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COMPARISON OF SUGGESTED METHODS OF DIVISION OF BEAR RIVER WATERS
IN THE CENTRAL DIVISION
AND
TABULATIONS OF ADJUDICATED AND IRRIGATED ACREAGE
IN THE CENTRAL AND UPPER DIVISIONS

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COMPARISON OF SUGGESTED METHODS OF DIVISION
OF BEAR RIVER WATERS BETWEEN WYOMING AND IDAHO
IN THE CENTRAL DIVISION

General

In the hydrologic studies of supplies, rights, and uses of the waters of Bear River it was determined that the river system could be divided into three major divisions for compact formulation. These major divisions could be further sub-divided into State river sections for water distribution and control. In this way the complicated problem of formulating a compact for Bear River is simplified and adjustments can be made between the rights of water users in one State in their relation to the rights of water users in another State.

However, the premise upon which the river system is broken down into the major divisions and State sections must be kept clearly in mind in compact formulation, or the basis of why the river system can be so segregated will be violated.

The original premise was as follows:

1. In general, except for Smiths Fork, supplies available at any time in tributaries of Bear River are not sufficient to fill rights of as late a date of priority of water users dependent on the tributaries as can be filled for water users on the main stem of the river. The early settlers in the basin first took up lands on the tributaries before attacking the waters of the main stem and consequently, tributary water rights are of earlier date for the most part, than main stem water rights.
2. The main stem of the river above Smiths Fork can be operated separately from the balance of the river if the canals in this area are limited to their rights. The supplies in this area

are not sufficient to fill rights of as late a date of priority as can be filled currently by supplies in that portion of the river below Smiths Fork.

3. Smiths Fork and the main stem of the river between the mouth of Smiths Fork and Stewart Dam can be operated separately from the part of the river below Stewart Dam and including Rainbow Canal, if the canals in this area are limited to their rights. This implies, of course, that the water be applied to the lands as defined by the rights. The supplies in this area are not sufficient to fill rights of as late a date of priority as can currently be filled by supplies in that portion of the river below Stewart Dam.
4. The general statements as noted under 1, 2, and 3, were found to hold for water supplies as they occurred in 1944 through 1948 with all water rights placed on a common duty of one cubic foot per second for each fifty acres of land.

While supplies for the years 1944 through 1948 were about normal or above, it is believed that low water years would show about the same results.

This report is particularly concerned with that portion of the basin including Smiths Fork and the main stem of Bear River between the mouth of Smiths Fork and Stewart Dam. This division of the river basin has been termed the "Central Division" and includes lands in Wyoming and Idaho. The basic principles and division of the supplies between Wyoming and Idaho as set forth in the First Tentative Draft, the Depletion Method, and the present Irrigated Acreage Method, will herein be discussed and compared.

First Tentative Draft

The basic principle of the First Tentative Draft was on relative priority of rights. It was suggested that the available divertible flow be divided from zero to a certain amount 25 percent to Wyoming and 75 percent to Idaho and above that amount the division to closely follow priority of rights. Only divertible flow in the main stem of Smiths Fork and the main stem of Bear River, would be included in the division and all tributaries would be excluded. The application of this basic principle can be enlarged to cover the same waters and lands as considered for the depletion and acreage methods by adding in the rights of the tributaries, which are also included in the later named methods.

In the report titled "Daily Stream Flow Depletions in Upper and Central Divisions of Bear River Basin" dated May 22, 1951, on pages 8 and 9, is a tabulation of Relative Water Rights in the Central Division. On Plate 1 of this report these relative rights have been plotted and indicated as "Idaho Rights" and "Wyoming Rights." The dotted lines on Plate 1 show the Tentative Draft division for Idaho and Wyoming. These dotted lines are expressed in the following tabulation.

<u>Total Divertible Flow c.f.s.</u>	<u>Wyoming Divertible c.f.s.</u>	<u>Idaho Divertible c.f.s.</u>
0	0	0
400	100	300
631	178	453
810	357	453

The total divertible flow would be the sum of the following:

1. Diversions in second-feet in Wyoming consisting of all diversions from Grade Creek, Pine Creek, Bruner Creek and Pine Creek Springs, Spring Creek, Sublette Creek, the main stem of Smiths Fork and

the main stem of Bear River between Pixley Dam and the Wyoming-Idaho State line at Border.

2. Diversions in second-feet in Idaho, consisting of all diversions from the main stem of Bear River between Wyoming-Idaho State line at Border and Stewart Dam, including West Fork and Rainbow Inlet canals, which divert at Stewart Dam.
3. Flow in second-feet of Bear River at gaging station 300 feet downstream from Stewart Dam.

In the original premise setting up the Central Division, it was stated that the use of water by rights in this division would not interfere with downstream rights, if all of Idaho's portion were applied to the lands holding rights thereto. Return flows from Idaho lands would contribute toward meeting requirements of other downstream rights. If Idaho were not applying all its portion to the lands, then Wyoming should be entitled to the unused part of Idaho's water, less the return flow from such unused water which should go toward meeting downstream requirements.

A study of the inflows and rights below Stewart Dam indicates that the Last Chance Canal Company's rights would most likely be the rights affected. The Last Chance Canal Company has a right for 200 c.f.s. of 1897 priority and an additional right of 240 c.f.s. of 1901 priority. Wyoming has accumulative rights of 207 second-feet of 1897 and earlier priority and accumulative rights of 215 second-feet of 1901 and earlier priority. It would be a reasonable deduction that when the Wyoming portion is 207 second-feet or less, Wyoming should be allowed to increase her diversions by the amount of Idaho's unused portion less the amount which should be released past Stewart to compensate for return flow, but not exceeding a total Wyoming diversion of 207 second-feet. Because of the complications involved, due to influence of

other contributing flows, it is impossible to determine what portion of Idaho diverted water returns to the river and is available for downstream use. The amount may be as great as fifty percent or practically nothing.

Depletion Method

In the report titled "Daily Stream Flow Depletions in Upper and Central Divisions of Bear River Basin" dated May 22, 1951 and Supplemental No. 1 to this same report dated August 20, 1951, a suggested method of division in the Central Division between Wyoming and Idaho was fully discussed. The basic principle of this method is that the water users in the Wyoming portion of the Central Division are entitled to deplete the available natural inflow into the area by a fixed amount, whenever the outflow from the area drops below a certain quantity.

The critical outflow figure for which this method would be placed in operation is to be determined at the Bear River at Border gaging station and is that flow below which cutting of downstream water rights begins. A figure of 400 second-feet has been recommended as being the best average critical flow based on records from ¹⁹⁴⁴~~1924~~ to 1948. *Last Chance, pg 13 Rep 16 Not Cert*

The percent of allowable depletion is somewhat of an arbitrary figure and can only be based on a study of depletions for years of record as compared to the relative water rights and irrigated acreage of the two states. From depletion studies in the years 1944 to 1948, it has been recommended that the allowable depletion be fixed somewhere between 20 and 30 percent.

Since the basis of such a method is not predicated entirely on water rights, Wyoming should have no right to unused flow passing Stewart Dam.

It is believed that the depletion method of dividing waters in the Central Division offers a simple and easily administrated plan. Stream-flow recording stations on the inflow streams and outflow stream are the only

proof of compact compliance required. The reports presented an equation for determining the inflow based on three gaging stations. For all practical purposes, the actual flows at the three principal inflow stations could be used without the equation, if about two percent were added to the allowable depletion figure.

In the depletion method, an irrigated area has good opportunity of bettering its usable water supply through more efficient irrigation and elimination of water loss from swamps and vegetation having little value.

Division on basis of Irrigated Acreage

Wyoming interests have advocated the division of the divertible flow in the Central Division between Wyoming and Idaho on the basis of irrigated acreage. This is a method sometimes used by the courts in the past for determining a State's equitable share in an interstate stream. Such a method does not take into account priority of rights as may be of record in the individual states.

In the following table and summary, are shown the adjudicated acreages and planimetered acreage actually irrigated as determined on land use maps for lands in the Central Division.

(See Table on Following Page)

The determination of total divertible flow which is to be divided by the computed percentage, is the same as that given in the Tentative Draft Method on Page 3.

Wyoming should not be entitled to any unused flow passing Stewart, as the basic principle of this method does not take into consideration priority of rights.

B.R. Canal - 200
 F.L. Canal - 164

CENTRAL DIVISION

364

Wyoming

<u>Name of Canal</u>	<u>Adjudicated Acreage</u>	<u>Planimetered Acreage</u>
<u>Main Stem Bear River</u>		
Garrett	145	217
Sights	574	705
Wyman West Side	281	297 <small>reduced from 369 - W.I.</small>
Wyman East Side	235	234
Snyder	355	351
Rocky Point	54	175 <small>red. from 2 w.v. sec 22</small>
Cook	2,944	2,925
J. R. Richards	381	419
<u>Main Stem Smiths Fork</u>		
Quinn Bourne	4,969	5,323
Button Flat	544	179 <small>from 354 w.</small>
Perry & Partridge	422	301 <small>From 241 w.</small>
Perry & Partridge	256	263
Progress	171	218
Emelle	858	659
Cooper	426	414
Wheelock	364	364
Covey System	4,033	4,396
Tanner, Hunt & Garrett	348	288
Whites Water	975	915
Martin	166	149
Bourne	105	117
Forgeon	265	210
Stoner Nichols	321	369
Morgan	118	144
Cokeville Water	75	69
Tanner	95	110
Smiths Fork Canal	125	142
South Branch No. 1 & 2	632	737
<u>Grade Creek</u>		
Grade Creek Canal	382	372
<u>Upper Pine Creek</u>		
Goodell & Collett Canals	785	360
V. H. Canal	793	575
<u>Pine and Bruner Springs</u>		
Haggerty East, Haggerty West, and Bruner Creek Canals	154	88 (e)
<u>Spring Creek</u>		
Canals above Covey Canal	110	22 (e)

Total Wyoming

17,492

16,784

12,523

5,323

(e) Includes only lands above Covey Canal, probably balance of lands now served by Covey Canal System.

11,461

Sublett Creek & Tribs - 1195

11,961

Present Compact -> 18,687

CENTRAL DIVISION (Cont'd.)

Idaho (Border to Stewart)

<u>Name of Canal</u>	<u>Decreed Acreage</u>	<u>Planimetered Acreage</u>
Miller	678	666
Nuffer	1,230	936
Pacific	430	650
Transtrum	560	257
Lloyd	300	246
Phelps Estate	450	327
Dingle Irrigation	1,721	1,751
Ream Crockett	2,500	2,603
Black Otter & Peg Leg	5,301	5,872
Montpelier-Preston	3,200	3,347
Kent-Larocco	732	697
Pugmire	232	214
West Fork	5,330	5,712
Total Idaho	22,664	23,278 2476 23,154

CENTRAL DIVISION SUMMARY

Section	Adjudicated		Planimetered on Land Use Maps		Recomm.
	Acreage	% of Division Total	Acreage	% of Division Total	
Wyoming	17,492	43.56	16,784	41.90	43 -
Idaho	22,664	56.44	23,278 10,840 34,078	58.10	57 -
Division Total	40,156	100.00	40,062	100.00	100

Comparison of the Three Suggested Methods

In comparison of the three suggested methods, the net allowable Wyoming diversions have been computed for the years 1944, 1946 and 1948. On Plates 2 to 12 are shown the computed figures and on Plates 13 to 15 are shown hydrographs of the computed allowable Wyoming diversions.

The Wyoming allocation for the "Tentative Draft Basis" is computed by applying the "Total Divertible" figures on Plates 2 to 12 to the table on page 3. To illustrate the extent that Wyoming may benefit by the allowance to use a part of the unused Idaho water passing Stewart there is shown plotted on Plates 13 to 15 the amounts Wyoming could divert, when her allocation is less than 207 second-feet. The split hydrographs show 100 percent diversion of unused water and 50 percent diversion of unused water. The unused water is computed by subtracting the sum of the Wyoming allocation and Idaho's actual diversion from the total divertible flow minus 10 second-feet for unavoidable loss. This computed unused water added to Wyoming's allocation but not exceeding 207 second-feet would be Wyoming's allowable diversion for 100 percent right to unused water. One half of the unused water added to Wyoming's allocation but not exceeding 207 second-feet would be Wyoming's allowable diversion for 50 percent right to unused water. In each of the years 1944, 1946 and 1948 the Idaho canals did not divert all of their allocation and under such an allowance on the "Tentative Draft Basis" the net Wyoming diversions would follow the dotted lines down to 207 second-feet and then the 207 cfs limitation line (100%) or (50%) as the case may be, or somewhere between depending on whatever fixed figure for allowance of return flow that might be established.

The Wyoming portion for the "Acreage Basis" is computed by taking 43 percent of the "Total Divertible" figure on Plates 2 to 12.

The Wyoming portion of the "30% Depletion Basis" is computed by subtracting the "70% Border" figure (as computed in report "Supplement No. 1 to Daily Stream Flow Depletions", dated Aug. 20, 1951), from the sum of "Total Wyoming Diversions" and the discharge at Border one day later.

TABULATION OF ADJUDICATED AND IRRIGATED
ACREAGE IN UPPER DIVISION.

The following tabulation shows adjudicated acreage and actual acreage determined to be irrigated by canals on land-use maps for the Upper Division.

Summaries show comparison of total land acreage in river sections based on State lines and as adjusted by placing some interstate canals under the administration of the State in which the lands are principally located.

Upper Utah

<u>Name of Canal</u>	<u>Adjudicated Acreage</u>	<u>Planimetered Acreage</u>
Wright Transmountain	U- 285.22 W- 54.71 (Lambert) 339.93	263 (a)
Hovarka East Fork	217 — 227.02 (Lambert)	217
Hilliard East Fork (b)	2,644	2,644 480
Lannon	937	937
Lone Mountain — 139.98 (Lambert)		
Hilliard West Side	2,160	2,072
Total Upper Utah	6,221	6,133

Mill Cr. acreage in Utah = 456.19 (Lambert)

- (a) Not planimetered, adjudication acreage used.
- (b) Utah Application 9,155 and 9,156. Water Users Claims 114 and 115 not completed. Land descriptions furnished by Wyoming State Engineer used after being checked on maps.

$$480 \div 217 = 2.6\% = 0.567$$

Upper Wyoming

<u>Name of Canal</u>	<u>Adjudicated Acreage</u>	<u>Planimetered Acreage</u>
Bear	5,143	4,753
Tropic	591	584
Danielson	381	400
Pine Grove and Crown	2,274	2,236
McGraw & Big Bend	1,043	1,013
Homer	65	107
Lewis	840	822
Lewis & Blanchard	260	207
Myers No. 2	625	654
Harer	138	151
Hoffman	180	234
Knoder	195	191
Myers No. 1	305	258
Myers Irrigating	280	232
Booth	853	800
Evanston City Pipe Line	322 (c)	322 (c)
Anal	326	332
Cornelison	76	76
Evanston Water Supply	410	528
Anderson	399	407
Knight No. 1 & No. 2	498	440
Evanston Water	1,956	1,527
Barton	148	148
Faulkner	90	118
Rocky Mountain Blythe	833	833
Fife	23	20
Johnson-Narramore	87	66
Bruce Barton	168	196
A. W. Sims	261	252
Crompton No. 2	200	212
Fearne	40	48
Saxton-Turner	35	30
Saxton Irrigation	225	288
John Sims	134	194
Southern Pacific	313	288
Heward	0	72
Saxton Thomas	118	92
Ramsey	523	819
Almy	68	76
Sims, Blythe & Turner	428	428
Bowns	80	76
Russell	15	20
Turner	184	200

1060.2
11355

14,750

(c) Adjudicated land description used.

Upper Wyoming (Cont'd.)

<u>Name of Canal</u>	<u>Adjudicated Acreage</u>	<u>Planimetered Acreage</u>
Upper Morris	275	271
Chapman (Wyo.)	1,250	1,176
Chapman (Utah)	7,889,188 (d)	7,889 8,188 (d)
Lower Morris	1,287	1,283
Bruce Bowns	333	364
Tunnel	788	759
Fowkes	233	237
Christensen	148	161
Upper Island	294	256
Blight Irrigation	455	616
Acock & Cowlshaw	278	287
Lower Island	0	269
Francis Lee	673	675
Bear River	1,609	1,838
Total Upper Wyoming	36,914 34,445	37,131 36,834

Handwritten notes:
 37,000 U.W. }
 8,400 U.W. }
 17,000 U.W. }

 62,400
 Total Wyo. }
 23,000 Idaho } 2512
 } Chy

(d) Recommended figures for correcting adjudication

<u>Lower Utah</u>		
Neville	273	273
Reese	491	412
Booth	275	307
Randolph Woodruff	9,836	9,550
Crawford Thompson	4,876 +	5,635
Dykens	1,072	1,298
Randolph Sage	9,077	9,380
McMinn	1,342	1,382
Enberg	720	820
B.Q. West Side	5,844	5,813
Total Lower Utah	33,806	34,870

Handwritten notes:
 34,870 ✓
 + 7,889

 45,272
 2,150 acres below
 Randolph Control line in Utah
 25
 21
 3
 188
 this

Note: Utah Adjudication includes only actual cropped land and does not include border strips of willow and waste lands as common in Wyoming and Idaho adjudications; these additional border lands have been included in planimetered acreage.

<u>Lower Wyoming</u>		
B. Q. West Slough	2,005	1,882
McFarland	360	300
B. Q. East Side	2,480	2,104
Pixley Dam Backwater	190	292
Pixley Canal	2,467	2,614
Pixley (East of River)	798	950
Stoffer Pump	157	136
Total Lower Wyoming	8,457	8,278

Handwritten notes:
 4281
 1111

UPPER DIVISION SUMMARIES

State Line Divisions

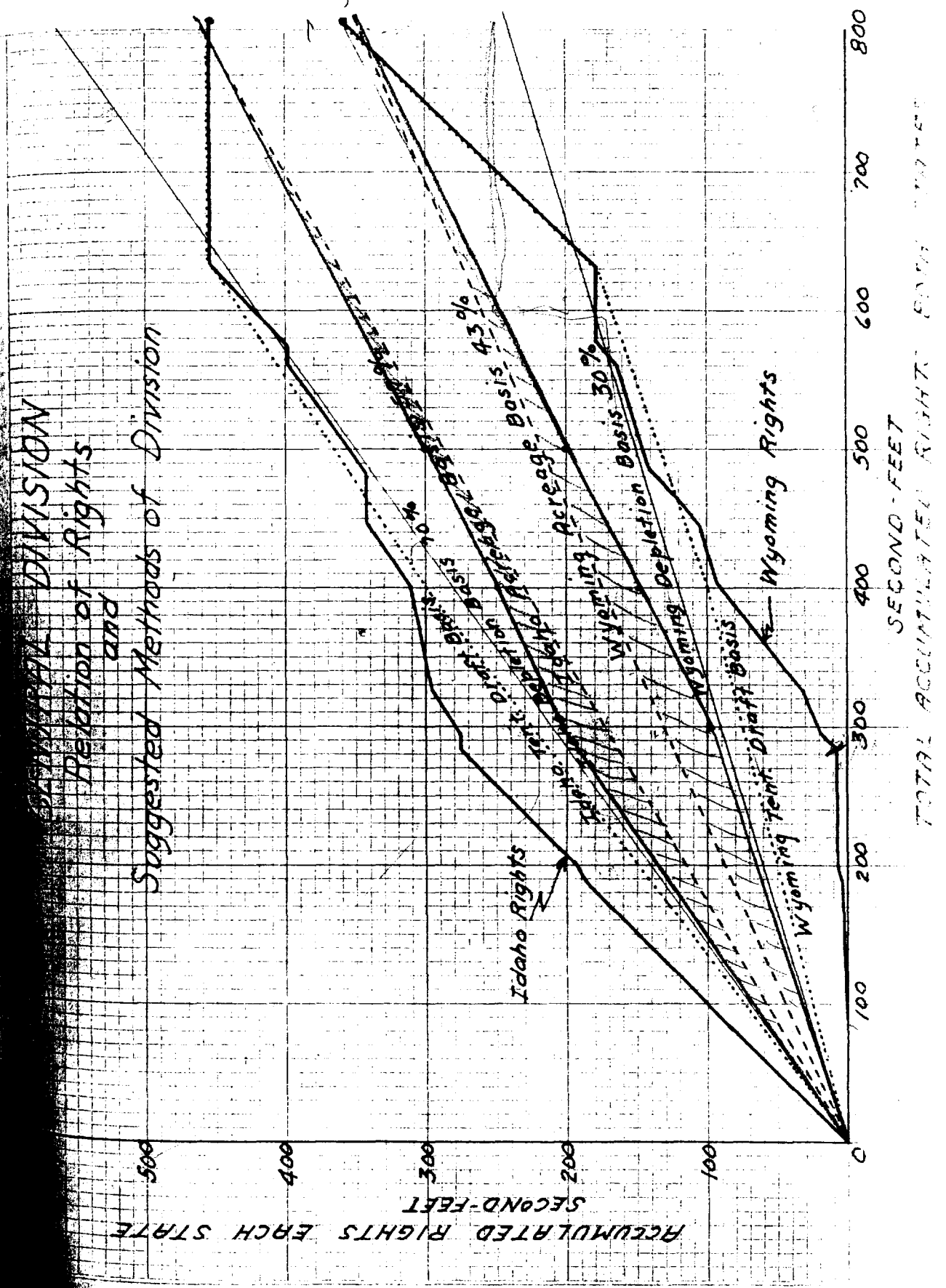
All interstate canals included in allocation to State and under administration of State in which point of diversion occurs.

Section	Adjudicated		Planimetered on Land- Use Maps		R
	Acreage	% of Division Total	Acreage	% of Division Total	
Upper Utah	6,221	7.28	6,133	7.10	
Upper Wyoming	36,944	43.25	37,131	42.97	
Lower Utah	33,806	39.57	34,870	40.35	
Lower Wyoming	8,457	9.90	8,278	9.58	
Totals:	85,428	100.00	86,412	100.00	10

Irrigated area Divisions

State line divisions altered so that Hilliard East Fork, Lannon and Hilliard West Side canals are included in allocation to Upper Wyoming section and the Francis Lee and Bear River canals are included in the allocations for the Lower Utah section.

Section	Adjudicated		Planimetered on Land- Use Maps		R
	Acreage	% of Division Total	Acreage	% of Division Total	
Upper Utah Sec.	480	.56	480	.56	
Upper Wyo. Sec.	40,403	47.29	40,273	46.60	1
Lower Utah Sec.	36,088	42.25	37,381	43.26	1
Lower Wyo. Sec.	8,457	9.90	8,278	9.58	1
Division Totals	85,428	100.00	86,412	100.00	10



WATER DIVISION
Depletion of Rights
and
Suggested Methods of Division

Central Division — July 1944

Date	Bear R. Border	Wyo. Div.	Ida. Div.	Pass Stew	Total Divble ✓	Total 1855 Rainbow	120% Border	Wyo 4 120 Border	3590 Over	a. Priority	65% divert.	Dept. Basis Wyo 30%
1	828											
2	880											
3	896											
4	848											
5	792											
6	780											
7	705											
8	614											
9	573											
10	528											
11	492											
12	466											
13	447											
14	387	395	190	388	973	904	465	860				
15	348	395	181	353	929	861	417	812				354
16	317	383	170	321	847	781	380	763				343
17	306	373	168	291	832	767	367	740				338
18	300	366	193	252	811	749	360	726	283			329
19	289	371	211	213	795	727	347	718	278			340
20	295	378	206	189	773	718	354	732	271			351
21	295	371	212	191	774	717	354	725	272			347
22	280	360	213	192	765	707	336	696	268			336
23	269	344	216	194	754	694	323	667	264			332
24	269	333	213	195	741	680	323	656	260			319
25	267	324	217	197	738	675	321	645	258			312
26	260	316	239	190	745	683	312	628	261			301
27	245	309	230	183	722	662	294	603	253			291
28	236	304	220	177	701	642	283	587	246			274
29	223	298	216	172	686	630	268	566	240			276
30	229	291	205	169	665	611	275	566	233			266
31	216	272	212	164	648	577	257	529	226			262

Has been increased for Sublette Creek
Does not include Rainbow
Bear below Stewart + Rainbow Canal

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

Central Division — August 1944

Date	Bear R. Border	Wyo. Div.	Ida. Div.	Pass Stew.	Total Divbl.	Total Minus Rainbow	120% Border	Wyo + 120 Border	35% div. flow	60% Priority	65%
1	220	247	197	145	589	541	262	509	206		
2	210	241	203	153	597	549	252	493	209		
3	200	233	194	136	563	515	240	473	197		
4	198	226	189	132	547	500	238	464	191		
5	194	218	168	135	521	474	233	451	183		
6	188	216	164	137	517	472	225	441	181		
7	182	211	156	138	505	462	218	429	177		
8	176	205	151	133	489	448	211	416	171		
9	180	199	154	130	483	443	216	415	169		
10	172	192	156	126	474	436	206	398	166		
11	169	192	153	121	466	430	203	395	163		
12	169	188	149	119	456	422	203	391	160		
13	174	187	147	116	450	418	209	396	157		
14	169	191	146	114	451	421	203	394	158		
15	165	189	144	112	445	417	198	387	156		
16	153	192	136	112	440	413	183	376	154	181	194
17	153	188	122	108	418	393	183	371	146	180	192
18	150	183	123	104	410	387	180	363	143	176	174
19	147	181	124	100	405	383	176	357	142	174	165
20	142	184	122	97	403	381	170	354	141	173	167
21	140	191	117	92	400	379	168	359	140	172	167
22	137	201	120	88	409	389	164	365	143		167
23	121	200	117	89	406	384	145	345	142		167
24	123	199	109	86	394	370	148	347	138		162
25	121	199	107	82	388	362	145	344	136		162
26	118	195	107	78	380	357	142	337	133		162
27	118	193	106	73	372	351	142	335	131		162
28	116	189	104	67	360	342	139	328	126		162
29	113	188	102	69	359	341	136	324	126		162
30	113	186	102	68	356	339	136	322	124		162
31	113	183	107	68	358	341	136	319	125		162

Central Division — September 1944

Date	Bear R Border	Wyo. Div.	Ida. Div.	Pass Stew.	Total Duble	120% Border	Wyo + 120Border	Ida. Prior.	65%	35% Div. Fin.
1	105	191	109	64	364	348	126	317		127
2	107	197	106	62	365	349	128	325		128
3	107	197	102	61	360	345	128	325		126
4	104	202	101	58	361	346	125	327		128
5	102	201	100	57	358	343	122	323		125
6	104	198	99	54	351	344	125	323		123
7	104	192	101	50	343	329	125	317	50%	120
8	102	186	100	47	333	319	122	308	100%	116
9	102	185	109	45	339	325	122	307		119
10	102	182	108	43	333	319	122	304		116
11	104	178	107	41	326	312	125	303		114
12	104	173	112	39	324	310	125	298		113
13	104	167	119	41	327	312	125	292		114
14	107	163	121	42	326	311	128	291		114
15	105	161	121	41	323	307	126	287		113
16	107	161	122	41	324	308	128	289		113
17	105	160	119	40	319	304	126	286		112
18	107	142	120	40	302	287	128	290		106
19	112	136	136	38	310	295	134	270		108
20	116	145	125	38	308	294	139	284		108
	116	151	128	37	314	302	139	290		111
	116	147	127	36	310	297	137	286		108
	116	146	128	37	311	298	139	285		109
	116	145	129	37	311	298	139	284		109
	116	147	131	36	314	301	139	286		110
	116	144	133	36	313	300	139	283		109
	118	142	133	36	311	298	142	284		109
	118	139	135	37	311	298	142	281		109
	120	141	121	37	299	286	144	285		105
	126	142	118	55	315	285	121	293		110
					463	433		409		

Central Division - June 1946

Date	Bear R Border	Wyo. Div.	Ida. Div.	Pass Stew	Total Divble	Tent Draft Basis			Ac. Basis Wyo 43%	Border 70%	Depl. Basis Wyo 30%	35% Direct flow
						Alloc.	Unused Ida. Wtr.	20% limit 100%				
1	1150									727		
2	1050									690		
3	910									668		
4	727									676		
5	706									710		
6	691									710		
7	730									651		
8	730									622		
9	712									653		
10	724									696		
11	758									724		
12	751									712		
13	748									693		
14	737									673		
15	715									653		
16	682									622		
17	655									596		
18	598									575		
19	604									545		
20	562									512		
21	520									494		
22	495									478		
23	452									462		
24	445									456		
25	438									446		
26	412									405		
27	383	453	413	175	1041	886	460	913	448	388	431	364
28	366	435	418	148	1010	882	440	875	435	384	393	354
29	342	422	389	130	941	835	410	832	405	368	372	329
30	318	410	376	102	888	806	382	792	382	359	355	311

Central Division - July 1946

Date	Bear R. Border	Wyo. Div.	Ida. Div.	Pass Stew.	Total Divble	Total minus Rainbow	120% Border	Wyo + 120 Border	35% Divert. Flow	Priority Wyo.	Priority Ida.	Depl. Basis Wyo 30%
1	304	410	375	76	861	806	365	775	301			356
2	291	406	378	59	843	705	350	754	295			452
3	380	393	369	67	829	786	454	849	290			392
4	325	377	407	97	881	808	390	767	308			381
5	318	385	374	102	861	783	382	767	301			402
6	328	396	331	139	866	751	394	790	303			435
7	337	388	273	194	855	683	405	793	299			410
8	308	378	271	200	849	671	370	748	297			387
9	288	360	255	188	803	639	346	706	281	350	453	368
10	275	346	233	200	779	601	330	476	273	326	453	346
11	264	344	222	191	757	588	316	660	265	304	453	348
12	260	353	225	197	775	600	312	665	271	322	453	358
13	258	345	230	200	775	597	310	655	271	322	453	337
14	244	333	221	191	745	576	293	626	261	292	453	324
15	233	329	217	174	720	568	280	609	252	267	453	317
16	227	329	205	171	705	556	273	602	247	252	453	304
17	214	329	199	174	702	550	257	586	246	249	453	295
18	198	336	196	166	698	554	238	574	244	245	453	292
19	188	338	190	158	686	550	225	563	240	233	453	286
20	178	328	189	145	662	539	214	542	232	209	453	267
21	167	312	186	135	633	520	208	512	222	180	453	244
22	156	315	179	125	619	516	187	502	217	178	444	260
23	165	322	184	123	629	528	198	520	220	178	451	263
24	163	315	201	142	658	538	195	510	220	205	453	256
25	163	372	198	152	722	592	195	567	253	269	453	337
26	203	441	199	152	792	662	244	685	277	339	453	422
27	233	368	204	158	730	594	280	648	256	277	453	384
28	240	265	200	188	653	487	255	553	229	200	453	269
29	220	238	188	197	623	448	264	504	218	178	445	240
30	218	241	180	197	618	445	262	503	216	178	440	236
31	207	235	183	191	609	440	248	483	213	178	431	219

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UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

CENTRAL DIVISION - Aug. 1944

Date	Bear R. Border	Wyo. Divers.	Idaho Divers.	Pass. Stewart	Total Dri'ble	Total minus Rainbow	120% Border	Wyo + 120 Border	35% Divers. Flow	Priority Wyo.	Priority Ida.	Depl. Basis Wyo 50%
1	196	224	169	194	582	410	235	459	204	178	404	208
2	190	219	155	199	568	396	228	447	199	170	398	203
3	188	212	152	188	552	386	225	437	193	158	394	195
4	184	206	148	177	531	374	221	427	186	148	383	189
5	180	196	157	169	522	375	216	412	183	143	379	194
6	194	186	163	155	504	371	233	419	176	152	352	184
7	190	182	161	152	495	365	228	410	173	147	348	178
8	182	179	159	140	478	360	218	397	167	136	342	176
9	178	175	175	142	492	372	214	389	172	146	346	166
10	169	168	158	142	468	348	203	371	164	126	342	161
11	169	174	151	135	460	347	203	377	161	118	342	167
12	167	178	148	130	456	348	200	378	160	114	342	172
13	169	177	148	133	458	347	203	380	160	116	342	170
14	171	177	152	125	454	351	205	382	159	112	342	166
15	163	169	149	123	441	340	195	367	154	102	339	159
16	166	163	138	123	424	323	192	356	158	102	322	147
17	153	158	130	119	407	300	184	343	150	93	314	147
18	151	160	125	117	402	307	181	344	149	91	311	140
19	142	164	125	110	399	316	180	334	140	89	310	146
20	142	162	126	106	394	310	180	330	138	87	307	150
21	144	163	128	99	390	293	183	334	136	85	305	155
22	148	172	136	97	405	300	178	354	142	93	312	179
23	160	185	142	93	420	348	192	373	157	100	320	180
24	165	206	135	105	446	362	188	404	156	105	341	187
25	167	203	129	108	440	352	200	403	154	102	338	229
26	203	203	123	117	443	346	244	447	155	103	340	209
27	180	198	114	159	471	333	216	414	165	129	342	205
28	169	173	100	144	417	294	203	376	146	98	319	188
29	169	160	90	135	385	292	203	363	135	82	303	177
30	165	158	91	130	379	291	198	356	133	79	300	177
31	162	156	93	128	377	271	194	350	132	78	299	180

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

Central Division — September 1946

Date	Bear R. Border	Wyo. Div.	Ida. Div.	Pass Stew.	Total Divble	Total minus Rainbow	120% Border	Wyo + 120 Border	35 % divert. Flow	Priority Wyo.	Priority Ida.	
1	165	133	98	125	356	253	198	331	125	47	309	
2	176	124	101	128	353	247	211	335	124	45	308	
3	172	121	104	128	353	247	206	327	124	45	308	
4	171	118	106	128	352	246	205	323	123	45	307	
5	176	112	109	133	354	243	211	323	124	46	308	
6	176	112	111	135	358	245	211	323	125	48	310	
7	178	112	111	140	363	245	214	326	127	50	313	
8	196	104	113	140	357	239	235	339	125	47	310	
9	200	104	109	150	363	235	240	344	127	50	313	
10	207	102	107	158	367	231	248	350	128	52	315	
11	203	97	109	160	366	228	244	341	128	52	314	
12	188	95	107	158	360	224	225	320	126	49	311	
13	188	92	103	147	342	217	225	317	120	40	302	
14	184	88	100	171	359	210	221	309	126	48	311	
15	184	83	90	180	353	195	221	304	124	45	308	133
16	180	85	93	169	347	200	216	301	124	42	305	137
17	186	86	93	171	350	201	228	309	122	44	306	131
18	186	86	80	171	337	194	223	309	118	37	300	138
19	186	82	71	188	341	175	223	305	119	39	302	131
20	186	80	70	203	353	172	223	303	124	35	303	134
21	184	81	61	204	346	162	221	302	121	42	304	131
22	180	79	60	204	343	159	216	295	120	40	303	125
23	176	78	60	204	342	158	211	289	120	40	302	121
24	186	69	60	201	330	149	223	292	116	34	296	121
25	184	66	60	207	333	146	221	287	117	36	297	120
26	178	64	60	216	340	144	214	278	119	39	301	
27	174	64	60	215	339	143	209	273	119	38	301	
28	176	59	60	211	330	137	211	270	116	34	296	
29	178	57	60	208	325	135	214	271	114	37	294	
30	174	58	60	211	329	136	209	267	115	33	296	
								41,680				
						388		449				

14304

40594

(73)

(84)

unc 154

48222
93 520

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

Plate 9

CENTRAL DIVISION - June 1948

Date	Bear R. Border	Wyo. Div.	Ida. Div.	Pass Stew.	Total Double Alloc.	Tent. Draft Basis	Ac. Basis		Border 70%	Depth Basis 30%	35% divert. flow	
							Unused limit	207 limit				
1	1900						207	207				
2	1790						100%	50%				
3	1730											
4	1700											
5	1650											
6	1600											
7	1580											
8	1560											
9	1410											
10	1220											
11	1050											
12	948											
13	768											
14	697											
15	627											
16	591											
17	556											
18	537											
19	512											
20	477											
1	485											
2	518											
3	520											
4	504											
5	454											
6	499											
7	446											
8	413											
9	398	490	365	231	1086				466	364	512	380
10	386	469	365	217	1051				452	351	504	368

UNITED STATES
DEPARTMENT OF THE INTERIOR
BIOLOGICAL SURVEY

Plate 10

WYOMING DIVISION May 1945

Area	East K. Border	Wyo. Liver.	Ida. Liver.	Pass. State	Total Liverola	Total minus Rainbow	120% Border	Wyo plus 120 Border	35% Direct flow	Priority Wyo.	Priority Ida.	Net 2.78
1	384	444	396	211	1051	868	463	907	368			475
2	212	430	401	211	1042	859	447	877	365			440
3	344	419	384	202	1005	831	412	831	352			420
4	362	408	337	205	950	773	388	796	332			404
5	304	418	245	256	919	692	367	785	322			424
6	353	429	235	237	901	692	370	799	315			406
7	294	420	241	219	880	688	353	773	308			390
8	258	410	222	248	880	659	310	720	308			378
9	241	425	206	242	893	657	396	821	313			414
10	277	433	214	241	888	673	329	762	311			422
11	265	421	200	241	862	647	318	739	302			418
12	258	412	211	238	861	649	310	722	301			398
13	270	404	213	223	840	643	288	692	294			388
14	234	399	230	184	813	653	278	677	285			385
15	225	389	226	171	786	637	270	659	275	333	453	368
16	217	380	229	166	775	631	260	640	271	322	453	373
17	221	368	229	163	760	619	265	633	266	307	453	371
18	221	360	226	160	744	607	265	625	261	3293	453	367
19	232	344	219	153	716	583	278	622	251	263	453	365
20	228	338	230	177	745	590	285	623	261	292	453	366
21	213	310	244	182	736	574	255	565	258	283	453	314
22	212	266	236	157	679	543	255	541	238	226	453	282
23	201	298	231	152	681	548	241	539	238	228	453	307
24	211	290	220	159	669	528	253	543	234	216	453	385
25	201	279	221	155	655	520	241	520	229	202	453	278
26	177	270	190	149	609	478	239	509	213	178	431	267
27	172	264	176	169	609	449	231	495	213	178	431	256
28	182	259	156	170	585	416	218	477	205	178	407	247
29	181	269	150	181	600	420	216	485	210	178	422	252
30	173	280	158	172	610	439	213	493	214	178	432	263
31	172	275	173	156	604	449	207	482	211	178	426	250

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

File No. { Washington
District
*** 9-2383

Plate 11

CENTRAL DIVISION - AUG. 1928

Date	Bear R. Border	Wyo. Diver	Idaho Diver.	Pass. Stewart	Total Diverble	Total Minus Rainbow	120% Border	Wyo + 120 Border	35% Diver Flow	Area Priority Wyo	Priority Ida.	Depl. Basis Wyo 30%
1	164	280	165	153	598	446	197	477	209	178	420	259
2	165	276	158	153	587	435	198	474	205	178	419	260
3	165	264	160	135	559	431	198	462	196	162	397	252
4	164	266	144	145	555	429	197	463	194	160	395	261
5	167	259	133	164	556	412	206	459	195	160	396	252
6	167	247	147	148	542	414	200	447	190	153	389	238
7	167	248	145	145	538	412	200	448	188	151	387	240
8	164	247	142	143	532	409	197	447	186	148	384	248
9	171	245	139	141	525	404	205	450	184	145	380	246
10	173	245	126	138	509	391	207	452	178	154	355	246
11	169	239	117	146	502	376	203	442	176	151	351	239
12	167	234	109	141	484	363	200	434	169	142	342	232
13	162	228	104	136	468	352	194	422	164	126	342	224
14	155	235	114	123	472	368	186	421	165	130	342	220
15	142	232	117	116	465	368	170	402	163	123	342	219
16	140	226	110	111	447	354	168	394	156	105	342	212
17	137	218	104	111	433	340	164	382	152	128	335	203
18	134	215	103	74	392	334	161	376	137	86	306	201
19	132	219	135	70	424	370	158	377	148	102	322	198
20	122	222	130	52	404	367	146	368	141	92	312	205
21	125	218	137	50	405	371	150	368	142	92	313	203
22	127	214	142	49	403	371	152	366	141	92	312	202
23	130	222	133	53	408	371	156	378	143	94	314	214
24	134	219	133	53	405	368	161	380	142	92	313	210
25	130	216	132	55	403	364	154	372	141	91	312	194
26	119	220	142	48	410	378	143	363	144	95	315	198
27	117	208	132	51	391	355	140	348	137	85	306	193
28	119	183	128	49	360	326	143	324	126	70	290	166
29	115	189	126	46	361	330	138	327	126	71	290	173
30	115	191	123	46	360	328	138	329	126	70	290	172
31	112	200	121	46	367	304	134	334	128	55	312	173

UNITED STATES DEPARTMENT OF THE INTERIOR GEOLOGICAL SURVEY

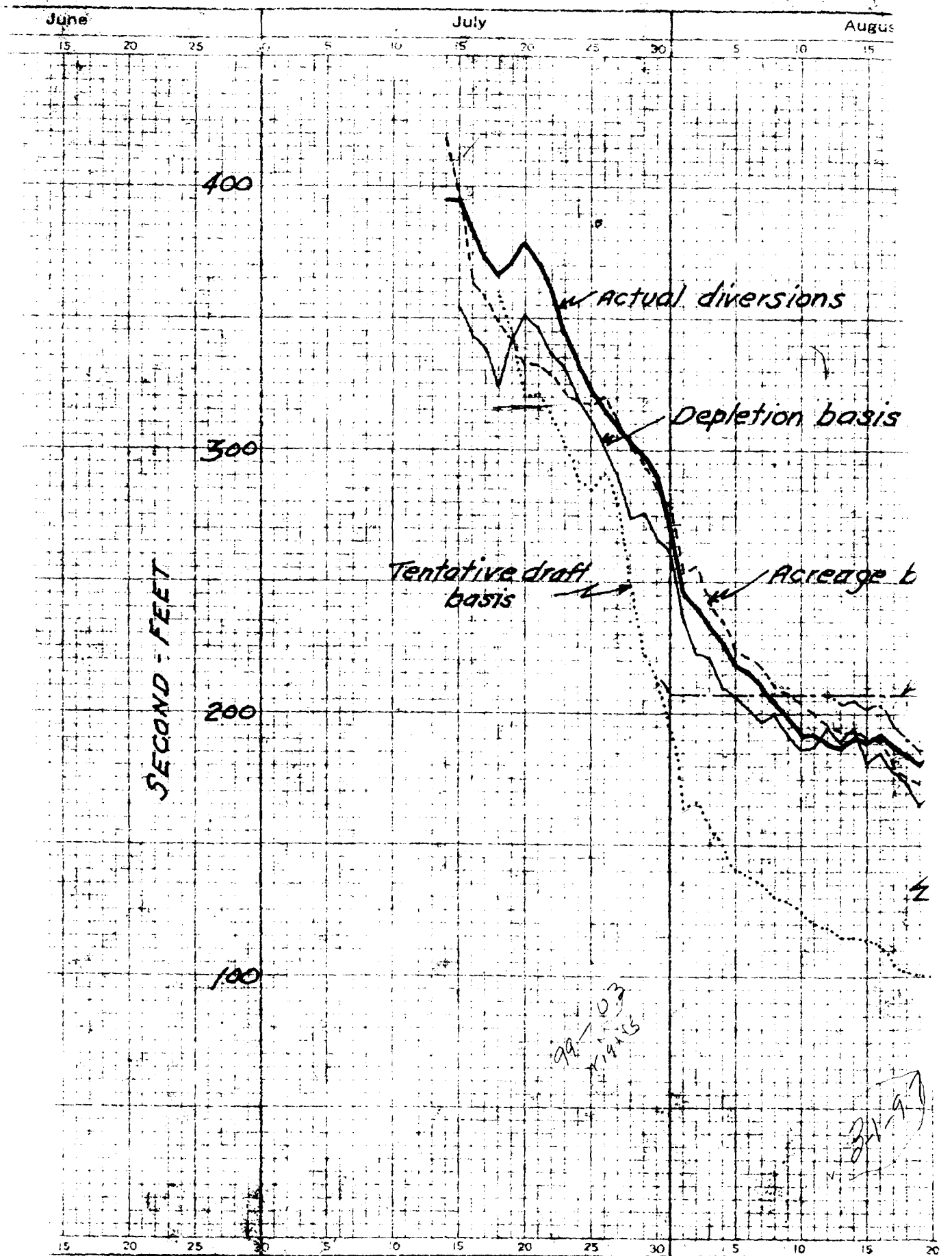
Plate 12 File No. Washington District

CENTRAL DIVISION - Sept 1948

Table with columns: Date, Bear R. Border, Wyo. Divers., Idaho Divers., Pass. Stages, Total Drivable, Total miles Rainfall, 12090 Border, Wyo + 120 Border, 35% Direct Flow, Priority Wyo, Priority Ida.

10,447 37085 40 18

89 39740

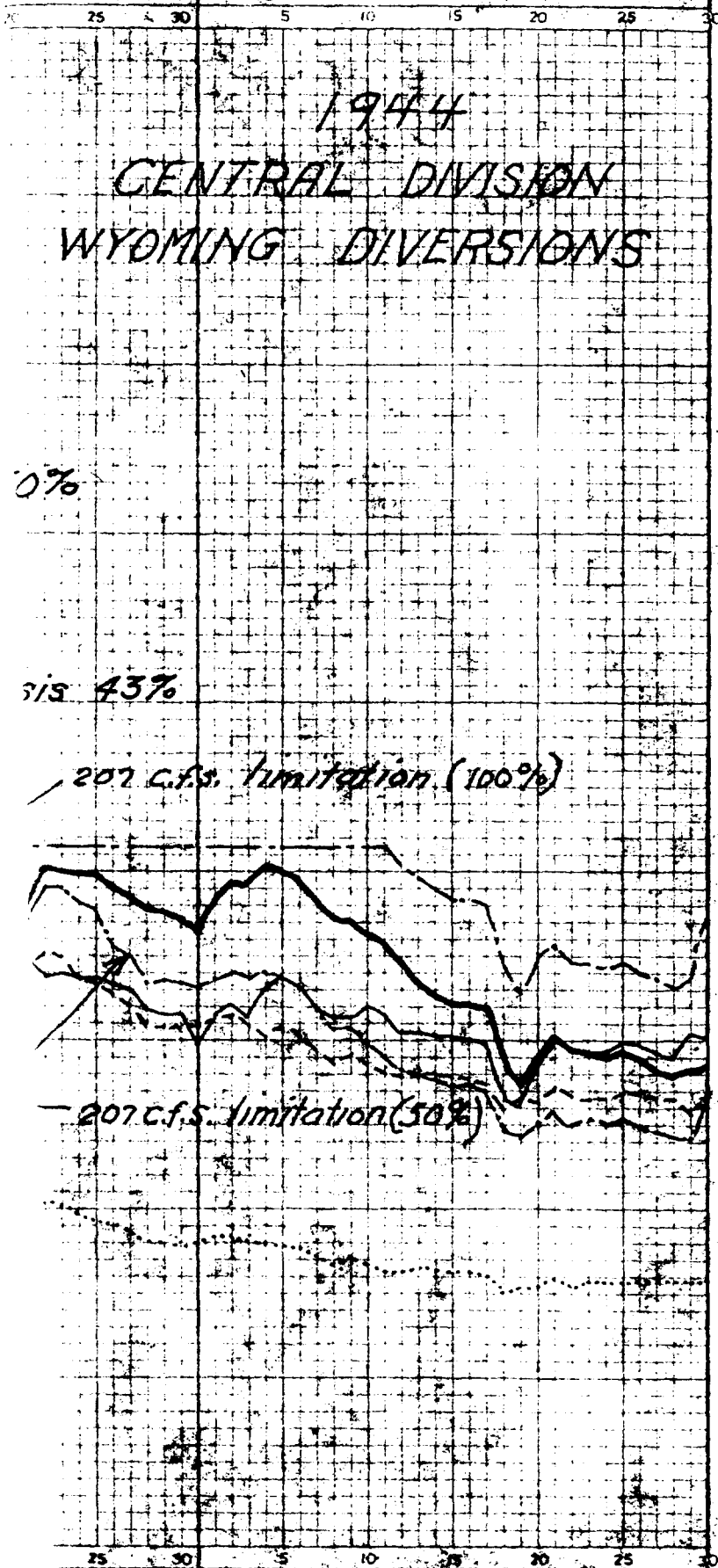


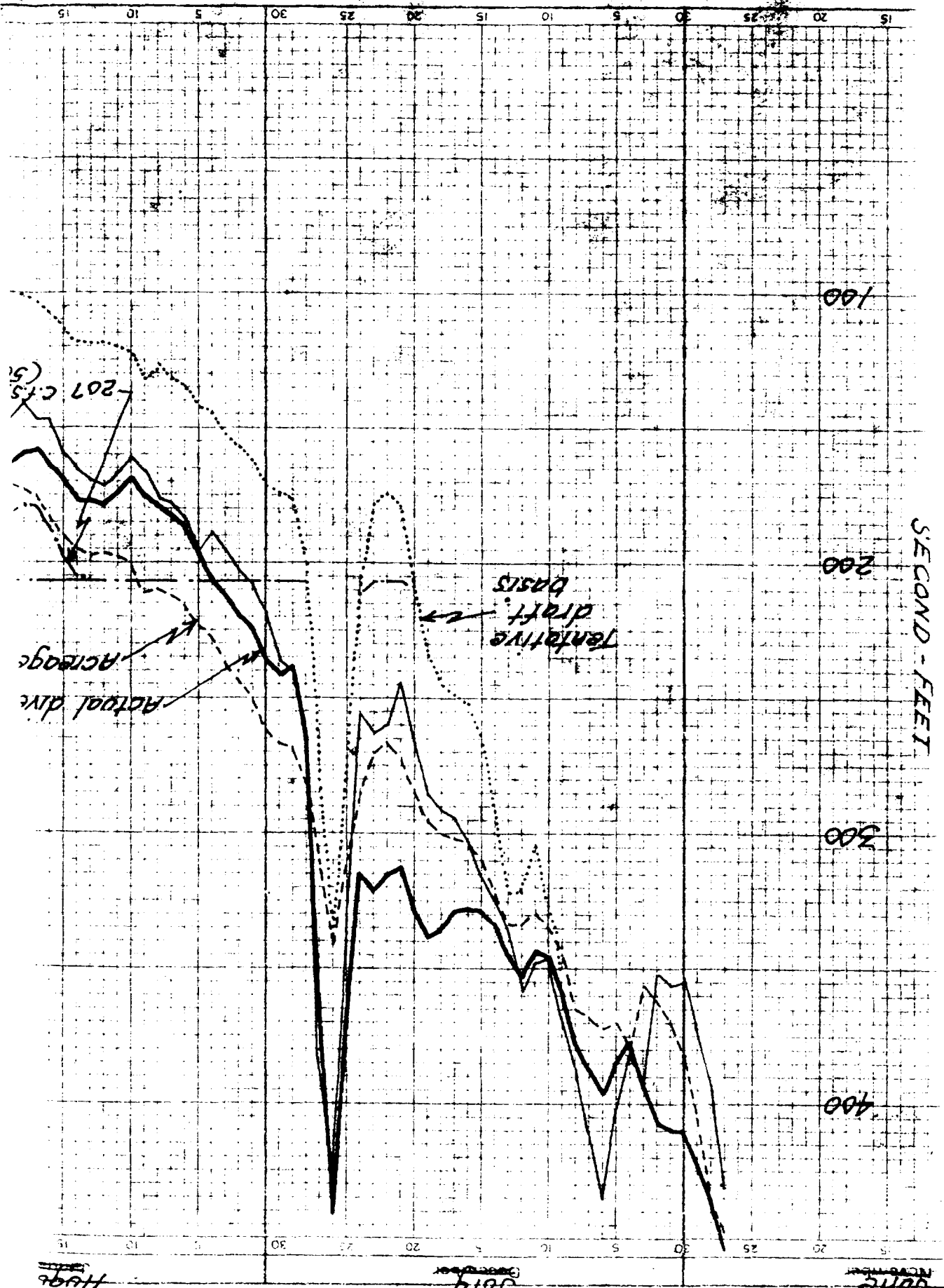
File No. Washington

Field

September

Plate 13

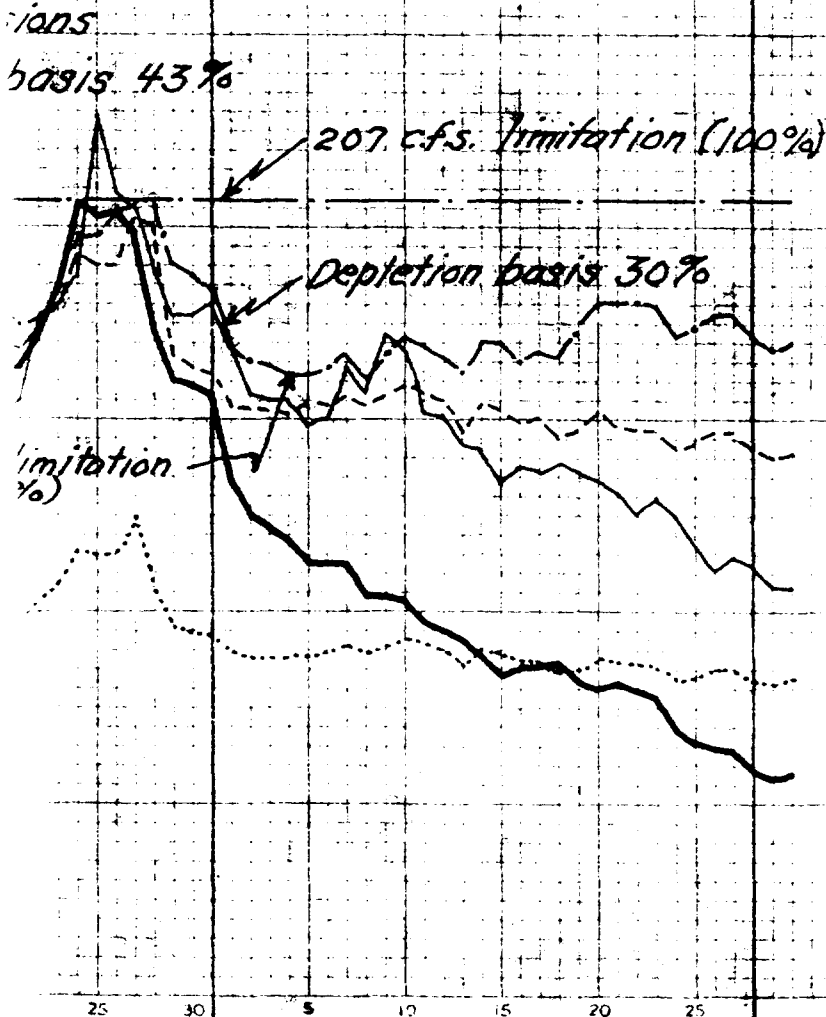




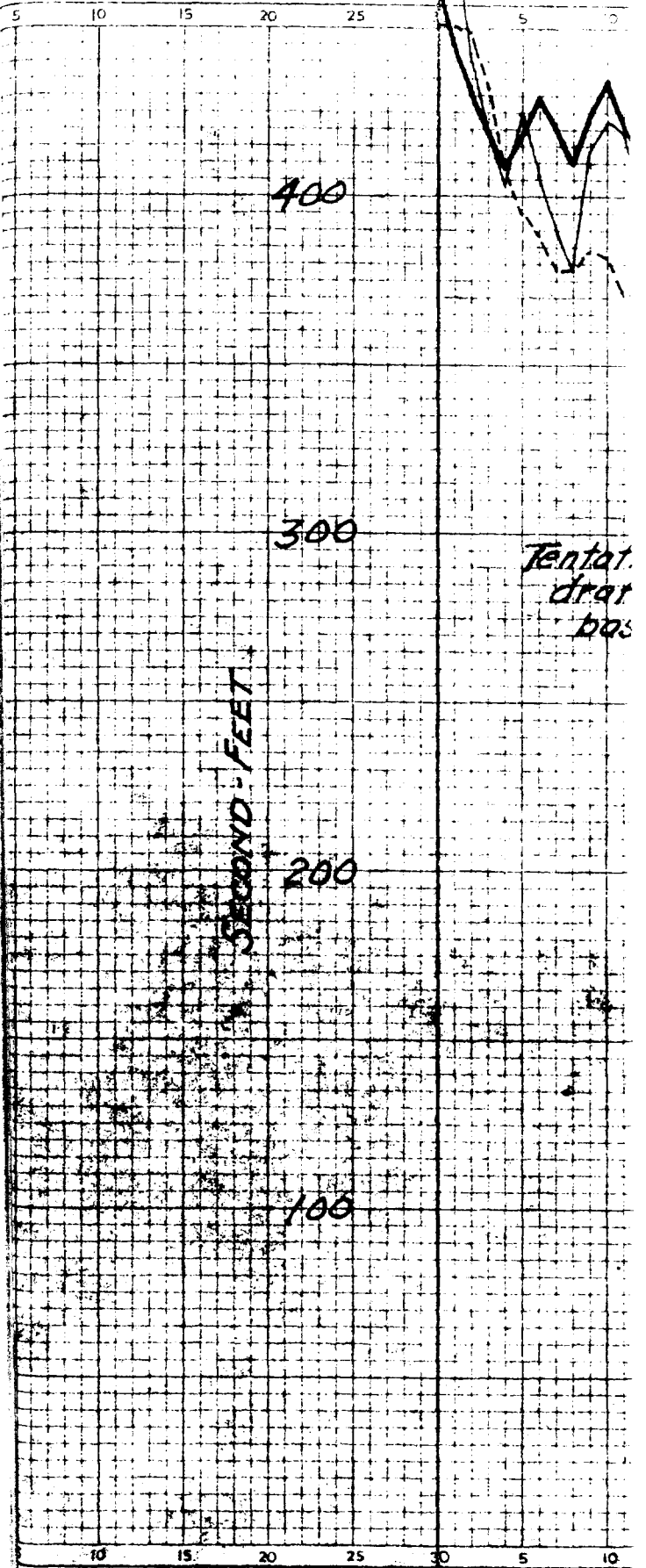
June
 July
 Aug

September
February

1946
CENTRAL DIVISION
WYOMING DIVERSIONS



June
November



SECOND FEET

400

300

200

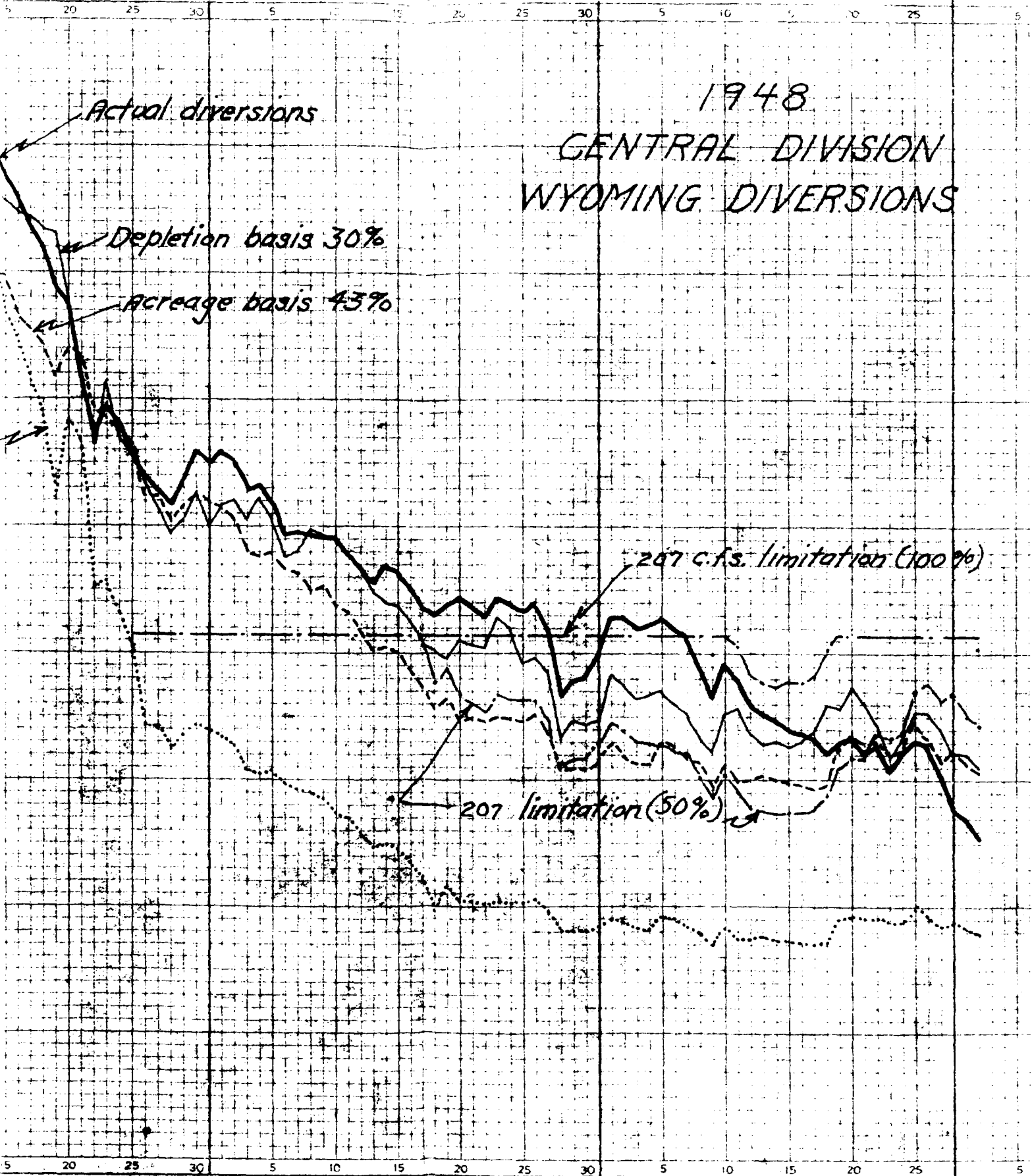
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July
~~August~~

August

September
~~October~~



Actual diversions

Depletion basis 30%

Acreage basis 43%

1948
CENTRAL DIVISION
WYOMING DIVERSIONS

207 c.f.s. limitation (100%)

207 limitation (50%)