reach	820	Ft.
D. Average Slope in Reach	64.1	Ft./Mi.
E. Drainage Area above Reach Mouth	755	Sq.Mi.
F. Inflow Classification	Unregulated	

### III. REACH FLOW DURATION AND THEORETICAL POTENTIAL ENERGY CHARACTERISTICS

Exceedance Percentage	Discharge CFS	Theoretical Plant Size MW	Annual Energy Available GWH	Plant Factor
95	116	8.08	70.77	1.00
80	144	10.02	84.30	.96
50	273	19.00	133.16	.80
30	577	40.10	207.24	.59
10	2153	149.62	353.87	.27

### IV. TYPICAL ANNUAL HYDROGRAPH AVERAGE ANNUAL FLOW = 779 CFS



### LOCATIONS FOR USGS 1:250,000 MAP SERIES

