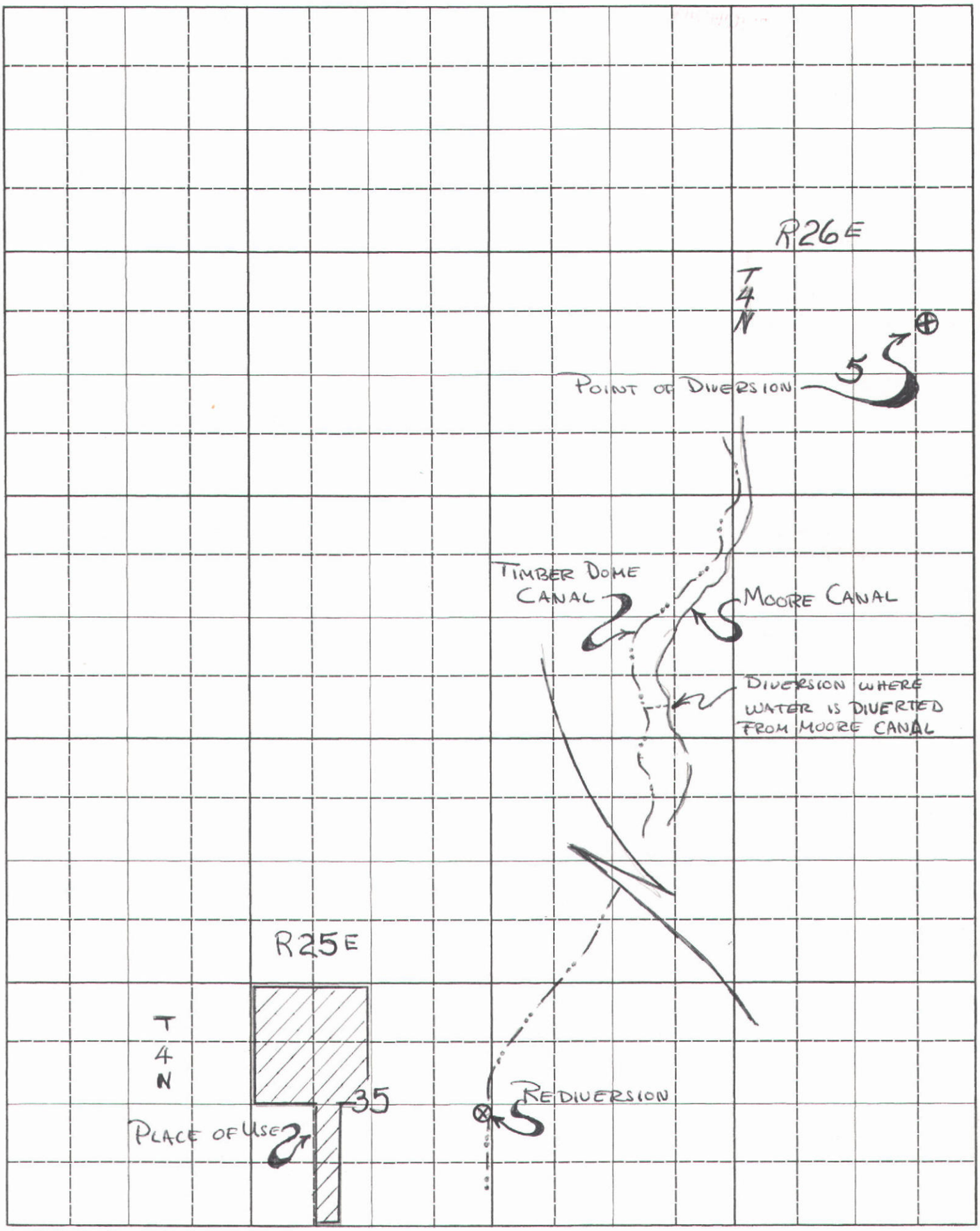
11. Map of proposed project: show clearly the proposed point of diversion, place of use, section number, township and range number.



Scale: 2 inches equal 1 mile.

BE IT KNOWN that the undersigned hereby makes application for permit to appropriate the public waters of the State of Idaho as herein set forth.

Mitchell Boerner 2/15/84
(Applicant)

MICROFILMED
FEB 1 1 2000

PUBLIC NOTICE

NOTICE OF APPLICATION FOR WATER RIGHT

Notice is hereby given that the following application has been submitted for permit to appropriate the public waters of the State of Idaho:

34-7247

SORENSEN, MITCHELL D.
RT. 1 BOX 63, MOORE, ID 83255
Spurce. GROUNDWATER
Date Filed: 05-30-1980
Amount: 8.34 CFS
Diversion Point: SENE Sec 05 T 04N R 26E, BUTTE COUNTY.
Use: IRRIGATION — (8.34 CFS) from 04-01 to 11-01
Place of Use: NENW NWNW SWNW SENW SESW Sec 35 T 04N R 25E FOR 200 ACRES
Diverion Means: WELL & PUMP.

If issued, the permit will be subject to all prior water rights. Protests against the granting of any permit must be filed with the Director of the Idaho Department of Water Resources, 1515 Lincoln Road, Idaho Falls, Idaho 83401 on or before JULY 7, 1980.

C. STEPHEN ALLRED
Director

Published 6-19 & 6-26-80.

RECEIVED
JUL 7 1980
Department of Water Resources
Eastern District Office

I protest to transfering the water out on the desert. If they want the water out there, let them drill wells out there. They'll be taking all our water out there if we let them.

Virgil T Hail
Moore Idaho Box 45H

RECEIVED
JUL 7 19
Department of Water Resources
Eastern District Office

MICROFILMED
FEB 11 2000

PUBLIC NOTICE

NOTICE OF PROPOSED CHANGE OF WATER RIGHT

NO. 34-2428

Notice is hereby given that Mitchell Sorensen, Moore, Idaho, has applied to the Department of Water Resources for a change in the place of use of the waters of groundwater source. The right sought to be changed is evidenced by License No. 34-2428 and is recorded as follows:

AMOUNT: 3.85 cfs
PRIORITY: June 25, 1961
POINT OF DIVERSION: SE¼NE¼, Sec. 5, T. 4N, R. 26E, B.M., Butte Co.

The water is used to irrigate 192.5 acres from April 1 to Nov. 1 within the SE¼NE¼, E½SE¼, Sec. 5; N½NW¼, Sec. 9; T. 4N, R. 26E, B.M.

TO BE CHANGED AS FOLLOWS

The water will be used to irrigate 192.5 acres within the SE¼NE¼, E½SE¼, Sec. 5, T. 4N, R. 26E; W½SW¼, Sec. 35, T. 4N, R. 25E, B.M.

Any protest against approval of the above proposed change of water right must be filed with the Idaho Department of Water Resources, 1515 Lincoln Road, Idaho Falls, Idaho, 83401 on or before July 7, 1980.

C. STEPHEN ALLRED
Director

Published in the Arco Advertiser 6-19 & 6-26-80.

PUBLIC NOTICE

NOTICE OF APPLICATION FOR WATER RIGHT

Notice is hereby given that the following application has been submitted for permit to appropriate the public waters of the State of Idaho

34-7247

SORENSEN, MITCHELL D
RT 1 BOX 63, MOORE ID 83255
Source: GROUNDWATER
Date Filed: 05 30 1980
Amount: 8.34 CFS
Diversion Point: SENE [illegible] 05 T 04N R 26E, BUTTE COUNTY
Use: IRRIGATION - 8.34 CFS from 04-01 to 11-01
Place of Use: NENW NANW SWNW SENW SESW Sec 35 T 04N R 25E FOR 200 ACRES
Diversion Means: WELL & PUMP.

If issued, the permit will be subject to all prior water rights. Protests against the granting of this permit must be filed with the Director of the Idaho Department of Water Resources, 1515 Lincoln Road, Idaho Falls, Idaho 83401 on or before JULY 7, 1980

C. STEPHEN ALLRED
Director

Published 6 19 & 6 26 80

MICROFILMED FEB 1 1 2000

July 7, 1980

RECEIVED
JUL 7 1980
Department of Water Resources
Eastern District Office

PUBLIC NOTICE

NOTICE OF PROPOSED CHANGE OF WATER RIGHT

NO. 34-2428

Notice is hereby given that Mitchell Sorensen, Moore, Idaho, has applied to the Department of Water Resources for a change in the place of use of the waters of groundwater source. The right sought to be changed is evidenced by License No. 34-2428 and is recorded as follows:

AMOUNT: 3.85 cfs
PRIORITY: June 25, 1981
POINT OF DIVERSION: SE¼NE¼ Sec. 5, T. 4N., R. 26E., B.M., Butte Co.
The water is used to irrigate 192.5 acres from April 1 to Nov. 1 within the SE¼NE¼, E½SE¼ Sec. 5, N½NW¼, Sec. 9, T. 4N., R. 26E., B.M.

TO BE CHANGED AS FOLLOWS

The water will be used to irrigate 192.5 acres within the SE¼NE¼, E½SE¼, Sec. 5, T. 4N., R. 26E., W½SW¼, Sec. 35, T. 4N., R. 25E., B.M.

Any protest against approval of the above proposed change of water right must be filed with the Idaho Department of Water Resources, 1515 Lincoln Road, Idaho Falls, Idaho 83401 on or before [illegible], 1980

C. STEPHEN ALLRED
Director

Published in the Arco Advertiser on 6 19 & 6 26 80.

I hereby wish to express my opposition to the above application because I sincerely believe we are moving into an area of difficulty with this practice. These pumps are lowering our water supplies in the valley, increasing our district struck & higher lift costs on existing farms.

Grant Stewart

PUBLIC NOTICE

NOTICE OF APPLICATION FOR WATER RIGHT

Notice is hereby given that the following application has been submitted for permit to appropriate the public waters of the State of Idaho.

34-7247

SORENSEN, MITCHELL D.
RT. 1 BOX 63, MOORE, ID 83255
Spurce: GROUNDWATER
Date Filed: 05 30 1980
Amount: 8.34 CFS
Diversion Point: SENE Sec 05 T 04N R 26E, BUTTE COUNTY
Use: IRRIGATION — (8.34 CFS from 04-01 to 11-01
Place of Use: NENW, NWNW, SWNW, SENW, SESW Sec 35 T 04N R 25E FOR 200 ACRES
Diverion Means: WELL & PUMP

If issued, the permit will be subject to all prior water rights. Protests against the granting of the permit must be filed with the Director of the Idaho Department of Water Resources, 2535 Lincoln Road, Idaho Falls, Idaho 83401 on or before JULY 7, 1980.

C. STEPHEN ALLRED

Published 6-19 & 6-26-80

RECEIVED

JUL 7 1980

Department of Water Resources
Eastern District Office

MICROFILMED
FEB 1 1 2000

PUBLIC NOTICE

NOTICE OF PROPOSED CHANGE OF WATER RIGHT

NO. 34-2428 34-2428

Notice is **hereby given** that Mitchell Sorensen, **Moore**, Idaho, has applied to the Department of Water Resources for a change in the place of use of the waters of groundwater source. The right sought to be changed is evidenced by License No. 34-2428 and is recorded as follows:

AMOUNT: 3.85 cfs
PRIORITY: June 25, 1963
POINT OF DIVERSION: SE¼NE¼ Sec. 5 T. 4N, R. 26E B.M. Butte Co.

The water is used to irrigate 192.5 acres from April 1 to Nov. 1 within the SE¼NE¼, E½SE¼, Sec. 5, NE¼NW¼ Sec. 9; T. 4N, R. 26E B.M.

TO BE CHANGED AS FOLLOWS

The water will be used to irrigate 192.5 acres within the SE¼NE¼, E½SE¼, Sec. 5, T. 4N, R. 26E W½SW¼, Sec. 35, T. 4N, R. 25E B.M.

Any protest against approval of the above proposed change of water right must be filed with the Idaho Department of Water Resources, 2515 Lincoln Road, Idaho Falls, Idaho, 83401 on or before July 7, 1980.

C. STEPHEN ALLRED
Director

Published in the Arco Advertiser 6-19 & 6-26-80.

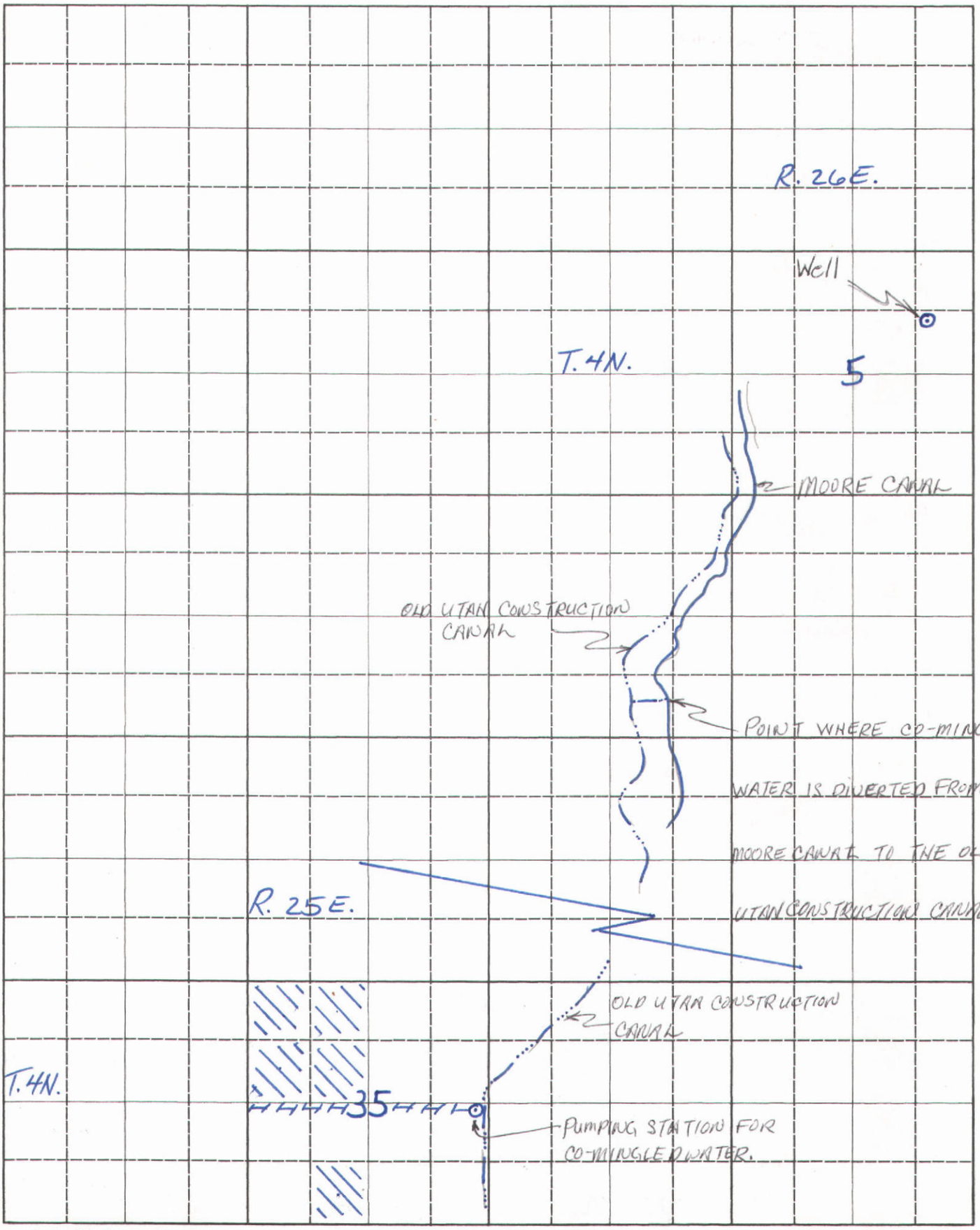
I protest applications no. 34-7247
no. 34-2428

for the following reasons

#34-7247. I belive there is to much water now being taken from under ground this is affecting the sub irrigated land in the valley where all the wells are now. The rising water at the lower end of the valley that the Irrigation Dist. uses for the lower end is all but gone. Lamar Anderson
Moore, Idaho.

#34-2428 I protest this application because this water transfer would take more water out of the valley I belive when this well was drilled it was only to be a suplimental source of water for land above stated, and use for that land only, and only when the decred water wasn't available to irrigate this parcel of land. Lamar Anderson
Moore, Ida

11. Map of proposed project: show clearly the proposed point of diversion, place of use, section number, township and range number.



Scale: 2 inches equal 1 mile.

BE IT KNOWN that the undersigned hereby makes application for permit to appropriate the public waters of the State of Idaho as herein set forth.

MICROFILMED
FEB 1 1 2000

x _____
(Applicant)

Affidavit of Publication

I, LeEdla Commach
of the Arco Advertiser, a weekly newspaper of general circulation, published weekly at Arco, Idaho, since March, 1909, do solemnly swear that a copy of this notice, per clipping attached, was published weekly in the regular and entire issue of said newspaper, and not in any supplement thereof,

for 2 consecutive weeks, commencing with

the issue dated 6-19-80

and ending with the issue dated 6-26-80

LeEdla Commach

Subscribed and sworn to before me this

1st day of July, 19 80

J C Sa

Notary Public

Residence: Arco, Idaho.
My commission expires....., 19.....

PUBLIC NOTICE

NOTICE OF APPLICATION FOR WATER RIGHT

Notice is hereby given that the following application has been submitted for permit to appropriate the public waters of the State of Idaho:

34-7247

SORENSEN, MITCHELL D.
RT. 1 BOX 63, MOORE, ID 83255
Source: GROUNDWATER
Date Filed: 05-30-1980
Amount: 8.34 CFS
Diversion Point: SENE Sec 05 T 04N R 26E, BUTTE COUNTY.
Use: IRRIGATION — (8.34 CFS) from 04-01 to 11-01
Place of Use: NENW NWNW SWNW SENW SESW Sec 35 T 04N R 25E FOR 200 ACRES
Diverion Means: WELL & PUMP.

If issued, the permit will be subject to all prior water rights. Protests against the granting of any permit must be filed with the Director of the Idaho Department of Water Resources, 1515 Lincoln Road, Idaho Falls, Idaho 83401 on or before JULY 7, 1980.

C. STEPHEN ALLRED
Director

Published 6-19 & 6-26-80.

ok tw
7/21/80

RECEIVED
JUL 14 1980
Department of Water Resources
Eastern District Office

MICROFILMED
FEB 1 1 2000

Affidavit of Publication

RECEIVED
APR 3 1984
Department of Water Resources
Eastern District Office

I, ... Donald L. Cammack .....
of the Arco Advertiser, a weekly newspaper of general circulation, published weekly at Arco, Idaho, since March, 1909, do solemnly swear that a copy of this notice, per clipping attached, was published weekly in the regular and entire issue of said newspaper, and not in any supplement thereof,

for ..... 2 ..... consecutive weeks, commencing with

the issue dated ..... March 8, 1984 .....

and ending with the issue dated .....

..... March 15, 1984 .....

Donald L Cammack

Subscribed and sworn to before me this

23rd ..... day of ..... March ....., 19 84

LaVella A Cammack
Notary Public

Residence: Arco, Idaho.
My commission expires ....., 19 .....

NOTICE OF AMENDED APPLICATION FOR WATER PERMIT

Notice is hereby given that Application for Permit No. 34-7247 in the name of Mitchell D. Sorensen was filed for the diversion of 8.34 cfs of water from a groundwater source with point of diversion within the SE¼NE¼ Sec. 5, T. 4N, R. 26E, B.M. Butte County; to be used from April 1 to Nov. 1 for the irrigation of 200 acres within the NW¼, SE¼SW¼ Sec. 35, T. 4N, R. 25E, B.M.

The applicant now proposes to amend application No. 34-7247 requesting the place of use to be changed to the NW¼, E½SW¼ Sec. 35, T. 4N, R. 25E, B.M.

Any protest to the proposed amending of the application must be filed with the Dept. of Water Resources, 150 Shoup Ave., Suite 15, Idaho Falls, Idaho 83401 on or before March 26, 1984.

A. KENNETH DUNN
Director

Published in the Arco Advertiser on 3-8 & 3-15-84.

MICROFILMED
FEB 1 1 2000

AFFIDAVIT OF PUBLICATION

State of Idaho, County of Custer, ss:

I, Margaret Parks, Publisher of the Challis Messenger, a weekly newspaper, published at Challis, Idaho, do solemnly swear that the notice hereto attached and made a part hereof, was published in the regular and entire issue of the Challis Messenger for 2 consecutive weeks, commencing with the issue dated Oct 12 1989 and ending with the issue dated Oct 19 1989

Margaret Parks

STATE OF IDAHO)

COUNTY OF CUSTER)

On this 19th day of October in the year of 1989, before me, a Notary Public, personally appeared Margaret Parks, known or identified to me to be the person whose name subscribed to the within instrument, and being by me first duly sworn, declared that the statements therein are true, and acknowledged to me that he executed the same.

Ethel M. Peck

Notary Public for Idaho
Residing at Challis
My commission expires: 3-21-92

RECEIVED
OCT 24 1989
Department of Water Resources
Eastern District Office

NOTICE OF HEARING

Notice is hereby given that at 10:00 a.m. on March 15, 1990, at the Butte County Courthouse, Arco, ID, the Department of Water Resources intends to conduct a water right hearing in connection with the following protested water right applications and applications for transfer:

34-7247 - Mitchell D. Sorenson
34-7296 - Micheal or Juel Aikele
34-7410 - Mitchell Sorenson
34-7483 - Everett Acor, Jr.
34-7486 - Marshall Todd Perkes
34-0496/0692/T921 - Norma K. Sorenson
34-2428 - Mitchell Sorenson
34-2417 - Juel and Bret Aikele
34-2419 - Juel Aikele

Parties wishing to intervene in this matter are hereby notified that requests for intervention pursuant to Practice and Procedure Rule 6. may be submitted to the department through October 31, 1989.

Additional information or details concerning the nature of the applications or the hearing may be obtained from the department. (This hearing is not connected with the ongoing Snake River Adjudication).

R. KEITH HIGGINSON,
Director

Pub: October 12 & 19, 1989.

MICROFILMED
FEB 1 1 2000

RECEIVED
NOV 9 1989
Department of Water Resources

AFFIDAVIT OF PUBLICATION

I, Colleen Babcock
of the Arco Advertiser, a weekly newspaper of general circulation, published weekly at Arco, Idaho, since March, 1909, do solemnly swear that a copy of this notice, per clipping attached, was published weekly in the regular and entire issue of said newspaper, and not in any supplement thereof,

for 2 consecutive weeks, commencing with the issue dated Oct. 12, 1989

and ending with the issue dated Oct. 19, 1989

Colleen Babcock

STATE OF IDAHO }
COUNTY OF BUTTE }

On this 23 day of October
in the year of 1989, before me, a Notary Public,
personally appeared
Colleen Babcock
known or identified to me to be the person whose name subscribed to the within instrument, and being by me first duly sworn, declared that the statements therein are true, and acknowledged to me that he executed the same.

Thomas D. Cannon

Notary Public for Idaho
Residing at Arco, Id.
My commission expires: 12-17-91

10-06-89

The following legal notice is intended to provide notice to applicants and the opportunity to intervene in a water right hearing involving some existing applications for permit and applications for transfer in the Big Lost River valley.

NOTICE OF HEARING

Notice is hereby given that at 10 a.m. on March 15, 1990, at the Butte County Courthouse, 326 Grand Avenue, Arco, ID, the Department of Water Resources intends to conduct a water right hearing in connection with the following protested water right applications and applications for transfer:

34-7247 - Mitchell D. Sorensen
34-7296 - Michael or Juel Aikele
34-7410 - Mitchell Sorensen
34-7483 - Everett Acor, Jr.
34-7486 - Marshall Todd Perkes
34-0496/0692/T921 - Norma K. Sorenson
34-2428 - Mitchell Sorensen
34-2417 - Juel and Bret Aikele
34-2419 - Juel Aikele

Parties wishing to intervene in this matter are hereby notified that requests for intervention pursuant to Practice and Procedure Rule 6,. may be submitted to the department through October 31, 1989.

Additional information or details concerning the nature of the applications or the hearing may be obtained from the department. (This hearing is not connected with the ongoing Snake River Adjudication).

R. Keith Higginson
Director

Pub. 10/12-19/89

RECEIVED
OCT 25 1989
Department of Water Resources
Eastern District Office

RECEIVED
NOV 9 1989
Department of Water Resources

MICROFILMED
FEB 1 1 2000

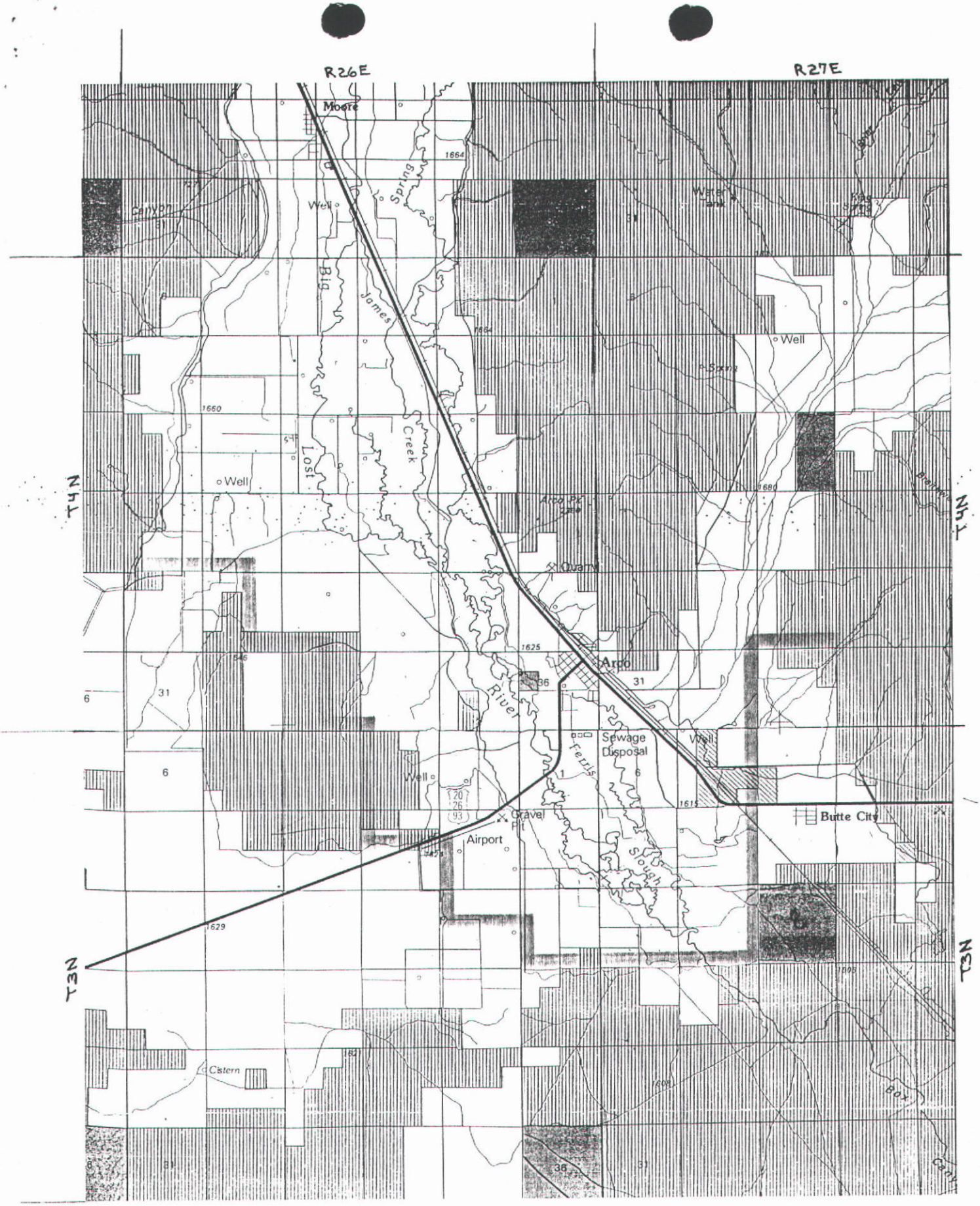


Figure 1. Map Showing Proposed Boundary Where Ground Water Underflow Leaving Big Lost River Valley is "No Longer" Tributary to Surface Water.

MICROFILMED
FEB 11 2000

NOTICE OF AMENDED APPLICATION FOR WATER PERMIT

Notice is hereby given that Application for Permit No. 34-7247 in the name of Mitchell D. Sorensen was filed for the diversion of 8.34 cfs of water from a groundwater source with point of diversion within the SE¼NE¼ Sec. 5, T. 4N, R. 26E, B.M. Butte County; to be used from April 1 to Nov. 1 for the irrigation of 200 acres within the NW¼, SE¼SW¼ Sec. 35, T. 4N, R. 25E, B.M.

The applicant now proposes to amend Application No. 34-7247, requesting the place of use to be changed to the NW¼, E½SW¼ Sec. 35, T. 4N, R. 25E, B.M.

STATE OF IDAHO
Department of Water Resources

No 33459

Boise, Idaho, Feb 27, 1984

RECEIVED FROM Mitchell Sorenson of Moore $ 20.00
Twenty and no/100's DOLLARS

FOR		
Amendment (34-7247)	$ 20	00
	$	
	$	
	$	
TOTAL - - -	$ 20	00

Barbara L. Powers

NOTICE OF AMENDED APPLICATION FOR WATER PERMIT

Notice is hereby given that Application for Permit No. 34-7247 in the name of Mitchell D. Sorensen was filed for the diversion of 8.34 cfs of water from a groundwater source with point of diversion within the SE¼NE¼ Sec. 5, T. 4N, R. 26E, B.M. Butte County; to be used from April 1 to Nov. 1 for the irrigation of 200 acres within the NW¼, SE¼SW¼ Sec. 35, T. 4N, R. 25E, B.M.

The applicant now proposes to amend application No. 34-7247 requesting the place of use to be changed to the NW¼, E½SW¼ Sec. 35, T. 4N, R. 25E, B.M.

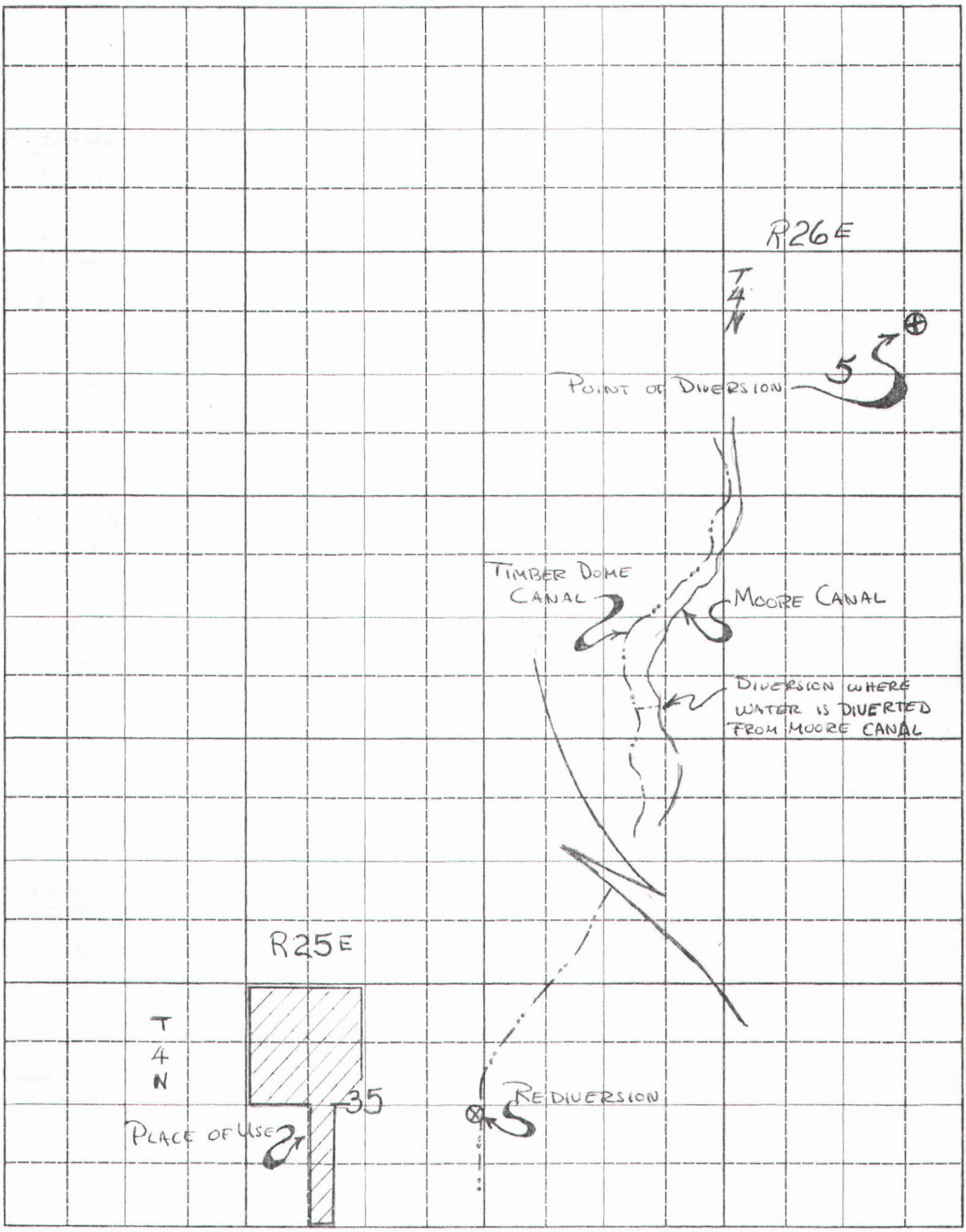
Any protest to the proposed amending of the application must be filed with the Dept. of Water Resources, 150 Shoup Ave., Suite 15, Idaho Falls, Idaho 83401 on or before March 26, 1984.

A. KENNETH DUNN
Director

Published in the Arco Advertiser on 3-8 & 3-15-84.

MICROFILMED
FEB 11 2000

11. Map of proposed project: show clearly the proposed point of diversion, place of use, section number, township and range number.



Scale: 2 inches equal 1 mile.

BE IT KNOWN that the undersigned hereby makes application for permit to appropriate the public waters of the State of Idaho as herein set forth.

(Applicant)

MICROFILMED
FEB 11 2000

ACCEPTANCE OF REGISTERED, INSURED, C.O.D. AND CERTIFIED MAIL

NAME AND ADDRESS OF SENDER

DEPARTMENT OF WATER RESOURCES
EASTERN DISTRICT OFFICE
150 SHOUP AVE.
IDAHO FALLS, IDAHO 83401

Indicate type of mail
- ☐ Registered
- ☐ Insured
- ☐ COD
- ☒ Certified

I certify that we have
- ☐ Commercial Insurance
- ☐ A deductible clause of $

Affix stamp here if issued as certificate of mailing or for additional copies of this bill.
POSTMARK AND DATE OF RECEIPT

LINE	NUMBER OF ARTICLE	NAME OF ADDRESSEE, STREET, AND POST-OFFICE ADDRESS	POSTAGE	FEE	Handling Charge	Actual Value (If Registered)	DUE SENDER IF C.O.D.	R. R. FEE	S.D. FEE	S. H. FEE	REST. DEL. FEE / REMARKS
1	12809	Theo Rands, Box 97, Tetonia, Id.	20	75				60			82-7375
2	12810	Mary Smith, 301 2nd W. Rexburg									"
3	12811	Dell Palmer, Sugar City, Id. Returned to sender									"
4	12812	Kassell Welding, Sugar City									"
5	12813	Kyle L Thomson, Sugar City									"
6	12814	Gary Parkinson, Sugar City									"
7	12815	Brent Barrus, Sugar City									"
8	12816	Fremont Madison P.O. Box 5 St. Anthony									"
9	12817	Everett L Acor, Jr. Box B, Moore				$1.15					34-2428
10	12818	Mitchell D Sorensen, Rt #1 Box B Moore			@			34-7247			"
11	12819	J Boyd Jensen P.O. Box 205 Mackay		15							"
12	12820	LaMar Lute Rt #1, Box 69, Moore									"
13	12821	Jay F. Pearson, Moore	37					34-7247 34-2428 34-0496			34-7297
14	12822	Farman D. Anderson, Rt #1 Box 52, Moore	37					34-7247 34-2428			34-7297
15	12823	Rita Lundy, P.O Box 205 Mackay									34-7247, 34-2428, 34-0496

DEC 4 1981 IDAHO FALLS, ID USPO

MICROFILMED FEB 11 2000

TOTAL NUMBER OF PIECES LISTED BY SENDER	TOTAL NUMBER OF PIECES RECEIVED AT POST OFFICE	POSTMASTER, PER (Name of receiving employee)
15	15	

The full declaration of value is required on all domestic and international registered mail. Commercial Insurance—Payment of the full registry fee is required on articles valued up to $1,000 or the full amount of the deductible if the deductible exceeds $1,000. The maximum indemnity payable is $25,000 for registered mail, $400 for COD and $400 for insured mail. Special handling charges apply only to third- and fourth-class parcels. Special delivery service also includes special handling service.

PS Form 3877, Sept. 19

FORM MUST BE COMPLETED BY TYPEWRITER, INK OR BALL POINT PEN ☆ U.S. GOVERNMENT PRINTING OFFICE: 1979-301-994

NAME AND ADDRESS OF SENDER

EASTERN DISTRICT OFFICE
150 SHOUP AVE.
IDAHO FALLS, IDAHO 83401

Indicate type of mail
- ☐ Registered
- ☐ Insured
- ☐ COD
- ☒ Certified

I certify that we have
- ☐ Commercial Insurance
- ☐ A deductible clause of $

Affix stamp here if issued as certificate of mailing or for additional copies of this bill.
POSTMARK AND DATE OF RECEIPT

ACCEPTANCE OF REGISTERED, INSURED, C.O.D. AND CERTIFIED MAIL

LINE	NUMBER OF ARTICLE	NAME OF ADDRESSEE, STREET, AND POST-OFFICE ADDRESS	POSTAGE	FEE	Handling Charge	Actual Value (If Registered)	DUE SENDER IF C.O.D.	R. R. FEE	S.D. FEE	S. H. FEE	REST. DEL. FEE / REMARKS
1	12824	Reuben Babcock, Moore	37	75				34-	7244		34-7244
2	12825	Ned Walker, Arco, Id.	37	75				34-	7296		34-7296
3	12826	Mrs. Jean M. Jones, Moore, Id.	20					34-	7296		"
4	12827	Lewis Rothwell, Rt #1, Box 405, Arco	20					34-	7244		"
5	12828	Joe Smith, Rt #1, Box 22 Moore	37				60	34-	7296		34-7292
6	12829	Jessie Hall, Box 450 Moore	20					34-	7244		"
7	12830	Grant Stewart, Box 59 Moore	37					34-	7296		"
8	12831	Lee Davidson, Arco, Id	20		4	15					"
9	12832	Richard Taylor, Moore	37	15	@			34-	7296		"
10	12833	Orin Klaus Rt #1 Box 27 Moore	37					34-	7244		34-7292
11	12834	Peter F. Lucas 709 E 5th Pocatello	20					34-	7296		"
12	12835	Catherine Lee Arco, Idaho	37					34-	7244		"
13	12836	Grant Arnold, Box 52-B, Moore	20								34-7292
14	12837	Gladiola Office, Rt #1 Arco	20								34-7245
15	12838	Lyn McAffee, Arco, Id	20								34-7243

MICROFILMED FEB 11 2000

IDAHO FALLS, ID OCT 31 1981 USPS

TOTAL NUMBER OF PIECES LISTED BY SENDER	TOTAL NUMBER OF PIECES RECEIVED AT POST OFFICE	POSTMASTER, PER (Name of receiving employee)
15	15	

The full declaration of value is required on all domestic and international registered mail. Commercial Insurance—Payment of the full registry fee is required on articles valued up to $1,000 or the full amount of the deductible if the deductible exceeds $1,000. The maximum indemnity payable is $25,000 for registered mail, $400 for COD and $400 for insured mail. Special handling charges apply only to third- and fourth-class parcels. Special delivery service also includes special handling service.

PS Form 3877, Sept. 19

FORM MUST BE COMPLETED BY TYPEWRITER, INK OR BALL POINT PEN ☆ U.S. GOVERNMENT PRINTING OFFICE: 1979-301-994

J. DOYLE JENSEN
President
Division No. 2, Moore

RICHARD C. ROTHWELL
Secretary - Treasurer
Division No. 4, Leslie

VERNON E. WARNER
Director
Division No. 5, Leslie

JAMES S. BABCOCK
Director
Division No. 3, Moore

WILLARD O. BELL
Director
Division No. 1, Arco

Big Lost River Irrigation District

Phone 588-2231 — P. O. Box 205
Mackay, Idaho 83251

RECEIVED
DEC 10 1981
Department of Water Resources
Eastern District Office

December 8,1981

Department of Water Resources
150 Shoup Avenue
Idaho Falls,83401

Attn: Ron Carlson

re: application 34-7247 and 34-2423
Sorensen

Dear Ron:

The Board of Directors wish to withdraw the protest that was entered in regard to the above referenced applications. The Sorensens have made an agreement with the Irrigation District to use the canals in question for a period of 20 years.

Yours truly,

J. Doyle Jensen

J. Doyle Jensen
Chairman of the Board

MICROFILMED
FEB 1 1 2000

PUBLIC NOTICE

NOTICE OF APPLICATION FOR WATER RIGHT

Notice is hereby given that the following application has been submitted for permit to appropriate the public waters of the State of Idaho:

34-7247

SORENSEN, MITCHELL D.
RT. 1 BOX 63, MOORE, ID 83255
Spurce. GROUNDWATER
Date Filed: 05-30-1980
Amount: 8.34 CFS
Diversion Point: SENE Sec 05 T 04N R 26E, BUTTE COUNTY.
Use: IRRIGATION — (8.34 CFS) from 04-01 to 11-01
Place of Use: NENW NWNW SWNW SENW SESW Sec 35 T 04N R 25E FOR 200 ACRES
Diverion Means: WELL & PUMP.

If issued, the permit will be subject to all prior water rights. Protests against the granting of any permit must be filed with the Director of the Idaho Department of Water Resources, 1515 Lincoln Road, Idaho Falls, Idaho 83401 on or before JULY 7, 1980.

C. STEPHEN ALLRED
Director

Published 6-19 & 6-26-80.

RECEIVED
JUL 7 1980
Department of Water Resources
Eastern District Office

RECEIVED
JUL 7
Department of Water Resources
Eastern District Office

PUBLIC NOTICE

NOTICE OF PROPOSED CHANGE OF WATER RIGHT

NO. 34-2428

Notice is hereby given that Mitchell Sorensen, Moore, Idaho, has applied to the Department of Water Resources for a change in the place of use of the waters of groundwater source. The right sought to be changed is evidenced by License No. 34-2428 and is recorded as follows:

AMOUNT: 3.85 cfs
PRIORITY: June 25, 1961
POINT OF DIVERSION: SE¼NE¼, Sec. 5, T. 4N, R. 26E, B.M., Butte Co.

The water is used to irrigate 192.5 acres from April 1 to Nov. 1 within the SE¼NE¼, E½SE¼, Sec. 5; N½NW¼, Sec. 9; T. 4N, R. 26E, B.M.

TO BE CHANGED AS FOLLOWS

The water will be used to irrigate 192.5 acres within the SE¼NE¼, E½SE¼, Sec. 5, T. 4N, R. 26E; W½SW¼, Sec. 35, T. 4N, R. 25E, B.M.

Any protest against approval of the above proposed change of water right must be filed with the Idaho Department of Water Resources, 1515 Lincoln Road, Idaho Falls, Idaho, 83401 on or before July 7, 1980.

C. STEPHEN ALLRED
Director

Published in the Arco Advertiser 6-19 & 6-26-80.

I protest to transfering the water out on the desert. If they want the water out there, let them drill wells out there, They'll be taking all our water out there if we let them.

Virgil J Hail

Moore Idaho Box 45 11

MICROFILMED
FEB 11 2000

PUBLIC NOTICE

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Date Filed: 05 30 1980
Amount: 8.34 CFS
Diversion Point: SENE of 05 T 04N R 26E, BUTTE COUNTY
Use: IRRIGATION of 8.34 CFS from 04-01 to 11-01
Place of Use: NENW NWNW SWNW SENW SESW Sec 35 T 04N 25E FOR 200 ACRES
Diversion Means: WELL & PUMP.

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C. STEPHEN ALLRED
Director

Published 6 19 & 6 26 80

July 7, 1980

RECEIVED
JUL 7 1980
Department of Water Resources
Eastern District Office

I hereby wish to express my opposition to the above applications because I seriously believe we are moving into an area of difficulty with this practice.

These pumps are lowering our water supplies in the valley, increasing our district's costs & higher lift costs on existing farms.

Brad Stewart

MICROFILMED
FEB 11 2000

PUBLIC NOTICE

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NO. 34-2428

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Any protest against approval of the above proposed change of water right must be filed with the Idaho Department of Water Resources, 1515 Lincoln Road, Idaho Falls, Idaho 83401 on or before July 7, 1980

C. STEPHEN ALLRED
Director

Published in the Arco Advertiser 6 19 & 6 26 80.

PUBLIC NOTICE

NOTICE OF APPROPRIATION OF WATER RIGHT

Notice is hereby given that the following application has been submitted for permit to appropriate the public waters of the State of Idaho.

34-7247

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Date Filed: 05 30 1980
Amount: 8.34 CFS
Diversion Point: SENE Sec 05 T 04N R 26E, BUTTE COUNTY
Use: IRRIGATION 8.34 CFS from 04-01 to 11-01
Place of Use: NENW NWNW SWNW SENW SESW Sec 35 T 04N R 25E FOR 200 ACRES
Diversion Means: WELL 5 PUMP
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C. STEPHEN ALLRED
Director

Published 6-19 & 6-26-80

RECEIVED

JUL 7 1980

Department of Water Resources
Eastern District Office

PUBLIC NOTICE

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NO. 34-2428 34-2428

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C. STEPHEN ALLRED
Director

Published in the Arco Advertiser 6-19 & 6-26-80

I protest applications no. 34-7247
no. 34-2428

for the following reasons

#34-7247. I belive there is to much water now being taken from under ground this is effecting the set irrigated land in the Valley where all the wells are now. The rising water at the lower end of the valley that the Dissipation Dist. uses for the lower end is all but gone. Farmers in the Moore, Idaho

#34-2428 I protest this application because this water transfer would take more water out of the valley I belive when this well was drilled It was only to be a suplimental source of water for land above stated, and use for that land only, and only when the deeded water wasn't available to irrigate this parcel of land. Farmers Irrigation Moore, Idaho

MICROFILMED
FEB 11 2000

34-7247

SORENSEN, MITCHELL D.

RT. 1 BOX 63, MOORE, ID 83255

Source: GROUNDWATER

Date Filed: 05/30/1980

Amount: 8.34 CFS

Diversion Point: SENE Sec 05 T 04N R 26E, BUTTE Co.

Use: IRRIGATION (8.34 CFS) from 04/01 to 11/01

Place of Use: NENW NWNW SWNW SENW SESW Sec 35 T 04N R 25E FOR 200 ACRES

Diversion Means: WELL & PUMP.

RECEIVED
JUN 23 1980
Department of Water Resources
Eastern District Office

date

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C. STEPHEN ALLRED
Director

Published 6-19 & 6-26-80.

MICROFILMED
FEB 11 2000

RECEIVED

MAY 17 1978

Department of Water Resources
Eastern District Office

State of Idaho

Department of Water Administration

LICENSE OF WATER RIGHT

License of Water Right No. 29837/34-2428 Priority June 25, 1961 (late proof) Amount 3.85 cfs

THIS IS TO CERTIFY, that WILLARD H. SORENSEN & SONS

of Moore, Idaho, has complied with the terms and conditions of Permit No. 29837/34-2428 issued pursuant to Application for Permit dated June 19, 1961, and has submitted proof to the Department of Water Administration on June 27, 1966, that he has applied water to a beneficial use; an examination by the Department indicates that the works have a capacity of 8.34 cfs, and that the water has in fact been applied to a beneficial use; a right to the use of water from a ground water source tributary of _____, is hereby confirmed in the following amounts:

Amount 3.85 cfs for Irrigation from April 1 to Nov. 1 (both dates inclusive)

Amount _____ for _____ from _____ to _____ (both dates inclusive)

Amount _____ for _____ from _____ to _____ (both dates inclusive)

Subject, however, to the condition that no more than 3.85 cfs of water be diverted at any one time, said waters to be diverted within the SE¼NE¼ Sec. 5, Twp. 4 N, Rge. 26 E, B.M.

in the county of Butte; and that the amount of water so diverted and to which such right is entitled and confirmed is for the purposes aforesaid and is limited to the amount which can actually be beneficially used and shall not exceed 577.5 acre feet per year or _____ 3.0 acre feet per acre.

Description and location of place of use:

TWP	RANGE	SEC.	NE¼				NW¼				SW¼				SE¼				TOTALS
			NE¼	NW¼	SW¼	SE¼	NE¼	NW¼	SW¼	SE¼	NE¼	NW¼	SW¼	SE¼	NE¼	NW¼	SW¼	SE¼	
4 N	26 E	5				39									39			39	117.0
		9					37.5	38											75.5

MICROFILMED

MAR 1 0 2004

Total number of acres irrigated 192.5

The right to the use of the water hereby confirmed is restricted and appurtenant to the lands or place of use herein described, as provided by the laws of Idaho.

Golden West Pump, Inc.

1579

356-9318 524-3203

2256 South Hwy. 191 Rexburg - 4456 Haroldsen Dr. Idaho Falls

Bill To [illegible]
Rt #1 Box 63C-1
Moore, Id 83255

GP-cc-119







DATE	DESCRIPTION	AMOUNT
1	2 Stage 6x7x11 Load Handle	3167 00
	3560 RPM 125 HP	
1	13' 11 L.C. Drive Joint	345 00
20'	13" Column	4123 00
4'	3 M.L. Bowl Assy	1 [illegible]
1	[illegible]	[illegible]
1	[illegible]	1171 50
[illegible]	[illegible]	[illegible]
1	Adapt. Coupling	21 25
1	Pull & set 20' 3 x 3½ x 1/4	428 00
1	Shop Testing	33 00
[illegible]	[illegible]	33 00
[illegible]	[illegible]	62 00
	TOTAL	5316 25

Accounts due 10th of the month following purchase. Purchaser agrees to pay all collecting costs including reasonable attorney fee with or without suit. A FINANCE CHARGE of 1.75 PER CENT PER MONTH (21% ANNUAL PERCENTAGE RATE) will be charged on all Past Due Accounts in excess of 30 days.

MICROFILMED
DEC 12 2001

Golden West Pump, Inc.

1580

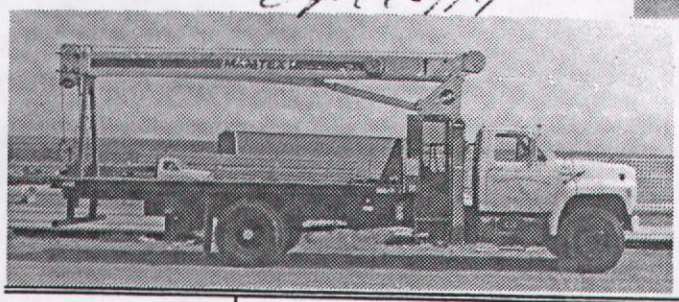
356-9318 524-3203

2256 South Hwy. 191 Rexburg - 4456 Haroldsen Dr. Idaho Falls

Bill To Mitchell Strawn

Ap. 11-19







DATE	DESCRIPTION	AMOUNT
1	4" x 4" Impeller	584 00
1	Wear Ring	212 00
1	Shaft Sleeve	62 00
1	Set Mechanical Seal	113 00
	& Hardware Set	
1	Full Bowl 125'	938 00
	12" x 24" x 1" HN CTG	

Accounts due 10th of the month following purchase. Purchaser agrees to pay all collecting costs including reasonable attorney fee with or without suit. A FINANCE CHARGE of 1.75 PER CENT PER MONTH (21% ANNUAL PERCENTAGE RATE) will be charged on all Past Due Accounts in excess of 30 days.

TOTAL 1914 00

MICROFILMED

DEC 12 2001

Golden West Pump, Inc.

1604

356-9318 524-3203

2256 South Hwy. 191 Rexburg - 4456 Haroldsen Dr. Idaho Falls

Bill To Mitchell Drilling

Ap.cc-117





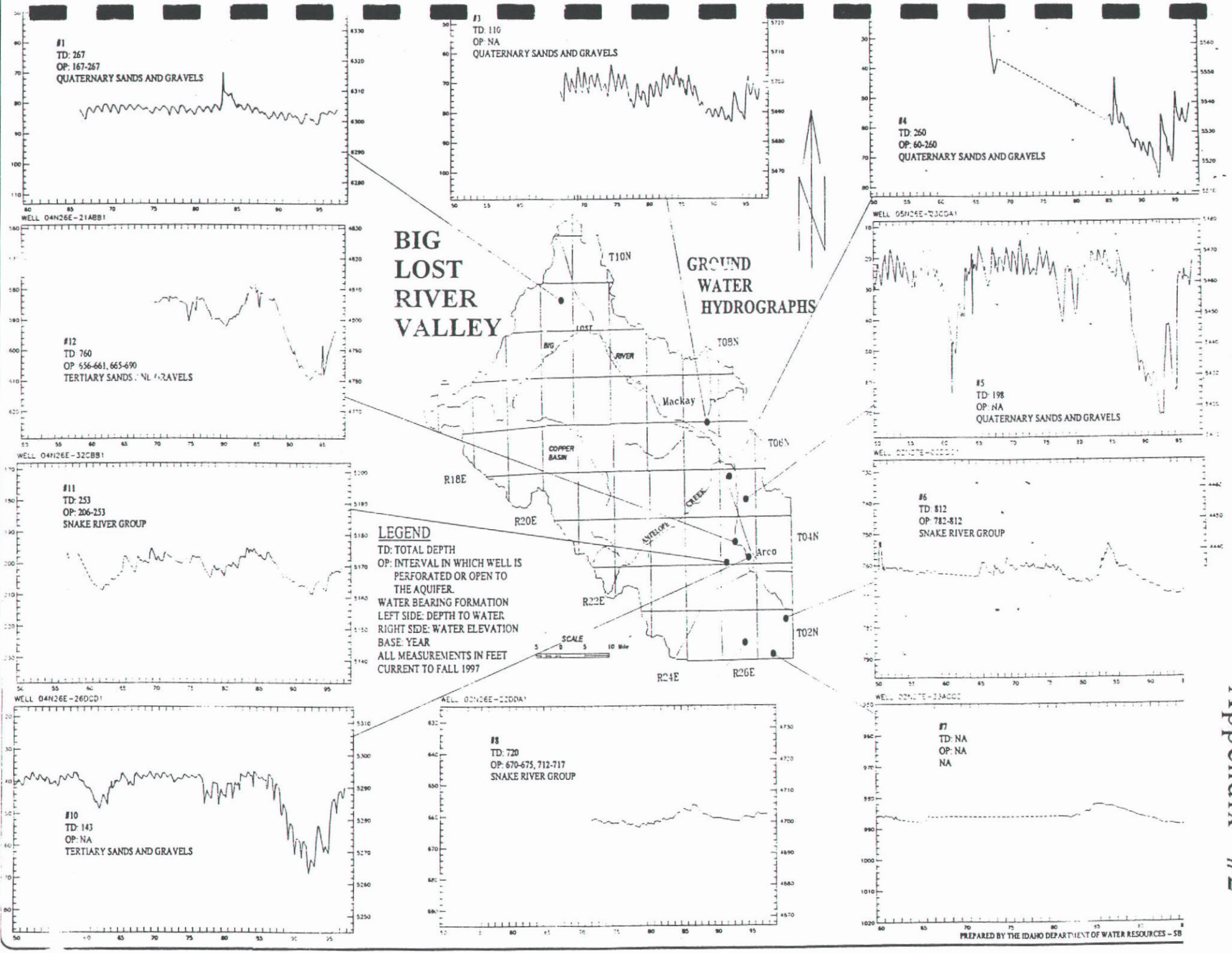


DATE	DESCRIPTION	AMOUNT
9-26-00	Pull pump	58 00
	Run Impeller	2376 00
	Weld Bracket	812 50
	Set pump	244 00
	TOTAL	3490 50

Accounts due 10th of the month following purchase. Purchaser agrees to pay all collecting costs including reasonable attorney fee with or without suit. A FINANCE CHARGE of 1.75 PER CENT PER MONTH (21% ANNUAL PERCENTAGE RATE) will be charged on all Past Due Accounts in excess of 30 days.

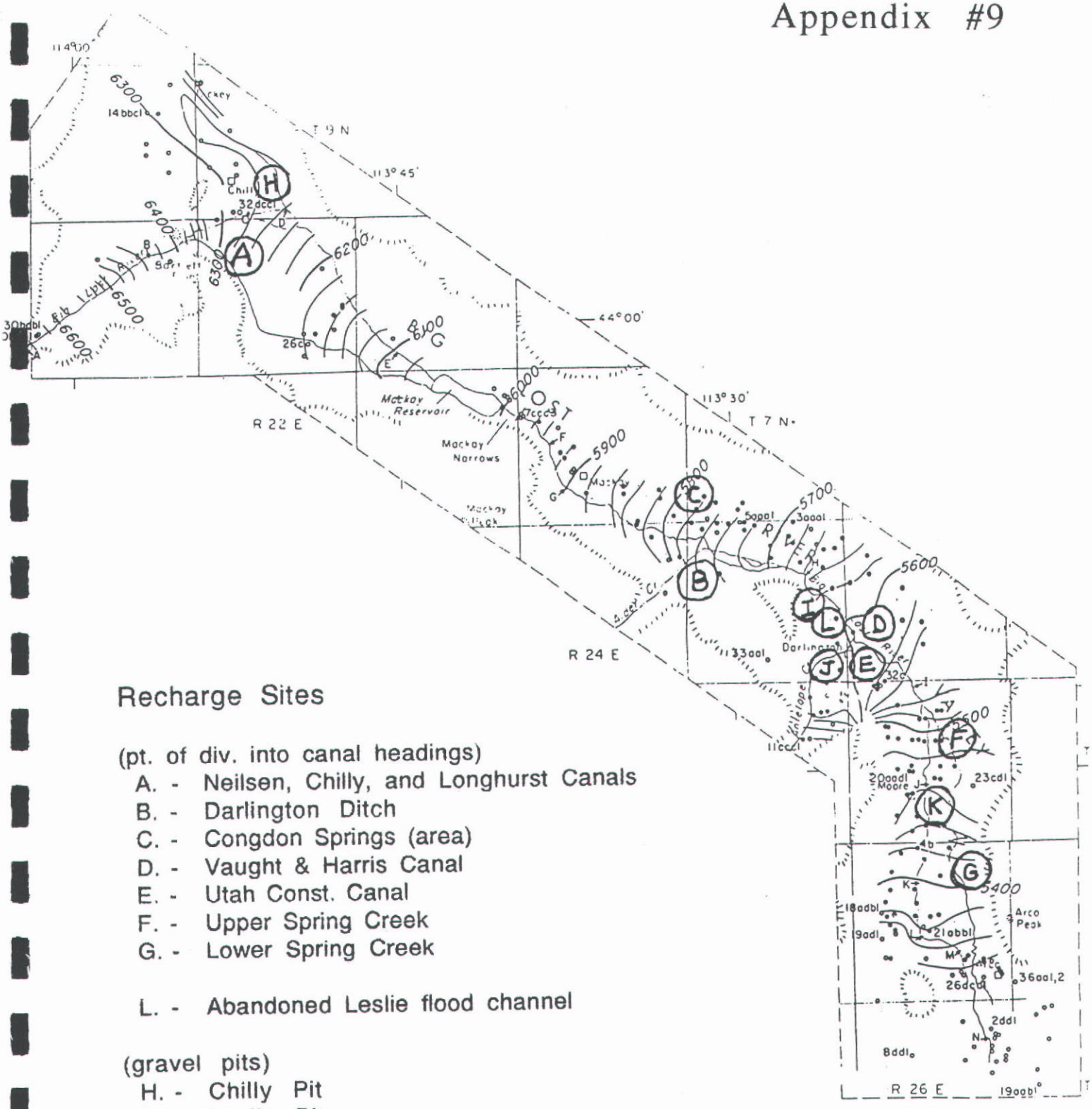
MICROFILMED
DEC 12 2001

BIG LOST RIVER VALLEY GROUND WATER HYDROGRAPHS



Appendix #2

Appendix #9



Recharge Sites

(pt. of div. into canal headings)

- A. - Neilsen, Chilly, and Longhurst Canals
- B. - Darlington Ditch
- C. - Congdon Springs (area)
- D. - Vaught & Harris Canal
- E. - Utah Const. Canal
- F. - Upper Spring Creek
- G. - Lower Spring Creek

- L. - Abandoned Leslie flood channel

(gravel pits)

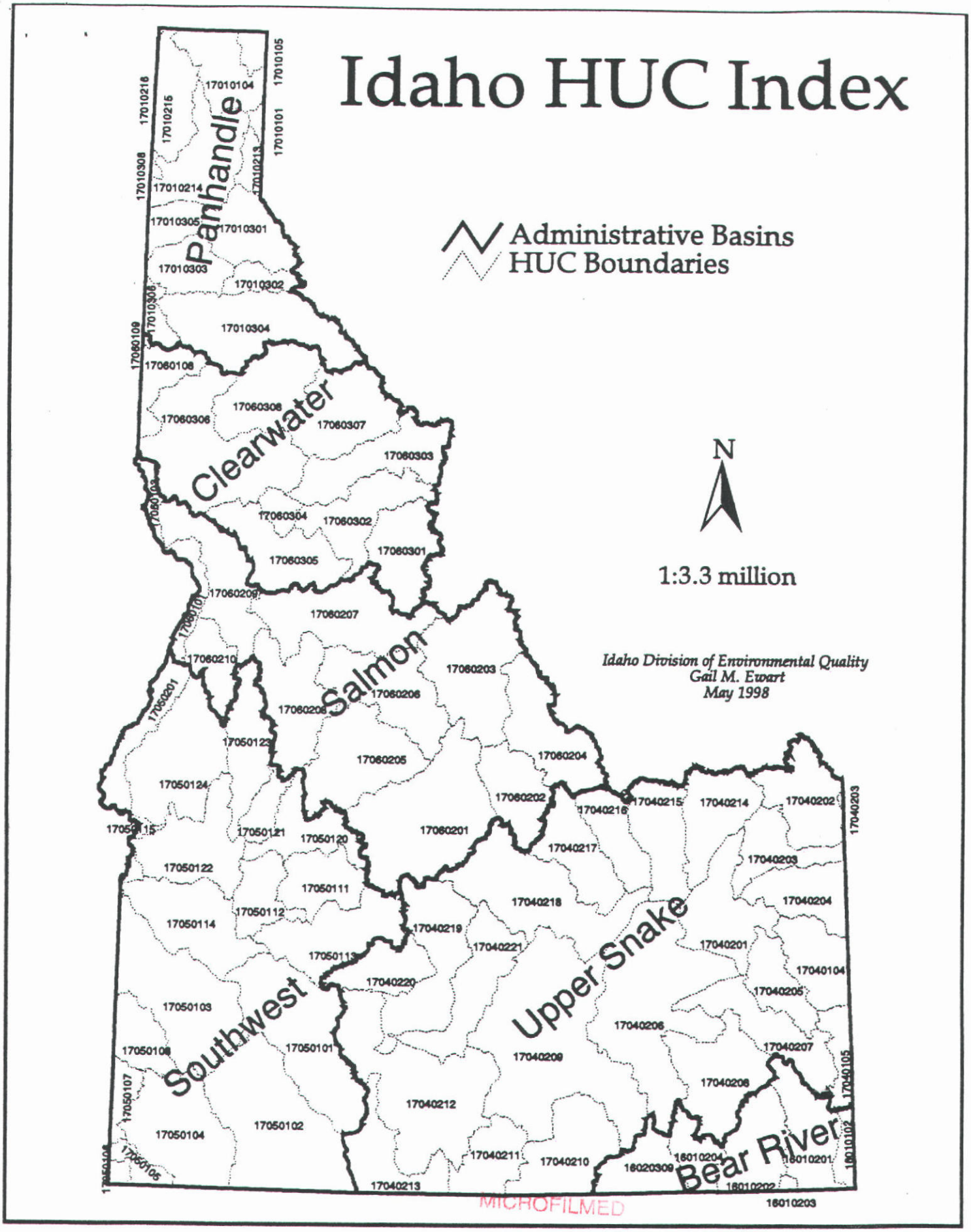
- H. - Chilly Pit
- I. - Leslie Pit
- J. - Antelope Rd. Pit
- K. - Moore Pit

Paid 1997
List

Ecology Materials [illegible] Paid Jan
161.11 Substitute [illegible] Ext.
1219.20 24" Bridgate - Cost to Subdiv Unit
2021.55 36" Bridgate Cost to Z + I
2938.50 ERC Resource Corp.

Appendix #10

Idaho HUC Index



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FEB 1 1 2000

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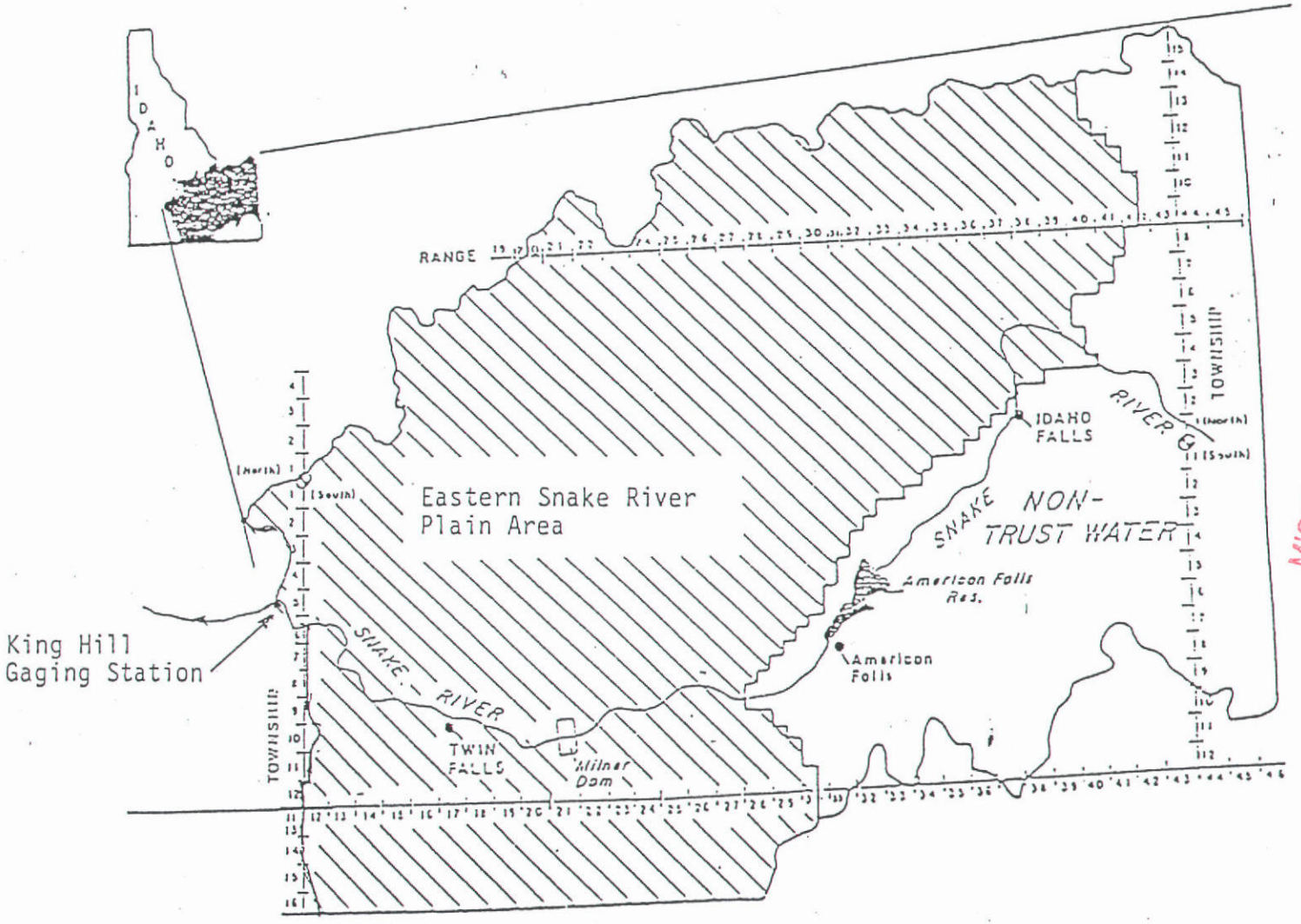


Exhibit A

MICROFILMED
FEB 1 1 2009

MICROFILMED
FEB 1 1 2000

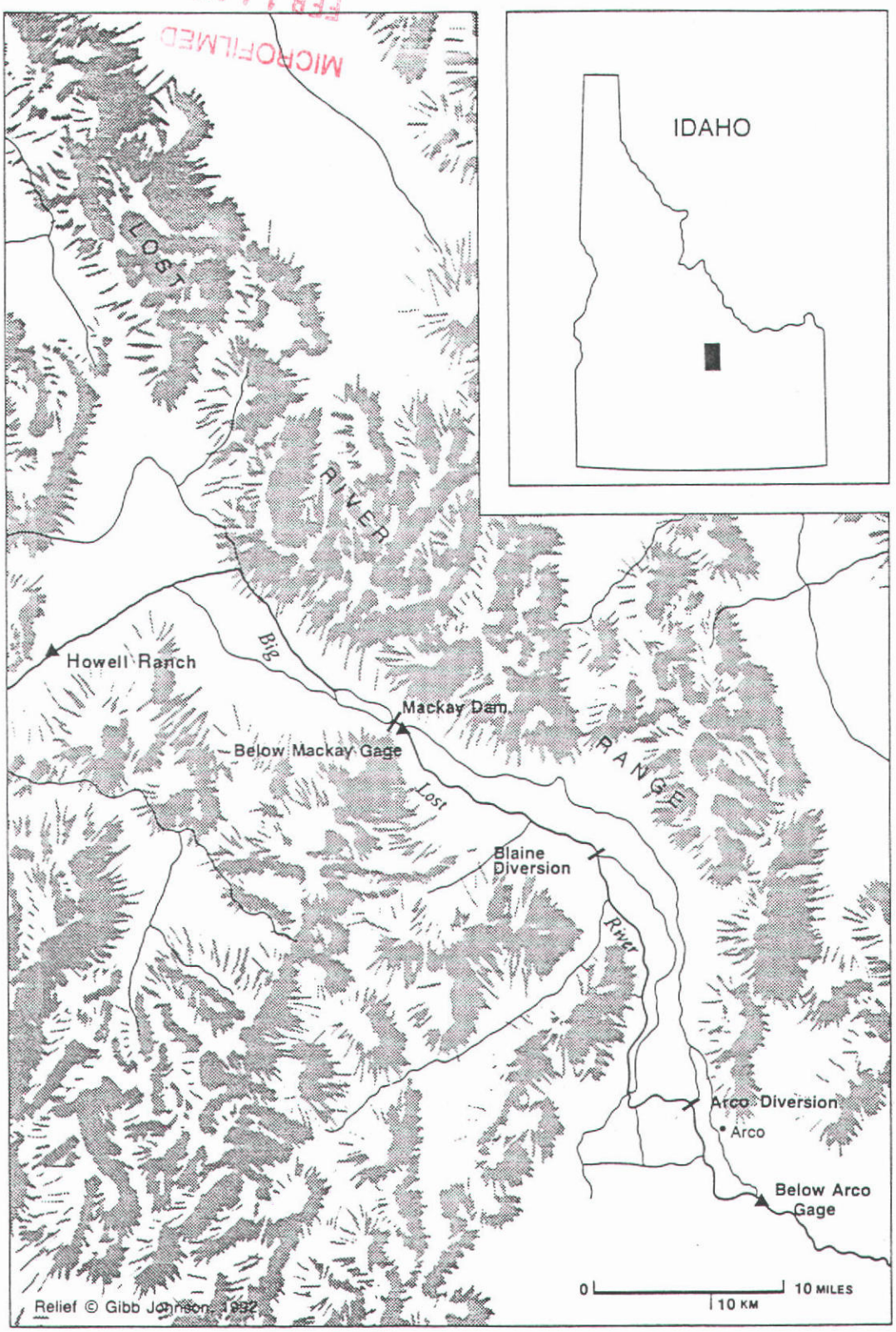
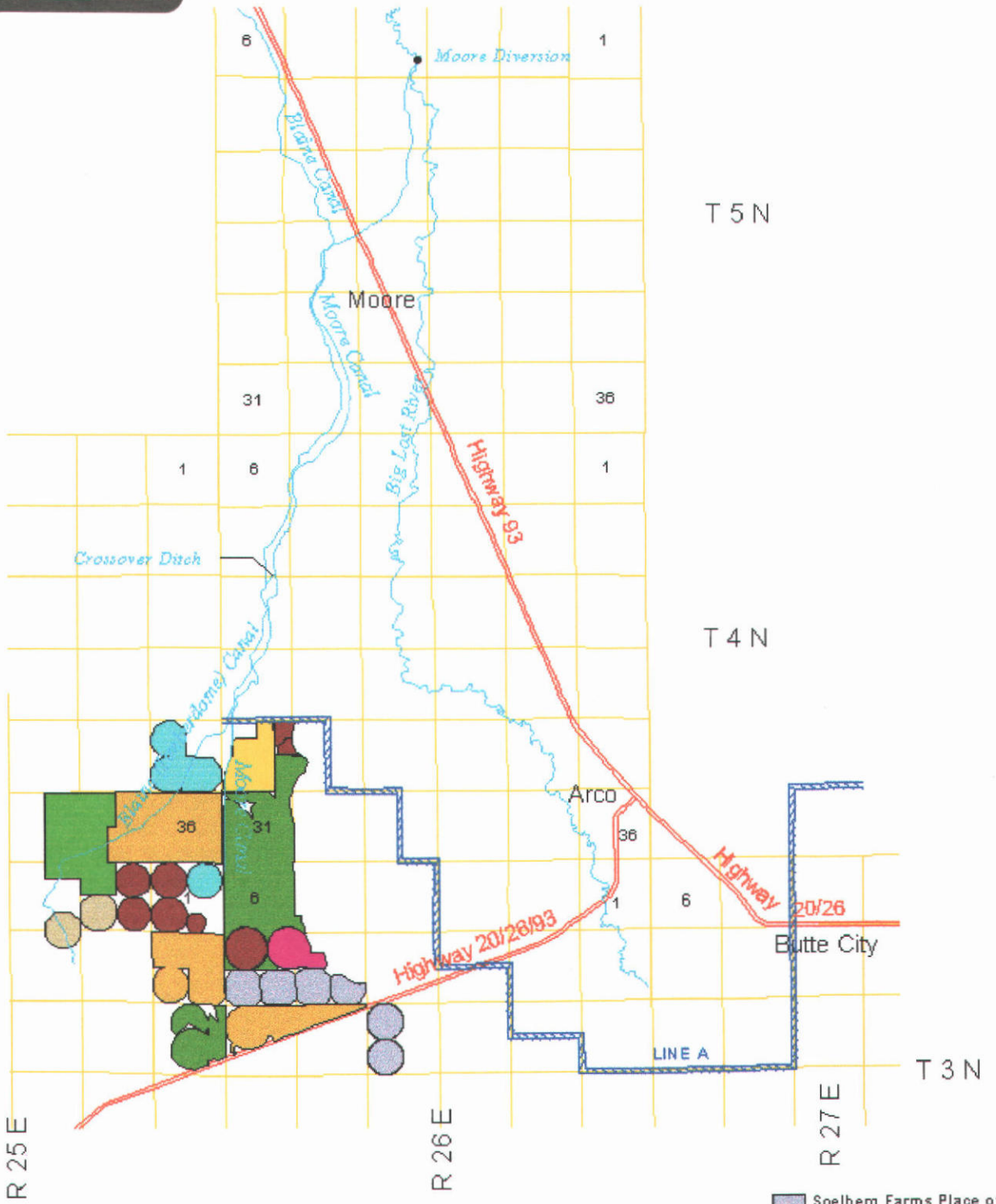


Figure 1. Map of Big Lost River Valley.

EXHIBIT
Applicant
1

AREA MAP



N

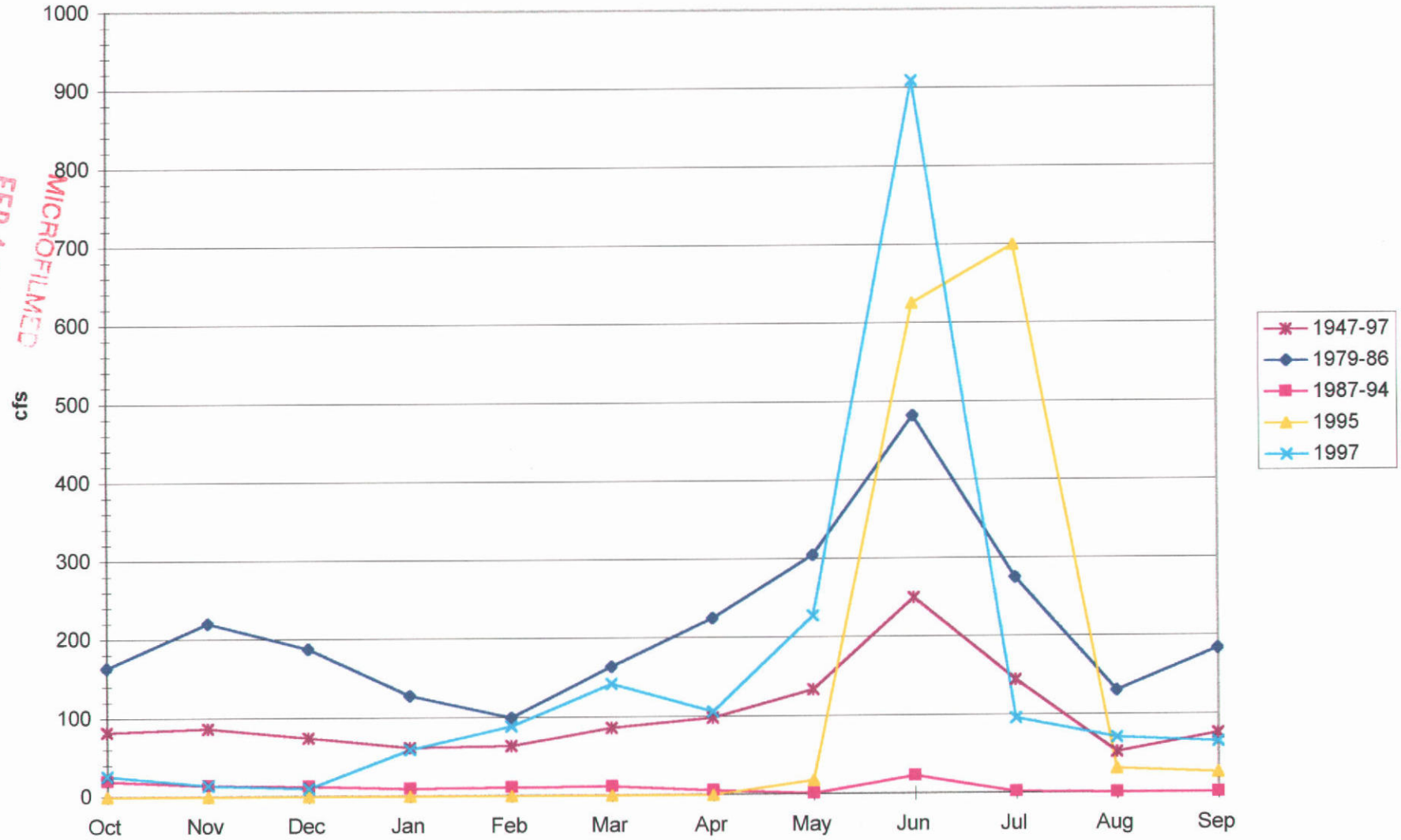
1 0 1 2 3 Miles

MICROFILMED
FEB 11 2007

EXHIBIT
Applicant
2

FEB 1 1 2000
MICROFILMED

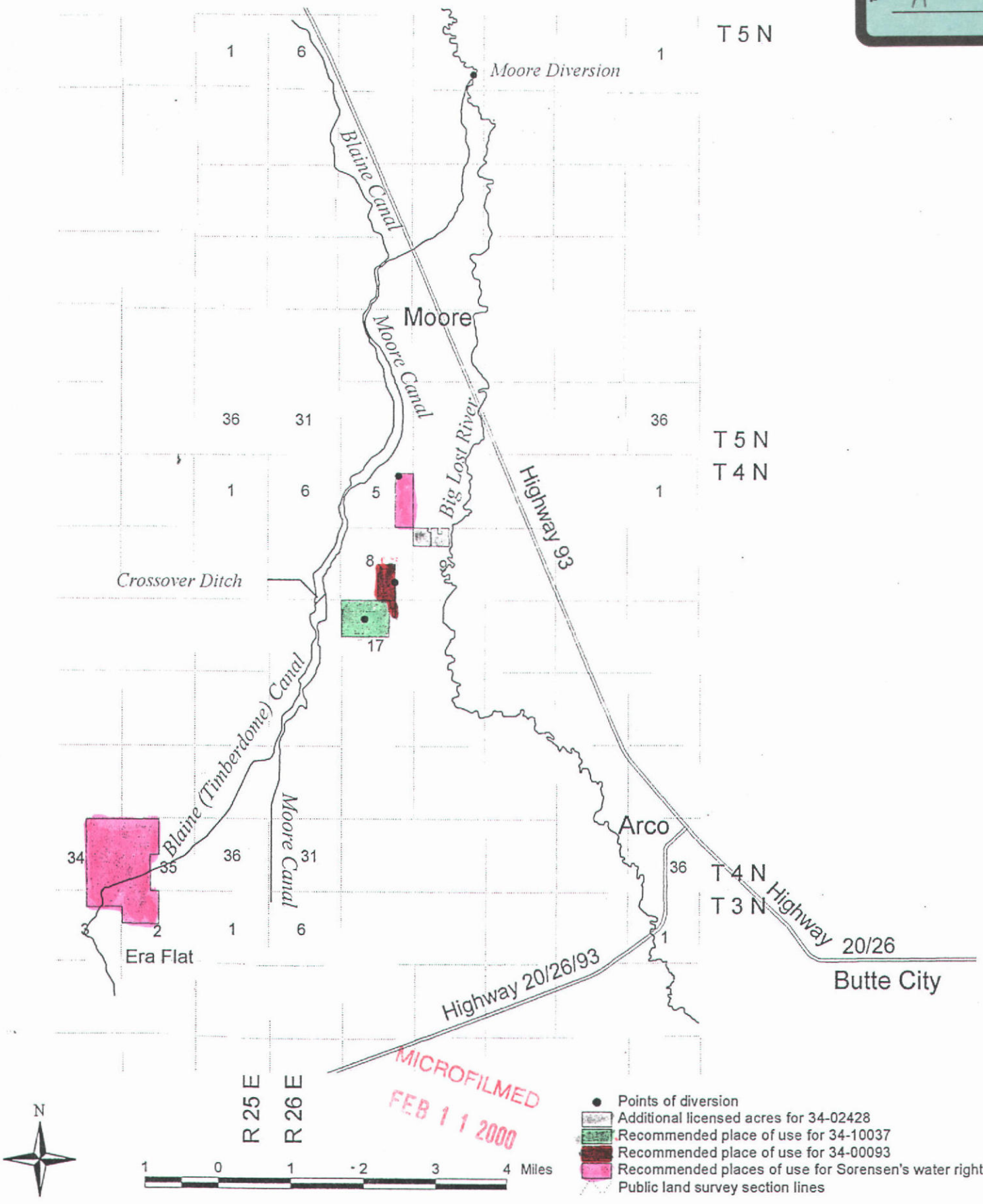
BIG LOST RIVER AT ARCO



ERO Boise

SORENSEN AND JENSEN WATER RIGHTS: PLACES OF USE AND POINTS OF DIVERSIO

EXHIBIT
Protestant
A



MICROFILMED
FEB 11 2000

EXHIBIT
Protestant
B

AGREEMENT

THIS AGREEMENT, made and entered into this 27 day of May, 1978, by and between NORMA K. SORENSEN, a widow, and RONALD W. SORENSEN, a single man, both of Butte County, Idaho, hereinafter referred to as "First Parties"; and MITCHELL D. SORENSEN and ELAINE R. SORENSEN, his wife, of Butte County, Idaho, hereinafter referred to as "Second Parties",

WITNESSETH:

WHEREAS, First Parties are the owners of certain real property located in Butte County, Idaho, described as follows:

> The East Half of the Southeast Quarter (E½SE¼), the Southeast Quarter of the Northeast Quarter (SE¼NE¼) in Section 5, and the North Half of the Northwest Quarter (N½NW¼) in Section 9, all in Township 4 North, Range 26, E.B.M; and

WHEREAS, Second Parties are the owners of certain real property located in Butte County, Idaho, described as follows:

> The Northwest Quarter (NW¼) and the West Half of the Southwest Quarter (W½SW¼) of Section 35, Township 4 North, Range 25 E.B.M: and

WHEREAS, the above described real property of First Parties is located within the boundaries of the Big Lost River Irrigation District and is entitled to receive water for irrigation through the delivery system of said district; and

WHEREAS, First Parties' predecessor in interest, Weldon J. Sorensen, caused a well to be drilled in the Northwest Corner of the Southeast Quarter of the Northeast Quarter of Section 5, Township 4 North, Range 26 E.B.M., approximately 1955 to 1958, which well has a pump and motor installed and is capable of producing up to 420 miner's inches of water (8.4 cfs), and which has been used to produce supplemental water for the more efficient irrigation of the land of First Parties; and

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FEB 11 2000

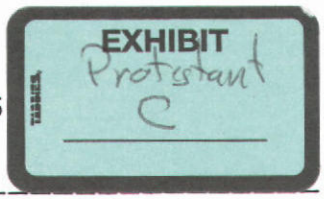
IN THE DISTRICT COURT OF THE FIFTH JUDICIAL DISTRICT OF THE STATE OF IDAHO, IN AND FOR THE COUNTY OF TWIN FALLS

****

In Re SRBA) REPORTER'S TRANSCRIPT

Case No. 39576) Subcase Nos. 34-00600,

_____) 34-00606



****

D-a-t-e: Wednesday, November 12, 1997

T-i-m-e: 10:30 A.M.

P-l-a-c-e: SRBA Courthouse, Twin Falls, Idaho

B-e-f-o-r-e: BRIGETTE BILYEU, Special Master

H-e-a-r-i-n-g: Trial on the Merits

****

A-p-p-e-a-r-a-n-c-e-s:

ROGER LING, Ling, Nielsen & Robinson, Attorneys at Law, P. O. Box 396, Rupert, Idaho, appearing for Claimants McCray.

PATRICK BROWN, Hepworth, Lezamiz & Hohnhorst, Attorneys at Law, P. O. Box 389, Twin Falls, Idaho, appearing for Objectors Rosenkrance and Lambert.

MICROFILMED
FEB 11 2000

State of Idaho
DEPARTMENT OF WATER RESOURCES
1301 North Orchard Street, P.O. Box 83720, Boise, Idaho 83720-0098
Phone: (208) 327-7900 FAX: (208) 327-7866

EXHIBIT
Protestant
D

PHILIP E. BATT
GOVERNOR

KARL J. DREHER
DIRECTOR

August 18, 1998

Basin Wide Issue 5 & 5B Participants

Re: Basin Wide Issues 5 & 5B, Conjunctive Management General Provision

Dear Parties:

I am faxing to you a draft stipulation for resolving the general provisions regarding conjunctive management. These provisions reflect our discussions over the summer. Please review this draft for purposes of discussion at the status conference on Thursday, Aug. 20, 1998.

We hope that this stipulation will form the framework for resolution of the conjunctive management issue in the Snake River Basin Adjudication. I look forward to seeing you on Thursday.

Sincerely,

David R. Tuthill, Jr., P.E.
Chief, Adjudication Bureau

MICROFILMED
FEB 1 1 2000

COPY

EXHIBIT Protestant E

STATE OF IDAHO

DEPARTMENT OF RECLAMATION

In the Matter of the Application of Big Lost River Irrigation District of Mackay, Idaho. For a Transfer of Water Right, in Water District No. 27, Custer County, Idaho.	ORDER GRANTING TRANSFER No. 808

WHEREAS, On the 29th day of May, 1952, at the Department of Reclamation of the State of Idaho, at Boise, Idaho, this matter of an application of the Big Lost River Irrigation District of Mackay, Idaho, for a transfer of water right, came on regularly for hearing, pursuant to the published notice in due and statutory form; and,

WHEREAS, A protest was filed against the application by I. W. Boyer of Arco, Idaho; and,

WHEREAS, After an investigation by the Department of Reclamation, a decision was rendered by the State Reclamation Engineer dismissing the protest.

NOW, THEREFORE, IT IS HEREBY ORDERED That the said application be, and the same is HEREBY GRANTED, and that a Certificate of Transfer be issued to the applicant herein, as provided by the laws of the State of Idaho.

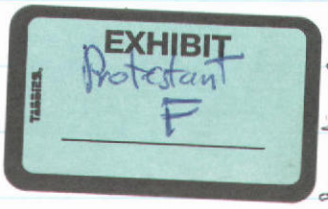
IN WITNESS WHEREOF, I have hereunto set my hand and caused the official seal of the Department of Reclamation of the State of Idaho to be hereunto affixed at Boise, Idaho, this 14th day of May, A.D. 1953.

Mark R Kulp

MARK R. KULP
State Reclamation Engineer

MICROFILMED
FEB 1 1 2009

water right numbers issued to Antelope Creek + tributaries



34-0512
34-0111
34 0112
34-0113
34-0266
34-0657A .8 CFS
34-0658
34 10496
34-0413 B 2.0 CFS
34-0657B 1.4
34-0661 D 1.04
34-0413 D 1.2
34-0116 A 1.8
34-0013
34-0116 B 1.0
34-0410 B 1.0
34-10220
34-0300
34-0442
34-0517
34-10763
34-10765
34-10767
34-0481
34-0482
34-849 B- 1.4
34-0937

34-0413C .4
34-0932
34-0719 A .47
34-0720 A 1.42
34-021 A 1.4
34-02474 B 11.42
34-07025
34-02473
34-2474A 1.52
34-0575
34-0864
34-0574
34-0426
34-0427
34-0554
34-10124
34-4042
34-0929
34-0069
34-0070
34-0071
34-0661C .56
34-0903
34-0184B 1.04
34-0411
34-0412
34-0833
34-0838
34-0570 A 3.2

34-0719 B.5
34-0720 B 1.5
34-0721 B. 1.75
34-07103
34-07013A 7.2
34-07013B 4.8
34-0135
34-0180
34-0591
34-0659
34-02474A 1.52
34-0177
34-0186
34-0212
34-0865B 1.6
34-0439B .85
34-0439A 7.15
34-10717
34-10777
34-0660B 1.0
34-0665
34-0865A 1.76
34-10937
34-0661 B 1.6
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34-0526
34-0441
34-0516
34-0525

MICROFILMED
FEB 11 2000

over

DO NOT MICROFILM THESE NOTES

7247

Filed 1980

Filed because

(a) well on mother's place deeded to him

(b) late 1970's — 1978 development began on ERA flat

(c) used since 1978

(d) second year after starting use, filed application with IBWC

Well drilled in * 1961

Began to use in late 70's for use of ERA flats

Pump outlet

BCID delivery Morse Canal to Cross over, ditch to UC canal.

1978 switched to sprinkler on water 120 acres - fixed up outlet for ERA flat

Plastic mainline goes across Don Haynes - dumped directly into Combodon canal & collection ditch.

200 acres is part of the 828 permissible place of use - proposed amendment to P/U in writing if necessary - no new lands - no new wells

Conveyance T+C – Conveyance Loss

$5,000

Impact on existing water rights – mitigation – can the WDFW rules –

Deepen well if can't mitigate

Possible questions for Sorenson

@ 7490 ⇒ relationship to recharge.
- ÷ expect delivery prior to recharge
- ÷ min. flow on antelope ck or @ Big Lost

(b) Mitigation of new wells - vs - existing
(c) Location of wells rate relative to other wells
(d) How long is pipeline from well to ARC
(e) Cons. of wells in Idaho
(f) Mitigation for Snake River ?
(g) Waste water from BERD
(h) Seepage loss - some/diff't based upon distance
(i) When was 2428 well drilled?
(j) Explain N antelope S antelope - describe stream connection to Big Lost.

7410 well in SW corner of 160 acres - 2 or 3 domestic wells within 1/4 mile.

one for every that a water right application would be issued if the basin determination proceeding

Possible Questions for Dave Shaw
- Application of rules to new wells
- Federal/tribal claims on Snake
- ESA flows
- Flow 200 cfs were in antelope but BL not flow 200 cfs @ ARCO - Could divert in Idaho reduce water recharge & contribute to BL base flow
- Conference amounts - how would that happen
- Wells above proposed diversion (7241)
- Quantify depletions

Need APA Rules
Moratorium
Basin 34 Rules

Application 34-7410 (Mitchell Screenson)
Filed 4/12/82 - Last date of protest 6/22/28
Protested by
- ✓ David O. Beeak
- ✓ Joe Smith
- ✓ Gerald Stewart
- ~~Biggest Irrig Dist~~ (withdrawn)
- ✓ Donald Rittenhouse (late)
- ~~Marion Merry (intervenor)~~ 34-7430 only
- ✓ Fish & Game
- ✓ Lawrence Babcock (Big Lost River Water Users Assn)
- ~~Kirby Haven~~ (Mountain Home)
- ✓ IRA - Marti Bridges
- ~~Chester Huggins~~ 34-7430 only
- ✓ Idaho Power Co. - Jim Tucker

Application
10 cfs / 310 acres (excess for transport)
well located in SE SE Sec 5 T4N R 26E (Gulf Co)
Land located in Sec 3 3N 25E & 34 4N 25E
Exchange - pump into westside for credit
take from Big Lost thru diversion

(Assignments ?)

Application 34-7430 (Mitch Swenson, Greg Daniels, Todd Parker, Norman Diederen, Everett Acon

Date Filed - 4/8/83

Protested by -

- ~~Big Lost River Water Users~~ (Lorraine Babcock)
- Fish & Game
- IRA (MARTI BRIDGES
- Charles Huggins -
- MATEA H McCrary (LATE)
- IPCO (James C. Tucker)

Application 199.6 cfs from Antelope Crk

irrigate 4910 acres 3N 25E, 4N 25E, 3N 26E

50% canal shrink

Deliver thru Blanchard

Application # 34-07247 (mitch Sorenson)
Filed 5/30/80 Issued 2/21/84

Protests:

~~Big Lost River Irrig. Dist. (withdrawn)~~
Lamond Anderson
Bill Harrison
Jay Pearson
Gerald Stewart
Virgil Hall
Ned Walker
Reuben Dobborke
David, Lois, Calvin Evans
Richard Taylor
Lewis Rothwell
Joe Smith
Mrs. Jesse Jensen
Kirby Jensen (Norma Sanders)
IPCO — Jim Tucker

Application proposes:

5.34 cfs gw from wells SE NE 5 4N 26E
200 acres in Sec 35, 4N 25E
Exchange involving Moore & Tiebout canals

Hearing Worksheets for 34-07247

-7247

Adequacy of water supply?

Lic. 34-2428 pumps 8 34 cfs

Used in Eastside ditch

Injury & Mitigation offered?

None but would mitigate case 1994 WD 84 rules

Speculation & Delay?

Already developed & used

Financial Ability?

Cost 5000

+ Financial ability (?)

Local Public interest?

Cons. of Water in Idaho?

Hearing Worksheet for 34-0440

Adequacy

Injury

Supec. / Overlay

Financial

Local P.I.?

Cons. for use in ICAGA?

Hearing Worksheet for 34-07430

Adequacy of supply?

Injury / mitigation?

Injury / delay?

Financial ability?

Local PI?

Eliminate flooding

Cons. of water?

Screenson Hearing

Before going on record -

(1) Combined Hearings
(2) order of protestants
(3) Prehearing motions
~~(4) Determine issues~~

After going on record

1) This is 7/23 & 24, 1998, Idaho Falls Zone Hearing to consider applications 34-7247, 34-7410, & 34-7430 and the protests against these applications
2) Norm Young Herold - Tones
3) Take appearances
4) Review any procedural/other matters from prehearing - NO
5) Ask if anything
6) Admission of administrative notice
Files for all three appl
Water Allocation rules 1986/1993
Water Dist rules 1994 - water Dist 34
Adjud claims/ case files for rights associated with same POD's & P.O.U.
U.S.G.S. Maps & reports
Memorandum orders
- Big Lost Memorandum order
- Big Lost Plan of operation
- Robertson Report
- Baker & Rice Report

USGS - 92-4006 - 1992

Crosswalk report

→ Big Lost River settlement agreement + attached plan of operations - 4/21/97

→ Order granting Trans. 808

Files of any water right specifically testified to.

Conj. Manag. Rules - 1994

ESPA Report

Begin Record

Kent Foster -

42-1806 - Is the Apr. 1 30, 1993 moratorium in effect?

Mitch Sorenson -

Vice president & stockholder in Timber Dome Canal Co

→ (7247) (1978) well drilled by Pruetts

- took over this well in 1980

- Realized need to file on this use in 1980

Lic. 34-2428 - covers well on Mathews farm 3.55 cfs

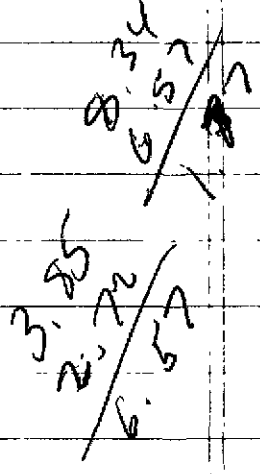
pumped 8.34 cfs by dept measurement

(1978) - installed sprinklers on this Mathews farm - more effort took place to ESPA plat

Put in master number (date?) (description?)

Production went down during drought back up now

This year – discharge is about 3.5 cfs but depends upon time of year & pumping of other wells.
Probably pump 8.34 cfs early in the spring.
Two other water rights from this well – 34-070968 + 34-70978
~~total~~ 2.72 cfs



Really going in 7427 the residual after these rights 8.34 – 3.85 – 2.72 = 1.77 cfs
if SRBA approves the other two.

Place of use –
Mathews farm – 120 acres
ERA flat ≈ 900+ acres
(IDWR recommends 828 acres on ERA)
→ 7427 asks for 200 acres with the 828
→ Propose a P.U. of 828 to include 200 acres under this right – will amend –
⇒ Does not propose any new land.

→ Wants to resize pump & motor to make this no new well. a viable supply.
$5000 total cost
→ Xport – well/pipe/transformer to ERA flat.

~~Cost~~

Mitigation - proposes to use the rules -

7410

- Filed in 1982
- Additional land on ELA FCAT - 310 acres
- 100 ft swath - extra for conveyance
- Conveyance would not involve Big Tat T.D. system - avoid common drainage 30% to 90% shrink avoided
- Proposed place of use - own land agency property neighboring land of applicant
- Hold in abeyance until mitigation is lifted
- No injury to others
- Supplemental water - yes - mitigation required
- Delay - on cattle land
- Cost - New well - $50K+

Sp. equip -

- Has or can obtain financing - Has tethel to lenders
- Project will cash flow
- Local public intent - ① helps applicant / family
  ② Improve dry pasture - higher tax rate
  ③ 4 J jobs in area - economic enhancement

7430 -

Filed 4/18/1983

Intent to utilize flood water

all original applicants are stockholders in timber lane canal

Tributaries / TCC / Blaine Canal - Name

(8)

Assigned for lack of administration by the Coast Co.

197.6 cfs allotted on documents on existing practices

4990 ~~cfs~~ acres.

- would replace & augment existing water sources
- Not new lands
- Practice has occurred on 10 of the last 20 years
- Stop downstream flooding
- Distribute among share holders by TCC offices
- TCC has no existing water right
- Will not injure other rights - will be junior to other rights for irrigation Res. right to ahead.
- Facilities are now rough - ~~will~~ require a lot of work - excavation to TCC canal
- Not for spec/lake
- No financial resources req'd, but would intend to improve over the years
- TCC covers 5000 to 6000 acres - can assess members
- Possible for local P.I. - flood control
- Seepage losses in canal - need to divert much more than can deliver -
- Relates / fits with recharge & fishing - has some hydrologic function

Impact on Snake River — no additional use, only replace expensive gw with cheaper surface water — should not be a net effect on Snake River basin

X-EXAM of Mitch Sorensen

by Seth Beal

Is developing new lands in LPI? Rodeo areas with agreements of recharge agreement?

Ans: Yes, it compliments the recharge effort - 34-07430 will not create new land irrigation

by Ms. McCroy —

- Rate/acre — 1 mi inch/acre plus conveyance.
- Why use surface water instead of gw — cheaper + saves the gw. resource
- some shrink — no — shrink is higher for a dry stream that is flowing than a stream that has been flowing

by Marty Bridge —

- Provide gw vs public interest
- Fish + Wildlife values for Antelope — yes
- Min. flows — now except the 8-2 gauging flow
- Where would antelope Ck flow go if not delivered? to the Big Lost River
- Incidental recharge to Big Lost / DEQ
- Is Eden Flat outside "A" rule? yes
- Loss to Big Lost basin then — not entirely

(7)

Splitting of recharge for SE to SW flow direction.
Illegal use of water for 20 years?
Illegal use of water in PT.
How would guy/gal combined use be administered?

Who gets flooded? Happens from time to time - roads bridges - homes along Big Lost River
Any public interest benefits to flooding?
yes
Returned to - 4247 - Right to pump more than 3.85 cfs — yes
because pumps under the -

by Norm Stevenko
— Moratorium — ? in Mitch's mind
- 7247 proposed order -
- Reconstruct well — No ~~mitigation~~ or mitigate - no plan to mitigate
- mitigation of new wells vs existing wells.
- Norm - your proposal is to have it apply mitigation & then only mitigate if call is made.
- No ~~applicant~~ mitigation @ this time - yes just the rules -
- From Protestants exhibit "A" — Jensen / Aerial PU / PD map

34-7223 Some right used on Kirby farm – exchange – 34-00095
34-1037

What impact would denial under 37-7247 or 7410 would have on wells used by Kirby?
No effect – rules call for reasonable pumping lift
7430 could reduce – water recharge, less pumping
Recent measurements of 34-7222 well? Water very vague – maybe 5.5 AF
transport agreement for 7247 – no
do not need one because will use TCC conveyance in Adams Canal.
Why do you believe adequate water supply for 7247 – good aquifer, wells will yield.
Won't reduce water rights – little impact or can be mitigated – @ times all rights are on.

7410 Recognize effect on other rights – but essentially deminimis unmeasurable – Reduce water to all other rights – ~~no~~
310 acres – 80 non irrigated under an existing right – 230 acres new land
7430 – No adverse impact without mitigation – How often? – Leave to Steve

No intent to deliver water relying on ECRID – Water delivered directly to LLC and

- No financial statement or loan contract

7430 – period of use – history shows that water has been on during time beneficial use can be made.
Timeliness of application processing – Mitch referred to dept.

Conveyance loss – still need this much?
No effort to reduce amount – TCC will be changing – depend upon how much of how many miles in the canal – based upon actual seepage loss

7430 is 2"/acre/50% conveyance loss
Not aware of any seepage studies for UC called Merl Kuffner based P.D. – deceased – BLRD – doesn't know if they exist?
Doesn't currently have easements/R/W for P.D. or conveyance.

Will do so after permit is issued – thinks the proper time to avoid unnecessary cost if permit isn't appld.

Low cost to entire division – has already been done.

by Mr. Anspach —

-7247 - measuring device - venturi
increased flow from gravity to injection
$10/acre → $500 to $1000/acre

7430 - Div. structures - old, question if/work if
existing / raise gate - more guard
entrapment - dead end structures on
the ck to force into UC -
may have to use excavator to do so.
by Ledger to confirm water supply/injury
- have participated - USOS used his

by Mr. Babcock -
Xfer of 2428 - Proposed Memorandum Dec.
for transfer

Note Objections → Objection to Babcock's questioning on denial as a supplemental well - This right was denied DO have or you have a priority right?

Mitch concerns with present IDWR position on accomplished Xfer in the SRBA.

Protested Exhibit 18 Agreement between Sorenson -

Sorenson explained that effect on other rights does not equate to not serious injury.

address timing of processing in Dec

Was the application voided by IDWR's inaction? — No. —

How can there not be an increase in C.U.?

Shrink @ times may not be any assessed probably some times of 7430 would be on — Why is a request for Shrink? — Mitch answered in terms of reducing not SCR ID policy.

Mitigation — only when a call is made by the rules.

What water will be used for mitigation when a call is made — Mitch answers he will work with Watermaster —

by Mr. Huggins —

Surplus with rights owned by Corporation

1854 — 60" 1898 — 60" —

to Era flat P.U.

— My Questions

— Lost Foster redirect of Foster

Can't dry up S. Channel = alter SR rights in that region

Would develop the full 310 acres under 34-7410 amendment would be rejd + filed.

Ms McCrea –

(1) Worried about shrink
(2) Water right below the point of diversion
(3) Had to deepen the domestic well – many more wells below the where diversion redrilled
(4) Public interest – fish, wildlife, hunting, fishing in Box Canyon. Forces would like to INTEL
(5) Fighting water transfer for surface water rights – 1928 water right
(6) Protest Exhibit C
(7) D.U. includes public interest
(8) Arco redrilled the well – @ great public cost – Rugbad x 3 – assessment on Cyprus
(9) Apparent problems with the way Bethel call is administered.
(10) Only mitigation is "prevention"
(11) Just doing something for 20 or 30 years doesn't make it right.
(12) USGS report – GW/SW a single source.

X EXAM – Foster

60' of Big Lost River 1896 or 1894
Claimed in SRBA – first north of Moore Summit
GW right for 60" – same place
6 acres irrigated

Domestic well — ¼ mile away —
Have you made a delivery call under this rule

Owned property since 1992
Used the GW right.

out of
Babcock order calls Johnny King — I
Lived @ the location on Antelope Ck
for 75 years
Raise cattle + hay / wild sub-irrigated
hay
Irrigation to bring up the sub.
Bought the ranch from his dad in 1948
Been on farm all his life
Neighbors do the same —
Source is Antelope Ck — irrigation
well, not successful —
10" on Cherry Ck
40" on Dry Fork
one @ School H
Wells below Bell Gate are successful
Divert flood water to the lands
needed to bring up the sub. &
maintain flow later in the summer
Can Antelope fill all rights all the time —
— nearly every summer —
— Old printes are @ mouth of creek —
He has been shut off routinely
Would you be injured if not allowed to divert
the water — Yes, Could reduce hay harvest
by 1/3 to 1/2

(4)

9 of 10 yrs pretty sure they
No water in Hamilton ditch in getting
drained this year for about last 10/15 days
even though a good water year -
Antelope area recharges in other yrs -
calls this a shallow aquifer -
Domestic wells 50 - 60 ft in the area

X-Exam Kent Foster
Claimed 5 antelope cfs rights 84, 86
1905
~~Do~~ you divert more than your right -
you also break out
Lots of water that has reached the U/C
before that ~~1905~~ 5 years ago
went to the river.
Water that reached U/C was in excess of
the flood use down antelope.
Hamilton ditch is about 6 miles below
his place + 6 or 7 miles above the
U/C.
North Channel is county line + the
main channel -
Ran off in May - about 2 weeks before the
Big Lost floods.
Flood rights disallowed in adjudication

Alvin Wheeler ~~by Lawrence Babcock~~

Lived in Moore Creek all his life.
Now farms on Controls entire place
He grew up.
Farms for a living — wells
Flood irrigate — got rid of sprinklers
~~because~~ of expense.
Benefits from sub water —
Spring Creek — No water until
last 2 yrs —
Objection — reasons — sprinklers
Stipulated that watermaster would not
~~be~~ put water in Spring Ck —
Water rights 1896 1400" / 1886 80" / Storage / well — 1968
200 acres ~~Pat Patterson~~ / Expenditure to date
Irrigates early May — as soon as
water is in the canal.
Early water in canal comes from
Antelope Ck via Big Lost — D/S
Cost low because of storage
Takes 1 year to bring up the Sub in
Lost River Valley — still not up
after 3 good years
Makes his irrigation inefficient.

X-EXAM of Wheeler (Tolstad)
Short of water in 1996 — started pump
Never requested mitigation.

Affidavit of Wheeler by Lawrence Babcock –
Well became non functional in the
drought years –
Did not rebuild well
Deepened house well –
No water in Spring Ck –

Dale Smith – called by Babcock
sworn & for both
Lived 1 mile south of mouth all of his
life – from 350 acres
152 of various priority rights –
Supplements well
Flood + one sprinkler
Floods because cheaper, recharge
Wells dried up in the drought to less
than livestock –
Couldn't afford to reconstruct well
Redrilled Deanie from 80 to 135'
Early May begin irrigating – sources
Antelope to begin with
Injury would result if Antelope Ck did not

Foster (X EXAM) of Smith
Sheet in 1994 –
Requested mitigation? no
Watermaster control – yes, heavily
Feels it is already overappropriated
Likes environmental

T808 – Exhibit E
Foster objects –
(a) Not complete
→ Request to admit withdrawn

Seth Beal

34-7430 = 3 rights of 4c" each
1884, 1984, 1892
1961 well right
Doesn't want river broken below Moore diversion
How do we protect integrity of recharge agreement?
Well productivity cut during the drought
350 "lbs/100" after maintenance
60" now
As a County Commissioner have encouraged diversion into UIC to stop flood damage in last 2 years
No problem if water is being wasted to the desert to take our water
Wants better administration

-7247 – no impact of his well –
-7410 – Local public interest – felt that the 2 yr restoration of the recharge made some progress – felt that consensus was ok for

existing uses, but not for new development.

X-Exam (Foster)
none

by Mark Bridges —
Ticket/work up to the recharge agreement
not aware of application during the negotiation
Wanted to legalize pasture by using
the high water
7430 could be some structure

by Lawrence Bobcock —
Reconstruction — new boards, stronger
motor (25hp larger)
Redrilled 3 wells (2 dam / 1 stock)
Damn blame pumpers blame dumps

by Haggen —
relations to recharge agreement —
priorities —
Priced & identify deeded waters
Excerbates problem of [illegible] water

Lois Bleak —
Had well 1 mile from well orchard —
two years without water
People using more water than authorized
Impact on environment —
Moved to town —

by Dabaut —
did you rely upon antelope? yes

by Foster
Sold farm in 1993 to the son
Protested for 20 years
1st hearing

— Break for the Evening —

Thoughts — ① need water dist 34 records for Admin Notice
② Timing & Need for amendments
③ Briefing
ⓐ Mitigation of new wells-vs-existing
ⓑ Existence of moratorium in Basin 34

David Shaw
ERO Resources Corp.
Bachelor/master Ag. Engr. Utah
Work exp/exp with Bright/Role in WD34 rules
Role in Felsten report/publishing/Expert witness
→ Motion as an expert witness
Scope Norm — water supply & admin in Bas. in 34 & Weld Basin
Water supply, allocation, distribution, adjudication
Sorenson — Assignment
① Water supply ② effect in Basin 34 + GW

-7247 Unappropriated water
① Looked @ Area Gauge 1947 to present

- Considers that water at that gauge is excess to development needs in valley
- Gauge does not measure underflow -
Rolston & others reports that a underflow exceeding 300,000 A-F

admitted — Applicants exhibit #1 —
developed area of Eng. Flats

admitted — Applicants exhibit #2 —
hydrograph of flow of Big Lost River —
Seeks requested USGS records.

Basis his opinion on average year flow of 100 cfs to 200 cfs throughout the year
Looks @ 1979-86 as pre drought post development period
Post drought based upon 1995 + 1997

Concludes based upon this that water is available

Local P.I. — puts Summary Sheet with other GW users with more power & users applied later

Cons. of Water in Idaho
Transfer out of Basin — need to have use in Basin as well to apply outside
Not contrary

Relative to ESPA – I

Additional diversion will create some additional depletion on most years – town is short on some hot dry years – incremental

Drew attention to the policy guideline for trust water 20-s acre new development does not require consid. but it does require of trust –

① P.I. – non ag economic utility

② Affects Electric utility rate – major impact on plant

③ Family farming tradition – town is a family – pasture of that

④ Full Eco. develop. – water will be use without impact on others to meet request

⑤ Target development policy – monitoring the water for existing land applic.

Dam 34 – Mitigate by rule –
ESPA – not applicable

-7410 – New land development (320 acres) Unappropriated water available – yes Would not affect TPCO significantly because aquifer dimension is that not precise in terms of location & effect

– 96 Dam – of moratorium

– mitigate by rule in Basin 34

– ESPA – distance location + amount – not a segment effect

7430 – Positive impact on g.w. – keeping C.U. – no change – going on existing lands now owned by DCW only substitutes
Input on ESPA – temp deletions better of relying – but not able to access with tools available

Brock –
Foster – probably looking @ a 4910 acre unit & larger DCU – also some rearranging of lands – plan to amend at an appropriate time

Ms. Bridges X-span of Dove Creek
– what role does surface water play in maintaining baseline flows in Fort Lewis?
– Are all the lands now irrigated really under rights? – Dove related the DOA claim – not yet ruled on
– Lack of water in hot spell – crop rotation problem?
No. Sorenson needs more water – Sorenson has a typical crop rotation – Sprinkler irrigated –
– 1997 report on ESPA – 400,000 AF overdraft
won't this make conservation rights
– 600 cfs of pending applications –

Env. on Title of limiting - flows need to regulate ESPA

Suggests xfer of q would be subject
No separate gage records on tributaries -

X-EXPERT - Marcus Semanko

Diff between allocation / dist / adjud.

Which applies: Alloc. rules, moratorium, dist rules -
all three -

How can dist. rules apply to a new follows?
Show lengthy answer.

Referred to mitigation rule in ~~[illegible]~~
water allocation rules - Does
mitigation detail have to be supplied.
Shaw shifted this to a situation of not being
able to measure - right if it injures
sr.

Appropriate condition - no enlisting
diversion than when CM could be
depleted.

Long discussion of when + how mitigation of
injury would be mitigated under Rule 50.04
drying outside of Basin - how do you mitigate?
Storage from upper Snake -

Long review of my Dec 1997 letter
~~[illegible]~~ moratorium in place
600 cfs of pending applications - effect on other
rights - Shaw are they supplemental, are
they surface or gw etc.

Protestants exhibit A —
Willing to supply location of other wells
on a map if requested.
Would supply information on cost if useful
for wells in Sec 34 close by
Question on previous memo dec on 7247 —

ssh — Oral notice of ESPA q.w. study of 1997

Conveyance loss — Shaw was
questioned extensively —
suggested measurement

Family farm — 960 acres —
— 743 could be irrig —

Adverse impact on aquaculture?
Not measurable.

effect on minimum stream flow in
the Spring — don't know

X-EXAM Shaw by Hoppe
— Questions about location of proposed
diversion
— Any water rights below the one gage
(maybe one)
— Monitor wells on a deep aquifer

Relstar GW right 4700 A-f/yr are gw pumping.

Are consumptive in 8 mi 34 - ?

Max 2½ a-f/a are pumping! ¾ a-f/a

Illegal uses after 1971 & 1963 - Davis explanation of no prohibition against using water w/o a right until 1986

Rebuttal by Babcock -

- Crosswater report - 425 c/s unappropriated but some may be not economically obtainable. How much do you think is obtainable? Ans: economic location determines.
- Drying gw. uses - Plan assumes after that expenditure of money for loss of crops is an ongoing
- Mitigation - GW users need to be treated as a group - yes. Yes advantages as a group, but not reqd.
- Reasonable pumping level - not an issue in the Big Cost Basin above "A" line
- Local public interest - 4201501 stds

Rebuttal by Hueftle -

Rebuttal by Symons -

34 - expansion right from well 2

Charlie Huggins
Read Protest letter into the record

X - Exam by Mr. Hoppe -
Agree with Mr McCoy -
Litany on fish + environment

X - Exam by Monti
Recharge agreement - Antelope Ck important to the recharge agreement -
Would the approval of 7450 impact adversely the recharge program - yes

X - Exam by Babcock -

Marti Bridges - TRU
1700 members of TCU/MAEV on Big Lost
Concern that mitigation rules apply only to existing rights = not new rights
Wants upfront mitigation - but water not paper is valid could be cash -
Legislation purpose was to prevent Diversion from prematurely lifting the moratorium.
Based upon the Dec 1997 letter - how did we get to hearing
Concern about having to allow the other pending applications
A & B call - water from ESPA flats area gets to 1000 cfs slower
Antelope Ck & Big Lost River are 303d limited because of flow depletion

— Misdemeanors committed - illegal water use untreated.
— ± 2428 well - excess water derived illegally —
— 7410 not in public interest only permits
— Big cost fishery great in 1976 — dam hill since — declination of data by underwaters — mismanagement by IDWR
— No confidence in permit conditions being enforced adequately.
— Flooding a good thing — no longer documented on Antelope Ck.
— Encourage futile calls
— Deliveries secondary right should only be used when primary water available farmers seem to "shop" for rights
— Bad faith to be negotiated recharge settlement
— Measuring program on wells needed before any further development
— Adjudication needs to be finished first
— IWRB requested — but said fully appropriated
— Sources expanded beyond what is entering the aquifer law —
— Must be maintained — flow rights may not be monitored
— Cut-N-Put precedent for small but insignificant impacts

X-Exam - Bridges by Foster

- ~~Cook~~ Instigator? - Crop damage a loss
- Not suggesting buying out FAR values
- Personally observed decline in fishing above Mackay reservoir - Below reservoir spring ck
- Fishing above res above stable
- Recognize drought affected the fishery

X-Exam Sequeco

- Request for min flow to Pond 1993 -
Big cost more to Arco.

X-Exam - Babcock -

Norm Smallwood — reserved right to present argument in final or written brief.

David Bleak -

In valley since 1966 - moved from Filmore in 1986
Flood irrigated farm except 14 acres last few years on
Hey Green Livestock Dairy with
Supplemental well — 1974 applied for permit - put in well in 1982
upped that time spot by without it several weeks in last season - after drought - well wouldn't provide full flow -
Pumping @ Orchard - 1 & 1½ miles away + 5 or 6 others injured his pumping

Problems with wiring water not flowing across field when cut is down —
Couldn't get across 1/3 of ground.
- Uses antelope ck water via Big Lost early in season —
- Public water criteria —
Used to catch 2 to 3 lb rainbow on Big Lost River & Jones Ck thru his property

X-EXAM — 6/1/84 -67" 6/15/85 5/31/85
Big Lost rights

Wants 200 acres.
2/12/74 gw right.

Vern Walker —
- Lived in Arco area since 1927
Cows/cattle/Cattle/Used to be purebred
- Hay/Grain/Cattle
- Flood irrigation 80 acres
- Sub-irrigation to 80 acres 1931 - 20'
- Dug wells several times - 1960 redug deep down to 26', put 16' sand point down Mid 80's put in drilled well - wl @ 30' down another 30 ft. - did not have to deepen in the drought
1/2 hp & 5 hp pump
Spring creek goes thru property dry in 1933 to 1939

dry on often time
— dry 1985 & 1997
caught fish in the creek
started to flow in August last year
more than this year
tributary of Big Lost River or Part
of Big Lost ?
50% drink Moore to Mondai
50% drink Moore to Fm -
Subsidizing pumps
Assessment from BLRD for
subirrigation
pumping effects subsided
Water table lower in current drought
than 1930's drought

X - Expert - Ample
- Richest recollection - Forest of willows +
- Cottonwood - lots of wildlife - No willows
- now
- Outdoor life is part of her life

Gerald Stewart —
1953 moved into from between Arco &
Moore — 220 acres 100 acres farmed
was flood went to sprinkler
Potato farming times — 2 wells 1961/1970
drought hit — 220" well stopped pumping
other pumps were turned on
160' deep.

Sold off land in the drought cost to cash to WEEC — 80% stock even though water leaving on both ends of valley. Wells wouldn't pump. Where are printouts? — Laurette or Jorge have —

Hi tech remotes — other pumps effected him in hours — like Chaney

Mitch has radio (Morgan Hill) — Served 2 terms on SCRID Board Served 5 times!

UC Canal leaked + flooded over to the point he couldn't farm part of his land. 315 ft down to well.

LARMAND D. ANDERSON —

- 3 surface rights — 1 well right
- Flood irrigate only
- irrigated all his life"
- Extra water comes from Calaveras via Big Last.
- Turned most of water down UC canal this last spring —

⇒ Water right out of Big Last River @ Howe 6/1/1962 — Brother in law

- Talk of 3 pumps — Calaveras, Howe, Arce

⇒ 50 cfs right from Spring @ Arce

⇒ This spring right not filled since 1985

Now flow 15 to 20 miles -
1958/59 - Naylor denied it w/ Segment -
Cowell removal of dam "subsequent method"

91 or 92 water rights in entirety
+ tributaries in Hydrologic Report
May be missing water rights for Dry
Spring - Shawn's Ranch
285 cfs already decreed in the
drainage -
200 cfs extra just basic amount for
any length of time any year.
Fully or overappropriated

BLM Right 34-00012 in Antelope
7/31/1905 - 100 cfs

admitted Protestants exhibit F

Post hearing date — mail at end of admin notice
Briefing -
~~Prop Applicant~~ - Simultaneous - 30 days
Reply 14 days

X-Exam of Anderson by Rupe -
Environmental Literacy
Grand Meadows / 38 large pile of
dead cattle - thistles -

Ray Boyack

Born + raised on Moore/Acord area -
26 years @ Darlington living between
two channels of Antelope ck. now UC and
Live on - farm now east of moore
Hay Grain & pasture -
Spring creek channel thru farm
- now flow year
- Fished Sp Ck as a kid
- Camped on SpCk in 1957 - caught
fish
- Many few years/ Antelope ck flowed
a surplus -
- Last 2 yrs have probably been
more water in Antelope than any
other time in his life.
- Farm @ Moore - GW levels is
still down from normal.
- Spring Ck dry April 1955 to Aug 1992 -
because of action of DCR/O & water
- Well west dry (50' well 1988 -
Dry again in 1989 -
Elects pump around him -
Pulled to 92 feet in 1991
OK since then.
Water would come back in hole
fell on ~~water~~.
- Wells around him pumped to
outside of valley

Early water comes from Antelope Ck —
Served on Irrig Dist Board —
BCRD right from Antelope Ck only
to be used in the District.

Adams
Nalick

Order T 808 — 100 cfs Antelope Ck
1905 —

X-Exam — P. Ampe
Environmental literacy

Peter Ampe
Rob Martin — F&G
B.S. Zoology
M.S. U of I
Fishery Biologist in Region 6 (7yrs)
— Environmental Literacy
— Review of reports & literature since 1977
— Expert witness for stream habitat &
Foster — Natural flows are ideal — changes
Existed fish have adapted to high flow in Spring
sustained flows in Summer
Pools & flow in the winter
Big Lost Elbow Moore dries —
assumes conditions have existed
but undoubtedly affects by dewatering
temp quality low water flows
Potential — large trout 30 to 40 miles
below area —
Kamloops in POX Canyon

Cottonwood/Aspen would sustain flows long & provide habitat.
Need episodic high flows for cottonwoods — "Need flooding" all good things —

Water flow records —
- 28 gauge — ave 500 to 600 cfs in May July take 20 to 30% will would hurt Cottonwood regeneration
- Rainbow trout would be hurt - could dewater gravel bars with eggs in the gravels (Need spawning)
— Surface water is just upper g.w.

40-50 miles below Area - any flow are important for fish & wildlife.

Wildlife - geese + potential endangered species - need to stop actions that adversely affect geese

303d list — antelope ck —
1994 & 1998

Spring ck to Big Lost — 16 Miles

Big Lost — Mouth D.C. to Hiway 26

Fails to meet beneficial uses
temp, sediment, flow alteration
dissolved oxygen - nutrient levels -

Reduced flows affect these contaminates (make worse)

Mitigation - riparian fencing
remove livestock, set back
crops

Running Machines in the stream could
affect sediment - short term

Reclamation efforts for ESPA -
Phase 1 28 cfs for 14,000 cfs
Phase 2 - New delivery system - IMA-F
to increase flow to 1000 cfs.

Hurt & help fish & wildlife - would
have to be conditioned or would hurt
as how applied for.

Brad

Mr Anger — EIS studies of fish habitat

E303(d) list administrative allow
Mr Foster's chance
to object

37

EXAM Martin by Swenson

Do you understand the flow conditions that would exist when the 200 cfs 7430 was going to be diverted.

— Don't understand (Martin)

— Ideal conditions — don't remember — Martin clarified along / my notes.

Hasn't Big Lost flow already been impacted? Yes - by irrigation.

Antelope Ck dry already at times

Sage Grouse
Antelope
Lincoln Sparrow
Songbirds

Does Foraland in Valley provide habitat?
Sure - may not be the best.
Hunting season for Sage grouse / antelope
Probably but not certain -

Lengthy questions on Exchange
34 - 07571 & 34.07523
1995 printing

Have protestants ~~filed~~ heard & ~~have~~ contra rights to FFG.

NO!

Any water rights filed by FFG?
in Basin 34.

NO!

Would you prefer to have the existing land irrigated from surface or g.w.?

Ans. Further down basin the better.

Better to take flood flow or better to pump g.w. to offset lower flows?

Depends upon actual conditions.

Benefit to wildlife or irrigation?

Yes, but not to the species in decline.

Net benefit to irrigation or wildlife -

Ray Bogash — Merrill

Does leakage for UC add to GW in Big Lost —

Not much

very little leakage —

small ~~stream~~ → fit in channel

Applicants Pet —

34-07430 — offer to include

Paragraphs page 3 — Plan of Study

34-2571

Req. for recharge — Last two lines

"From Big Lost River Downstream"

Admin Protest

Add Marti Bridges to list —

+ Peterdumpe

BEFORE THE IDAHO DEPARTMENT OF WATER RESOURCES

In Re:	)
	)
Water Right Hearings -- Big Lost River Drainage, Application for Permit Nos. 34-7247, 34-7296, 34-7410, 34-7483, 34-7486 and Applications for Transfer Nos. 34-0496/0692/T921, 34-2417, 34-2419 and 34-2428.	)

DEPOSITION OF STEVEN J. BAKER

JANUARY 31, 1990

BOISE, IDAHO

MICROFILMED
FEB 11 2000

BURNHAM & ASSOCIATES, INC.
Certified Shorthand Reporters
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Boise, Idaho 83701
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ORIGINAL

Reported By

Pamela J. Leaton, CSR, RPR

BURNHAM & ASSOCIATES, INC.
439 Main Street - Post Office Box 835
Boise, Idaho 83701 - 208/345-5700

- Change Sheet -
(Please print or type in ink)

PAGE	LINE	READS	SHOULD READ	REASON FOR CHANGE
9	5	Helen Robertson	Alan Robertson	Incorrect
16	23	his	this	"
29	19	cutting		
35	7	upgrading	up-gradient	Incorrect
37	22	cparse	coarse	"
38	8	aquifer	aquifers	should be plural
38	17	meet	meet flow	missing word
43	25	head	wells	incorrect
50	21	upgrading or downgrading	up-gradient or down-gradient	incorrect
52	11	sliced	spliced	incorrect
56	19	feet	feet	"

NAME OF DEPONENT: _____ SIGNATURE _____

DEPOSITION OF STEVEN J. BAKER

BE IT REMEMBERED that the deposition of Steven J. Baker was taken by the Applicants at the offices of the Idaho Department of Water Resources, located at 1301 North Orchard Street, Boise, Idaho, before Pamela J. Leaton, a Court Reporter and Notary Public in and for the County of Ada, State of Idaho, on Wednesday, the 31st day of January, 1990, commencing at the hour of 2:00 p.m. in the above-entitled matter.

APPEARANCES:

For the Applicants:
HOLDEN, KIDWELL, HAHN & CRAPO
By: **Kent W. Foster**
330 Shoup Avenue
Post Office Box 50130
Idaho Falls, Idaho 83405

For the Protestants:
NELSON, ROSHOLT, ROBERTSON, TOLMAN & TUCKER
By: **Gary D. Slette**
142 Third Avenue North
Post Office Box 1906
Twin Falls, Idaho 83303

For the Department:
PHILLIP J. RASSIER
Deputy Attorney General
Department of Water Resources
1301 North Orchard Street
Statehouse Mail
Boise, Idaho 83720

I N D E X

E X A M I N A T I O N

STEVEN J. BAKER	PAGE
By: Mr. Foster	4

E X H I B I T S

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1	Open-File Report - Review of Ground-Water Conditions in the Big Lost River Valley	14
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3	Memorandum to Norm Young from Steve Baker, 7-14-89	22
4	Water Resources in the Big Lost River Basin, South - Central, Idaho by Crosthwaite, Thomas and Dyer	33
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9	Chart on water level in Well 05N-26E-23CDA1	61
10	Chart on water level in Well 06N-25E-03AAA1	61

Whereupon the deposition proceeded as follows:

MR. FOSTER: Stipulate that this is the deposition of Steve Baker.

STEVEN J. BAKER,

a witness having been first duly sworn to tell the truth, the whole truth and nothing but the truth, testified as follows:

EXAMINATION

BY MR. FOSTER:

Q. What's your full name, Steve?

A. Steven James Baker.

MR. FOSTER: I guess it's being taken pursuant to stipulation, because we haven't had time for notice, and subject to the Idaho Rules of Civil Procedure.

Gary, is that acceptable?

MR. SLETTE: I'll stipulate to that.

MR. FOSTER: Off the record, before we go ahead.

(Whereupon a discussion was had off the record.)

Q. (BY MR. FOSTER) I believe we already got your name on the record, Steve. Would you state your address, please.

A. Home address?

Q. Please.

A. Okay. 3506 Wood Acres Drive.

Q. And how are you presently employed?

A. Employed with the Idaho Department of Water Resources.

Q. In what capacity?

A. I'm a hydrogeologist for them.

Q. How long have you been with the department?

A. Since October '85. Four years.

Q. And what did you do before that time?

A. I worked for South Dakota, the state of South Dakota, which I think their department is Department of Natural and Water Resources. I worked for them for six months as -- the title was hydrologist there.

Q. Has your title been hydrogeologist ever since you've been here?

A. Yes. And I don't know how far you want to go back in my history.

Q. Let's go back.

A. Okay. Then before that I worked for a consulting firm in Midland, Texas. It was a ground water consulting firm that did a variety of water supply and contamination studies. I worked for them close to two years. And then prior to that I worked for Texaco

when I first got out of school. And worked for them close to two years as a geophysicist.

Q. Tell me your educational background.

A. I went to school in Illinois. That's where I'm originally from. The name of the school is Eastern Illinois University. I got my BS degree in geology from there. And then ever since then I've been employed. I've taken courses at, like, BSU, being an example, and other short courses. Things like that.

Q. You hold what degree, then?

A. A degree in geology.

Q. Is it a BA or BS?

A. BS. Bachelor of Science.

Q. And no real postgraduate work except for additional short courses?

A. And I've taken some graduate level courses at BSU and that. And some courses that the U.S. Geological Survey puts on at their training center in Denver.

Q. I'll let you have a little fun with us. Tell us what the difference between a geologist, a hydrologist and hydrogeologist is, if you will.

A. I guess a hydrogeologist, to me, is more specific in nature by definition, a geologist that is involved in ground water, some capacity of ground water.

A hydrologist, as I look at it, is involved in

some aspect of water, but it doesn't have to be ground water. It could be surface water. And so therefore it doesn't -- a person does not have to have *much* geology background.

And the geologist is kind of a -- you know, just a generic term for -- you know, it depends on what specialty. He could be a petroleum geologist or a mining geologist. A hydrogeologist is just, you know, a prefix added on to it to specify what specialty in geology.

Q. Your training at the college level, did you specialize to any degree in a particular aspect of geology?

A. In the bachelor's degree, you really don't. They give you just the basic fundamentals. So, you know, I just took the basic courses that required -- they have a field camp you attend and that. But I think most universities have the same kind of curriculum.

Q. Your specialty or specializing in hydrogeology, then, has come primarily as a result of work you've done?

A. Yeah. I would say that. I started in petroleum and for one reason or another didn't like it, so the door was opened to me to move into ground water. And, you know, ever since then I've been -- this is my

home. This is where I like to work.

Q. Did you do that kind of work either with the consulting firm or in -- was it South Dakota?

A. Yes. South Dakota. Right. Yeah. I sure did. Right. When I started with the consulting firm, I was doing a lot of -- well, grunt work, you know. Going out and supervising wells being drilled, you know, collecting water samples, things like that.

I progressed through my own self desire to, you know, pick books up to read and try to attend courses to expand my knowledge.

Q. Since 1985, then, you've been here in Idaho with the Department of Water Resources?

A. Yes.

Q. Do you have a special title, or is it hydrogeologist?

A. That's the title. Yeah.

Q. Is there a department or a section or something within the Department of Water Resources that you work in?

A. Yes. I work in the hydrology section, which is in the -- I'm not even sure of the name of our division.

MR. RASSIER: The bureau.

WITNESS: The bureau, and then whatever division.

I don't know the names of them.

Q. (BY MR. FOSTER) You know what you do.

A. Yeah.

Q. Who is your immediate supervisor then?

A. Helen Robertson.

Q. And is she the chief of the section?

A. Yes.

Q. How many hydrogeologists or hydrologists are there in that section?

A. Well, there's myself and one other, Paul Castelin. He's a senior hydrogeologist by title. And then there's -- we're the ones that do ground water activity predominantly. There is one exception, in that there's a person name John Lindgren who is a civil engineer by education, and he does ground water modeling. He is involved in the Snake River Plain aquifer model that the department maintains. That's his basic responsibility.

Then the other people in the department -- in the section are surface water oriented people, Bill Ondrechen. I'm not sure of his actual background. Some type of watershed management. And then there's Bob Sutter, who is a civil engineer, and he does surface water. He's been involved -- there's a Snake River model for the distribution of water throughout the river

system.

Q. Yes. I'm familiar with that.

A. Okay.

Q. What background or training do you have with respect to surface water supplies? Or do you have any training in that area?

A. I'd say just through experience and other people I've worked with. Just having -- you know, it's a very -- it's an ideal environment to work under, because we have the surface water people with their specialty. So when that's an area of weakness that I have, I will rely on their assistance and the data that's available, its uses; things like that.

Q. Would it be fair to say, then, your primary focus is ground-water --

A. Yes .

Q. -- problems and the analysis of ground-water situations?

A. Right. Of course, there's always the crossover when ground-water and surface-water problems arise, then I'm brought into those.

Q. That's known to happen sometimes?

A. Yeah.

Q. Have you done any writing in the field of hydrogeology?

A. Published?

Q. Published.

A. No, I haven't. There's been open-file reports within the department that, you know, we've put together for various studies we've done. But nothing that's been in the published nature.

Q. Have you helped prepare some of those open-file reports?

A. Sure. Yeah.

Q. About how many of those have you been involved in?

A. Probably about three, four. Something like that.

Q. Could you remember which ones they are?

A. All of a sudden my mind goes blank. I'm going to have to get back with you on that. Okay? Because I can find out what they were. In with us there's been a lot of correspondence and memorandum-type internal documents that we can --

Q. Sure. That's fine. Typically the mind goes blank in a deposition anyway. Before and after it works just fine.

A. When we take a break, I could dig that out.

Q. I guess to be more specific, have you been involved with the preparation of an open-file report

with respect to the Big Lost River Basin?

A. That's -- yes, I have. That, to a large extent, was completed by my -- one of my predecessors with the department, Stan Szczepanowski.

Q. Is it possible to spell his name?

A. Yeah, but I'm not the one to do it. And I don't know if -- I don't think I have the open-file report that has his name on it. I don't have a copy of it with me. I could bring it later.

Q. Oh, do you have a copy, what appears to be a copy?

(Whereupon a discussion was had off the record.)

WITNESS: As I recall, he put together the report in '84. Somewhere in '83 or '84, it seems like, and it never got finalized. And he left, and then it was kind of shelved for a while, and then issues got going again in the Big Lost, and we felt like we had to get it finalized.

So I didn't add a lot to it, really. I updated some of the data and edited some of the language in it. But otherwise, it was pretty much Stan's work.

Q. (BY MR. FOSTER) Mr. Baker, I have a copy of the document that purports to be the open-file report you referred to, I believe. And I think Mr. Aikele just

showed you his copy for you to get Mr. Szczepanowski's name from.

My copy appears to be a photocopy of a FAX'd copy, and this may not be the very best one to turn into an exhibit. Do you think maybe -- off the record.

(Whereupon a discussion was had off the record.)

MR. FOSTER: Back on the record.

Q. (BY MR. FOSTER) You've referred to this document. It's entitled Idaho Department of Water Resources Open-File Report, Review of Ground-Water Conditions in the Big Lost River Valley. That appears to be on the cover with the logo of the Department of Water Resources. And then the first page inside the cover purports to be a preface signed by Steven J. Baker. I assume that's you?

A. Yes.

Q. In May of 1989. And you mention at the outset, "This report was originally drafted in 1982, but was not completed for release prior to Mr. Szczepanowski's resignation."

So that seems consistent with what you've told us.

A. Uh-huh. The date, I guess, was '82 instead of '84.

Q. That's probably when he first drafted it, then, would have been in '82?

A. Yeah. He left before I came on board.

MR. FOSTER: Although we'll substitute one for this, let's have this marked as Applicants' Exhibit Number 1.

(Whereupon Applicants' Exhibit 1 was marked for identification.)

Q. (BY MR. FOSTER) Now, let me come back to some more general questions again.

Mr. Baker, what is your familiarity with the Big Lost River Basin, if I may refer to that.

A. Uh-huh. By "familiarity," you mean just --

Q. Well, when did you first become aware of its existence and how and what --

A. Well, as soon as I started with the department, I started getting familiar with the physiography of Idaho, and so I knew within a short time there was a Big Lost River Basin that existed.

Q. Okay.

A. As far as when I first started working -- had anything to do with it, I almost -- I may have -- it really seems like what's come about just since Stan's report and subsequent memos that I've put together, is really probably of -- I think that's about when I first

did anything in the Big Lost.

Q. Do you recall when you began that project?

A. With the memos and -- well, probably this past summer or something like that.

Q. Before --

A. There was a time -- I think I refer to it. The U.S. Geological Survey have done several studies. And the most recent study was done in '85, '86 period of time by Sally Goodell. And when we -- when Paul Castelin and myself were out in the area for other reasons, she took us on a little tour about it and told us what her findings were. That was maybe my first hands-on exposure, but I wasn't actively involved in the basin at that time. It was more of just get acquainted.

Q. So your first formal assignment with respect to any work in that basin would have been the completion, then, of this open-file report?

A. Right.

Q. And you think that you began that in about when?

A. Well, not too long before it went out.

Q. So probably in 1989?

A. Right.

Q. All right. Now, I think you referred to some other studies that you're familiar with, some other work

that's been done in the Big Lost River Valley or Basin. I think I recall having seen in here maybe a list or like a bibliography of those kind of things.

Do you recall that?

A. Yeah. At the back of the report there's, I think, a pretty complete bibliography.

Q. You're referring to page 29?

A. Yes.

Q. Just tell us briefly what things you have personally studied, then, in the preparation or the completion of this report?

A. Well, Crosthwaite, Jerry Crosthwaite, who was with the U.S. Geological Survey put together this -- one of the most comprehensive reports. There were earlier studies in the basin, but this one was specifically oriented towards the Big Lost River Basin. And it was done in the late '60's, early '70's, published in '73. Or excuse me. Actually there's two reports, one in '71 and one in '73.

That's probably the foundation for a lot of what I had built my knowledge upon, is work that he did. That, I'd say, was the basic information I used.

Now, I see his earlier report that was done by Stearns, Crandall and Steward, USGS personnel in 1938. It was more of a regional report of the Eastern Snake

River Plain and covered -- there was a section of the Big Lost, but it was nowhere near in the detail that Crosthwaite's report was in.

Q. You've reviewed that, though?

A. Yeah. And then what is not shown on here was -- and it's still -- it's not complete, is Sally Goodell's work in '85. That's still going through review and will probably be a year or so before -- since she's left and stuff, it's kind of slowed things up.

Q. That's the United States Geological Survey?

A. Right. I've had contact with her and also the person that's asked to complete it, her supervisor, Jerry Lindholm. I've had contact -- discussion with him about her findings and things like that.

Q. Have you seen anything in writing?

A. I've seen the drafts in writing. Yeah.

Q. And so you've reviewed them?

A. I've reviewed them. Sure. Yeah.

Q. You correct me if I don't use the correct terminology, Mr. Baker. As I understand it, though, there may be at least a couple of levels of work as far as doing a project in the basin like the Big Lost. You might do a lot of technical analysis of existing data.

A. Uh-huh.

Q. I guess you could do some fieldwork or

collection of data or something of that nature.

Have you done any of the fieldwork or collected any data?

A. No. I have not gone out and visited well owners, measured wells or things like that.

Q. To your knowledge, has the department done any of that?

A. Yeah. I know they have. Our eastern regional office has had people out there. And Paul Castelin has had some involvement in the Big Lost on other related topics related to ground water, surface water. And he may have in his past been out there, so there has been personnel out there doing a variety of work. Most of the data, though, has been collected by the U.S. Geological Survey. I don't think that would be disputed.

Q. Do you recall specifically any additional data that you've reviewed that was collected by IDWR personnel?

A. Any additional data since Crosthwaite's study?

Q. I'm sorry. Any data in addition to that developed by the United States Geological Survey.

A. I don't believe so.

Q. For instance, the department hasn't drilled any test wells, to your knowledge?

A. No. No. All that comes to mind is stuff that was -- you know, most of the original data, baseline information, was collected in Crosthwaite's report. And then when Sally Goodell did her study in '85, there was additional data collected then. Other wells were measured. There was seepage measurements of streams. You know, that's the data that I used to draw my conclusions from.

Q. I assume the surface water data may be information that the Idaho Department of Water Resources would have some access to because of water master reports or things of that nature?

A. Uh-huh. Well, for one, there's a cooperative agreement with the U.S. Geological Survey on monitoring of stream flows and wells that we have with them. So there's ongoing data that's collected that we work with them. They collect the data, and we supply half the funds for it.

Q. Does the USGS maintain stream gauges --

A. Uh-huh.

Q. -- on the river?

A. Right. We have -- I think if you're talking about information as far as stream flows -- well, distribution delivery from the Big Lost Irrigation District or something like that, I don't think the

department has had -- I don't know, but I don't believe they've had any direct involvement.

Q. Who would keep track of records that would show us total precipitation in this basin; that type of information?

A. Where precipitation gauges are and stuff like that?

Q. Yes.

A. Well, that can be with the -- was it the Soil Conservation Stabilization Service? They, I think, collect a lot of that information. I think they're the ones that maintain most of the weather. I think there's one other agency, but I can't think of the name of them. I will acquire that information, but I'm usually relying on somebody else in our section to get it, so I'm not the one that has direct --

Q. That's fine. Have you studied that type of information in addition to the Crosthwaite and other reports and the other information that's been available to you?

A. As far as -- I wouldn't say in addition. There's work that Crosthwaite did in his report in regard to rainfall. They had a fair clustering of precipitation gauges during their study and tried to get a feel for the rainfall distribution throughout the

basin and stuff like that. But in most of my work I have not used that kind of information.

Q. Now, in addition to the open-file report that we've been discussing, have you prepared any other documents in the form of memos or any of that type of written material?

A. I believe you're looking at two of them right there. That's the only two I've put together regarding the Big Lost.

Q. Again, these are my only two copies, and I guess both of them are FAX'd copies again, so if we can substitute a better copy. But for purposes of referring to them, would you identify those, Steve?

A. The original memo I put together was June 23rd, 1989, and it's entitled "Proposed boundary where ground water and surface water are no longer hydraulically connected in the Big Lost River Valley."

And then I had a supplemental memo related to this topic that I put together on July 14th, '89. And it's titled "Possibility of a Transition Zone near the Mouth of the Big Lost River Valley."

Q. Would there have been any other memoranda, even in-house memoranda, other than those two documents that you can recall?

A. No. That I was involved in putting together?

Q. Yes.

A. No.

MR. FOSTER: Let's have the memo that Mr. Baker identified as -- dated June 23, 1989 be Applicants' Exhibit Number 2. And the memo dated July 14, 1989 marked as Applicants' Exhibit Number 3.

(Whereupon Applicants' Exhibits 2 and 3 were marked for identification.)

Q. (BY MR. FOSTER) Do you have copies of those memos that you can refer to with you?

A. Yes. Right here.

Q. A lot of this memo may be self-explanatory. You state in it -- I believe this is addressed to Mr. Glen Saxton. Who is Mr. Saxton?

A. He is the bureau chief of the Water Rights Bureau. Is that --

MR. RASSIER: Water allocation.

WITNESS: Water allocation.

Q. (BY MR. FOSTER) With the Department of Water Resources?

A. Right.

Q. Is his office also here in Boise?

A. Sure. Yes.

Q. And so you probably spoke personally with him?

A. Yes.

Q. And you indicate that the purpose of his request, as you understood it, was to see if you could define an area where additional ground-water development could occur and have no adverse effects on surface water users in the valley.

Specifically, as I understand it, he asked you to -- or asked the hydrology section to see if they could delineate a line at the mouth of the Big Lost River Valley where ground water and surface water are no longer in communication with each other; is that correct?

A. Yes.

Q. And you subsequently made an attempt to do that?

A. Yes, I did.

Q. How did you go about that, Steve? If you could explain that to some lay people that don't have the foggiest idea what imagination goes into that sort of an effort.

A. Do you want me to make a synopsis of what I said in here?

Q. Could you?

A. I used data that the U.S. Geological Survey collected during their study in '85.

Q. Excuse me. Let me interrupt you there.

Specifically what data? Can you identify that?

A. Well, yeah. They collected water-level measurements in wells near the lower part of the valley, is what their study concentrated on. I forget how many wells they visited, but I'll say probably 150. Something like that. And they also did seepage measurements along reaches of the Big Lost River where they measure flow on a set period of time and determine if the flow has increased or decreased between the two different sites that they measured. And they would do that down until the mouth of the river.

I used those two basic sets of data to use to draw some conclusions from. I used the water-level data to generate water-level elevation maps to determine the direction of flow in the valley and the elevation of the water level -- water table relative to the land surface. And the idea being is when the water level was -- the elevation of the water table was consistently below the land surface at adjacent -- I should say adjacent to the river, whatever the elevation of the river was, when it was below that, that was the point that I assumed was where hydraulic separation between surface water and ground water existed.

I also used their seepage measurements that they had in the area that supported that at best -- to

the resolution that the data allowed. We're looking at, you know, spacing of wells of miles -- several miles apart, so, you know, there is some room for some level of inaccuracy here with spacing without knowing exact elevations.

So I used that information to determine the location of where the surface water was permanently above the ground-water levels so that the river at that point would be so-called perched and the ground water would be no longer tributary to the river. The river would ultimately lose whatever water was in it to the ground water, and the ground water at that point would never go back into the river.

And from that information, drew the point, and then based on the water-level elevation maps I made, I developed flow lines which are lines perpendicular to the direction of flow up from that point, up gradient. And based on information that Crosthwaite had in his report, I included a buffer zone in regard to -- since my line was assuming a static-type ground-water system, when indeed it's dynamic, I had to account for any effects from pumpage of ground water. So I added a mile buffer surrounding that line to account for effects from ground-water withdrawal.

Q. May I stop you there and ask you just quickly,

tell me what you mean -- distinguish between "dynamic" and the "static" system that you mentioned.

A. Well, the water levels that I used were one slice in time. They were measured -- I used two different sets of measurements. One was in the fall, and one was in the spring. And I used those as -- I compared both of them, so, you know, -- they covered two different times of the year so I could see how significant the difference was.

But they are static. They're looking at one event in time where the ground water is dynamically changing its level based on natural and man-made -- man-caused effects. So the man-caused effects being pumping and effects on the water table from that. So that's what I mean, I guess by "dynamic."

Q. Can there be any other causes of that dynamic condition?

A. Yeah. Natural causes there, too.

Q. Such as?

A. Just changes in annual water supply to the basin. Variations in that in itself.

Q. And that would move the point or the line either up the valley or down the valley, depending on the conditions?

A. Right. As I state in my memo, the '85 data

that was collected appeared to be -- 1985 was pretty much a normal year for the Big Lost based on streamflow data for the basin. There's a gauge that measures the inflow into Mackay Reservoir, and that's above most of the diversions, so it's considered a good indicator of runoff in the valley and of available recharge of a ground-water system. '85 was considered to be an average year.

So, you know, that was assumed. Using that data, was to accept mean conditions in the ground water. And we were isolating, I guess, the dynamic effects from pumpage. We know there's dynamic effects from natural conditions, too.

Q. And you apparently concluded or established some sort of a line or a zone within which this separation should occur in a normal or an average year; is that what you're saying?

A. Right. I believe that's -- using '85 data that was considered to be for mean conditions. The line was based on that. And then adding in our understanding of the effects from pumpage and adding in a mile-wide buffer zone to that line, too.

Q. When you say a "mile-wide buffer zone," does that mean that the line was a mile line wide?

A. Well, if I followed the line from the point

that I determined where hydraulic separation occurred between the river and the ground water, then I went out a mile on either side. That line went up on either side of the river. And I just added, you know -- figured roughly a mile width parallel to that line to account for effects from pumpage that may alter that line.

Q. In a year that the river flows were less than average, would that line tend to move up the valley or down the valley?

A. If it was less, it would -- I've got to think about that before I stick my neck out.

Q. Sure.

A. I believe it's going to cause the line to go further up the valley.

Q. And then would the reverse be true, that in a year when there was greater than average runoff through the river, that line would tend to shift further down or out away from the mouth?

A. Yeah. I think that would be -- well, now that I think about it, the water levels are going to be higher, therefore the point of separation is going to be further down -- downstream in the river. So the line is going to be lower in a high-water year, and the water levels are going to be lower in a low-water year, so it's going to be further up the valley.

Q. You make this statement: "In order to account for the effects" -- and I think you've referred to it -- "In order to account for the effects of local pumping on the ground-water system, an area surrounding the delineated flow lines was added."

That's the mile buffer?

A. Right. Parallel to the flow line that I determined.

Q. And you say "Based on computations performed by Crosthwaite, a mile-wide buffer zone seemed adequate to inhibit any adverse effects of pumping."

Will you try one more time to explain that, again to a layman, so I understand what you mean by "to inhibit adverse effects of pumping."

A. Pumping ground water to get water to come to a well, you have to bring -- you have to draw the water down in the well to establish a gradient towards that well to get water to be coming out of the well. So as soon as you do that, you're cutting in on the hydraulic properties of the aquifer. The hydraulic properties determine the extent, the steepness, the slope and the real extent of what's called cone of depression.

And based on Crosthwaite's work, he had some assumptions and information. They did some aquifer tests to determine hydraulic properties. And from that

he determined that -- I forget his exact wording now. I'd have to pull it out. But anyways, that the cone of depression established from a pumping well of your -- I think the range was maybe 2,000 gallons from a well, average well, that probably pumps in the Big Lost, would have -- the cone of depression extent after 150 days of pumping throughout the irrigation season would, as I recall, not extend past a mile.

I'd have to pull out the report. But that was the line of thinking behind why that mile was chosen. And there's weaknesses in knowing the hydraulic properties. So that's kind of -- you know, I based it on Crosthwaite's work, but yet there's so much heterogeneity in the aquifer, the sediments in that valley, that people want you to quantify, want numbers on things, so you have to make many assumptions. And the assumptions were based on what work Crosthwaite did.

Q. Did you make assumptions other than what Crosthwaite had in his report?

A. I don't believe so. I made -- I'd have to pull out Crosthwaite's report. It's been a while since I wrote that memo. But I remember he did a variety of -- he did some "what if" scenarios, and I can't remember upstream well interaction. I can't recall exactly.

Q. Would that be something you could do quickly

if you had access to that report?

A. Yeah. You know, when we take a break.

Q. Is now a good time?

A. Yeah.

(Whereupon a discussion was had off the record and a recess was taken.)

Q. (BY MR. FOSTER) I don't remember what the last question was, but you probably do. Do you remember?

A. Well, there was a question you referred to as far as where I in that memo, the June 23rd memo, where I referred to Crosthwaite and the buffer zone. And I guess I have it right here. I don't know what you want me to do, if you want me to read what information I used from it, or --

Q. Is it lengthy?

A. It's about a paragraph.

Q. Why don't you read the paragraph.

A. For example, assume a storage coefficient of 0.20 and an estimated transmissivity of 400,000 gallons per day per foot in two hypothetical wells A and B, each pumping 2,000 gallons per minute and located 0.5 and one mile respectively from the river. After 100 days of pumping well A, 72 percent of 2,000 gallons per minute or about 6.5 acre-feet per day would be from streamflow,

and the total depletion would be about 480 acre-feet. After 100 days of pumping well B, the streamflow would be about four acre-feet per day, and the total about 240 acre-feet. The stream would continue to lose water after pumping ceased, but at the beginning of the next irrigation season the residual effects of pumping would be negligible for the well, 0.5 miles from the river and about 60 gallons per minute, or about 0.027 acre-feet per day for the well one mile from the river.

Q. And that comes from where, now?

A. I refer to it in my memo. It's his '70 report.

Q. Crosthwaite's 1970 report. And that was page what?

A. 81.

Q. May we have -- again you can substitute photocopies for these, but may we have these marked as -- let's see -- Applicants' Exhibit 4. And what's the second one, Steve?

A. This one here?

Q. Yes.

A. That's a supplemental that came out in '73. This is the bulk of the study. This was, as it's entitled, "Considerations for Water Use and Management in the Big Lost River Basin, a Supplemental Report."

Q. And that's the one you referred to as being part of the information you considered and reviewed in this?

A. Sure. Right. That's true.

MR. FOSTER: Let's have that one marked as Applicants' Exhibit 5, then.

(Whereupon Applicants' Exhibits 4 and 5 were marked for identification.)

MR. SLETTE: Now, which one are you marking there?

WITNESS: This is 5 right here.

MR. SLETTE: The little rascal?

WITNESS: Yes.

MR. SLETTE: What was 4? Was 4 the big one?

WITNESS: Yes.

MR. SLETTE: May I see that large one?

Q. (BY MR. FOSTER) Now, you read, as I understood it, an assumption made by Crosthwaite in preparing that.

To your knowledge, are there any such wells that he actually did the measurements on to make those determinations, or is that all analysis?

A. I'd have to look at it again. He had -- I didn't read that paragraph verbatim. Okay? When he talked about the transmissivity value he used, he said it was based on specific capacity data that was

obtained. And that, as I understand, is probably obtained from well drilling reports where they do production tests. And he might have used that.

But also I'd have to look at it to see if he did an aquifer test. It seems like he did.

See, he went on in the next paragraph, "The above analysis is based on several assumptions. Although the hydraulic conditions in the Big Lost River Valley do not entirely fulfill all the assumptions used in the above analysis, the conditions fit the assumptions closely enough to illustrate the effect of pumping on streamflow. The actual effect on streamflow is usually quite different."

Q. I have somewhere in the back of my mind that in addition to these assumptions that you used when you were drawing this is -- making that delineation, that you took into consideration where the legal boundaries actually were.

A. Right. That was the end of it, yeah. And then however my wording went. But to make it facilitate using a line in the administrative portion of our department, I followed the Public Land Survey Network.

Q. In other words, section lines or half section lines --

A. Right.

Q. -- or some specific survey boundary?

A. Right.

Q. Okay. Now, as a result of the second memo, I believe your effort there was to try to establish if this were the low boundary and if there was such a thing as a transition zone. And your object in this effort was to establish a northern or an upgrading or upstream boundary; is that correct?

A. Right. They asked me if there was a transition zone, a zone that was of some certain depth where you could -- above this line of separation occurred, where if they pumped it below a certain depth, it would not affect it. In other words, make it three dimensional instead of just two dimensional. Let's look at the third dimension. So that's what I was asked to do.

Q. See if you can explain that in some more detail in enough of a layman's language so that I can understand how you arrived at the conclusion you arrived at, Steve.

A. In the second memo?

Q. Yes.

A. Well, ground water is in a three-dimensional medium, so it's not just moving in a two-dimensional horizontal. It certainly can, and most predominantly

that is -- the predominant direction of flow is in a horizontal direction. But also vertical flow can exist in an aquifer system.

And from the available data in the Big Lost River Valley, it appears that there is a significant vertical component of flow besides the horizontal. And so that -- and that's a function of the -- well, for one, the elevation of the water table up in the basin relative to the elevation of the water table out in the Snake River Plain. There's a substantial difference in elevation. I forget what I came up with, about 1,100 feet or something like that, if you come around Darlington -- yeah. From around Darlington to below Arco, I figured roughly a difference in elevation of about 1,100 feet.

And then the heterogeneity of the material that fills the basin near the mouth of the basin contributes to this complexity of flow in the ground water where vertical components of flow are significant along with the horizontal components of flow.

Q. I remember attending various kind of seminars where we had men like -- oh, Dr. Dale Ralston from the University of Idaho. You're familiar with Mr. Ralston?

A. Yes.

Q. And as I recall, he had some slide

presentations designed for boneheads that don't understand hydrology. I think he has a bathtub drawn. You've seen this type of --

A. Analysis. Yeah.

Q. -- demonstration done. And I think he compares sometimes a ground-water basin to a bathtub full of sand with the faucet turned on at the upper end, and the bathtub is either tipped or you have a hole in the other end so that when it's full enough, water will run out or run over.

A. Uh-huh.

Q. Understanding that that's awfully simplified, can the Big Lost River Basin be compared to that analogy?

A. It can, in the sense that -- well, the added complexity is we're not looking at a homogenous bathtub of sand. We're looking at a mixture of more permeable units and less permeable units because of the geologic environment that changed throughout time during the development of the basin.

And so some of the units, the sands and gravel, cparse units, convey the water more readily than the finer grain units that exist.

Q. There will be layers of clay-type material that's less permeable?

A. Yes. So if you have 1,100 feet of difference between water levels near Darlington and out in the plain, you have the water leaving the basin; that is, the downward movement to move out in the plain is being impeded because of these clay layers, these old lake deposits that exist.

So you have a situation where multiple -- what appears to be multiple aquifer -- well, multiple water levels that exist with depth.

Q. If we were to compare it to the bathtub, we basically have it tipped, and it's running out the lower level -- running over to a much lower level than in the Snake Plain regional aquifer?

A. Right. And we just have in there these impeding layers that horizontally or semi-horizontally that are restricting in the upper portion of it. As you go shallower, are impeding the movement downward to meet out in the plains.

So there's concepts of -- you know, there's whether it's saturated throughout, whether the whole system is just like one big bathtub, or whether you get an unsaturated flow where you start talking about so-called perched, where these upper systems are isolated from the lower systems and there's an unsaturated zone between them.

There's not really enough information to support either one. I guess I believe the complete saturated conditions, but that -- you know, that can be disputed.

Q. What you're saying is there isn't adequate data in the form of test wells or something of that nature to really make that determination?

A. Right. As I referred to in the memo, there's the one well that was drilled by the USGS in the study by Crosthwaite in 1970 that was, to a large extent, the basis of my interpretation and conclusions that I draw, which is a well that was drilled at 760 feet that's north of Arco. Kind of between Moore and Arco.

Q. As I recall, the line you picked for the northern or the upgradient boundary of this transition zone was the township line between 4 north 26 and 5 north 26 east.

A. Yes.

Q. Now, within that zone, so that I again understand this, was the object to try to find a depth at which future wells, irrigation wells would not interfere with river flows or ground-water tables or both? What were we really looking for there?

A. Yeah. I think we were looking to protect the existing user, namely surface water. And that if wells

were constructed in such a fashion that these impeding clay layers, if they penetrated them and got to a sufficient depth where there was significant hydraulic head differential between the upper water surface, the water table and the water level in the lower zone, then it would indicate that there was pretty good isolation between this lower water zone and the upper water zone that's hydraulically connected to the river.

Q. Maybe you said this already and I haven't understood it. You talk about a phenomenon that was observed in some wells, I think in this area, that you refer to as "cascading water" is occurring.

A. Uh-huh.

Q. What does that mean?

A. Well, that means that the well -- a well is completed in such a way that there's an upper water bearing zone, but it's of less yield or whatever than the lower one. So that in the head, the water level in the upper one is shallower than the lower one, and you end up having the water just spill off in the -- you know, inside the well from this upper zone down, you know, to where it hits the water level that's maintained. There's actually a composite water level that's established. You have whatever the head is, and the lower zone is affected by this water level that's

being cascaded. It's risen. Whereas if it was totally isolated from this upper zone, then you'd have a different head -- you know, water level that would be measured.

Do you understand what I mean by "cascading," I guess?

Q. Yeah, I'm getting the idea, I think. Let me come back. Well, let me ask a further question on that.

What you're saying is that that occurs as a result of the different layers of less permeable sediments, or whatever there might be, and you've pierced more than one of them, and your well --

A. Right.

Q. -- must be perforated so the water could come into the well at more than one level, or from more than one of these layers?

A. Right. And these clay layers, isolating layers vary in thickness and real extent so that the head difference between the two is going to vary also.

Q. That doesn't necessarily tell us anything about the extent or the location in other places of those particular clay layers, or how extensive they might be, or whether there's --

A. You know, what I said in this report where I'm basing it on this well that was drilled in the figure I

include, which is in Crosthwaite's 1970 report, there is substantial head differential between the water table and this fourth water bearing zone. I forget what I figured, over 200 feet.

And there's not enough information to determine -- at least from what I understand, to determine the extent of the clay layer to allow for that kind of head difference. All I can say is just in a qualitative-type answer is that the head -- it has to be of some -- I mean, quite a bit of an extent, several miles, to allow that kind of head difference.

But, you know, it's just once again limited information to draw too many conclusions from.

Q. Apparently one of the conclusions that was drawn from this was to establish the upgradient line for this transition zone.

A. Yes.

Q. I didn't see any numbers in your memo as to --

A. Why that was chosen?

Q. -- why that was chosen.

A. Well, you know, as I said in my memo, it was pretty much an arbitrary line. I think it was conservative to choose that line, a few miles away from where our point of control was, this one well. So we felt that was -- seems that we weren't sticking our neck

out too far to make this judgment. And made the statement that as more information is collected, the northern line may be refined.

Q. Could go much further up the valley?

A. Sure. Right.

Q. You went about as far as you felt justified?

A. Right. Yeah. I didn't want to go too far with this. And as it was, I was kind of pushing the data pretty far.

Q. Now, as a result of this, as I understand it, Steve, someone in the department concluded in a specific case with reference to a particular well that's located within this transition zone that the well shall be reconstructed with unperforated casing, sealed into a clay layer of at least 20 feet thickness as determined by IDWR encountered 300 feet below land surface.

Do you have any idea how those numbers were arrived at? I understood they're based upon your memo.

A. Yes. Of course, my memo was just technical findings of -- you know, I tried to answer them as best I could with the limited data.

They wanted to have some way of handling it administratively. And their conclusion was that we could allow, you know, 300 feet to be the baseline for head to be that deep, and how about 20 feet of clay.

That was their decision to do that. You know, it was based on my -- you know, there's other ways to handle it. That was the way they chose.

Q. When you refer to "they," who are "they"?

A. Well, I would say Glen Saxton and Norm Young. Division. They were the ones that were asking me to do this for them. I put it in my words. They -- you know, to implement what I was saying, they modified or whatever.

Q. In your judgment, would it be fair to say that 300 feet is not -- even though they picked a very finite number, that there could be a significant range of depth where the conditions they were trying to accomplish could still exist?

A. Uh-huh. I guess I would -- you know, what I was -- to me what would be very conclusive of whether a well was through an isolating clay layer would be significant head differential.

Now, you get into what is -- you know, what's a number of allowing that. Because you've got to place a number on it. To me that would be more -- you know, that would be more conclusive than if somebody -- let's just pick a number off the top of my head, that there was 100 feet of head difference between the water table and this lower zone, then that could be measured, you

know. It's something that you knew in the area what the water table was and you said, oh, now this guy has drilled to this depth, and we can go out and measure. Yeah, it's down. That is a pretty good indication that we've got some -- something that's isolating the two systems.

That was -- you know, that was kind of how I was -- the direction I was heading. They, you know, felt that it was not maybe -- to apply that kind of concept was maybe a little bit more difficult than maybe -- it was easier to hard wire something in there and say let's go with 300 feet and 20 feet of clay.

That's how things have been done in the past, too, so that's -- you know, that's how a lot of their construction -- well construction in other areas, how it was written.

Q. It would be fair to say, then, that these two lines don't represent necessarily a unique solution to the questions that you were trying to answer?

A. No. Yeah. I think that's a true statement. They're a first catch of what information is available and subject to being refined as more information is gathered.

Q. Sure. Based on what was available, that's probably -- it's obviously your best product?

A. Of what -- yeah. I mean, I attempt to do some kind of modeling-type techniques with it, but you're just -- you're really out on a limb because then you come up with some numbers and people believe those, and that's -- you know, you can't --

Q. If the applicants were to retrofit their wells, or at least the one well that's the crucial one here -- there probably are more than one, so let's refer to "wells" -- in compliance with this proposal that I just read to you that came out of the memo -- proposed memorandum decision, what kind of certainty could you have that you'd be able to measure an impact on the Big Lost River?

A. If they retrofitted, you mean? It's determined whether they were successfully isolated from the river?

Q. Sure. They redrilled or whatever.

A. I'd say pretty poor likelihood of determining that.

Q. What about on the ground water or the levels in the shallow wells? Could it be measured there?

A. On isolated conditions you could do it, you know.

Q. If you had direct -- fairly close wells or within --

A. Go out and run -- yeah. I mean, to a certain extent you could. There's still -- you can certainly nail it down a little bit tighter if you did it on -- mine was, of course, a regional approach. If you are site specific, you could refine things to those specific conditions.

Q. I think you've told me that even though there could be perched aquifer systems in that area, there isn't enough information to really know for certain, but your own personal feeling is that there probably are not?

A. Yes.

Q. You make this statement, too, Steve, I believe in the report -- or someone makes this statement in the open-file report that you completed, on page 26 if you want to check it. In fact, it's under number 3 on page 26. That will be Exhibit 1.

"Although the USGS 1970 reports indicate that wells along certain reaches of the river will not directly affect river flow, it is believed, based on conclusion one and fundamental hydrogeologic principles, that ground-water development occurring in areas where the river is above and not connected with the underlying water table would alter the ground-water hydraulic gradient. In areas upstream, recharge to the

ground-water system furnished by the river would increase and in areas downstream, recharge to the river supplied from the ground-water system would decrease. The net effect then is surface flow reduced by some degree."

What fundamental hydrogeologic principles are you referring to?

A. Well, this is Stan's work.

Q. Stan was the one referring to that?

A. Yeah. See, I did minor editing. That was his wording and stuff.

Q. Do you have any idea what fundamental hydrogeologic principles he's referring to?

A. I think he's basically talking about Darcy's law, which is based on that you have to have water moved through some medium. You have to have some head differential drive. And the properties of that material, its ability to transmit water, determines what gradient is needed to drive it through that.

He is basically saying, as I understand it, that if you pump, you're going to alter the gradient, the slope of that, so that it will affect -- where the water table and the surface water are in hydraulic connection, that may be -- it will be affected both up and downstream from a region that is perched,

apparently. And you're going to alter the gradient, not just locally, but on a more regional basis.

Q. Let me get your reaction to this, then: Through the transition zone and into the Snake River Plain aquifer, do the ground waters make up a continuous flow with a steep gradient, or are the ground waters separated?

A. I'm not sure if I understand what you're saying.

Q. Are they hydrologically connected?

A. Well, it's based on whether you believe in saturated or unsaturated. I believe, for the majority -- the predominant is that it's all saturated. There may be isolated situations of unsaturated, perched zones.

Q. Well, if that's a definition of hydrologically connected -- I don't know that it is -- but if it is, wouldn't it be fair to say, then, that these waters are hydrologically connected with the waters in the Snake Plain aquifer?

A. The waters up within the Big Lost Basin are hydraulically -- you know, they're --

Q. Hydrologically connected.

A. Well, that's probably not the right word to use. Whatever water that's not consumed in the Big Lost

will merge with the flow that's in the Snake River Plain aquifer.

Q. I guess what I'm asking: Do you ever reach a point where other wells -- or where wells that take water from that aquifer don't have some sort of theoretical impact on river flows or ground-water levels in the Big Lost River Basin?

A. You're just talking wells in general having an effect on surface water?

Q. Sure.

A. Well, I think that's been stated. Yeah. I think Crosthwaite's report and this one, yeah, that there's -- they're considered to be one resource. And pumping from one will affect the other. I don't think that can be disputed.

Q. In this area where there's this fairly steep gradient of the ground-water table or levels, what does the cone of depression look like?

A. It's not your symmetrical-type, you know.

Q. Which is the narrow side of the cone, upgrading or downgrading?

A. Well, in a steep -- in a steep -- well, if you're talking still homogenous and just a steep gradient, the slope -- it's going to be asymmetrical with the axis of it -- let's see.

MR. SLETTE: Elliptical?

WITNESS: Elliptical is the word. It's going to be sloped upgradient. It's going to be to a real extent more upgradient than it is downgradient.

Q. (BY MR. FOSTER) Does that mean -- I may have to draw it to make me understand.

Does that mean that from the well that the effects of the pumping of the well are felt further upstream than downstream, or further downstream than upstream? Or downgradient or upgradient.

A. I would say the immediate effect would be upstream, because of the slope and the extent of the shape of the, you know, nice homogenous isotropic-type aquifer system would be upgradient. But depending on how long pumping is continuing, eventually a new equilibrium is established in the system, and that will affect downstream, so that a new gradient --

Q. Over a longer period of time?

A. Over a longer period of time. Yeah.

Q. Okay. I think I understand what you're saying.

Steve, if we could have that map marked as an exhibit -- it looks like an awfully good map.

A. I'd hate to have to lose it.

Q. And one that you need frequently.

MR. SLETTE: You can photocopy the relevant portions. That goes all the way to Ketchum.

MR. FOSTER: I see that.

Q. (BY MR. FOSTER) Well, why don't you explain that map to us just briefly so it's on the record what it represents.

A. Well, it's a map that I put together for a presentation I gave to waterusers in the Big Lost River Basin back -- well, it was about a month or so ago.

And it's a map from the Department -- it's a series of maps that I sliced together from the Department of Transportation. The scale is one to a hundred thousand. I delineated the boundary of the basin.

Q. That heavy black line --

A. Is the basin boundary following the topographic divide.

Q. Water that falls within those black lines eventually, I guess, contributes to the flows of the Lost River, or it makes up --

A. Provides recharge for the ground-water system.

Q. Within that boundary?

A. Yes.

Q. Okay.

A. And I just delineated these three wells that I

used in my presentation that are observation wells that the U.S. Geological Survey monitors, I believe either monthly or bimonthly.

Q. Which is the one you relied upon for that last memo?

A. I didn't use it at all.

Q. Oh, okay.

A. Okay? Because that was completed at a deeper depth. It was something I wasn't interested in. I was looking at more of the shallower zones and stuff of showing its relationship to streamflow, how well the annual water supply to the basin. I used a gauge on streamflow here that was a good indicator of runoff in the upper part of the basin, which the majority of the water supply to the basin occurs in the upper part of it. And I used that.

I had annual inflow into Mackay Reservoir computed from that gauge as a indicator of annual water supply. And I showed the relationship of the annual water supply to the water levels in the aquifer measured at these wells, how well they correlate.

And then this lower line which goes off, I have these orange dots and black line, that is a geologic cross section that is put -- actually it's in another report. I was going to say Crosthwaite's 1970

report. But there's another report that he did out here in the plain but used some of these wells.

As a matter of fact, this well here is this well that we talked about that I referred to in my memo. And there was another deep one here. So out in the plain there's a geologic cross section that I used in my presentation also.

So that --

MR. FOSTER: Let's go off the record for just a second.

(Whereupon a discussion was had off the record and Applicants' Exhibit 6 was marked for identification.)

Q. (BY MR. FOSTER) Let me make some representations to you, Mr. Baker, and then ask you some questions.

The applications that are listed in the caption, the case caption in this matter, even though there are about nine of them, ten, if you count -- there are two surface water rights that are together in the same application. So there are nine applications that are listed at this moment in time.

They concern really four or five wells. There may even be six wells, but I don't know about one of them. That's 34-7483. It's Mr. Everret Acore's, and at

this moment in time, at least, I don't represent him in this particular matter, and so I don't know -- I can't give you any information about that one.

But if there are five wells, the first one would be in the southeast of the northeast of section -- they're all 4 north 26 east; the first one being the southeast of the northeast of 5, if you can see where that is.

A. Yeah. Hang on.

Q. That would be Mr. Sorenson's well.

A. Give me that section again.

Q. It's section 5.

A. Okay. And that was what?

Q. That would be -- excuse me. That's --

A. 4 north 26 east?

Q. Yes. So that would be within this transition area, wouldn't it?

A. Yeah.

Q. The next one would be in the same township and range in the southwest of the southwest of 21.

A. 21. Okay.

Q. That would be the Aikele well. That would be fairly close to the USGS well?

A. USGS well. Right.

Q. Also within the transition area; is that

correct?

A. Yes.

Q. The third well is in section 8, the northeast of the southwest of 8. Same township.

A. Okay. Yeah. It's in the transition zone also.

Q. The fourth one is in section 20, northwest of the northeast. Same township and range.

A. Okay.

Q. And the fifth one, I'm not sure it's fair to include this one, because there was an application filed for a little tiny bit of water that somehow was left out of the big well some time ago, but it's in section 27.

A. Okay. Yeah. Right in here. That's within the transition zone also, as I believe. I guess -- yeah.

Q. Even if we include that last well that I mentioned, the total amount that has been pumped out of them doesn't exceed 26.12 cubic felt per second. Hasn't done for several years.

Now, let me come back and ask you some general questions.

As I understand it, the conditions that are being complained about in recent years and that have precipitated this particular action before the

department and some of the reports and memos that you did, the main complaint is that -- well, there's two basic complaints. Number one is that river flows are reduced, and that ground-water levels somewhere are reduced.

A. From further development, you mean?

Q. Well, let me ask you: Do those conditions exist in the Big Lost River Valley?

A. Yes.

Q. And what are the causes of that condition?

A. State the question one more time.

Q. Well, if we accept that in recent years there are complaints that river flows are diminished, are less, and that ground-water tables have been lowered -- are lowered, and you accept that as a fact, that that has been a fact in the last few years, --

A. Yes.

Q. -- what are the causes of that?

A. Well, ground-water development. Just development within the basin.

Q. Is that the sole cause?

A. There's -- if you're getting at the natural causes of the available water supply, --

Q. I mean all causes.

A. All right. Man-made and natural causes?

Q. Yes.

A. Yeah. That's been -- there's a variety of factors that affect the available water supply in a given area. And the natural variations in snowpack, precipitation, providing streamflow runoff and recharge to the ground water is one of the factors.

Another one is related to development of ground water. Application of surface water has provided additional recharge to the ground water. It has spread the water out so that there's been a benefit to the ground water, but yet ground-water development has had adverse effects on surface water flows.

Q. What natural events have occurred in recent years -- I think you said that 1985 was approximately an average -- average in what, in stream flows?

A. Average, yeah, in stream flows measured at Mackay. Inflow is considered -- as a matter of fact, I think I've got a pretty good figure to show you, if you haven't seen it.

Q. I appreciate that. Sure.

A. That's a hydrograph showing the annual inflow to Mackay Reservoir, which is considered to be a good indicator of the available annual water supply to the basin. It's above most of the diversions. And we can look at '85 here. I think '85 is right there. Which is

a mean, that dash line.

Q. So '85 was very close to the mean, then?

A. Right. And you can see, there is radical variations in the Big Lost. There's been very wet years and high runoff. And, you know, in the late '80's here we had some very low years.

MR. SLETTE: Are you going to use that as an exhibit?

MR. FOSTER: It's possible we will, if we can make a copy of it.

MR. SLETTE: May I ask what the mean is?

WITNESS: Is the dash line there.

MR. SLETTE: What level? Is it about 133,000?

WITNESS: Yeah. I've got it written down. I could give you an exact.

Okay. It's about 226,000, is what I had as the mean inflow to Mackay Reservoir, acre-feet. 226,000 acre-feet.

MR. SLETTE: Okay.

Q. (BY MR. FOSTER) Now, tell me this: Does this include 1986, '87, '88 and '89?

A. Right. That would be '85 in between those two tick marks. '86, '87, '88 and '89. This is up to current. This is as current as when I gave my talk, which was, you know, six weeks -- something like that --

ago. Two months ago.

Q. Let's make this Applicants' Number 7 then, or a photocopy of it, whichever you prefer.

A. Well, I prefer a photocopy.

(Whereupon Applicants' Exhibit 7 was marked for identification.)

WITNESS: And there's others here, too, that I'm showing you. This exhibits -- the dash is Mackay inflow. Those are water levels and selected wells that I have up there. And it's to show how well they correlate with each other. And I've got -- that's one of the wells. There's three wells.

Q. (BY MR. FOSTER) Which well is this?

A. That well right there is 6 north 25 east 3 triple A. It's right up here. It's near Leslie.

Q. The one you have marked in blue -- it's the furthest one up marked on the map in blue?

A. Yeah.

Q. So what this chart shows is that the levels of water in the well track pretty closely with the --

A. Yeah. This is the scale for inflow. This is the scale over here for depth of water in the well.

Q. Okay.

A. And I have another one here, too. This one, I think, is the next one down the valley. And then this

is the last one down to Arco.

Q. So these would be basically hydrographs for all three of those wells?

A. Yes. For the period of record -- for their period of record.

Q. And then the dash line is the inflows to Mackay Reservoir?

A. Yes.

MR. FOSTER: Let's make those Exhibits 8, 9 and 10. I don't care which is which.

MR. SLETTE: Could I look at those, please?

MR. FOSTER: You bet. Certainly.

WITNESS: I would prefer to make copies of those, if you wouldn't mind.

MR. FOSTER: Sure. That will just be fine.

(Whereupon Applicants' Exhibits 8, 9 and 10 were marked for identification.)

Q. (BY MR. FOSTER) Now, if we were to set this up like a budget, like a bank, where you have income or that that comes in, and then you have whatever your reservoir, your storage, what's in the bank there; and then you have the outflow, what's leaving it in various ways, there's no other source than precipitation, is there, that results in recharge?

A. No, there isn't.

Q. There is some recharge, I assume, below the Mackay Reservoir?

A. Yeah. From tributary basins and precipitation directly on the plain there.

Q. If the mean at Mackay Reservoir is 226,000 acre-feet, do you have any idea of the magnitude of the recharge below that that would come in below that point?

A. Well, it's mentioned in Crosthwaite's report -- I don't have numbers off the top of my head. He had, like I said, one of the most detailed analysis of the area besides this later study by the GS where they collected quite a bit of data.

He has estimates of various tributary basins of Antelope Creek and -- is it Lower Cedar and Pass Creek and the various streams, how much they contribute both surface water and underflow -- ground-water underflow out of them.

I don't have numbers on that. There's been estimates of the underflow leaving the basin down near Arco. And there's a stream gauge in Arco for the surface water.

Q. Sure. I think I recall having seen those estimates. In fact, it may have been in the Szczepanowski report that you edited and updated. My recollection was that that average or mean or whatever

that figure was, was about 250,000 acre-feet.

A. Yeah. It ranges. I mean, the estimates range. Crosthwaite had a fairly high, you know, more liberal number, you might want to call it, or whatever. I think he had 308,000 acre-feet or somewhere around 425 csf. And there's been more -- you know, other estimates of less than that, of around 145,000 acre-feet, which is somewhere around 200 csf or 250 or something like that.

So there's a range in there. There's, you know, certainly a level of inaccuracy with this.

Q. Now, do you know the magnitude of withdrawals from wells within the valley?

A. Once again, I would refer -- of course, it's old information. Things have changed. But Crosthwaite had estimated that in his study.

I don't have a number that I've quantified, you know, based on -- you know, I don't know what kind of information -- water-right information, which is not real good to use, or some kind of land use, remote-sensing type data. There really hasn't been any of that.

Q. What you're saying, then, I guess, is that those withdrawals probably aren't accurately measured?

A. From wells?

Q. From wells.

A. I assume -- from what I know, you know, I know -- well, I don't think they are measured that well. But I don't know what part the irrigation district plays in this. Because I know some people pump water into the canal, divert it and take it out from other spots that use the canal as a delivery system. So there's some measurement going on in those situations.

Ones where it's just some farmer's well that he just irrigates directly on his land, I would be doubtful that there's any, except for the time when a field exam was performed.

Q. Would it be fair to say that whatever water is withdrawn by wells, the portion at least that's consumptively used by crop production would be a discharge -- would be on the discharge side of this ledger from the basin? It would reduce, or it would be what's coming out?

A. Right. I would agree with you.

Q. And the underflow that we mentioned a moment ago would be another portion of that?

A. Right.

Q. And theoretically, I guess, if you were to add up all the items that make up recharge and all the items that make up discharge, should they balance?

A. Yeah. If you account for everything.

Q. It might be difficult to account for everything?

A. Right. That's the problem.

Q. Do you have any idea of the magnitude of that that we might say is in the bank or is in storage as it's moving through that system?

A. Well, there's been estimates by Crosthwaite, but that's just a summary that I put together for my presentation I gave to them. So I've got these numbers at hand, but it's in Crosthwaite's report.

He made an estimate of the amount of -- the storage within the ground-water system from Mackay Narrows down to Arco. And he figured the upper hundred feet of the aquifer. And he had some assumptions on the storage capacity of the storage coefficient and stuff. Specific yield is what it's called. Anyways, he came up with 1.3 million acre-feet was in storage.

Q. 1.3 million in the upper hundred feet?

A. Yes.

Q. Now, it appears from this hydrograph of the annual inflows into Mackay Reservoir, Exhibit 7, I think, that that has been continually declining since 1985 or some time in 1985, in that time period. Is that accurate, Steve?

A. Yeah. I think that we've been running progressively -- I think '86 -- let's see. I do have the actual numbers somewhere.

Looks like '86 may have been near normal. Or actually -- no, I take that back. '86 was above normal. Then from '86 it went downward. '87, '88 and '89 wasn't that good.

Q. What, for instance, would have been the figure in '89, approximately?

A. In '89, this past year, you're looking somewhere around 130.

Q. 130. So --

A. 130,000 acre-feet.

Q. So that's almost a hundred thousand acre-feet less than the mean?

A. Uh-huh. Yes.

Q. Steve, help me with this, if you can. I gave you some figures a moment ago. I think I asked you to assume that from those four or five wells that my clients have involved in this present proceeding, they average about -- the maximum that they pump is about 26 cubic feet per second.

A. Yes.

Q. Is there a quick way -- although it wouldn't be exactly accurate -- to convert that into an

approximate number of acre-feet?

A. Removed from the river?

Q. Removed from this system during an irrigation system.

A. Now, removed from this system? The surface water, ground water is one system, or you're trying to say how much effect on the surface water?

Q. Let's start with the surface and ground water as a single system.

A. As one. Well, if they're pumping exactly -- it depends on how much acreage, what their crops are, consumptive use.

If they're pumping exactly what they're needing, which is most likely what occurs -- you know, they're not going to -- energy costs aren't cheap, so they're not going to pump any more than what they generally need to. So the amount they're pumping is directly lost to the system going off to the atmosphere. Evapotranspiration.

So that's leaving both ground water, surface water together in one system.

So how much of that, portion of that is being removed from the surface water, I don't think I can help you.

Q. Yeah. Let's not come to that yet. You're way

ahead of me.

What I was trying to do was to convert that 26 cubic feet per second into an acre-foot figure. I understand part of the problem. It would be easier if we had the number of acres, --

A. Yeah.

Q. -- because what in fact happens, as I understand it, is it's pumped from these wells into ditch systems and there are significant transmission losses before it ever gets to the place where it's actually used in the sprinkling systems on the land.

A. Yeah. Depending on what their actual distribution system is, that's a factor that needs to be brought into it. Right.

Q. If there are 3,000 acres of land irrigated with this water -- although that's theoretically a lot more than enough water for that, but there are heavy transmission losses -- if there's 3,000 acres irrigated with that, how many acre-feet would you say would be a fair consumptive loss through evapotranspiration?

A. For 3,000 acres?

Q. Yes.

A. Well, I don't -- this is a little bit out of my realm. I'm not -- you know, I think it's the average -- or for alfalfa is like 1.5 acre-foot of water. So if

you used alfalfa, it's like --

Q. So 4,500 acre-feet?

A. I think probably, for an irrigation season.

Q. Now, I guess my question is not so much -- well, can you tell how much of that comes from surface flows and how much of it comes from ground water?

A. How much of what?

Q. Of this 26 cubic feet per second.

A. Not really. Not any absolute.

Q. Probably can't measure it at this point in time?

A. There's just too many unknowns. There's too many things going on.

Q. What about the relative magnitude of the withdrawals by these wells as compared to withdrawals of all wells in the valley? Do you have any idea what that might be? Does it form any significant percentage of that?

A. You know, in Crosthwaite's reports once again and others, it's the proximity to a surface-water supply besides the quantity that's being removed. You're going to have more of the immediate effect and more of a significant effect. The further you're away from surface water, the less effect you're going to have. But you're going to have some effect.

To quantify that or something outside of relative magnitude, I guess you could just say the further away from the surface water -- and the thing is, even if you're near some canal system, you're still going to have some effect even if you're not near the river. So --

Q. You're talking about impacts?

A. Yeah. Impacts on the surface water delivery system.

Q. In your judgment, can the impact of the withdrawals by these wells, these four or five wells on surface flows in the river, be measured?

A. I don't think so. Not with -- not to say that it doesn't exist. There's just too many things going on to be able to quantify it. There's too many unknowns.

Q. Even assuming that you had all of those elements and you could quantify it, do you think you could physically measure it?

A. Now, are we talking the Big Lost River, the river itself, as opposed to some of the canals that are adjacent?

Q. Yes. The river itself.

A. It depends on the proximity to them. That's kind of -- we're talking hypothetically here, and I just don't --

Q. I understand that. But to the extent you can, I want you to focus on the wells that we identified in their particular locations.

A. Well, some are relatively close to the river.

Q. Do you recall how close?

A. Well, isn't there -- let's see.

Q. I'll give you those locations again, if you want. You can check and see.

A. There's one up here in 5, I think you told me.

Q. The southeast of the northeast of 5.

A. Okay. That's not too far away from the river.

Q. About how far would you say?

A. Well, it looks like three-quarters of a mile.

Q. With respect to that one, let me represent to you that that one pumps about nine csf.

A. I mean, if we go through each of these, that's fine and stuff, but I think the point would be made that I don't know -- you're searching for relative magnitude of each of these on the river.

Q. Well, or you were referring to impact, and I guess that's what I'm asking you. What kind of impact would there be?

A. I'd have to -- you know, you'd go through the assumptions that Crosthwaite made on his hypothetical; A, B wells and their proximity and the hydraulic

properties assumed. It's only just a crude estimate. You'd have to go through the same kind of scenario to come up with some kind of numbers, and I'm not going to do that off the top of my head.

Q. No. I'm not asking you to.

A. You know, I'm telling you that there's going to be some effect.

Q. Would it be relatively significant or relatively insignificant?

MR. SLETTE: I'd have to object to the form of the question because nobody knows what significant or insignificant means. You'd have to define that.

WITNESS: I think what you're asking, and I'll just -- ground-water users, whether they're these five or six in question, have some impact on surface water flows. It's just because of the policies our department has adopted or whatever, through, you know, development that occurs and hearings and protests and everything that targeted these six people and that they have to do something different.

It's not to say that these other users haven't had any effect. They have. You know, it's how much and what is --

Q. (BY MR. FOSTER) That's right. And what I was

really asking is: Can it be measured?

A. Well, I'm not sure about that. The study, this latest study that the USGS did, Sally Goodell, she developed a ground-water model of the basin. And questions I had with her and Jerry Lindholm, who is responsible for it, it's once again too limited information. And the coarseness of the model that was used would not, even in that situation, you know, will not allow you to say okay, I pump here at this location. How much, without -- you know, there's too many other things going on in it to know --

Q. It would be fair to say, then, that it hasn't been measured up to this point?

A. No. Yeah. Except for maybe specific conditions. I'm not sure of where somebody, you know, complains that his neighbor -- saying this guy is affecting my well or my surface water or something, you know, and they hired some consultant and went out and did some testing or something. You know, that certainly could exist.

Q. Do you know of any of those that have been done?

A. No.

Q. Now, with respect to ground-water levels, except I think as you indicated where if there's a well

that's relatively close to one of these so that -- so that we've got some fairly direct influence, can you measure the impact of these particular wells on the ground-water levels, even in this transition zone area?

A. As far as adjacent wells, their effect? You could.

Q. Has that been done?

A. No. Hypothetically you could do it. You could run some kind of aquifer test and monitor wells and the adjacent wells and see what kind of impact. Make some projections from that kind of information.

Q. Would you expect, Steve, the pumping of these particular four or five wells to generally lower the water table in that transition zone area on the west side of the river by a foot, ten feet or a hundred feet?

A. It depends on many factors. It depends on what kind of year it is and how much water is available. How many other people are pumping, you know. How much surface water is being distributed by some recharge. You know, there's too many things that -- you're asking me to give you some number or something, and I just don't think I can do it.

I can -- you know, there's some effect. And I think that's where -- you know, right or wrong, that's where the department is standing, that these will have

some effect.

Q. There has to be some effect because in theory you're taking water out of this system, and it has to have some effect.

A. Yeah. Right.

Q. All I'm asking you is: Is that effect, the likely effect, in your judgment, is it even measurable?

A. Like I said, on some of the wells that are close to the river, yeah, it's -- I think it could be measurable. If you had sophisticated instrumentation, you had a control for everybody else's -- not pumping or whatever. You had very controlled conditions, you probably could make some kind of measurement.

Q. In your judgment, would it be relevant to do that? Would it be helpful to do that?

A. I don't think it's possible to do that. I mean, I think in an ideal situation you could, but there's too many factors.

Q. I suppose that's partly what I'm asking you. Is it feasible to do that?

A. I --

Q. Practical, I guess, is a better word.

A. Yeah. I don't know. I have -- I doubt that it would be possible. You know, with my experience with running aquifer tests and stuff like that, there's just

too many -- and this has just got a multitude of --

Q. If one had a shallower well, like a domestic well in the Moore area, and the ground-water level in that well, or any group of wells has gone down in the last three or four years, how would one go about establishing that that was caused by one or some accumulation of these five wells?

A. Saying that that's the sole reason for the decline in their wells, domestic wells, is a function of --

Q. I suppose everything in the world is being said. But how would you go about -- if you were given that assignment, how would you go about quantifying the impact that these particular wells have on that?

You understood, of course, that there are people who are saying that this is the cause of it.

A. Right. Of their declines and having to deepen domestic wells and whatever.

Q. Sure.

A. Now, I'm thinking you could run an aquifer test to determine what kind of hydraulic connection you have between the wells or the series of wells. And then from that kind of information you could make some projections.

Q. The department hasn't done that kind of thing?

A. No.

Q. Do you know if it's contemplated that that will be done?

A. I don't think so.

Q. Would that be a very expensive thing to do in your judgment?

A. Yeah. I think there would be many people involved and quite a bit of coordination with many users. It would be a big affair from what I've seen of aquifer tests run in other areas of that kind of scale. If you're just looking at one guy against another, I mean, those are simple. If you start getting multiple wells in there and stuff, it's a little bit more involved.

Q. Would the same thing be true with respect to the river flows, the impacts on the river flow?

A. That you can measure river flows?

Well, I think you were asking that earlier, and I just think that that is a little bit harder thing to get a handle on.

Q. That would even be harder to do that?

A. Yeah. Because you would need -- you'd have to have some very sophisticated gauges on the stream and stuff to be able to measure that.

Q. Steve, would it be fair -- this is in your

opinion, just in your opinion -- to say that while there has to be some theoretical impact whenever you have one or more of these five wells withdrawing water from this aquifer system, that there has to be some impact on river flows and on the general ground-water table? To some extent, that has to be?

A. Yeah. I agree with you.

Q. Is it also fair to say that it would be virtually impossible, or at least impractical, to measure that?

A. Both conditions?

Q. Or either.

A. Yeah. I think it's -- I think it's possible. It's just whether it's practical, like you had asked.

Q. If that were to be done, can you even express an opinion as to what you would expect the impact to be in terms of distance? Would it be --

A. I don't know. I don't think --

Q. You couldn't even make a --

A. No. I wouldn't want to.

Q. Would we be talking inches, many feet or hundreds of feet?

MR. SLETTE: I'll object. It was asked and answered. He said he doesn't know. I don't think any of us -- one of the things that we also state on a

deposition is that nobody wants you to speculate on an answer, because it doesn't do anybody any good.

MR. FOSTER: I'm not asking for speculation. I want you to give me your best opinion.

WITNESS: One of the things I tried to cover in this presentation I gave to the Big Lost River Advisory Committee was that the effects on ground-water levels, the major effect on the levels, annual long-term trends, is the available supply, the recharge to the system. And that's why I showed more correlation between annual, showing my rain gauge indicator of water supply to the basin versus water levels. That's the major factor, in that we've had these three consecutive years of low water. And undoubtedly if water levels are down, streamflows are down.

Ground-water pumpage aggravates the problem. It's of smaller scale, but it's aggravating it. And people can't do anything about Mother Nature, but they can do something about --

MR. FOSTER: I understand.

MR. SLETTE: About what?

WITNESS: About their neighbors or something like that.

Q. (BY MR. FOSTER) Steve, just in your estimation, when you refer to that, you say smaller in

scale, can you put any parameters on the scale?

A. Well, you see --

Q. 10 percent? 50 percent? 90 percent? Anything like that?

A. A percent of the effect from pumpage on the wells versus the effect from natural conditions?

Q. Sure.

A. I guess I would say probably something around 30 percent or less.

Q. Okay.

A. That's on a regional basis now. I'm talking regionally here. Local conditions, depending on proximity to each other and stuff, can be more significant.

If you've got a domestic well a couple hundred feet away from an irrigation well, and the irrigation well is pumping 2,000 gallons per minute, he's going to be right within that immediate cone of depression. He's going to have a stronger effect. So, you know, we're talking scale here.

Q. Okay. I understand what you're saying. When you refer to "regional," are you talking about the entire basin? What do you mean by "regional"?

A. Well, the effect on a long term, like an annual basis. You pump this amount of water, well,

then, the water levels -- if let's say they've gone -- the water levels have gone down ten feet, we contribute maybe seven feet of that or whatever to the water supply, you know, versus the mean is that much less. And then you could say, well, pumpage withdrawal has also contributed to that.

Q. So regionally, then, the five wells I'm talking about could have some impact, maybe proportionate to whatever their proportion of the total pumpage is?

A. Yeah. I guess that's -- on a regional basis. And then on the local, there's a different issue. They could have -- the scale of things could be greater.

Q. Sure. If you go to a specific location where someone is claiming, my particular well has dried up, then you could have a localized interference problem --

A. Right.

Q. -- because of the proximity? Okay.

MR. SLETTE: Can we take a break?

MR. FOSTER: Sure.

(Whereupon a recess was had.)

MR. FOSTER: Back on the record, I guess.

Q. (BY MR. FOSTER) Steve, let me just be sure. I think I heard you say this. But the transition zone isn't really fixed as much -- or isn't totally fixed by

geologic conditions as it is -- that is, it can sort of move up and down the valley depending on --

A. It's not fixed because we have limited information. That's why it can change. The geologic conditions won't change. We just don't know about them.

Q. At least not without major --

A. Right. And as more information is collected, it will refine our knowledge base and things could change.

Q. In fact, the factors that you analyzed, can they vary from year to year in establishing a transition zone?

A. Well, it's along the same lines of that line that I drew as far as where hydraulic separation occurred. I used '85 data to pick a mean condition.

The line for the transition zone between 5 north and 4 north townships I think was conservative. I think that would account -- you know, there's just not much to go on. I just took what I figured was a comfortable line to choose on it, figuring that the amount of head differential in that well, I think, could justify a clay layer in the isolation zone extending that far up the valley.

Q. I know that we've all talked about this and it's being talked about at great length in the valley

now. We're using the term "conjunctive management."

What do you understand the department's definition of that term to be, if there is such a thing?

A. I guess using the resources, one, both surface and ground water, so that all waterusers are guaranteed some quantity of water. It may be less during low water years, but they're allowed a quantity to sustain, you know, a given crop and acreage and stuff.

Q. Let me explore that with you just a little bit.

The first part of that is you said using it. But do you mean managing or administering the surface and ground water as if it were a single source?

A. Yeah. I think that's --

Q. Now, if you followed strictly the logic of the first in time, first in priority system, for the most part nobody would pump, would they?

A. Because there would be effect from pumpage and stuff?

Q. Yes.

A. Yes, I think if you followed that strictly.

Q. So the department's concept is building in some idea -- or you're attempting to build in some way that a water master doesn't just cut off all the pumping when river flows don't fill the --

A. No. There would be -- I think the concept is that there would be wells that would be used as -- the ground water would be used as a supplemental supply. And as I understand back, like, in the '60's and stuff, during low water years then, there was a lot of surface water users that drilled wells for supplemental use. And, you know, that helped them get through tight years and stuff. And that's kind of the concept. That's local, you know, making it more of a basinwide-type management approach.

Q. Have you reached any kinds of conclusions in this analysis, Steve, so that you know how much pumping would have to be done in, say, a 1989 scenario, and where, and how costly it would be?

I realize there were several questions there, but have you progressed that far in your analysis?

A. No. I don't think so. There's still -- you know, there's the Big Lost Advisory Committee that's been established, and the department is working with them. And I only attended one of the meetings, so I don't know where things are these days.

Q. Okay.

A. But I think that's one of the goals to achieve.

MR. FOSTER: I think I understand what you're

saying.

That's all the questions I can really think of at this moment.

MR. SLETTE: I'm almost loathe to ask any, because I'm afraid you'll think of some more.

MR. FOSTER: I'm sure it will make me think of some more.

MR. SLETTE: Then I don't think I'm going to ask any questions.

(Whereupon the deposition was concluded at 4:43 p.m.)

(Signature requested.)

REPORTER'S CERTIFICATE

STATE OF IDAHO)
) ss.
COUNTY OF ADA)

I, PAMELA J. LEATON, Certified Shorthand Reporter and Notary Public in and for the State of Idaho, do hereby certify:

That prior to being examined, the witness named in the foregoing deposition was by me duly sworn to testify to the truth, the whole truth and nothing but the truth;

That said deposition was taken down by me in shorthand at the time and place therein named and thereafter reduced to typewriting under my direction, and that the foregoing transcript contains a full, true and verbatim record of said deposition.

I further certify that I have no interest in the event of the action.

WITNESS my hand and seal this 13th day of February, 1990.

Pamela J. Leaton

PAMELA J. LEATON
CSR, RPR and Notary
Public in and for
the State of Idaho.

My Commission Expires: 3-9-94

BEFORE THE DIRECTOR OF THE DEPARTMENT

OF WATER RESOURCES OF THE

STATE OF IDAHO

IN THE MATTER OF APPLICATION FOR PERMIT NO. 34-7247 IN THE NAME OF MITCHELL SORENSEN	ORDER ISSUING PROPOSED MEMORANDUM DECISION

R. Keith Higginson, Director of the Department of Water Resources, having reviewed the attached proposed decision prepared by this appointee, Bobby D. Fleenor, who conducted the hearing or who has read the record in this case, hereby approves the same as a proposed decision pursuant to Idaho Code, Sec. 67-5211.

Each party to these proceedings who appeared at the hearing is given the opportunity, pursuant to Idaho Code, Sec. 42-1701A and 67-5211, to file exceptions to the proposed decision and to present briefs and oral arguments. If no timely and proper exceptions are received, an order by the Director will be entered adopting the proposed decision as his final decision.

I.
EXCEPTIONS

A. To be considered by the Director, exceptions must:

1. be received by the Director on or before the 15th day following the day of service of this Order and the proposed decision,

2. specifically identify the portions of the proposed decision to which exceptions are made and specifically state the grounds for those exceptions, and

3. be sent to each of the parties who appeared or their attorneys.

II.
BRIEFS

A. Any briefs in support of exceptions to the proposed decision shall be filed with the Director at the same time that party's exceptions are filed with the Director.

B. All response briefs to the exceptions must be filed with the Director within 15 days after the exceptions were served upon the responding party.

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III.

A. No oral arguments before the Director on the proposed decision will be held unless specifically requested by a party filing exceptions to the proposed decision and unless that request is filed with the Director concurrently with the filing of that party's exception.

B. If oral arguments have been properly requested by a party filing exceptions, any other party, upon reasonable notice to the Director, shall have the right to present oral argument in response to the exceptions filed.

C. Oral arguments before the Director on exceptions to the proposed decision shall be heard at the discretion of the Director, pursuant to Idaho Code, Sec. 42-1701A. If oral agruments are to be heard, the Director will, within a reasonable time, notify each party of the place, date and hour the oral arguments will take place and of the period of time allocated for the arguments of this case. Unless the Director orders otherwise, all oral arguments shall be heard in Boise, Idaho.

IV.
CERTIFICATE OF SERVICE

All exceptions, briefs, requests for oral argument and other matters filed with the Director in connection with the proposed decision shall be served on all other parties to these proceedings in accordance with Rule 7.2.

V.
FINAL DECISION

Following the submission of all exceptions, briefs and oral arguments, if they are heard, the Director shall issue a final decision adopting, modifying or rejecting and replacing the proposed decision. Copies of the decision and order shall be served on all parties.

Dated this 3rd day of August, 19 89.

R. KEITH HIGGINSON
Director

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BEFORE THE DEPARTMENT OF WATER RESOURCES

OF THE

STATE OF IDAHO

In the Matter of Application for Permit No. 34-7247 in the Name of Mitchell Sorensen	PROPOSED MEMORANDUM DECISION AND ORDER

On May 30, 1980, Mitchell Sorensen (applicant) filed with the Idaho Department of Water Resources (IDWR) Application for Permit No. 34-7247 proposing to appropriate 8.34 cubic feet per second (cfs) of water from a ground water source. The diversion of water is to be from a well located in the SE1/4NE1/4 Section 5, Township 4 North, Range 26 East, B.M., Butte County. The water is to be conveyed by an open ditch for a distance of about 7 miles and used to irrigate 200 acres located in the NW1/4, SE1/4SW1/4 Section 35, Township 4 North, Range 25 East, B.M.

Notice of the application was published in the Arco Advertiser on June 19 and June 26, 1980 and protests against approval of the application were received within the protest period from Richard Taylor, David Bleak, Lois M. Bleak, Chris Bleak, Larman Andersen, Bill Haralson, Jay F. Pearson, Gerald Stewart, Virgil Hail, Lewis Rothwell, Joe Smith, Mrs. Jesse W. Jensen, Ned R. Walker and Reuben Babcock. The protests cited the following reasons for objecting to approval of the application:

1. There would be injury to existing surface and ground water rights caused by the lowering of the water table as a result of the pumping.

2. The capacity of existing ditches to carry the water to the proposed place of use is insufficient.

3. There would be injury to existing water rights since licensed right No. 34-2428 which is sought to be transferred to a new place of use would be expanded.

A conference to consider the matter was conducted in Arco, Idaho, on December 16, 1981. The applicant was present and represented himself. Protestants Richard Taylor, Bill Haralson, Lewis Rothwell, Joe Smith and Mrs. Jesse W. Jensen were not present at the conference. The other protestants were present and represented themselves.

The applicant described the location and construction of the well which had been completed prior to the conference.

A decision on this and other applications in the basin has been delayed because of the general moratorium on development in the Snake River Basin in locations where the water is tributary to the Snake River upstream from Swan Falls Dam. Several studies have been completed of the water resources of the Big Lost River Basin and other information has been collected since the

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conference was held on Application No. 34-7247.

On February 21, 1984, the applicant submitted an amended application which proposed to change the place of use to 200 acres within the NW1/4, NESW1/4, SE1/4SW1/4 Section 35, Township 4 North, Range 25 East, B.M.

Based upon the agreement signed at the conference and the information available to IDWR as herein listed, IDWR makes the following findings of fact, conclusions of law, and order.

INFORMATION CONSIDERED

- IDWR water right records of applications, permits and licenses for surface and ground water in the Big Lost River Basin;
- U. S. District Court Decree in the case of Utah Construction Company v. John F. Abbott et al. dated October 21, 1925;
- IDWR open file report "Review of Ground-Water Conditions in the Big Lost River Valley", dated December 1982;
- Driller's well construction reports filed with IDWR;
- IDWR staff analysis memorandum from Steven J. Baker to L. Glen Saxton dated June 23, 1989;
- IDWR staff analysis memorandum from Steven J. Baker to Norm Young dated July 14, 1989;
- The agreement and contract to resolve the Swan Falls controversy signed by the state of Idaho and Idaho Power Company on October 25, 1984;
- "Policy and Implementation Plan for Processing Water Right Filings in the Swan Falls Area", dated November 3, 1988;
- IDWR "Water Appropriation Rules and Regulations", adopted October 1986;
- The Fifth Notice of Dismissal of Certain Defendants from Ada County Case No. 81375.

FINDINGS OF FACT

1. The water sought to be appropriated is located in the Snake River Basin where the water is presumed to be tributary to the Snake River in the reach between Milner Dam and Swan Falls Dam (Trust Water Area).

2. Application No. 34-7247 has been released by Idaho Power Co. from Ada County Case No. 81375.

3. Hydrologic information indicates that the surface and ground water within the Big Lost River basin are closely connected from the headwaters of the stream to a point near Arco. South of this point the ground water drops steeply to join the deeper Snake Plain Aquifer which then exits to the Snake River at Thousand Springs and other locations. Wells drilled south of the location where

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the ground water loses connection with the Big Lost River will have no effect on the flow of the river. There is a "transition zone" within which wells can be operated without interference with other rights if cased and sealed through the shallow ground water zone. Upgradient from this transition zone, any well will intercept water tributary to the Big Lost River and thus, at times, will injure prior surface water rights unless a mitigation or compensation plan is implemented to protect holders of rights to surface water.

4. Each year, during the peak period of irrigation water demand, the surface water flows are not adequate to satisfy all prior rights to the surface sources. Water depleted from surface sources by diversion of ground water that would have been available to holders of surface water users during times of scarcity causes injury to the surface rights. This injury is not restricted to the rights in the reach depleted, since it has an effect in other reaches as water is allocated under the priority system.

5. The location (SE1/4NE1/4, Section 5, Township 4 North, Range 26 East) for the well requested by Application No. 34-7247 is in the transition zone described in Finding No. 3. A well at this location can be constructed to prevent depletion of surface flows and lowering of water levels in shallow wells.

6. The capacity of the canal system to convey the proposed appropriation to the place of use is a matter properly before the owner of the conveyance works, not IDWR.

7. The place of use associated with Application for Transfer of Licensed right No. 34-2428 is different than the land associated with this application for permit. Hence the disposition of the application for transfer will be treated in a separate memorandum decision and order.

8. Estimates of the rate of ground water discharge from the Big Lost River Basin to the Snake Plain Aquifer range from 227 cfs to 425 cfs. Development and use of some of this outflow is permitted by the Swan Falls Agreement provided there is no injury to other water rights in the local area.

CONCLUSIONS OF LAW

1. Paragraph 7(C) of the Swan Falls Agreement subordinated the use of water under Idaho Power Co.'s prior water rights for hydropower generation purposes in the Milner Dam to Swan Falls reach of Snake River to use of water under Application No. 34-7247.

2. Application No. 34-7247 is not subject to review under the public interest requirement of the Swan Falls Agreement but is to be evaluated under the criteria of Section 42-203A(5), Idaho Code, and Water Appropriation Rule 5,1. These criteria require an evaluation of:

a. Whether the proposed use will reduce the quantity of water under existing rights.

b. Whether the water supply is sufficient for the purposes intended.

c. Whether the application is filed for speculation or delay.

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d. Whether the applicant has the financial resources to complete the project.

e. Whether the project will conflict with the local public interest.

3. Prior water rights from surface sources will be injured by diversion of ground water as proposed by Application No. 34-7247 unless the well is constructed to prevent depletion of surface water flows.

4. Water Appropriation Rule 5,1,1,4. provides that:

> "An application that would otherwise be denied because of injury to another water right may be approved upon conditions which will mitigate losses of water to the holder of an existing water right, as determined by the director."

4. There is unappropriated ground water available for appropriation under Application No. 34-7247.

5. The well proposed under Application No. 34-7247 has been drilled. Therefore, the application was not filed for purposes of speculation or delay, and the applicant has the financial resources to construct the project.

6. Appropriation of ground water for irrigation purposes under Application No. 34-7247 is in the local public interest as long as prior water rights of other users are not injured.

7. The applicants are entitled to a permit to appropriate water under Application No. 34-7247.

ORDER

It is therefore hereby ordered that the protests against approval of amended Application No. 34-7247 be set aside and that amended Application No. 34-7247 be and the same is APPROVED subject to the following conditions:

1. Diversion of water from the well requested in Application No. 34-7247 shall be stopped immediately upon issuance of a Final Memorandum Decision and Order on this matter and shall not recommence until the requirements of Condition No. 2 of this order are fully met and a written verification of compliance is issued by IDWR.

2. The well authorized by this permit in the SE1/4NE1/4 Section 5, Township 4 North, Range 26 East, which is already constructed, shall be reconstructed to prevent water from any depth less than 300 feet from entering the well. The well shall be reconstructed with unperforated casing sealed into a clay layer of at least 20 feet thickness, as determined by IDWR, which is encountered at least 300 feet below land surface. The reconstruction work shall be approved prior to diverting water from the well under this permit. The permit holder shall notify IDWR prior to installing and sealing the casing to allow IDWR personnel to observe the remedial work.

3. Use of water under this permit is subject to all prior surface and ground water rights.

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4. Use of water under this permit is subject to the control of the watermaster of Water District No. 34, Big Lost River. Water shall only be diverted under this permit in accordance with requirements of Condition No. 2 of this order as determined by the director of IDWR.

5. Proof of application of the water to beneficial use shall be submitted on or before the date indicated in the Final Memorandum Decision and Order entered by the Director in this matter.

6. An access port or other device as specified by IDWR shall be installed by the permit holder prior to diversion of water under this permit to provide for the installation of flow measuring equipment. Jurisdiction is reserved to require the permit holder to install permanent measuring equipment for use by the watermaster.

7. A locking device approved by IDWR shall be installed by the permit holder prior to diversion of water under this permit to allow authorized officials to prevent diversion of water from the well.

8. Issuance of this permit does not grant a right of way or easement across the lands of another.

9. The permit holder shall comply with the provisions of Section 42-235, Idaho Code, prior to commencing reconstruction of the well.

Dated this 1ST day of AUGUST, 1989.

for Norman C. Young

BOBBY D. FLEENOR
Hearing Officer

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CERTIFICATE OF SERVICE

I HEREBY CERTIFY that on this the 3rd day of August, 1989 true and correct copies for the ORDER ISSUING PROPOSED DECISION and PROPOSED MEMORANDUM DECISION AND ORDER were mailed, postage prepaid to:

Michael Sorensen
Rt. 1 Box 63
Moore, ID 83255

Gerald Stewart
Box 59
Moore, ID 83255

Lewis Rothwell
Rt. 1 Box 405
Arco, ID 83213

Mrs. Jesse W. Jensen
Moore, ID 83255

Ned R. Walker
Arco, ID 83213

David Bleak, Lois Bleak
Chris Bleak
Rt. 1 Box 27
Moore, ID 83255

Larman D. Anderson
Moore, ID 83255

Jay F. Pearson
Rt. 1, Box 47
Moore, ID 83255

Virgil Hail
Box 454
Moore, ID 83255

Joe Smith
Rt. 1 Box 22
Moore, ID 83255

Ruben Babcock
Moore, ID 83255

Richard Taylor
Moore, ID 83255

Bill Haralson
Arco, ID 83213

Rita D. Fleck

RITA D. FLECK
Secretary/Records Manager

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Form 202
3/78

Ident. No. 34-7247

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES

AMENDED **APPLICATION FOR PERMIT** AMENDED

To appropriate the public waters of the State of Idaho

1. Name of applicant Mitchell D. Sorensen Phone 527-3271

   Post office address Rt. #1, Box 63, Moore, ID

2. Source of water supply Groundwater which is a tributary of _____

3. Location of point of diversion is SE ¼ of NE ¼ of Section 5 Township 4N

   Range 26E B.M. Butte County, additional points of diversion if any: _____

4. Water will be used for the following purposes:

   Amount 8.34 (cfs or acre-feet per annum) for Irrigation purposes from 4-1 to 11-1 (both dates inclusive)

   Amount _____ (cfs or acre-feet per annum) for _____ purposes from _____ to _____ (both dates inclusive)

   Amount _____ (cfs or acre-feet per annum) for _____ purposes from _____ to _____ (both dates inclusive)

   Amount _____ (cfs or acre-feet per annum) for _____ purposes from _____ to _____ (both dates inclusive)

5. Total quantity to be appropriated:

   a. 8.34 cubic feet per second and/or b. _____ acre-feet per annum.

6. Proposed diverting works:

   a. Description of ditches, flumes, pumps, headgates, etc. Well & pump.

   b. Height of storage dam _____ feet, active reservoir capacity _____ acre-feet; total reservoir capacity _____ acre-feet, materials used in storage dam: _____

   Period of year when water will be diverted to storage _____ (Month/Day) to _____ (Month/Day) inclusive.

   c. Proposed well diameter is _____ inches; proposed depth of well is _____ feet.

7. Time required for the completion of the works and application of the water to the proposed beneficial use is 5 years *(minimum 1 year – maximum 5 years).*

8. Description of proposed uses:
   a. If water is **not** for irrigation:
      (1) Give the place of use of water: _____ ¼ of _____ ¼ of Section _____ Township _____

      Range _____ B.M.

      (2) Amount of power to be generated: _____ horsepower under _____ feet of head.

      (3) List number of each kind of livestock to be watered _____

      _____

      (4) Name of municipality to be served _____, or number of families to be supplied with domestic water _____.

      (5) If water is to be used for other purposes describe: _____

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b. If water is for irrigation, indicate acreage in each subdivision in the tabulation below:

TWP	RANGE	SEC.	NE¼				NW¼				SW¼				SE¼				TOTALS
			NE¼	NW¼	SW¼	SE¼	NE¼	NW¼	SW¼	SE¼	NE¼	NW¼	SW¼	SE¼	NE¼	NW¼	SW¼	SE¼	
4N	25E	35					40	40	40	40	20			20					200

Total number of acres to be irrigated 200

c. Describe any other water rights used for the same purposes as described above. _____

9. a. Who owns the property at the point of diversion Norma Sorensen

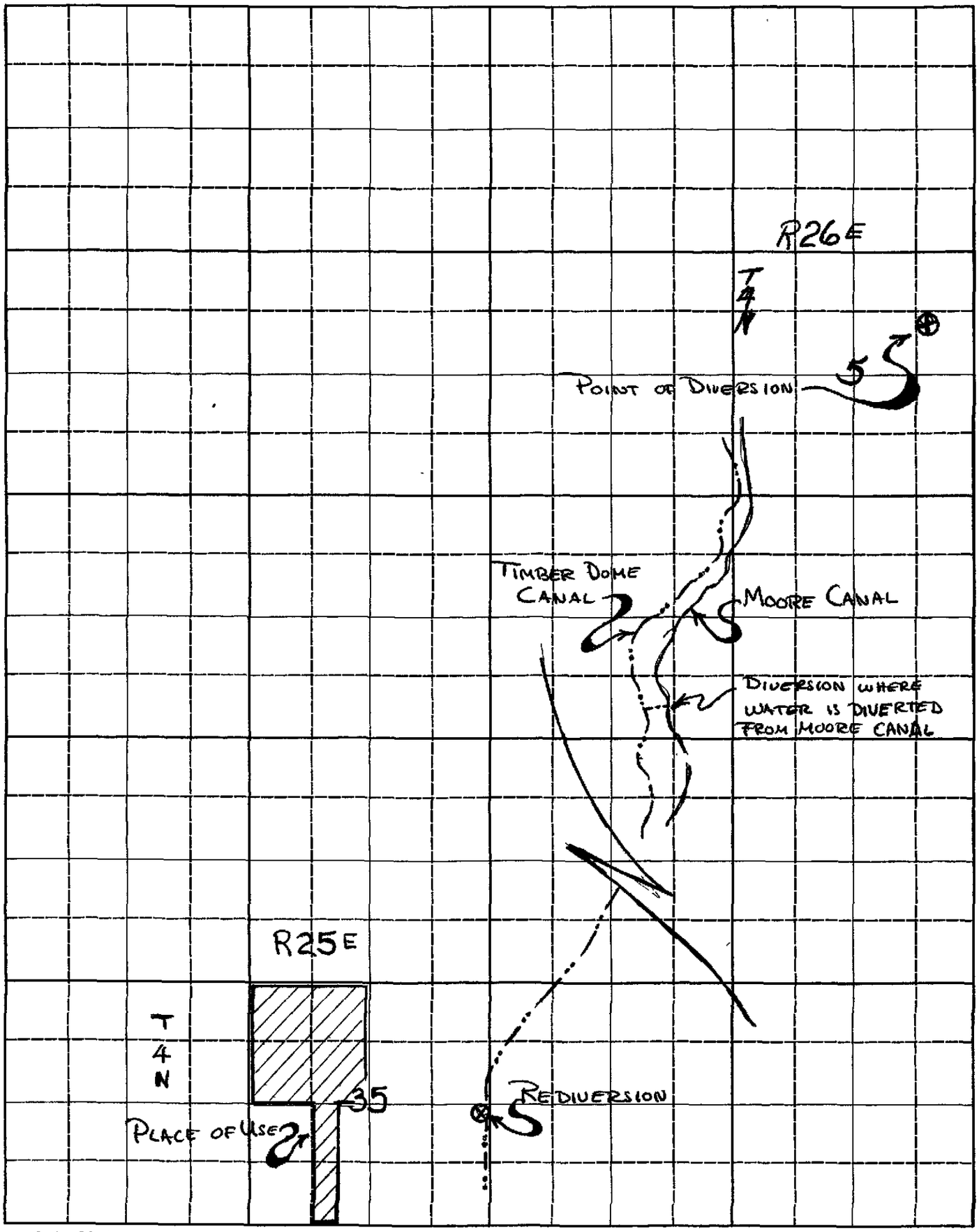
b. Who owns the land to be irrigated or place of use Mitchell Sorensen

c. If the property is owned by a person other than the applicant, describe the arrangement enabling the applicant to make this filing Lease with option to buy.

10. Remarks _____

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11. Map of proposed project: show clearly the proposed point of diversion, place of use, section number, township and range number.



Scale. 2 inches equal 1 mile.

BE IT KNOWN that the undersigned hereby makes application for permit to appropriate the public waters of the State of Idaho as herein set forth.

Mitchell Sorensen 2/15/84
(Applicant)

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FEB 11 2000

Received by (illegible) Date 2-21-84 Time 1:10 P

Preliminary check by _____ Fee $ 20.00

Receipted by BP Date 2/27/84 # 33459

Publication prepared by BP Date 2/29/84

Published in Arco Advertiser

Publication dates 3/8 & 3/15/84

Publication approved _____ Date _____

Protests filed by: _____

_____

_____

Copies of protests forwarded by _____

Hearing held by _____ Date _____

Recommended for approval denial by _____

ACTION OF THE DIRECTOR, DEPARTMENT OF WATER RESOURCES

This is to certify that I have examined Application for Permit to appropriate the public waters of the State of Idaho No. _____ , and said application is hereby _____ .

1. Approval of said application is subject to the following limitations and conditions:

   a. SUBJECT TO ALL PRIOR WATER RIGHTS.

   b. Proof of construction of works and application of water to beneficial use shall be submitted on or before _____ , 19 ____ .

   c. The rate of diversion, if water is to be used for irrigation under this permit, when combined with all other water rights for the same land shall not exceed 0.02 cubic feet per second for each acre of land.

   d. Other:

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State of Idaho
DEPARTMENT OF WATER RESOURCES
STATE OFFICE, 450 W. State Street, Boise, Idaho

JOHN V. EVANS
Governor

C. STEPHEN ALLRED
Director

Mailing address
Statehouse
Boise, Idaho 83720
(208) 334-4440

July 13, 1981

Review then let's discuss - a meeting with Hydrology may be needed.

MEMO

TO: Norm Young and Dave Tuthill

FROM: Hydrology Section SRS

SUBJECT: HYDROGEOLOGIC OPINIONS ON THE PROTESTED GROUNDWATER USE APPLICATIONS IN THE BIG LOST RIVER BASIN

While the report on water use in the Big Lost River basin is being finalized, the following information on protested wells (and also on three unprotested wells) is offered so that your decisions concerning approval of these applications can be made.

#34-7247: Applicant seeks to pump 8.34 cfs from an existing 156 ft. irrigation well in T4NR26E Section 5 SE¼NE¼ and wishes to put the water into the Moore Canal; the water would be rediverted in T4NR25E Section 35 where it would be used. In Section 5, as well as in Section 8 and 32 (south and north of Section 5, respectively), there are numerous sand and gravel aquifers which range in depth from 28 to 220 ft. below land surface. These are separated by aquicludes of clay. It appears that this vertical collection of aquifers would sustain the requested rate of discharge although it is highly likely that both the Moore Canal and the Big Lost River (roughly ¼ mile and 1 mile, respectively, from the well) would be adversely affected: leakage to the groundwater reservoir from each would be increased.

#34-7244 and 34-7240: The same applicant for both of these wishes to drill a 250 ft. well in each of two nearby sections, T5NR26E-20 SW¼SE¼ and 32 NW¼NE¼; he plans to discharge 10 cfs from each well into the Moore Canal and move the water to T4NR26E-30 where ditches would distribute the water. The hydrogeologic conditions for these two proposed sites are nearly identical to those in the first discussed application: numerous sand and gravel aquifers occur and these are recharged by leakage from the Moore Canal, by a probably low rate of recharge water derived from the adjacent hills immediately to the west of the sites, by groundwater and surface water irrigation systems, and by whatever subsurface water that moves south and eastward toward the Big Lost River, in the valley alluvium. The aquifers range in thickness from 4 ft. to 160 ft. and in depth from 46 ft. to 220 ft. (bottom of the deepest aquifer - from IDWR well logs) below land surface.

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Because existing irrigation wells that are close and of similar depth to the proposed wells are perforated through an adequate vertical distance in thick aquifers, it seems that interference may be minimized. Leakage from the Moore Canal and from the Big Lost River should, however, be made greater due to the 20 cfs to be withdrawn by the proposed wells. No particular casing requirements for either well would seem to lessen the impacts on the Moore Canal and Big Lost River losses.

#34-7218: Applicant desires to appropriate 3.2 cfs for irrigation from two 1000 ft. wells in T3NR27E-9 NW¼SE¼ (one well) and NE¼SE¼ (2nd well). In Section 9, two municipal wells (475 and 480 ft. deep) of Butte City, Idaho are located as well as one private 550 ft. well used for stock and domestic purposes, a 72 ft. well used to water stock, and a 600 ft. well used for stock and domestic purposes. The municipal wells draw 0.56 cfs from an upper, perched sand aquifer (at 38 to 44 ft.) and from "broken lava" (404 to 407 ft., in the case of one of these wells) and sand and gravel (460 to 475 ft., in the case of the other). The nature of aquifers and aquicludes that exist below 850 ft. is unknown. However, the regional (deep) water table may be found around 800 ft. below land surface. To protect the municipal and the deep domestic wells, it should be stipulated in the approval conditions that the proposed wells must not be perforated and the casing sealed off with grout from above and below the aquifers in the interval 400 to 560 ft.

The Unprotested Well Applications

#34-7252: Appplicant seeks to pump 0.2 cfs from a 60 ft. well in T4NR26E-36 SW¼NE¼. A sand and gravel aquifer would supply this small amount of water to the school wishing to water a lawn.

#34-7248: Applicant wishes to develop 1.6 cfs for irrigation in T7NR24E-17 NW¼SW¼; proposed depth is 80 ft. From a study of the well logs, it appears this well will not adversely affect five nearby wells although the flow in the Big Lost River will be reduced by some small degree.

#34-7234: An irrigator would like to develop 1.8 cfs from a proposed 200 ft. well in T5NR26E-34 SE¼SW¼; the water would be discharged into the Eastside Island Canal and later rediverted from the Arco Canal. Three irrigation wells are in different sections around 34 while two are in this section. None of these were drilled to 200 ft. and all receive water from adequate sand and gravel aquifers that alternate with clay aquicludes. Configuration of the water table under the Big Lost River roughly 1 mile south of Moore, Idaho indicates that the river would lose water from wells in the area of the proposed well; the proposed well would only add to this reduction in surface flow.

An alternative for the irrigator is the development of groundwater from a sand and gravel aquifer, roughly 45 to 55 ft. below land surface, in T3NR27E-10 (where the applicant intends to do his farming). Few other wells are close to Section 10.

SS:mb

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J. DOYLE JENSEN
President
Division No. 2, Moore

RICHARD C. ROTHWELL
Secretary - Treasurer
Division No. 4, Leslie

VERNON E. WARNER
Director
Division No 5, Leslie

JAMES S. BABCOCK
Director
Division No 3, Moore

WILLARD O. BELL
Director
Division No 1, Arco

Big Lost River Irrigation District
Phone 588-2231 — P. O. Box 205
Mackay, Idaho 83251

RECEIVED
JUL 3 1980
Department of Water Resources
Eastern District Office

July 2,1980

Mr. Ron Carlson
Dept. of Water Resources
1515 Lincon Road
Idaho Falls,Id 83401

Dear Ron:

The Directors of the Big Lost River Irrigation District wish to enter their PROTEST against the applications submitted by Mitchell and Norma K. Sorenesen. Copies of the applications are attached,there are three:
permit 34-7247 published for 8.34 CFS by Mitchell Sorensen
application of Mitchell Sorensen for 3.85 CFS
application of Norma K. Sorenesen forl.20 CFS

The Board is protesting these applications because each of them involve the use of the Moore and the W/C (Blaine) canal and no long term arrangements have been made to use the District's facilities .

Yours truly,

Rita

Rita M. Lundy for the Board per their motion made on July 1,1980
Assistant Secretary-treasurer

encl:

MICROFILMED
FEB 1 1 2000

PUBLIC NOTICE

NOTICE OF APPLICATION FOR WATER RIGHT

Notice is hereby given that the following application has been submitted for permit to appropriate the public waters of the State of Idaho.

34-7247

SORENSEN, MITCHELL D.
RT 1 BOX 63, MOORE, ID 83255
Source GROUNDWATER
Date Filed. 05-30-1980
Amount 8.34 CFS
Diversion Point SENE Sec 05 T 04N R 26E, BUTTE COUNTY.
Use IRRIGATION — (8.34 CFS) from 04-01 to 11-01
Place of Use: NENW NWNW SWNW SENW SESW Sec 35 T 04N R 25E FOR 200 ACRES
Diversion Means: WELL & PUMP

If issued, the permit will be subject to all prior water rights. Protests against the granting of any permit must be filed with the Director of the Idaho Department of Water Resources, 1515 Lincoln Road, Idaho Falls, Idaho 83401 on or before JULY 7, 1980.

C. STEPHEN ALLRED
Director

MICROFILMED
FEB 1 1 2000

Form No. 42-222

Transfer No. _____

Water Right No. _____

STATE OF IDAHO

DEPARTMENT OF WATER RESOURCES

APPLICATION FOR TRANSFER OF WATER RIGHT

To Change the Point of Diversion and/or the Place of Use

Name of applicant Norma K. Sorensen Phone 375-5717

Post office address 707 E. 50 S. Provo, UT

A. DESCRIPTION OF RIGHT AS RECORDED

1. Right evidenced by:

   a. Decree to John W. Loveless Decre #314 (Name)

   in case of Utah Construction Co. vs John F. Abbott et al

   dated Oct. 21, 1925 in U.S. District Court (Name of court) county of Butte & Custer

   b. License No. _____ issued by the Idaho Department of Water Resources

   c. Claim No. _____ on file with the Idaho Department of Water Resources

2. If applicant is not the original holder of this right, explain how it was acquired and attach a copy of the deed or other evidence of ownership of the land to which the right is appurtenant I obtained the water and land as heir of Weldon J. Sorensen, who's ownership of the right was confirmed by T. #920

3. Source of water Big Lost River tributary to Sinks

4. Date of priority June 1, 1896

5. Water is used for the following purposes:

   amount 1.20 cfs for Irrigation purposes from May 1 to Oct. 15

   amount _____ for _____ purposes from _____ to _____

   amount _____ for _____ purposes from _____ to _____

   (month/day – both dates inclusive)

6. Total amount of water under right: a. 1.20 cubic feet per second

   &/or

   b. _____ acre feet per annum

7. Location of original point of diversion is _____ ¼ of SE ¼ of Section 4

   Township 5N Range 26E, B.M., in Butte County

   Additional points of diversion, if any Point of diversion is heading for Moore Canal

8. Lands irrigated or place of use:

TWP.	RANGE	SEC.	NE¼				NW¼				SW¼				SE¼				TOTALS
			NE¼	NW¼	SW¼	SE¼	NE¼	NW¼	SW¼	SE¼	NE¼	NW¼	SW¼	SE¼	NE¼	NW¼	SW¼	SE¼	
4N	26E	5													40			20	60

MICROFILMED FEB 1 2000

Total number of acres to be irrigated 60

9. Describe any other water rights used for the same purposes as described above Supplemental ground water under license 34-2429 is in the process of being transferred to new lands

Form No. 42-222

Transfer No. _____

Water Right No. _____

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES

APPLICATION FOR TRANSFER OF WATER RIGHT

To Change the Point of Diversion and/or the Place of Use

Name of applicant Mitchell Sorensen Phone None

Post office address Rt. #1, Box 63 Moore, ID 83255

A. DESCRIPTION OF RIGHT AS RECORDED

1. Right evidenced by:
   a. Decree to _____ (Name)
      in case of _____ vs _____
      dated _____ in _____ (Name of court) county of _____
   b. License No. 34-2428 issued by the Idaho Department of Water Resources
   c. Claim No. _____ on file with the Idaho Department of Water Resources
2. If applicant is not the original holder of this right, explain how it was acquired and attach a copy of the deed or other evidence of ownership of the land to which the right is appurtenant _____
3. Source of water Groundwater tributary to _____
4. Date of priority June 25, 1961
5. Water is used for the following purposes:
   amount 3.85 for Irrigation purposes from April 1 to Nov. 1
   amount _____ for _____ purposes from _____ to _____
   amount _____ for _____ purposes from _____ to _____
   (month/day – both dates inclusive)
6. Total amount of water under right: a. 3.85 cubic feet per second
   &/or
   b. _____ acre feet per annum
7. Location of original point of diversion is SE ¼ of NE ¼ of Section 5
   Township 4N Range 26E, B.M., in Butte
   Additional points of diversion, if any _____
8. Lands irrigated or place of use:

TWP.	RANGE	SEC.	NE¼				NW¼				SW¼				SE¼				TOTAL
			NE¼	NW¼	SW¼	SE¼	NE¼	NW¼	SW¼	SE¼	NE¼	NW¼	SW¼	SE¼	NE¼	NW¼	SW¼	SE¼	
4N	26E	5				39									39			39	117
		9					37.5	38											75

Total number of acres to be irrigated 192.5

9. Describe any other water rights used for the same purposes as described above groundwater permit applied for

J. DOYLE JENSEN
President
Division No. 2, Moore

RICHARD C. ROTHWELL
Secretary - Treasurer
Division No 4, Leslie

VERNON E. WARNER
Director
Division No 5, Leslie

JAMES S. BABCOCK
Director
Divison No 3, Moore

WILLARD O. BELL
Director
Division No 1, Arco

Big Lost River Irrigation District

Phone 588-2231 — P. O. Box 205

Mackay, Idaho 83251

July 3,1980

Department of Water Resources
1515 Lincoln Road
Idaho Falls,Id 83401

Attn: Mr. Ron Carlson Mgr.

Dear Ron:

Our letter of protest yesterday was not able to identify the applications being protested since our copy of these applicatinns had not been assigned a number. Our local paper today has this publication and the copy is enclosed.
The permits of Norma K. Sorensen are 34-0496 and 34-0692 and transfer of right as noted on the attachedcopy.

Yours truly,

Rita M. Lundy for the board of Directors in their protest motion dated 7/1/80
Assistant Secretary-treasurer

attachment:

MICROFILMED
FEB 1 1 2000

RECEIVED
JUL 7 1980
Department of Water Resources
Eastern District Office

PUBLIC NOTICE

NOTICE OF PROPOSED CHANGE OF WATER RIGHTS

Notice is hereby given that Norma K. Sorensen, Provo, Utah, has applied to the Department of Water Resources for a change in the point of diversion and place of use of the waters of the Big Lost River. Two of the rights sought to be changed are evidenced by decree to John W Loveless (34 0496) and W H. Sorensen (34-0692) in case of Utah Construction Co. vs. John F. Abbott et al dated October 21, 1925 in U S. District Court, Counties of Butte and Custer and are recorded as follows:

Right No. 34-0496
AMOUNT: 1.20 cfs
PRIORITY June 1, 1896
DECREED POINT OF DIVERSION: SE¼, Sec 4, T. 5N, R 26E, B M., Butte County
The water is used for the irrigation of 60 acres from May 1 to October 15 within the E½SE¼, Sec 5, T. 4N, R. 26E, B.M.

Right No. 34-0692
AMOUNT: 3.60 cfs
PRIORITY: July 15, 1884
DECREED POINT OF DIVERSION: SE¼, Sec. 4, T 5N, R. 26E, B M, Butte County.
The water is used for the irrigation of 180 acres from May 1 to October 15 within the SE¼NE¼, Sec. 5; N½NE¼, Sec. 8; N½NW¼, Sec. 9; T 4N, R 26E, B.M

The third right sought to be changed is evidenced by Transfer No. 921 and is recorded as follows.
AMOUNT. 0.40 cfs
PRIORITY. July 15, 1884
POINT OF DIVERSION: SE¼, Sec 4, T 5N, R. 26E, B.M., Butte County
The water is used for the irrigation of 20 acres from May 1 to October 15 within the SE¼SE¼, Sec. 5, T 4N, R. 26E, B.M.

TO BE CHANGED AS FOLLOWS

Only 2.40 cfs, consisting of 1.20 cfs of Right No. 34-0496, 0.80 cfs of Right No. 34-0692 and 0.40 cfs of Transfer No. 921, will be diverted in the SE¼SE¼, Sec. 4, T 5N, R. 26E, B M., Butte County and conveyed through both the Moore Canal and the Old Utah Construction Canal for the irrigation of 120 acres from May 1 to October 15 within the NW¼, Sec 35, T. 4N, R. 25E, B.M.

Any protest against approval of the above proposed change of water right must be filed with the Idaho Department of Water Resources, 1515 Lincoln Road, Idaho Falls, Idaho 83401 on or before July 14, 1980.

C STEPHEN ALLRED
Director

Published in the Arco Advertiser
6-2[illegible]

July 5, 1980

PUBLIC NOTICE

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Right No. 34-0496
AMOUNT: 1.20 cfs
PRIORITY: June 1, 1896
DECREED POINT OF DIVERSION: SE¼, Sec. 4, T. 5N, R. 26E, B.M., Butte County.
The water is used for the irrigation of 60 acres from May 1 to October 15 within the E½SE¼, Sec. 5, T. 4N, R 26E, B.M.

Right No. 34-0692
AMOUNT: 3.60 cfs
PRIORITY: July 15, 1884
DECREED POINT OF DIVERSION: SE¼, Sec. 4, T. 5N, R. 26E, B.M, Butte County.
The water is used for the irrigation of 180 acres from May 1 to October 15 within the SE¼NE¼, Sec. 5; N½NE¼, Sec. 8; N½NW¼, Sec. 9; T. 4N, R. 26E, B.M.

The third right sought to be changed is evidenced by Transfer No. 921 and is recorded as follows:
AMOUNT: 0.40 cfs
PRIORITY: July 15, 1884
POINT OF DIVERSION: SE¼, Sec. 4, T. 5N, R. 26E, B.M., Butte County.
The water is used for the irrigation of 20 acres from May 1 to October 15 within the SE¼SE¼, Sec. 5, T. 4N, R. 26E, B.M.

TO BE CHANGED AS FOLLOWS

Only 2.40 cfs, consisting of 1.20 cfs of Right No. 34-0496, 0.80 cfs of Right No. 34-0692 and 0.40 cfs of Transfer No. 921, will be diverted in the SE¼SE¼, Sec. 4, T. 5N, R. 26E, B.M., Butte County and conveyed through both the Moore Canal and the Old Utah Construction Canal for the irrigation of 120 acres from May 1 to October 15 within the NW¼, Sec. 35, T. 4N, R. 25E, B.M.

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C. STEPHEN ALLRED
Director

Published in the Arco Advertiser 6-26 & 7-03-80.

I do protest approval of this change.

Reuben W Babcock

Reason:

1. Because land is useless with water transferred off

PUBLIC NOTICE

NOTICE OF PROPOSED CHANGE OF WATER RIGHT

NO. 34-2428

Notice is hereby given that Mitchell Sorensen, Moore, Idaho, has applied to the Department of Water Resources for a change in the place of use of the waters of groundwater source. The right sought to be changed is evidenced by License No 34-2428 and is recorded as follows.

AMOUNT: 3.85 cfs
PRIORITY: June 25, 1961
POINT OF DIVERSION: SE¼NE¼, Sec. 5, T. 4N, R. 26E, B.M., Butte Co.
The water is used to irrigate 192.5 acres from April 1 to Nov. 1 within the SE¼NE¼, E½SE¼, Sec. 5; N½NW¼, Sec. 9; T. 4N, R. 26E, B.M.

TO BE CHANGED AS FOLLOWS

The water will be used to irrigate 192.5 acres within the SE¼NE¼, E½SE¼, Sec. 5, T. 4N, R. 26E; W½SW¼, Sec. 35, T. 4N, R. 25E, B.M.

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C. STEPHEN ALLRED
Director

Published in the Arco Advertiser 6-19 & 6-26-80.

I do protest this change.

Reuben W Babcock

Reason

1. ~~Test~~ Land is useless with water transferred.

PUBLIC NOTICE

NOTICE OF APPLICATION FOR WATER RIGHT

Notice is hereby given that the following application has been submitted for permit to appropriate the public waters of the State of Idaho:

34-7247

SORENSEN, MITCHELL D.
RT. 1 BOX 63, MOORE, ID 83255
Source: GROUNDWATER
Date Filed: 05 30 1980
Amount: 8.34 CFS
Diversion Point: SENE Sec 05 T 04N R 26E, BUTTE COUNTY.
Use: IRRIGATION — (8.34 CFS) from 04-01 to 11-01
Place of Use: NENW NWNW SWNW SENW SESW Sec 35 T 04N R 25E FOR 200 ACRES
Diverion Means: WELL & PUMP
If issued, the permit will be subject to all prior water rights. Protests against the granting of any permit must be filed with the Director of the Idaho Department of Water Resources, 1515 Lincoln Road, Idaho Falls, Idaho 83401 on or before JULY 7, 1980.

C. STEPHEN ALLRED
Director

Published 6-19 & 6-26-80.

I do protest this Application

Reuben W Babcock

Reason

1. Too many pump on west side of valley.
2. When Big Lost River Irr. Dist. Bought U.C. No water waste Leave district

RECEIVED
JUL 7 1980
Department of Water Resources
Eastern District Office

MICROFILMED
FEB 1 1 2006

To: Report mailed Water Resource

PUBLIC NOTICE

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Notice is hereby given that Norma K. Sorensen, Provo, Utah, has applied to the Department of Water Resources for a change in the point of diversion and place of use of the waters of the Big Lost River. Two of the rights sought to be changed are evidenced by decree to John W. Loveless (34-0496) and W. H. Sorensen (34-0692) in case of Utah Construction Co. vs. John F. Abbott et al, dated October 21, 1925 in U.S. District Court, Counties of Butte and Custer and are recorded as follows:

Right No. 34-0496
AMOUNT: 1.20 cfs
PRIORITY: June 1, 1896
DECREED POINT OF DIVERSION: SE¼, Sec. 4, T. 5N, R. 26E, B.M., Butte County.
The water is used for the irrigation of 80 acres from May 1 to October 15 within the E½SE¼, Sec. 5, T. 4N, R. 26E, B.M.

Right No. 34-0692
AMOUNT: 3.60 cfs
PRIORITY: July 15, 1884
DECREED POINT OF DIVERSION: SE¼, Sec. 4, T. 5N, R. 26E, B.M, Butte County.
The water is used for the irrigation of 180 acres from May 1 to October 15 within the SE¼NE¼, Sec. 5; N½NE¼, Sec. 8; N½NW¼, Sec. 9, T. 4N, R. 26E, B.M.

The third right sought to be changed is evidenced by Transfer No. 921 and is recorded as follows:
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PRIORITY: July 15, 1884
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The water is used for the irrigation of 20 acres from May 1 to October 15 within the SE¼SE¼, Sec. 5, T. 4N, R. 26E, B.M.

TO BE CHANGED AS FOLLOWS

Only 2.40 cfs, consisting of 1.20 cfs of Right No. 34-0496, 0.80 cfs of Right No. 34-0692 and 0.40 cfs of Transfer No. 921, will be diverted in the SE¼SE¼, Sec. 4, T. 5N, R. 26E, B.M., Butte County and conveyed through both the Moore Canal and the Old Utah Construction Canal for the irrigation of 120 acres from May 1 to October 15 within the NW¼, Sec. 35, T. 4N, R. 25E, B.M.

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C. STEPHEN ALLRED
Director

Published in the Arco Advertiser 6-26 & 7-03-80.

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AMOUNT. 3.85 cfs
PRIORITY: June 25, 1981
POINT OF DIVERSION: SE¼NE¼, Sec. 5, T. 4N, R. 26E, B.M., Butte Co.
The water is used to irrigate 192.5 acres from April 1 to Nov. 1 within the SE¼NE¼, E½SE¼, Sec. 5; N½NW¼, Sec. 9; T. 4N, R. 26E, B.M.

TO BE CHANGED AS FOLLOWS

The water will be used to irrigate 192.5 acres within the SE¼NE¼, E½SE¼, Sec. 5, T. 4N, R. 26E; W½SW¼, Sec. 35, T. 4N, R. 25E, B.M.

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C. STEPHEN ALLRED
Director

Published in the Arco Advertiser 6-19 & 6-26-80.

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SORENSEN, MITCHELL D
RT. 1 BOX 63, MOORE, ID 83255
Source, GROUNDWATER
Date Filed, 05 30 1980
Amount: 8.34 CFS
Diversion Point: SENE Sec 05 T 04N R 26E, BUTTE COUNTY
Use: IRRIGATION — (8.34 CFS) from 04-01 to 11 01
Place of Use: NENW NWNW SWNW SENW SESW Sec 35 T 04N R 25E FOR 200 ACRES
Diverion Means: WELL & PUMP

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C. STEPHEN ALLRED
Director

Published 6-19 & 6-26-80.

This I Protest -
Ned R. Walker
July 5, 1980

RECEIVED
JUL 7 1980
Department of Water Resources
Eastern District Office

MICROFILMED
FEB 11 2000

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PRIORITY: June 1, 1896
DECREED POINT OF DIVERSION: SE¼, Sec. 4, T. 5N, R. 26E, B.M., Butte County.
The water is used for the irrigation of 60 acres from May 1 to October 15 within the E½SE¼, Sec. 5, T. 4N, R. 26E, B.M.

Right No. 34-0692
AMOUNT: 3.60 cfs
PRIORITY: July 15, 1884
DECREED POINT OF DIVERSION: SE¼, Sec. 4, T. 5N, R. 26E, B.M, Butte County.
The water is used for the irrigation of 180 acres from May 1 to October 15 within the SE¼NE¼, Sec. 5; N½NE¼, Sec. 8; N½NW¼, Sec. 9; T. 4N, R. 26E, B.M.

The third right sought to be changed is evidenced by Transfer No. 921 and is recorded as follows:
AMOUNT: 0.40 cfs
PRIORITY: July 15, 1884
POINT OF DIVERSION: SE¼, Sec. 4, T. 5N, R. 26E, B.M., Butte County.
The water is used for the irrigation of 20 acres from May 1 to October 15 within the SE¼SE¼, Sec. 5, T. 4N, R. 26E, B.M.

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Only 2.40 cfs, consisting of 1.20 cfs of Right No. 34-0496, 0.80 cfs of Right No. 34-0692 and 0.40 cfs of Transfer No. 921, will be diverted in the SE¼SE¼, Sec. 4, T. 5N, R. 26E, B.M., Butte County and conveyed through both the Moore Canal and the Old Utah Construction Canal for the irrigation of 120 acres from May 1 to October 15 within the NW¼, Sec. 35, T. 4N, R. 25E, B.M.

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C. STEPHEN ALLRED
Director

Published in the Arco Advertiser 6-26 & 7-03-80.

PUBLIC NOTICE

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PRIORITY: June 25, 1961
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The water is used to irrigate 192.5 acres from April 1 to Nov. 1 within the SE¼NE¼, E½SE¼, Sec. 5; N½NW¼, Sec. 9; T. 4N, R. 26E, B.M.

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C. STEPHEN ALLRED
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Use: IRRIGATION — (8.34 CFS) from 04 01 to 11-01
Place of Use: NENW NWNW SWNW SENW SESW Sec 35 T 04N R 25E FOR 200 ACRES
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C. STEPHEN ALLRED
Director

Published 6-19 & 6-26-80.

THE PEOPLE OF THE VALLEY BOUGHT THE UTAH CONSTRUCTION OUT SO THEY COULD KEEP THE WATER IN THE DISTRICT....WE DON'T FEEL LIKE IT SHOULD BE TAKEN AGAIN FROM THE VALLEY..

For irrigation wells - there are already to many drilled!

Mrs. Jesse H. Jensen

RECEIVED
JUL 7 1980
Department of Water Resources
Eastern District Office

MICROFILMED
FEB 11 2000

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PRIORITY: July 15, 1884
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C. STEPHEN ALLRED
Director

Published in the Arco Advertiser 6-26 & 7-03-80.

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PRIORITY: June 25, 1961
POINT OF DIVERSION: SE¼NE¼, Sec. 5, T. 4N, R. 26E, B.M., Butte Co.
The water is used to irrigate 192.5 acres from April 1 to Nov. 1 within the SE¼NE¼, E½SE¼, Sec. 5; N½NW¼, Sec. 9; T. 4N, R. 26E, B.M.

TO BE CHANGED AS FOLLOWS

The water will be used to irrigate 192.5 acres within the SE¼NE¼, E½SE¼, Sec. 5, T. 4N, R. 26E; W½SW¼, Sec. 35, T. 4N, R. 25E, B.M.

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C. STEPHEN ALLRED
Director

Published in the Arco Advertiser 6-19 & 6-26-80.

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RT 1 BOX 63, MOORE, ID 83255
Spurce. GROUNDWATER
Date Filed 05-30-1980
Amount 8.34 CFS
Diversion Point: SENE Sec 05 T 04N R 26E, BUTTE COUNTY.
Use: IRRIGATION — (8.34 CFS) from 04 01 to 11-01
Place of Use: NENW NWNW SWNW SENW SESW Sec 35 T 04N R 25E FOR 200 ACRES
Diverion Means: WELL & PUMP.
If issued, the permit will be subject to all prior water rights. Protests against the granting of any permit must be filed with the Director of the Idaho Department of Water Resources, 1515 Lincoln Road, Idaho Falls, Idaho 83401 on or before JULY 7, 1980.

C. STEPHEN ALLRED
Director

Published 6-19 & 6-26-80.

It also interferes with our Environmentall Rights

RECEIVED
JUL 7 1980
Department of Water Resources
Eastern District Office

RECEIVED
JUL 7 19[illegible]
Department of Water Resources
Eastern District Office

I wish to protest Applications 34-7247
34-2428
34-0496
34-0692
3rd right by transfer # 921

MICROFILMED
FEB 11 2000

I feel we have all the wells that this valley can handle right now. Our canals are full to capacity and no Arrangements made for use of same to land owners who own ditch rights, the use of our canals should have our Permission.

Lewis Rothwell
Rt. 1 Box 405
Arco, Ida. 83213

Joe Smith
Rt # 1 Box 22
Moore, Idaho 83255

PUBLIC NOTICE

APPLICATION FOR PERMIT TO APPROPRIATE WATER RIGHT

Notice is hereby given that the following application has been submitted for permit to appropriate the public waters of the State of Idaho:

34-7247

SORENSEN, MITCHELL D
RT. 1 BOX 63, MOORE, ID 83255
Spurce GROUNDWATER
Date Filed 05-30-1980
Amount. 8.34 CFS
Diversion Point SENE Sec 05 T 04N R 26E, BUTTE COUNTY
Use: IRRIGATION — (8.34 CFS) from 04-01 to 11-01
Place of Use NENW NWNW SWNW SENW SESW Sec 35 T 04N R 25E FOR 200 ACRES
Diverion Means WELL & PUMP.

If issued, the permit will be subject to all prior water rights Protests against the granting of any permit must be filed with the Director of the Idaho Department of Water Resources, 1515 Lincoln Road, Idaho Falls, Idaho 83401 on or before JULY 7, 1980

C STEPHEN ALLRED
Director

Published 6 19 & 6 26 80

I protest to transfering the water out on the desert If they want the water out there, let them drill wells out there, They'll be taking all our water out there if we let them.

Virgil J Hail
Moore Idaho Box 1134

PUBLIC NOTICE

NOTICE OF APPROVAL CHANGE OF WATER RIGHT

NO. 34-2428

Notice is hereby given that Mitchell Sorensen, Moore, Idaho, has applied to the Department of Water Resources for a change in the place of use of the waters of groundwater source. The right sought to be changed is evidenced by License No 34-2428 and is recorded as follows

AMOUNT. 3.85 cfs
PRIORITY June 25, 1961
POINT OF DIVERSION SE¼NE¼ Sec 5, T. 4N, R. 26E, B.M., Butte Co.

The water is used to irrigate 192 5 acres from April 1 to Nov. 1 within the SE¼NE¼, E½SE¼, Sec 5 N½NW¼, Sec. 9, T. 4N, R 26E, B.M

TO BE CHANGED AS FOLLOWS

The water will be used to irrigate 192 5 acres within the SE¼NE¼, E½SE¼, Sec 5, T. 4N, R. 26E, W½SW¼, Sec. 35, T. 4N, R 25E, B.M.

Any protest against approval of the above proposed change of water right must be filed with the Idaho Department of Water Resources, 1515 Lincoln Road, Idaho Falls Idaho, 83401 on or before July 7, 1980

C. STEPHEN ALLRED
Director

Published in the Arco Advertiser 6-19 & 6-26-80.

PUBLIC NOTICE

NOTICE OF APPLICATION FOR WATER RIGHT

Notice is hereby given that the following application has been submitted for permit to appropriate the public waters of the State of Idaho

34-7247

SORENSEN, MITCHELL D
RT 1 BOX 63, MOORE ID 83255
Source GROUNDWATER
Date Filed 05 30 1980
Amount 8.34 CFS
Diversion Point SENE Sec 05 T 04N R 26E, BUTTE COUNTY
Use IRRIGATION - 8.34 CFS from 04-01 to 11-01
Place of Use NENW NWNW SWNW SENW SESW Sec 35 T 04N 25E FOR 200 ACRES
Diversion Means A E R PUMP

If issued, the permit will be subject to all prior water rights. Protests against the granting of the permit must be filed with the Director of the Idaho Department of Water Resources, 1515 Lincoln Road, Idaho Falls, Idaho 83401 on or before July 7, 1980

E STEPHEN HALL
Director

Published in the Arco Advertiser on 6 19 & 6 26 80

July 7, 1980

RECEIVED
JUL 7 1980
Department of Water Resources
Eastern District Office

PUBLIC NOTICE

NOTICE OF PROPOSED CHANGE OF WATER RIGHT

NO. 34-2428

Notice is hereby given that Mitchell Sorensen, Moore, Idaho, has applied to the Department of Water Resources for a change in the place of use of the waters of groundwater source. The right sought to be changed is evidenced by License No. 34-2428 and is recorded as follows

AMOUNT 3.85 cfs
PRIORITY June 25, 1961
POINT OF DIVERSION SE¼NE¼ Sec. 5, T 4N R 26E B M Butte Co.
The water is used to irrigate 192.5 acres from April 1 to Nov 1 on the SE¼NE¼, E½SE¼ Sec 5 N½NW¼, Sec 9, T 4N R 26E B M

TO BE CHANGED AS FOLLOWS

The water will be used to irrigate 192.5 acres within the SE¼NE¼ E½SE¼ Sec 5, T 4N R 26E W½SW¼, Sec 35, T 4N R 25E B M

Any protest against approval of the above proposed change of right must be filed with the Idaho Department of Water Resources 1515 Lincoln Road, Idaho Falls, Idaho 83401 on or before July 7, 1980

E STEPHEN HALL
Director

Published in the Arco Advertiser on 6 19 & 6 26 80

I hereby wish to express my opposition to the above application because I sincerely believe we are moving into an area of difficulty with this practice. These pumps are lowering our water supplies in the valley, increasing our district charge & higher lift costs on existing farms.

Grant Stewart

Gerald Stewart
Box 59
Moore, Idaho.

7-5-80

PUBLIC NOTICE

NOTICE OF APPLICATION FOR WATER RIGHT

Notice is hereby given that the following application has been submitted for permit to appropriate the public waters of the State of Idaho.

34-7247

SORENSEN, MITCHELL D
RT. 1 BOX 63, MOORE, ID 83255
Spurce GROUNDWATER
Date Filed 05 30 1980
Amount: 8.34 CFS
Diversion Point SENE Sec 05 T 04N R 26E, BUTTE COUNTY
Use. IRRIGATION — (8 34 CFS) from 04-01 to 11-01
Place of Use. NENW NWNW SWNW SENW SESW Sec 35 T 04N R 25E FOR 200 ACRES
Diverion Means WELL & PUMP.

If issued, the permit will be subject to all prior water rights. Protests against the granting of any permit must be filed with the Director of the Idaho Department of Water Resources, 1515 Lincoln Road, Idaho Falls, Idaho 83401 on or before JULY 7, 1980

C STEPHEN ALLRED
Director

Published 6 19 & 6 26 80

Dear Sirs:

I am against any new wells being drilled in our district to take water out of our present water district to be put on new land outside of the district. There has already been too much of this water transferred onto newly developed land out of our water district. The water table has been lowered to an extent that any of us on river bottom ground can no longer irrigate on our farms with only the present decreed water right to the acre. The past several years we have had to let some of our fields burn because we cannot get the water over the ground when the water table is lowered to the extent it has been.

I urge you not to grant any more permits to drill wells for irrigating outside district land.

RECEIVED
JUL 7 1980
Department of Water Resources
Eastern District Office

Yours truly,
Jay F. Pearson
Rte 1 Box 47
Moore, Idaho
83255

PUBLIC NOTICE

NOTICE OF PROPOSED CHANGE OF WATER RIGHT

NO. 34-2428

Notice is hereby given that Mitchell Sorensen, Moore, Idaho, has applied to the Department of Water Resources for a change in the place of use of the waters of groundwater source. The right sought to be changed is evidenced by License No. 34-2428 and is recorded as follows.

AMOUNT: 3 85 cfs
PRIORITY: June 25, 1961
POINT OF DIVERSION SE¼NE¼, Sec. 5, T 4N, R 26E, B M , Butte Co.

The water is used to irrigate 192 5 acres from April 1 to Nov 1 within the SE¼NE¼, E½SE¼ Sec. 5; N½NW¼, Sec 9; T 4N R 26E, B.M

TO BE CHANGED AS FOLLOWS

The water will be used to irrigate 192.5 acres within the SE¼NE¼, E½SE¼, Sec. 5, T. 4N, R 26E, W½SW¼, Sec. 35, T. 4N, R 25E, B.M.

Any protest against approval of the above proposed change of water right must be filed with the Idaho Department of Water Resources, 1515 Lincoln Road, Idaho Falls, Idaho, 83401 on or before July 7, 1980

C. STEPHEN ALLRED
Director

Published in the Arco Advertiser
6 19 & 6 26-80

RECEIVED
JUL 7 1980
Department of Water Resources
Eastern District Office

MICRO

RECEIVED
JUL 7 1980
Department of Water Resources
Eastern District Office

July 7, 1980

RECEIVED
JUL 7 19
Department of Water Resources
Eastern District Office

Dear Sir:

I am against any new well being drilled where the water from that well will be transferred out of our district. I am also against any transfer of water from a well that's already in use where that water leaves our district. If you continue to transfer the water out of this district, you are going to completely dry up this valley.

Yours truly,

Bill Hudson

DWC

PUBLIC NOTICE

NOTICE OF APPLICATION FOR WATER RIGHT

Notice is hereby given that the following application has been submitted for permit to appropriate the public waters of the State of Idaho

34-7247

SORENSEN MICHEL
RT 1 BOX 83 MOORE ID 83255
Source GROUNDWATER
Date Rec'd 30 June 1980
Amount 0.34 CFS
Diversion from SENE Sec 5 T 4N R 26E BM TETON COUNTY
Use IRRIGATION Both from 04 01 to 11 01
Place of Use NENW NWNW SWNW SENW SESW Sec 35 T 5N R 25E FOR 200 ACRES
Diversion Means WELL & PUMP

If approved, this permit will be subject to all prior water rights. Protests against the granting of any permit must be filed with the Director of the Idaho Department of Water Resources 1515 Lincoln Road, Idaho Falls Idaho 83401 on or before JULY 7, 1980

C STEPHEN ALLRED
Director

Published 6 19 & 6-26-80

PUBLIC NOTICE

NOTICE OF PROPOSED CHANGE OF WATER RIGHT

NO. 34-7428

Notice is hereby given that Mitchell Sorensen, Moore, Idaho, has applied to the Department of Water Resources for a change in the place of use of the waters of groundwater Source. The right sought to be changed is evidenced by License No 34 7428 and is recorded as follows

AMOUNT 3.85 cfs
PRIORITY June 25 1947
POINT OF DIVERSION SE¼NE¼ Sec 5 T 4N R 26E B M Bonneville Co

The water is used for 39.5 acres from April 1 to Nov 1 in the SE¼NE¼ E½SE¼ Sec 5 N½NW¼ Sec 9 T 4N R 26E B M

TO BE CHANGED AS FOLLOWS

The water will be used to irrigate 192.5 acres within the SE¼NE¼ E½SE¼, Sec 5 T 4N, R 26E W½SW¼, Sec 35, T 4N, R 25E B M

Any protest against approval of the above proposed change of water right must be filed with the Idaho Department of Water Resources 1515 Lincoln Road Idaho Falls Idaho 83401 on or before July 7 1980.

C STEPHEN ALLRED
Director

Published in the Arco Advertiser 6-19 & 6 26-80

MICROFILMED FEB 11 2000

[redacted]

Notice is hereby given that the following application has been submitted for permit to appropriate the public waters of the State of Idaho

34-7247

SORENSEN MITCHELL D
RT 1 BOX 63 MOORE, ID 83255
Source GROUNDWATER
Date Filed 05 30 1980
Amount 8.34 CFS
Diversion Point SENE Sec 05 T 04N R 26E, BUTTE COUNTY
Use IRRIGATION 8.34 CFS from 04-01 to 11 01
Place of Use NENW NWNW SWNW SENW SESW Sec 35 T 04N R 25E FOR 200 ACRES
Diversion Means VEE S PUMP

If issued, the [illegible] subject to all prior water [illegible] Protests against the granting of this permit must be [illegible] Director of the Idaho Department of Water Resources [illegible] Road, Idaho Falls [illegible] before JULY 7, 1980

[illegible] STEPHEN ALLRED

Published [illegible]

RECEIVED

JUL 7 1980

Department of Water Resources
Eastern District Office

[redacted]

NOTICE OF [illegible]
CHANGE OF WATER RIGHT

NO 34-2428

Notice is hereby given that Mitchell Sorensen, Moore, Idaho has applied to the Department of Water Resources for a change in the place of use of the waters of groundwater source. The right sought to be changed is evidenced by License No 34 2428 and is recorded as follows

AMOUNT 4.85 cfs
PRIORITY June 25, 1962
POINT OF DIVERSION SE¼NE¼ Sec 5 T 4N, R 26E B.M. Butte Co.

The water is used to irrigate 192.5 acres from April 1 to Nov 1 within the E½NE¼, E½SE¼ Sec 5 W½NW¼ Sec 9 T. 4N, R 26E B.M.

TO BE CHANGED AS FOLLOWS

The water will be used to irrigate 192.5 acres within the SE¼NE¼, E½SE¼, Sec. 5, T. 4N, R. 26E W½SW¼ Sec 35, T. 4N, R 25E B.M.

Any protest against approval of the above proposed change of water right must be filed with the Idaho Department of Water Resources 1515 Lincoln Road, Idaho Falls, Idaho 83401 on or before June 1980

C. STEPHEN ALLRED
Director

Published in the Arco Advertiser 6 19 & 6 26 80

MICROFILMED

I protest applications no. 34-7247
no. 34-2428

for the following reasons

#34-7247. I believe there is to much water now being taken from under ground this is affecting the sub irrigated land in the valley where all the wells are now. The rising water at the lower end of the valley that the irrigation dist. uses for the lower end is all but gone. Harmon Anderson
Moore, Idaho

#34-2428 I protest this application because this water transfer would take more water out of the valley I believe when this well was drilled it was only to be a supplimental source of water for land above stated, and use for that land only, and only when the decreed water wasn't available to irrigate this parcel of land. Harmon Anderson
Moore, Id

In protest of these two items, for these reasons

PUBLIC NOTICE

NOTICE OF APPLICATION FOR WATER RIGHT

(1) Notice is hereby given that the following application has been submitted for permit to appropriate the public waters of the State of Idaho:

34-7247

SORENSEN, MITCHELL D.
RT. 1 BOX 63, MOORE, ID 83255
Source: GROUNDWATER
Date Filed: 05-30-1980
Amount: 8.34 CFS
Diversion Point: SENE Sec 05 T 04N R 26E, BUTTE COUNTY.
Use: IRRIGATION — (8.34 CFS) from 04-01 to 11-01
Place of Use: NENW NWNW SWNW SENW SESW Sec 35 T 04N R 25E FOR 200 ACRES
Diverion Means: WELL & PUMP.

If issued, the permit will be subject to all prior water rights. Protests against the granting of any permit must be filed with the Director of the Idaho Department of Water Resources, 1515 Lincoln Road, Idaho Falls, Idaho 83401 on or before JULY 7, 1980.

C. STEPHEN ALLRED
Director

Published 6-19 & 6-26-80.

PUBLIC NOTICE

NOTICE OF PROPOSED CHANGE OF WATER RIGHT

NO. 34-2428

(2) Notice is hereby given that Mitchell Sorensen, Moore, Idaho, has applied to the Department of Water Resources for a change in the place of use of the waters of groundwater source. The right sought to be changed is evidenced by License No. 34-2428 and is recorded as follows:

AMOUNT: 3.85 cfs
PRIORITY: June 25, 1961
POINT OF DIVERSION: SE¼NE¼, Sec. 9, T. 4N, R. 26E, B.M., Butte Co.
The water is used to irrigate 192 5 acres from April 1 to Nov. 1 within the SE¼NE¼, E½SE¼, Sec. 5; N½NW¼, Sec. 9; T. 4N, R. 26E, B.M.

TO BE CHANGED AS FOLLOWS

The water will be used to irrigate 192.5 acres within the SE¼NE¼, E½SE¼, Sec. 5, T. 4N, R. 26E; W½SW¼, Sec. 35, T. 4N, R. 25E, B.M.

Any protest against approval of the above proposed change of water right must be filed with the Idaho Department of Water Resources, 1515 Lincoln Road, Idaho Falls, Idaho, 83401 on or before July 7, 1980.

C. STEPHEN ALLRED
Director

Published in the Arco Advertiser 6-19 & 6-26-80.

No. (1)

A further study should be made of the ground water before any additional wells are drilled

No (2) Supplemental water is being taken out of the area that it is allocated for.

Richard Taylor

MICROFILMED
FEB 11 2000

JUN 27 1980

RECEIVED
JUN 26 1980
Department of Water Resources
Eastern District Office

Route 1, Box 27
Moore, Idaho
June 24, 1980

PUBLIC NOTICE

NOTICE OF APPLICATION FOR WATER RIGHT

Notice is hereby given that the following application has been submitted for permit to appropriate the public waters of the State of Idaho:

34-7247

SORENSEN, MITCHELL D.
RT. 1 BOX 63, MOORE, ID 83255
Source: GROUNDWATER
Date Filed: 05-30-1980
Amount: 8.34 CFS
Diversion Point: SENE Sec 05 T 04N R 26E, BUTTE COUNTY.
Use: IRRIGATION — (8.34 CFS) from 04-01 to 11-01
Place of Use: NENW NWNW SWNW SENW SESW Sec 35 T 04N R 25E FOR 200 ACRES
Diverion Means: WELL & PUMP

If issued, the permit will be subject to all prior water rights. Protests against the granting of any permit must be filed with the Director of the Idaho Department of Water Resources, 1515 Lincoln Road, Idaho Falls, Idaho 83401 on or before JULY 7, 1980.

C. STEPHEN ALLRED
Director

Published 6-19 & 6-26-80.

PUBLIC NOTICE

NOTICE OF PROPOSED CHANGE OF WATER RIGHT

NO. 34-2428

Notice is hereby given that Mitchell Sorensen, Moore, Idaho, has applied to the Department of Water Resources for a change in the place of use of the waters of groundwater source. The right sought to be changed is evidenced by License No. 34-2428 and is recorded as follows:

AMOUNT: 3.85 cfs
PRIORITY: June 25, 1961
POINT OF DIVERSION: SE¼NE¼, Sec. 5, T. 4N, R. 26E, B.M., Butte Co.

The water is used to irrigate 192.5 acres from April 1 to Nov 1 within the SE¼NE¼, E½SE¼, Sec. 5; N½NW¼, Sec. 9; T. 4N, R. 26E, B.M.

TO BE CHANGED AS FOLLOWS

The water will be used to irrigate 192.5 acres within the SE¼NE¼, E½SE¼, Sec. 5, T. 4N, R. 26E; W½SW¼, Sec. 35, T. 4N, R. 25E, B.M.

Any protest against approval of the above proposed change of water right must be filed with the Idaho Department of Water Resources, 1515 Lincoln Road, Idaho Falls, Idaho, 83401 on or before July 7, 1980.

C. STEPHEN ALLRED
Director

Published on the ... day ...
$17.5 & $28.00

Idaho Dept. of Water Resources
1515 Lincoln Rd
Idaho Falls, Idaho 83401

Sir;

I protest the granting of this permit and I further protest the change of the place of use of water herein described, filed by Mitchell Sorensen- the grounds are that the available water in this area is not sufficient to transfer to a different area we believe that additional wells will result in the loss of ground water in the area

Sincerly,

David B. Black

M. Black

MICROFILMED
FEB 11 2000

Notice: All Further permits will be protested until this issue is resolved.

Form 202
3/78

Ident. No. 34 7247

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES
APPLICATION FOR PERMIT

To appropriate the public waters of the State of Idaho

1. Name of applicant Mitchell D. Sorensen Phone None

   Post office address Rt. #1, Box 63, Moore, ID

2. Source of water supply Groundwater which is a tributary of _____

3. Location of point of diversion is SE ¼ of NE ¼ of Section 5 Township 4N

   Range 26 B.M. Butte County, additional points of diversion if any: _____

4. Water will be used for the following purposes:

   Amount 8.34 (cfs or acre-feet per annum) for Irrigation purposes from April 1 to Nov. 1 (both dates inclusive)

   Amount _____ (cfs or acre-feet per annum) for _____ purposes from _____ to _____ (both dates inclusive)

   Amount _____ (cfs or acre-feet per annum) for _____ purposes from _____ to _____ (both dates inclusive)

   Amount _____ (cfs or acre-feet per annum) for _____ purposes from _____ to _____ (both dates inclusive)

5. Total quantity to be appropriated:

   a. 8.34 cubic feet per second and/or b. _____ acre-feet per annum.

6. Proposed diverting works:

   a. Description of ditches, flumes, pumps, headgates, etc. well, and pump

   b. Height of storage dam _____ feet, active reservoir capacity _____ acre-feet; total reservoir capacity _____ acre-feet, materials used in storage dam: _____

      Period of year when water will be diverted to storage _____ (Month/Day) to _____ (Month/Day) inclusive.

   c. Proposed well diameter is _____ inches; proposed depth of well is _____ feet.
      existing well

7. Time required for the completion of the works and application of the water to the proposed beneficial use is 5 years *(minimum 1 year – maximum 5 years).*

8. Description of proposed uses:
   a. If water is not for irrigation:
      (1) Give the place of use of water: _____ ¼ of _____ ¼ of Section _____ Township _____

      Range _____ B.M.

      (2) Amount of power to be generated: _____ horsepower under _____ feet of head.

      (3) List number of each kind of livestock to be watered _____

      (4) Name of municipality to be served _____, or number of families to be supplied with domestic water _____.

      (5) If water is to be used for other purposes describe: _____

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FEB 1 1 2008

b. If water is for irrigation, indicate acreage in each subdivision in the tabulation below:

TWP	RANGE	SEC.	NE¼				NW¼				SW¼				SE¼				TOTALS
			NE¼	NW¼	SW¼	SE¼	NE¼	NW¼	SW¼	SE¼	NE¼	NW¼	SW¼	SE¼	NE¼	NW¼	SW¼	SE¼	
4N	25E	35					40	40	40	40				40					200

Total number of acres to be irrigated 200

c. Describe any other water rights used for the same purposes as described above. 75.5 acres W½SW¼, Se. 35, T. 4N, R. 25E, 34-2428. 80 acres. The same land as above under permit 34-7223, 34-0496 1.2 cfs - 6/1/96, 34-0692 1.2 - 7/15/84 Big Lost Decrees

9. a. Who owns the property at the point of diversion Norma Sorensen

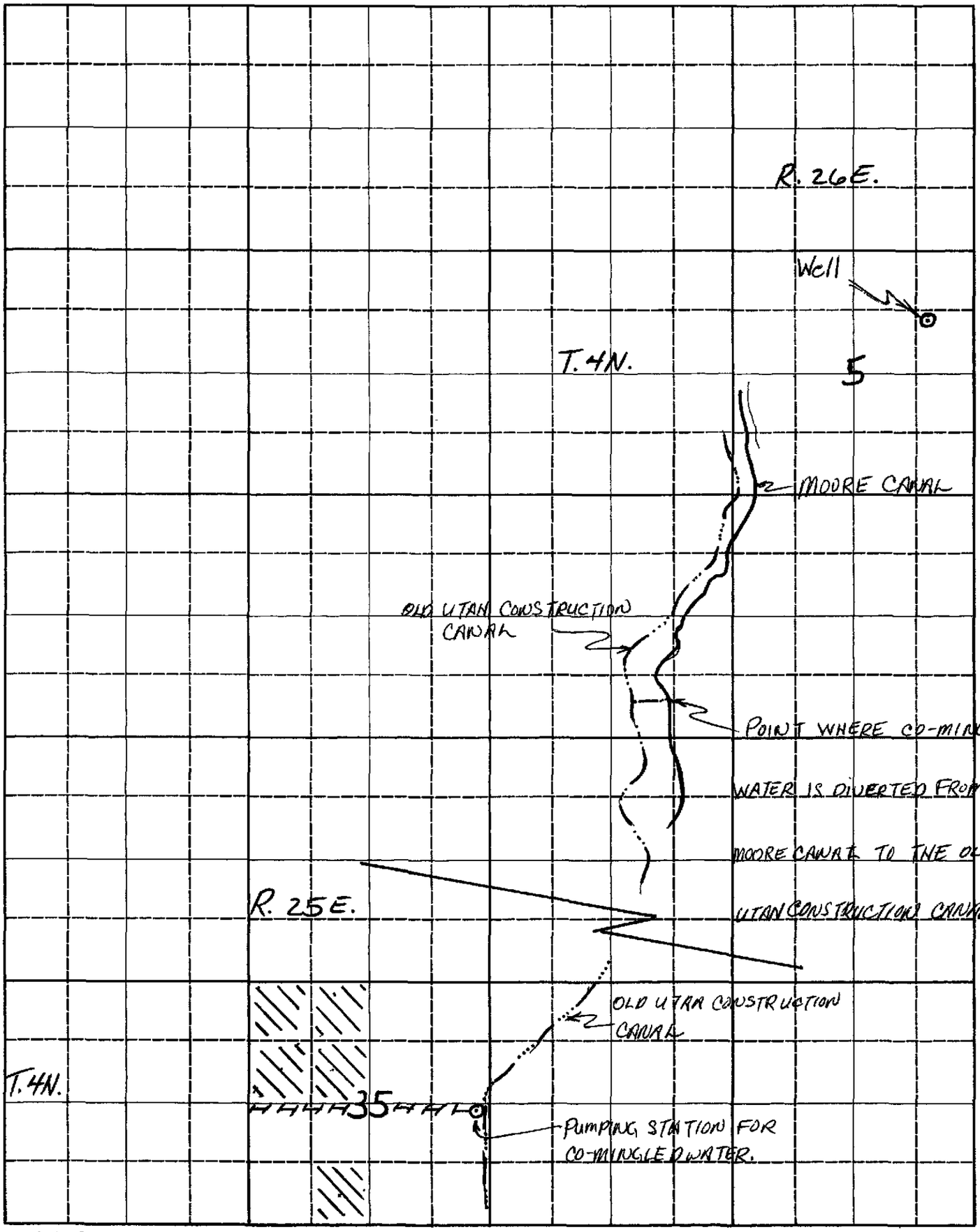
b. Who owns the land to be irrigated or place of use Mitchell Sorensen

c. If the property is owned by a person other than the applicant, describe the arrangement enabling the applicant to make this filing Lease with option to buy

10. Remarks

MICROFILMED
FEB 1 1 2000

11. Map of proposed project: show clearly the proposed point of diversion, place of use, section number, township and range number.



Scale. 2 inches equal 1 mile.

BE IT KNOWN that the undersigned hereby makes application for permit to appropriate the public waters of the State of Idaho as herein set forth.

MICROFILMED
FEB 1 1 2000

x _____
(Applicant)

Received by EMC Date 5-30-80 Time 1:00

Preliminary check by SM Fee $ 115.

Receipted by kw Date 5/30/80 #14827

Publication prepared by kw Date 6/12/80

Published in Arco Advertiser

Publication dates 6/19 & 6/26/80

Publication approved kw Date 7/21/80

Protests filed by: David G Blatt, Richard Taylor
Lois McClure Blatt, Emma N. Anderson, Lee Harrison
Cary Pearson, Donald Stewart, Virgil Boyle, Louis Fothergill,
Geo Smith, Mrs Vera Jean Wood, Fred Tinsley, Arthur L Babcock)

Copies of protests forwarded by kw ~~Director~~ Withdrawn

Hearing held by _____ Date _____

Recommended for approval denial by _____

ACTION OF THE DIRECTOR, DEPARTMENT OF WATER RESOURCES

This is to certify that I have examined Application for Permit to appropriate the public waters of the State of Idaho No. _____, and said application is hereby _____.

1. Approval of said application is subject to the following limitations and conditions:

   a. SUBJECT TO ALL PRIOR WATER RIGHTS.

   b. Proof of construction of works and application of water to beneficial use shall be submitted on or before _____, 19___.

   c. The rate of diversion, if water is to be used for irrigation under this permit, when combined with all other water rights for the same land shall not exceed 0.02 cubic feet per second for each acre of land.

   d. Other: _____

Witness my hand this _____ day of _____, 19___.

_____
Director

MICROFILMED
FEB 1 1989

Affidavit of Publication

I, LaVella Cammack
of the Arco Advertiser, a weekly newspaper of general circulation, published weekly at Arco, Idaho, since March, 1909, do solemnly swear that a copy of this notice, per clipping attached, was published weekly in the regular and entire issue of said newspaper, and not in any supplement thereof,

for 2 consecutive weeks, commencing with

the issue dated 6-19-80

and ending with the issue dated 6-26-80

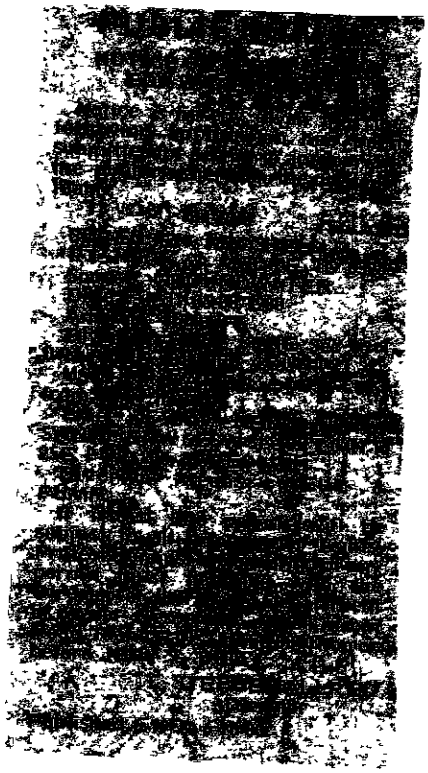
LaVella Cammack

Subscribed and sworn to before me this

14th day of July, 19 80

J. C. Sa
Notary Public

Residence: Arco, Idaho.
My commission expires. . . ... , 19 ..



okkw
7/21/80

RECEIVED
JUL 14 1980
Department of Water Resources
Eastern District Office

MICROFILMED
FEB 1 1 2000

Affidavit of Publication

RECEIVED
APR 3 1984
Department of Water Resources
Eastern District Office

I, . Donald L. Cammack . . ..
of the Arco Advertiser, a weekly newspaper of general circulation, published weekly at Arco, Idaho, since March, 1909, do solemnly swear that a copy of this notice, per clipping attached, was published weekly in the regular and entire issue of said newspaper, and not in any supplement thereof,

for 2 consecutive weeks, commencing with

the issue dated . March 8, 1984 .

and ending with the issue dated .

. . . March 15, 1984 .

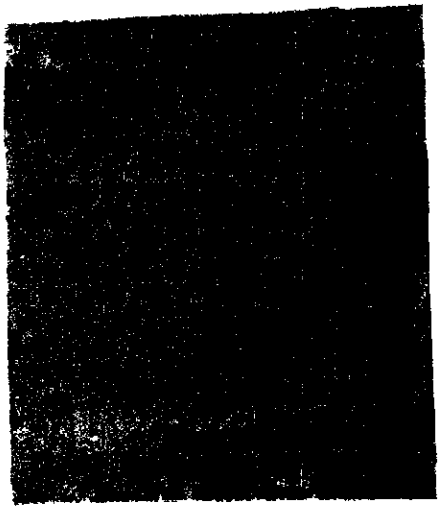
Donald L Cammack

Subscribed and sworn to before me this

.23rd . day of March , ..., 19.... 84

Lebella A Cammack
Notary Public

Residence: Arco, Idaho.
My commission expires . .. ... , 19. .



MICROFILMED
FEB 1 1 2008

these are labels used for sending the letter dated 12/01/1997 by Norm Young for file Nos. 34-07247, 34-07410 & 34-07430 (rfleck/labels/sorensen.lbl)

KENT W FOSTER
HOLDEN KIDWELL HAHN & CRAPO
P O BOX 50130
IDAHO FALLS ID 83405

MITCHELL D SORENSEN
ROUTE 1 BOX 63
MOORE ID 83255

GERALD STEWART
BOX 59
MOORE ID 83255

LEWIS ROTHWELL
ROUTE 1 BOX 405
ARCO ID 83213

MRS JESSIE W JENSEN
MOORE ID 83255

REVA WALKER
ARCO ID 83213

DAVID LOIS & CHRIS BLEAK
ROUTE 1 BOX 27
MOORE ID 83255

LARMAN D ANDERSON
MOORE ID 83255

JAY F PEARSON
ROUTE 1 BOX 47
MOORE ID 83255

VIRGIL HAIL
BOX 454
MOORE ID 83255

JOE SMITH
ROUTE 1 BOX 22
MOORE ID 83255

RUBEN BABCOCK
MOORE ID 83255

RICHARD TAYLOR
MOORE ID 83255

BILL HARALSON
ARCO ID 83213

MICHAEL AIKELE
ROUTE 1
MOORE ID 83255

GARY SLETTE
ROSHOLT ROBERSON & TUCKER
P O BOX 1906
TWIN FALLS ID 83303-1906

JUEL & BRET AIKELE
ROUTE 1
MOORE ID 83255

EVERETT ACOR
BOX 13
MOORE ID 83255

TODD PERKES
ROUTE 1 BOX 110
ARCO ID 83213

FRED BURT
MOORE ID 83255

GEORGE WHEELER
MOORE ID 83255

ELIDA S PEARSON
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DON HYMAS
MOORE ID 83255

DAVID TWEEDIE
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ROBIN RAY PEARSON
ROUTE 1 BOX 40
MOORE ID 83255

LEWIS ROTHWELL
ROUTE 1 BOX 405
ARCO ID 83213

BETTY SOWARDS
MOORE ID 83255

W T & LEOTA SOWARDS
MOORE ID 83255

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MORMA K SORENSON
707 EAST 50 SOUTH
PROVO UT

RITA LUNDY
BIG LOST RIVER IRRIGATION DIST
P O BOX 205
MACKAY ID 83251

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State of Idaho
DEPARTMENT OF WATER RESOURCES
1301 North Orchard Street, P.O. BOX 83720, Boise, Idaho 83720-0098
Phone: (208) 327-7900 FAX: (208) 327-7866

PHILIP E. BATT
GOVERNOR

KARL J. DREHER
DIRECTOR

December 29, 1997

Re: Application for Permit Nos. 34-07247, 34-07410, and 34-07430

Interested Parties:

Enclosed is a copy of a letter from Mitchell Sorenson regarding the mitigation plan for the three water right filings listed above. Please provide any comments within 14 days of the date of this letter.

Also, for information purposes, enclosed is a copy of a letter received from the Big Lost River Water Users Association.

If you have any questions concerning this matter, please feel free to contact this office.

Sincerely,

Norman C. Young
Administrator
Water Management Division

NCY:rf

Enclosures

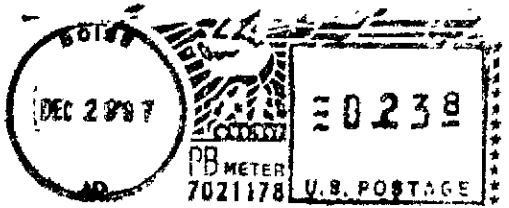
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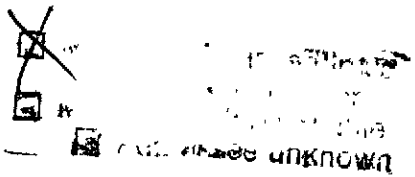
STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES
1301 North Orchard Street, P.O. Box 83720
Boise, Idaho 83720-0098

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TODD PERKES
ROUTE 1 BOX 110
ARCO ID 83213

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Department of Water Resources

AUTO 83213

December 11, 1997

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Department of Water Resources

Mr. Norman C. Young
IDAHO DEPT. OF WATER RESOURCES
1301 North Orchard Street
Statehouse Mail
Boise, Idaho 83720

RE: Proposed Mitigation Plan for Application for Permit Nos. 34-07247, 34-07410, and 34-07430

Dear Mr. Young:

It is my understanding of your letter dated December 1, 1997, that you believe it is necessary for me to propose a mitigation plan prior to IDWR commencing the processing of the three pending applications referenced above. I also understand that you believe it is necessary the plan include mitigation for prior water rights within the Big Lost River sub-basin and the Eastern Snake River Plain Aquifer (ESPA). Although I do not concur with these requirements being impose upon the proposed new uses prior to the issuance of permit(s), I propose the following mitigation plan.

Application For Permit 34-07247 (Ground water)

Mitigation in Basin 34

As I indicated through counsel, mitigation of this new use will be operated and regulated pursuant to the conjunctive management rules (Rule 50 of the Water Distribution Rules-Water District 34, IDAPA 37, Title 03, Chapter 12, adopted October 26, 1994). If IDWR or any other party does not feel the mitigation level adopted by the Director in the rule is sufficient, they must challenge the rule promulgated by the Director, not the equitable application of the rule to this specific application. Any condition imposed upon the newly issued permit must be consistent with the water distribution rules for Water District 34.

Mitigation for the ESPA

There is currently pending within the Snake River Basin Adjudication (SRBA), at the Supreme Court level, an appeal of the matter whether or not conjunctive management will be included in the management and distribution of water rights within water systems. Due to this pending litigation, the applicant is unable to determine whether mitigation will be required, and if so, at what level. Until the matter is adjudicated, the applicant proposes the application for permit be processed immediately and a permit issued subject to the following conditions.

Operation and distribution of the new use will be governed by the doctrines of "prior appropriation" and "futile call". Applicant also reserves the right to participate with any individual or group of water users similarly situated in the development, proposing, and operation of mitigation plans that would allow the use to divert "out of priority" in a conjunctively managed water system.

Application For Permit 34-07410 (Ground water)

(Mitigation for this application for permit is identical to that of application for permit 34-07247.)

Application For Permit 34-07430 (Surface water)

Mitigation for Basin 34 and ESPA

Water supplies for this new use are available only during periods of high water run off. Diversion and dispersion of a portion of these flood water supplies through irrigation will help alleviate damage to low lying flood plains and stream banks. Because this proposed new use will be a secondary water right to existing acres irrigated by ground water diversions, primary water rights will not need to be diverted from ground water supplies whenever surface supplies are available. This plan allows aquifers to remain saturated due to non-pumpage and delay those water supplies leaving local alluvial fills that otherwise will be lost by the natural means of percolation and discharge. Electrical resources will also be conserved due to not operating deep well pumps during such periods.

Operation and distribution of the new use will be governed by the doctrines of "prior appropriation" and "futile call". Applicant also reserves the right to participate with any individual or group of water users similarly situated in the development, proposing, and operation of mitigation plans that would allow the use to divert "out of priority" in a conjunctively managed water system.

With these proposed mitigation plans, I believe IDWR is now in a position to immediately begin the processing of the application for permits pursuant to the "mandatory permitting system". Again I ask IDWR to review actions previously taken relevant to each application and avoid further delays by attempting to conduct duplicative procedures and/or hearings.

Finally, your letter makes reference to "Others" and a "Mailing list". I presume that means you will forward copies of this and all future letters to these persons. Conversely, I am requesting that you send me copies of all past, present, and future communication (i.e. letters, protests, objections, facsimile, charts, graphs, photographs, documents, reports, summary of telephone calls, etc.) IDWR receives from whomever these persons might be.

Thank you for your time and consideration.

Sincerely,

Mitchell D. Sorensen

Big Lost River Water Users Association
Box 66
Moore, Idaho 83255

RECEIVED
DEC 2 2 1997
Department of Water Resources

December 17, 1997

Norman C. Young, Administrator
Water Management Division
Idaho Department of Water Resources

RE: Application # 34-07247, 34-07410, and 34-07430

Dear Mr. Young:

Having been made aware of your letter of December 1, 1997 to Mr Foster on the above referenced application for water right numbers, the following points are of primary importance·

1. It is imperative that the moratorium now in place be left operative at least to the date of the completion of the adjudication of Basin 34 to assure a measure of stability in trying to balance the decreed ground water use with the optimum supply available.

2 Any application for new consumptive uses must be publicly analyzed.

3. Any mitigation or compensation plans must be published and carefully analyzed in public hearings before decisions are made

Sincerely yours,

Lawrence Babcock

Lawrence R Babcock, Chairman
Big Lost River Water Users Association

Concurring signatures

Reva W. Walker

Norman D. Anderson

Dale Smith

Virgil J Hart

RECEIVED
DEC 15 1997
Department of Water Resources

December 11, 1997

Mr. Norman C. Young
IDAHO DEPT. OF WATER RESOURCES
1301 North Orchard Street
Statehouse Mail
Boise, Idaho 83720

RE: Proposed Mitigation Plan for Application for Permit Nos. 34-07247, 34-07410, and 34-07430

Dear Mr. Young:

It is my understanding of your letter dated December 1, 1997, that you believe it is necessary for me to propose a mitigation plan prior to IDWR commencing the processing of the three pending applications referenced above. I also understand that you believe it is necessary the plan include mitigation for prior water rights within the Big Lost River sub-basin and the Eastern Snake River Plain Aquifer (ESPA). Although I do not concur with these requirements being impose upon the proposed new uses prior to the issuance of permit(s), I propose the following mitigation plan.

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Mitigation for Basin 34 and ESPA

Water supplies for this new use are available only during periods of high water run off. Diversion and dispersion of a portion of these flood water supplies through irrigation will help alleviate damage to low lying flood plains and stream banks. Because this proposed new use will be a secondary water right to existing acres irrigated by ground water diversions, primary water rights will not need to be diverted from ground water supplies whenever surface supplies are available. This plan allows aquifers to remain saturated due to non-pumpage and delay those water supplies leaving local alluvial fills that otherwise will be lost by the natural means of percolation and discharge. Electrical resources will also be conserved due to not operating deep well pumps during such periods.

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FEB 1 1 2000

Operation and distribution of the new use will be governed by the doctrines of "prior appropriation" and "futile call". Applicant also reserves the right to participate with any individual or group of water users similarly situated in the development, proposing, and operation of mitigation plans that would allow the use to divert "out of priority" in a conjunctively managed water system.

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Thank you for your time and consideration.

Sincerely,

Mitchell D. Sorensen

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DEC 1 1 2000

Big Lost River Water Users Association
Box 66
Moore, Idaho 83255

RECEIVED
DEC 2 2 1997
Department of Water Resources

December 17, 1997

Norman C. Young, Administrator
Water Management Division
Idaho Department of Water Resources

RE: Application # 34-07247, 34-07410, and 34-07430

Dear Mr Young:

Having been made aware of your letter of December 1, 1997 to Mr Foster on the above referenced application for water right numbers, the following points are of primary importance:

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2. Any application for new consumptive uses must be publicly analyzed.

3. Any mitigation or compensation plans must be published and carefully analyzed in public hearings before decisions are made

Sincerely yours,

Lawrence Babcock
Lawrence R. Babcock, Chairman
Big Lost River Water Users Association

Concurring signatures:

Reva W. Walker
Norman D. Andersen
Dale Smith
Virgil J Hart

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FEB 1 1 2008

these are labels used for sending the letter dated for file Nos. 34-07247, 34-07410 & 34-07430
(rfleck/labels/sorensen.lbl)

KENT W FOSTER
HOLDEN KIDWELL HAHN & CRAPO
P O BOX 50130
IDAHO FALLS ID 83405

MITCHELL D SORENSEN
ROUTE 1 BOX 63
MOORE ID 83255

GERALD STEWART
BOX 59
MOORE ID 83255

LEWIS ROTHWELL
ROUTE 1 BOX 405
ARCO ID 83213

MRS JESSIE W JENSEN
MOORE ID 83255

REVA WALKER
ARCO ID 83213

DAVID LOIS & CHRIS BLEAK
ROUTE 1 BOX 27
MOORE ID 83255

LARMAN D ANDERSON
MOORE ID 83255

JAY F PEARSON
ROUTE 1 BOX 47
MOORE ID 83255

VIRGIL HAIL
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RUBEN BABCOCK
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RICHARD TAYLOR
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BETTY SOWARDS
MOORE ID 83255

W T & LEOTA SOWARDS
MOORE ID 83255

MORMA K SORENSON
707 EAST 50 SOUTH
PROVO UT

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FEB 11 2000

RITA LUNDY
BIG LOST RIVER IRRIGATION DIST
P O BOX 205
MACKAY ID 83251

Eastern Region

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES
North Orchard Street, P.O. Box 83720
Boise, Idaho 83720-0098

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RETURN TO SENDER
REASON CHECKED
Unclaimed ____ Refused ____
Attempted-Not Known ____
Insufficient Address ____
No such street ____ number ____
No such office in state ____
Do not remail in this envelope

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No address
12/11/97 KS

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Department of Water Resources

RETURNED TO SENDER
RICHARD TAYLOR
MOORE ID 83255

DEC 0297 ID

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Department of Water Resources

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State of Idaho
DEPARTMENT OF WATER RESOURCES
1301 North Orchard Street, P.O. BOX 83720, Boise, Idaho 83720-0098
Phone: (208) 327-7900 FAX: (208) 327-7866

PHILIP E. BATT
GOVERNOR

KARL J. DREHER
DIRECTOR

December 1, 1997

Kent W. Foster
Holden, Kidwell, Hahn & Crapo PLLC
P.O. Box 50130
Idaho Falls, Idaho 83405

Re: Application Nos. 34-07247, 34-07410, and 34-07430
(Mitchell D. Sorenson and Others)

Dear Mr. Foster:

Your letter of November 17, 1997, requests that processing for the above referenced applications be recommended as quickly as possible and continued until final orders are issued. Specifically you ask:

1. That an amended proposed memorandum decision and order be entered for Application No. 34-07247 without holding additional hearings or conferences.

2. That a hearing be scheduled for Application No. 34-07410 as soon as possible to resolve existing protests.

3. That notice be published for Application No. 34-07430 and that the application be processed in accordance with the Idaho statutes.

As noted in your letter, Basin 34 (Big Lost River and tributaries) is subject to the moratorium preventing approval of applications proposing consumptive uses of surface or ground water in the Eastern Snake River Basin. This moratorium, first entered on May 15, 1992 and amended to its present wording on April 30, 1993, has been fixed in place by statute (Section 42-1806, Idaho Code) until the end of this calendar year. However, the moratorium will not automatically end on that date, but remains in effect until the Director of the Department of Water Resources enters an order amending or terminating it. The Director has been quite open about his intentions to leave the moratorium in place as last amended for an unspecified period of time.

Although Mr. Sorenson's applications were filed in the early 1980's, the opportunity to process applications in Basin 34 has been relatively brief because of moratoria existing in one

form or another since late 1982. During the times that applications could be processed, these applications did not receive immediate consideration because of the general backlog of applications that built up during the Swan Falls controversy and the extensive efforts of IDWR and citizens of the Big Lost River Basin to resolve the general concerns for administration of the existing ground water and surface water rights during the extended drought of the late 1980's and early 1990's.

The moratoria and basin-wide limitations on processing of applications that have affected processing of the applications are summarized as follows:

1. November 1982 to November 1988. The Swan Falls controversy resulted in a suspension of processing for all applications proposing consumptive uses in the Snake River Basin above Swan Falls because the Idaho Supreme Court decision placed in doubt whether unappropriated water remained in the basin. Applications were held until all actions were in place to make the Swan Falls agreement operative.

2. November 1988 to August 7, 1990. Applications were processed in the Trust Water area with an annual limit of 20,000 acres of irrigation.

3. August 7, 1990 to April 30, 1993. A moratorium issued by IDWR on processing of applications proposing uses from both surface water and ground water was in place specifically for Basin 34. The order creating this moratorium noted that sixty applications for permit to divert and use 600 cfs of surface and ground water for irrigation of approximately 26,000 acres were pending for Basin 34. A similar backlog for Basin 34 still exists and must be considered as decisions are made on any particular application that may be a precedent in determining how the remaining backlog will be addressed.

4. April 30, 1993 to present time. The moratorium for Basin 34 has been replaced by the general moratorium issued by IDWR preventing approval of applications proposing surface and ground water uses in the Snake River Basin upstream from about King Hill.

Your letter also notes that the April 30, 1993, moratorium includes a specific provision allowing processing of applications in Basin 34 if mitigation or compensation is proposed. While the order gives little guidance concerning the nature or purpose of the mitigation or compensation that will be required to allow approval of an application, it does appear that because the order covers the Eastern Snake River Basin that mitigation or compensation must address the impact on water rights supplied from the aquifer including water rights on springs flowing from the Eastern Snake River Plain Aquifer (ESPA). Your letter suggests that the rules adopted for water distribution in Basin 34 provide a basis for mitigation adequate to allow processing of the applications. I agree that these rules do provide an adequate basis to allow processing to continue on the applications. But the adequacy of these provisions to provide

protection to existing surface and ground water rights from the uses proposed in the applications will be at issue as the applications are considered.

As a general requirement, a plan for mitigating or compensating prior rights from the ESPA will need to be file before processing of the applications will occur.

Based upon the provision in the moratorium and upon receipt of a proposed mitigation plan for the ESPA, IDWR will process the Sorenson applications as follows:

1. Application No. 34-07247. A copy of your November 17, 1997 letter and this letter in response will be sent to each protestant of record. Responses concerning the requests in your letter and this letter will be accepted for a 21-day period. The provisions in the proposed order approving this application issued on August 1, 1989, required reconstruction of the well to protect prior surface and ground water rights in Basin 34. Additional information is needed on the mitigation or compensation to be provided if the well is not reconstructed. Upon receipt of the plan to mitigate or compensate prior rights in the ESPA, notice of the plan will be published. Upon receipt of a request for a hearing on the plan as it relates to either the rights in Basin 34 or the ESPA, a hearing will be set.

2. Application No. 34-07410. Upon receipt of a plan to mitigate the effect of additional consumptive use of ground water on the prior rights in the ESPA, notice will be published. A hearing will be promptly scheduled to consider the existing protests and any objections to the proposed plan for mitigation or compensation.

3. Application No. 34-07430. Upon receipt of a plan to mitigate the effect of additional consumptive use of surface water on the prior rights in the ESPA, notice of this application and the mitigation plan will be published. A hearing will be promptly scheduled if protests are received.

Agreement to process does not imply that IDWR has made any decision with respect to approval of the applications. IDWR's decisions to approve or deny the applications will be determined by the requirements in Section 42-203A(5), Idaho Code, which require a full consideration of the effect of the proposed uses on other rights and the local public interest.

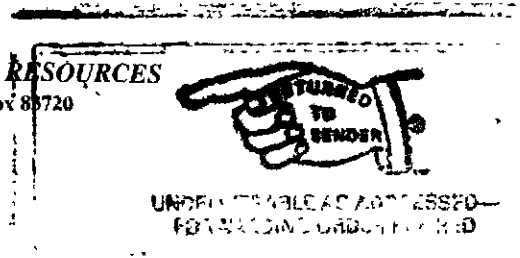
Sincerely,

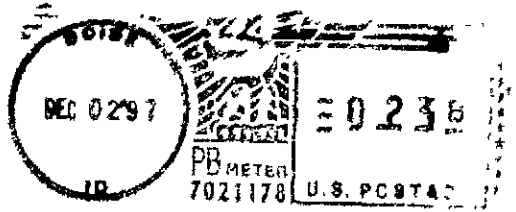
NORMAN C. YOUNG
Administrator
Water Management Division

cc: Mailing list

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES
North Orchard Street, P.O. Box 83720
Boise, Idaho 83720-0098

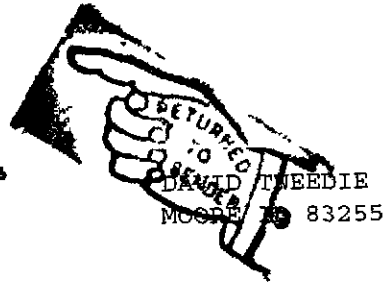
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Department of Water Resources



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Department of Water Resources
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State of Idaho
DEPARTMENT OF WATER RESOURCES
1301 North Orchard Street, P.O. BOX 83720, Boise, Idaho 83720-0098
Phone: (208) 327-7900 FAX: (208) 327-7866

PHILIP E. BATT
GOVERNOR

KARL J. DREHER
DIRECTOR

December 1, 1997

Kent W. Foster
Holden, Kidwell, Hahn & Crapo PLLC
P.O. Box 50130
Idaho Falls, Idaho 83405

Re: Application Nos. 34-07247, 34-07410, and 34-07430
(Mitchell D. Sorenson and Others)

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1. That an amended proposed memorandum decision and order be entered for Application No. 34-07247 without holding additional hearings or conferences.

2. That a hearing be scheduled for Application No. 34-07410 as soon as possible to resolve existing protests.

3. That notice be published for Application No. 34-07430 and that the application be processed in accordance with the Idaho statutes.

As noted in your letter, Basin 34 (Big Lost River and tributaries) is subject to the moratorium preventing approval of applications proposing consumptive uses of surface or ground water in the Eastern Snake River Basin. This moratorium, first entered on May 15, 1992 and amended to its present wording on April 30, 1993, has been fixed in place by statute (Section 42-1806, Idaho Code) until the end of this calendar year. However, the moratorium will not automatically end on that date, but remains in effect until the Director of the Department of Water Resources enters an order amending or terminating it. The Director has been quite open about his intentions to leave the moratorium in place as last amended for an unspecified period of time.

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Agreement to process does not imply that IDWR has made any decision with respect to approval of the applications. IDWR's decisions to approve or deny the applications will be determined by the requirements in Section 42-203A(5), Idaho Code, which require a full consideration of the effect of the proposed uses on other rights and the local public interest.

Sincerely,

NORMAN C. YOUNG
Administrator
Water Management Division

cc. Mailing list

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES
[redacted] North Orchard Street, P.O. Box 83720
[redacted]e, Idaho 83720-0098

Return Service Requested

Received not
Filed Acknowledged
in Adjud
12/16/97 KS.

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☐ NO SUCH NUMBER
☑ ATTEMPTED-NOT KNOWN
☐ FORWARDING ORDER EXPIRED
☐ INSUFFICIENT ADDRESS_____
☐ OTHER_____
INITIALS_____ ROUTE_____

MORMA K SORENSON
~~707 EAST 50 SOUTH~~
~~PROVO~~ UT

6

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ID
PB METER 7021178
0238
U.S. POSTAGE

MICROFILMED FEB 1 , 2000

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DEC 15 1997
Department of Water Resources

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[redacted]

State of Idaho
DEPARTMENT OF WATER RESOURCES
1301 North Orchard Street, P.O. BOX 83720, Boise, Idaho 83720-0098
Phone: (208) 327-7900 FAX: (208) 327-7866

PHILIP E. BATT
GOVERNOR

KARL J. DREHER
DIRECTOR

December 1, 1997

Kent W. Foster
Holden, Kidwell, Hahn & Crapo PLLC
P.O. Box 50130
Idaho Falls, Idaho 83405

Re: Application Nos. 34-07247, 34-07410, and 34-07430
(Mitchell D. Sorenson and Others)

Dear Mr. Foster:

Your letter of November 17, 1997, requests that processing for the above referenced applications be recommended as quickly as possible and continued until final orders are issued. Specifically you ask:

1. That an amended proposed memorandum decision and order be entered for Application No. 34-07247 without holding additional hearings or conferences.

2. That a hearing be scheduled for Application No. 34-07410 as soon as possible to resolve existing protests.

3. That notice be published for Application No. 34-07430 and that the application be processed in accordance with the Idaho statutes.

As noted in your letter, Basin 34 (Big Lost River and tributaries) is subject to the moratorium preventing approval of applications proposing consumptive uses of surface or ground water in the Eastern Snake River Basin. This moratorium, first entered on May 15, 1992 and amended to its present wording on April 30, 1993, has been fixed in place by statute (Section 42-1806, Idaho Code) until the end of this calendar year. However, the moratorium will not automatically end on that date, but remains in effect until the Director of the Department of Water Resources enters an order amending or terminating it. The Director has been quite open about his intentions to leave the moratorium in place as last amended for an unspecified period of time.

Although Mr. Sorenson's applications were filed in the early 1980's, the opportunity to process applications in Basin 34 has been relatively brief because of moratoria existing in one

form or another since late 1982. During the times that applications could be processed, these applications did not receive immediate consideration because of the general backlog of applications that built up during the Swan Falls controversy and the extensive efforts of IDWR and citizens of the Big Lost River Basin to resolve the general concerns for administration of the existing ground water and surface water rights during the extended drought of the late 1980's and early 1990's.

The moratoria and basin-wide limitations on processing of applications that have affected processing of the applications are summarized as follows:

1. November 1982 to November 1988. The Swan Falls controversy resulted in a suspension of processing for all applications proposing consumptive uses in the Snake River Basin above Swan Falls because the Idaho Supreme Court decision placed in doubt whether unappropriated water remained in the basin. Applications were held until all actions were in place to make the Swan Falls agreement operative.

2. November 1988 to August 7, 1990. Applications were processed in the Trust Water area with an annual limit of 20,000 acres of irrigation.

3. August 7, 1990 to April 30, 1993. A moratorium issued by IDWR on processing of applications proposing uses from both surface water and ground water was in place specifically for Basin 34. The order creating this moratorium noted that sixty applications for permit to divert and use 600 cfs of surface and ground water for irrigation of approximately 26,000 acres were pending for Basin 34. A similar backlog for Basin 34 still exists and must be considered as decisions are made on any particular application that may be a precedent in determining how the remaining backlog will be addressed.

4. April 30, 1993 to present time. The moratorium for Basin 34 has been replaced by the general moratorium issued by IDWR preventing approval of applications proposing surface and ground water uses in the Snake River Basin upstream from about King Hill.

Your letter also notes that the April 30, 1993, moratorium includes a specific provision allowing processing of applications in Basin 34 if mitigation or compensation is proposed. While the order gives little guidance concerning the nature or purpose of the mitigation or compensation that will be required to allow approval of an application, it does appear that because the order covers the Eastern Snake River Basin that mitigation or compensation must address the impact on water rights supplied from the aquifer including water rights on springs flowing from the Eastern Snake River Plain Aquifer (ESPA). Your letter suggests that the rules adopted for water distribution in Basin 34 provide a basis for mitigation adequate to allow processing of the applications. I agree that these rules do provide an adequate basis to allow processing to continue on the applications. But the adequacy of these provisions to provide

protection to existing surface and ground water rights from the uses proposed in the applications will be at issue as the applications are considered.

As a general requirement, a plan for mitigating or compensating prior rights from the ESPA will need to be file before processing of the applications will occur.

Based upon the provision in the moratorium and upon receipt of a proposed mitigation plan for the ESPA, IDWR will process the Sorenson applications as follows:

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Sincerely,

NORMAN C. YOUNG
Administrator
Water Management Division

c. Mailing list

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Administrator
Water Management Division

[redacted] list

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STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES
[redacted] North Orchard Street, P.O. Box 83720
Boise, Idaho 83720-0098

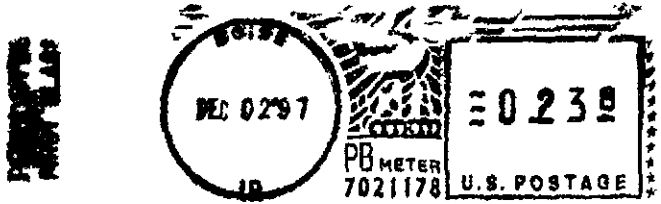
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TODD PERKES
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ARCO ID 83213

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STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES
[redacted] North Orchard Street, P.O. Box 83720
Boise, Idaho 83720-0098

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Department of Water Resources

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DAVID LOIS & CHRIS BLEAK
~~ROUTE 1 BOX 37~~
~~MOORE ID 83255~~

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Water Management Division

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Law Offices
HOLDEN, KIDWELL, HAHN & CRAPO, P.L.L.C.

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KENT W FOSTER
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(1877-1967)
Robert B Holden
(1911-1971)
Terry L Crapo
(1939-1982)
William S Holden
(1907-1988)

RECEIVED
NOV 2 0 1997
Department of Water Resources

November 17, 1997

Mr. Norman C. Young
IDAHO DEPARTMENT OF
WATER RESOURCES
1301 North Orchard Street
Statehouse Mail
Boise, Idaho 83720

Re: Mitchell D. Sorensen-Applications for Permit Nos. 34-07247, 34-07410 and 34-07430

Dear Mr. Young:

We have been requested by Mr. Mitchell D. Sorensen to write to you regarding his three pending applications for permit, referenced above, and to formally request that processing be recommenced and continued until a final decision is reached with respect to each.

As you are aware, each of these applications was filed many years ago, before the Snake River Basin Adjudication proceeding was really conceived, before the 1987 to 1994 drouth, and before either IDWR or the legislature began imposing moratoria. Indeed, neither Mr. Sorensen, nor we, nor (we believe) IDWR understood the facts or interpreted the applicable law as we now do in 1997. Certainly the law was not enforced in the same manner at that time as it is today.

Mr Sorensen acquired his land on Era Flats near Arco, Idaho, and commenced his farming development and operation as a young man, newly married, nearly twenty years ago, in 1978. As he commenced his effort, his first objective was to obtain water supplies to permit irrigation of the land. He utilized water available under some surface rights and from

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a quite productive well on land he was leasing from his mother, all of which he had arranged to have conveyed to his Era Flats land by virtue of transport agreements with Big Lost River Irrigation District and the acquisition of stock in the then relatively new Timberdome Canal Company.

As Mr. Sorensen began to learn about water rights and Idaho Water Law, he traveled to Idaho Falls and sought to become acquainted with officials of the Department in the Eastern Region office. He openly explained his circumstances and objectives, and asked for advice and assistance. He was first advised that he should apply for a permit for the extra water being used from the well on his mother's land, and also that he should apply to transfer the place of use for the surface water rights and the ground water right under which he was diverting water and using it to irrigate his Era Flats farmland. Although the well on the land he leases from his mother had only been licensed under license no. 34-02428, for 3.85 CFS, it had historically produced between 8 and 9 CFS.

Pursuant to the recommendation of IDWR officials at the Idaho Falls office, Mr. Sorensen filed Application for Permit No. 34-07247 and an application for transfer of water rights nos. 34-02428, 34-00496A, and 34-00692D on May 30, 1980. Numerous protests were filed and, with respect to Application for Permit No. 34-07247, a pre-hearing conference was held on December 16, 1981. Eventually the Swan Falls controversy and litigation intervened, but on August 1, 1989, IDWR issued proposed memorandum decisions and orders (1) requiring with respect to 34-07247, reconstruction of the old well to prevent water from any depth less than 300 feet from entering the well, and (2) denying the application for transfer. Exceptions were filed to the proposed decision regarding application no. 34-07247, and SRBA claims, claiming accomplished transfers and enlargements were filed with respect to the water rights which were the subject of the transfer. No further action has been taken with respect to application for permit No. 34-07247.

With respect to the further processing of Application for Permit no. 34-07247, we are specifically requesting preparation of an amended proposed memorandum decision and order. We do not see any need for additional hearings or conferences prior to the issuance of an amended proposed memorandum decision and order. There have been significant developments in the legal ability of IDWR to manage surface and ground water use in the Big Lost River Basin (Water District No. 34) since 1989. First, the water district was

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expanded to include ground water diversions within the jurisdiction of the watermaster. Next, the conjunctive management rules (Rule 50 of the Water Distribution Rules-Water District 34, IDAPA 37, Title 03, Chapter 12, adopted October 26, 1994) were put in place. Consequently, some of the conditions of the August 1, 1989 proposed order are no longer appropriate and should be modified. Conditions nos. 1, 2 and 9 are no longer applicable because the conjunctive management rules, referenced above, now provide for the implementation of specific mitigation requirements when needed. Condition no. 4 is no longer needed because of the changes made in the water district, and the placing of control of ground water diversions within the jurisdiction of the watermaster. We don't see the need for Condition no. 7 either. It seems somewhat wasteful and even offensive. Mr. Sorensen does not have any history of resisting enforcement or administration by IDWR.

Application for Permit No. 34-07410 to drill another well and appropriate additional ground water was filed on April 12, 1982. Notice was published and protests filed soon thereafter. However, no hearing has ever been held to resolve the protests. At the time of the filing, Idaho Code, §42-203 provided a mandatory requirement for a hearing on the protests within sixty (60) days. No hearing was ever held, no permit was ever granted, no well was ever drilled and water has never been diverted pursuant to such right. Nevertheless, there was a show cause proceeding instigated by IDWR in 1989 at the insistence of some of the protestants. Even though IDWR was fully apprised of the facts (no well, no diversions, etc.) it still acceded to the demands of the protestants, and, on October 19, 1989 issued a meaningless cease and desist order. Mr. Sorensen's specific request at this time is that IDWR schedule the hearing to resolve the protests as soon as possible.

Application No. 34-07430 is an application filed by Mr. Sorensen and others to appropriate flood flows of Antelope Creek and/or the Big Lost River, when available, by diverting such flood flow or a portion thereof into the old Blaine or UC Canal and thence into the Timberdome Canal system for use on the Era Flats farmlands. This has actually been done on occasion to relieve pressure on the river and as a means of reducing flood impacts, and the water has been beneficially used by Mr. Sorensen and the other applicants.

We understand application no. 34-0430 to have been filed about April 8, 1983, but to our knowledge notice has never been published, and the application has never been

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processed. Mr. Sorensen's specific request is that IDWR publish notice and process this application in the manner provided in the statutes.

So far as we know there was no legally enforceable moratorium in effect when these applications, or most of them, were filed. The legislatively approved amended moratorium of April 30, 1993, appears to be designed to terminate as the end of this year. But that moratorium contains a provision, paragraph no. 9. b) of the order itself, which appears to be applicable here. As we have pointed out, the above referenced conjunctive management rules in force for water district no. 34, appear to provide the requirements for mitigation, if needed, to offset injury to other rights. Mr. Sorensen is willing to have the proposed water rights, 34-07247 and 34-07410, conditioned upon compliance with those rules and the mitigation requirements contained therein. He expects that in many years there will be no need for mitigation, and that when such a need arises, he will be able to augment natural flow by adding water to canals or laterals to the extent required from his ground water diversions.

Mr. Sorensen would certainly be willing to participate in any needed scheduling conference, but one does not appear to us to be necessary. Once IDWR issues the amended proposed memorandum decision and order on 34-07247, sets a pre-hearing conference for hearing on the protests to 34-07410, and publishes notice on 34-07430, we would expect the rest of the scheduling to pretty much follow within the parameters of what is convenient for hearing officers and parties.

Thank you for your kind attention to these requests.

Yours very truly,

Kent W. Foster

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Department of Water Resources

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IN THE DISTRICT COURT OF THE FIFTH JUDICIAL DISTRICT OF THE STATE OF IDAHO, IN AND FOR THE COUNTY OF TWIN FALLS

In Re SRBA	)	**Subcase: 92-00015**
	)	
Case No. 39576	)	**RECOMMENDATION RE: PETITION FOR PEREMPTORY WRIT OF MANDAMUS**
	)	

I. PROCEDURAL BACKGROUND

Petitioners Mitchell D. and Elaine R. Sorensen filed a *Verified Petition for Peremptory Writ of Mandamus to Idaho Department of Water Resources and its Director, Karl J. Dreher* on October 17, 1997, (hereafter *Petition)*. The *Petition* complains that IDWR failed to comply with its statutory duty to process three applications for water rights by failing to reach decisions. One application has been pending for more than 17 years; a second application has been pending for more than 15 years; and a third application has been pending for more than 14 years. The *Petition* seeks a writ of mandamus requiring IDWR to complete the application process and requests costs and attorney fees pursuant to I.C. § 12-117(1).

The *Petition* asserts that petitioners first filed an Application for Permit with IDWR May 30, 1980, and an Amended Application for Permit February 21, 1984, for certain water rights. On August 3, 1989, an "Order Issuing Proposed Memorandum Decision" was issued by IDWR with a "Proposed Memorandum Decision and Order" dated August 1, 1989. No final decision has been issued by IDWR.

The *Petition* asserts that a second Application for Permit was filed April 12, 1982. Protests were filed against the application. No hearing or conference was ever held in connection with the application. No action or decision has been made by IDWR for this application which has been pending for 15 years, 5 months.

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The *Petition* asserts that a third Application for Permit was filed April 8, 1983 in conjunction with other applicants. This application has not been published or processed, and no action or decision has been issued for 14 years, 5 months.

The Idaho Department of Water Resources filed a *Notice of Special Appearance* under I.R.C.P. 4(I) and a *Motion to Dismiss Petition for Peremptory Writ of Mandamus* asserting that the SRBA court lacks jurisdiction over proceedings in which IDWR or the Director are named as parties. The State of Idaho filed a separate notice of appearance and participated in oral argument on the *Petition* and *Motion to Dismiss*.

II. JURISDICTION

The SRBA Court lacks jurisdiction in cases where IDWR is named as a party. Recent case law appears to make no exceptions even where the subject matter of the case may be intricately related to elements of a water right. In *In re SRBA Case Co. 39576 Twin Falls Canal Co. v. Idaho Dept. Water Resources,* 127 Idaho 688, 905 P.2d 89 (1995), the Twin Falls Canal Company and North Side Canal Company filed a petition against IDWR in the SRBA seeking declaratory relief to declare invalid certain administrative rules adopted by IDWR. IDWR moved to dismiss the petition on the ground the SRBA district court does not have subject matter jurisdiction to hear the petition for declaratory relief.

The Idaho Supreme Court ruled that the canal companies may not seek declaratory relief in the SRBA against IDWR because they could not be joined as a party in the SRBA. "Although the director of IDWR filed the petition to commence SRBA and was a party until 1994, the legislature subsequently removed the director as a party." *Id.* I.C. § 42-1401B(3)

The jurisdiction of the SRBA does not extend to hearings in which IDWR is a party. The *Petition* specifically names IDWR and the Director as parties.

Therefore, IT IS RECOMMENDED that the *Petition* be **dismissed** because the SRBA Court lacks jurisdiction.

DATED November 26, 1997.

BRIGETTE BILYEU
Special Master
Snake River Basin Adjudication

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FEB 1 1 2000

CERTIFICATE OF MAILING

I certify that a true and correct copy of the RECOMMENDATION RE: PETITION FOR PEREMPTORY WRIT OF MANDAMUS was mailed on November 26, 1997, with sufficient first-class postage to the following:

Peter Ampe
Deputy Attorney General
State of Idaho
P. O. Box 44449
Boise, ID 83711-4449

Phil Rassier
Deputy Attorney General
Idaho Department of Water Resources
PO Box 83720
Boise, ID 83720-0098

Mitchell Sorensen
3871 West 2500 North
Moore, ID 83255

Deputy Clerk

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FEB 1 1 2000

Law Offices
HOLDEN, KIDWELL, HAHN & CRAPO, P.L.L.C.

FRED J HAHN
KENT W FOSTER
ROBERT E FARNAM
WILLIAM D FALER
STEPHEN E MARTIN
CHARLES A HOMER
GARY L MEIKLE
GAYLE A SORENSON, P A
DONALD L HARRIS, P A
DALE W STORER
MARIE T TYLER
JOHN G SIMMONS
ROBERT M FOLLETT
FREDERICK J HAHN, III
SHAN B PERRY

U S BANK OF IDAHO BUILDING
330 SHOUP AVENUE, THIRD FLOOR
P O BOX 50130
IDAHO FALLS, IDAHO 83405

TELEPHONE (208) 523-0620
FACSIMILE (208) 523-9518
E-MAIL HOLDNLAW@SRV NET

Arthur W Holden
(1877-1967)
Robert B Holden
(1911-1971)
Terry L Crapo
(1939-1982)
William S Holden
(1907-1988)

RECEIVED
NOV 2 0 1997
Department of Water Resources

November 17, 1997

Mr. Norman C. Young
IDAHO DEPARTMENT OF
WATER RESOURCES
1301 North Orchard Street
Statehouse Mail
Boise, Idaho 83720

Re: Mitchell D. Sorensen-Applications for Permit Nos. 34-07247, 34-07410 and 34-07430

Dear Mr. Young:

We have been requested by Mr. Mitchell D. Sorensen to write to you regarding his three pending applications for permit, referenced above, and to formally request that processing be recommenced and continued until a final decision is reached with respect to each.

As you are aware, each of these applications was filed many years ago, before the Snake River Basin Adjudication proceeding was really conceived, before the 1987 to 1994 drouth, and before either IDWR or the legislature began imposing moratoria. Indeed, neither Mr. Sorensen, nor we, nor (we believe) IDWR understood the facts or interpreted the applicable law as we now do in 1997. Certainly the law was not enforced in the same manner at that time as it is today.

Mr Sorensen acquired his land on Era Flats near Arco, Idaho, and commenced his farming development and operation as a young man, newly married, nearly twenty years ago, in 1978. As he commenced his effort, his first objective was to obtain water supplies to permit irrigation of the land. He utilized water available under some surface rights and from

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a quite productive well on land he was leasing from his mother, all of which he had arranged to have conveyed to his Era Flats land by virtue of transport agreements with Big Lost River Irrigation District and the acquisition of stock in the then relatively new Timberdome Canal Company.

As Mr. Sorensen began to learn about water rights and Idaho Water Law, he traveled to Idaho Falls and sought to become acquainted with officials of the Department in the Eastern Region office. He openly explained his circumstances and objectives, and asked for advice and assistance. He was first advised that he should apply for a permit for the extra water being used from the well on his mother's land, and also that he should apply to transfer the place of use for the surface water rights and the ground water right under which he was diverting water and using it to irrigate his Era Flats farmland. Although the well on the land he leases from his mother had only been licensed under license no. 34-02428, for 3.85 CFS, it had historically produced between 8 and 9 CFS.

Pursuant to the recommendation of IDWR officials at the Idaho Falls office, Mr. Sorensen filed Application for Permit No. 34-07247 and an application for transfer of water rights nos. 34-02428, 34-00496A, and 34-00692D on May 30, 1980. Numerous protests were filed and, with respect to Application for Permit No. 34-07247, a pre-hearing conference was held on December 16, 1981. Eventually the Swan Falls controversy and litigation intervened, but on August 1, 1989, IDWR issued proposed memorandum decisions and orders (1) requiring with respect to 34-07247, reconstruction of the old well to prevent water from any depth less than 300 feet from entering the well, and (2) denying the application for transfer. Exceptions were filed to the proposed decision regarding application no. 34-07247, and SRBA claims, claiming accomplished transfers and enlargements were filed with respect to the water rights which were the subject of the transfer. No further action has been taken with respect to application for permit No. 34-07247.

With respect to the further processing of Application for Permit no. 34-07247, we are specifically requesting preparation of an amended proposed memorandum decision and order. We do not see any need for additional hearings or conferences prior to the issuance of an amended proposed memorandum decision and order. There have been significant developments in the legal ability of IDWR to manage surface and ground water use in the Big Lost River Basin (Water District No. 34) since 1989. First, the water district was

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expanded to include ground water diversions within the jurisdiction of the watermaster. Next, the conjunctive management rules (Rule 50 of the Water Distribution Rules-Water District 34, IDAPA 37, Title 03, Chapter 12, adopted October 26, 1994) were put in place. Consequently, some of the conditions of the August 1, 1989 proposed order are no longer appropriate and should be modified. Conditions nos. 1, 2 and 9 are no longer applicable because the conjunctive management rules, referenced above, now provide for the implementation of specific mitigation requirements when needed. Condition no. 4 is no longer needed because of the changes made in the water district, and the placing of control of ground water diversions within the jurisdiction of the watermaster. We don't see the need for Condition no. 7 either. It seems somewhat wasteful and even offensive. Mr. Sorensen does not have any history of resisting enforcement or administration by IDWR.

Application for Permit No. 34-07410 to drill another well and appropriate additional ground water was filed on April 12, 1982. Notice was published and protests filed soon thereafter. However, no hearing has ever been held to resolve the protests. At the time of the filing, Idaho Code, §42-203 provided a mandatory requirement for a hearing on the protests within sixty (60) days. No hearing was ever held, no permit was ever granted, no well was ever drilled and water has never been diverted pursuant to such right. Nevertheless, there was a show cause proceeding instigated by IDWR in 1989 at the insistence of some of the protestants. Even though IDWR was fully apprised of the facts (no well, no diversions, etc.) it still acceded to the demands of the protestants, and, on October 19, 1989 issued a meaningless cease and desist order. Mr. Sorensen's specific request at this time is that IDWR schedule the hearing to resolve the protests as soon as possible.

Application No. 34-07430 is an application filed by Mr. Sorensen and others to appropriate flood flows of Antelope Creek and/or the Big Lost River, when available, by diverting such flood flow or a portion thereof into the old Blaine or UC Canal and thence into the Timberdome Canal system for use on the Era Flats farmlands. This has actually been done on occasion to relieve pressure on the river and as a means of reducing flood impacts, and the water has been beneficially used by Mr. Sorensen and the other applicants.

We understand application no. 34-0430 to have been filed about April 8, 1983, but to our knowledge notice has never been published, and the application has never been

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processed. Mr. Sorensen's specific request is that IDWR publish notice and process this application in the manner provided in the statutes.

So far as we know there was no legally enforceable moratorium in effect when these applications, or most of them, were filed. The legislatively approved amended moratorium of April 30, 1993, appears to be designed to terminate as the end of this year. But that moratorium contains a provision, paragraph no. 9. b) of the order itself, which appears to be applicable here. As we have pointed out, the above referenced conjunctive management rules in force for water district no. 34, appear to provide the requirements for mitigation, if needed, to offset injury to other rights. Mr. Sorensen is willing to have the proposed water rights, 34-07247 and 34-07410, conditioned upon compliance with those rules and the mitigation requirements contained therein. He expects that in many years there will be no need for mitigation, and that when such a need arises, he will be able to augment natural flow by adding water to canals or laterals to the extent required from his ground water diversions.

Mr. Sorensen would certainly be willing to participate in any needed scheduling conference, but one does not appear to us to be necessary. Once IDWR issues the amended proposed memorandum decision and order on 34-07247, sets a pre-hearing conference for hearing on the protests to 34-07410, and publishes notice on 34-07430, we would expect the rest of the scheduling to pretty much follow within the parameters of what is convenient for hearing officers and parties.

Thank you for your kind attention to these requests.

Yours very truly,

Kent W. Foster

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Department of Water Resources
Adjudication Bureau

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Department of Water Resources

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Department of Water Resources
Eastern Region

BEFORE THE IDAHO DEPARTMENT OF WATER RESOURCES

IN RE PUBLICATION BY IDWR OF NOTICE OF ENLARGEMENTS IN BASIN 34	)	**PETITION TO ASSERT CLAIMED INJURY**

Mitchell D. Sorensen and Elaine R. Sorensen, husband and wife, petitioners, pursuant to the provisions of Idaho Code §42-1426, and that certain "Order Re: Amendment of Claims" signed by Judge Herlbutt on July 11, 1997, In Re: SRBA case No. 39576, hereby assert that:

1. Petitioners filed applications for water rights prior to April 17, 1994 as follows:

   a. Application No. 34-07427, filed in May, 1980
   b. Application No. 34-07410, filed April 12, 1982
   c. Application No. 34-07430, filed April 8, 1983

2. IDWR has never completed the processing of any of such applications.

3. Petitioners filed no SRBA claims claiming such rights because IDWR employees advised petitioners that SRBA claims for any such applications would not be accepted.

4. Petitioners will be injured by every diversion or use of ground or surface water in Basin 34 pursuant to any enlargement of water right recommended by the director which is subsequent in time to any of said applications, unless and until IDWR completes the processing of said applications and issues the permits sought thereby.

Dated this 18th day of September, 1997.

Elaine R. Sorensen

Elaine R. Sorensen

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STATE OF IDAHO)
)ss.
County of Bonneville)

On the 16th day of September, 1997, before me, the undersigned, a notary public in and for said State, personally appeared ELAINE R. SORENSEN, known or identified to me to be the person whose name is subscribed to the within instrument and acknowledged to me that she executed the same.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed my official seal, the day and year in this certificate first above written.

Carol A Steele

Notary Public for Idaho
Residing at Idaho Falls, Idaho
My Commission Expires: 4-27-2000

(seal)

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FEB 11 2000

June 2, 1992

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JUN 4 1992
Department of Water Resources

Gary Spackman, Supervisor
Water Right Permit Section
Idaho Department of Water Resources
1301 North Orchard Street
Statehouse Mail
Boise, Idaho 83720

RE: Supplemental Response to Moratorium Exemption Questionnaire regarding Water Rights No. 34-07410, 34-07247, 34-07430

Dear Gary,

Enclosed are three completed questionnaire forms for the respective rights listed above. As you are aware, the Director has declared a separate moratorium in Basin #34 from the general Snake River Basin Moratorium. I am not sure how IDWR plans to sort and administrate these various pending applications. It appears that some kind of an augmentation/mitigation plan for our basin will need to be in place prior to IDWR's approval of any contemplated appropriations.

The purpose these proposed applications were filed in the first place was to provide augmentation/supplemental supplies of water for lands that were and are currently being irrigated. The surface water supplies I rely on for irrigating these lands are rights 34-0692D, 34-0496A, and exchanged rights 34-0093 and 34-0032A. These are senior priority rights relative to other surface rights. Historically they have provided adequate quantities of water to irrigate a portion of my total farm except for the past five drought years. It was in anticipation of drought conditions that application for permits 34-07410 and 34-07247 were sought in the early 1980's. Existing ground water rights that I am currently using are 34-02428, 34-12416, 34-07215A, and exchanged rights 34-07096, 34-07097, and 34-07223.

Application 34-07430, a very junior surface appropriation, was requested to offset or lessen the long term costs of operating deep wells during normal and drought years. Obviously in average or below normal water years, this particular right would not provide any supply of water and proceeding with it's processing will not cause any injury to other existing appropriations because of the priority system of water management and should be processed in a timely manner also.

If I can provide any further information please contact me at 527-3271.

Sincerely,

Mitchell D. Sorensen

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34-07247

MORATORIUM EXEMPTION QUESTIONNAIRE

IF YOUR APPLICATION PROPOSES AN IRRIGATION USE, PLEASE COMPLETE AND RETURN THE FOLLOWING:

- Has ALL the land you propose to irrigate been irrigated with surface water in the past?
  No, both my surface & ground water supplies are appurtenant to all of my lands. There is no way to sort or seperate the water because it is comingled. (see cover letter)
- Do you summer fallow any of your irrigated land? If so, how many acres?
  YES (40-150 Acres)
  (the actual amount various from year to year depending on the government programs)
- List the water right(s) you have used to irrigate the land listed on the application. If you have received water from a canal company or water district, please identify the name of canal or water district. Big Lost River Irrigation Dist.

Surface	Ground		Exchange surface
34-12416	34-07097		
34-02428	34-07215A		34-0093
34-07096	34-07223		34-0032A

- During the last ten years, how many years has your surface irrigation water been available for the entire irrigation season?

  The five years prior to the drought

- What crops have you grown in the past ten years?
  Alfalfa, wheat, Barley, Pea/Oats

I understand if my proposed diversion of groundwater is approved as a supplemental use, that I can only use my well during periods of drought, when a full supply of water is not available. I also agree that my surface water will be fully used to the extent available, will not be sold or used on other lands, and that a change in use of my surface water may result in revocation of any groundwater right granted pursuant to my application for supplemental water.

Dated this 2 day of June, 1992.

(Please sign) Mitchell Jensen

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LING, NIELSEN & ROBINSON
ATTORNEYS AT LAW
615 "H" STREET
P. O. BOX 396
RUPERT, IDAHO 83350

ROGER D. LING
ROBERT M. NIELSEN
BRENT T. ROBINSON
DAVID W. HALEY

AREA CODE 208
TELEPHONE 436-4717
FAX 436-6804

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FEB 27 1991
Department of Water Resources

Mr. L. Glen Saxton
Chief
Water Allocation Bureau
Department of Water Resources
1301 Orchard Street
Statehouse Mail
Boise, Idaho 83720

Re: Dickcon, a California Corporation, Timjon, a California Corporation, d/b/a Hillcreek Properties, and Richard A. Tuthill, d/b/a P.U. Ranch, Ltd. v. Big Lost River Irrigation District

Mitchell D. Sorensen v. Big Lost River Irrigation District

Dear Glen:

I have enclosed a Subpoena issued by the Clerk of the Court directing you to appear in the trial of the above matters on March 5, 1991 in Arco, Idaho. As I indicated to you on the phone, copies of the documents referred to in the Subpoena and any other documents that may be relevant to the particular water rights in issue will be satisfactory, as you can identify the documents being copied in the original files of the Department. The trial is set to commence at 9:30 a.m. of said day. It is doubtful that it would be necessary for you to be present at the commencement of the trial, as the plaintiffs must present their case first. However, it now appears that you should be there by 1:30 in the afternoon of said day. If I can give you further notice as to when you should be there, I will do so.

If you require a payment of your fees and travel expenses prior to attending, please notify me immediately. I can assure you that your fees and mileage will be paid by

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Big Lost River Irrigation District. If you have any questions, please feel free to contact me.

Very truly yours,

Roger D. Ling

RDL:rah
Enclosure

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FEB 11 2000

ROGER D. LING
LING, NIELSEN AND ROBINS[redacted]
Attorneys at Law
615 H Street, P.O. Box 396
Rupert, Idaho 83350

(208) 436-4717

Attorneys for Defendant

IN THE DISTRICT COURT OF THE SEVENTH JUDICIAL DISTRICT
OF THE STATE OF IDAHO, IN AND FOR THE COUNTY OF BUTTE

DICKCON, a CALIFORNIA CORPORATION, et al
Plaintiff
vs.
BIG LOST RIVER IRRIGATION DISTRICT
Defendant

Case No. 12-90

SUBPOENA – DUCES TECUM

Fee Category

Fee $ (For Clerk's Use Only)

THE STATE OF IDAHO SENDS GREETINGS TO L. Glen Saxton, Chief, Water Allocation Bureau, Department of Water Resources

WE COMMAND YOU, That, all and singular business and excuses being laid aside, you appear and attend the trial of the above matter consolidated with case No. 15-90 entitled Mitchell D. Sorensen v. Big Lost River Irrigation District,
before the Honorable James C. Herndon, District Judge

our District Court of the Seventh Judicial District of the State of Idaho, in and for the County of Butte at a term of said Court to be held at the Court House in the County of Butte on the 5th day of March A.D. 19 91, at 9:30 o'clock A.M., then and there to testify in the above entitled action, now pending in said District Court, on the part of the defendant; and you are further commanded to bring with you, and then and there produce in evidence records of the Department of Water Resources relating to the water rights and Application to Transfer Place of Use of the plaintiffs, including water rights 34-00170, 34-00556, water license 34-7079, transfer No. 3214, Order to Cease and Desist against Richard Tuthill dated July 13, 1990; decree No. 34-0496 and 34-0692, transfer No. 921 Application No. 34-7410, Cease and Desist Order of October 19, 1989 directed to Mitchell D. Sorensen, Application for Transfer of Water Right by Norma K. Sorensen, proposed Memorandum Decision and Order dated August 1, 1989, exchange No. 2354(34-0093) and exchange No. 34-0032A and disobedience will be punished as a contempt by the said court, and you will also forfeit to the party aggrieved the some of One Hundred Dollars, and all damages which may be sustained by your failure to attend.

WITNESS: Hon. James C. Herndon
Judge of the Seventh Judicial District, at the Court House in the County of Butte, and the seal of said Court this _____ day of February, A.D. 19 91.

ATTEST: My hand and seal of said Court, the day and year last above written.

Judith R. Bailey
Clerk of the District Court.

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FEB 11 2000

Deputy.

LING, NIELSEN & ROBINSON
ATTORNEYS AT LAW
615 "H" STREET
P O. BOX 396
RUPERT, IDAHO 83350

ROGER D LING
ROBERT M. NIELSEN
BRENT T ROBINSON
DAVID W HALEY

AREA CODE 208
TELEPHONE 436-4717
FAX 436-6804

January 8, 1991

RECEIVED
JAN 09 1991
Department of Water Resources

Mr. L. Glenn Saxton, Chief
Water Allocation Bureau
Department of Water Resources
1301 North Orchard Street
Statehouse Mail
Boise, Idaho 83720

Re: Big Lost River Irrigation District Litigation

Dear Glenn:

As you know, I am now representing Big Lost River Irrigation District. The district is presently involved in three lawsuits involving water transport agreements issued by the district to certain waterusers. In preparing for the trial of these matters, I find that we do not have the following documents which are at issue, to-wit:

License 34-2332
Decree No. 34-00170
Decree No. 34-00556

Application for Change of Place of Use in regard to the above decreed rights.

License 34-2512

Would you please provide us copies of these documents from the records of the Department of Water Resources.

This litigation also involves the transportation of water which is subject to the Order to Cease and Desist dated July 13, 1990 issued by the department. In view of the close relationship between the obligations of the district to transport water and the right of the wateruser under it's licenses and decreed rights to use the water to the place it desires to have it transported, it appears that it will be necessary for us to call an official of the Department of Water Resources. This trial is set to commence on March 5, 1991 in the Butte County Courthouse in Arco, Idaho. Would you please advise me as to whether or

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FEB 11 2000

not you would be available as a witness on that date, and if so, what would be required to obtain your attendance.

Very truly yours,

Roger D. Ling/R.H.

Roger D. Ling

RDL:rah

MICROFILMED
FEB 11 2000

34-7410

State of Idaho
DEPARTMENT OF WATER RESOURCES
1301 North Orchard Street, Statehouse Mail, Boise, Idaho 83720 -(208) 327-7900

CECIL D. ANDRUS
GOVERNOR
R. KEITH HIGGINSON
DIRECTOR

June 22, 1990

Mr. Gary D. Slette
Nelson, Rosholt, Robertson,
Tolman & Tucker
P. O. Box 1906
Twin Falls, ID 83303-1906

Dear Mr. Slette:

The lands covered in the place of use for the water right applications in you letter of June 19, 1990 have been compared to our records of adjudication claims filed and land shown as irrigated by Landsat imagery. The claims compared were those in our data base as of June 20, 1990. The Landsat imagery is from 1986.

All but two 40 acre tracts covered by the applications listed in your letter, that appear to have been irrigated in 1986, are also covered by adjudication claims. According to the Director's Memorandum of May 7, 1990, those irrigated acres covered only by an adjudication claim will not be subject to an immediate cease and desist order. The claims will first be given a preliminary review as to their validity and only if found to be invalid will a cease and desist order be issued. As I am sure you are aware, the Adjudication Bureau is proceeding with the Big Lost River Basin claim review as top priority.

The two 40 acre tracts that appear to have been irrigated in 1986 and are not covered by an adjudication claim or a valid water right have been passed to the Regional office to confirm whether irrigation is occurring on those tracts at this time. If irrigation is occurring this season a cease and desist order will be issued to stop the irrigation of the lands in these two tracts.

At least one of the wells proposed by the applications listed in your letter is not covered by any other water right filing or adjudication claim. The wells proposed in the other applications may be existing wells with other water rights being diverted from them.

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All of the wells within the 40 acre tracts described as points of diversion on the applications will be checked to determine whether each pumping well is covered by a valid water right. Owners of wells found to be pumping that are not covered by a valid water right will be issued a cease and desist order.

I will keep you advised of the results of the investigation of these two tracts.

Yours truly,

Norman C. Young
Administrator,
Resources Administration
Division

DBS;dms
cc: Eastern Region
Adjudication Bureau
Water Allocation Bureau
Kent Foster

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FEB 1 ; 2009

NELSON, ROSHOLT, ROBERTSON, TOLMAN & TUCKER
Chartered
ATTORNEYS AT LAW

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JOHN A. ROSHOLT
J. EVAN ROBERTSON
STEVEN K. TOLMAN
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GARY D. SLETTE
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JERRY JENSEN
CAROLYN M. MINDER
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FACSIMILE

Sent 6/19/90 Rcvd. .....
Date ..... Time 4:25
To N. Young From GDS
Number Pages 1
Follow up copy will .....
will not ✓ be mailed.

June, 19, 1990

VIA FACSIMILE

Mr. Norm Young
Idaho Department of Water Resources
1301 North Orchard
Statehouse Mail
Boise, ID 83720

RE: Big Lost River Area

Dear Norm:

Some of my clients phoned today and informed me that a number of the wells subject to cease and desist orders were currently pumping. According to their observation, the following were being pumped contrary to the Department's order:

34-7482 D. Aikele
34-7486 Perkes
34-7455 J. Aikele
34-7480 J. Aikele
34-7410 Sorenson

I would appreciate it if the Department would investigate these allegations, and advise me at your earliest convenience.

Yours truly,

Gary D. Slette

GDS/mw
59431

cc: Keith Higginson
Phil Rassier

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FEB 11 2000

RECEIPT
For Monies Paid
to the
IDAHO DEPARTMENT OF WATER RESOURCES

Receipt No: C016972

Date: 05/24/90
Time: 12:13:50

Received
From: HOLDEN,KIDWELL,HAHN,CRAPO

Type of Payment	Program Acct Class	Amount
DRILLING PERMIT (MITCHELL SORENSEN)	0930350 1238 6390	$100.00

Total $100.00

CHECK 45889

Idaho Department of Water Resources

Region: STATE

Signature: J. Gardner

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FEB 11 2000

Form 235-1
9/89

Drilling Permit No. 34-90-2-006
Water Right Permit No. _____
Injection Permit No. _____

RECEIVED
MAY 24 1990
Department of Water Resources

RECEIVED
MAY 22 1990
Department of Water Resources
Eastern District Office

State of Idaho
Department of Water Resources

DRILLING PERMIT

1. Applicant Mitchell D. Sorensen
2. Mailing Address Rt. 1 Box 63C-1
   Moore, Idaho 83255 Telephone 208-527-3271
   (X) Well Owner ( ) Well Operator ( ) Other, specify _____
3. Proposed well location SE 1/4 SE 1/4, or Gov't lot No. _____,
   Sec. 5, Twp. 4N, Rge. 26EBM, County Butte,
   Street Address of Well Site _____,
   Lot, block and subdivision _____
4. Proposed use of well:
   ( ) Single family or stockwater use (less than 13,000 gallons per day)
   (X) Irrigation (more than 1/2 acre)
   ( ) Monitoring - A well bore schematic and map is required for each well.
   No. of proposed wells: _____
   ( ) Other (describe fully) _____
5. Well construction information:
   A. (X) New well ( ) Deepen ( ) Replace - See Condition 9.
   B. Proposed surface diameter 18" Maximum depth 250A.
   C. Anticipated bottom hole temperature:
   (X) 85°F or less (Cold water well)
   ( ) 85°F to 212°F (Low temp. geothermal well)
   ( ) 212°F or more (Geothermal well)
6. Construction Start Date _____
7. Anticipated Well Driller Andrews Well Drilling
   NOTE: The actual well driller must be identified prior to drilling.
8. Applicant's signature Mitchell D Sorensen Date May 18, 90
   Title Owner
   (Owner, Firm Representative, Other)

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FEB 1 1 2005

**Fee is $10 for single family domestic. Other uses may be up to $100

ACTI[redacted] OF DEPARTMENT OF WATER RESOURC[redacted]

This Permit is _____. Date _____.

If approved, this permit authorizes the construction of a well subject to the following conditions. READ CAREFULLY!

GENERAL CONDITIONS:

1. The well must be constructed in compliance with the applicable statutes, specific conditions of approval shown on the water right permit, injection well permit, transfer or amendment and the rules and regulations of the Department for water appropriation, injection wells and well construction standards.

2. This drilling permit is valid for two (2) months from the above approval date for the start of construction and is valid for one (1) year from the approval date for completion of the well unless an extension has been granted.

3. This permit does not constitute the approval of the District Health Department or the Idaho Department of Health and Welfare which may be required before construction of this well.

4. The well shall be constructed by a driller currently licensed in the State of Idaho who must maintain a copy of the drilling permit at the drilling site.

5. Approval of this drilling permit does not authorize trespass on the land of another party.

6. This permit does not constitute other local, county, state or federal approvals which may be required for construction of a well.

7. This drilling permit does not represent a right to divert and use the water of the State of Idaho.

8. If a bottom hole temperature of 85°F or greater is encountered, well construction shall cease and the well driller and the well owner shall contact the Department immediately.

9. If this permit is for a replacement well, the well being replaced must be abandoned in accordance with Department Rules and Regulations.

SPECIFIC CONDITIONS:

Signature of Authorized Department Representative _____ Title _____

Receipt No. C016972 Receipted by [illegible] Fee 100.00 Date 5-24-90

EXTENSION OF DRILLING PERMIT

Extension approved by _____ Approval Date _____

This extension is good for 60 days beyond the above extension approval date.

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FEB 1 1 2000

State of Idaho
DEPARTMENT OF WATER RESOURCES
1301 North Orchard Street, Statehouse Mail, Boise, Idaho 83720 -(208) 327-7900

CECIL D. ANDRUS
GOVERNOR
R. KEITH HIGGINSON
DIRECTOR

June 5, 1990

Kent W. Foster
Holden, Kidwell, Hahn & Crapo
P.O. Box 50130
Idaho Falls, ID 83405

RE: APPLICATION FOR DRILLING PERMIT NO. 34-90-Z-006 - MITCHELL D. SORENSEN - APPLICATION FOR WATER RIGHT PERMIT 34-7410

Dear Kent:

The department has reviewed the drilling permit application which you submitted on behalf of Mitchell D. Sorenson, said drilling permit application being associated with unapproved Application for Permit 34-7410.

The department simply is not in a position to issue the drilling permit on an emergency basis as you have requested. The department is willing to either hold the application without action for the time being or to refund the drilling permit fee if you wish to withdraw the application and refile it at some future date when it can be further considered by the department. The department will plan to hold the application without action unless we hear from you.

Sincerely,

L. Glen Saxton

L. GLEN SAXTON, Chief
Water Allocation Bureau

c: IDWR - E. Region
G.W. Prot. Bureau
Gary Slette
Ray W. Rigby

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FEB 1 1 2000

LAW OFFICES
HOLDEN, KIDWELL, HAHN & CRAPO
WEST ONE BANK BUILDING
P O BOX 50130
IDAHO FALLS, IDAHO 83405

TELEPHONE (208) 523-0620
TELEFAX (208) 523-9518

FRED J HAHN
KENT W FOSTER
ROBERT E FARNAM
WILLIAM D FALER
STEPHEN E MARTIN
CHARLES A HOMER
GARY L MEIKLE
MICHAEL D CRAPO
GAYLE A SORENSON
DONALD L HARRIS
GREGOR S CHVISUK
RANDALL B REED
MARIE T FEELEY
ROBERT M FOLLETT

ARTHUR W HOLDEN (1877-1967)
ROBERT B HOLDEN (1911-1971)
TERRY L CRAPO (1939-1982)
WILLIAM S HOLDEN (1907-1988)

R VERN KIDWELL OF COUNSEL

May 22, 1990

RECEIVED
MAY 2 _ 1990
Department of Water Resources
Eastern District Office

Idaho Department of Water Resources
150 Shoup Avenue, #15
Idaho Falls, Idaho 83402

Gentlemen:

We are enclosing with this letter a Drilling Permit, the application portion of which has been completed by our client, Mr. Mitchell D. Sorensen, together with our check in the amount of $100.00 for the filing fee.

This Drilling Permit is sought for a well that was also proposed under Application for Permit to Appropriate a Water Right No. 34-7410. That application has, of course, been protested and has been pending for many years.

We have recently requested by letter to Mr. Norm Young of the Department of Water Resources the permission to drill this particular well on an emergency basis. Applicant has been advised that there will be little or no natural flow water under his rights from the Big Lost River this irrigation season. He has proposed that this well be drilled not only to provide water to replace his natural flow rights, but also to provide additional water which can be used to augment other rights during this 1990 irrigation season only.

If additional information is requested, please feel free to call upon us at your convenience.

Yours very truly,

Kent W. Foster

#7151.00/srr

Enclosure

cc: Mr. Mitchell D. Sorensen

MICROFILMED
[illegible] 2003

LAW OFFICES
HOLDEN, KIDWELL, HAHN & CRAPO

FRED J HAHN
KENT W FOSTER
ROBERT E FARNAM
WILLIAM D FALER
STEPHEN E MARTIN
CHARLES A HOMER
GARY L MEIKLE
MICHAEL D CRAPO
GAYLE A SORENSON
DONALD L HARRIS
GREGOR S CHVISUK
RANDALL B REED
MARIE T FEELEY
ROBERT M FOLLETT

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ARTHUR W HOLDEN (1877-1967)
ROBERT B HOLDEN (1911-1971)
TERRY L CRAPO (1939-1982)
WILLIAM S HOLDEN (1907-1988)

R VERN KIDWELL, OF COUNSEL

May 17, 1990

RECEIVED
MAY 18 1990
Department of Water Resources

Norm C. Young, Administrator
IDAHO DEPARTMENT OF WATER RESOURCES
1301 North Orchard Street
Statehouse Mail
Boise, Idaho 83720

Dear Norm:

We are writing this letter at the request of seven of our clients, who own and operate farms within Water District #34, all of whom are involved to one extent or another with various pending applications for permit or for transfer which have recently been the subject of either the hearing which was cancelled, some of the cease and desist orders issued last fall by IDWR, or transport agreements with the Big Lost River Irrigation District. Most of these clients have also filed SRBA claims, many of which raise issues of expansions or accomplished transfers under Idaho Code §42-1416(2) and §42-1416A.

The 1990 irrigation season is upon us; the crops contemplated by these people for this year are for the most part planted. This letter is intended to outline the basic plan of each of these clients for the 1990 irrigation season, to make a good faith offer to assist with the mitigation of the impacts of the drouth, and in one case, to request emergency approval of an augmentation proposal.

Our objective is to work out resolutions for the immediate individual needs of these clients, beginning with this 1990 irrigation season, as well as to assist in all appropriate basin wide efforts directed to a long-range solution of water supply problems. We have previously expressed the desires of these clients to support the Director in his recent work with the Advisory Committee. You are probably also aware of the recent organization of a group that has incorporated as

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"District 34 Water Resource Users, Inc.". One of our clients serves on the board of directors of that organization and our preliminary information suggests that this group hopes to be able to perform functions similar to those of the GASP organization on the South Platte River in Colorado. Our clients have each committed to contribute $500.00 to assist with the efforts of this organization.

Coming now to the specifics for each of the seven clients, we believe you are already aware that we represent the following individuals:

1. Don A. Aikele
2. Herman Aikele
3. Juel (and Mike) Aikele
4. Everett T. Acor, Jr.
5. Mitchell D. Sorensen
6. M. Todd Perkes
7. Richard A. Tuthill (P. U. Ranch or Hillcreek Properties)

After extensive review, these individuals would like to accomplish and propose the following:

1. Don A. Aikele--Don proposes to voluntarily withdraw Application No. 34-7481. This application has been protested, but no hearing has been scheduled and no cease and desist order has been issued. A cease and desist order was issued for Application No. 34-7482, but an SRBA claim claiming this diversion and use since about 1981 has been filed. For the 1990 crop year, Mr. Aikele has reduced his acreage to be irrigated by some 585 acres. This much of his total crop land will not be irrigated in 1990, and his total diversion from groundwater will be reduced by some 11.7 cfs. If it is desirable and physically feasible,

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Don would be willing to make some water available for use at other places to mitigate the effects of the drouth by pumping some wells when not otherwise being used or not being used to the full extent of his rights. He would request only that payment be made for costs of power for any such extra pumping.

2. Herman Aikele--A cease and desist order has been issued on Application No. 34-7457; however, an SRBA claim, claiming this diversion and use as an expansion under Idaho Code §42-1416(2) since 1981, has been filed. Mr. Aikele's irrigated acreage will be reduced by about 32 acres this season and diversions will be reduced by .6 to 1.0 cfs. Mr. Aikele is willing to make up to 1.0 cfs available where ever it can physically be conveyed and used throughout the basin for drouth mitigation this season on the basis of power costs being paid for any such additional pumping.

3. Juel and Mike Aikele--Mike Aikele has, of course, moved from the basin and Juel is now responsible for his interests. Mr. Juel Aikele proposes to withdraw Applications Nos. 34-7240, 34-7244, 34-7455 and 34-7480. This would essentially obviate the need for any cease and desist orders thereon. Although cease and desist orders have also been issued with respect to Licenses Nos. 34-2417 and 34-2419 as well, the transfers of these rights were accomplished many years prior to 1987 and the SRBA claims have been so filed. Mr. Aikele feels that considering the crops planted this year and the water conservation measures he intends to implement, he could make available up to 2.0 cfs of water from his wells or some combination thereof on a similar basis as Don and Herman Aikele.

4. Everett T. Acor, Jr.--A cease and desist order was issued with respect to Application No. 34-7483. However, it appears that the well contemplated by this application was drilled many years ago and the land proposed to be irrigated has also been irrigated for several years. It further

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appears that the diversions and use are a result of either expansions of other water rights or accomplished transfers, or some combination thereof, which commenced prior to 1987. An effort is now being made to determine how best to document this matter and to amend appropriate SRBA claims if needed. For this year only, Mr. Acor has voluntarily reduced the amount of land he intends to irrigate by over 1,000 acres, and hence there will be a voluntary reduction in diversions under his water rights of approximately 20.0 cfs. Mr. Acor believes it would be possible to make water available for use elsewhere to help mitigate effects of the drouth, up to 3.2 cfs of groundwater under various rights on the same basis we have mentioned in the case of the Aikeles.

5. Mitchell D. Sorensen--Cease and desist orders were issued to Mr. Sorensen with respect to applications for transfer under Rights Nos. 34-2428 and 34-0496/0692. Both of these transfers occurred in fact long before 1987, and SRBA claims have been filed to such effect. In addition, a cease and desist order was issued as to Application No. 34-7410; however, no diversions have ever been made under this application because the contemplated well has never been drilled. For the 1990 irrigation season, Mr. Sorensen requests, on an emergency basis, that the drilling of the proposed well be authorized. The major reason is that it now appears there will be no, or very little, natural flow in the Big Lost River available for diversion at the Moore Canal heading. Mr. Sorensen relies heavily on water from this source for the irrigation of his lands, not only under Rights Nos. 34-0496 and 34-0692, but also under exchange agreements with J. Doyle Jensen and with Kirby Jensen. If the Jensen natural flow rights are not available, then under the exchange agreements Mr. Sorensen is supposed to be entitled to the well water pumped by the Jensens for use on their farms in exchange for the natural flow water. Of course Jensens would be in a major bind without the well water, and such fact, combined with the physical problems associated with actually trying to get the

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FEB 11 2009

well water pumped by Jensens to a location from which it could be conveyed to Mr. Sorensen's land creates a serious potential for protracted and expensive litigation. Both Jensens and Mr. Sorensen would prefer to expend available resources solving the problem, specifically drilling the well contemplated by Application No. 34-7410. Mr. Sorensen reports that the well as contemplated would probably be capable of producing up to 10.0 cfs. Mr. Sorensen would be willing to make available for drouth mitigation a substantial portion of this water. The proposed well would be situated so that with relative ease, water could be delivered through an existing ditch approximately one quarter mile east into the West Side Canal, or west through a pipeline into the Moore Canal and the U-C or Blaine Canal. As a further inducement, Mr. Sorensen is willing to make his 1990 Mackay Reservoir storage allocation available, without cost, to the watermaster of Water District #34 for use where ever within District #34 it might do the most good. He has been advised by Big Lost River Irrigation District that such allocation is 1,674 miner's inches. (We understand this is for a twenty-four hour period and hence translates into some 65 to 70 acre feet.) Finally, for this irrigation season, Mr. Sorensen has voluntarily reduced the amount of land to be irrigated by him by some 75 acres.

6. M. Todd Perkes--A cease and desist order on Right No. 34-7486 was issued last fall. This is an application to cover only an additional 22 acres in a corner that appears to have been inadvertently omitted from another licensed right and we have prepared the SRBA claims to account for this so that at the appropriate time, this application can probably be withdrawn. Mr. Perkes has voluntarily reduced his land to be farmed in 1990 by 480 acres, and so his diversions will be reduced by some 9.6 cfs. Some of this water could possibly be made available for use elsewhere within the basin.

7. Richard A. Tuthill (P. U. Ranch or Hillcreek Properties)--Mr. Tuthill appears to have no pending

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FEB 1 7 1993

applications which were involved in the hearing recently cancelled, or for which cease and desist orders have been issued. However, because he is similarly situated to the others listed above with respect to transport agreements with Big Lost River Irrigation District for carrying his water through its canal system, he has sought our advice with respect to Rights Nos. 34-0170 and 34-0556. Thus far Big Lost River Irrigation District has apparently declined to deliver such natural flow rights in 1989 and 1990, and it appears there may be some additional documentation needed to resolve this matter. As we understand it, Mr. Tuthill entered into a transport agreement with Big Lost River Irrigation District in 1984 and water was conveyed pursuant thereto and used on his lands each year under the listed rights until 1989. Mr. Tuthill has recently filed an application for transfer in the name of Hillcreek Properties, the need for which may be questionable. We are presently examining the SRBA claims filed by Mr. Tuthill to see if the transfer which occurred in fact before November of 1987 was properly claimed. If not, we intend to file an appropriate amendment and perhaps the recent application for transfer can be withdrawn. In addition however, delivery of natural flow water under such rights through the Moore Diversion may not occur this year, or may only be available in severely reduced amounts.

We also wish to mention that under the transport agreements which most of these people have with Big Lost River Irrigation District, substantial "shrink" charges are typically made for theoretical transmission losses through the Big Lost River Irrigation District Canal system. Thirty percent and more has been charged and, of course, the net effect is that the transported water substantially enhances the deliverability of the other water in the same canal system. We mention the fact only to point out that this practice in and of itself amounts to a substantial drouth mitigation feature.

There is, of course, a great urgency in this matter, particularly with respect to the proposal to drill the

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additional emergency well, as we are now at a time when even a week or two may make a significant difference in the crops in this area. We have sent copies of this letter to all parties or their attorneys, of whose interest we are aware by virtue of recent involvement in the various proceedings.

In summary, it appears that for the 1990 irrigation season these seven clients have voluntarily reduced acreage to be irrigated by over 2,000 acres, and the amount of groundwater to be pumped (primarily from wells properly licensed) by some 45 cfs. They are ready to make available for use to mitigate drouth impacts up to 20 to 25 cfs of groundwater and some storage water.

We will very much appreciate your prompt response and suggestions on how best to proceed to accomplish the objectives outlined in this letter. Thank you for your kind consideration.

Yours very truly,

Kent W. Foster

#7166.00/srr

cc: Ray W. Rigby
Gary D. Slette
Governor Cecil D. Andrus

MICRO
FEB 1 1 2009

NELSON, ROSHOLT, ROBERTSON, TOLMAN & TUCKER
Chartered
ATTORNEYS AT LAW

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J. EVAN ROBERTSON
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April 25, 1990

RECEIVED
APR 26 1990
Department of Water Resources

Mr. Keith Higginson
Idaho Department of Water Resources
1301 North Orchard
Statehouse Mail
Boise, ID 83720

RE: Big Lost River

Dear Keith:

In light of your action postponing the scheduled hearing on the pending applications and transfers, my clients hereby request that the Department immediately act upon their petition for moratorium submitted last year. They have worked diligently to get the Big Lost River Irrigation District functioning in a manner which more closely comports with Idaho water law, and had anticipated some parallel efforts from the Department. After spending their money for the long-awaited hearing, they were certainly disappointed by the Department's unlimited postponement of it. Given the number of supporters who signed the petition for moratorium, I certainly believe it reasonable for the Department to take action on that request within a very short time. Please advise me of your intentions at your earliest opportunity.

Yours truly,

Gary D. Slette

GDS/mw
53471

cc: Governor Cecil Andrus
Lew Rothwell
Dale Smith
Lawrence Babcock
Larry Reynolds
Chuck Brockway

MICROFILMED
FEB 11 2009

BEFORE THE DEPARTMENT OF WATER RESOURCES

OF THE STATE OF IDAHO

IN THE MATTER OF APPLICATIONS FOR PERMIT AND APPLICATIONS FOR TRANSFER NOS. 34-7247, 34-7296, 34-7410, 34-7483, 34-7486, 34-0496/0692/T921, 34-2428, 34-2417 and 34-2419.	ORDER VACATING HEARING

On April 2, 1990, the Department of Water Resources (department) issued a notice scheduling the above-captioned matter for hearing before the department for three days beginning on April 24, 1990.

On April 13, 1990, the applicants under the captioned applications formally requested that the scheduled hearing be postponed for an indefinite period of time until a satisfactory study can be completed to supply adequate information upon which to base appropriate decisions with respect to operation and management of the water supply in Water Basin 34 as a whole.

The protestants in this proceeding have represented to the department through their attorney that they oppose a continuance of the scheduled hearing because they believe it is imperative to hold the hearing to begin to effect a change in the irrigation practices in the Big Lost River area.

The 1990 Idaho Legislature approved House Bill No. 883 appropriating $50,000 to the department for the purpose of conducting a water management study for the Lost River Basin for the period July 1, 1990, to June 30, 1991. Additionally,

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FEB 1 4 2000

the department has advanced Basin 34 to the top of the list of the basins to be adjudicated in the pending Snake River Basin Adjudication.

The use of water on the lands associated with most of the captioned applications remains subject to the outstanding cease and desist orders issued by the department on October 19 and December 19, 1989.

NOW, THEREFORE, IT IS HEREBY ORDERED that the hearing in this matter set for April 24-26, 1990, is vacated and will be reset at such time as is determined appropriate by the director.

DATED this 18th day of April, 1990.

R. KEITH HIGGINSON
Director

By L. Glen Saxton
L. GLEN SAXTON, Chief
Operations Bureau

MICROFILMED
FEB 1 1 2003

CERTIFICATE OF MAILING

I HEREBY CERTIFY That on this the 19th day of April, 1990, a true and correct copy of the foregoing ORDER VACATING HEARING was mailed, postage prepaid to:

Juel Aikele
Rt. 1
Moore, ID 83255

Everett Acor, Jr.
Box 13
Moore, ID 83255

Todd Perkes
Rt. 1 Box 110
Arco, ID 83213

Jesse W. Jensen
Moore, ID 83255

Fred Burt
Moore, ID 83255

Albert Babcock
Moore, ID 83255

Virgil L. Hail
Moore, ID 83255

George Wheeler
Moore, ID 83255

Jack A. Jensen
Rt. 1 Box 32
Moore, ID 83255

Jay F. Pearson
Rt. 1 Box 47
Moore, ID 83255

Doug Rosenkrance
Rt. 1, Box 24
Mackay, ID 83251

Kent W. Foster
West One Bank Building
P. O. Box 50130
Idaho Falls, ID 83405

Mitchell Sorensen
Rt. 1 Box 63
Moore, ID 83255

Gary Slette
NELSON, ROSHOLT, ROBERTSON, TUCKER AND TOLMAN
P. O. Box 1906
Twin Falls, ID 83303-1906

Betty Sowards
Moore, ID 83255

David B. Bleak
Moore, ID 83255

Don S. Hymas
Moore, ID 83255

W. T. & Leota Sowards
Moore, ID 83255

Joe Smith
Moore, ID 83255

Michael Aikele
Box 63D
Moore, ID 83255

Larman D. Andersen
Rt. 1, Box 52
Moore, ID 83255

Reuben H. Babcock
Moore, ID 83255

Rodney S. Pearson
Rt. 1 Box 63-B
Moore, ID 83255

Rodney A. Pearson
Elida S. Pearson
Rt. 1 Box 38
Moore, ID 83255

Robin Roy Pearson
Rt. 1 Box 40
Moore, ID 83255

Ned R. Walker
Arco, ID 83213

Bill Haralson
Arco, ID 83213

Lawrence Babcock
Moore, ID 83255

Norman K. Sorenson
707 E. 50 S.
Provo, UT

Lewis Rothwell
Rt. 1, Box 405
Arco, Id 83213

Gerald Stewart
Box 59
Moore, ID 83255

RITA I. FLECK
Secretary/Records Manager

MICROFILMED

FEB 1 1 /000

April 24, 1990

Gary D. Slette
NELSON, ROSHOLT, ROBERTSON, TOLMAN & TUCKER
P. O. Box 1906
Twin Falls, ID 83303-1906

Dear Mr. Slette:

Re: Big Lost River Hearing

Returned is the Subpeona Duces Tecum to Steve Baker since the hearing has been vacated.

Sincerely,

RITA I. FLECK
Secretary/Records Manager

Enclosure

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NELSON, ROSHOLT, ROBERTSON, TOLMAN & TUCKER
Chartered
ATTORNEYS AT LAW

THOMAS G NELSON
JOHN A ROSHOLT
J EVAN ROBERTSON
STEVEN K TOLMAN
JAMES C TUCKER
TERRY R McDANIEL
GARY D. SLETTE
F BRUCE COVINGTON
JERRY JENSEN
CAROLYN M MINDER
BRUCE M SMITH
G RICHARD BEVAN
GARY L QUIGLEY
TIM J. WILLIAMS
SHARON F DUNKIN
JUSTIN R SEAMONS

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Boise Office
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P O BOX 2139
BOISE, IDAHO 83701-2139
TELEPHONE (208) 336-0700
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RECEIVED
APR 19 1990
Department of Water Resources

April 18, 1990

Mr. Wayne Haas, Acting Director
Idaho Department of Water Resources
1301 West State Street
Boise, ID 83720

RE: Big Lost River Hearing

Dear Mr. Haas:

In the absence of Keith Higginson, I would request that you issue the enclosed subpoena pursuant to IDWR Rule of Practice and Procedure 9,12. When last I spoke with Norm Young, he indicated that the Department would make Mr. Baker available for testimony in our hearings next week, however, I thought a subpoena might be appropriate. I would also appreciate it if you would see that Mr. Baker is presented with a copy of this subpoena. If you have any questions, please feel free to contact me.

Yours truly,

Gary D. Slette

GDS/mw
52831

cc: Lew Rothwell
Dale Smith
Lawrence Babcock
Larry Reynolds

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NELSON, ROSHOLT, ROBERTSON, TOLMAN & TUCKER
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JERRY JENSEN
CAROLYN M. MINDER
BRUCE M. SMITH
G. RICHARD BEVAN
BRAD M. PURDY
GARY L. QUIGLEY
TIM I. WILLIAMS
SHARON F. DUNKIN

FACSIMILE TELEPHONE
(208) 736-0041

DATE: 4/18/90

TO: Keith Higginson
Norm Young
Phil Rassier

FROM: Gary Slette

DOCUMENT: letter

RE: Big Lost River

NO. OF PAGES INCLUDING THIS ONE: 3

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NELSON, ROSHOLT, ROBERTSON, TOLMAN & TUCKER
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ATTORNEYS AT LAW

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April 18, 1990

VIA FACSIMILE

Mr. Keith Higginson, Director
Idaho Department of Water Resources
1301 North Orchard Street
Boise, ID 83720

Mr. Norm Young
Idaho Department of Water Resources
1301 North Orchard Street
Boise, ID 83720

Mr. Phil Rassier
Idaho Department of Water Resources
1301 North Orchard Street
Boise, ID 83720

Mr. Kent Foster
Holden, Kidwell Hahn & Crapo
West One Bank Building
P.O. Box 50130
Idaho Falls, ID 83405

Gentlemen:

I have reviewed Kent Foster's letter of April 12, 1990, in which he requests a postponement of the scheduled hearing on the Big Lost River area applications. I have conferred with my clients and members of our firm regarding Kent's request. This letter is to advise you that my clients object to and will not concur in any postponement of the scheduled hearing. My clients believe that it is imperative to hold those hearings to begin to effect a change in the irrigation practices in the Big Lost River area.

As you will recall, when my clients and some of you met with Governor Andrus, he indicated that before the Department would actively begin to enforce water regulations, the Big Lost River area waterusers should first clean up their own house, i.e., the Big Lost River Irrigation District. That was accomplished by the election of new directors and their imposition of changes of past practices believed to contravene Idaho law. The applications which are the subject of the scheduled hearing are by no means the only wells which are negatively affecting the surface waterusers in the Big Lost River area. A number of other wells are likewise pumping water and transporting it to geographically remote places of use without having obtained IDWR approval of changes in place of use. We have heard much concerning an "accomplished transfer"

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FEB 1 1 2000

under Idaho Code §42-1416A, but have heard little comment on that code section's requirement that the change must meet substantive criteria of Idaho Code §42-222.

Departmental representatives have stated on many occasions that groundwater pumping in the basin is negatively impacting surface water flows. This phenomena has been known to exist for many years, and we feel that we must set upon a course of action that will begin to rectify the problems that currently exist.

Yours truly,

Gary D. Slette

GDS/mw
52801

cc: Chuck Brockway
Lew Rothwell
Dale Smith
Lawrence Babcock
Larry Reynolds

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SEP 11 2009

BEFORE THE DEPARTMENT OF WATER RESOURCES

OF THE STATE OF IDAHO

IN THE MATTER OF APPLICATIONS FOR PERMIT AND APPLICATIONS FOR TRANSFER NOS. 34-7247, 34-7296, 34-7410, 34-7483, 34-7486, 34-0496/0692/T921, 34-2428, 34-2417 and 34-2419.	)	ORDER VACATING HEARING

On April 2, 1990, the Department of Water Resources (department) issued a notice scheduling the above-captioned matter for hearing before the department for three days beginning on April 24, 1990.

On April 13, 1990, the applicants under the captioned applications formally requested that the scheduled hearing be postponed for an indefinite period of time until a satisfactory study can be completed to supply adequate information upon which to base appropriate decisions with respect to operation and management of the water supply in Water Basin 34 as a whole.

The protestants in this proceeding have represented to the department through their attorney that they oppose a continuance of the scheduled hearing because they believe it is imperative to hold the hearing to begin to effect a change in the irrigation practices in the Big Lost River area.

The 1990 Idaho Legislature approved House Bill No. 883 appropriating $50,000 to the department for the purpose of conducting a water management study for the Lost River Basin for the period July 1, 1990, to June 30, 1991. Additionally,

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FEB 1 1 2000

the department has advanced Basin 34 to the top of the list of the basins to be adjudicated in the pending Snake River Basin Adjudication.

The use of water on the lands associated with most of the captioned applications remains subject to the outstanding cease and desist orders issued by the department on October 19 and December 19, 1989.

NOW, THEREFORE, IT IS HEREBY ORDERED that the hearing in this matter set for April 24-26, 1990, is vacated and will be reset at such time as is determined appropriate by the director.

DATED this 18th day of April, 1990.

R. KEITH HIGGINSON
Director

By L. Glen Saxton
L. GLEN SAXTON, Chief
Operations Bureau

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FEB 11 2000

CERTIFICATE OF MAILING

I HEREBY CERTIFY That on this the 19th day of April, 1990, a true and correct copy of the foregoing ORDER VACATING HEARING was mailed, postage prepaid to:

Juel Aikele
Rt. 1
Moore, ID 83255

Everett Acor, Jr.
Box 13
Moore, ID 83255

Todd Perkes
Rt. 1 Box 110
Arco, ID 83213

Jesse W. Jensen
Moore, ID 83255

Fred Burt
Moore, ID 83255

Albert Babcock
Moore, ID 83255

Virgil L. Hail
Moore, ID 83255

George Wheeler
Moore, ID 83255

Jack A. Jensen
Rt. 1 Box 32
Moore, ID 83255

Jay F. Pearson
Rt. 1 Box 47
Moore, ID 83255

Doug Rosenkrance
Rt. 1, Box 24
Mackay, ID 83251

Kent W. Foster
West One Bank Building
P. O. Box 50130
Idaho Falls, ID 83405

Mitchell Sorensen
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Gary Slette
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Betty Sowards
Moore, ID 83255

David B. Bleak
Moore, ID 83255

Don S. Hymas
Moore, ID 83255

W. T. & Leota Sowards
Moore, ID 83255

Joe Smith
Moore, ID 83255

Michael Aikele
Box 63D
Moore, ID 83255

Larman D. Andersen
Rt. 1, Box 52
Moore, ID 83255

Reuben H. Babcock
Moore, ID 83255

Rodney S. Pearson
Rt. 1 Box 63-B
Moore, ID 83255

Rodney A. Pearson
Elida S. Pearson
Rt. 1 Box 38
Moore, ID 83255

Robin Roy Pearson
Rt. 1 Box 40
Moore, ID 83255

Ned R. Walker
Arco, ID 83213

Bill Haralson
Arco, ID 83213

Lawrence Babcock
Moore, ID 83255

Norman K. Sorenson
707 E. 50 S.
Provo, UT

Lewis Rothwell
Rt. 1, Box 405
Arco, Id 83213

Gerald Stewart
Box 59
Moore, ID 83255

RITA I. FLECK
Secretary/Records Manager

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FEB 11 2009

State of Idaho
DEPARTMENT OF WATER RESOURCES
1301 North Orchard Street, Statehouse Mail, Boise, Idaho 83720 -(208) 327-7900

CECIL D. ANDRUS
GOVERNOR
R. KEITH HIGGINSON
DIRECTOR

April 12, 1990

Kent W. Foster, Esq.
HOLDEN, KIDWELL, HAHN & CRAPO
P. O. Box 50130
Idaho Falls, ID 83405

Dear Mr. Foster:

RE: Applications for Permit and Application for Transfer Nos. 34-7247, 34-7296, 34-7410, 34-7483, 34-7486, 34-0496/0692/T921, 34-2428, 34-2417 and 34-2419

On April 9, 1990, the department received the request for the taking of stenographic notes by a court reporter. This privilege is allowed under Rule 9,21 of the Rules and Regulations of Practice and Procedure. Note that the rule also states that the party requesting the report will bear the expense of the court reporter and provide the department a copy of the transcript fee of charge.

Sincerely,

L. GLEN SAXTON
Chief, Water Allocation Bureau

LGS:rf

c: Gary D. Slette, Esq.
Eastern Region

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FEB 1 5 1990

LAW OFFICES
HOLDEN, KIDWELL, HAHN & CRAPO
WEST ONE BANK BUILDING
P O BOX 50130
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TELEPHONE (208) 523-0620
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GARY L MEIKLE
MICHAEL D CRAPO
GAYLE A SORENSON
DONALD L HARRIS
GREGOR S CHVISUK
RANDALL B REED
MARIE T FEELEY
ROBERT M FOLLETT

ARTHUR W HOLDEN (1877-1967)
ROBERT B HOLDEN (1911-1971)
TERRY L CRAPO (1939-1982)
WILLIAM S HOLDEN (1907-1988)

R VERN KIDWELL, OF COUNSEL

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APR 13 1990
Department of Water Resources

April 12, 1990

Keith R. Higginson, Director
IDAHO DEPARTMENT OF WATER RESOURCES
1301 North Orchard Street
Statehouse Mail
Boise, Idaho 83720

RE: Matter of Applications for Permit and Applications for Transfers Nos. 34-7247, 34-7296, 34-7410, 34-7483, 34-7486, 34-0496/0692/T921, 34-2428, 34-2417, and 34-2419.

Dear Mr. Higginson:

We are writing to formally request, on behalf of our clients, Mitchell D. Sorensen, Juel Aikele, Michael Aikele, M. Todd Perkes, and Everett T. Acor, Jr., the applicants for permit and for transfer in the above-entitled matter, a postponement of the combined hearing scheduled on the above numbered applications for April 24, 25 and 26, 1990, for an indefinite period of time until a satisfactory study can be completed to supply adequate information upon which to base appropriate decisions with respect to operation and management of the water supply in Basin 34 as a whole.

After wrestling with the matter for several months now and becoming more familiar with the water supply problems facing the entire Big Lost River Basin, it has become apparent that the proceedings on the above numbered nine applications will potentially have a major impact on many aspects of water use and management within the entire basin. This particular combined proceeding on the nine applications, however, is directed only to a very small and insignificant fraction of the basin and its water supply and management issues.

You and others of the Idaho Department of Water Resources have been engaged in a monumental effort to bring some order out of the chaos in this basin, and it is our observation that this particular proceeding is interfering with and retarding

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the desired results of such statesmanship. While the few wells involved in this particular action are of crucial importance to the individuals who own and operate them, they are unimportant in the extreme on a basin-wide scale. The importance of the legal and social issues raised in connection with the current proceeding on these nine pending applications is greatly out of proportion to the relative insignificance of the five wells in the hydrologic and hydrogeologic circumstances of the basin. The specific social and legal issues raised in the matter of these nine applications are by no means comprehensive nor are they even necessarily representative of the basin-wide concerns. The situation suggests to our mind the analogy of a small tail wagging the dog.

In support of our request and motion for postponement, we would suggest the following considerations:

1. Economic conditions in the Big Lost River Basin are not healthy. The pending proceeding has resulted, and will continue to result, in draining resources the participants can ill afford to expend.

2. There appears to be an adequate supply of water within this basin to accommodate the needs of all current water users and more. United States Geological Survey estimates suggest some 2.6 million acre feet of water is stored in the upper 200 feet of the aquifer, and that there is an average discharge into the Snake Plain Regional Aquifer, south of Arco, of some 425 cubic feet per second. It appears that there is more than adequate water for everyone if it can just be made available and managed in some appropriate and acceptable manner.

3. So far, we are unaware of any evidence or even suggestion that any of the five wells related to the nine applications are, or have been, causing any direct injury to any specific water right. On the other hand, the most the current status of the hydrogeological information appears to show is that possibly the pumping of these five wells, in

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combination with some 350 other wells in the basin, contributes to a cumulative depletionary effect on the groundwater present in the basin. It is believed that the groundwater and surface water supplies in the basin are closely related and that groundwater levels have a substantial effect on surface flows. The Department of Water Resources has apparently concluded, however, that drought conditions for the past four years have had, and are having, a much greater impact upon both surface flows and groundwater levels than all of the groundwater pumping combined. Even the theoretical effect of the pumping of these particular five wells cannot be more than miniscule.

4. We understand the 1990 legislature has appropriated funds which can be used in the Department's efforts to gain more knowledge of the hydrogeologic conditions and perhaps to assist as well in development of a management program to help assure adequate water supplies for all users. While we are probably not the ones to suggest the specific type of studying that needs to be done and what would be the wisest use of that money, we would certainly favor its wise use and application and think that it might at least be enough to precipitate the commencement of the requisite studying and planning or implementation of a satisfactory management program. At least some portion of the resources that could be saved by avoiding or postponing litigation over the nine pending applications could potentially also be available to assist in this effort.

5. As some of the legal issues raised in this particular proceeding are very complex and will be relatively new to the Idaho courts, the end results are probably uncertain and possibly undesirable. Such issues might include the possible applicability of an equitable estoppel type of theory to efforts by IDWR to enforce cease and desist orders for wells which have been in use for five to twelve years, and in which, and as a result of which, there has been

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a very substantial investment with the knowledge and implied acquiescence of IDWR. Whether there is or is not merit in any estoppel argument, it will not likely change in any material respect as a result of a postponement. Additional issues may include a construction of the new statutes, Idaho Code §42-1416(2) and Idaho Code §42-1416A. You are well aware that of the nine applications involved in the combined proceeding, with respect to all but two, the circumstances surrounding any water use related thereto arguably constitute either a permitted expansion under §42-1416(2) or an accomplished transfer under §42-1416A. Only 34-7410, relevant to which there is no water use because no well has ever been drilled, and 34-7296 are exceptions. The facts relevant to 34-7296 probably give rise to one of the strongest cases that can be made for estoppel, and of course there is a pending application for transfer of three licensed rights as an alternative means to protect the operation of the well also. Last summer when IDWR issued show cause orders, it was necessary for many of our clients to respond, in part, with criticism of IDWR's delays in processing these applications, and in the event of litigation, it seems it would be essential to raise the estoppel issue. However, we are not suggesting that these applications ought to just languish forever. The postponement of action on 34-7410 pending the outcome of a study in the continuation of efforts to effect an appropriate management program for the basin which would permit development of that application, certainly would result in no adverse impact to anyone except the applicant, because no well has been drilled and no water is yet being diverted and used pursuant thereto. Likewise, with respect to 34-7296, although the well has been in use for approximately ten years, its use could be continued under the three rights which are the subject of the proposed transfer, temporarily, until such time as an appropriate management plan is in place so that 34-7296 could be granted without the perceived negative impacts. Nor will the other seven

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applications remain unaddressed as a result of a postponement. SRBA claims have already been filed raising the 42-1416(2) and 42-1416A arguments. IDWR has stepped-up the SRBA procedure for Basin 34 so that these items will probably be addressed next year.

We will very much appreciate your early consideration and ruling on this motion for postponement. We submit there is nothing to lose by postponing the hearing on the pending applications and potentially much to gain, including focusing the attention, energy and resources which are being diverted by this matter to the more important matter of developing a comprehensive management plan for the Big Lost River Basin. Our clients would like to assist and are trying every way they know how to do so in this effort.

Yours very truly,

Kent W. Foster

#7161.00/srr

cc: Gary D. Slette
Mitchell D. Sorensen
Juel Aikele
M. Todd Perkes
Everett T. Acor, Jr.

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norm

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APR 9 1990
Department of Water Resources

Kent W. Foster, Esq.
HOLDEN, KIDWELL, HAHN & CRAPO
P.O. Box 50130
Idaho Falls, Idaho 83405
Telephone: (208) 523-0620

BEFORE THE DEPARTMENT OF WATER RESOURCES

OF THE STATE OF IDAHO

IN THE MATTER OF APPLICATIONS)
FOR PERMIT AND APPLICATIONS)
FOR TRANSFER NOS. 34-7247,) R E Q U E S T
34-7296, 34-7410, 34-7483,)
34-7486, 34-0496/0692/T921,)
34-2428, 34-2417 and 34-2419.)
)
)

COME NOW the applicants, Mitchell D. Sorensen, Juel Aikele, Michael Aikele, M. Todd Perkes, and Everett T. Acor, Jr., and hereby request leave to have a record of the hearing scheduled in the above-entitled matter for April 24, 25 and 26, 1990, beginning at 10:00 o'clock a.m. on April 24, 1990, at the Magistrate Courtroom, Memorial Building, 326 West Grand, Arco, Idaho, made by the taking of stenographic notes by a qualified court reporter. Applicant has contacted Dick Telford Court Reporting Service of Idaho Falls, Idaho, and has been assured of

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the availability of a certified court reporter from said firm on the dates set for the hearing.

DATED this 5 day of April, 1990.

Kent W. Foster
HOLDEN, KIDWELL, HAHN & CRAPO

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FEB 1 1 2000

CERTIFICATE OF SERVICE

I hereby certify that I am a duly licensed attorney in the State of Idaho, resident of and with my office in Idaho Falls, Idaho; that I served a copy of the following described pleading or document on the attorneys listed below by hand delivering or by mailing, with the correct postage thereon, a true and correct copy thereof on this 5 day of April, 1990.

Document Served: R E Q U E S T

Individuals Served:

Idaho Department of Water Resources (MAIL)
ATTENTION: Norm Young
1301 North Orchard Street
Statehouse Mail
Boise, Idaho 83720

Gary D. Slette, Esq. (MAIL)
NELSON, ROSHOLT, ROBERTSON,
TOLMAN & TUCKER
P.O. Box 1906
Twin Falls, Idaho 83303-1906

Dick Telford Court Reporters (MAIL)
P.O. Box 51020
Idaho Falls, Idaho 83405-1020

Kent W. Foster
HOLDEN, KIDWELL, HAHN & CRAPO

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BEFORE THE DIRECTOR OF THE

DEPARTMENT OF WATER RESOURCES

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Department of Water Resources

IN THE MATTER OF APPLICATIONS FOR PERMIT AND APPLICATIONS FOR TRANSFER NOS. 34-7247, 34-7296, 34-7410, 34-7483, 34-7486, 34-0496/0692/T921, 34-2428, 34-2417 AND 34-2419.

NOTICE OF HEARING

On October 3, 1989, the Department of Water Resources (department) conducted a conference at Arco, Idaho, to determine issues and to establish a schedule for conducting a combined hearing in connection with the above captioned water right filings.

The department has set the matter of a combined hearing beginning at 10:00 a.m. on April 24, 1990, at the Magistrate Courtroom, Memorial Building, 326 W. Grand, Arco, Idaho. The department will tentatively schedule three (3) days for hearing through April 26, 1990. The hearing will be held in accordance with provisions of Chapters 2 and 17, Title 42 and Chapter 52, Title 67 of the Idaho Code and adopted Rules of Practice and Procedure of the Department. Opportunity shall be provided to all parties to respond and present evidence and argument on all issues involved.

Dated this 2ND day of APRIL, 1990.

NORMAN C. YOUNG
Administrator

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FEB 11 2000

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES
1301 North Orchard Street
Boise, Idaho 83706-2237

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Department of Water Resources

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Arco, ID 83213

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BEFORE THE DIRECTOR OF THE

DEPARTMENT OF WATER RESOURCES

IN THE MATTER OF APPLICATIONS FOR PERMIT AND APPLICATIONS FOR TRANSFER NOS. 34-7247, 34-7296, 34-7410, 34-7483, 34-7486, 34-0496/0692/T921, 34-2428, 34-2417 AND 34-2419.	NOTICE OF HEARING

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Dated this 2ND day of APRIL, 1990.

NORMAN C. YOUNG
Administrator

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2009

NAME AND ADDRESS OF SENDER

DEPARTMENT OF WATER RESOURCES
STATEHOUSE
BOISE, IDAHO 83720

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3	138619	Jesse W. Jensen Moore, ID 83255										
4	138620	Fred Burt Moore, ID 83255										
5	138621	Albert Babcock Moore, ID 83255										
6	138622	Virgil L. Hail Moore, ID 83255										
7	138623	George Wheeler Moore, ID 83255										
8	138624	Gerald Stewart Box 59, Moore, ID 83255										
9	138625	Lewis Rothwell Rt. 1 Box 405, Arco, ID 83213										
10	138626	Michael Aikele Box 63D, Moore, ID 83255										
11	138627	Larman D. Andersen Rt. 1, Box 52, Moore, ID 83255										
12	138628	Jack A. Jensen Rt. 1, Box 32, Moore, ID 83255										
13	138629	Jay F. Pearson Rt. 1, Box 47, Moore, ID 83255										
14	138630	Betty Sowards Moore, ID 83255										
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PS Form 3877, Sept 1986

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DEPARTMENT OF WATER RESOURCES
STATEHOUSE
BOISE, IDAHO 83720

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9	138610	Joe Smith Moore, ID 83255										
10	138611	Don S. Hymas Moore, ID 83255										
11	138612	David B. Bleak Moore, ID 83255										
12	138613	Gary Slette, Nelson, Rosholt, Robertson, Tucker & Tolman, P. O. Box 1906, Twin Falls, ID 83303-1906										
13	138614	Mitchell Sorensen Rt. 1 Box 63, Moore, ID 83255										
14	138615	Kent W. Foster West One Building, P. O. Box 50130, Idaho Falls, ID 83405										
15	138616	Everett Acor, Jr. Box 13, Moore, ID 83255	25	85					90			

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Department of Water Resources

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P.O. BOX 50130
IDAHO FALLS, IDAHO 83405

TELEPHONE (208) 523-0620
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FRED J HAHN
KENT W FOSTER
ROBERT E FARNAM
WILLIAM D FALER
STEPHEN E MARTIN
CHARLES A HOMER
GARY L MEIKLE
MICHAEL D CRAPO
GAYLE A SORENSON
DONALD L HARRIS
GREGOR S CHVISUK
RANDALL B REED
MARIE T FEELEY
ROBERT M FOLLETT

ARTHUR W HOLDEN (1877-1967)
ROBERT B HOLDEN (1911-1971)
TERRY L CRAPO (1939-1982)
WILLIAM S HOLDEN (1907-1988)

A VERN KIDWELL OF COUNSEL

March 1, 1990

RECEIVED
MAR 5 1990
Department of Water Resources

Mr. Norman C. Young
IDAHO DEPARTMENT OF WATER RESOURCES
1301 North Orchard Street
Statehouse Mail
Boise, Idaho 83720

RE: Big Lost River Combined Hearing

Dear Norm:

We feel compelled to respond to Gary Slette's letter of February 28, 1990. While Gary was kind enough to call me late in the afternoon of the 27th and advise he would be sending such a letter, now that we have had an opportunity to read what he has written, we feel a need to make certain our position is not misrepresented or misunderstood.

It is true that in an effort to be candid, we have advised both you and Gary that we have been considering the possible effects of the relatively new statutes, Idaho Code §42-1416(2), passed in 1985, and Idaho Code §42-1416A, passed in 1989, upon our clients' diversions and uses of water. We first attempted to discuss the possible ramifications of these code sections on the pending matter with IDWR personnel last fall. You have all been quite consistent in not disclosing whether IDWR has formed a position with respect thereto or what such position might be. We advised Gary in January that we were considering it and would be doing some research and analysis of the issues to be able to advise our clients. We have, in fact, been engaged in that research and analysis effort and have discovered that there may be a host of complex issues if it becomes necessary to litigate. However, we have not yet advised our clients of what we believe their legal options to be and no decision has been made to withdraw the pending applications at this time. No intent has yet been formed as to whether to withdraw any or

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all of the pending applications, much less the proper time to do so. If such a decision is made, we will certainly encourage our clients to do so as promptly as is consistent with their best interests.

As we understand it, this combined hearing is presently postured to consider some five applications for permit and four applications for transfer. We have been advised that there are a total of five wells and two surface rights involved. We have heard from the Department that there are more than 350 wells in the Big Lost River Basin and of course that basin has now experienced four consecutive years of serious drouth. The total impact of these particular five wells upon surface flows in the Big Lost River or the general water table in the basin cannot be more than an insignificant fraction of all combined impacts. No expert hydrogeologist has yet suggested that there is any injury to any surface or groundwater right in the basin from the continued operation of the five wells or the use of the two surface water rights. We are surprised at the urgency expressed in Gary's letter and do not believe it is warranted. To shut off five wells in panic during this drouth will clearly not result in a benefit to anyone. Our clients would have essentially everything to lose and Gary's clients would have virtually nothing to gain.

The relatively small amount of development dependent upon the five wells and the two surface rights subject to this combined proceeding has been in place for many years, as long as twelve years for much of it. The circumstances under which it came into existence, and the reliance upon those circumstances by the farmers who have invested a substantial amount of their lives and resources and are greatly dependent upon it ought to give pause. Careful consideration and caution must prevail.

We and our clients have applauded and attempted to assist in the efforts of Mr. Higginson, the Director of the Department of Water Resources, in forming a local committee to try to find ways to manage what is potentially an adequate water resource in a manner which will permit the full economic development of the water resources in the basin. Providing for all landowners to adequately satisfy their legitimate water needs may not be the objective of Gary's clients, but we will continue to encourage the efforts by the Director to bring about this result.

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It was gracious of Gary to juggle his schedule to permit him to attend a hearing on March 12th. However, we will be unable to agree to that time. We had originally asked our experts to prepare for a time near the end of March. When Gary advised us sometime ago that he had a conflict at that time and that his expert had a conflict the first week of April, we advised our experts that there would be additional time to prepare. We are still unavailable the second week of April, and we have now received a setting in another matter before IDWR on April 17th and 18th. Realistically, the hearing cannot be scheduled before the week of April 23rd through 27th.

We cannot, of course, presume to instruct the Department on whether to seek immediate injunctive relief, but in light of the pending Cease and Desist Orders and the status of the present proceedings before the Department, it certainly seems to us that such action would be premature and precipitous.

Yours very truly,

Kent

Kent W. Foster

#7166.00/srr

cc: Governor Cecil Andrus
Gary D. Slette
Keith Higginson
Phil Rassier
Mitchell Sorenson
M. Todd Perkes
Juel Aikele
Don Aikele
Mike Aikele
Herman Aikele

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FEB 1 1 2009

NELSON, ROSHOLT, ROBERTSON, TOLMAN & TUCKER
Chartered
ATTORNEYS AT LAW

THOMAS G NELSON
JOHN A. ROSHOLT
J. EVAN ROBERTSON
STEVEN K TOLMAN
JAMES C TUCKER
TERRY R McDANIEL
GARY D SLETTE
F BRUCE COVINGTON
JERRY JENSEN
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Boise Office
1020 MAIN ST , SUITE 400
P O BOX 2139
BOISE, IDAHO 83701-2139
TELEPHONE (208) 336-0700
FAX (208) 344-6034

February 28, 1990

RECEIVED
MAR 1 1990
Department of Water Resources

Mr. Norman C. Young
State of Idaho
Department of Water Resources
1301 North Orchard
Statehouse Mail
Boise, ID 83720

RE: Big Lost River Combined Hearing

Dear Norm:

I am writing this letter in response to your letter of February 16, 1990. In that letter, you asked whether a hearing date during the first week of April was acceptable to my clients and me. While it would be acceptable to us, it has come to my attention that Dr. Charles Brockway will be in Guam during that week. The following week would be acceptable to us, however, Kent Foster informs me that he will be unavailable during that week. You have asked for an alternative week in March in which we could accomplish this hearing prior to the start of the irrigation season. I have juggled my calendar, and have made the week of March 12 available to accommodate this hearing. Like you and Keith Higginson, I am concerned that this hearing take place prior to the start of the irrigation season.

I believe the time has also come to be candid and forthright regarding this very serious proceeding. It is no secret that Kent Foster, on behalf of the applicants, has indicated to both you and me that he intends to withdraw the applications on the day prior to the hearing. He has communicated that his reasoning behind this is to further his clients' interest by avoiding the impact of the cease and desist orders which are tied to the numbered applications. If the permits are withdrawn, and numbered applications no longer pertain to the wells, he believes that the cease and desist orders are without any force or effect. While I do not particularly agree with his logic, he contends that his clients may then pump those wells and start the irrigation of a crop during the present year. He believes, and perhaps rightly so, that it is unlikely that any court will then order his clients to cease pumping those wells once a crop has started growing. The problem is apparent--the junior priority wells start

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FEB 1 1 2003
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FEB 1 1 2003

pumping and the senior priority surface water rights once again suffer a loss of their water as they have during the past few years. The junior priority groundwater pumpers are not likely to be deterred by a civil penalty of $100.00 per day that may be imposed according to Idaho Code §42-352.

What is apparent is that this matter is going to be resolved in a judicial forum rather than in a departmental hearing. My clients and I believe that the time has come for the Department to file for injunctive relief pursuant to Idaho Code §42-351(1). Members of your Department have already determined that withdrawal of groundwater in the Big Lost River Basin affects the present and future use of prior surface water rights. (See, e.g., the memorandums and deposition of Steve Baker). The director of the Department of Water Resources is empowered, pursuant to Idaho Code §42-237(a)(f) to commence actions to enjoin the illegal use of water from wells. As unsavory as that task may be, the holders of those prior surface water rights deserve to be protected in accordance with the appropriation doctrine adopted in the Constitution and statutes of the State of Idaho.

I urge you to take the immediate and decisive action of seeking injunctive relief that is necessary to bring this matter to a head. We have all danced around the flame because we knew there was a potential for someone to be injured if we got too close. However, the only injuries that have manifested themselves in the past years have accrued to those holders of the prior surface water rights, and such injury runs contrary to the stated priority doctrine of our state. There is no need to wait until mid-April to undertake that which is apparent and imminent. The time to act is now, and I pledge the support of my clients and myself in what will undoubtedly be a difficult undertaking.

I would appreciate your earliest response to this letter.

Yours truly,

Gary D. Slette

GDS:mw/47891
cc: Governor Cecil Andrus
Keith Higginson
Kent Foster
Phil Rassier
Lew Rothwell
Larry Reynolds
Dale Smith
Lawrence Babcock

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FEB 1 1 2000

State of Idaho
DEPARTMENT OF WATER RESOURCES
1301 North Orchard Street, Statehouse Mail, Boise, Idaho 83720 -(208) 327-7900

CECIL D. ANDRUS
GOVERNOR
R. KEITH HIGGINSON
DIRECTOR

January 17, 1990

Gary Slette
Nelson, Rosholt, Robertson, Tucker and Tolman
P. O. Box 1906
Twin Falls, ID 83303

Dear Mr. Gary Slette:

The purpose of this letter is to remind you that February 1, 1990, is one of the dates identified in the pre-hearing conference conducted on October 3, 1989 in Arco as the discovery cutoff date. The conference involved several protested applications for permit and applications for transfer in the Big Lost River drainage.

The next identified dates include the following:

- March 1, 1990 - Pre-hearing motion cutoff date.

- March 10, 1990 - Pre-hearing brief cutoff date.

- March 30, 1990 - Tentative hearing date.

I intend to pursue the established schedule as determined at the conference in order to attempt to resolve the matters and to provide an answer to the applicants. The department will provide notice of the hearing approximately twenty (20) days before the tentative hearing date.

Please keep me advised in this matter.

Sincerely,

Norman C. Young

NORMAN C. YOUNG
Adninistrator

c: IDWR - E. Region
Mitchell Sorensen
Juel Aikele
Everett Acor, Jr.
Reuben H. Babcock
Robin Ray Pearson
Lawrence Babcock
Jay F. Pearson
Larman D. Andersen
Todd Perkes
Virgil L. Hail
Richard Taylor
David B. Bleak
David Tweedie
Rodney S. Pearson
Ned R. Walker
Norman K. Sorenson
Betty Soward
W. T. Sowards
Jesse W. Jensen
Michael Aikele
Albert Babcock
Don S. Hymas
Joe Smith
Rodney A. Pearson
Bill Haralson
Jack A. Jensen
Lewis Rothwell
Gerald Stewart
Fred Burt

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FEB 1 1 2000

State of Idaho
DEPARTMENT OF WATER RESOURCES
1301 North Orchard Street, Statehouse Mail, Boise, Idaho 83720 -(208) 327-7900

CECIL D. ANDRUS
GOVERNOR
R. KEITH HIGGINSON
DIRECTOR

January 17, 1990

Gary Slette
Nelson, Rosholt, Robertson, Tucker and Tolman
P. O. Box 1906
Twin Falls, ID 83303

Dear Mr. ~~Slette~~ Gary:

The purpose of this letter is to remind you that February 1, 1990, is one of the dates identified in the pre-hearing conference conducted on October 3, 1989 in Arco as the discovery cutoff date. The conference involved several protested applications for permit and applications for transfer in the Big Lost River drainage.

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Please keep me advised in this matter.

Sincerely,

Norman C. Young

NORMAN C. YOUNG
Administrator

c: IDWR - E. Region
Mitchell Sorensen
Juel Aikele
Everett Acor, Jr.
Reuben H. Babcock
Robin Ray Pearson
Lawrence Babcock
Jay F. Pearson
Larman D. Andersen
Todd Perkes
Virgil L. Hail
Richard Taylor
David B. Bleak
David Tweedie
Rodney S. Pearson
Ned R. Walker
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Jesse W. Jensen
Michael Aikele
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Don S. Hymas
Joe Smith
Rodney A. Pearson
Bill Haralson
Jack A. Jensen
Lewis Rothwell
Gerald Stewart
Fred Burt

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FEB 1 1 2000

RECEIVED
JAN 8 1990
Department of Water Resources

Kent W. Foster, Esq.
HOLDEN, KIDWELL, HAHN & CRAPO
P.O. Box 50130
Idaho Falls, Idaho 83405
Telephone: (208) 523-0620

BEFORE THE DEPARTMENT OF WATER RESOURCES

In Re: Water Right Hearings--Big Lost River Drainage, Application for Permit Nos. 34-7247, 34-7296, 34-7410, 34-7483, 34-7486, and Applications for Transfer Nos. 34-0496/0692/T921, 34-2417, 34-2419 and 34-2428.	LIST OF EXHIBITS AND WITNESSES

COME NOW applicants, Mitchell D. Sorensen, M. Todd Perkes, Juel Aikele, Mike Aikele and Don Aikele, by and through Holden, Kidwell, Hahn & Crapo, their attorneys of record, and hereby submit the following list of exhibits and witnesses:

A. LIST OF EXHIBITS

Applicants do not at this time contemplate utilizing any exhibits other than those listed on the protestant's list of exhibits except to the extent any reports or data may be prepared and produced by Jack A. Barnett and Don Barnett.

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B. LIST OF WITNESSES

In addition to the witnesses named by protestants, applicants contemplate that the following may be called as witnesses:

1. Jack and Don Barnett
2. Mitchell D. Sorensen
3. Juel Aikele
4. Don Aikele
5. Mike Aikele
6. M. Todd Perkes

DATED this 5 day of January, 1990.

Kent W. Foster

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FEB 11 2000

CERTIFICATE OF SERVICE

I hereby certify that I am a duly licensed attorney in the State of Idaho, resident of and with my office in Idaho Falls, Idaho; that I served a copy of the following described pleading or document on the attorneys listed below by hand delivering or by mailing, with the correct postage thereon, a true and correct copy thereof on this 5 day of January, 1990.

Document Served: LIST OF EXHIBITS AND WITNESSES

Individuals Served:

Idaho Department of Water Resources (MAIL)
ATTENTION: Norm Young
1301 North Orchard
Statehouse Mail
Boise, Idaho 83720

Gary D. Slette, Esq. (MAIL)
NELSON, ROSHOLT, ROBERTSON,
TOLMAN & TUCKER
P.O. Box 1906
Twin Falls, Idaho 83303-1906

Kent W. Foster
HOLDEN, KIDWELL, HAHN & CRAPO

5679h/srr

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FEB 11 2000

Gary D. Slette
NELSON, ROSHOLT, ROBERTSON,
TOLMAN & TUCKER
P. O. Box 1906
Twin Falls, Idaho 83303-1906
Telephone: (208) 734-0700
1536p/mw/12-12-1989

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DEC 18 1989
Department of Water Resources

BEFORE THE IDAHO DEPARTMENT OF WATER RESOURCES

* * * * * * * * *

In re: Water Right Hearings--Big Lost River Drainage Application for Permit Nos. 34-7247, 34-7296, 34-7410, 34-7483, 34-7486, and Applications for Transfer Nos. 34-0496/0692/T921, 34-2417, 34-2419 and 34-2428	LIST OF EXHIBITS AND WITNESSES

* * * * * * * * * *

COME NOW certain of the protestants in the above-captioned matter, by and through their counsel of record, Gary D. Slette of Nelson, Rosholt, Robertson, Tolman & Tucker, and provide the following information with regard to the hearing of this matter.

A. List of Exhibits

The protestants may utilize any and all of the following as exhibits in the hearing of this matter:

1. Water Resources in the Big Lost River Basin, South-Central Idaho by E. G. Crosthwaite, C. A. Thomas, and K. L. Dyer (1970).

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2. Review of Ground-Water Conditions in the Big Lost River Valley, Idaho Department of Water Resources, Open-File Report (1989).

3. Maps of the Big Lost River area, including, but not limited to, maps of irrigated area over time and maps depicting recharge potential in the Big Lost River Basin area.

4. Run-off charts of Big Lost River.

5. Updated groundwater charts depicting the levels of USGS observation wells.

6. Well driller's logs and reports.

7. Memoranda dated June 23, 1989, and July 14, 1989, from Steve Baker to Glen Saxton and Norm Young, respectively.

8. Written communications sent to and received from the Idaho Department of Water Resources, which communications were sent or received by certain of the protestants.

9. Idaho Statutes, IDWR Rules and Regulations of Practice and Procedure, and IDWR Rules and Regulations of Water Appropriation.

10. Plan of Operation for the Big Lost River Irrigation District filed with the Department of Reclamation April 3, 1935.

11. Water diversion records.

12. Historical weather data.

13. Any new USGS model data.

14. Drillers' logs of individual wells.

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B. List of Witnesses

The protestants may call any or all of the following witnesses:

1. Dr. Charles Brockway
2. Jack Barraclough
3. Keith Higginson
4. Lewis Rothwell
5. Larman Anderson
6. Dale Smith
7. Lawrence Babcock
8. Larry Reynolds
9. Richard Rothwell
10. Glenn Guthrie
11. Lester Braswell
12. J. Edward Techick
13. Ned Walker
14. Gerald Stewart
15. Doug Rosencratz
16. Ferrell Winger

DATED this 15th day of December, 1989.

NELSON, ROSHOLT, ROBERTSON,
TOLMAN & TUCKER

By: _____
Gary D. Slette

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FEB 1 1 2000

CERTIFICATE OF MAILING

I hereby certify that on this 15th day of December, 1989, I served the original and a copy of the foregoing LIST OF EXHIBITS AND WITNESSES on the Director of the Idaho Department of Water Resources, and a copy of the same on all other named individuals, by depositing same in the United States mail, postage prepaid, in an envelope, addressed to the following:

Idaho Department of Water Resources
Attn: Keith Higginson
1301 North Orchard
Statehouse Mail
Boise, ID 83720

Idaho Department of Water Resources
Attn: Norm Young
1301 North Orchard
Statehouse Mail
Boise, ID 83720

Kent Foster
Holden, Kidwell, Hahn & Crapo
P.O. Box 50130
Idaho Falls, ID 83405

Gary D. Slette

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State of Idaho
DEPARTMENT OF WATER RESOURCES
1301 North Orchard Street, Statehouse Mail, Boise, Idaho 83720 -(208) 327-7900

CECIL D. ANDRUS
GOVERNOR
R. KEITH HIGGINSON
DIRECTOR

December 1, 1989

Kent Foster
P. O. Box 50130
Idaho Falls, ID 83402

Dear Mr. Foster:

Re: WATER RIGHT HEARINGS - BIG LOST RIVER DRAINAGE - 34-7247, 34-7296, 34-7410, 34-7483, 34-7486 AND APPLICTIONS FOR TRANSFER NOS. 34-0496/0692/T921, 34-2417, 34-2419 AND 34-2428

The purpose of this letter is to remind you that December 15, 1989, is one of the dates identified in the conference conducted on October 3, 1989, in Arco as the date for compiling and distriuting exhibit and witness lists. The attorneys for the parties are responsible for this activity.

The next date of significance identified in the conference was February 1, 1990, which is the discovery cutoff date.

Please provide the department with a copy of the exhibit and witness lists.

If you have questions, please feel free to contact me.

Sincerely,

Norman C Young

NORMAN C. YOUNG
Hearing Officer

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FEB 1 1 2000

State of Idaho
DEPARTMENT OF WATER RESOURCES
1301 North Orchard Street, Statehouse Mail, Boise, Idaho 83720 -(208) 327-7900

CECIL D. ANDRUS
GOVERNOR
R. KEITH HIGGINSON
DIRECTOR

November 28, 1989

Kent Foster
P. O. Box 50130
Idaho Falls, ID 83402

RE: APPLICATIONS FOR PERMIT NOS. 34-7247, 34-7296, 34-7410, 34-7483, 34-7486, AND APPLICATIONS FOR TRANSFER NOS. 34-0496/0692/T921, 34-2417, 34-2419 AND 34-2428.

Dear Applicant or Protestant:

On October 3, 1989, the Department of Water Resources (department) conducted a conference at Arco, Idaho, to determine a procedure and a schedule to conduct a combined hearing in connection with the above referenced protested water right applications for permit and applications for transfer. One of the activities identified at the conference was for the department to identify relevent issues and the parties by November 15, 1989.

The issues identified thus far are as shown on the enclosed Pre-hearing Conference Memorandum. The parties, however, have the opportunity to refine and augment the issues in accordance with the schedule.

The applicants and protestants associated with the above referenced filings are as follows:

Applicants:

34-0496/0692/T921 - Norma K. Sorenson
34-2428 - Mitchell Sorenson
34-2417 - Juel and Bret Aikele
34-2419 - Juel Aikele
34-7247 - Mitchell D. Sorenson
34-7296 - Michael or Juel Aikele
34-7410 - Mitchell Sorenson
34-7483 - Everett Acor, Jr.
34-7486 - Marshall Todd Perkes

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FEB 1 1 2006

Protestants:

Larman D. Andersen
Albert C. and Mary G. Babcock
Lawrence Babcock
Reuben Babcock
David and Lois M. and Chris Bleak
Virgil Hail
Bill Haralson
Jack A. Jensen
Mrs. Jesse W. Jensen
Jay F. Pearson
Donald L. Rittenhouse
Lewis Rothwell
Joe Smith
Gerald Stewart
Betty Sowards
Leota Sowards
W.T. Sowards
Richard Taylor
Ned R. Walker

The department will also notify the list of applicants shown on the attachment to the pre-hearing conference memorandum of the combined hearing which is tentatively scheduled in March 1990.

Please feel free to contact the department if you have questions.

Sincerely,

for NORMAN C. YOUNG
Hearing Officer

Encl: 1

MICROFILMED
FEB 11 2000

State of Idaho
DEPARTMENT OF WATER RESOURCES
1301 North Orchard Street, Statehouse Mail, Boise, Idaho 83720 -(208) 327-7900

CECIL D. ANDRUS
GOVERNOR
R. KEITH HIGGINSON
DIRECTOR

November 1, 1989

Mitchell D. Sorenson
Rt. 1 Box 63
Moore, ID 83255

Dear Mr. Sorenson:

RE: APPLICATION FOR PERMIT NO. 34-7247

Department files show that the above referenced water right application submitted in your name is pending in department files. To the department's knowledge, you have not proceeded with development as proposed on the application. The department has determined, however, that in some cases, development has occurred in the valley even though the related application has not been approved. In those cases the department has sent cease and desist orders to the applicants. The department wants to advise you against developing until your application has been approved.

On October 3, 1989, the department conducted a conference with the owners of several water right applications and applications for transfer in the Big Lost River drainage who have proceeded with development even though their pending application had not been approved. The purpose of the conference was to determine issues and to establish a schedule to hear the protests against the applications. The hearing is tentatively scheduled in March 1990 in Arco, Idaho. Issues raised at the hearing could affect every pending water right application in the Big Lost River basin.

Since you are an applicant, you are considered to be a party to the hearing proceeding and will be affected by the determinations made as a result of the hearing. Enclosed for your information is a draft pre-hearing conference memorandum. The department will keep you advised in this matter unless you tell us you are no longer interested in pursuing your application.

Parties who wish to intervene in the matter as protestants may petition the department in compliance with Practice and Procedure Rule 6. Requests for intervention will be accepted by the department until November 15, 1989.

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Please feel free to contact the department for more specific information concerning the hearing or the issues to be considered at the hearing.

Sincerely,

L. Glen Saxton

L. GLEN SAXTON, Chief
Water Allocation Bureau

Enclosure

c: IDWR - E. Region

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FEB 1 1 2006

State of Idaho
DEPARTMENT OF WATER RESOURCES
1301 North Orchard Street, Statehouse Mail, Boise, Idaho 83720 -(208) 327-7900

CECIL D. ANDRUS
GOVERNOR
R. KEITH HIGGINSON
DIRECTOR

October 11, 1989

Kent W. Foster
West One Bank Building
P. O. Box 50130
Idaho Falls, ID 83405

Dear Kent:

Enclosed is a draft of a Pre-hearing Conference Memorandum for your review and comment. I will appreciate your expedited review and comment on the draft. The department is proceeding to keep the schedule shown on the memorandum.

The department is preparing Cease and Desist Orders to be sent to the applicants in the Big Lost River drainage. The purpose of the orders is to provide early notice that diversions and use of water under the applications are not authorized until the applications are approved by the department.

Please recognize that a Cease and Desist Order relates to use of water on the land proposed by the application. If there are other existing rights for the same land, irrigation of the land could still legally occur under the other rights.

If you have questions, please feel free to contact me.

Sincerely,

for NORMAN C. YOUNG
Administrator

Enclosure

MICROFILMED
FEB 1 1 2000

D R A F T D R A F T

BEFORE THE DIRECTOR

OF THE

DEPARTMENT OF WATER RESOURCES

IN THE MATTER OF APPLICATIONS FOR PERMIT AND APPLICATIONS FOR TRANSFER NOS. 34-7247, 34-7296, 34-7410, 34-7483, 34-7486, 34-0496/0692/T921, 34-2428, 34-2417 AND 34-2419.	PRE-HEARING CONFERENCE MEMORANDUM

This matter having come before the Department of Water Resources (department) as a result of a conference scheduled by the department on October 3, 1989 at Arco, Idaho, the following schedule and issues were determined with the assistance and input of the applicants and protestants.

SCHEDULE

	Action	Completion Date
1.	Prepare pre-hearing conference memorandum	10-10-89
2.	Publish legal notice - Opportunity for other applicants to intervene in the hearing to be scheduled (IDWR)	10-11-89 and 10-18-89
3.	Identification of Parties (IDWR) Identification of Issues (IDWR)	11-15-89 11-15-89
4.	Compile and distribute witness and exhibit list (Parties)	12-15-89
5.	Discovery cutoff date	02-01-90
6.	Pre-hearing motion cutoff date	03-01-90
7.	Pre-hearing brief cutoff date (Parties)	03-10-90
8.	HEARING	03-30-90

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9.	Proposed decision issued (IDWR)	04-20-90
10.	Deadline for exceptions to be filed and requests for briefing or oral argument before the director (Parties)	15 days after proposed decision
11.	Final decision issued (IDWR)	--------

The following issues were identified as being common or generic to further appropriation of ground water in the basin:

Applications for Permit

1. Injury to other water rights

   - surface water flows
   - domestic and other shallow wells
   - Practicality of well construction and location to avoid injury
   - Practicality of mitigating injury

2. Adequacy of water supply

   - Practicality of appropriating ground water outflow

3. Local Public interest

   - Economic impact
   - 42-203C, Idaho Code, issues for trust water filings
   - Environmental issues
     - Minimum stream flow
     - Fish and wildlife
     - Riparian vegatation

Applications for transfer

1. Expansion in use
2. Injury to other rights
3. Local public interest
4. Implications of Sections 42-1416 and 42-1416A, Idaho Code.

Issues of Law

1. Enlargement theory
2. Equitable estoppel

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- Applicable in action against the state?
- Can department rule on this issue?

3. Effect of Sections 42-1416 and 42-1416A, I.C.

The parties have the opportunity to refine and augment issues in accordance with the schedule.

GENERAL

1. The issues herein identified as "generic" are relevant to all pending applications to appropriate water for irrigation and other consumptive purposes. The proceeding will be expanded to include all such applications pending in the basin. Other issues relevant only to particular applications will be considered in separate proceedings as necessary. Attached is a list of applications to be added to the proceeding pursuant to Practice and Procedure Rule 9,7. Applicants will be given written notice of the proceeding.

2. Appropriate advertisement will appear in both the Arco and Challis newspapers to provide more thorough notice.

3. The parties agreed that for the duration of the proceedings to hear and act upon the pending applications for permit and applications for transfer, the department can stay action on the request to issue a moratorium.

4. The department has issued proposed decisions in connection with the following water right filings:

34-7247 - Mitchell D. Sorenson
34-7296 - Michael or Juel Aikele
34-0496/0692/T921 - Norma K. Sorenson
34-2428 - Mitchell Sorenson

Exceptions have been filed for each decision. The department's response to the exceptions included the pre-hearing conference conducted in Arco on October 3, 1989 and will include the conduct of a hearing to allow the creation of a record.

Dated this _____ day of _____, 1989.

NORMAN C. YOUNG
Hearing Officer

FEB 1 1 2000

AFFIDAVIT OF PUBLICATION

State of Idaho, County of Custer, ss:

I, Margaret Parks, Publisher of the Challis Messenger, a weekly newspaper, published at Challis, Idaho, do solemnly swear that the notice hereto attached and made a part hereof, was published in the regular and entire issue of the Challis Messenger for 2 consecutive weeks, commencing with the issue dated Oct 12 1989 and ending with the issue dated Oct 19 1989

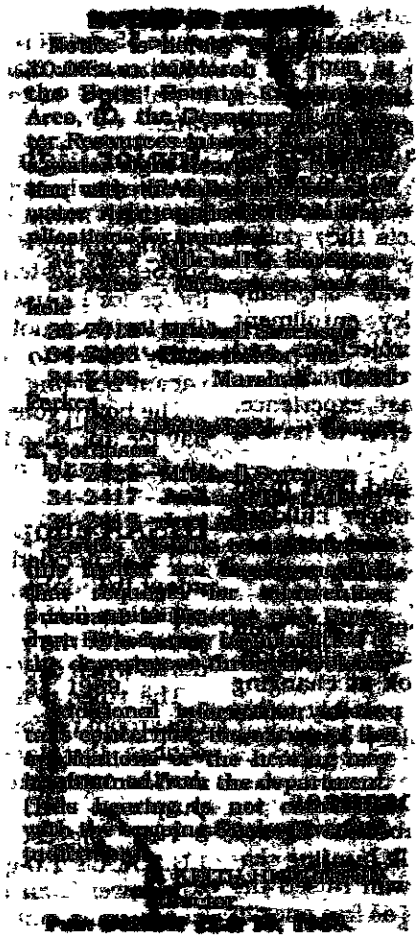
Margaret Parks

STATE OF IDAHO)
)
COUNTY OF CUSTER)

On this 19th day of October in the year of 1989, before me, a Notary Public, personally appeared Margaret Parks known or identified to me to be the person whose name subscribed to the within instrument, and being by me first duly sworn, declared that the statements therein are true, and acknowledged to me that he executed the same.

Ethel M. Peck
Notary Public for Idaho
Residing at Challis
My commission expires: 3-21-92

RECEIVED
OCT 24 1989
Department of Water Resources
Eastern District Office



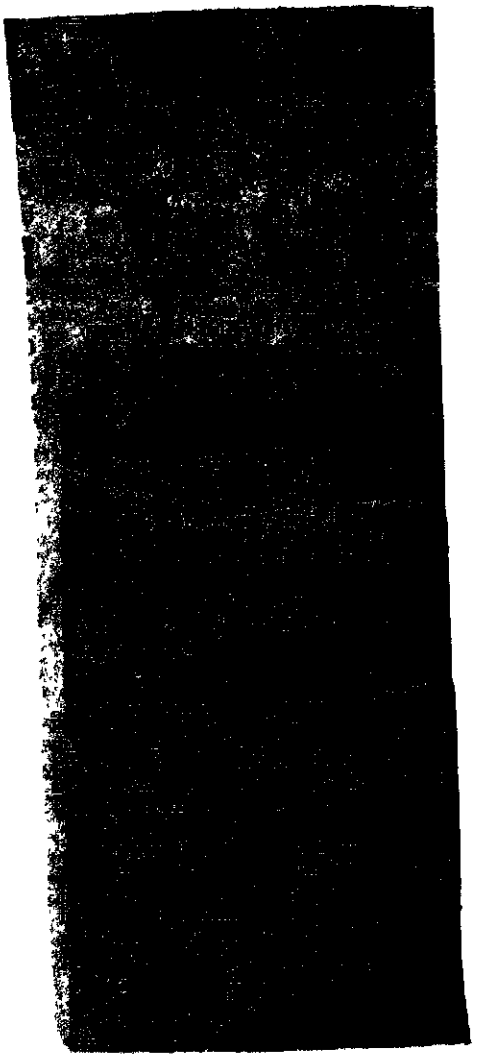
RECEIVED
NOV 9 1989
Department of Water Resources

AFFIDAVIT OF PUBLICATION

I, Colleen Babcock
of the Arco Advertiser, a weekly newspaper of general circulation, published weekly at Arco, Idaho, since March, 1909, do solemnly swear that a copy of this notice, per clipping attached, was published weekly in the regular and entire issue of said newspaper, and not in any supplement thereof,

for 2 consecutive weeks, commencing with the issue dated Oct. 12, 1989

and ending with the issue dated
Oct. 19, 1989
Colleen Babcock



STATE OF IDAHO }
COUNTY OF BUTTE }

On this 23 day of October
in the year of 1989, before me, a Notary Public,
personally appeared
Colleen Babcock
known or identified to me to be the person whose name subscribed to the within instrument, and being by me first duly sworn, declared that the statements therein are true, and acknowledged to me that he executed the same

Thomas D. Cummins
Notary Public for Idaho
Residing at Arco, Id.
My commission expires 12-17-91

RECEIVED
OCT 25 1989
Department of Water Resources
Eastern District Office

RECEIVED
NOV 9 1989

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FEB 1 1 2000
Department of Water Resources

06-Oct-1989

Custer Publishing Co.
P.O. Box 405
Challis, ID 83226

Gentlemen:

Enclosed you will find legal notices which we wish to have published on the dates indicated (once a week for two consecutive weekly issues) in your newspaper. If you cannot publish the notices on the proposed dates, please contact us immediately.

An affidavit of publication must be submitted to the Department along with the publication bill. Your cooperation is appreciated.

Please send the affidavit of publication and publication billing to this office.

Respectfully submitted,

Rita Bodell
Office Secretary

Enclosure

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FEB 1 1 2000

10-06-89

The following legal notice is intended to provide notice to applicants and the opportunity to intervene in a water right hearing involving some existing applications for permit and applications for transfer in the Big Lost River valley.

NOTICE OF HEARING

Notice is hereby given that at 10 a.m. on March 15, 1990, at the Butte County Courthouse, (Address), Arco, ID, the department of Water Resources intends to conduct a water right hearing in connection with the following protested water right applications and applications for transfer:

34-7247 - Mitchell D. Sorenson
34-7296 - Michael or Juel Aikele
34-7410 - Mitchell Sorenson
34-7483 - Everett Acor, Jr.
34-7486 - Marshall Todd Perkes
34-0496/0692/T921 - Norma K. Sorenson
34-2428 - Mitchell Sorenson
34-2417 - Juel and Bret Aikele
34-2419 - Juel Aikele

Parties wishing to intervene in this matter are hereby notified that requests for intervention pursuant to Practice and Procedure Rule 6. may be submitted to the department through October 31, 1989.

Additional information or details concerning the nature of the applications or the hearing may be obtained from the department. (This hearing is not connected with the ongoing Snake River Adjudication).

R. KEITH HIGGINSON
Director

Published in the Custer Publishing Co. October 12 & 19, 1989.

DIC

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FEB 1 1 2000

06-Oct-1989

The Arco Advertiser
P.O. Drawer C
Arco, ID 83213

Gentlemen:

Enclosed you will find legal notices which we wish to have published on the dates indicated (once a week for two consecutive weekly issues) in your newspaper. If you cannot publish the notices on the proposed dates, please contact us immediately.

An affidavit of publication must be submitted to the Department along with the publication bill. Your cooperation is appreciated.

Please send the affidavit of publication and publication billing to this office.

Respectfully submitted,

Rita Bodell
Office Secretary

Enclosure

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FEB 1 1 2000

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R. KEITH HIGGINSON
Director

Published in the Arco Advertiser October 12 & 19, 1989.

OK

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FEB 11 2000

State of Idaho
DEPARTMENT OF WATER RESOURCES
1301 North Orchard Street, Statehouse Mail, Boise, Idaho 83720 -(208) 327-7900

CECIL D. ANDRUS
GOVERNOR
R. KEITH HIGGINSON
DIRECTOR

September 21, 1989

Dear Interested Party:

RE: IN THE MATTERS OF:
APPLICATION FOR PERMIT 34-7247 - MITCHELL D. SORENSON
APPLICATION FOR PERMIT 34-7296 - MICHAEL OR JUEL AIKELE
APPLICATION FOR PERMIT 34-7410 - MITCHELL SORENSON
APPLICATION FOR PERMIT 34-7483 - EVERETT ACOR JR.
APPLICATION FOR PERMIT 34-7486 - MARSHALL TODD PERKES
APPLICATION FOR TRANSFER 34-0496/0692/T921 - NORMA K. SORENSON
APPLICATION FOR TRANSFER 34-2428 - MITCHELL SORENSON
APPLICATION FOR TRANSFER 34-2417 - JUEL AND BRET AIKELE
APPLICATION FOR TRANSFER 34-2419 - JUEL AIKELE

The department has scheduled a conference (not a hearing) on October 4, 1989, at 9:00 a.m. in the Magistrate Court Room, Memorial Building, 326 W. Grand St., Arco, Idaho to discuss future disposition of the above referenced filings which are pending before the department. The conference date has been changed to October 3, 1989 at 9:00 a.m. at the same location.

If you have any questions concerning these matters, please feel free to contact this office.

Sincerely,

L. Glen Saxton

L. GLEN SAXTON, Chief
Water Allocation Bureau

C: Certificate of Service

MICROFILMED

FEB 1 1 2000

BEFORE THE DEPARTMENT OF WATER RESOURCES

OF THE STATE OF IDAHO

NOTICE OF CONFERENCE

IN THE MATTERS OF:
APPLICATION FOR PERMIT 34-7247 - MITCHELL D. SORENSON
APPLICATION FOR PERMIT 34-7296 - MICHAEL OR JUEL AIKELE
APPLICATION FOR PERMIT 34-7410 - MITCHELL SORENSON
APPLICATION FOR PERMIT 34-7483 - EVERETT ACOR JR.
APPLICATION FOR PERMIT 34-7486 - MARSHALL TODD PERKES
APPLICATION FOR TRANSFER 34-0496/0692/T921 - NORMA K. SORENSON
APPLICATION FOR TRANSFER 34-2428 - MITCHELL SORENSON
APPLICATION FOR TRANSFER 34-2417 - JUEL AND BRET AIKELE
APPLICATION FOR TRANSFER 34-2419 - JUEL AIKELE

The department has scheduled a conference (not a hearing) on October 4, 1989, at 9:00 a.m. in the Magistrate Court Room, Memorial Building, 326 W. Grand St., Arco, Idaho to discuss future disposition of the above referenced filings which are pending before the department.

The conference will be held in accordance with provisions of Chapter 2, Title 42, and Chapter 52, Title 67, of the Idaho Code, the adopted Rules of Practice and Procedure of the Department of Water Resources, and Rules 4 and 5 of the adopted Water Appropriation Rules and Regulations.

The purpose of the conference is to establish a schedule for the hearing, to brief the issues, to arrange for the exchange of proposed exhibits or prepared expert testimony, to obtain admissions of facts and of documents to avoid unnecessary proof, and such other matters which may expedite orderly conduct and disposition of the proceedings. Even though some of the matters have been discussed in prior conferences and proposed decisions have been issued on some of the matters, the establishment of a record likely will be to the benefit of all parties for potential appeal by any party of the decision reached by the department.

The department wishes to combine the above referenced filings into one administrative proceeding because the issues are similar and the protestants are generally common to most of the matters.

Please feel free to contact the department if you have questions.

Dated this 13th day of September, 1989.

L. Glen Saxton

L. GLEN SAXTON, Chief
Water Allocation Bureau

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FEB 1 1 2000

CERTIFICATE OF SERVICE

On September 13, 1989, the Notice of Conference scheduled for October 4, 1989 in Arco, Idaho regarding applications filed in the Big Lost River area was sent to:

Juel & Bret Aikele
Rt. 1
Moore, ID 83255

Everett Acor, Jr.
Box 13
Moore, ID 83255

Todd Perkes
Rt. 1 Box 110
Arco, ID 83213

Jesse W. Jensen
Moore, ID 83255

Fred Burt
Moore, ID 83255

Albert Babcock
Moore, ID 83255

Virgil L. Hail
Moore, ID 83255

George Wheeler
Moore, ID 83255

Rueben H. Babcock
Moore, ID 83255

Elida S. Pearson
Rodney S. Pearson
Rt. 1 Box 38
Moore, ID 83255

Ned & Reva W. Walker
Moore, ID 83255

Jack A. Jensen
Rt. 1 Box 32
Moore, ID 83255

Jay F. Pearson
Rt. 1 Box 47
Moore, ID 83255

Kent W. Foster
West One Bank Bldg.
P. O. Box 50130
Idaho Falls, ID 83405

Mitchell Sorensen
Rt. 1 Box 63
Moore, ID 83255

Gary Slette
NELSON, ROSHOLT, ROBERTSON, TUCKER AND TOLMAN
P. O. Box 1906
Twin Falls, ID 83303-1906

Richard Taylor
Moore, ID 83255

David B. Bleak
Moore, ID 83255

Don S. Hymas
Moore, ID 83255

David Tweedie
Moore, ID 83255

Joe Smith
Moore, ID 83255

Rodney S. Pearson
Rt. 1 Box 63-B
Moore, ID 83255

Robin Ray Pearson
Rt. 1 Box 40
Moore, Id 83255

Michael Aikele
Route 1
Moore, ID 83255

Larman D. Andersen
Rt. 1 Box 52
Moore, ID 83255

Lewis Rothwell
Rt. 1, Box 405
Arco, ID 83213

Gerald Stewart
Box 59
Moore, ID 83255

Bill Haralson
Arco, ID 833213

Lawrence Babcock
Moore, ID 83255

Betty Sowards
Moore, ID 83255

W. T. & Leota Sowards
Moore, ID 83255

Norma K. Sorenson
707 E. 50 S.
Provo, UT

Rita D. Fleck

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FEB 1 1 2000

file copy

State of Idaho
DEPARTMENT OF WATER RESOURCES
1301 North Orchard Street, Statehouse Mail, Boise, Idaho 83720 - (208) 327-7900

CECIL D. ANDRUS
GOVERNOR
R. KEITH HIGGINSON
DIRECTOR

August 30, 1989

Kent W. Foster
West One Bank Building
P. O. Box 50130
Idaho Falls, ID 83405

Dear Kent:

L. Glen Saxton has advised me of his telephone discussion with you today concerning the pending protested transfers and applications for permit in the Big Lost River Drainage.

I am most anxious to schedule a conference (not a hearing at this point) in connection with the protested matters in order to establish a schedule for a hearing, identify and simplify issues, determine parties and to generally establish a procedure to pursue the pending matters. Glen has advised that you are seeking to locate an expert witness on behalf of your clients and for that reason have needed additional time.

The "push" to get on with resolution of these protested matters is coming partly from your clients who have recently contacted me about getting on with the matter. Since testimony will not be taken at a conference, perhaps the conference can be scheduled even though you have not located an expert.

Please advise me at your earliest convenience of a date satisfactory for a conference. I need to provide sufficient notification to the protestants in order that they can plan to attend the conference.

As you know, my objective is to proceed with the matters of protest in a timely enough fashion that the parties (both applicants and protestants) will be in a position to pursue their respective positions, in court if necessary, before another irrigation season is upon us.

I will appreciate a call relative to the conference scheduling.

Sincerely,

Norman C. Young

NORMAN C. YOUNG
Administrator

c: Juel Aikele
Everett Acor, Jr.
E. Region
protestants
Mitchell Sorenson
Todd Perkes
Gary Slette

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FEB 11 2000

List of parties Aug. 30th letter sent to Kent Foster was sent to.
Protestants to Aike[redacted] filings.

Juel Aikele
Rt. 1
Moore, ID 83255

Everett Acor, Jr.
Box 13
Moore, ID 83255

Todd Perkes
Rt. 1 Box 110
Arco, ID 83213

Jesse W. Jensen
Moore, ID 83255

Fred Burt
Moore, ID 83255

Albert Babcock
Moore, ID 83255

Virgil L. Hail
Moore, ID 83255

George Wheeler
Moore, ID 83255

Kent W. Foster
West One Bank Building
P. O. Box 50130
Idaho Falls, ID 83405

Mitchell Sorensen
Rt. 1 Box 63
Moore, ID 83255

Gary Slette
NELSON, ROSHOLT, ROBERTSON,
TUCKER AND TOLMAN
P. O. Box 1906
Twin Falls, ID 83303-1906

Richard Taylor
Moore, ID 83255

David B. Bleak
Moore, ID 83255

Don S. Hymas
Moore, ID 83255

David Tweedie
Moore, ID 83255

Joe Smith
Moore, ID 83255

Reuben H. Babcock
Moore, ID 83255

Rodney S. Pearson
Rt. 1 Box 63-B
Moore, ID 83255

Rodney A. Pearson
Elida S. Pearson
Rt. 1 Box 38
Moore, ID 83255

Robin Roy Pearson
Rt. 1 Box 40
Moore, ID 83255

Ned R. Walker
Moore, ID 83255

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FEB 1 1 2009

RECEIVED
AUG 17 1989
Department of Water Resources
Eastern District Office

BEFORE THE DIRECTOR OF THE DEPARTMENT
OF WATER RESOURCES OF THE
STATE OF IDAHO

RECEIVED
AUG 28 1989
Department of Water Resources

IN THE MATTER OF APPLICATION FOR PERMIT NO. 34-7247 IN THE NAME OF MITCHELL D. SORENSEN.	EXCEPTION TO PROPOSED MEMORANDUM DECISION AND ORDER

This exception is taken from the "Proposed Memorandum Decision and Order" in the above entitled matter, dated August 1, 1989. Specifically, applicant takes exception to Findings of Fact Nos. 3, 4 and 5, Conclusions of Law Nos. 3 and 6 and Paragraph Nos. 1, 2, 3 and 4 of the Proposed Order.

Some of the preliminary grounds for this exception are that all of the referenced portions of the Proposed Memorandum Decision and Order are based upon studies or data or opinions which were not produced in the context of a hearing or in any manner which has permitted applicant an opportunity to review or study or inquire or cross-examine with respect thereto or to introduce evidence or expert testimony to contradict or mitigate or refine the data relied upon by Idaho Department of Water Resources in formulating the Proposed Memorandum Decision and Order.

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An appeal from any decision of the director would now be an appeal upon the record, rather than a trial de nov. Applicant has had no opportunity to fairly participate in the making of the record. Under traditional judicial rules, in an adversarial judicial proceeding, each party is entitled to an opportunity to confront and cross-examine adverse witnesses and to introduce relevant evidence which may contradict the evidence submitted by adverse parties. Here, Idaho Department of Water Resources is not only the trier of fact and of law (in the same sense as a trial court), but also the main adverse party. In the context of establishing a record for appeal where each party has had a fair opportunity to be heard, applicant has been placed at an impossible disadvantage.

It is clear that the director of the Department of Water Resources has failed in this case to comply with the statutory mandate for processing this application for a permit and that such failure and the attendant illegal and unconscionable delays have resulted in or substantially contributed to potential significant economic loss to applicant.

Applicant therefore requests that the issuance of a Final Decision of Order be postponed for a reasonable length of time to permit applicant a full opportunity to seek and obtain expert advice and review all data relied upon by IDWR in formulating the Proposed Memorandum Decision and Order, and

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FEB 1 1 2000

further that after such review, a hearing be scheduled to permit examination and cross-examination of witnesses and the introduction of appropriate evidence so that there will be a complete and adequate record.

DATED this 17th day of August, 1989.

Kent W. Foster of the law firm of
HOLDEN, KIDWELL, HAHN & CRAPO
Attorneys for Mitchell D. Sorensen

MICROFILMED
FEB 1 1 2008

CERTIFICATE OF SERVICE

I hereby certify that I am a duly licensed attorney in the State of Idaho, resident of and with my office in Idaho Falls, Idaho; that I served a copy of the following described pleading or document on the attorneys listed below by hand delivering or by mailing, with the correct postage thereon, a true and correct copy thereof on this 17th day of August, 1989.

Document Served: EXCEPTION TO PROPOSED MEMORANDUM DECISION AND ORDER

Individuals Served:

Idaho Department of Water Resources
1301 North Orchard
Boise, Idaho 83720

Mr. Mitchell Sorensen
Route 1 Box 63
Moore, Idaho 83255

Mr. Lewis Rothwell
Route 1 Box 405
Arco, Idaho 83213

Mrs. Jesse W. Jensen
Moore, Idaho 83255

Mr. Ned R. Walker
Arco, Idaho 83213

Mr. Richard Taylor
Moore, Idaho 83255

Mr. Virgil Hail
Box 454
Moore, Idaho 83255

Mr. David Bleak, Lois Bleak and Chris Bleak
Route 1, Box 27
Moore, Idaho 83255

Mr. Jay F. Pearson
Route 1 Box 47
Moore, Idaho 83255

Mr. Gerald Stewart
Box 59
Moore, Idaho 83255

Mr. Larman D. Anderson
Moore, Idaho 83255

Mr. Ruben Babcock
Moore, Idaho 83255

Mr. Bill Haralson
Arco, Idaho 83213

Mr. Joe Smith
Route 1 Box 22
Moore, Idaho 83255

Kent W. Foster
HOLDEN, KIDWELL, HAHN & CRAPO

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2276h/srr

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SEP 11 2006

RECEIVED
AUG 18 1989
Department of Water Resources

BEFORE THE DIRECTOR OF THE DEPARTMENT

OF WATER RESOURCES OF THE

STATE OF IDAHO

IN THE MATTER OF APPLICATION FOR PERMIT NO. 34-7247 IN THE NAME OF MITCHELL D. SORENSEN.	EXCEPTION TO PROPOSED MEMORANDUM DECISION AND ORDER

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FEB 1 1 2000

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NOV 1 2006

further that after such review, a hearing be scheduled to permit examination and cross-examination of witnesses and the introduction of appropriate evidence so that there will be a complete and adequate record.

DATED this 17th day of August, 1989.

Kent W. Foster of the law firm of
HOLDEN, KIDWELL, HAHN & CRAPO
Attorneys for Mitchell D. Sorensen

MICROFILMED
FEB 1 1 2006

CERTIFICATE OF SERVICE

I hereby certify that I am a duly licensed attorney in the State of Idaho, resident of and with my office in Idaho Falls, Idaho; that I served a copy of the following described pleading or document on the attorneys listed below by hand delivering or by mailing, with the correct postage thereon, a true and correct copy thereof on this 17th day of August, 1989.

Document Served: EXCEPTION TO PROPOSED MEMORANDUM DECISION AND ORDER

Individuals Served:

Idaho Department of Water Resources
1301 North Orchard
Boise, Idaho 83720

Mr. Mitchell Sorensen
Route 1 Box 63
Moore, Idaho 83255

Mr. Lewis Rothwell
Route 1 Box 405
Arco, Idaho 83213

Mrs. Jesse W. Jensen
Moore, Idaho 83255

Mr. Ned R. Walker
Arco, Idaho 83213

Mr. Richard Taylor
Moore, Idaho 83255

Mr. Virgil Hail
Box 454
Moore, Idaho 83255

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Moore, Idaho 83255

Mr. Jay F. Pearson
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Moore, Idaho 83255

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Mr. Ruben Babcock
Moore, Idaho 83255

Mr. Bill Haralson
Arco, Idaho 83213

Mr. Joe Smith
Route 1 Box 22
Moore, Idaho 83255

Kent W. Foster
HOLDEN, KIDWELL, HAHN & CRAPO

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2276h/srr

FILMED
FEB 1 2 2009

State of Idaho
DEPARTMENT OF WATER RESOURCES
1301 North Orchard Street, Statehouse Mail, Boise, Idaho 83720 - (208) 327-7900

CECIL D. ANDRUS
GOVERNOR
R. KEITH HIGGINSON
DIRECTOR

August 10, 1989

Michael Aikele
Route #1
Moore, ID 83255

Dear Mr. Aikele:

Enclosed are copies of petitions to establish moratoriums in Basin 34 which you requested.

Department policy, directed by Idaho Code Section 42-221, calls for a copy charge of 25 cents per page for the first 10 pages and 10 cents per page thereafter (24 pages copied for $3.90). The postage charge is $1.05.

Please remit your check in the amount of $4.95 to the Idaho Department of Water Resources, Statehouse, Boise, Idaho 83720, attention Debra Cline. Thank you.

Sincerely,

Debra L. Cline

DEBRA L. CLINE
Administrative Secretary

Encs.

MICROFILMED
FEB 11 2000

State of Idaho
DEPARTMENT OF WATER RESOURCES
1301 North Orchard Street, Statehouse Mail, Boise, Idaho 83720 - (208) 327-7900

CECIL D. ANDRUS
GOVERNOR
R. KEITH HIGGINSON
DIRECTOR

M E M O

TO: Norm Young DATE: July 14, 1989

THRU: Alan Robertson, Hal Anderson

FROM: Steve Baker

SUBJECT: Possibility of a Transition Zone near the Mouth of Big Lost River Valley

On June 23, I wrote a memo in response to a request by Glen Saxton to delineate a line near the mouth of the Big Lost River Valley where ground water and surface water are "no longer" in communication with each other. Upon review of this memo, you had some question of whether a region exists north of this line where wells completed below a certain depth could withdraw ground water without having adverse effects on existing water users in the valley. In the following paragraphs I have addressed the possibility for the existence of this so called "transition zone."

The data sets that are necessary to develop a complete and accurate respond to your request are sparse. Lithologic data (well logs) are not of adequate detail or depth to define the geologic framework of the area. Nested piezometer data are also lacking to understand the distribution of hydraulic head both horizontally and vertically. So with this in mind, please realize my findings are tentative and subject to change as more data is collected.

As stated in the memo to Glen, the flow of ground water near the mouth of the valley is complex. Relatively steep hydraulic gradients are indicated by the significant differences in water table elevations in the valley with those that occur in the plain immediately to the south. If it is assumed that horizontal flow predominants in the aquifer near Darlington, then the water table drops 1100 feet over 17 miles as it merges with the Snake River Plain aquifer system, 4 miles south of Arco.

The flow of ground water in the area is further complicated by the high degree of heterogeneity of the material filling the valley. From at least two million years ago to as recent as

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2,000 years ago, volcanism in the plain has intermittently caused basalt flows to intrude into the mouth of the valley. As flows advanced up the valley, temporary lakes were created allowing fine-grained sediments to settle out and accumulate. Eventually, the basalt dams would be breached and free-flowing streams would be reestablished.

The occurrence of these lake deposits impedes the downward movement of ground water near the mouth of the valley. Permeable sands and gravels between these impeding layers laterally convey portions of the underflow leaving the valley. Ultimately, the water in these zones leaks downward through the fine-grained sediments. The flow net shown in Figure 1 illustrates this concept. The equipotential lines that are drawn represent lines of equal hydraulic head.

Most wells in the valley are less that 250 feet deep, especially, west and north of Arco. As a result, knowledge of the water-bearing zones below this depth is extremely limited. A test hole drilled by the U.S. Geological Survey (USGS) about five miles south of Moore (well 4N-26E-21abb1) offers the primary source of data regarding the hydrogeology of the deeper water-bearing zones in this area. The driller's log and other pertinent notes for the well are shown in Figure 2. As shown on the log, a 245 foot head difference is indicated between the upper sand and gravel layer where water was first encountered and the fourth sand and gravel layer (between 280 to 425 feet). In order to have this significant difference in hydraulic head, the intervening clay layers must be relatively tight and occupy a fairly large areal extent.

If wells were completed and pumping from this lower water-bearing zone, they would undoubtedly alter the current flow regime. However, their effects should be more regionally distributed and of lower magnitude than wells pumping from shallower zones. The severity of these effects cannot be determined at this time. Only after the drilling and testing of wells completed in this lower zone can the potential effects be fully assessed.

Because the lateral extent of the third clay layer in well 4N-26E 21abb1 (between 235-280 feet) is uncertain, an arbitrary line was selected to delineate the northern boundary of this so-called "transition zone." With this in mind, the boundary between townships 4N and 5N appears to be a reasonable dividing line. As more wells are drilled or deepened into this lower water-bearing zone, the line may be subject to change. A high-resolution seismic survey may help to delineate the extent of the clay layers and associated water-bearing zones.

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Before I close, I would like to note a potential problem that currently exists near the mouth of the valley that you may not be aware of. Many of the wells drilled in this area are open to multiple water-bearing zones. If significant differences in head exist between the zones, then downward flow will occur from the upper to the lower zones. When this occurs, a significant drainage of the upper water-bearing zone(s) can take place, whether or not the wells are pumping. USGS personnel during their 1985 study, noted several wells where cascading water was occurring in them. This type of well completion that has been used for deeper wells may be in part responsible for declining water-levels in shallow domestic wells.

If you have any questions regarding my findings, please contact me.

SB:cjk

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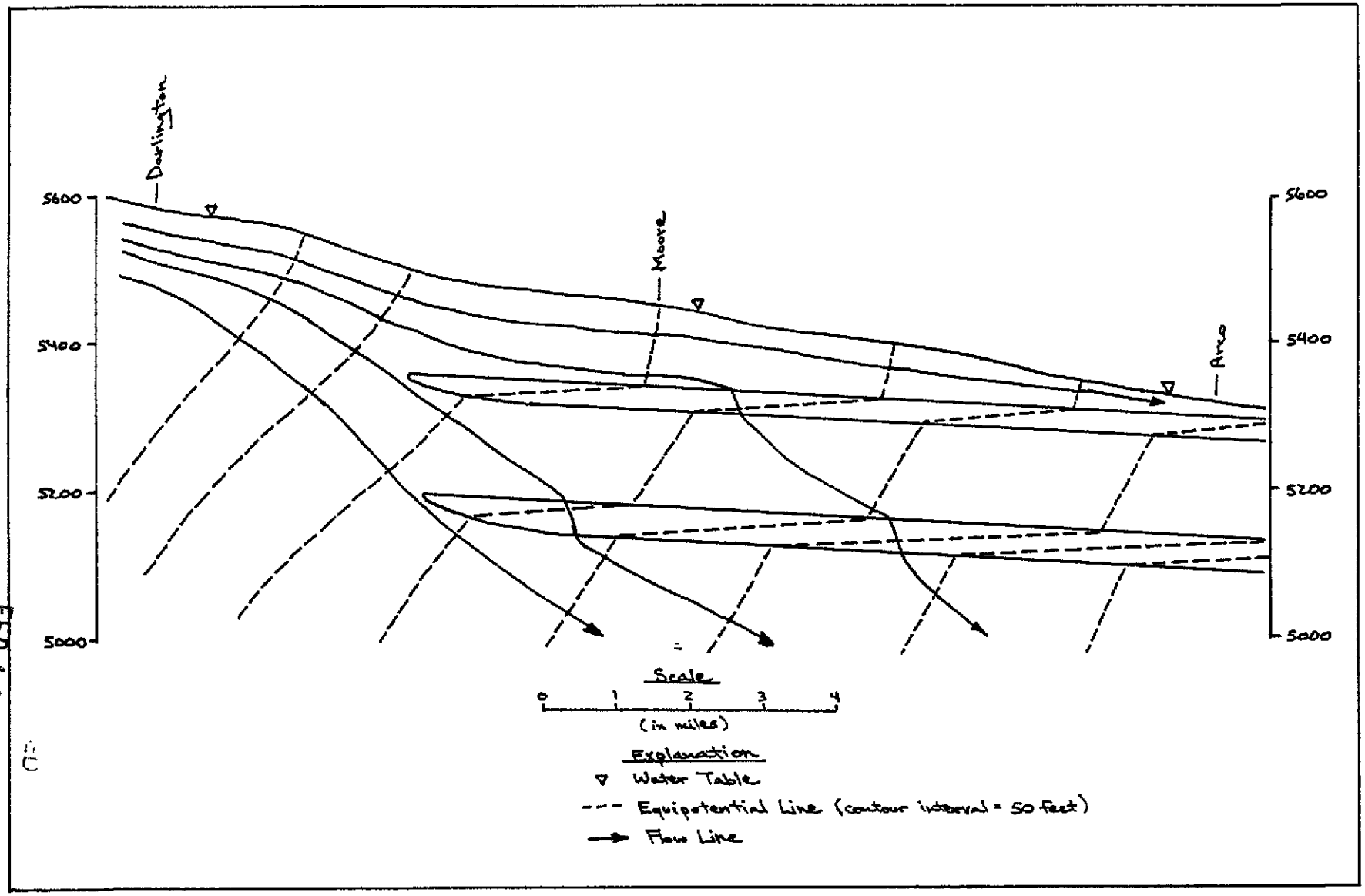


Figure 1. Conceptual Flow Net of Aquifer System Near Mouth of Big Lost River Valley

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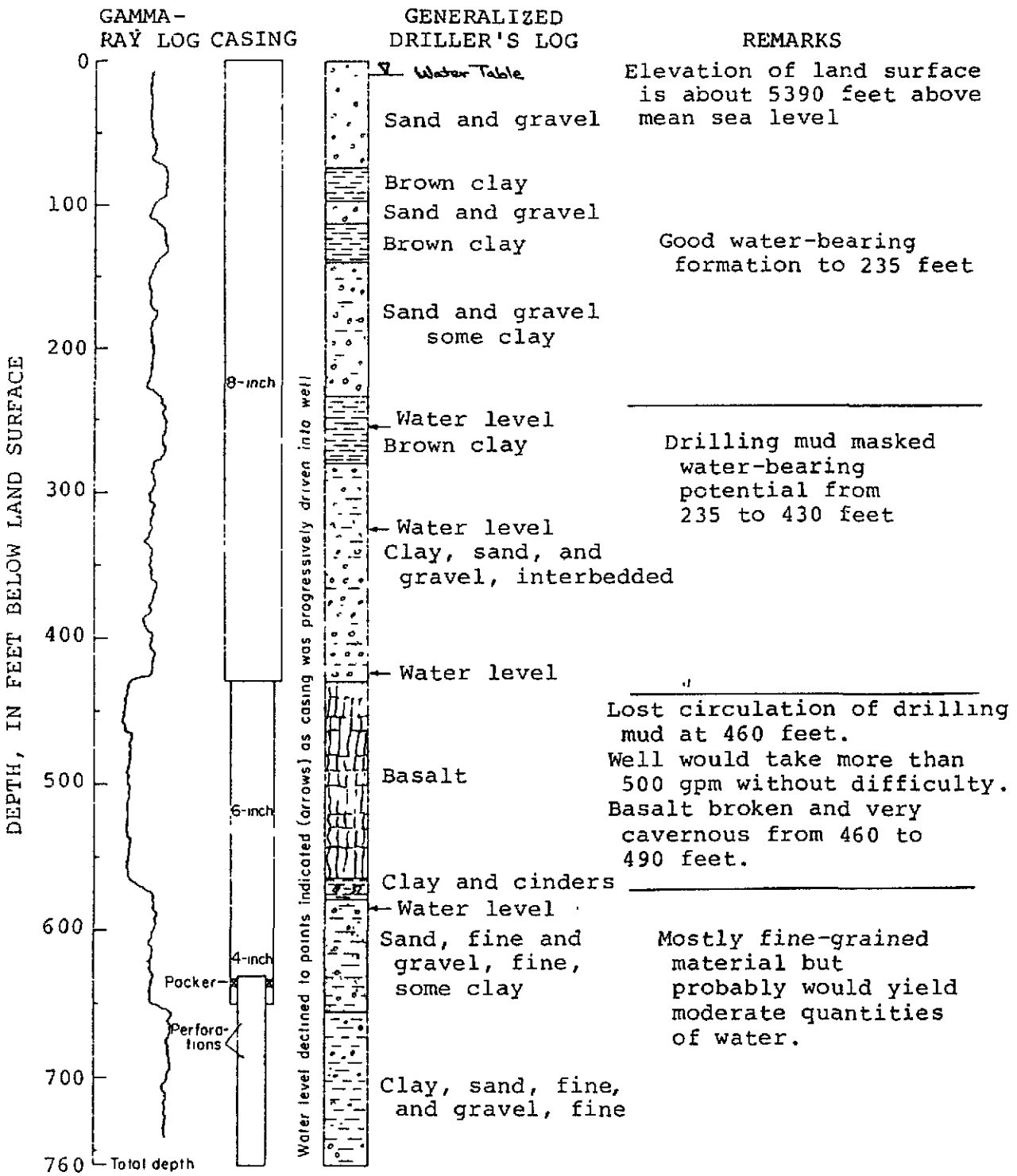


FIGURE 2 -- Logs and water levels in well 4N-26E-21abbl.

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State of Idaho
DEPARTMENT OF WATER RESOURCES (208) 327-7900
1301 North Orchard Street, Statehouse Mail, Boise, Idaho 83720 [redacted]

CECIL D. ANDRUS
GOVERNOR
R. KEITH HIGGINSON
DIRECTOR

MEMORANDUM

TO: Glen Saxton DATE: June 23, 1989

THRU: Alan Robertson, Hal Anderson HWA

FROM: Steve Baker

SUBJECT: Proposed boundary where ground water and surface water are "no longer" hydraulically connected in the Big Lost River Valley.

About a week and a half ago, you asked the Hydrology Section to delineate a line at the mouth of the Big Lost River Valley where ground water and surface water are "no longer" in communication with each other. The purpose of your request (as I understand it) was to define an area where additional ground-water development could occur and have no adverse effects on surface water users in the valley. This memo is in response to the above request.

The primary sources of data that I used to answer this question came from data acquired by the U.S. Geological Survey during a 1985 study they performed in the lower half of the valley. These data include mass measurements of ground-water levels and seepage measurements taken along segments of the Big Lost River. Both sets of data were acquired in the spring and fall of the year. Historic data for the Big Lost River near Mackay indicate that 1985 stream flow between April and September was near normal. This stream gage is above all major diversions and is thought to measure a majority of the runoff that occurs in the basin.

Utilizing the water-level data, water-table maps were constructed for spring and fall of 1985. Because of the complex structure and stratigraphy of the water-bearing units near the mouth of the valley, significant downward components of flow occur as ground water leaving the valley merge with flow in the Snake River Plain aquifer system. This phenomena is most prevalent in wells that are greater than 200 feet deep. In an attempt to create a surface representative of the water table where horizontal flow predominates, only wells less than 200 feet total depth were used. Since most wells that were measured in the area fall into this depth range, few were eliminated.

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By overlying the water-table maps on topographic quads, a point where the elevation of the Big Lost river remained above the water table was determined. Data from seepage measurements supported the location of this point. Flow lines on the water table where then drawn up-gradient from this point.

In order to account for the effects of local pumping on the ground-water system, an area surrounding the delineated flow lines was added. Based on computations performed by Crosthwaite, et al (1970, pg. 81), a mile wide buffer zone seemed adequate to inhibit any adverse effects of pumping.

Finally, to assist in the ease of administering this line and due to the uncertainty of its exact location, the line was modified to follow legal boundaries. The final version of this line is shown on the attached figure.

If you have any questions regarding my findings, please contact me.

SB:cjk
Attachment

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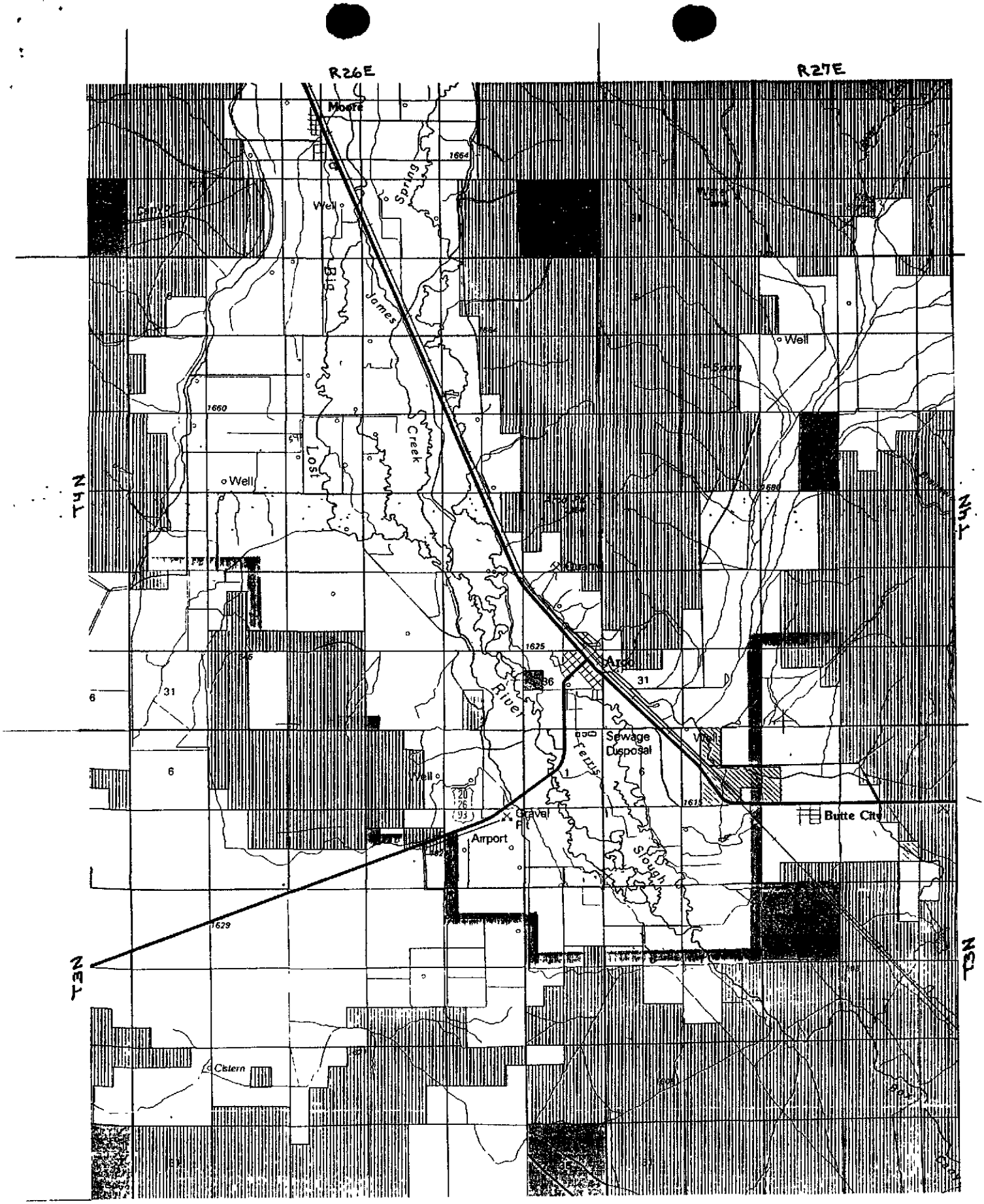


Figure 1. Map Showing Proposed Boundary Where Ground Water Underflow Leaving Big Lost River Valley is "No Longer" Tributary to Surface Water.

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State of Idaho
DEPARTMENT OF WATER RESOURCES
STATE OFFICE, 450 W. State Street, Boise, Idaho

JOHN V. EVANS
Governor

A. KENNETH DUNN
Director

Mailing address:
Statehouse
Boise, Idaho 83720
(208) 334-4440

October 15, 1985

Mitchell Sorensen
Rt. #1, Box 63
Moore, ID 83255

Dear Mr. Sorensen:

Enclosed is the proof of beneficial use form submitted to this office on July 3, 1985 for Permit No. 34-7247.

Please be advised that the Department cannot accept the proof form until such a time that the protest is resolved and the application is approved.

If you have any questions, please feel free to contact Rita Fleck of this office (334-4290).

Sincerely,

Linda D. Smith

LINDA D. SMITH
Receptionist

Enclosure

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FEB 1 1 2000

April 2, 1984

RE: Amended Application for Permit No. 34-7247 SORENSEN

Arco Advertiser
Box "C"
Arco, Idaho 83213

Gentlemen:

Would you please submit an affidavit of publication and certified bill in connection with the above referenced application(s). The legal notice was to have been published in your paper on March 8 and 15, 1984.

Your cooperation in this matter is greatly appreciated.

Very truly yours,

COLLEEN WRAY
Adm. Secretary

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FEB 1 1 2000

NOTICE OF AMENDED APPLICATION FOR WATER PERMIT

Notice is hereby given that Application for Permit No. 34-724 in the name of Mitchell D. Sorensen was filed for the diversion o 8.34 cfs of water from a groundwater source with point of diver within the SE¼NE¼ Sec. 5, T. 4N, R. 26E, B.M. Butte County; to b from April 1 to Nov. 1 for the irrigation of 200 acres within th SE¼SW¼ Sec. 35, T. 4N, R. 25E, B.M.

The applicant now proposes to amend Application No. 34-7247 requesting the place of use to be changed to the NW¼, E½SW¼ Sec. 3 4N, R. 25E, B.M.

STATE OF IDAHO
Department of Water Resources

Nº 33459

Boise, Idaho, Feb 27, 1984

RECEIVED FROM Mitchell Sorenson of Moore $ 20.00
Twenty and no/100's DOLLARS

FOR		
Amendment (34-7247)	$ 20	00
	$	
	$	
	$	
TOTAL - - -	$ 20	00

Barbara L. Powers

NOTICE
Notice is hereby given that Application for Permit No. 34-7247 in the name of Mitchell D. Sorensen was filed for the diversion of 8.34 cfs of water from a groundwater source with point of diversion within the SE¼NE¼ Sec. 5, T. 4N, R. 26E, B.M. Butte County; to be used from April 1 to Nov. 1 for the irrigation of 200 acres within the SE¼SW¼ Sec. 35, T. 4N, R. 25E, B.M.
The applicant now proposes to amend application No. 34-7247 requesting the place of use to be changed to the NW¼, E½SW¼ Sec. 3, T. 3S, R. 25E, B.M.
Any protest must be filed with the Department of Water Resources, Box 83720, Boise, Idaho 83720 on or before March 24, 1984.
KENNETH J. DUNN
Director
Published in the Upper Valley Register on March 15, 1984.

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STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES
EASTERN REGION

John V. Evans
Governor

A. Kenneth Dunn
Director

150 Shoup — Suite 15
Idaho Falls, Idaho 83402
(208) 525-7161

January 23, 1984

Mitchell D. Sorensen:
Rt. #1, Box 63
Moore, ID 83255

Dear Mr. Sorensen:

Enclosed is a amended application for permit with the change in the place of use, as we discussed over the phone.

It would be in your interest to submit the amendment because you do not own, nor are you buying the E½ of the SE¼ of the SW¼, Section 35 Township 4N, Range 25E. If the application becomes a permit before the amendment is made there may be protests to the proposed change in the place of use that could prevent the change.

To complete the amended application, please sign the application on the third page, and submit to this office along with the $20 filing fee.

Please feel free to contact this office for any additional assistance the may be needed.

Sincerely,

Keith C Wilson

KEITH C. WILSON
Sr. Resource Agent

KCW:jk

Enclosure

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FEB 1 1 2000

Form No. 202a
3/79

Amended

State of Idaho
Department of Water Resources

APPLICATION FOR PERMIT ANALYSIS SHEET

INITIAL REVIEW BY: G. F. RAMSEY APPLICATION NUMBER: 34-7247

CHECK: FEB 27 1984

- ☑ Source.
- ☑ Point of diversion.
- ☑ County.
- ☑ Quantity of water and period of use.
- ☑ Description of diverting works.
- ☑ Time required for beneficial use of water.
- ☑ Place of use or acres irrigated.
- ☑ Map.
- ☑ Signature.
- ☑ Fee.

Field check by: _____
Date: _____
Comments: _____

- ☑ Yes ☐ No Field check required.
- ☐ Yes ☑ No Critical groundwater area.
- ☐ Yes ☑ No Request dam safety information. Sent by: _____ Date: _____
- ☑ Yes ☐ No* In form to receipt.

*REQUEST THE FOLLOWING ADDITIONAL INFORMATION FROM THE APPLICANT: _____

SEND COPIES TO:

- ☐ Idaho State Health Department. Copies sent by: _____ Date: _____
- ☐ Idaho Fish and Game Department.
- ☐ Idaho Department of Lands.
- ☐ U.S. Bureau of Land Management.
- ☐ U.S. Forest Service.
- ☐ Other _____

PROCESSING:

- ☐ Yes ☑ No Platted by: _____ Map No. _____
- ☑ Yes ☐ No Other rights on same place of use. 34-7120
- ☑ Yes ☐ No* In form for advertising.
  Final date for protests: _____
- ☐ Yes ☐ No Protests received. If yes, record information on 4th page of application.

FINAL REGIONAL PROCESSING REVIEW:

- ☑ Affidavit of publication received. Date: March 26, 1984
- ☑ Application published correctly. If not, record action taken: _____
- ☐ Fee amount, receipt date & number, recorded on application.
- ☐ Publication dates and paper, recorded on application.
- ☐ Protests, dates, withdrawal, etc., recorded on application.
- ☐ Recommendation & initial, recorded on application.
- ☐ Yes ☐ No Measuring device required.
- ☐ Yes ☐ No Access port required.
- ☐ Yes ☐ No Will water be delivered by watermaster? If yes, what district? _____

_____ Date of priority recommended.

Special conditions of approval or cover letter. _____

File Copy
Discarded

By: _____ Date: _____

STATE OFFICE REVIEW:

RECEIVED
JUL 24 1989
Department of Water Resources

☐ See attached sheet for more information.

By: _____ Date: _____

POINT OF DIVERSION AND STREAM INDEX INFORMATION

TRACT	SEC	TWP	RGE	gov't lot	rediv. (R)	REACH
____	__	___	___	__	_	___.__

IDAHO STREAM CODE INDEX

_ _ _ _ . _ _ _ _ . _ _ _ _ . _ _ _ _ . _ _ _ _ . _ _ _ . _ _ _ . _ _ . _ _ . _ _

TRACT	SEC	TWP	RGE	gov't lot	rediv. (R)	REACH
____	__	___	___	__	_	___.__

IDAHO STREAM CODE INDEX

_ _ _ _ . _ _ _ _ . _ _ _ _ . _ _ _ _ . _ _ _ _ . _ _ _ . _ _ _ . _ _ . _ _ . _ _

TRACT	SEC	TWP	RGE	gov't lot	rediv. (R)	REACH
____	__	___	___	__	_	___.__

IDAHO STREAM CODE INDEX

_ _ _ _ . _ _ _ _ . _ _ _ _ . _ _ _ _ . _ _ _ _ . _ _ _ . _ _ _ . _ _ . _ _ . _ _

TRACT	SEC	TWP	RGE	gov't lot	rediv. (R)	REACH
____	__	___	___	__	_	___.__

IDAHO STREAM CODE INDEX

_ _ _ _ . _ _ _ _ . _ _ _ _ . _ _ _ _ . _ _ _ _ . _ _ _ . _ _ _ . _ _ . _ _ . _ _

TRACT	SEC	TWP	RGE	gov't lot	rediv. (R)	REACH
____	__	___	___	__	_	___.__

IDAHO STREAM CODE INDEX

_ _ _ _ . _ _ _ _ . _ _ _ _ . _ _ _ _ . _ _ _ _ . _ _ _ . _ _ _ . _ _ . _ _ . _ _

Form 202
3/78

Ident. No. 34-7247

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES

AMENDED **APPLICATION FOR PERMIT** AMENDED

To appropriate the public waters of the State of Idaho

1. Name of applicant Mitchell D. Sorensen Phone 527-3271

   Post office address Rt. #1, Box 63, Moore, ID

2. Source of water supply Groundwater which is a tributary of _____

3. Location of point of diversion is SE ¼ of NE ¼ of Section 5 Township 4N

   Range 26E B.M. Butte County, additional points of diversion if any: _____

4. Water will be used for the following purposes:

   Amount 8.34 (cfs or acre-feet per annum) for Irrigation purposes from 4-1 to 11-1 (both dates inclusive)

   Amount _____ (cfs or acre-feet per annum) for _____ purposes from _____ to _____ (both dates inclusive)

   Amount _____ (cfs or acre-feet per annum) for _____ purposes from _____ to _____ (both dates inclusive)

   Amount _____ (cfs or acre-feet per annum) for _____ purposes from _____ to _____ (both dates inclusive)

5. Total quantity to be appropriated:

   a. 8.34 cubic feet per second and/or b. _____ acre-feet per annum.

6. Proposed diverting works:

   a. Description of ditches, flumes, pumps, headgates, etc. Well & pump.

   b. Height of storage dam _____ feet, active reservoir capacity _____ acre-feet; total reservoir capacity _____ acre-feet, materials used in storage dam: _____

   Period of year when water will be diverted to storage _____ (Month/Day) to _____ (Month/Day) inclusive.

   c. Proposed well diameter is _____ inches; proposed depth of well is _____ feet.

7. Time required for the completion of the works and application of the water to the proposed beneficial use is 5 years *(minimum 1 year – maximum 5 years).*

8. Description of proposed uses.
   a. If water is not for irrigation:
      (1) Give the place of use of water: _____ ¼ of _____ ¼ of Section _____ Township _____

      Range _____ B.M.

      (2) Amount of power to be generated. _____ horsepower under _____ feet of head.

      (3) List number of each kind of livestock to be watered _____

      (4) Name of municipality to be served _____, or number of families to be supplied with domestic water _____.

      (5) If water is to be used for other purposes describe: _____

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b. If water is for irrigation, indicate acreage in each subdivision in the tabulation below:

TWP	RANGE	SEC.	NE¼				NW¼				SW¼				SE¼				TOTALS
			NE¼	NW¼	SW¼	SE¼	NE¼	NW¼	SW¼	SE¼	NE¼	NW¼	SW¼	SE¼	NE¼	NW¼	SW¼	SE¼	
4N	25E	35					40	40	40	40	20			20					200

Total number of acres to be irrigated 200

c. Describe any other water rights used for the same purposes as described above. _____

9. a. Who owns the property at the point of diversion Norma Sorensen

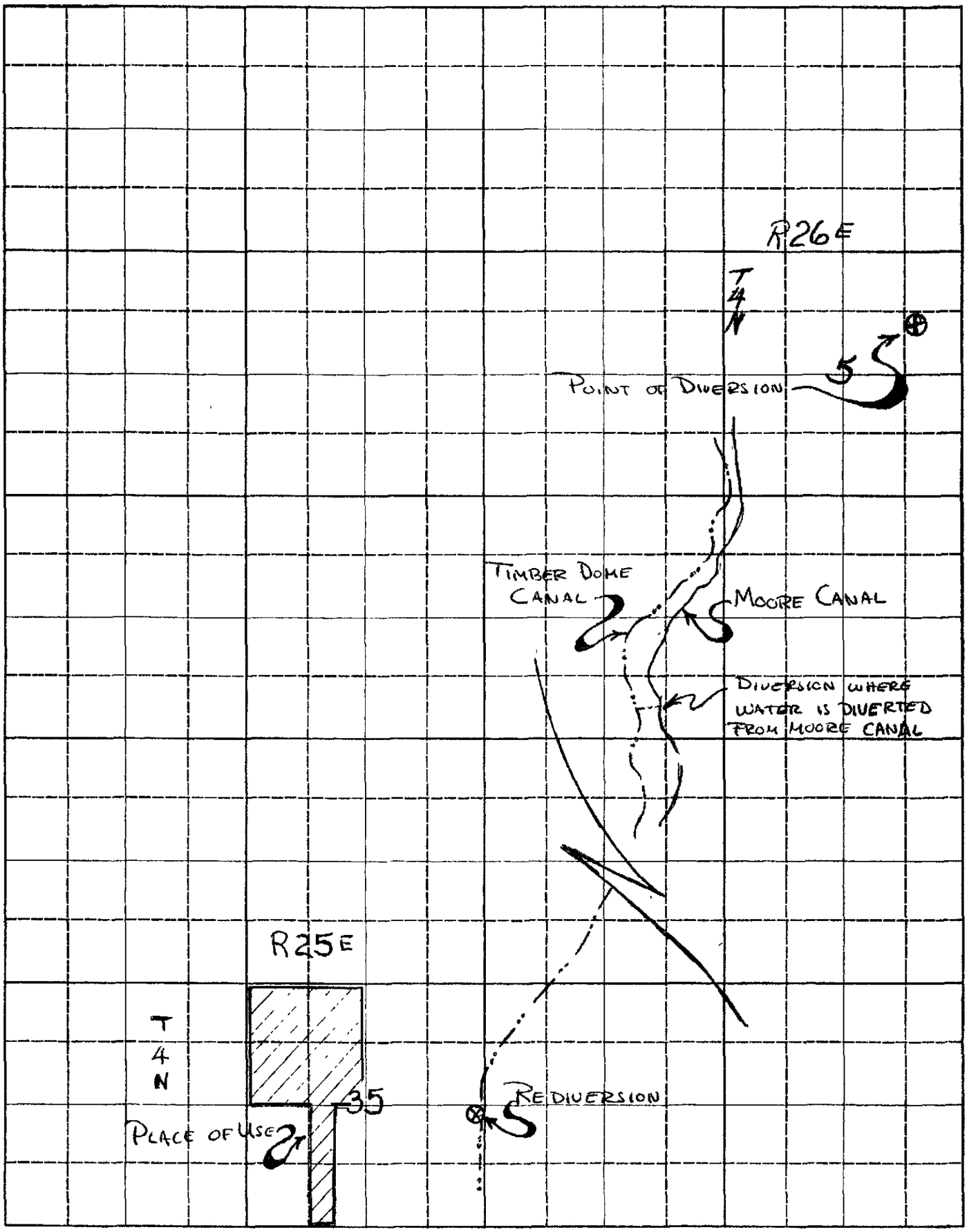
b. Who owns the land to be irrigated or place of use Mitchell Sorensen

c. If the property is owned by a person other than the applicant, describe the arrangement enabling the applicant to make this filing Lease with option to buy.

10. Remarks _____

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SEP 1 1 2003

11. Map of proposed project: show clearly the proposed point of diversion, place of use, section number, township and range number.



Scale 2 inches equal 1 mile.

BE IT KNOWN that the undersigned hereby makes application for permit to appropriate the public waters of the State of Idaho as herein set forth.

(Applicant)

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Received by _____ Date _____ Time _____

Preliminary check by _____ Fee $ _____

Receipted by _____ Date _____

Publication prepared by _____ Date _____

Published in _____

Publication dates _____

Publication approved _____ Date _____

Protests filed by: _____

_____

_____

Copies of protests forwarded by _____

Hearing held by _____ Date _____

Recommended for approval denial by _____

ACTION OF THE DIRECTOR, DEPARTMENT OF WATER RESOURCES

This is to certify that I have examined Application for Permit to appropriate the public waters of the State of Idaho No. _____ , and said application is hereby _____ .

1. Approval of said application is subject to the following limitations and conditions:

   a. SUBJECT TO ALL PRIOR WATER RIGHTS.

   b. Proof of construction of works and application of water to beneficial use shall be submitted on or before _____ , 19____ .

   c. The rate of diversion, if water is to be used for irrigation under this permit, when combined with all other water rights for the same land shall not exceed 0.02 cubic feet per second for each acre of land.

   d. Other:

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IN THE MATTER OF APPLICATION FOR PERMIT 34-7247 & APPLICATIONS FOR TRANSFER #34-2428 & 34-0496/0692 IN THE NAME OF MITCHELL D. SORENSEN & NORMA K. SORENSEN, RESPECTIVELY.

STIPULATION.

We the undersigned hereby agree to allow the Department of Water Resources to reach a proposed decision in this matter based on the information presented at the conference, the records of the Dept. & the findings of the Departments study on ground water availability in the Big Lost River Drainage.

We under stand this does not waive our right to appeal the decision back to the Dept. or to the District Court.

David Bleak
Ted R. Walker
M.J. Babcock
Wayne Hall
Gerald Stewart
Craig Stewart

Mitchell Sorensen
Lucile M. Jensen
Norman Wilkinson
Jerry E. Beal
Jay F. Pearson

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FEB 11 2000

Application for Transfer 34-2428
" " " 34-0496/0692
Application for Permit 34-7247.
Applicant -
Mitchell Sorensen

Protestants.	34-7247	T-34-2428	T-34-0496/0692	Present at Conference.
David B. & Lois M. Beak	✓	✓		✓
Richard Taylor	✓	✓		
Larman P. Anderson	✓	✓		✓
Bill Haralson	✓	✓		
Jay F Pearson	✓	✓		✓
Gerald Stewart	✓	✓		✓
Virgil Hail	✓	✓		✓
Lewis Rothwell	✓	✓		
Joe Smith	✓	✓		
Mrs. Jesse W. Jensen	✓	✓		✓
Ned R. Walker	✓	✓		✓
Reuben Babcock.	✓	✓		✓

① Transfer decreed water to new lands outside of the District Boundary.
② Transfer licensed groundwater to ~~same~~ adjacent lands.
③ Application for permit / appropriate groundwater on same lands which are proposed to get decreed water.
- Additional amount of Q is to compensate for loss assessed by the two canals. 30% in Moore Canal.
30% to ~~50~~ 40% in U.C. Canal.
- Q on application is for capacity of well.

Q- Need to investigate primary right transfer & secondary right transfer - particularly expansion of secondary right.

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Concerns

1. Capacity of Canal System
2. Expansion of secondary right 34-2428,
3. Injury to existing water rights caused by a lowering of the water table as a result of pumping.

Comment - Study by the Dept. identified those areas where there is a definite correlation between groundwater & surface water, there is groundwater leaving the basin.

Applicant drilled irrigation well on proposed place of use down to 270 ft. did not find adequate water, House well on place is 70 ft. deep.

Historically when irrigation ~~wells~~ & coming wells are turned on ~~there is an influence~~ to the capacity of each well is reduced. Summarily

Existing well has 75 H.p. motor

- Finding Capacity of canal system is a matter which is properly before the Big Lost Irrigation District as owner of the conveyance.

Define - injury? Does not being able to irrigate ~~with decreased stream~~ entire field with normal stream constitute injury.

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34-7247 } Mitchell Sorensen
34-2428T }

34-0496, 34-0692 — Norma K Sorensen

34-2428T How much water will be transferred

Protestants
David & Lois Bleak
Richard Taylor
Larman Anderson
Bill Haralson
Jay Pearson
Gerald Stewart
Virgil Hail
Lewis Rathwell
Joe Smith
Mrs Jesse Jensen
Ned Walker
Ruben Babcock
Big Lost River I D — Mr Jensen

Explanation of Transfer Decree 120 acres
Transfer Lic.

Additional and on applicant is for canal shrinkage
8.34 is the capacity of the well —
Wells above affect this well

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Concern about the transfer of the primary without transferring the secondary right [redacted] or vice versa. —

The water users are short —

Concern —

1. Enlargement
2. Insufficient capacity of the ditch
3. Injury to existing rights —
   - A. Decreases river flow
   - B. Draw down subwater →

Applicant drilled a domestic well 60 feet

Check to see if we can determine water level from Oil Company siesmograph work —

$$HP = \frac{Q\,wh}{8.8}$$

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34-7247 & 34-2428 - Mitchell D.Sorensen

34-0496/34-0692 - Norma K. Sorensen

Memorial Building, Arco, Idaho

Wednesday, December 16, 1981 (2:00 p.m.)

Hearing Officer _____

Name	Address	Representing
Dwight L Hall	Moore Idaho	
Dale Smith	Moore, Idaho	
Joe Smith	Moore Id	
Dewey K Record	Moore, Idaho	
M. G. Babcock	Moore, Idaho	
Norman Anderson	Moore, Ida	
Mitchell Sorensen	Moore, Ida	Self & Norma Sorensen
Ted L. Walker	Box 32, Arco, Idaho	Self.
Loretta H. Turner	Box 20 Moore, Idaho	
David Keck	RFD Moore	
Richard Taylor	Moore	
J. Dayle Turner	Mor. Dist	Moore
Jay F Pearson	———	Moore
Jean E. Bell	Moore	
Craig Stewart	Moore	
Donald Stewart	Moore	

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FEB 1 1 2000

Returned Receipts

UNITED STATES POSTAL SERVICE
OFFICIAL BUSINESS

SENDER INSTRUCTIONS

Print your name, address, and ZIP Code in the space below.

- Complete items 1, 2, and 3 on the reverse.
- Attach to front of article if space permits, otherwise affix to back of article.
- Endorse article "Return Receipt Requested" adjacent to number.

MOORE, ID
PENALTY FOR PRIVATE USE TO AVOID PAYMENT OF POSTAGE, $300
DEC 8 1981
PM
83255



RETURN TO

DEPARTMENT OF WATER RESOURCES
EASTERN DISTRICT OFFICE
150 SHOUP AVE.
IDAHO FALLS, IDAHO 83401
(Name of Sender)

DEC 10 1981

Department of Water Resources
Eastern District Office

(Street or P.O. Box)

MICROFILMED
FEB 11 2000

(City, State, and ZIP Code)

etc. 34.7647

PS Form 3811, Jan. 1979

RETURN RECEIPT, REGISTERED, INSURED AND CERTIFIED MAIL

● SENDER: Complete items 1, 2, and 3.
Add your address in the "RETURN TO" space on reverse.

1. The following service is requested (check one.)
   - ☑ Show to whom and date delivered..... ¢
   - ☐ Show to whom, date and address of delivery.... ¢
   - ☐ RESTRICTED DELIVERY
     Show to whom and date delivered..... ¢
   - ☐ RESTRICTED DELIVERY.
     Show to whom, date, and address of delivery.$

(CONSULT POSTMASTER FOR FEES)

2. ARTICLE ADDRESSED TO:
Mitchell A Sorensen
Rt #1 Box 63
Moore, Idaho 83255

3. ARTICLE DESCRIPTION:

REGISTERED NO.	CERTIFIED NO.	INSURED NO.
	12808	

(Always obtain signature of addressee or agent)

I have received the article described above.
SIGNATURE ☐ Addressee ☐ Authorized agent

4. Mitchell A Sorensen
DATE OF DELIVERY

POSTMARK
MOORE ID
DEC 8 1981
USPS

5. ADDRESS (Complete only if requested)

6. UNABLE TO DELIVER BECAUSE:

CLERK'S INITIALS

☆GPO : 1979-293-848

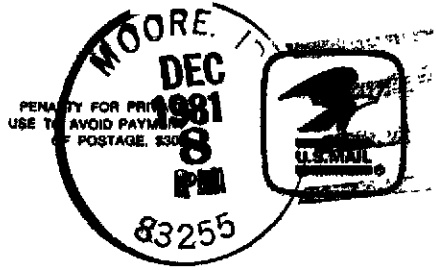
UNITED STATES POSTAL SERVICE

OFFICIAL BUSINESS

SENDER INSTRUCTIONS

Print your name, address, and ZIP Code in the space below.

- Complete items 1, 2, and 3 on the reverse.
- Attach to front of article if space permits, otherwise affix to back of article.
- Endorse article "Return Receipt Requested" adjacent to number.



RETURN TO

DEPARTMENT OF WATER RESOURCES
EASTERN DISTRICT OFFICE
150 SHOUP AVE.
IDAHO FALLS, IDAHO 83401
(Name of Sender)

DEC 10 1981

MICROFILMED
(Street or P.O. Box)

Department of Water Resources
Eastern District Office

FEB 11 2000
(City, State, and ZIP Code)

PS Form 3811, Jan. 1979

RETURN RECEIPT, REGISTERED, INSURED AND CERTIFIED MAIL

● SENDER: Complete items 1, 2, and 3.
Add your address in the "RETURN TO" space on reverse.

1. The following service is requested (check one.)
- ☑ Show to whom and date delivered.....
- ☐ Show to whom, date and address of delivery.....
- ☐ RESTRICTED DELIVERY
  Show to whom and date delivered.....
- ☐ RESTRICTED DELIVERY.
  Show to whom, date, and address of delivery.$ ____

(CONSULT POSTMASTER FOR FEES)

2. ARTICLE ADDRESSED TO:
Kathleen Babcock
[illegible]
[illegible] 83255

3. ARTICLE DESCRIPTION:

REGISTERED NO.	CERTIFIED NO.	INSURED NO.
	12824	

(Always obtain signature of addressee or agent)

I have received the article described above.
SIGNATURE ☐Addressee ☐Authorized agent

4. [signature] Kathleen Babcock
DATE OF DELIVERY DEC 8 1981 POSTMARK USPO

5. ADDRESS (Complete only if requested)

6. UNABLE TO DELIVER BECAUSE: CLERK'S INITIALS

☆GPO : 1979-288-848

UNITED STATES POSTAL SERVICE

OFFICIAL BUSINESS

SENDER INSTRUCTIONS

Print your name, address, and ZIP Code in the space below.

- Complete items 1, 2, and 3 on the reverse.
- Attach to front of article if space permits; otherwise affix to back of article.
- Endorse article "Return Receipt Requested" adjacent to number.

DEC 8

PENALTY FOR PRIVATE USE TO AVOID PAYMENT OF POSTAGE, $300

U.S.MAIL

RETURN TO

DEPARTMENT OF WATER RESOURCES
EASTERN DISTRICT OFFICE
150 SHOUP AVE.
IDAHO FALLS, IDAHO 83401
(Name of Sender)

DEC 10 1981

MICROFILMED

FEB 11 2000

Department of Water Resources
Eastern District Office

(Street or P.O. Box)

(City, State, and ZIP Code)

Lt. 24-1277

PS Form 3811, Jan. 1979

RETURN RECEIPT, REGISTERED, INSURED AND CERTIFIED MAIL

● SENDER: Complete items 1, 2, and 3.
Add your address in the "RETURN TO" space on reverse.

1. The following service is requested (check one.)
- ☑ Show to whom and date delivered..... ___¢
- ☐ Show to whom, date and address of delivery..... ___¢
- ☐ RESTRICTED DELIVERY
  Show to whom and date delivered..... ___¢
- ☐ RESTRICTED DELIVERY.
  Show to whom, date, and address of delivery.$ ___

(CONSULT POSTMASTER FOR FEES)

2. ARTICLE ADDRESSED TO:
Rita Lundy
P.O. Box 205
Mackay Id. 83251

MICROFILMED

3. ARTICLE DESCRIPTION:

REGISTERED NO.	CERTIFIED NO.	INSURED NO.
	12823	1-2210

(Always obtain signature of addressee or agent)

I have received the article described above.
SIGNATURE ☐Addressee ☒Authorized agent

4. Rita Lundy
DATE OF DELIVERY
12-08-81

POSTMARK
DEC 8 1981
USPO

5. ADDRESS (Complete only if requested)

6. UNABLE TO DELIVER BECAUSE:

CLERK'S INITIALS

☆GPO : 1979-288-848

UNITED STATES POSTAL SERVICE

OFFICIAL BUSINESS

SENDER INSTRUCTIONS

Print your name, address, and ZIP Code in the space below.

- **Complete items 1, 2, and 3 on the reverse.**
- **Attach to front of article if space permits, otherwise affix to back of article.**
- **Endorse article "Return Receipt Requested" adjacent to number.**

MOORE, ID
DEC 1981
PENALTY FOR PRIVATE USE TO AVOID PAYMENT OF POSTAGE, $300
5 PM
83255

DEPARTMENT OF WATER RESOURCES
EASTERN DISTRICT OFFICE
150 SHOUP AVE.
IDAHO FALLS, IDAHO 83401

(Name of Sender)

(Street or P.O. Box)

(City, State, and ZIP Code)

RETURN

WAS RETURNED
FEB 11 2000

DEC 7 1981

Department of Water Resources
Eastern District Office

24-727

PS Form 3811, Jan. 1978

RETURN RECEIPT, REGISTERED, INSURED AND CERTIFIED MAIL

● SENDER: Complete items 1, 2, and 3
Add your address in the "RETURN TO" space on reverse.

1. The following service is requested (check one.)
- ☑ Show to whom and date delivered..... ¢
- ☐ Show to whom, date and address of delivery..... ¢
- ☐ RESTRICTED DELIVERY
  Show to whom and date delivered..... ¢
- ☐ RESTRICTED DELIVERY.
  Show to whom, date, and address of delivery.$

(CONSULT POSTMASTER FOR FEES)

2. ARTICLE ADDRESSED TO:
Virgil Hail
Box 454
Moore Id 83255

3. ARTICLE DESCRIPTION:

REGISTERED NO.	CERTIFIED NO.	INSURED NO.
	12829	

(Always obtain signature of addressee or agent)

I have received the article described above.
SIGNATURE. ☐Addressee ☐Authorized agent
Virgil Hail
(By) Lisa C. Talley (Postmaster Delivery)

4. DATE OF DELIVERY
12-5-81

5. ADDRESS (Complete only if requested)

6. UNABLE TO DELIVER BECAUSE:

POSTMARK
MOORE, ID
DEC 5 1981

CLERK'S INITIALS
L. L.

FEB 2 1982
MICROFILMED

☆GPO : 1979-300-458

UNITED STATES POSTAL SERVICE

OFFICIAL BUSINESS

SENDER INSTRUCTIONS

Print your name, address, and ZIP Code in the space below.

- **Complete items 1, 2, and 3 on the reverse.**
- **Attach to front of article if space permits, otherwise affix to back of article.**
- **Endorse article "Return Receipt Requested" adjacent to number.**

ARCO, DEC 1 Am 1981 83213

PENALTY FOR PRIVATE USE TO AVOID PAYMENT OF POSTAGE, $300

U.S. MAIL

RETURN TO

RECEIVED

DEC 7 1981

Department of Water Resources
Eastern District Office

DEPARTMENT OF WATER RESOURCES
EASTERN DISTRICT OFFICE
150 SHOUP AVE.
IDAHO FALLS, ID 83401

(Name of Sender)

(Street or P.O. Box)

(City, State, and ZIP Code)

MICROFILMED
FEB 11 2000

24.2247

PS Form 3811, Jan. 1979

RETURN RECEIPT, REGISTERED, INSURED AND CERTIFIED MAIL

● SENDER: Complete items 1, 2, and 3.
Add your address in the "RETURN TO" space on reverse.

1. The following service is requested (check one.)
   - ☒ Show to whom and date delivered..... ¢
   - ☐ Show to whom, date and address of delivery..... ¢
   - ☐ RESTRICTED DELIVERY
     Show to whom and date delivered..... ¢
   - ☐ RESTRICTED DELIVERY.
     Show to whom, date, and address of delivery.$ ____

(CONSULT POSTMASTER FOR FEES)

2. ARTICLE ADDRESSED TO:
Lewis Rothwell
Rt #1 Box 405
Arco Id 83213

3. ARTICLE DESCRIPTION:

REGISTERED NO.	CERTIFIED NO.	INSURED NO.
	5/2827	

(Always obtain signature of addressee or agent)

I have received the article described above.
SIGNATURE ☐ Addressee ☒ Authorized agent

Kathy Rothwell
Lew Rothwell

4. DATE OF DELIVERY: DEC 5 1981
POSTMARK: ARCO, IDAHO DEC 1981

5. ADDRESS (Complete only if requested)

6. UNABLE TO DELIVER BECAUSE:

CLERK'S INITIALS

☆GPO : 1979-288-848

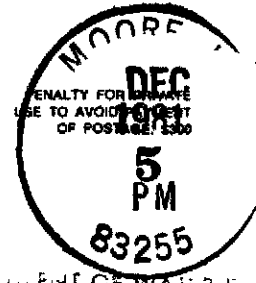
UNITED STATES POSTAL SERVICE

OFFICIAL BUSINESS

SENDER INSTRUCTIONS

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- Endorse article "Return Receipt Requested" adjacent to number.





RETURN TO

DEPARTMENT OF WATER RESOURCES
EASTERN DISTRICT OFFICE
150 SHOUP AVE.
IDAHO FALLS, IDAHO 83401
(Name of Sender)

MICROFILMED
FEB 11 2000
(Street or P.O. Box)

DEC 7 1981

Department of Water Resources
Eastern District Office

(City, State, and ZIP Code)

84-7247

PS Form 3811, Jan. 1979

RETURN RECEIPT, REGISTERED, INSURED AND CERTIFIED MAIL

● SENDER: Complete items 1, 2, and 3
Add your address in the "RETURN TO" space on reverse.

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- ☑ Show to whom and date delivered.....¢
- ☐ Show to whom, date and address of delivery....¢
- ☐ RESTRICTED DELIVERY
  Show to whom and date delivered.....¢
- ☐ RESTRICTED DELIVERY.
  Show to whom, date, and address of delivery.$

(CONSULT POSTMASTER FOR FEES)

2. ARTICLE ADDRESSED TO:
Mrs Jesse D Jensen
Provo
Utah 84601

3. ARTICLE DESCRIPTION:

REGISTERED NO.	CERTIFIED NO.	INSURED NO.
	12826	

(Always obtain signature of addressee or agent)

I have received the article described above.
SIGNATURE ☐Addressee ☐Authorized agent

4. Loretta W. Jensen
DATE OF DELIVERY

POSTMARK

5. ADDRESS (Complete only if requested)

6. UNABLE TO DELIVER BECAUSE:

CLERK'S INITIALS

☆GPO : 1979-288-848

NAME AND ADDRESS OF SENDER

DEPARTMENT OF WATER RESOURCES
EASTERN DISTRICT OFFICE
150 SHOUP AVE.
IDAHO FALLS, IDAHO 83402

Indicate type of mail
- Registered
- Insured
- COD
- Certified

I certify that we have
- Commercial Insurance
- A deductible claim of $

Affix stamps here (if issued as postage, current prices)

No.	NUMBER OF ARTICLE	NAME OF ADDRESSEE, STREET, AND POST-OFFICE ADDRESS	POSTAGE	INSURANCE FEE	CERTIFIED FEE	SPECIAL DELIVERY FEE	RESTRICTED DELIVERY FEE	RETURN RECEIPT FEE	REMARKS
1	29	Ilene Rentler, Box 97, Paterson, ID							
2	12811	Sonny Smith, 26 2nd W, Kepha							
3	2811	Dell Palmer, Sugar City, Id							"
4	12812	Kassell Welding, Sugar City	20						"
5	12813	Kyle L Thornton, Sugar City	37						"
6	12814	Gary Parkinson, Sugar City	2						"
7	12815	Brent Barrus, Sugar City	37						"
8	12816	Fremont Indians P.O. Box 5 St Anthony	37						"
9	12817	Everett J Acey, Jr Box B, Moore	37						34-2428
10	12818	Mitchell D Sorenson, Rt #1 Box B, Moore	37						"
11	12819	J Wes Jensen P.O Box 225 Mackay	37						"
12	12820	LaRue Lutz Rt #1, Box 7, Moore	37						"
13	12821	Jay F. Pearson, Moore	37						"
14	12822	Lamar D. Anderson, Rt #1, Box 52, Moore	37						"
15	12823	Rita Lundy, P.O Box 205 Mackay	37						"

DEC 4 1981 IDAHO FALLS, IDAHO ISFO

MICROFILMED FEB 1 2000

$1.50 @

34-7247
34-7247
34-7247
34-2297
34-2297
34-7247
34-2428

TOTAL NUMBER OF PIECES LISTED BY SENDER	TOTAL NUMBER OF PIECES RECEIVED AT POST OFFICE	POSTMASTER, PER (Name of receiving employee)
15	15	

The full declaration of value is required on all domestic and international registered mail. Commercial Insurance—Payment of the full registry fee is required on articles valued up to $1,000 or the full amount of the deductible if the deductible exceeds $1,000. The maximum indemnity payable is $25,000 for registered mail, $400 for COD and $400 for insured mail. Special handling charges apply only to third- and fourth-class parcels. Special delivery service also includes special handling service.

ACCEPTANCE OF RECEIPT

PS Form 3877, Sept. 1979

FORM MUST BE COMPLETED BY TYPEWRITER, INK OR BALL POINT PEN ★ U.S. GOVERNMENT PRINTING OFFICE: 1979-301-994

EASTERN DISTRICT OFFICE

	[illegible]								
	Kenneth Robert Moon								
5	Ned Robert, Box 5								
1826	Mrs Jean W. Jensen, Mun Sd	20							
12827	Lewis Richmond, Rt #1 Box 105, Arco	20							
12828	Jo Davis, Rt #1 Box 22, Moore	37							
12829	Virgil Dale, Box 45W, Moore	20							
12830	Jared Stewart, Box 59, Moore	37							
12831	Bill Abraham, Arco, Id	20							
12832	Richard Taylor, Moore	37							
12833	David Rhae Rt #1 Box 27, Moore	37							
12834	Norma K Iverson, 707 E 50 S, Provo, Ut.	20							
12835	Emerson Leif Inc. Moore, Id.	37							
12836	Grant Daniels, Box 53-C, Moore	20							
12837	Clyde Mc Affee, Rt #1 Arco	20							
12838	Lois Mallet, Arco, Id	20							

15 15

MICROFILMED FEB 11 2008

IDAHO FALLS, ID OCT 31 1981 USBR

December 14, 1981

RE: Application for Permit No. 34-7247
Application for Transfer No. 34-2428

Mitchell D. Sorensen
Rt. #1, Box 63
Moore, Idaho 83255

Dear Mr. Sorensen:

This is to advise you that the Big Lost River Irrigation District has withdrawn their protest against approval of the above referenced applications.

If you have any questions concerning this matter, please feel free to contact this office.

Very truly yours,

ERNEST CARLSEN
Assistant Regional Supervisor

EC:cw

MICROFILMED

FEB 1 1 2000

December 14, 1981

RE: Application for Permit No. 34-7247
Application for Transfer No. 34-2428

J. Doyle Jensen
Chairman of the Board
Big Lost River Irrigation District
P.O. Box 205
Mackay, Idaho 83251

Dear Mr. Jensen:

This is to acknowledge receipt of your withdrawal of protest against approval of the above referenced applications.

If you have any questions concerning this matter, please feel free to contact this office.

Respectfully submitted,

ERNEST CARLSEN
Assistant Regional Supervisor

EC:cw

MICROFILMED
FEB 1 1 2000

J. DOYLE JENSEN
President
Division No. 2, Moore
RICHARD G. ROTHWELL
Secretary - Treasurer
Division
Director
Division
JAMES G. BABCOCK
Director
Division
WILLARD O. BELL
Director
Division No. 3, Arco

Big Lost River Irrigation District

Phone 588-2231 — P. O. Box 205
Mackay, Idaho 83251

RECEIVED
DEC
Department
Eng

December 8,1981

Department of Water Resources
Thorn Avenue
3401

Jon Carlson

re: application 34-7247 and 34-7223
Sorensen

Dear Jon:

Board of Directors wish to withdraw the protest that was entered in the above referenced applications. The Sorensens have made an agreement with the Irrigation District to use the canals in question, period of 20 years.

Very truly yours,

J. Doyle Jensen

J. Doyle Jensen
Chairman of the Board

MICROFILMED
FEB 11 2000

December 8, 1981

Arco Memorial Building
William G. Carlson
Arco, Idaho 83213

Dear Sir:

This is to confirm the use of the Memorial Building for conference and/or hearing to be held by this Department beginning at 11:00 a.m., December 16 and 9:00 a.m., December 17, 1981.

Thank you for your cooperation in this matter.

Very truly yours,

COLLEEN WRAY
Adm. Secretary

MICRO
FEB 1 1 2000

BEFORE THE DIRECTOR OF THE DEPARTMENT OF WATER RESOURCES

OF THE

STATE OF IDAHO

IN THE MATTER OF APPLICATION FOR PERMIT NO. 34-7247 AND APPLICATION FOR TRANSFER NO. 34-2428 IN THE NAME OF MITCHELL D. SORENSEN AND APPLICATION FOR TRANSFER NO. 34-0496/34-0692 IN THE NAME OF NORMA K. SORENSEN

NOTICE OF COMBINED HEARING AND/OR CONFERENCE

On May 30, 1980, Norma K. Sorensen and Mitchell D. Sorensen filed with the Department of Water Resources applications to transfer the waters of the State of Idaho. On said date Mitchell D. Sorensen also filed with the Department an application to appropriate the public waters of the State of Idaho. On June 26, 1980, the Department received a protest against approval of said applications from David B. and Lois M. Bleak. The Department received additional protests from Richard Taylor, Larman D. Anderson, Bill Haralson, Jay F. Pearson, Gerald Stewart, Virgil Hail, Lewis Rothwell, Joe Smith, Mrs. Jesse W. Jensen, Ned R. Walker, Reuben Babcock, and the Big Lost River Irrigation District.

The Department has set the matter of protest for hearing for Wednesday, December 16, 1981, at 2:00 p.m. in the Memorial Building, Arco, Idaho. The hearing will be held in accordance with provisions of Chapters 2 and 17, Title 42, and Chapter 52, Title 67, of the Idaho Code and adopted Rules of Practice and Procedure of the Department of Water Resources. Opportunity shall be afforded all parties to respond and present evidence and argument on all issues involved. A pre-hearing conference may be held beginning at the above set time and prior to the hearing.

In accordance with Idaho Code, Section 42-203, the following issues are involved in the consideration of the application and protest(s):

1. Will the proposed use reduce the quantity of water under existing water rights?
2. Is the proposed water supply insufficient for the purpose intended?

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FEB 11 2000

3. Is the application made in good faith or for delay or speculative purposes?
4. Has the applicant sufficient financial resources with which to complete the project?
5. Will the proposed use conflict with the local public interest?

In accordance with Idaho Code, Section 42-222, the following issues are involved in the consideration of the applications for transfers and protests:

1. Are other water right injured by the transfers?
2. Does the change constitute an enlargement in the use of the original right?

Any party may request in writing five (5) days before any hearing that the oral proceedings thereof be taken in the form of stenographic notes at the expense of the requesting party. Any party may have such stenographic notes of the oral proceedings, or part thereof, transcribed at his own expense. A taped record of the proceedings will be maintained for the appeal period.

If the hearing is conducted by a hearing officer appointed by the Director, rather than the Director himself, a proposed decision will be submitted to the parties and the parties may be afforded an opportunity to file exceptions to the proposed decision and present briefs and oral arguments to the Director prior to the issuance of a final decision by the Director. This procedure is required by Idaho Code, Section 42-1701A.

The parties by written stipulation may waive their right to a proposed decision, however, the failure of either party to waive a proposed decision will not prejudice the Director's review of a party's evidence and arguments. However, such a waiver will shorten the decision-making process and may expedite substantially the issuance of a final decision. Whether compliance with Section 42-1701A is waived will not affect a party's right to petition for a rehearing of the final decision pursuant to Rule 11 of the Department's Rules of Practice and Procedure or affect a party's right to appeal the final decision to the

MICROFILMED
FEB 1 1 2000

district court.

Failure to appear at the time and place set for hearing by the applicant or protestant(s) may allow the Department to dismiss without prejudice the protest(s) or the application. Any and all cost incurred by reason of such non-appearance may be assessed against such non-appearing parties.

Dated this 4th day of December, 1981.

RONALD D. CARLSON
Regional Supervisor

MICROFILMED
FEB 1 1 2000

Form No. 202a
2/79

State of Idaho

Department of Water Resources

APPLICATION FOR PERMIT ANALYSIS SHEET

INITIAL REVIEW BY: Steve McCormick APPLICATION NUMBER: 34 7247 / 34-7247

CHECK:

- ☑ Source.
- ☑ Point of diversion.
- ☑ County.
- ☑ Description of diverting works.
- ☑ Time required for beneficial use of water.
- ☑ Place of use or acres irrigated.
- ☑ Map.
- ☑ Signature.
- ☑ Fee.
- ☐ Yes ☑ No Field check required.
- ☐ Yes ☑ No Critical groundwater area.
- ☐ Yes ☐ No Request dam safety information. Sent by: _____ Date: _____
- ☑ Yes ☐ No* In form to receipt.

Field check by: _____
Date: _____
Comments: _____

*REQUEST THE FOLLOWING ADDITIONAL INFORMATION FROM THE APPLICANT: _____

SEND COPIES TO:

- ☐ Idaho State Health Department. Copies sent by: _____ Date: _____
- ☐ Idaho Fish and Game Department.
- ☐ Idaho Department of Lands.
- ☐ U.S. Bureau of Land Management.
- ☐ U.S. Forest Service.
- ☐ Other _____

PROCESSING:

- ☑ Yes ☐ No Platted by: 4N-26E S.M. 4N-25E Map No. 6 N
- ☐ Yes ☐ No Other rights on same place of use. 59-2428, 34-7221, 34-0946, 34-0692
- ☑ Yes ☐ No* In form for advertising.
  Final date for protests: July 7
- ☐ Yes ☐ No Protests received. If yes, record information on 4th page of application.

FINAL REGIONAL PROCESSING REVIEW:

- ☐ Affidavit of publication received. Date: _____
- ☐ Application published correctly. If not, record action taken: _____
- ☐ Fee amount, receipt date & number, recorded on application.
- ☐ Publication dates and paper, recorded on application.
- ☐ Protests, dates, withdrawal, etc., recorded on application.
- ☐ Recommendation & initial, recorded on application.
- ☐ Yes ☐ No Measuring device required.
- ☐ Yes ☐ No Access port required.
- ☐ Yes ☐ No Will water be delivered by watermaster? If yes, what district? _____
  _____ Date of priority recommended.

Special conditions of approval or cover letter. _____

By: _____ Date: _____

STATE OFFICE REVIEW:

- ☐ See attached sheet for more information.

By: _____ Date: _____

April Sent

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES
EASTERN REGION

John V. Evans
Governor

C. Stephen Allred
Director

1515 Lincoln Road
Idaho Falls, Idaho 83401
(208) 523-7186

October 6, 1980

Re: Protested Application for Permit No. 34-7247
Protested Application for Transfer of Water Right No. 34-2428

Mitchell D. Sorensen
Route #1, Box 63
Moore, ID 83255

Dear Mr. Sorensen:

In response to the numerous protests concerning applications to appropriate groundwater, the Department is currently reviewing its records to determine the ground water availability in the Big Lost River Drainage. Until this review is finalized, no conference and/or hearing will be scheduled for considering a protested ground water application.

Respectfully submitted,

ERNEST CARLSEN
Sr. Resource Analyst

EC:kw

MICROFILMED
FEB 1 1 2000

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES
EASTERN REGION

John V. Evans
Governor

C. Stephen Allred
Director

1515 Lincoln Road
Idaho Falls, Idaho 83401
(208) 523-7186

July 16, 1980

RE: Application for Permit No. 34-7247
Application for Transfer of Right No. 34-2428
Application for Transfer of Rights Nos. 34-0496/34-0692 & T.921 - Norma Sorensen

Mitchell Sorensen
Route #1, Box 63
Moore, ID 83255

Dear Mr. Sorensen:

Enclosed herewith are copies of protests against the approval of the above referenced applications that you have filed with our Department.

Respectfully submitted,

Ernest Carlsen

ERNEST M. CARLSEN
Sr. Resource Analyst

EMC:kw
Enclosures

MICROFILMED
FEB 1 1 2000

July 14, 1980

RE: Application for Permit No. 34-7247

Done

Jay F. Pearson
Rt. #1, Box 47
Moore, Idaho 83255

Dear Mr. Pearson:

Your protest against the approval of the above referenced application has been received and a copy has been sent to the applicant. The Department suggests you contact the applicant directly in an effort to determine what is proposed by the application and to attempt to resolve the protest.

If you do not advise us within twenty (20) days that the protest has been resolved, the matter will be scheduled for conference and/or hearing. At such a conference and/or hearing, the following are the principle items the Department can consider in either approving or denying an application for permit (Section 42-203, Idaho Code):

1. Will the proposed use reduce the quantity of water under existing water rights?

2. Is the proposed water supply insufficient for the purpose intended?

3. Is the application made in good faith or for delay or speculative purposes?

4. Has the applicant sufficient financial resources with which to complete the project?

5. Will the proposed use under this permit conflict with the local public interest?

If this office can be of further assistance, please contact us.

Very truly yours,

RONALD D. CARLSON
Eastern Region Supervisor

MICROFILMED

RDC:cw:kw

cc: IDWR - State Office

July 16, 1980

RE: Application for Permit No. 34-7247

Mrs. Rita Lundy
Big Lost River Irrigation District
P.O. Box 205
Mackay, Idaho 83251

Dear Mrs. Lundy:

Your protest against the approval of the above referenced application has been received and a copy has been sent to the applicant. The Department suggests you contact the applicant directly in an effort to determine what is proposed by the application and to attempt to resolve the protest.

If you do not advise us within twenty (20) days that the protest has been resolved, the matter will be scheduled for conference and/or hearing. At such a conference and/or hearing, the following are the principle items the Department can consider in either approving or denying an application for permit (Section 42-203, Idaho Code):

1. Will the proposed use reduce the quantity of water under existing water rights?

2. Is the proposed water supply insufficient for the purpose intended?

3. Is the application made in good faith or for delay or speculative purposes?

4. Has the applicant sufficient financial resources with which to complete the project?

5. Will the proposed use under this permit conflict with the local public interest?

If this office can be of further assistance, please contact us.

Very truly yours,

RONALD D. CARLSON
Eastern Region Supervisor

RDC:cw:kw

cc: IDWR - State Office

MICROFILMED

July 16, 1980

RE: Application for Permit No. 34-7247

Reuben Babcock
Moore,
Idaho 83255

Dear Mr. Babcock:

Your protest against the approval of the above referenced application has been received and a copy has been sent to the applicant. The Department suggests you contact the applicant directly in an effort to determine what is proposed by the application and to attempt to resolve the protest.

If you do not advise us within twenty (20) days that the protest has been resolved, the matter will be scheduled for conference and/or hearing. At such a conference and/or hearing, the following are the principle items the Department can consider in either approving or denying an application for permit (Section 42-203, Idaho Code):

1. Will the proposed use reduce the quantity of water under existing water rights?

2. Is the proposed water supply insufficient for the purpose intended?

3. Is the application made in good faith or for delay or speculative purposes?

4. Has the applicant sufficient financial resources with which to complete the project?

5. Will the proposed use under this permit conflict with the local public interest?

If this office can be of further assistance, please contact us.

Very truly yours,

RONALD D. CARLSON
Eastern Region Supervisor

RDC:cw:kw

cc: IDWR - State Office

MICROFILMED

July 16, 1980

RE: Application for Permit No. 34-7247

Ned R. Walker
Arco,
Idaho 83213

Dear Mr. Walker:

Your protest against the approval of the above referenced application has been received and a copy has been sent to the applicant. The Department suggests you contact the applicant directly in an effort to determine what is proposed by the application and to attempt to resolve the protest.

If you do not advise us within twenty (20) days that the protest has been resolved, the matter will be scheduled for conference and/or hearing. At such a conference and/or hearing, the following are the principle items the Department can consider in either approving or denying an application for permit (Section 42-203, Idaho Code):

1. Will the proposed use reduce the quantity of water under existing water rights?

2. Is the proposed water supply insufficient for the purpose intended?

3. Is the application made in good faith or for delay or speculative purposes?

4. Has the applicant sufficient financial resources with which to complete the project?

5. Will the proposed use under this permit conflict with the local public interest?

If this office can be of further assistance, please contact us.

Very truly yours,

RONALD D. CARLSON
Eastern Region Supervisor

RDC:cw:kw

cc: IDWR - State Office

MICROFILMED

July 16, 1980

RE: Application for Permit No. 34-7247

Mrs. Jesse W. Jensen
Moore,
Idaho 83255

Dear Mrs. Jensen:

Your protest against the approval of the above referenced application has been received and a copy has been sent to the applicant. The Department suggests you contact the applicant directly in an effort to determine what is proposed by the application and to attempt to resolve the protest.

If you do not advise us within twenty (20) days that the protest has been resolved, the matter will be scheduled for conference and/or hearing. At such a conference and/or hearing, the following are the principle items the Department can consider in either approving or denying an application for permit (Section 42-203, Idaho Code):

1. Will the proposed use reduce the quantity of water under existing water rights?

2. Is the proposed water supply insufficient for the purpose intended?

3. Is the application made in good faith or for delay or speculative purposes?

4. Has the applicant sufficient financial resources with which to complete the project?

5. Will the proposed use under this permit conflict with the local public interest?

If this office can be of further assistance, please contact us.

Very truly yours,

RONALD D. CARLSON
Eastern Region Supervisor

RDC:ew:kw

cc: IDWR - State Office

MICROFILMED

July 16, 1980

RE: Application for Permit No. 34-7247

Joe Smith
Rt. #1, Box 22
Moore, Idaho 83255

Dear Mr. Smith:

Your protest against the approval of the above referenced application has been received and a copy has been sent to the applicant. The Department suggests you contact the applicant directly in an effort to determine what is proposed by the application and to attempt to resolve the protest.

If you do not advise us within twenty (20) days that the protest has been resolved, the matter will be scheduled for conference and/or hearing. At such a conference and/or hearing, the following are the principle items the Department can consider in either approving or denying an application for permit (Section 42-203, Idaho Code):

1. Will the proposed use reduce the quantity of water under existing water rights?

2. Is the proposed water supply insufficient for the purpose intended?

3. Is the application made in good faith or for delay or speculative purposes?

4. Has the applicant sufficient financial resources with which to complete the project?

5. Will the proposed use under this permit conflict with the local public interest?

If this office can be of further assistance, please contact us.

Very truly yours,

RONALD D. CARLSON
Eastern Region Supervisor

RDC:ew:kw

cc: IDWR - State Office

MICROFILMED

July 16, 1980

RE: Application for Permit No. 34-7247

Done

Lewis Rothwell
Rt. #1, Box 405
Arco, Idaho 83213

Dear Mr. Rothwell:

Your protest against the approval of the above referenced application has been received and a copy has been sent to the applicant. The Department suggests you contact the applicant directly in an effort to determine what is proposed by the application and to attempt to resolve the protest.

If you do not advise us within twenty (20) days that the protest has been resolved, the matter will be scheduled for conference and/or hearing. At such a conference and/or hearing, the following are the principle items the Department can consider in either approving or denying an application for permit (Section 42-203, Idaho Code):

1. Will the proposed use reduce the quantity of water under existing water rights?

2. Is the proposed water supply insufficient for the purpose intended?

3. Is the application made in good faith or for delay or speculative purposes?

4. Has the applicant sufficient financial resources with which to complete the project?

5. Will the proposed use under this permit conflict with the local public interest?

If this office can be of further assistance, please contact us.

Very truly yours,

RONALD D. CARLSON
Eastern Region Supervisor

MICROFILMED

RDC:cw:kw

cc: IDWR - State Office

July 16, 1980

RE: Application for Permit No. 34-7247

Virgil Hail
Box 454
Moore, Idaho 83255

Dear Mr. Hail:

Your protest against the approval of the above referenced application has been received and a copy has been sent to the applicant. The Department suggests you contact the applicant directly in an effort to determine what is proposed by the application and to attempt to resolve the protest.

If you do not advise us within twenty (20) days that the protest has been resolved, the matter will be scheduled for conference and/or hearing. At such a conference and/or hearing, the following are the principle items the Department can consider in either approving or denying an application for permit (Section 42-203, Idaho Code):

1. Will the proposed use reduce the quantity of water under existing water rights?

2. Is the proposed water supply insufficient for the purpose intended?

3. Is the application made in good faith or for delay or speculative purposes?

4. Has the applicant sufficient financial resources with which to complete the project?

5. Will the proposed use under this permit conflict with the local public interest?

If this office can be of further assistance, please contact us.

Very truly yours,

RONALD D. CARLSON
Eastern Region Supervisor

RDC:ew:kw

cc: IDWR - State Office

MICROFILMED

July 16, 1980

RE: Application for Permit No. 34-7247

Gerald Stewart
Box 59
Moore, Idaho 83255

Dear Mr. Stewart:

Your protest against the approval of the above referenced application has been received and a copy has been sent to the applicant. The Department suggests you contact the applicant directly in an effort to determine what is proposed by the application and to attempt to resolve the protest.

If you do not advise us within twenty (20) days that the protest has been resolved, the matter will be scheduled for conference and/or hearing. At such a conference and/or hearing, the following are the principle items the Department can consider in either approving or denying an application for permit (Section 42-203, Idaho Code):

1. Will the proposed use reduce the quantity of water under existing water rights?

2. Is the proposed water supply insufficient for the purpose intended?

3. Is the application made in good faith or for delay or speculative purposes?

4. Has the applicant sufficient financial resources with which to complete the project?

5. Will the proposed use under this permit conflict with the local public interest?

If this office can be of further assistance, please contact us.

Very truly yours,

RONALD D. CARLSON
Eastern Region Supervisor

RDC:cw:kw

cc: IDWR - State Office

MICRO... SEP 1 1 200...

July 16, 1980

RE: Application for Permit No. 34-7247

Not concerned

Bill Haralson
Arco,
Idaho 83213

Dear Mr.Haralson:

Your protest against the approval of the above referenced application has been received and a copy has been sent to the applicant. The Department suggests you contact the applicant directly in an effort to determine what is proposed by the application and to attempt to resolve the protest.

If you do not advise us within twenty (20) days that the protest has been resolved, the matter will be scheduled for conference and/or hearing. At such a conference and/or hearing, the following are the principle items the Department can consider in either approving or denying an application for permit (Section 42-203, Idaho Code):

1. Will the proposed use reduce the quantity of water under existing water rights?

2. Is the proposed water supply insufficient for the purpose intended?

3. Is the application made in good faith or for delay or speculative purposes?

4. Has the applicant sufficient financial resources with which to complete the project?

5. Will the proposed use under this permit conflict with the local public interest?

If this office can be of further assistance, please contact us.

Very truly yours,

RONALD D. CARLSON
Eastern Region Supervisor

RDC:cw:kw

cc: IDWR - State Office

MICROFILMED

July 16, 1980

RE: Application for Permit No. 34-7247

Mr. Larman Andersen
Moore, Idaho 83255

Dear Mr. Andersen:

Your protest against the approval of the above referenced application has been received and a copy has been sent to the applicant. The Department suggests you contact the applicant directly in an effort to determine what is proposed by the application and to attempt to resolve the protest.

If you do not advise us within twenty (20) days that the protest has been resolved, the matter will be scheduled for conference and/or hearing. At such a conference and/or hearing, the following are the principle items the Department can consider in either approving or denying an application for permit (Section 42-203, Idaho Code):

1. Will the proposed use reduce the quantity of water under existing water rights?

2. Is the proposed water supply insufficient for the purpose intended?

3. Is the application made in good faith or for delay or speculative purposes?

4. Has the applicant sufficient financial resources with which to complete the project?

5. Will the proposed use under this permit conflict with the local public interest?

If this office can be of further assistance, please contact us.

Very truly yours,

RONALD D. CARLSON
Eastern Region Supervisor

RDC:cw:kw

cc: IDWR - State Office

PUBLIC NOTICE

NOTICE OF PROPOSED CHANGE OF WATER RIGHTS

Notice is hereby given that orma K. Sorensen, Provo, Utah, is applied to the Department of ater Resources for a change in e point of diversion and place of se of the waters of the Big Lost iver. Two of the rights sought to e changed are evidenced by ecree to John W. Loveless (34-496) and W. H. Sorensen (34-0692) n case of Utah Construction Co. vs. hn F. Abbott et al. dated October 1925 in U.S. District Court, Counties of Butte and Custer and re recorded as follows:

Right No. 34-0496
AMOUNT: 1.20 cfs
PRIORITY: June 1, 1896
DECREED POINT OF DIVERSION: SE¼, Sec. 4, T. 5N, R. 26E, B.M., Butte County.
The water is used for the irrigation of 60 acres from May 1 to October 15 within the E½SE¼, Sec. 5, T. 4N., R. 26E, B.M.

Right No. 34-0692
AMOUNT: 3.69 cfs
PRIORITY: July 15, 1884
DECREED POINT OF DIVERSION: SE¼, Sec. 4, T. 5N, R. 26E, B.M, Butte County.
The water is used for the irrigation of 180 acres from May 1 to October 15 within the SE¼NE¼, Sec. 5; N½NE¼, Sec. 8; N½NW¼, Sec. 9; T. 4N, R. 26E, B.M.

The third right sought to be changed is evidenced by Transfer No. 921 and is recorded as follows:
AMOUNT: 0.40 cfs
PRIORITY: July 15, 1884
POINT OF DIVERSION: SE¼, Sec. 4, T. 5N, R. 26E, B.M., Butte County.
The water is used for the irrigation of 20 acres from May 1 to October 15 within the SE¼SE¼, Sec. 5, T. 4N, R. 26E, B.M.

TO BE CHANGED AS FOLLOWS

Only 2.40 cfs, consisting of 1.20 cfs of Right No. 34-0496, 0.80 cfs of Right No. 34-0692 and 0.40 cfs of Transfer No. 921, will be diverted in the SE¼SE¼, Sec. 4, T. 5N, R. 26E, B.M., Butte County and conveyed through both the Moore Canal and the Old Utah Construction Canal for the irrigation of 120 acres from May 1 to October 15 within the NW¼, Sec. 35, T. 4N, R. 25E, B.M.

Any protest against approval of the above proposed change of water right must be filed with the Idaho Department of Water Resources, 1515 Lincoln Road, Idaho Falls, Idaho 83401 on or before July 14, 1980.

C. STEPHEN ALLRED
Director

Published in the Arco Advertiser 6-26 & 7-03-80.

I do protest approval of this change.
Reuben V Babcock
Reason:
1. Because land is woks with water from ditch

PUBLIC NOTICE

NOTICE OF PROPOSED CHANGE OF WATER RIGHT

NO. 34-2428

Notice is hereby given that Mitchell Sorensen, Moore, Idaho, has applied to the Department of Water Resources for a change in the place of use of the waters of groundwater source. The right sought to be changed is evidenced by License No. 34-2428 and is recorded as follows:

AMOUNT: 3.85 cfs
PRIORITY: June 25, 1961
POINT OF DIVERSION: SE¼NE¼, Sec. 5, T. 4N, R. 26E, B.M., Butte Co.
The water is used to irrigate 192.5 acres from April 1 to Nov. 1 within the SE¼NE¼, E½SE¼, Sec. 5; N½NW¼, Sec. 9; T. 4N, R. 26E, B.M.

TO BE CHANGED AS FOLLOWS

The water will be used to irrigate 192.5 acres within the SE¼NE¼, E½SE¼, Sec. 5, T. 4N, R. 26E; W½SW¼, Sec. 35, T. 4N, R. 25E, B.M.

Any protest against approval of the above proposed change of water right must be filed with the Idaho Department of Water Resources, 1515 Lincoln Road, Idaho Falls, Idaho, 83401 on or before July 7, 1980.

C. STEPHEN ALLRED
Director

Published in the Arco Advertiser 6-19 & 6-26-80.

I do protest this.
Change.
Reuben V Babcock
Reason
1. ~~too~~ Land is useless with water from ditch.

July 3, 1, 80.

PUBLIC NOTICE

NOTICE OF APPLICATION FOR WATER RIGHT

Notice is hereby given that the following application has been submitted for permit to appropriate the public waters of the State of Idaho:

34-7347
SORENSEN, MITCHELL D.
RT. 1 BOX 63, MOORE, ID 83255
Spurce: GROUNDWATER
Date Filed: 05-30-1980
Amount: 8.34 CFS
Diversion Point: SENE Sec 05 T 04N R 26E, BUTTE COUNTY.
Use: IRRIGATION — (8.34 CFS) from 04-01 to 11-01
Place of Use: NENW NWNW SWNW SENW SESW Sec 35 T 04N R 25E FOR 200 ACRES
Diverion Means: WELL & PUMP.
If issued, the permit will be subject to all prior water rights. Protests against the granting of any permit must be filed with the Director of the Idaho Department of Water Resources, 1515 Lincoln Road, Idaho Falls, Idaho 83401 on or before JULY 7, 1980.

C. STEPHEN ALLRED
Director

Published 6-19 & 6-26-80.

I do protest this
Application
Reuben V Babcock
Reason
1. To many pump on west side of valley.
2. When Big Lost River Irr. Dist. Bought U.C. no water waste leave distrct

RECEIVED
JUL 7 1980
Department of Water Resources
Eastern District Office

To: Report mailed Water Resource

MICROFILMED
FEB 11 2008

PUBLIC NOTICE

NOTICE OF PROPOSED CHANGE OF WATER RIGHTS

Notice is hereby given that Norma K. Sorensen, Provo, Utah, has applied to the Department of Water Resources for a change in the point of diversion and place of use of the waters of the Big Lost River. Two of the rights sought to be changed are evidenced by decree to John W. Loveless (34-0496) and W. N. Sorensen (34-0692) in case of Utah Construction Co. vs. John F. Abbott et al. dated October 21, 1925 in U.S. District Court, Counties of Butte and Custer and are recorded as follows:

Right No. 34-0496
AMOUNT: 1.20 cfs
PRIORITY: June 1, 1894
DECREED POINT OF DIVERSION: SE¼, Sec. 4, T. 5N, R. 26E, B.M., Butte County.
The water is used for the irrigation of 60 acres from May 1 to October 15 within the E½SE¼, Sec. 5, T. 4N, R. 26E, B.M.

Right No. 34-0692
AMOUNT: 3.60 cfs
PRIORITY: July 15, 1884
DECREED POINT OF DIVERSION: SE¼, Sec. 4, T. 5N, R. 26E, B.M, Butte County.
The water is used for the irrigation of 180 acres from May 1 to October 15 within the SE¼NE¼, Sec. 5; N½NE¼, Sec. 8; N½NW¼, Sec. 9; T. 4N, R. 26E, B.M.

The third right sought to be changed is evidenced by Transfer No. 921 and is recorded as follows:
AMOUNT: 0.40 cfs
PRIORITY: July 15, 1884
POINT OF DIVERSION: SE¼, Sec. 4, T. 5N, R. 26E, B.M., Butte County.
The water is used for the irrigation of 20 acres from May 1 to October 15 within the SE¼SE¼, Sec. 5, T. 4N, R. 26E, B.M.

TO BE CHANGED AS FOLLOWS

Only 2.40 cfs, consisting of 1.20 cfs of Right No. 34-0496, 0.80 cfs of Right No. 34-0692 and 0.40 cfs of Transfer No. 921, will be diverted in the SE¼SE¼, Sec. 4, T. 5N, R. 26E, B.M., Butte County and conveyed through both the Moore Canal and the Old Utah Construction Canal for the irrigation of 120 acres from May 1 to October 15 within the NW¼, Sec. 35, T. 4N, R. 25E, B.M.

Any protest against approval of the above proposed change of water right must be filed with the Idaho Department of Water Resources, 1515 Lincoln Road, Idaho Falls, Idaho 83401 on or before July 14, 1980.

C. STEPHEN ALLRED
Director

Published in the Arco Advertiser 6-26 & 7-03-80.

PUBLIC NOTICE

NOTICE OF PROPOSED CHANGE OF WATER RIGHT

NO. 34-2428

Notice is hereby given that Mitchell Sorensen, Moore, Idaho, has applied to the Department of Water Resources for a change in the place of use of the waters of groundwater source. The right sought to be changed is evidenced by License No. 34-2428 and is recorded as follows:
AMOUNT: 3.85 cfs
PRIORITY: June 25, 1961
POINT OF DIVERSION: SE¼NE¼, Sec. 5, T. 4N, R. 26E, B.M., Butte Co.
The water is used to irrigate 192.5 acres from April 1 to Nov. 1 within the SE¼NE¼, E½SE¼, Sec. 5; N½NW¼, Sec. 9; T. 4N, R. 26E, B.M.

TO BE CHANGED AS FOLLOWS

The water will be used to irrigate 192.5 acres within the SE¼NE¼, E½SE¼, Sec. 5, T. 4N, R. 26E; W½SW¼, Sec. 35, T. 4N, R. 25E, B.M.

Any protest against approval of the above proposed change of water right must be filed with the Idaho Department of Water Resources, 1515 Lincoln Road, Idaho Falls, Idaho, 83401 on or before July 7, 1980.

C. STEPHEN ALLRED
Director

Published in the Arco Advertiser 6-19 & 6-26-80.

PUBLIC NOTICE

NOTICE OF APPLICATION FOR WATER RIGHT

Notice is hereby given that the following application has been submitted for permit to appropriate the public waters of the State of Idaho:

34-7247

SORENSEN, MITCHELL D.
RT. 1 BOX 63, MOORE, ID 83255
Source: GROUNDWATER
Date Filed: 05 30 1980
Amount: 8.34 CFS
Diversion Point: SENE Sec 05 T 04N R 26E, BUTTE COUNTY.
Use: IRRIGATION — (8.34 CFS) from 04-01 to 11-01
Place of Use: NENW NWNW SWNW SENW SESW Sec 35 T 04N R 25E FOR 200 ACRES
Diverion Means: WELL & PUMP.
If issued, the permit will be subject to all prior water rights. Protests against the granting of any permit must be filed with the Director of the Idaho Department of Water Resources, 1515 Lincoln Road, Idaho Falls, Idaho 83401 on or before JULY 7, 1980.

C. STEPHEN ALLRED
Director

Published 6-19 & 6-26-80.

This I Protest -
/s/ Earl R. Walker
July 5, 1980
Dlw

RECEIVED
JUL 7 1980
Department of Water Resources
Eastern District Office

MICROFILMED
FEB 11 2000

PUBLIC NOTICE

NOTICE OF APPLICATION FOR PERMIT TO APPROPRIATE WATER

Notice is hereby given that the following application has been submitted for permit to appropriate the public waters of the State of Idaho:

34-7247

SORENSEN, MITCHELL D.
RT. 1 BOX 63, MOORE, ID 83255
Spurce, GROUNDWATER
Date Filed: 05-30-1980
Amount: 8.34 CFS
Diversion Point: SENE Sec 05 T 04N R 26E, BUTTE COUNTY.
Use: IRRIGATION — (8.34 CFS) from 04-01 to 11-01
Place of Use: NENW NWNW SWNW SENW SESW Sec 35 T 04N R 25E FOR 200 ACRES
Diverion Means: WELL & PUMP.

If issued, the permit will be subject to all prior water rights. Protests against the granting of any permit must be filed with the Director of the Idaho Department of Water Resources, 1515 Lincoln Road, Idaho Falls, Idaho 83401 on or before JULY 7, 1980.

C. STEPHEN ALLRED
Director

Published 6-19 & 6 26 80.

RECEIVED
JUL 7 1980
Department of Water Resources
Eastern District Office

RECEIVED
JUL 7
Department of Water Resources
Eastern District Office

PUBLIC NOTICE

NOTICE OF PROPOSED CHANGE OF WATER RIGHT

NO. 34-2428

Notice is hereby given that Mitchell Sorensen, Moore, Idaho, has applied to the Department of Water Resources for a change in the place of use of the waters of groundwater source. The right sought to be changed is evidenced by License No. 34-2428 and is recorded as follows:

AMOUNT: 3.85 cfs
PRIORITY: June 25, 1961
POINT OF DIVERSION: SE¼NE¼, Sec. 5, T. 4N, R. 26E, B.M., Butte Co.

The water is used to irrigate 192.5 acres from April 1 to Nov. 1 within the SE¼NE¼, E½SE¼, Sec. 5; N½NW¼, Sec. 9; T. 4N, R. 26E; B.M.

TO BE CHANGED AS FOLLOWS

The water will be used to irrigate 192.5 acres within the SE¼NE¼, E½SE¼, Sec. 5, T. 4N, R. 26E; W½SW¼, Sec. 35, T. 4N, R. 25E; B.M.

Any protest against approval of the above proposed change of water right must be filed with the Idaho Department of Water Resources, 1515 Lincoln Road, Idaho Falls, Idaho, 83401 on or before July 7, 1980.

C. STEPHEN ALLRED
Director

Published in the Arco Advertiser 6-19 & 6-26-80.

I protest to transfering the water out on the desert. If they want the water out there, let them drill wells out there. They'll be taking all our water out there if we let them.

Virgil J Hail
Moore Idaho Box 454

MICROFILMED
FEB 11 2008

PUBLIC NOTICE

NOTICE OF APPLICATION FOR WATER RIGHT

Notice is hereby [illegible] following [illegible] submitted for [illegible] the public [illegible]

[illegible] SORENSEN, [illegible] P.O. BOX 63, MOORE, [illegible]
Source: GROUND [illegible]
Date Filed: 05 [illegible]
Amount: 8.34 CF[illegible]
Diversion Point: [illegible] 04N R 26E, BUTTE [illegible]
Use: IRRIGATION [illegible] from 04-01 to 11-01
Place of Use: NESW [illegible] SWNW SENW SESW Sec 35 T 04N R 25E FOR 200 ACRES
Diversion Means: WELL & PUMP.

If issued, the permit will be subject to all prior water rights. Protests against the granting of this permit must be filed with the Director of the Idaho Department of Water Resources, [illegible] Road Idaho Falls, Idaho 83401 on or before JULY 7, 1980.

[illegible] STEPHEN [illegible] REED
Director

Published 6 19 & 6 26 80.

July 7, 1980

RECEIVED

JUL 7 1980

Department of Water Resources
Eastern District Office

PUBLIC NOTICE

NOTICE OF PROPOSED CHANGE OF WATER RIGHT

NO. 34-2428

Notice is hereby given that Mitchell Sorensen, Moore, Idaho, has applied to the Department of Water Resources for a change in the place of use of the waters of groundwater source. The right sought to be changed is evidenced by License No. 34-2428 and is recorded as follows:

AMOUNT: 3.85 cfs
PRIORITY: June 25, 1941
POINT OF DIVERSION: SE¼NE¼ Sec. 5, T. 4N., R. 26E., B.M., Butte Co.

The water is used to irrigate 192.5 acres from April 1 to No[illegible] within the SE¼NE¼, E½SE¼ Sec. 5, NE¼NW¼ Sec. 9, T. 4N., R. 26E., B.M.

TO BE CHANGED AS FOLLOWS:

The water will be used to irrigate 192.5 acres within the SE¼NE¼, E½SE¼ Sec. 5, T. 4N., R. 26E., B.M., W½SW¼ Sec. 36, T. 4N., R. 25E., B.M.

Any protest against approval of the above proposed change of water right must be filed with the Idaho Department of Water Resources, 1515 Lincoln Road, Idaho Falls, Idaho 83401 on or before July [illegible], 1980.

C. STEPHEN [illegible] REED
Director

Published in the Arco Advertiser 6 19 & 6 26 80.

MICROFILMED
FEB 1 1 2000

I hereby wish to express my opposition to the above applications because I sincerely believe we are moving into an area of difficulty with this practice. These pumps are lowering our water supplies in the valley, increasing our district electric & higher lift costs on existing farms.

Yours truly,
[illegible]

7-5-80

Dear Sirs:

I am against any new wells being drilled in our district to take water out of our present water district to be put on new land outside of the district. There has already been too much of this water transferred onto newly developed land out of our water district. The water table has been lowered to an extent that any of us on river bottom ground can no longer irrigate our farms with only the present delcred water of 6" to the acre. The past several years we have had to let some of our fields burn because we cannot get the water over the ground when the water table is lowered to the extent it has been.

I urge you not to grant any more permits to drill wells for irrigating outside district land.

Yours truly,

Jay E. Pearson
Rte 1 Box 47
Moore, Idaho
83255

RECEIVED
JUL 7 1980
Department of Water Resources
Eastern District Office

PUBLIC NOTICE

NOTICE OF APPLICATION FOR WATER RIGHT

Notice is hereby given that the following application has been submitted for permit to appropriate the public waters of the State of Idaho:

34-7247

SORENSEN, MITCHELL D.
RT. 1 BOX 43, MOORE, ID 83255
Source: GROUNDWATER
Date Filed: 05-30-1980
Amount: 8.34 CFS
Diversion Point: SENE Sec 05 T 04N R 26E, BUTTE COUNTY
Use: IRRIGATION – (8.34 CFS) from 04-01 to 11-01
Place of Use: NENW NWNW SWNW SENW SESW Sec 35 T 04N R 25E FOR 200 ACRES
Diverion Means WELL & PUMP.

If issued, the permit will be subject to all prior water rights. Protests against the granting of any permit must be filed with the Director of the Idaho Department of Water Resources, 1515 Lincoln Road, Idaho Falls, Idaho 83401 on or before JULY 7, 1980

C. STEPHEN ALLRED
Director

Published 6 19 & 6-26 80

PUBLIC NOTICE

NOTICE OF PROPOSED CHANGE OF WATER RIGHT

NO. 34-2428

Notice is hereby given that Mitchell Sorensen, Moore, Idaho, has applied to the Department of Water Resources for a change in the place of use of the waters of groundwater source. The right sought to be changed is evidenced by License No. 34-2428 and is recorded as follows:

AMOUNT: 3.85 cfs
PRIORITY: June 25, 1961
POINT OF DIVERSION: SE¼NE¼, Sec. 5, T. 4N, R. 26E, B.M., Butte Co.

The water is used to irrigate 192.5 acres from April 1 to Nov 1 within the SE¼NE¼, E½SE¼, Sec. 5; N½NW¼, Sec. 9; T. 4N, R. 26E, B.M.

TO BE CHANGED AS FOLLOWS

The water will be used to irrigate 192.5 acres within the SE¼NE¼, E½SE¼, Sec. 5, T. 4N, R. 26E, W½SW¼, Sec. 35, T. 4N, R. 25E, B.M.

Any protest against approval of the above proposed change of water right must be filed with the Idaho Department of Water Resources, 1515 Lincoln Road, Idaho Falls, Idaho, 83401 on or before July 7, 1980.

C. STEPHEN ALLRED
Director

Published in the Arco Advertiser 6 19 & 6-26-80.

RECEIVED
JUL 7 1980
Department of Water Resources
Eastern District Office

MICROFILMED
FEB 11 2000

RECEIVED
JUL 7 1980
Department of Water Resources
Eastern District Office

July 7, 1980

RECEIVED
JUL 7 19
Department of Water Resources
Eastern District Office

Dear Sir:

I am against any new well being drilled where the water from that well will be transferred out of our district. I am also against any transfer of water from a well that's already in use where that water leaves our district. If you continue to transfer the water out of this district, you are going to completely dry up this valley.

Yours truly,

Bill Hudson

Arco

PUBLIC NOTICE

NOTICE OF APPLICATION FOR WATER RIGHT

Notice is hereby given that the following application has been submitted for permit to appropriate the public waters of the State of Idaho.

34-7247

SORENSEN MICHELL
PT 1 BOX 63 MOORE ID 83255
Source GROUNDWATER
Date rec'd 10 30 1980
Amount 6.34 c.f.s.
Diversion POINT SENE Sec 35 6N R 26E BUTTE COUNTY
Use IRRIGATION from 04 01 to 11 01
Place of use NENW NWNW SWNW SENW SESW sec 35 T 6N R 25E FOR 200 ACRES
Diversion Means WELL & PUMP

If approved, the permit will be subject to all prior water rights and interests against the granting of any permit must be filed with the Director of the Idaho Department of Water Resources 1515 Lincoln Road, Idaho Falls, Idaho 83401 on or before JULY 7, 1980

C STEPHEN ALLRED
Director

Published 6 19 & 6 26 80

PUBLIC NOTICE

NOTICE OF PROPOSED CHANGE OF WATER RIGHT

NO. 34-2428

Notice is hereby given that Mitchell Sorensen, Moore, Idaho, has applied to the Department of Water Resources for a change in the place of use of the waters of a groundwater source. The right sought to be changed is evidenced by License No. 34-7428 and is recorded as follows:

AMOUNT 3.85 c.f.s.
PRIORITY June 23, 1961
POINT OF DIVERSION SE¼NE¼ Sec 4 T 4N R 26E, B M Butte Co.
The water is used for irrigation of 192.5 acres from April 1 to November 1 under the SE¼NE¼ Sec 5 T 4N R 26E B M and NW¼NW¼ Sec 9 T 4N R 26E B M.

TO BE CHANGED AS FOLLOWS

The water will be used to irrigate 192.5 acres within the SE¼NE¼ E½SE¼, Sec 5 T 4N, R 26E W½SW¼, Sec 35, T 4N, R 25E B M.

Any protest against approval of the above proposed change of water right must be filed with the Idaho Department of Water Resources, 1515 Lincoln Road Idaho Falls, Idaho, 83401 on or before July 7 1980.

C STEPHEN ALLRED
Director

Published in the Arco Advertiser 6-19 & 6 26-80

MICROFILMED
FEB 11 2000

RECEIVED

JUL 7 1980

Department of Water Resources
Eastern District Office

PUBLIC NOTICE

NOTICE OF APPLICATION
CHANGE OF WATER RIGHT

NO. 34-28 34-2428

Notice is hereby given that Mitchell Sorensen, Moore, Idaho, has applied to the Department of Water Resources for a change in the place of use of the waters of a groundwater source. The right sought to be changed is evidenced by License No. 34-7247 and is represented as follows:

AMOUNT: 3.81 cfs

PURPOSE: Irrigation

PLACE OF USE: NE¼SW¼ Sec. 1, T. 4N., R. 24E., B.M.

The point of diversion is located as follows: Well No. 34-7247 is located in the NE¼SW¼ Sec. 1, T. 4N., R. 24E., B.M.

PLACE OF USE TO BE CHANGED AS FOLLOWS:

The water will be used for the irrigation of 160.1 acres within the SE¼NE¼, NE¼SE¼ Sec. 1, T. 4N., R. 24E., B.M. and W½SW¼ Sec. 35, T. 5N., R. 24E., B.M.

Any protest against approval of the above proposed change of water right must be filed with the Idaho Department of Water Resources, 1515 Lincoln Road, Idaho Falls, Idaho, 83401 on or before July 9, 1980.

R. STEPHEN ALLRED
Director

Published in the Post Register, June 19 & 26, 1980.

Protest application no. 34-7247
No. 34-2428

I protest for the following reasons
34-7247 I believe there is to much water now being taken from under ground this is effecting the sub irrigated land in the Valley where all the wells are now. The rising water at the lower end of the valley that the Irrigation district uses for the lower end is all but [illegible]

34-2428 I protest the application because this water transfer would take more water out of the valley I believe when this well was drilled it was only to be a supplemental source of water for land above stated, and use for that land only, and only when the decreed water right available to irrigate this parcel is [illegible]

Lamond Sorensen

MICROFILMED
FEB 11 2000

PUBLIC NOTICE

NOTICE OF PROPOSED CHANGE OF WATER RIGHTS

Notice is hereby given that Jarvis K. Sorensen, Provo, Utah, has applied to the Department of Water Resources for a change in the point of diversion and place of use of the waters of the Big Lost River. Two of the rights sought to be changed are evidenced by decree to John W Loveless (34-0496) and W H Sorensen (34-0692) in case of Utah Construction Co vs. John F. Abbott et al dated October 21, 1925 in U S District Court, Counties of Butte and Custer and are recorded as follows.

Right No. 34-0496
AMOUNT: 1.20 cfs
PRIORITY June 1, 1896
DECREED POINT OF DIVERSION: SE¼, Sec. 4, T. 5N, R. 26E, B.M., Butte County.
The water is used for the irrigation of 60 acres from May 1 to October 15 within the E½SE¼, Sec 5, T. 4N, R. 26E, B.M.

Right No. 34-0692
AMOUNT: 3.60 cfs
PRIORITY: July 15, 1884
DECREED POINT OF DIVERSION. SE¼, Sec 4, T. 5N, R. 26E, B.M, Butte County.
The water is used for the irrigation of 180 acres from May 1 to October 15 within the SE¼NE¼, Sec. 5; N½NE¼, Sec. 8; N½NW¼, Sec. 9; T. 4N, R. 26E, B.M.

The third right sought to be changed is evidenced by Transfer No. 921 and is recorded as follows:
AMOUNT: 0.40 cfs
PRIORITY: July 15, 1884
POINT OF DIVERSION: SE¼, Sec. 4, T. 5N, R 26E, B.M., Butte County.
The water is used for the irrigation of 20 acres from May 1 to October 15 within the SE¼SE¼, Sec. 5, T. 4N, R. 26E, B.M.

TO BE CHANGED AS FOLLOWS
Only 2.40 cfs, consisting of 1.20 cfs of Right No. 34-0496, 0.80 cfs of Right No. 34-0692 and 0.40 cfs of Transfer No. 921, will be diverted in the SE¼SE¼, Sec. 4, T. 5N, R. 26E, B.M., Butte County and conveyed through both the Moore Canal and the Old Utah Construction Canal for the irrigation of 120 acres from May 1 to October 15 within the NW¼, Sec. 35, T. 4N, R. 25E, B.M.

Any protest against approval of the above proposed change of water right must be filed with the Idaho Department of Water Resources, 1301 Lincoln Road, Idaho Falls, Idaho 83401 on or before July 14, 1988.

C. STEPHEN ALLRED
Director

Published in the Arco Advertiser 6-26 & 7-03-88.

I protest this action because this water was decreed to lands within the district. If the water is taken out of district it will become a hardship to those on the district, "less water in the district leaving fewer to pay the taxes."

RECEIVED
JUL 7 1988
Department of Water Resources
Eastern District Office

MICROFILMED
FEB 11 2000

J. DOYLE JENSEN
President
Division No. 2, Moore

RICHARD C. ROTHWELL
Secretary-Treasurer
Division No. 4, Leslie

VERNON E. WARNER
Director
Division No. 5, Leslie

JAMES S. BABCOCK
Director
Division No. 3, Moore

WILLARD O. BELL
Director
Division No. 1, Arco

Big Lost River Irrigation District
Phone 588-2231 — P. O. Box 205
Mackay, Idaho 83251

RECEIVED
JUL 3 1980
Department of Water Resources
Eastern District Office

July 2,1980

Mr. Ron Carlson
Dept. of Water Resources
1515 Lincon Road
Idaho Falls,Id 83401

Dear Ron:

The Directors of the Big Lost River Irrigation District wish to enter their PROTEST against the applications submitted by Mitchell and Norma K. Sorenesen. Copies of the applications are attached,there are three:
permit 34-7247 published for 8.34 CFS by Mitchell Sorensen
application of Mitchell Sorensen for 3.85 CFS
application of Norma K. Sorenesen for1.20 CFS

The Board is protesting these applications because each of them involve the use of the Moore and the U/C (Blaine) canal and no long term arrangements have been made to use the District's facilities .

Yours truly,

Rita M. Lundy for the Board per their motion made on July 1,1980
Assistant Secretary-treasurer

encl:

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FEB 1 1 2000

Total number of acres to be irrigated 58

9. Describe any other water rights used for the same purposes as described above Supplemental ground water under license 34-7428 is in the process of being transferred to new lands

July 1, 1980

Mitchell D. Sorensen
Rt. #1, Box 63
Moore, Idaho 83255

Dear Mr. Sorensen:

Enclosed is a copy of the protests filed against the issuance of a permit pursuant to your Application No. 34-7247. The Department suggests you contact the protestants directly in an effort to determine the nature of the protests and to attempt to resolve the protests.

If you do not advise us within twenty (20) days that the protest has been resolved, the matter will be scheduled for conference and/or hearing. At such a conference and/or hearing, the following are the principle items the Department can consider in either approving or denying the application for permit (Section 42-203, Idaho Code):

1. Will the proposed use reduce the quantity of water under existing water rights?

2. Is the proposed water supply insufficient for the purpose intended?

3. Is the application made in good faith or for delay or speculative purposes?

4. Has the applicant sufficient financial resources with which to complete the project?

5. Will the proposed use under this permit conflict with the local public interest?

If this office can be of further assistance, please contact us.

Very truly yours,

RONALD D. CARLSON
Eastern Region Supervisor

RDC:cw

Enclosures

cc: IDWR - State Office

July 1, 1980

RE: Application for Permit No. 34-7247

David B. Bleak
Lois M. Bleak
Chris Bleak
Rt. #1, Box 27
Moore, Idaho 83255

Dear Protestants:

Your protest against the approval of the above referenced application has been received and a copy has been sent to the applicant. The Department suggests you contact the applicant directly in an effort to determine what is proposed by the application and to attempt to resolve the protest.

If you do not advise us within twenty (20) days that the protest has been resolved, the matter will be scheduled for conference and/or hearing. At such a conference and/or hearing, the following are the principle items the Department can consider in either approving or denying an application for permit (Section 42-203, Idaho Code):

1. Will the proposed use reduce the quantity of water under existing water rights?

2. Is the proposed water supply insufficient for the purpose intended?

3. Is the application made in good faith or for delay or speculative purposes?

4. Has the applicant sufficient financial resources with which to complete the project?

5. Will the proposed use under this permit conflict with the local public interest?

If this office can be of further assistance, please contact us.

Very truly yours,

RONALD D. CARLSON
Eastern Region Supervisor

RDC:cw

cc: IDWR - State Office

July 1, 1980

RE: Application for Permit No. 34-7247

Richard Taylor
Moore,
Idaho 83255

Dear Mr. Taylor:

Your protest against the approval of the above referenced application has been received and a copy has been sent to the applicant. The Department suggests you contact the applicant directly in an effort to determine what is proposed by the application and to attempt to resolve the protest.

If you do not advise us within twenty (20) days that the protest has been resolved, the matter will be scheduled for conference and/or

hearing. At such a conference and/or hearing, the following are the principle items the Department can consider in either approving or denying an application for permit (Section 42-203, Idaho Code):

1. Will the proposed use reduce the quantity of water under existing water rights?

2. Is the proposed water supply insufficient for the purpose intended?

3. Is the application made in good faith or for delay or speculative purposes?

4. Has the applicant sufficient financial resources with which to complete the project?

5. Will the proposed use under this permit conflict with the local public interest?

If this office can be of further assistance, please contact us.

Very truly yours,

RONALD D. CARLSON
Eastern Region Supervisor

RDC:cw

cc: IDWR - State Office

NOTICE OF APPLICATION FOR WATER RIGHT

Notice is hereby given that the following application(s) have been submitted for permit to appropriate the public waters of the State of Idaho:

If issued, the permit(s) will be subject to all prior water rights. Protests against the granting of any permit must be filed with the Director of the Idaho Department of Water Resources, 1515 Lincoln Road, Idaho Falls, Idaho 83401 on or before JULY 7, 1980.

C. STEPHEN ALLRED

Director

Published 6/19 & 6/26/80.

MICROFILMED
FEB 1 1 2000

34-7262

SORENSEN, MITCHELL D.

RT. 1 BOX 63, MOORE, ID 83255

Source: GROUNDWATER

Date Filed: 05/30/1980

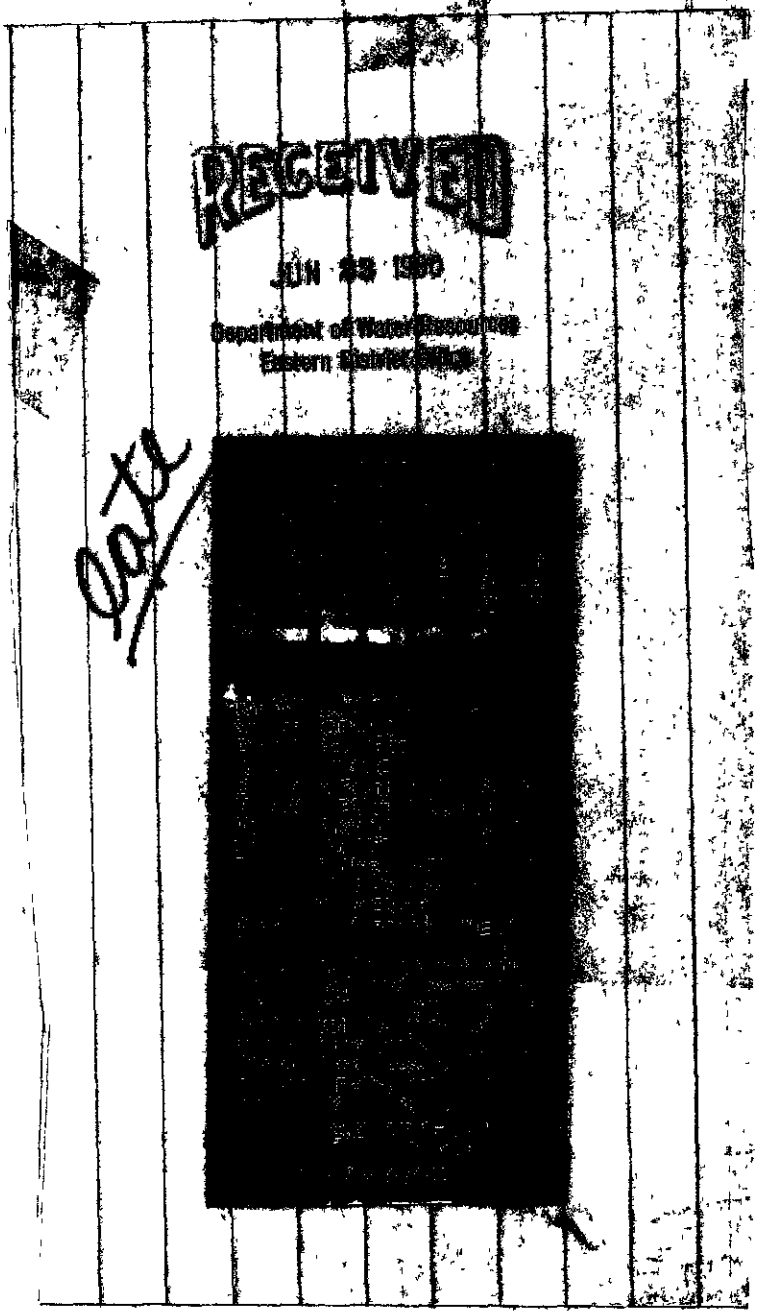
Amount: 8.34 CFS

Diversion Point: SENE Sec 05 T 04N R 26E, BUTTE Co.

Use: IRRIGATION (8.34 CFS) from 04/01 to 11/01

Place of Use: NENW NWNW SWNW SENW SESW Sec 35 T 04N R 25E [redacted] 200 ACRES

Diversion Means: WELL & PUMP.



MICROFILMED
FEB 11 2000

Form 42-248(6) July 2000

RECEIVED
SEP 17 2003
Department of Water Resources

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES

Notice of Security Interest in a Water Right

And Request for Notification of a Change in Ownership or Any Proposed Or Final Action to Amend, Transfer, or Otherwise Modify a Water Right

Please print or type Attach pages with additional information Instructions are on the back of this page.
Incomplete forms will be returned.

1. Water Right No(s) : Permit 34-07247, Permit 34-07430

   Adjudication Claim No(s).: _____

2. The following **REQUIRED** information must be submitted with this form.

   A) Evidence of the security interest This may be a copy of a **DEED of TRUST, MORTGAGE, CONTRACT OF SALE** or other legal document indicating your interest in the property and water rights or claims in question, **WITH ATTACHED LEGAL DESCRIPTION.**

   B) A **FEE** of $25.00 per water right or adjudication claim.

3. Name and Mailing Address of Person or Company holding Security Interest

   Idaho AgCredit, FLCA
   PO Box 386
   Rexburg ID 83440

4. Name of Water Right Owner/Claimant(s) Mitchell D. Sorensen

5. Expiration Date of Notification Period May 1, 2023

6. Is this a Renewal of Request for Notification? ☐ YES ☒ NO

7. Signature(s) (and title if applicable)

   Marc Fonnesbeck, Asst. Vice President

For Office Use Only

Received by GC Date 9-11-03 Fee $50-
Receipted by GC Date 9-11-03 Receipt No E029186
Processed by _____ AJ Date _____ WR _____ Date _____

MICROFILMED
NOV 14 2003

RECEIVED
SEP 11 2003
Department of Water Resources
Eastern Region

LOAN POLICY OF TITLE INSURANCE

Issued by Commonwealth Land Title Insurance Company

POLICY NUMBER

G32-1 317303

LandAmerica Commonwealth

Commonwealth Land Title Insurance Company is a member of the LandAmerica family of title insurance underwriters

SUBJECT TO THE EXCLUSIONS FROM COVERAGE, THE EXCEPTIONS FROM COVERAGE CONTAINED IN SCHEDULE B AND THE CONDITIONS AND STIPULATIONS, COMMONWEALTH LAND TITLE INSURANCE COMPANY, a Pennsylvania corporation, herein called the Company, insures, as of Date of Policy shown in Schedule A, against loss or damage, not exceeding the Amount of Insurance stated in Schedule A, sustained or incurred by the insured by reason of

1 Title to the estate or interest described in Schedule A being vested other than as stated therein,
2 Any defect in or lien or encumbrance on the title,
3 Unmarketability of the title,
4 Lack of a right of access to and from the land,
5 The invalidity or unenforceability of the lien of the insured mortgage upon the title,
6 The priority of any lien or encumbrance over the lien of the insured mortgage,
7 Lack of priority of the lien of the insured mortgage over any statutory lien for services, labor or material
(a) arising from an improvement or work related to the land which is contracted for or commenced prior to Date of Policy, or (b) arising from an improvement or work related to the land which is contracted for or commenced subsequent to Date of Policy and which is financed in whole or in part by proceeds of the indebtedness secured by the insured mortgage which at Date of Policy the insured has advanced or is obligated to advance,
8 The invalidity or unenforceability of any assignment of the insured mortgage, provided the assignment is shown in Schedule A, or the failure of the assignment shown in Schedule A to vest title to the insured mortgage in the named insured assignee free and clear of all liens

mortgage rtg
Bifurc.
KV

The Company will also pay the costs, attorneys' fees and expenses incurred in defense of the title or the lien of the insured mortgage, as insured, but only to the extent provided in the Conditions and Stipulations

IN WITNESS WHEREOF, COMMONWEALTH LAND TITLE INSURANCE COMPANY has caused its corporate name and seal to be hereunto affixed by its duly authorized officers, the Policy to become valid when countersigned by an authorized officer or agent of the Company

COMMONWEALTH LAND TITLE INSURANCE COMPANY

Attest Wm Chadwick Perrine Secretary

By Janet A Alpert President

EXCLUSIONS FROM COVERAGE

The following matters are expressly excluded from the coverage of this policy and the Company will not pay loss or damage, costs, attorneys' fees or expenses which arise by reason of

1 (a) Any law, ordinance or governmental regulations (including but not limited to building and zoning laws, ordinances, or regulations) restricting, regulating prohibiting or relating to (i) the occupancy, use, or enjoyment of the land, (ii) the character dimensions or location of any improvement now or hereafter erected on the land, (iii) a separation in ownership or a change in the dimensions or area of the land or any parcel of which the land is or was a part, or (iv) environmental protection, or the effect of any violation of these laws, ordinances or governmental regulations, except to the extent that a notice of the enforcement thereof or a notice of a defect, lien or encumbrance resulting from a violation or alleged violation affecting the land has been recorded in the public records at Date of Policy (b) Any governmental police power not excluded by (a) above, except to the extent that a notice of the exercise thereof or a notice of a defect, lien or encumbrance resulting from a violation or alleged violation affecting the land has been recorded in the public records at Date of Policy
2 Rights of eminent domain unless notice of the exercise thereof has been recorded in the public records at Date of Policy but not excluding from coverage any taking which has occurred prior to Date of Policy which would be binding on the rights of a purchaser for value without knowledge
3 Defects, liens, encumbrances, adverse claims or other matters (a) created, suffered, assumed or agreed to by the insured claimant (b) not known to the Company, not recorded in the public records at Date of Policy, but known to the insured claimant and not disclosed in writing to the Company by the insured claimant prior to the date the insured claimant became an insured under this policy, (c) resulting in no loss or damage to the insured claimant (d) attaching or created subsequent to Date of Policy (except to the extent that this policy insures the priority of the lien of the insured mortgage over any statutory lien for services, labor or material), or (e) resulting in loss or damage which would not have been sustained if the insured claimant had paid value for the insured mortgage
4 Unenforceability of the lien of the insured mortgage because of the inability or failure of the insured at Date of Policy, or the inability or failure of any subsequent owner of the indebtedness, to comply with applicable doing business laws of the state in which the land is situated
5 Invalidity or unenforceability of the lien of the insured mortgage, or claim thereof, which arises out of the transaction evidenced by the insured mortgage and is based upon usury or any consumer credit protection or truth in lending law
6 Any statutory lien for services, labor or materials (or the claim of priority of any statutory lien for services, labor or materials over the lien of the insured mortgage) arising from an improvement or work related to the land which is contracted for and commenced subsequent to Date of Policy and is not financed in whole or in part by proceeds of the indebtedness secured by the insured mortgage which at Date of Policy the insured has advanced or is obligated to advance
7 Any claim, which arises out of the transaction creating the interest of the mortgagee insured by this policy, by reason of the operation of federal bankruptcy, state insolvency, or similar creditors' rights laws, that is based on
(a) the transaction creating the interest of the insured mortgagee being deemed a fraudulent conveyance or fraudulent transfer, or
(b) the subordination of the interest of the insured mortgagee as a result of the application of the doctrine of equitable subordination, or
(c) the transaction creating the interest of the insured mortgagee being deemed a preferential transfer except where the preferential transfer results from the failure
(i) to timely record the instrument of transfer, or
(ii) of such recordation to impart notice to a purchaser for value or a judgement or lien creditor

MICROFILMED

NOV 14 2003

LOAN

SCHEDULE A

Amount: $ 633,780.00

Policy Number: G32-1373303

Premium: $ 1,956.50

Office File Number. 5538LRT

Date of Policy: **May 12, 2003 at 1:25 p.m.**

1. Name of Insured:

   IDAHO AGCREDIT, FLCA

2. The estate or interest in the land which is covered by this Policy is.

   fee simple

3. Title to the estate or interest in the land is vested in:

   MITCHELL D. SORENSEN AND ELAINE R. SORENSEN, HUSBAND AND WIFE

4. The insured mortgage and the assignments thereof, if any, are described as follows:

   Real Estate Mortgage dated April 25, 2003, executed by MITCHELL D. SORENSEN, AKA MITCHELL SORENSEN, AND ELAINE R. SORENSEN, AKA ELAINE SORENSEN, HUSBAND AND WIFE, as Mortgagor, and IDAHO AGCREDIT, FLCA, as Mortgagee, to secure payment of $633,780 00 and interest; recorded May 12, 2003, under Instrument No 0039377, records of Butte County, Idaho.

5 The land referred to in this policy is described as follows:

   See Exhibit A attached hereto and made a part hereof.

Idaho Title & Trust

By _____
Authorized Officer of Agent

MICROFILMED

NOV 14 2003

SCHEDULE B

Policy Number: **G32-1373303** File Number **5538LRT**

EXCEPTIONS FROM COVERAGE

This policy does not insure against loss or damage (and the Company will not pay costs, attorneys' fees or expenses) which arise by reason of

PART I

General Exceptions:

(1) Rights or claims of parties in possession not shown by the public records

(2) Encroachments, overlaps, boundary line disputes, and any other matters which would be disclosed by and accurate survey or inspection of the premises including, but not limited to, insufficient or impaired access or matters contradictory to any survey plat shown by the public records

(3) Easements, or claims of easements, not shown by the public records

(4) Any lien, or right to a lien, for services, labor, or material heretofore or hereafter furnished, imposed by law and not shown by the public records.

(5) (a) Unpatented mining claims; (b) reservations or exceptions in patents or in Acts authorizing the issuance thereof; (c) water rights, claims or title to water, whether or not the matters excepted under (a), (b), or (c) are shown by the public records.

(6) Taxes or special assessments which are not shown as existing liens by the records of any taxing authority that levies taxes or assessments on real property or by the public records. Proceedings by a public agency which may result in taxes or assessments, or notices of such proceedings, whether or not shown by the records of such agency or by the public records.

SPECIAL EXCEPTIONS:

1. General Taxes for 2001 and prior years are paid. Taxes for 2002 are one half paid Taxes for 2003 are now a lien, but not yet due or payable. (Taxes for: 2002 - $509.98 -RPO3N25E022400A) (TRACT 1)

   General Taxes for 2001 and prior years are paid. Taxes for 2002 are one half paid. Taxes for 2003 are now a lien, but not yet due or payable (Taxes for: 2002 - $475.58 -RPO3N25E023601A) (TRACT 1)

   General Taxes for 2001 and prior years are paid. Taxes for 2002 are one half paid. Taxes for 2003 are now a lien, but not yet due or payable. (Taxes for: 2002 - $78.72 -RPO3N25E030100A) (TRACT 1 AND 2)

   General Taxes for 2001 and prior years are paid. Taxes for 2002 are one half paid Taxes for 2003 are now a lien, but not yet due or payable (Taxes for: 2002 - $3,048.08 -RPO4N25E340100A) (The County Assessor reports the address of this property to be: 3871 WEST 2500 NORTH, MOORE, IDAHO 83255 (TRACT 1 AND 2)

   General Taxes for 2001 and prior years are paid. Taxes for 2002 are one half paid. Taxes for 2003 are now a lien, but not yet due or payable. (Taxes for 2002 - $535.92 -RPO4N25E355400A) (TRACT 1)

   General Taxes for 2001 and prior years are paid. Taxes for 2002 are one half paid Taxes for 2003 are now a lien, but not yet due or payable (Taxes for: 2002 - $799.04 -RPO4N25E352400A) (TRACT 1)

   General Taxes for 2001 and prior years are paid. Taxes for 2002 are one half paid. Taxes for 2003 are now a lien, but not yet due or payable. (Taxes for 2002 - $107.16 -RPO4N25E354950A) (TRACT 1)

MICROFILMED

NOV 4 2003

General Taxes for 2001 and prior years are paid. Taxes for 2002 are one half paid Taxes for 2003 are now a lien, but not yet due or payable. (Taxes for: 2002 - $39.56 -RPO3N25E040100A) (TRACT 2)

General Taxes for 2001 and prior years are paid Taxes for 2002 are one half paid. Taxes for 2003 are now a lien, but not yet due or payable. (Taxes for. 2002 - $181 70 -RPO4N25E270100A) (TRACT 2)

General Taxes for 2001 and prior years are paid. Taxes for 2002 are one half paid. Taxes for 2003 are now a lien, but not yet due or payable. (Taxes for: 2002 - $59.92 -RPO4N25E330100A) (TRACT 2)

General Taxes for 2001 and prior years are paid. Taxes for 2002 are one half paid. Taxes for 2003 are now a lien, but not yet due or payable. (Taxes for: 2002 - $20 32 -RPO4N25E339000A) (TRACT 2)

General Taxes for 2001 and prior years are paid. Taxes for 2002 are one half paid. Taxes for 2003 are now a lien, but not yet due or payable. (Taxes for: 2002 - $1 94 -RPO4N25E360003A) (TRACT 4)

General Taxes for 2001 and prior years are paid Taxes for 2002 are one half paid. Taxes for 2003 are now a lien, but not yet due or payable. (Taxes for. 2002 - $1.94 -RPO4N25E350003A) (TRACT 4)

General Taxes for 2001 and prior years are paid. Taxes for 2002 are one half paid. Taxes for 2003 are now a lien, but not yet due or payable. (Taxes for: 2002 - $325.12 -RPO4N26E051800A) (TRACT 4)

General Taxes for 2001 and prior years are paid Taxes for 2002 are one half paid. Taxes for 2003 are now a lien, but not yet due or payable. (Taxes for 2002 - $104 46 -RPO4N25E356600A) (TRACT 3) (This contains other property in SE 1/4)

General Taxes for 2001 and prior years are paid Taxes for 2002 are one half paid. Taxes for 2003 are now a lien, but not yet due or payable. (Taxes for 2002 - $958.76 -RPO4N25E354800A) (TRACT 3) This contains other property in SE 1/4)

2. These premises are situated within the boundaries of the BIG LOST RIVER Irrigation District, and are subject to the assessments thereof

3 All easements and rights-of-way for highways, roads, railroads, ditches, canals, gas, pole, power and transmission lines as they may exist

4. Pipe Line Easement executed by Willard H. Sorensen to the United States of America, as disclosed by Instrument dated September 13, 1946, recorded in Book 3 of Misc. at page 190, under Instrument No 25380, describing a portion of said lands. (TRACT 1)

5. Agreement dated May 27, 1978, between NORMA K. SORENSEN, a widow, and RONALD W SORENSEN, a single man "first parties" and MITCHELL D. SORENSEN and ELAINE R. SORENSEN, his wife, "second parties", recorded June 5, 1979 as Instrument No M-8064, records of Butte County, Idaho.

6. Easement Agreement dated April 3, 1980 between Boyd Burnett and Sandra Burnett, husband and wife, and Mitchell Sorensen and Elaine R. Sorensen, husband and wife; recorded April 25, 1980 as Instrument No. M-9315, records of Butte County, Idaho. (TRACT 1)

7. Easement Agreement between TIMBERLINE BEEF, INC. and MITCHELL SORENSEN and ELAINE R. SORENSEN, husband and wife, recorded July 14, 1981, under Instrument No. M-10610, records of Butte County, Idaho.

8. Easement Agreement dated December 29, 1981 between MITCHELL SORENSEN and ELAINE SORENSEN, husband and wife and BOYD BURNETT and SANDRA BURNETT, husband and wife, recorded March 4, 1982, under Instrument No 11172, records of Butte County, Idaho. (N 32' of NE 1/4 Sec 35 4 N 25 E)

9 Covenants, Conditions and Restrictions as contained in Warranty Deed dated May 1981Executed by Norman and Leola Niederer, Husband and Wife to Mitchell and Elaine Sorensen, Husband and Wife, recorded July 14, 1981, under Instrument No. 10612, records of Butte County, Idaho. (TRACT 4 PARCEL 1)

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10. Agreement of Electric Service Irrigation, dated May 14, 1987, between LOST RIVER ELECTRIC COOPERATIVE INC., an Idaho Rural Electric Cooperative and MITCHELL D. SORENSEN and ELAINE SORENSEN, husband and wife, recorded June 24, 1987, under Instrument No 19777, records of Butte County, Idaho.

    Amendment to Agreement for Electric Service Irrigation dated May 3, 2000 recorded July 31, 2001, under Instrument No. 37214, records of Butte County, Idaho.

11. Agreement for Electric Service Irrigation, dated June 7, 1988 between LOST RIVER ELECTRIC COOPERATIVE, INC. an Idaho Rural Electric Cooperative and MITCHELL D. SORENSEN and ELAINE R SORENSEN, husband and wife, recorded August 4, 1988, under Instrument No. 21328, records of Butte County, Idaho

12. Agreement for Electric Service Irrigation, dated May 17, 1989 between LOST RIVER ELECTRIC COOPERATIVE, INC., an Idaho Rural Electric Cooperative and MITCHELL D SORENSEN and ELAINE R. SORENSEN, husband and wife, recorded June 26, 1989, under Instrument No. 22276, records of Butte County, Idaho. (TRACT 1)

13 Grant of Easement dated August 16, 1999, between the County of Butte, a political subdivision of the State of Idaho, Grantor and MITCHELL D. SORENSEN and ELAINE R. SORENSEN, husband and wife, Grantee recorded August 16, 1999, under Instrument No 34782 records of Butte County, Idaho

14. Underground Right of Way Easement dated August 26, 2002, executed by MITCHELL D. SORENSEN to LOST RIVER ELECTRIC COOPERATIVE, INC. recorded January 6, 2003, under Instrument No. 38862, records of Butte County, Idaho (Portion of Tract 1)

15 Right-of-Way Easement dated July 2, 1980 executed by BOYD B. BURNETT and SANDRA P. BURNETT, Grantors, to THE MOUNTAIN STATES TELEPHONE AND TELEGRAPH COMPANY, Grantee, recorded July 14, 1986, under Instrument No. 18222, records of Butte County, Idaho. (TRACT 4)

16. Agreement for ELECTRIC SERVICE IRRIGATION dated July 9, 1992 between LOST RIVER ELECTRIC COOPERATIVE, INC. and KURT P ACOR and CORALEE J. ACOR, recorded April 13, 1993, under Instrument Nos. 26759, and 26760, records of Butte County, Idaho. (TRACT 3 and other property)

17 Easement Agreement dated January 1988, by and between Mitchell Sorensen and Elaine Sorensen, husband and wife and Don Hymas and Georgianna Hymas, husband and wife and Dean Anderson and Caralee Anderson, husband and wife, recorded May 24, 1988, under Instrument No. 21063, records of Butte County, Idaho

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Exhibit A

TRACT 1:

Township 3 North, Range 25 East of the Boise Meridian, Butte County, Idaho
Section 2: Lots 3 and 4; S1/2 NW1/4
Section 3: N1/2 NE1/4

Township 4 North Range 25 East of the Boise Meridian, Butte County, Idaho
Section 34: E1/2
Section 35: W1/2 NE1/4 SW1/4; NW1/4; SW1/4 SW1/4; NW1/4 SW1/4; W1/2 SE1/4 SW1/4

TRACT 3:

Township 4 North Range 25 East of the Boise Meridian, Butte County, Idaho
Section 35: E1/2 E1/2 SW1/4

TRACT 4:

Parcel 1: The North 32 feet of Section 36, Township 4 North, Range 25, East of the Boise Meridian, Butte County, Idaho
Parcel 2: Commencing at the SW corner of the SE1/4 SE1/4 of Section 5, Township 4 North Range 26 East of the Boise Meridian, County of Butte, State of Idaho, and running thence North 100 feet; thence East 100 feet; thence South 100 feet; thence West 100 feet to the point of beginning.

TRACT 5:

The Following 5 easements

(1) Easement in that Easement Agreement dated December 29, 1981, by and between Mitchell Sorensen and Elaine R. Sorensen, Husband and Wife, of Butte County, Idaho hereinafter referred to as "Sorensen", and Boyd Burnett and Sandra Burnett, Husband and Wife, of Butte County, Idaho, hereinafter referred to as "Burnett" granting an easement across the North 32 feet of the NE1/4 of Section 35 Township 4 North Range 25 East of the Boise Meridian, Recorded March 4, 1982, under Instrument No. 11172, records of Butte County, Idaho.

(2) Easement in the Easement Agreement dated April 3, 1980 by and between Boyd Burnett and Sandra Burnett, Husband and Wife and Mitchell Sorensen and Elaine R. Sorensen, Husband and Wife recorded April 25, 1980, under Instrument No. M-9315, records of Butte County, Idaho.

(3) Easement in the Easement Agreement dated July 14, 1981 by and between Timberline Beef, Inc., an Idaho Corporation and Mitchell Sorensen and Elaine R. Sorensen, Husband and Wife recorded July 14, 1981, under Instrument No. M-10610, records of Butte County, Idaho.

(4) Easement in the Easement Agreement dated January, 1988 by Mitchell Sorensen and Elaine Sorensen, Husband and Wife and Don Hymas and Georgianna Hymas, Husband and Wife and Dean Anderson and Caralee Anderson, Husband and Wife recorded May 24, 1988, under Instrument No. 21063, records of Butte County, Idaho.

Madison 11-19

2/10/03

MICRO

2003

(5) Easement in the Grant of Easement dated August 16, 1999, between the County of Butte, a political subdivision of the State of Idaho hereinafter referred to as "Grantor" and Mitchell D. Sorensen and Elaine R. Sorensen, Husband and Wife recorded August 16, 1999, under Instrument No. 34782, records of Butte County, Idaho.

5 PROOF OF LOSS OR DAMAGE

In addition to and after the notices required under Section 3 of these Conditions and Stipulations have been provided the Company a proof of loss or damage signed and sworn to by the insured claimant shall be furnished to the Company within 90 days after the insured claimant shall ascertain the facts giving rise to the loss or damage The proof of loss or damage shall describe the defect in or lien or encumbrance on the title or other matter insured against by this policy which constitutes the basis of loss or damage and shall state to the extent possible the basis of calculating the amount of the loss or damage If the Company is prejudiced by the failure of the insured claimant to provide the required proof of loss or damage the Company's obligations to the insured under the policy shall terminate including any liability or obligation to defend, prosecute, or continue any litigation with regard to the matter or matters requiring such proof of loss or damage

In addition the insured claimant may reasonably be required to submit to examination under oath by any authorized representative of the Company and shall produce for examination inspection and copying at such reasonable times and places as may be designated by any authorized representative of the Company all records books, ledgers, checks correspondence and memoranda whether bearing a date before or after Date of Policy, which reasonably pertain to the loss or damage Further if requested by any authorized representative of the Company the insured claimant shall grant its permission in writing for any authorized representative of the Company to examine, inspect and copy all records books, ledgers checks correspondence and memoranda in the custody or control of a third party which reasonably pertain to the loss or damage All information designated as confidential by the insured claimant provided to the Company pursuant to this Section shall not be disclosed to others unless in the reasonable judgment of the Company it is necessary in the administration of the claim Failure of the insured claimant to submit for examination under oath produce other reasonably requested information or grant permission to secure reasonably necessary information from third parties as required in this paragraph shall terminate any liability of the Company under this policy as to that claim

6 OPTIONS TO PAY OR OTHERWISE SETTLE CLAIMS, TERMINATION OF LIABILITY

In case of a claim under this policy the Company shall have the following options

(a) To Pay or Tender Payment of the Amount of Insurance or to Purchase the Indebtedness

(i) to pay or tender payment of the amount of insurance under this policy together with any costs attorneys' fees and expenses incurred by the insured claimant which were authorized by the Company up to the time of payment or tender of payment and which the Company is obligated to pay or

(ii) to purchase the indebtedness secured by the insured mortgage for the amount owing thereon together with any costs attorneys fees and expenses incurred by the insured claimant which were authorized by the Company up to the time of purchase and which the Company is obligated to pay

If the Company offers to purchase the indebtedness as herein provided the owner of the indebtedness shall transfer, assign and convey the indebtedness and the insured mortgage together with any collateral security, to the Company upon payment therefor

Upon the exercise by the Company of either of the options provided for in paragraphs (a)(i) or (a)(ii) all liability and obligations to the insured under this policy, other than to make the payment required in those paragraphs shall terminate including any liability or obligation to defend prosecute or continue any litigation and the policy shall be surrendered to the Company for cancellation

(b) To Pay or Otherwise Settle With Parties Other than the Insured or With the Insured Claimant

(i) to pay or otherwise settle with other parties for or in the name of an insured claimant any claim insured against under this policy together with any costs attorneys' fees and expenses incurred by the insured claimant which were authorized by the Company up to the time of payment and which the Company is obligated to pay or

(ii) to pay or otherwise settle with the insured claimant the loss or damage provided for under this policy together with any costs attorneys fees and expenses incurred by the insured claimant which were authorized by the Company up to the time of payment and which the Company is obligated to pay

Upon the exercise by the Company of either of the options provided for in paragraphs (b)(i) or (ii) the Company's obligations to the insured under this policy for the claimed loss or damage, other than the payments required to be made shall terminate including any liability or obligation to defend, prosecute or continue any litigation

7 DETERMINATION AND EXTENT OF LIABILITY

This policy is a contract of indemnity against actual monetary loss or damage sustained or incurred by the insured claimant who has suffered loss or damage by reason of matters insured against by this policy and only to the extent herein described

(a) The liability of the Company under this policy shall not exceed the least of

(i) the Amount of Insurance stated in Schedule A or if applicable the amount of insurance as defined in Section 2 (c) of these Conditions and Stipulations

(ii) the amount of the unpaid principal indebtedness secured by the insured mortgage as limited or provided under Section 8 of these Conditions and Stipulations or as reduced under Section 9 of these Conditions and Stipulations, at the time of loss or damage insured against by this policy occurs together with interest thereon or

(iii) the difference between the value of the insured estate or interest as insured and the value of the insured estate or interest subject to the defect lien or encumbrance insured against by this policy

(b) In the event the insured has acquired the estate or interest in the manner described in Section 2(a) of these Conditions and Stipulations or has conveyed the title, then the liability of the Company shall continue as set forth in Section 7(a) of these Condition and Stipulations

(c) The Company will pay only those costs attorneys fees and expenses incurred in accordance with Section 4 of these Conditions and Stipulations

8 LIMITATION OF LIABILITY.

(a) If the Company establishes the title, or removes the alleged defect, lien or encumbrance, or cures the lack of a right of access to or from the land or cures the claim of unmarketability of title, or otherwise establishes the lien of the insured mortgage all as insured, in a reasonably diligent manner by any method including litigation and the completion of any appeals therefrom, it shall have fully performed its obligations with respect to that matter and shall not be liable for any loss or damage caused thereby

(b) In the event of any litigation, including litigation by the Company or with the Company's consent the Company shall have no liability for loss or damage until there has been a final determination by a court of competent jurisdiction, and disposition of all appeals therefrom, adverse to the title or to the lien of the insured mortgage, as insured

(c) The Company shall not be liable for loss or damage to any insured for liability voluntarily assumed by the insured in settling any claim or suit without the prior written consent of the Company

(d) The Company shall not be liable for (i) any indebtedness created subsequent to Date of Policy except for advances made to protect the lien of the insured mortgage and secured thereby and reasonable amounts extended to prevent deterioration of improvements or (ii) construction loan advances made subsequent to Date of Policy, except construction loan advances made subsequent to Date of Policy for the purpose of financing in whole or in part the construction of an improvement to the land which at Date of Policy were secured by the insured mortgage and which the insured was and continued to be obligated to advance at and after Date of Policy

9 REDUCTION OF INSURANCE, REDUCTION OR TERMINATION OF LIABILITY.

(a) All payments under this policy except payments made for costs, attorneys' fees and expenses shall reduce the amount of the insurance pro tanto However any payments made prior to the acquisition of title to the estate or interest as provided in Section 2(a) of these Conditions and Stipulations shall not reduce pro tanto the amount of the insurance afforded under this policy except to the extent that the payments reduce the amount of the indebtedness secured by the insured mortgage

(b) Payment in part by any person of the principal of the indebtedness or any other obligation secured by the insured mortgage, or any voluntary partial satisfaction or release of the insured mortgage, to the extent of the payment satisfaction or release shall reduce the amount of insurance pro tanto The amount of insurance may thereafter be increased by accruing interest and advances made to protect the lien of the insured mortgage and secured thereby with interest thereon provided in no event shall the amount of insurance be greater than the Amount of Insurance stated in Schedule A

(c) Payment in full by any person or the voluntary satisfaction or release of the insured mortgage shall terminate all liability of the Company except as provided in Section 2(a) of these Conditions and Stipulations

10 LIABILITY NONCUMULATIVE

If the insured acquires title to the estate or interest in satisfaction of the indebtedness secured by the insured mortgage or any part thereof it is expressly understood that the amount of insurance under this policy shall be reduced by any amount the Company may pay under any policy insuring a mortgage to which exception is taken in Schedule B or to which the insured has agreed assumed or taken subject or which is hereafter executed by an insured and which is a charge or lien on the estate or interest described or referred to in Schedule A and the amount so paid shall be deemed a payment under this policy

11 PAYMENT OF LOSS

(a) No payment shall be made without producing this policy for endorsement of the payment unless the policy has been lost or destroyed in which case proof of loss or destruction shall be furnished to the satisfaction of the Company

(b) When liability and the extent of loss or damage has been definitely fixed in accordance with these Conditions and Stipulations the loss or damage shall be payable within *30 days thereafter*

12 SUBROGATION UPON PAYMENT OR SETTLEMENT

(a) The Company's Right of Subrogation

Whenever the Company shall have settled and paid a claim under this policy all right of subrogation shall vest in the Company unaffected by any act of the insured claimant

The Company shall be subrogated to and be entitled to all rights and remedies which the insured claimant would have had against any person or property in respect to the claim had this policy not been issued If requested by the Company the insured claimant shall transfer to the Company all rights and remedies against any person or property necessary in order to perfect this right of subrogation The insured claimant shall permit the Company to sue compromise or settle in the name of the insured claimant and to use the name of the insured claimant in any transaction or litigation involving these rights or remedies

If a payment on account of a claim does not fully cover the loss of the insured claimant the Company shall be subrogated to all rights and remedies of the insured claimant after the insured claimant shall have recovered its principal interest and costs of collection

(b) The Insured's Rights and Limitations

Notwithstanding the foregoing the owner of the indebtedness secured by the insured mortgage provided the priority of the lien of the insured mortgage or its enforceability is not affected may release or substitute the personal liability of any debtor or guarantor or extend or otherwise modify the terms of payment or release a portion of the estate or interest from the lien of the insured mortgage, or release any collateral security for the indebtedness

When the permitted acts of the insured claimant occur and the insured has knowledge of any claim of title or interest adverse to the title to the estate or interest or the priority or enforceability of the lien of the insured mortgage as insured the Company shall be required to pay only that part of any losses insured against by this policy which shall exceed the amount if any lost to the Company by reason of the impairment by the insured claimant of the Company's right of subrogation

(c) The Company's Rights Against Non insured Obligors

The Company's right of subrogation against non insured obligors shall exist and shall include without limitation the rights of the insured to indemnities guaranties other policies of insurance or bonds notwithstanding any terms or conditions contained in those instruments which provide for subrogation rights by reason of this policy

The Company's right of subrogation shall not be avoided by acquisition of the insured mortgage by an obligor (except an obligor described in Section 1 (a)(ii) of these Conditions and Stipulations) who acquires the insured mortgage as a result of an indemnity guarantee other policy of insurance or bond and the obligor will not be an insured under this policy, notwithstanding Section 1 (a)(ii) of these Conditions and Stipulations

13 ARBITRATION

Unless prohibited by applicable law either the Company or the insured may demand arbitration pursuant to the Title Insurance Arbitration Rules of the American Arbitration Association Arbitrable matters may include but are not limited to, any controversy or claim between the Company and the insured arising out of or relating to this policy any service of the Company in connection with its issuance or the breach of a policy provision or other obligation All arbitrable matters when the Amount of Insurance is $1 000 000 or less shall be arbitrated at the option of either the Company or the insured All arbitrable matters when the Amount of Insurance is in excess of $1 000 000 shall be arbitrated only when agreed to by both the Company and the insured Arbitration pursuant to this policy and under the Rules in effect on the date the demand for arbitration is made or, at the option of the insured, the Rules in effect at Date of Policy shall be binding upon the parties *The award may* include attorneys' fees only if the laws of the state in which the land is located permit a court to award attorneys' fees to a prevailing party Judgment upon the award rendered by the Arbitrator(s) may be entered in any court having jurisdiction thereof

The law of the situs of the land shall apply to an arbitration under the Title Insurance Arbitration Rules

A copy of the Rules may be obtained from the Company upon request

14 LIABILITY LIMITED TO THIS POLICY, POLICY ENTIRE CONTRACT

(a) This policy together with all endorsements if any attached hereto by the Company is the entire policy and contract between the insured and the Company In interpreting any provision of this policy, this policy shall be construed as a whole

(b) Any claim of loss or damage whether or not based on negligence and which arises out of the status of the title to the estate or interest covered hereby or by any action asserting such claim shall be restricted to this policy

(c) No amendment of or endorsement to this policy can be made except by a writing endorsed hereon or attached hereto signed by either the President a Vice President the Secretary an Assistant Secretary, or validating officer or authorized signatory of the Company

15 SEVERABILITY

In the event any provision of this policy is held invalid or unenforceable under applicable law the policy shall be deemed not to include that provision and all other provisions shall remain in full force and effect

16. NOTICES WHERE SENT

All notices required to be given the Company and any statement in writing required to be furnished the Company shall include the number of this policy and shall be addressed to Consumer Affairs Department, P O Box 27567, Richmond Virginia 23261-7567

Form No 217
6/00

FOR OFFICE USE ONLY
Amt of Fee $ 200.00
Receipt No 057717
Receipt By [illegible]
Date Received 11-9-01

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES

PROOF OF BENEFICIAL USE

*The Idaho Department of Water Resources considers this form a statement that the permit holder(s) has/have completed all development that will occur under this permit and that water has been applied according to the provisions of the permit for the beneficial use(s) described below This form must be accompanied by a license examination fee, when necessary, **or** be accompanied by a completed field examination report prepared by a certified water right examiner.*

1. Permit No. 34-07247 Telephone No. 208-527-3271

2. Name of Permit Holder(s): Mitchell D. Sorensen

3 Mailing Address. 3871 West 2500 North

City Moore State ID. Zip 83255

4. Source of Water: Groundwater If **GROUNDWATER** (well), Date Drilled: mo. _____ / yr. approx. 1960

Well Driller. unknown Drilling Permit Number: unknown

5. Use(s) (as authorized by the water right permit)·

Domestic (No. of households). _____ Stockwater (No. and type of stock): _____

Irrigation (No. of acres): 200 Other. _____

6 Total rate of diversion and/or volume for which proof is submitted: 4.49 cfs **OR** _____ acre-feet

7. Measuring Device Requirement: **(refer to the approval conditions on your permit and respond accordingly)**
*(This question is **not optional** Please check either yes or no Proofs returned not checked accordingly, will be considered incomplete)*

Measuring Device: Is a measuring device required? Yes X **or** No _____
Has the measuring device been installed? Yes X **or** No _____

8. Fee Enclosed $ ~~$~~200.00 (See Fee Schedule on back of the instructions for filing proof of beneficial use)

9. Person to contact to accompany the Department representative during field examination of the water system.

Name: Mitchell D. Sorensen Telephone Number: 208-527-3271

Address: 3871 W. 2500 N. Moore ID. 83255

10. ***The information given on this form is my true statement of the extent to which the above numbered permit has been developed and water has been diverted. I agree to relinquish any undeveloped portion of the right to the State of Idaho.***

MICROFILMED
DEC 12 2001

Signature of permit holder: Mitchell D. Sorensen Date Nov 6, 2001
(include your title, if on behalf of company of organization)

Note: As per a telephone conversation with IDWR personnel, I request the field examination for this permit not be conducted until the current drought conditions have abated and groundwater levels return to normal levels. Please contact me prior to conducting the examination. MDS

7/92

Ident. No. TC-34-06

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES

TEMPORARY CHANGE APPLICATION

(To change point of diversion, place of use or purpose of use)

Name of applicant Mitchell D. Sorensen & Bruce Sorlberg Phone 527-3271

Post Office address 3871 West 2500 North Moore Idaho 83255

A. PURPOSE OF TRANSFER

1. X Change point of diversion X Add diversion point(s) ___ Change place of use
___ Change purpose of use ___ Other

2. Describe the proposed change(s) and the reason(s) therefor Both Sorensen and Sorlberg need additional water supplies because their wells are not producing the normal rate of discharge. Basin 34 is experiencing another drought year. The transfer will enable the applicants to more fully irrigate their farms.

B. DESCRIPTION OF RIGHT(S) OR PORTION THEREOF, AFTER THE REQUESTED CHANGE

1. Right Number	Priority	Amount	Nature	Period of Use
34-07247	5/30/1980	1.61 cfs	irrigation	4-01 to 10-31
34-07120	9/05/1974	.80 cfs	irrigation	4-01 to 10-31
				to
34-07118	11/24/1975	2.40 cfs	irrigation	4-01 to 10-31

2. Total amount of water being transferred 4.81 cubic feet/second and/or _____ acre-feet per annum.

3. Source of water Groundwater tributary to _____

4. Point(s) of Diversion:

Ident No.	Gov't Lot	¼	¼	¼	Sec.	Twp.	Rge.	County	Local name for diversion
		~~NE~~	~~SE~~		~~4~~	~~4N~~	~~26E~~	~~Butte~~	~~Well~~
Note: Clerical Correction as described in June 9, 2001 Letter to Ron Carlson									
		NE	NW	NW	8	04N	26E	Butte	Well

5. Lands irrigated or Place(s) of Use: same as existing description of water right elements. (see attachment)

TWP	RGE	SEC	NE				NW				SW				SE				Totals
			NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	

Total acres _____

MICROFILMED
DEC 12 2001

7/92

Ident. No. TS-34-06

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES

TEMPORARY CHANGE APPLICATION

(To change point of diversion, place of use or purpose of use)

RECEIVED
JUN 25 2001
Department of Water Resources

Name of applicant Mitchell D. Sorensen & Bruce Soelberg Phone 527-3271

Post Office address 3871 West 2000 North Moore Idaho 83255

A. PURPOSE OF TRANSFER

1. X Change point of diversion X Add diversion point(s) ___ Change place of use
___ Change purpose of use ___ Other

2. Describe the proposed change(s) and the reason(s) therefor Both Sorensen and Soelbergs need additional water supplies because their wells are not producing the normal rate of discharge. Basin 34 is experiencing another drought year. The transfer will enable the applicants to more fully irrigate their farms.

B. DESCRIPTION OF RIGHT(S) OR PORTION THEREOF, AFTER THE REQUESTED CHANGE

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					to	
34-07118	11/24/1975	2.40 cfs	irrigation	4-01	to	10-31

2. Total amount of water being transferred 4.81 cubic feet/second and/or _____ acre-feet per annum.

3. Source of water Groundwater tributary to _____

4. Point(s) of Diversion:

Ident No.	Gov't Lot	¼	¼	¼	Sec.	Twp.	Rge.	County	Local name for diversion
		SE	SE		5	4N	26E	Butte	Well

5. Lands irrigated or Place(s) of Use: same as existing description of water right elements. (see attachment)

TWP	RGE	SEC	NE				NW				SW				SE				Totals
			NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	

MICROFILMED
DEC 12 2001

Total acres _____

6. General Information:

a. Who owns the water right to be changed? Mitchell Sorensen, Kurt Acor, Soelberg Farms, Partnership

b. Describe the arrangement allowing use of the right ownership, lease, ownership

c. Describe the affect on the land now irrigated if the change is approved pursuant to this application: irrigation will improve

d. Has the water right sought to be transferred been used this year? No If yes, explain. We tried, but the drought has reduced flows from wells in the basin by 20-30%.

e. Absent the changes, how would the right be used for the remainder of the year? It would not.

f. Describe other water rights used for the same purpose. (see attachments)

g. Remarks: We hope this temporary transfer will be approved immediately like other transfers requested in the basin. This is simply adding a new diversion pt. to existing water rights and irrigated farm land.

I hereby assume all risk in accordance with House Bill No 4 and assert that no one will be injured by such change and that the change does not constitute an enlargement in use of the original right. The information contained in this application is true to the best of my knowledge. I understand that any willful misrepresentations made in this application may result in voiding its approval

Mitchell Sorensen R Bruce Soelberg Soelberg Farms
(Signature of applicant)

FOR DEPARTMENT USE ONLY

Received by HWJ Date 6-15-01 Fee $50
Receipted HWJ 6-15-01 # E026825 Recommend: ✓ approve ____ deny
Watermaster recommendation E026826 Approve

ACTION OF THE DIRECTOR, DEPARTMENT OF WATER RESOURCES

This is to certify that I have examined Temporary Change Application No. TC-34-06
And said application is hereby Approved, subject to the following limitations and conditions:

1. This approval expires November 1 ~~1992~~ 2001 and thereafter the right reverts to the use existing prior to the temporary change

2. Subject to Control of the watermaster, WD 34

* A watermaster will measure flow of the new well for 2001 season, and a meter must be installed in this well by the applicant. 2001

Witness my hand this 19 day of June ~~1992~~.

MICROFILMED

DEC 12 2001

Form No 204
12/99
FILING FEE $50.00

For Office Use Only
$50 Fee Receipted by Barrow
Date 11-1-00
Receipt No 0050992

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES

REQUEST FOR EXTENSION OF TIME

TO PROVIDE ADDITIONAL TIME IN WHICH TO SUBMIT PROOF OF BENEFICIAL USE FOR A WATER RIGHT PERMIT

RECEIVED
NOV 0 1 2000
Department of Water Resources

The Idaho Department of Water Resources will consider this form as a request that the permit holder(s) be granted an additional period of time under the provisions of Section 42-204, Idaho Code in which to complete development of a water right.

Permit No 34-07247

Name(s) of Permit Holder Mitchell D. Sorensen

Address 3871 West 2500 North City Moore State ID Zip 83255

Telephone No. (208) 527-3271 Date Proof is Due: Dec. 1, 2000

Describe what work has been completed toward the development of this water right:
(This must be filled out! If no work has been completed, show "none".)

Development of this permit is from an existing well. This well's pumping equipment was replaced with larger motor, pump head, column, and bowls in May, 2000. The larger pump caused additional sand and gravel to move through this equipment when operated. This caused damage to the bowl impellors and required their replacement in June and again in July. (see invoice attachments) Costing $ 10,261.25

The permit holder(s) has been unable to complete the remainder of the work for the following reasons.

Although the new larger pumping equipment is designed for a total of 8.34 cfs diversion rate, the certified examiner I have hired was not able to complete the examination because the bowl impellors were worn/damaged again. I plan on repairing the impellors next spring and completing the field examination at that time.

Permit holder(s) request an extension to December 1, 2001

P.S. Please acknowledge receipt of this request prior to Dec. 1. 2000.

Mitchell Sorensen
(Signature)*
*If other than permit holder, Power of Attorney must be supplied

ACTION OF THE DEPARTMENT OF WATER RESOURCES

IT IS HEREBY ORDERED that the above request for extension of time be

APPROVED and the time within which to submit proof of beneficial use is extended to December 1, 2001.

Signed this 2nd day of November, 2000

L. Glen Saxton
L. Glen Saxton, Chief
Water Allocation Bureau

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Form No I-204 12/99

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES

INSTRUCTIONS FOR EXTENSION OF TIME REQUEST TO SUBMIT PROOF OF BENEFICIAL USE

If the water right development authorized by your permit is not complete and you need more time to submit proof of beneficial use of water under your permit, please read the following:

Under the provisions of Section 42-204, Idaho Code, the department can extend the proof due date of your permit only once, and then only if you can demonstrate that you have been pursuing development of the permit with due diligence

The Request for Extension of Time form requires that you indicate the extent of development that has occurred, the cost, and the reason(s) the work has not been completed. This information must be provided in enough detail to show due diligence. Examples of work performed are: well drilled, pump installed, 10 acres now irrigated, fish propagation ponds constructed, sprinkler system purchased, etc.

If no work has been accomplished, the statutes provide that the Request for Extension of Time must be denied. **Lack of financial resources, the state of the economy or personal illness usually cannot be considered adequate reasons to approve a Request for Extension of Time.**

EXCEPTIONS TO ONLY ONE EXTENSION

The proof due date for a permit that has not been developed for one of the following reasons may be granted one or more extensions of time even though no work has been accomplished:

- When there is a lack of a required consent or final approval from a federal government agency (**evidence of delay must be submitted with the request** i.e right-of-way easement or land classification such as Desert Land Entry or Carey Act.
- When litigation related to title of the water has prevented development of the permit (**evidence must be submitted with the request**).
- When the water project is of a large scale -- storage of more than 10,000 acre-feet or diversion of more than 25,000 acre-feet in one irrigation season for an irrigation project of at least 5,000 acres
- When the water right permit is held by the United States of America (**reason for request must be submitted**)

A non-refundable filing fee of **$50.00** must accompany the Request for Extension of Time form

NOTE that in no case should a Proof of Beneficial Use form and a Request for Extension of Time form both be submitted. If your water development project is completed, then the proof of beneficial use form should be completed and returned. If the project is started but not completed, then the Request for Extension of Time form should be completed and returned in compliance with the guidelines above. If the project has not been initiated and does not fit into one of the exceptions listed above, then neither form should be returned and the permit will lapse and become of no further force nor effect

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State of Idaho
Department of Water Resources

Permit To Appropriate Water

NO. 34-07247

Priority: May 30, 1980 Maximum Diversion Rate: 4.49 CFS

This is to certify, that **MITCHELL D SORENSEN**
RT 1 BOX 63
MOORE ID 83255
has applied for a permit to appropriate water from: **GROUNDWATER**

and a permit is **APPROVED** for development of water as follows:

BENEFICIAL USE	PERIOD OF USE	RATE OF DIVERSION
IRRIGATION	04/01 to 10/31	4.49 CFS

LOCATION OF POINT(S) OF DIVERSION: SENE , Sec. 5, Township 04N, Range 26E
BUTTE County

PLACE OF USE: IRRIGATION

TWN	RGE	SEC		ACRES		ACRES		ACRES	TOTAL
04N	25E	35	NENW	40.0	NWNW	40.0	SWNW	40.0	
			SENW	40.0	SESW	40.0			200.0

Total number of acres irrigated: 200.0

CONDITIONS OF APPROVAL AND REMARKS

1. See Final Order for conditions and limitations for use of water under this permit.

This permit is issued pursuant to the provisions of Section 42-204, Idaho Code. Witness the signature of the Director, affixed at Boise, this

30th day of November, 1999.

Karl J. Dreher, Director

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BEFORE THE DEPARTMENT OF WATER RESOURCES

OF THE

STATE OF IDAHO

IN THE MATTER OF APPLICATIONS FOR PERMIT NOS. 34-07247 AND 34-07410 IN THE NAME OF MITCHELL D. SORENSEN AND APPLICATION NO. 34-07430 IN THE NAME OF TIMBER-DOME CANAL COMPANY	)	**FINAL ORDER**

On March 12, 1999, the hearing officer for the Department of Water Resources (the "Department") issued a Recommended Order approving, with conditions and limitations, Application for Permit Nos. 34-07247 in the name of Mitchell D. Sorensen and 34-07430 in the name of Timberdome Canal Company. The Recommended Order denied Application for Permit No. 34-07410.

Petitions seeking reconsideration of the Recommended Order were filed with the hearing officer. The hearing officer issued an order on April 20, 1999, denying the petitions for reconsideration.

On May 11, 1999, protestants Matea McCray, Charles D. Huggins, and Lawrence R. Babcock filed letters with the Director taking exception to the Recommended Order. On May 12, 1999, protestant Reva W. Walker filed a letter taking exception to the Recommended Order. Because the letters of exception do not document service on other parties, they are not properly filed in accordance with Rule 302 and 303 of the Rules of Procedure (IDAPA 37.01.01). The letters reiterate the same issues raised by the protestants in the Petitions for Reconsideration. The hearing officer addressed these issues in the Order Denying Reconsideration. Changes to the Final Order are not needed to further address these issues.

After further review, Provision Nos. 3e and 3f conditioning the approval of Application for Permit No. 34-07430 have been modified. The provisions in the Recommended Order could be read as providing for individual county or other local officials to allow use of water when in their opinion flooding conditions warranted reducing flow in Antelope Creek or the Big Lost River. This reading could result in individual commissioners and other officials being pressured to determine whether diversion of water into the canal was necessary to prevent flooding each time stream flows exceed normal levels. Provision Nos. 3e and 3f conditioning approval of Application for Permit No. 34-07430 have been modified in the Final Order to allow use of water only when the board of county commissioners, or other responsible agencies, have issued an emergency declaration or taken other official action to declare that flooding conditions exist on

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Antelope Creek or the Big Lost River and water is being put into the Blaine Canal as a flood control measure.

Based upon his understanding of the facts and the law in this matter, the Director issues the following Findings of Fact, Conclusions of Law and Final Order.

FINDINGS OF FACT
CONCERNING THE APPLICATIONS AND PROTESTS

1. The following details apply to Application for Permit No. 34-07247:

Name of Applicant:	Mitchell D. Sorensen ("Sorensen")
Date Filed:	May 30, 1980
Source:	Ground Water
Diversion Rate:	8.34 cfs
Purpose of Use:	Irrigation
Period of Use:	April 1 to November 1
Point of Diversion:	SENE,[1] Section 5, Township 4 North, Range 26 East, B.M.[2]
Place of Use:	NW, SESW, Section 35, Township 4 North, Range 25 East (200 acres)
Explanatory Information:	Water is to be pumped from an existing well into the Moore Canal, then into the Old Utah Construction Canal,[3] and re-diverted from the canal at a point within the NESE, Section 35, Township 4 North, Range 25 East, and transported in a pipe to the place of use.

[1] The "1/4" designation is omitted from legal descriptions herein. For example, the term "SENE" means the "SE1/4 of the NE1/4" or more completely, "the southeast quarter of the northeast quarter."

[2] The term "B.M." is a reference to the "Boise Meridian" upon which legal surveys in the State of Idaho are based. The term is omitted from but implied in subsequent descriptions.

[3] The "Old Utah Construction Canal," which traverses the west side of the lower Big Lost River Valley, is known locally by several other names including the "UC Canal," the "Blaine Canal," and the "Timberdome Canal." Herein, this canal is referred to as the "Blaine Canal" except when quoting from an application or other document.

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2. Application for Permit No. 34-07247 was amended on February 21, 1984, changing the place of use to 200 acres in the NW, NESW, and SESW, Section 35, Township 4 North, Range 25 East.

3. Application for Permit No. 34-07247 was protested by Gerald Stewart; Lewis Rothwell; Mrs. Jesse W. Jensen; Ned R. Walker; David, Lois, and Chris Bleak; Larman Anderson; Jay F. Pearson; Virgil Hail; Joe Smith; Ruben Babcock; Richard Taylor; Bill Haralson, and the Big Lost River Irrigation District (the "BLRID"). The BLRID subsequently withdrew its protest. A hearing was held on the matter and a "Proposed Memorandum Decision and Order" was issued on August 1, 1989, approving the application with conditions including a requirement to reconstruct the well to divert water from levels deeper than 300 feet below land surface. The decision did not become final because Sorensen filed exceptions.

4. The following details apply to Application for Permit No. 34-07410:

Name of Applicant:	Sorensen
Date Filed:	April 12, 1982
Source:	Ground Water
Diversion Rate:	10.0 cfs
Purpose of Use:	Irrigation
Period of Use:	April 1 to November 1
Point of Diversion:	SESE, Section 5, Township 4 North, Range 26 East
Place of Use:	SE, Section 34, Township 4 North, Range 25 East, N1/2N1/2, Section 3, Township 3 North, Range 25 East (310 acres)
Explanatory Information:	Water from a new well will be pumped into the Westside Canal in exchange for water to be diverted from the Blaine Canal in the SWNW, Section 36, Township 4 North, Range 25 East. The diversion rate includes an amount to offset canal company transportation losses that are anticipated to be 60 percent of the diversion rate.[4]

[4] The applicant testified that the delivery system now employed to convey water from the well to the place of use had been modified since filing the application for permit to pipe the water to a ditch feeding the Timberdome Canal. The exchange of water with the BLRID is no longer proposed.

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5. Application for Permit No. 34-07410 was protested by David B. Bleak, Joe Smith, Gerald Stewart, BLIRD, Donald Rittenhouse, Idaho Department of Fish and Game, Lawrence R. Babcock representing the Big Lost River Water Users Association, Kirby Jensen, Idaho Rivers United, and Idaho Power Company.

6. The following details apply to Application for Permit No. 34-07430:

Name of Applicants:	Mitchell Sorensen, Greg Daniels, Todd Perkes, Norman Niederer, and Everett Acor, Jr. The application was assigned to the Timberdome Canal Company.
Date Filed:	April 8, 1983
Source:	Big Lost River and Antelope Creek
Diversion Rate:	199.6 cfs
Purpose of Use:	Irrigation
Period of Use:	April 1 to November 1
Point of Diversion:	NWSE, Section 14, NENW, Section 36, Township 6 North, Range 25 East; and NENW, Section 6, Township 6 North, Range 26 East.
Place of Use:	Portions of Sections 25, 34, 35, and 36, Township 4 North, Range 25 East; portions of Sections 1, 2, 3, 11, and 12, Township 3 North, Range 25 East; and portions of Sections 17 and 18, Township 3 North, Range 26 East (4990 acres)
Explanatory Information:	The water is to be diverted into the Blaine Canal at the Blaine Diversion from the Big Lost River and from headgates on the North and South Forks of Antelope Creek. The diversion rate includes a 50 percent conveyance loss.

7. Application for Permit No. 34-07430 was protested by Lawrence R. Babcock representing the Big Lost River Water Users Association, Idaho Department of Fish and Game, Idaho Rivers United, Charles Huggins, and Idaho Power Company. Matea H. McCray filed a late protest and was allowed to intervene.

8. Processing of the applications has been delayed by a series of administrative actions affecting the Big Lost River Basin separately or as a part of the Eastern Snake River Basin. These

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actions include: (a) an administrative hold on processing applications for new consumptive uses in the Snake River Basin above Swan Falls Dam from November 1982 to November 1988; (b) a moratorium on processing applications in the Big Lost River Basin from August 1990 to April 1993, herein termed the "Big Lost Moratorium;"[5] and (c) a moratorium on processing of applications in the Snake River Basin upstream from King Hill from April 1993 to the present time, herein termed the "Eastern Snake Plain Moratorium."[6]

9. Paragraphs 9 and 12 of the Eastern Snake Plain Moratorium provide as follows:

> 9. The moratorium does not prevent the Director from reviewing for approval on a case-by-case basis an application which otherwise would not be approved under terms of this moratorium if,
>
> > a. Protection and furtherance of the public interest as determined by the Director, requires consideration and approval of the application irrespective of the general drought related moratorium; or
> >
> > b. The Director determines that the development and use of the water pursuant to an application will have no effect on prior surface and ground water rights because of its location, insignificant consumption of water or mitigation provided by the applicant to offset injury to other rights.
> >
> > . . .
>
> 12. This moratorium supercedes and rescinds the Final Order of the department issued on August 7, 1990 which established a moratorium on the issuance of new permits within the Big Lost River drainage. Pending applications for permit or applications for transfer will be treated under terms of this amended moratorium order and may be considered for approval by the department in connection with proposed mitigation or compensation for prior water rights.

10. By letter dated November 17, 1997, Sorensen requested that processing of the applications be recommenced and continued to a final decision on each of the applications. Sorensen argued that the applications are not subject to the Eastern Snake Plain Moratorium and questioned whether the moratorium remained effective after December 31, 1997, the sunset date for

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[5] "Final Order - In the Matter of the Administration of the Use of the Surface and Ground Water of the Big Lost River Basin, Water District 34," entered by the Director of the Department of Water Resources on August 7, 1990.

[6] "Amended Moratorium Order - In the Matter of Application for Permits for the Diversion and Use of Surface and Ground Water within the Eastern Snake Plain and the Boise River Drainage Area," entered by the Director of the Department of Water Resources on April 30, 1993.

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Idaho Code § 42-1806 which required that the moratorium order remain in effect until that date. If the moratorium is in effect after December 31, 1997, and does apply to the applications, he sought issuance of permits for applications 34-07247 and 34-07410 conditioned upon compliance with the Water District 34 Water Distribution Rules (IDAPA 37.03.12), herein termed the "rules for Water District 34," and the mitigation requirements contained in those rules.

11. A hearing was held on September 23 and 24, 1998, in Idaho Falls to consider the applications and the protests against approval. The matters were consolidated into a single, combined hearing. Sorensen was present and represented by Kent W. Foster. Sorensen and Mr. Foster also represented Timberdome Canal Company. The protestants were present and represented as follows: Idaho Department of Fish and Game represented by Peter Ampe; Idaho Rivers United represented by Marti L. Bridges; Idaho Power Company represented by Norman M. Semanko; Big Lost River Water Users Association represented by Lawrence R. Babcock; Kirby Jensen represented by Norman M. Semanko; Joe Smith represented by Dale Smith; David and Lois Bleak, Reva Walker, Larman Anderson, Matea McCray, and Charles Huggins represented themselves.

12. The following issues were raised in connection with this matter:

a. The proposed use will reduce the quantity of water under existing water rights;

b. The water supply itself is insufficient for the purpose for which it is sought to be appropriated;

c. The application is not made in good faith, but is for speculation or delay;

d. The applicant does not have sufficient financial resources to complete the project to divert and beneficially use the water;

e. The proposed use conflicts with the local public interest;

f. The proposed use is contrary to conservation of water resources for use within the State of Idaho;

g. The processing procedures have not followed Idaho law because the water sought to be appropriated is water held in trust by the State of Idaho under Idaho Code § 42-203B and should be processed as a trust water diversion using the procedures and criteria of Idaho Code § 42-203C.

h. Issues regarding the applicability and effect of the Eastern Snake Plain Moratorium - Did the moratorium expire on December 31, 1997? Can applications be processed while the moratorium is in effect? Has an acceptable mitigation plan been proposed?

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i. The applications are invalid because they were not claimed in the Snake River Basin Adjudication ("SRBA").

13. In accordance with Rule 602 of the "Rules of Procedure" of the Department (IDAPA 37.01.01), official notice was taken of the following documents:

a. The Department's files for the three applications listed in the caption as they were constituted at the time of the hearing;

b. The "Water Appropriation Rules and Regulations" (IDAPA 37.03.08);

c. The "Water District 34 Rules" (IDAPA 37.03.12);

d. The "Rules for Conjunctive Management of Surface and Ground Water Resources" (IDAPA 37.03.11);

e. The Department's files for water right applications, permits, and licenses, and for claims filed in the SRBA for any right associated with the same point of diversion or place of use as the applications listed in the caption;

f. Topographic maps published by the USGS;

g. The Eastern Snake Plain Moratorium Order;

h. The Big Lost Moratorium Order;

i. The "Plan of Operations for the Big Lost River Irrigation District" adopted in about 1935.[7]

j. "Ground-Water Pumping Impacts on Surface Water Irrigation Diversions from Big Lost River," report published by the Idaho Water Resources Research Institute, (1991);

k. "Water Resources in the Big Lost River Basin, South Central Idaho," USGS Open File Report No. 79-93, (1970);

l. "Review of Ground Water Conditions in the Big Lost River Valley," Department Open File Report by Steven Baker, (1989);

m. Maps published by the USGS entitled "Aquifer-Test Results, Direction of Ground-Water Flow, and 1984-90 Annual Ground-Water Pumpage for Irrigation, Lower Big Lost River Valley, Idaho" (1992);

[7] The hearing record includes only a copy of a document purporting to be "Excerpts from Plan of Operations."

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n. "Upper Snake River Basin Study," report published by the Department, (1997);

o. The Department's files for any water right referred to in testimony at the hearing on this matter, including the file for Transfer No. 808 and the "Settlement Agreement and Plan of Operation," dated April 21, 1997, for Permits Nos. 34-07571 and 34-07573;

p. Watermaster reports and delivery records of Water District 34; and

q. List of water quality limited stream segments, 1998 amendment.

FINDINGS OF FACT
APPLICABLE TO ALL THREE APPLICATIONS

14. The name "Big Lost River" properly describes this unusual water system. During the course of its travel from its mountain watershed sources to its place of discharge onto the Snake River Plain, water from the river sinks then rises again at several locations. The result is a closely interconnected surface and ground water system within the basin. These surface and ground waters are, for the most part, one single water source. Diversion and consumptive use of water, whether from a surface diversion or from a well, decrease the total water supply available and can affect other uses of the resource.

15. Where water was available in the surface streams, it was used early in the settlement of the basin. As a result, rights were established to use surface water for the irrigation of some 23,000 acres of land with priorities dating generally from 1880 to 1900. In low streamflow periods, the holders of these rights divert and use the entire available water supply of the river. However, during most years, only the very earliest priority surface water rights receive water throughout the entire irrigation season.

16. Rights to the use of water pumped from wells within the basin have been established with priorities generally subsequent in time and thus inferior to rights to use surface water sources for direct flow and storage. Several hundred wells have been drilled within the basin, and the water from these wells is used for domestic, municipal, and agricultural purposes, including irrigation and livestock watering. These wells intercept part of the total water supply of the basin and, except as hereafter noted, have an impact on the quantity of water available to those diverting surface water from the Big Lost River and its tributaries. There is only a finite quantity of water within the basin, and any increase in consumptive use of surface or ground water at one location results in a decrease in the water supply available for use at another location, at some later time, either within the Big Lost River Basin or outside of the basin. Some of these wells have operated for more than 30 years without objection from surface right holders.

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17. The flow of the Big Lost River fluctuates dramatically from year to year and during each year. As measured at the USGS gauging station near Arco, the river annually yields as much as 395,900 acre feet of water (i.e., 1984). However, the gauging station recorded zero annual flow for several years during the late 1980s and early 1990s.

18. A number of studies and estimates have been made concerning the ground water resources of the Big Lost River Basin. One estimate by the USGS, based on data collected in 1968, indicated that the underflow of ground water past Arco occurred in a southerly direction toward the Snake River Plain ground water system and was in the range of 300,000 acre feet per year (425 cfs).[8] By the time of the USGS study, this substantial ground water resource had been partially developed and was being used to supplement and augment fluctuating surface water supplies of the basin. There has since been considerable additional development of ground water, and the amount of unused ground water exiting the basin has not been recently quantified.

19. Water rights for the use of ground water from beneath the Big Lost River Basin (Basin 34) have been included for administration with water rights for the use of surface water in a single water district (Water District 34) since 1993. Water District 34 has been active each year for many decades and has provided a watermaster to distribute water during times of scarcity.

20. The rules of operation adopted by Water District 34 provide for the conjunctive management of surface and ground water within the boundaries of Basin 34. Rule 50 includes a procedure for the holders of senior surface water rights injured by the use of junior ground water rights to receive water made available by holders of junior priority ground water rights to mitigate for the reduction in surface water that would have been delivered to holders of senior surface water rights but for the withdrawal and use of ground water under junior water rights.

21. Hydrologic information indicates that the surface and ground water within the Big Lost River Basin are closely connected from the headwaters of the Big Lost River to near Arco, Idaho. South of this location, ground water levels drop steeply to levels associated with the Eastern Snake Plain Aquifer ("ESPA"), which discharges to the Snake River at Thousand Springs and other locations. Wells drilled south of where ground water becomes disconnected from the Big Lost River will have no effect on flows of the Big Lost River. There is a transition zone within which wells can be operated without interfering with surface water rights in the Big Lost River Basin if the wells are cased and sealed through shallower ground water zones. Upgradient from this transition zone, any well will intercept water tributary to the Big Lost River, and thus at times will injure senior surface water rights from the Big Lost River and its tributaries unless a mitigation or compensation plan is implemented to protect holders of senior surface water rights. The locations of the wells sought in Application for Permit Nos. 34-07247 and 34-07410 are in the transition zone.

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[8] "Water Resources in the Big Lost River Basin, South Central Idaho," USGS Open File Report No. 70-93, 1970, page 97.

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22. Application for Permit No. 34-07247 has been released by Idaho Power Company from Ada County Case No. 81375. Paragraph 7C of the Snake River Water Rights Agreement[9] subordinated the use of water under Idaho Power Company's water rights for hydropower generation purposes, in the Milner Dam to Swan Falls reach of the Snake River, to junior water rights established by October 24, 1984, for which applications for permit were filed with the Department by June 30, 1985. Because Applications for Permit Nos. 34-07247 and 34-07430 satisfy these criteria, they are not subject to the additional evaluation criteria of Idaho Code § 42-203C. Water has not been diverted and used under Application for Permit No. 34-07410. Therefore, that application is considered to be a request for reallocation of trust water subject to the provisions of Idaho Code § 42-203C.

23. The protestants argued that diversion and use of water from the Big Lost River Basin should not be approved as proposed in any or all of the three applications because:

a. The benefits of diverting and using the water accrue to the applicants and their families, not to the general public.

b. Adequate water is not available to fill existing water rights for the use of surface and ground water. The protestants and other water right holders in the basin do not receive adequate water for irrigation and other beneficial uses during drought periods, such as occurred from 1986 to 1994. Ground water levels declined during this drought period forcing the reconstruction of wells used for irrigation, domestic, and other uses. The additional diversion and use of water proposed in the three applications would further reduce flows in the Big Lost River and its tributaries and reduce ground water supplies. Although the incremental reduction in water availability caused by the proposed uses may not be measurable, it is a real amount that should be quantified to allow the effect to be fully mitigated, or the applications should not be approved. Water availability would be further reduced and the injury to existing rights increased because the uses proposed in the applications would divert water to an area from which return flows do not return to the Big Lost River or to aquifers in the Big Lost River Basin.

c. The applicants did not offer mitigation plans with adequate information and detail to assure that existing rights will not be injured. Offering to provide mitigation using the procedures of the rules of Water District 34 does not assure that the effects of using water under the applications will be fully mitigated.

d. Legalizing the unauthorized use of water, even when the use has occurred for many years, encourages and rewards use outside of the established systems of water management.

[9] The Snake River Water Rights Agreement is the contract entered into by the Governor of the State of Idaho and Idaho Power Company on October 25, 1984, resolving the Swan Falls controversy.

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e. The applicants did not supply financial statements, loan commitments, or other information to demonstrate that the projects could be constructed and water used as proposed.

f. Approval of the applications would set a precedent for approval of all of the approximately 60 applications pending in the Big Lost River Basin that in total seek to appropriate about 600 cfs of water.

FINDINGS OF FACT CONCERNING APPLICATION FOR PERMIT NO. 34-07247

24. Sorensen testified that the well in the SENE, Section 5, Township 4 North, Range 26 East (herein termed the "SENE, Section 5 well"), from which water is sought to be appropriated under Application for Permit No. 34-07247, was drilled in 1961 and that the following water rights are diverted from this well:

a. Water Right License No. 34-02428, with a priority date of June 25, 1961,[10] authorizes diversion of 3.85 cfs of ground water for irrigation of 192.5 acres in portions of Sections 5 and 9, Township 4 North, Range 26 East;

b. Permit No. 34-07096B, with a priority date of January 31, 1975, authorizes diversion of 1.43 cfs of ground water for irrigation of 72 acres within a permissible place of use consisting of 828 acres in parts of Sections 2 and 3, Township 3 North, Range 25 East, and parts of Sections 34 and 35 in Township 4 North, Range 25 East; and

c. Permit No. 34-07097B, with a priority date of January 31, 1975, authorizes diversion of 1.29 cfs of ground water for irrigation of 64 acres within the same permissible place of use as for Permit No. 34-07096B.[11]

25. The Department measured the diversion rate from Sorensen's SENE, Section 5 well in August 1971 (from proof of beneficial use examination report dated August 31, 1971, in the Department's file for Water Right License No. 34-02428). This measurement, which was

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[10] The Department has recommended that the Snake River Basin Adjudication Court change the priority date of Water Right No. 34-02428 to April 1, 1979, to avoid injury to other rights because the place of use for the water right has been changed under the accomplished transfer provisions of Idaho Code § 42-1425 The place of use recommended to the SRBA Court is 193 acres within a permissible place of use of 945 acres in parts of Sections 2 and 3, Township 3 North, Range 25 East; parts of Sections 34 and 35, Township 4 North, Range 25 East; and part of Section 5, Township 4 North, Range 26 East.

[11] The point of diversion authorized for Permit Nos. 34-07096 and 34-07097 is a well in the SENW, Section 17, Township 4 North, Range 26 East. The Department's recommendation to the SRBA Court split these permits, recognizing part of the diversion rate from the well described on the permits and part from the SENE, Section 5 well. The change in point of diversion recommended by the department is based upon an accomplished change in accordance with Idaho Code § 42-1425.

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used in licensing Water Right No. 34-02428, found the diversion capacity of the SENE, Section 5 well to be 8.34 cfs, of which 3.85 cfs was licensed for diversion and use under Water Right No. 34-02428. Sorensen has claimed in the SRBA, and the Department has recommended, that 2.72 cfs from the SENE, Section 5 well be decreed under Permit Nos. 34-07096B and 34-07097B. If the SRBA Court decrees the permits as recommended, existing water rights account for all but 1.77 cfs of the diversion rate from the SENE, Section 5 well. If the SRBA Court does not decree the permits, 4.49 cfs of the measured diversion rate from the well is not accounted for by existing rights. Sorensen testified that although Application for Permit No. 34-07247 lists a diversion rate of 8.34 cfs, he intends to appropriate water for the diversion capacity of the well not now authorized by existing water rights; i.e., 1.77 cfs to 4.49 cfs depending on the SRBA Court's action with respect to the claims filed. Sorensen testified that he does not intend to increase the capacity of the well above 8.34 cfs, but that he does intend to resize the pump and motor at a cost of about $5,000 to allow the full diversion rate to be available when the pumping lift from the well is increased because of extended drought conditions or pumping from nearby wells.

26. The location of the point of diversion is more than six miles from the requested place of use (Protestant's Exhibit A). A diversion rate of 4.49 cfs is a reasonable rate of diversion, with conveyance through an open canal, to irrigate 200 acres.

27. Sorensen testified that water from the NESE, Section 5 well has been commingled with water from other sources to irrigate the land listed as the proposed place of use in Application for Permit No. 34-07247 as part of an 828-acre place of use. He indicated that this practice has been occurring since 1978 and no new or additional land would be irrigated if Application for Permit No. 34-07247 is approved.

28. Sorensen testified that he will comply with the mitigation requirements of Rule 50 of the rules for Water District 34 as necessary to prevent injury to existing water rights. If mitigation cannot be provided to protect existing water rights, the well will be reconstructed to divert water from deeper sources of ground water that are not tributary to the Big Lost River.

FINDINGS OF FACT CONCERNING APPLICATION NO. 34-07410

29. Application for Permit No. 34-07410 seeks to appropriate ground water from a well to be constructed for irrigation of 310 acres of land that is not irrigated now and has not previously been irrigated using ground water.

30. Sorensen estimated the cost of constructing the well would be about $50,000 plus the cost of the pump and associated equipment. He indicated that he has or could obtain the money to complete the project, but did not provide a financial statement or a loan commitment.

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31. The applicant asserted that the project is in the local public interest because it will provide financial assistance to the applicant and his family, will provide jobs in the community, and will increase the local tax base.

32. The applicant asserted that the water supply is adequate for the purposes intended and that other rights will not be injured. He offered to provide water for mitigation under the provisions of Rule 50 of the rules for Water District 34.

FINDINGS OF FACT CONCERNING APPLICATION NO. 34-07430

33. The original applicants are stockholders in the Timberdome Canal Company and own or operate the place of use listed on Application for Permit No. 34-07430.

34. Sorensen testified that approval of the application is sought to authorize the existing practice of diverting flood flows from the Big Lost River and Antelope Creek when flow rates exceed those necessary to supply prior water rights. Flows have been diverted into the Blaine Canal and used for irrigation of the land at the place of use listed in Application for Permit No. 34-07430 in ten of the past twenty years.

35. The diversion rate requested includes a conveyance loss allegedly based on observed losses from the canal. Data to support the conveyance loss were not provided. Several protestants testified that the Blaine Canal does not lose large amounts of water through seepage to ground water, but does leak and overflow onto the lands that it traverses.

36. The facilities necessary to divert and convey the water to the place of use are in place, but need improvement. By using excavation equipment to move gravel, water can be diverted and used with the facilities now in place. The Timberdome Canal Company will improve the diversion facilities in the future if the application for permit is approved.

37. Water diverted from the Big Lost River and Antelope Creek, as proposed under Application for Permit No. 34-07430, is to replace and augment water presently available at the place of use from other sources, particularly ground water. The volume of water consumed from the Big Lost River Basin or from the ESPA will not be increased because no new or additional land will be irrigated.

38. Sorensen testified that diversion and use of water as proposed in Application for Permit No. 34-07430 is in the public interest because: (a) flood flows in Antelope Creek and the Big Lost River would be decreased, thereby reducing or preventing damage to private and public property; (b) ground water supplies would be increased by reduced pumping under existing water rights and increased ground water recharge from seepage from the Blaine Canal through which the water would be conveyed; and (c) pumping costs would be reduced for the members of the Timberdome Canal Company.

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39. Sorensen testified that diversion and use of water under the water right would not injure other water rights if administered in priority with other rights.

40. Sorensen testified that the appropriation would conserve water for use in the State of Idaho.

41. David Shaw, testifying as an expert representing the applicants, asserted that the water supply is adequate for the purposes of Application for Permit No. 34-07430. Based on Applicant's Exhibit 2, the flow of the Big Lost River at the USGS Arco gauging station is 100 to 200 cfs during an average year. Mr. Shaw testified that the Arco gauging station is downstream from all diversions from the river in the Big Lost River Valley, and therefore, flow passing the gauging station is excess to that needed under existing water rights.

42. Mr. Shaw testified that diversion and use of water as proposed in Application for Permit No. 34-07430 would not increase the consumptive use of water because it would replace water diverted from other sources. The volume of water entering the ESPA from the Big Lost River Basin would not be reduced, but the location and timing of water entering the ESPA would be changed. The geohydrologic evaluation methods available at this time are not adequate to quantify the effect these changes would have on water levels in the ESPA or discharges from the ESPA at Thousand Springs and other locations.

43. Sorensen testified that use of water in accordance with Application for Permit No. 34-07430 would complement the recharge program of Water District 34 under Permit Nos. 34-07571 and 34-07573. Sorensen requested that approval of Application for Permit No. 34-07430 be conditioned using the following paragraphs from the "Plan of Operation, Basin 34 Recharge, April 1997":

> For the Big Lost River itself downstream from Mackay Dam, diversion for recharge downstream from Mackay Dam will not occur unless the flow at the Arco gage is 60 cfs or more, measured as a three consecutive day average. The 60 cfs at the Arco gage is for purposes of this Plan of Operation only and is not and cannot be construed as a minimum flow or minimum flow water right under any theory of law.
>
> In the event of a brief but intense weather event which is anticipated to produce flood flows for a period of three days or less, the Recharge Committee may call for and the Watermaster may deliver water for recharge purposes even if the flows at the Arco gage are below 60 cfs so long as the flow at the 2-B Gage is 300 cfs, or more, in excess of the non-recharge water deliveries occurring from the Big Lost River downstream from Mackay Dam.

44. The protestants asserted that diversion and use of water from the Big Lost River and Antelope Creek, as proposed in Application for Permit No. 34-07430, is not in the public interest because:

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a. High water flows in Antelope Creek are used and necessary to supply water to existing rights from Antelope Creek and the Big Lost River. The flows are particularly needed early in the irrigation season when the spring freshet has not begun in the Big Lost River upstream from Antelope Creek or when flows in the Big Lost River are reduced by diversions to storage in Mackay Reservoir.

b. Flood flows in the Big Lost River and Antelope Creek are necessary for maintenance of the stream environment, including black cottonwood trees, and to maintain fish and wildlife values that are important to the area.

c. Reaches of the Big Lost River and Antelope Creek that would have reductions in flows, if Application for Permit No. 34-07430 is approved, are on the list of water quality impaired streams issued under Section 303d of the federal Clean Water Act. Further reduction of flows in these reaches, and the operation of equipment in the channels to build diversions, will add to existing water quality problems.

d. The State of Idaho, through action of its Legislature and the Water Resource Board, has an on-going program seeking to increase recharge to the ESPA. Diversions from the Big Lost River and tributaries reduce the volume of water available for recharging the ESPA and are counter to the objectives of the state's program to emphasize recharge.

45. Permit Nos. 34-07571 and 34-07573 held by Water District 34 authorize the diversion of up to 800 cfs from the Big Lost River and various tributaries, including Antelope Creek, for ground water recharge purposes at various locations in the Big Lost River Basin.

CONCLUSIONS OF LAW
APPLICABLE TO ALL THREE APPLICATIONS

1. Idaho Code § 42-203A(5) provides in pertinent part:

> In all applications whether protested or not protested, where the proposed use is such (a) that it will reduce the quantity of water under existing rights, or (b) that the water supply itself is insufficient for the purpose for which it is sought to be appropriated, or (c) where it appears to the satisfaction of the director that such application is not made in good faith, is made for delay or speculative purposes, or (d) that the applicant has not sufficient financial resources with which to complete the work involved therein, or (e) that it will conflict with the local public interest, where the local public interest is defined as the affairs of the people in the area directly affected by the proposed use, or (f) that it is contrary to conservation of water resources within the state of Idaho; the director of the department of water resources may reject such application and refuse issuance of a permit therefor, or may partially approve and grant a permit for a smaller quantity of water than applied for, or may grant a permit upon conditions.

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2. Idaho Code § 42-203C(1) provides that applications to appropriate water held in trust by the State of Idaho must be evaluated using the additional criteria of Idaho Code § 42-203C(2) if the proposed use will significantly reduce the amount of trust water available to the holder of the water right used for power production. Surface and ground water within the Big Lost River Basin is within the area determined by Rule 30.01.a. of the Water Appropriation Rules (IDAPA 37.03.08) to be administered as trust water under the Snake River Water Rights Agreement. Rule 45.02 of the Water Appropriation Rules presumes that a significant reduction will not occur if the proposed use will not reduce flows at the USGS Murphy Gauge by more than two acre feet per day, and that an irrigation project of 200 acres or less will not cause a significant reduction.

3. Rule 45 of the Water Appropriation Rules further defines the criteria of Idaho Code §§ 42-203A(5) and 42-203C for evaluating applications for permit.

4. Rule 40.04.c of the Water Appropriation Rules provides as follows:

> The applicant has the ultimate burden of persuasion for the criteria of Section 42-203A, Idaho Code, and the protestant has the ultimate burden of persuasion for the criteria of Section 42-203C, Idaho Code.

5. The Eastern Snake Plain Moratorium did not sunset on December 31, 1997, and remains in effect until withdrawn or amended by order of the Director. Idaho Code § 42-1806(2) "approved and confirmed" the moratorium order. Paragraph 1 of the moratorium provides as follows:

> The moratorium shall be in effect on and after its entry and shall remain in effect until withdrawn or modified by order of the Director.

6. Applications to appropriate water are not lost or voided by failure to claim a right in the SRBA. Idaho Code § 42-1420(1) provides in pertinent part:

> The decree entered in a general adjudication shall be conclusive as to the nature and extent of all water rights in the adjudicated water system except that the following described rights shall not be lost by failure to file a notice of claim:
> . . .
>
> (b) a water right application for permit filed under chapters 2 or 15, title 42, Idaho Code;
> . . .

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CONCLUSIONS OF LAW
CONCERNING APPLICATION FOR PERMIT NO. 34-07247

7. Application for Permit No. 34-07247 is exempt from processing under the trust water conditions of Idaho Code § 42-203C.

8. Pumping of the well from which water is proposed to be diverted under Application for Permit No. 34-07247 depletes flows in the Big Lost River, and other surface flows, because the well is not constructed to seal out ground water from near surface zones. Whenever flow in the Big Lost River, and other surface sources, is not adequate to satisfy all rights with priorities earlier than May 30, 1980 (the filing date for Application for Permit No. 34-07247), diversion and use of water as proposed in the application will injure other rights unless the well is reconstructed to seal out near surface ground water connected with surface water, or mitigation is provided to fully offset the injury.

9. The diversion and use of water proposed in Application for Permit No. 34-07247 was occurring during the period of years used as the basis for the mitigation requirement in the rules for Water District 34. The rules are subject to amendment as necessary to provide adequate mitigation or other actions required to prevent injury to senior water rights for the use of water from both surface and ground water sources. Mitigation under the rules will protect senior surface water rights from injury by junior ground water uses existing at the time the study was made upon which the mitigation provisions of the rules are based.

10. Diversion and use of water under Application for Permit No. 34-07247 is in the local public interest. The use has been occurring for nearly twenty years and is relied upon by the applicant as a part of his overall farming operation. The use was commenced prior to the enactment of Idaho Code § 42-201(2), requiring that a permit be obtained before diverting and using water. The Idaho Legislature by enacting Idaho Code § 42-203B recognized the provisions of the Snake River Water Rights Agreement allowing permits to be issued to certain uses commenced prior to October 25, 1984, and for which applications for permit were filed by June 30, 1985. Application for Permit No. 34-07247 meets these requirements.

11. The application is made in good faith, and the applicant has sufficient financial resources to complete the project.

12. Use of water under Application for Permit No. 34-07247 conserves water for use in Idaho.

13. Application for Permit No. 34-07247 should be approved with conditions to prevent injury to prior rights.

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CONCLUSIONS OF LAW
CONCERNING APPLICATION FOR PERMIT NO. 34-07410

14. Application for Permit No. 34-07410 is subject to the trust water criteria of Idaho Code § 42-203C.

15. Application for Permit No. 34-07410 is subject to the Eastern Snake Plain Moratorium and cannot be approved without a finding by the Department that the use complies with the requirements of paragraphs 9 and 12 of the moratorium order. The applicant has not met his burden to show that the proposed diversion and use of water will not injure prior rights to use of water in Basin 34 or from the ESPA, nor has he offered a mitigation plan adequate to prevent injury to existing rights. The proposed well and proposed use were not a part of the water use that was included in the study upon which the rules for Water District 34 are based. The effects from diverting water from a new well for a new use may differ from the aggregate effect of using wells existing at the time of the study.

16. The effect of diversion and use of water under Application for Permit No. 34-07410 on water supplies in Basin 34 and the ESPA is a small but real amount.

17. The applicant did not meet his burden to show that diversion and use of water for irrigation of an additional 310 acres in the Big Lost River Basin is in the local public interest.

18. The applicant did not meet his burden to show financial ability to construct the project.

19. Application for Permit No. 34-07410 should be denied.

CONCLUSIONS OF LAW
CONCERNING APPLICATION FOR PERMIT NO. 34-07430

20. The use of water proposed by Application for Permit No. 34-07430 will not increase consumptive use of water in the Snake River Basin because it would replace water currently used under other existing water rights. Application for Permit No. 34-07430 is exempt from the trust water processing requirements of Idaho Code § 42-203C and can be processed under paragraphs 9 and 12 of the Eastern Snake Plain Moratorium.

21. Diversion and use of water under Application for Permit No. 34-07430 will not injure other existing rights if diversion is administered in priority with existing rights.

22. The water supply is adequate and the proposed use is a beneficial use of water as a replacement supply for uses already having a full supply under other existing water rights.

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23. Because the facilities to divert, deliver, and use water under Application for Permit No. 34-07430 presently exist, the application is not speculative and the applicant has the financial resources necessary for the project.

24. The determination of whether diversion and use of water under Application for Permit No. 34-07430 is in the local public interest requires balancing of several relevant factors. The hearing record documents that maintenance of flows in the Big Lost River and Antelope Creek is necessary to protect the public's interest in important fish and wildlife habitat and water quality values. The record also documents that the use will have a positive impact by reducing diversion of ground water in Basin 34, and leakage from the Blaine Canal will recharge aquifers in Basin 34. This apparent conflict can be resolved by approving the application for permit with conditions to allow diversion only when the flows in the Big Lost River and Antelope Creek are in excess of those needed to protect the public values.

25. The applicant did not provide adequate information to justify the amount of water requested for conveyance.

26. Application for Permit No. 34-07430 should be approved with conditions to protect prior rights and public interest values.

ORDER

IT IS HEREBY ORDERED THAT:

1. Application for Permit No. 34-07247 is **APPROVED** subject to the following conditions:

   a. Use of water under this permit is subject to all prior water rights.

   b. Proof of application of water to beneficial use shall be submitted on or before December 1, 2000.

   c. Use of water under this permit is subject to the control of the watermaster for Water District 34. Distribution of water for use under this permit shall be in accordance with the rules of Water District 34 including requirements for mitigation as therein provided. If mitigation is not provided to avoid injury to existing rights, the well shall be reconstructed to prevent water from depths less than 300 feet below land surface from entering the well.

   d. Prior to diversion of water under this permit, the permit holder shall install a lockable control device and a measuring device, subject to the approval of the Department, that will provide the watermaster suitable control of the diversion.

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e. This permit does not authorize construction of additional wells. If the existing well is reconstructed, the reconstruction shall comply with the permitting requirements of Idaho Code § 42-235.

f. Issuance of this permit does not grant a right-of-way or easement across the lands of another.

g. The rate of diversion under this permit shall not exceed 4.49 cfs; and when combined with Water Right No. 34-02428, or any other water right or rights determined by the SRBA Court to divert from the permit holder's well in the SENE, Section 5, Township 4 North, Range 26 East, the rate of diversion from the well is limited to a total of 8.34 cfs.

h. The place of use is limited to the 200 acres described in the application, unless an amendment is filed and approved as provided in Idaho Code § 42-211.

2. Application for Permit No. 34-07410 is **DENIED**.

3. Application for Permit No. 34-07430 is **APPROVED** subject to the following conditions:

a. Use of water under this permit is subject to all prior water rights.

b. Proof of application of water to beneficial use shall be submitted on or before December 1, 2002.

c. Use of water under this permit is subject to the control of the watermaster for Water District No. 34.

d. Issuance of this permit does not grant a right-of-way or easement across the lands of another.

e. Use of water is authorized only during flood events when the board of county commissioners, the highway district commission, or the State of Idaho's emergency agency designate a flood emergency and are using the Blaine Canal as determined necessary to prevent or reduce damage to public or private property. The amount diverted at the field headgate of the applicant from the Blaine Canal shall not exceed 0.02 cfs per acre when combined with all other water rights appurtenant to the acreage upon which it is being used.

f. The permit holder is not authorized to call for diversion of water under Permit No. 34-07430 or to take any action to divert water under the permit except as provided in paragraph e. This permit has the sole and limited effect of allowing the permit holder to use, in accordance with the permit's priority date, water placed in the Blaine Canal during officially designated flood emergencies.

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g. At any time within two years from the date of this final order, the permit holder may petition the Director of the Department to consider information allowing for a determination of the specific flow rates necessary to protect the public interest values in the Big Lost River and Antelope Creek, as recognized in this decision. Upon a determination by the Director of the required flow rates, the approval conditions of Permit No. 34-07430 will be amended to allow the permit holder to request the diversion of water under this permit at times, other than during officially designated flood emergencies, when the flow in Antelope Creek or the Big Lost River exceeds that required to protect public values. The permit holder shall serve the parties to this proceeding with copies of the petition, together with any supporting information for their review and comment to the Department. Upon request, the Department will provide an opportunity for hearing on the petition.

h. The permit holder's diversion rate from the Blaine Canal shall not exceed 99.8 cfs when combined with all other rights supplying water to the place of use authorized under Permit No. 34-07430.

Signed at Boise, Idaho this 30th day of November, 1999.

KARL J. DREHER
Director

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CERTIFICATE OF MAILING

I DO HEREBY CERTIFY that on the 30th day of November 1999, the above and foregoing document was served upon the following by placing a copy of the same in the United States Mail, postage prepaid and properly addressed to the following:

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c/o Kent W. Foster
HOLDEN KIDWELL
HAHN & CRAPO
PO Box 50130
Idaho Falls ID 83405

Idaho Power Company
Kirby Jensen
c/o Norman M. Semanko
ROSHOLT ROBERTSON TUCKER
PO Box 1906
Twin Falls ID 83303-1906

Idaho Dept. of Fish & Game
c/o Peter J. Ampe
Deputy Attorney General
PO Box 83720
Boise ID 83720-0010

Idaho Rivers United
c/o Marti L. Bridges
PO Box 633
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Big Lost River Water Users Assoc.
c/o Lawrence R. Babcock
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RITA I. FLECK
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BEFORE THE DEPARTMENT OF WATER RESOURCES
OF THE
STATE OF IDAHO

IN THE MATTER OF APPLICATIONS FOR PERMIT NO.'S 34-07247 AND 34-07410 IN THE NAME OF MITCHELL D. SORENSEN AND APPLICATION NO. 34-07430 IN THE NAME OF TIMBER-DOME CANAL COMPANY	**ORDER DENYING PETITIONS FOR RECONSIDERATION**

On March 16, 1999, a recommended order was mailed to the parties to the above referenced matter. The following parties filed petitions seeking reconsideration in accordance with Section 67-5243(3), Idaho Code: Mitchell Sorensen, Charles D. Huggins, Matea McCray, Reva W. Walker, Lawrence R. Babcock on behalf of the Big Lost River Water Users Association, Marti L. Bridges on behalf of Idaho Rivers United, and Peter Ampe representing Idaho Department of Fish and Game. A response is included in this order to each of the issues to expedite the review of this matter because the department's "Rules of Procedure" allow these matters to be filed as exceptions after the petitions for reconsideration are resolved.

Reuben H. Babcock filed a letter with Director Karl J. Dreher questioning the meaning and intent of "mitigation" as provided in the recommended order. A response to this question is given to address a similar question in the petition filed by Mr. Huggins.

A. Sorensen's Petition.

1. Sorensen requests that approval of condition "d" for permit no. 34-07247 be amended to read as follows:

> Prior to diversion of water under this permit, the permit holder shall install a measuring device, subject to the approval of the department, and will provide the watermaster with reasonable access to and suitable control of the diversion.

Response: Sorensen provided a letter from Doug Rosenkrance, Water District 34 Watermaster supporting his request. The letter and some information in Sorensen's petition are not part of the hearing record and can not be considered. Condition "d" is not impractical or unfair. The watermaster must be able to curtail any diversion in the district. Section 42-701, Idaho Code, includes the following language providing authority to require control devices:

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(1) ... Each device shall be of such construction that it can be locked and kept closed by the watermaster or other officer in charge, and shall also be of such construction as to regulate the flow of water at the diversion point.

Condition "d" does not imply that Sorensen has been or will be uncooperative with the watermaster or department field staff. The department has a responsibility to assure that permit conditions can be enforced. The condition should not be amended.

2. Sorensen also requests that the recommended order be amended to preserve application for permit No. 34-07410 for reprocessing if the Eastern Snake Plain Moratorium is lifted or revised.

Response: A letter dated November 17, 1997 from Mr. Kent Foster to the department includes the following opening paragraph:

We have been requested by Mr. Mitchell D. Sorensen to write to you regarding his three pending applications for permit, referenced above, and to formally request that processing be recommenced and continued until a final decision is reached with respect to each. (Emphasis added.)

This request has led to the present contested case. All involved in this matter have expended time and resources expecting the matters to be fully and finally resolved. Retention of jurisdiction for an undetermined period of time could prevent the department's order from becoming final thereby impairing the opportunity for judicial review. The condition should not be amended.

B. Charles D. Huggin's Petition. Huggin's seeks reconsideration of the following: (Quotations from petitions are in italics.)

1. *Finding of Fact No. 34. Mr. Sorensen didn't testify that diversion of water into the Blaine Diversion for ten (10) of the past twenty (20) years was a LEGAL diversion practice.*

Response: This finding does not address the legality of water use. The purpose of this finding is to acknowledge that the practice has been on-going for many years.

2. *Finding of Fact No 36. The Timberdome Canal Company DOES NOT OWN the Blaine Diversion Facility.*

Response: Finding of Fact No. 36 does not address ownership of the diversion. This finding acknowledges that because the facilities needed to divert and use the applied for water are in place, although future improvements may be made, the project is within the financial ability of the applicant.

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3. *Finding of Fact No. 38. If the water, as diverted from the river to a canal, is reduced to decree water only, the river is relegated – from the Blaine Diversion and south – to a canal status only and this is certainly not in the public interest.*

Response: The recommended decision determines that maintenance of flows in the Big Lost River and Antelope Creek is in the local public interest. The recommended approval of application for permit No. 34-07430 allows use of water put into the Blaine Canal when an authorized agency uses the Blaine Canal to alleviate a flood emergency, but the permit holder cannot simply call for water from either Big Lost River or Antelope Creek. The concern raised by Huggins is addressed by the recommended decision.

4. *Finding of Fact No. 39. Diversion and use of water under application 34-07430 would cause injury to all rights diverted from the Blaine Diversion on down river as a result of lowering the watertable and not allowing water to rise in the two most southernly stretches of Big Lost River, as identified by IDWR.*

Response: The permit holder cannot call for water at the Blaine Diversion. Simply using water put into the canal during a flood fight will not further deplete the Big Lost River.

5. *Finding of Fact No. 41. Mr. Shaw's testimony using average of 100 to 200 cfs at the Arco gage is just that - an average – it reflects total yearly flows, and has no bearing on the irrigation seasons or on the necessary flows to maintain any semblance of a living and viable river.*

See response to item 3 & 4 above.

6. *Finding of Fact No. 43. Sixty (60) CFS measured for three consecutive days to acquiesce total control of said waters – to the applicant, the recharge committee, and the watermaster – to do with as they please – promotes nothing more than the destruction of the water rights of individual citizens; IT IS A VIOLATION OF THE TRUST HELD BY THE STATE OF IDAHO OVER THIS STATE'S WATER!*

Response: This finding of fact acknowledges Sorensen's request to have application for permit 34-07430 issued with the same conditions as the "Plan of Operation, Basin 34 Recharge, April 1997. This plan was written and agreed to by the parties to an earlier contested case, to which Huggins was a party, to resolve the protests against approval of two applications for permit to divert water for recharge. Although offered by the applicant, the protestants in the present proceeding have not agreed to these conditions as a basis for resolving the protests against application for permit 34-07430. The recommended conditions of approval for application for permit 34-07430 do not incorporate these provisions, but instead require that water can only be used when water is placed in the Blaine Canal by officials responsible to alleviate flooding.

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7. *Conclusion of Law No. 20.* If the moratorium did not sunset in December of 1997, then HOW can this application even be considered – let alone become exempt – from trust water processing? Water supply is not adequate and injury is speculative because the applicants do not own the facilities at points of diversion and the cost of purchase and repair has not been demonstrated by the applicants to be available.

Response: This conclusion clearly states that application for permit no. 34-07430 does not require processing as trust water in accordance with Section 42-203C, Idaho Code, because no new consumptive use will occur. The trust water provisions are not applicable if the proposed use will not "significantly reduce the amount of trust water available to the holder of the water right used for power production..." (Section 42-203C, Idaho Code). Paragraphs 9 and 12 of the Eastern Snake Plain Area Moratorium (Referenced in Finding of Fact No. 9) allow processing of an application that "will have no effect on prior surface and ground water rights because of its location, insignificant consumption of water or mitigation provided by the applicant to offset injury to other rights." Huggin's concern for the diversion facilities is addressed in item 2 above.

8. *Conclusion of Law No. 24. "The hearing record documents that maintenance of flows in the Big Lost River and Antelope Creek is necessary to protect the public's interest in important fish and wildlife habitat and water quality values." ...."that the use will have a positive impact by reducing diversion of ground water in Basin 34 and leakage from the Blaine Canal will recharge the aquifers in Basin 34. This apparent conflict can be resolved by approving the application for permit with conditions to allow diversion only when the flows in the Big Lost River and Antelope Creek are in excess of those needed to protect the public values." HOW COULD SUCH ACTION PROTECT PUBLIC VALUES?*

Response: Huggins either does not think that the flows of Antelope Creek and Big Lost River ever exceed those required to maintain public values or does not agree that a permit can be conditioned to only allow use of flows in excess of those needed to protect public values. The recommended condition allowing use only when water is put into the Blaine Canal by officials acting during a flood emergency is adequate to protect the public interest.

9. Last, but not least: *This application has a provision for mitigation (yet to be defined). BUT, mitigation admits damage to others and such damage should not be intentionally inflicted! How can you mitigate injury by using water that legally belongs to those being injured?*

Response: The purpose of mitigation is to prevent injury that otherwise would occur. Adequate mitigation cannot be accomplished using water that legally belongs to those being injured. Mitigation must comply with the requirements of Rule 50 of the "Water Distribution Rules, Water District 34."

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C. Matea McCray's Petition. McCray seeks reconsideration of the following concerning application for permit No. 34-07430.

1. *Condition of Approval 3a.* This condition does not address futile call. Under this scenario, once Timberdome Canal begins to receive the 10,000 inches of Big Lost River (BLR) water, they can continue throughout the irrigation season even if there is no water in the BLR from the Moore diversion down as long as the flow at the 2-B gage is 300 cfs. All that would be required to continue use under Mr. Sorensen's request would be a "local futile call" similar to the one that IDWR has justified Mr. Rosenkrance delivering water to his son under a 1928 flood water right from Alder Creek.

Response: The condition referred to is a standard condition citing Idaho law that use of water is subject to all prior water rights. McCray's concern that a futile call determination could allow use throughout the irrigation season is unfounded because:

1. The recommended order (Condition 3e) allows use of water only when authorized officials put water into the Blaine Canal to alleviate flood conditions. The recommended order does not provide for the flow at the 2-B gage to be a direct consideration in whether or not water is used under the permit.

2. The recommended order (Condition 3f) does not allow the permit holder to call for diversion of water from the Big Lost River or Antelope Creek at any time, but only allows use, under the priority of the permit, when water is in the Blaine Canal.

3. When the flow of the Big Lost River is not sufficient to maintain flow downstream of the Moore Diversion, existing water rights with priorities earlier than application for permit No. 34-07430 would be entitled to divert and use the flow.

2. *Condition of Approval 3e. This condition allows for water to be diverted under emergency conditions in order to "prevent or reduce damage to public or private property". However, if the state emergency agency determines that diversion of waters from the BLR is necessary, they can require that every diversion off of the river be utilized to the maximum extent and all water users can be asked to irrigate to the maximum extent in order to protect these public and private properties. This way, all members of the "local public interest" will have the same opportunities as the Timberdome Canal Company to utilize this excess water in our own interest. Since this is the only scenario in this recommended order that truly represents the "local public interest", it is a fair and equitable way to resolve any future anticipated flood conditions.*

Response: Condition 3e does not require the public officials responding to a flood emergency only to use the Blaine Canal or even to use it in preference to other ways of reducing flood flows, including those suggested by McCray. This condition

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allows Timberdome Canal Company to comply with Section 42-201, Idaho Code, which requires a water right before using the waters of the state.

3. Finding of Fact 12a. *200 CFS taken out of the river under the subject application using the Plan of Operation, Basin 34 Recharge, April 1997, as stated on Page 13, Item 43 would significantly reduce the flow of water in the BLR, potentially draining the river from the Moore Diversion down.*

Response: See the response to item 1 above.

4. Finding of Fact 12b. *Timberdome's claim of "recharge and conservation of Idaho's water is incorrect. One inch/acre of irrigation over 5000 acres will not recharge the groundwater table at depth's of 100+ feet.*

Response: McCray may be confusing flow rate (miners inches per acre) with volume (acre feet). One miners inch if available throughout the irrigation season of April 1 to November 1 listed in application for permit 34-07430 would yield approximately 8.4 acre feet. This amount exceeds the consumptive use needs of the highest use crops in Basin 34 thereby providing at least the possibility of recharge. Water will not be available for diversion for the entire irrigation season under permit 34-07430, if approved, but when water is available, a portion of the water conveyed in the canal and applied to the fields may be recharged.

5. Finding of Fact 12c. *The sole purpose of the applicant's application is to benefit them. Right now, these same individuals are in the process of trying to sell this very acreage to the Sawtooth Farms Corporation for a pig farm. It is estimated that the number of pigs will exceed 700,000.*

Response: Information concerning Sawtooth Farms Corporation is not part of the hearing record and can not be considered. The purpose of nearly all applications submitted by private parties is to benefit the applicant. Few applications could be approved if those that benefit the applicant cannot be determined to be in the local public interest. The rules governing the appropriation of water (Reference: Rule 45.01e of the Water Appropriation Rules, ADAPA 37.03.08) provide for balancing the impact of the proposed project on all relevant local factors, including the economy, employment, recreation, fish and wildlife habitat, air and water quality, and zoning requirements. The conditions of approval limiting use of water to only those times that water is in the Blaine Canal because of flood control operations provides the necessary balancing of these factors.

6. Finding of Fact 12d. *Timberdome Canal Co. does not own the Blaine Diversion. In addition, I anticipate that the next step these individuals will take will be to convince the BLRID to transfer ownership of the Blaine Diversion to this company No one should be given a dam that would cost literally millions and millions of dollars to build today to any private interest or corporation.*

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Response: Information concerning the possible transfer of ownership of the Blaine Diversion is not in the hearing record and can not be considered.

7. Finding of Fact 12e. *Rivers, trees, fish, wildlife and natural beauty all benefit Idaho's (and local) public interest. Filling Senior irrigation water rights, maintaining natural recharge channels that provide recharge for groundwater irrigation and domestic wells throughout Butte County benefit all citizens of the "local public interest".*

Response: These values are fully considered in the recommended order. Use of water in compliance with the recommended conditions of approval of application for permit 34-07430 will protect these values.

8. Finding of Fact 12f. *Irrigation to Era Flats, which is miles out of the irrigation district, does not conserve water for Idaho. Irrigation would only benefit a few landowners at the expense of the rest of Butte County and its citizens.*

Response: Era Flats is in Idaho and in Butte County. The irrigation district is not the only authorized user of water in the basin, although it does hold water rights senior to the priority of application for permit No. 34-07430 which must be protected. Maintaining and adding to jobs and the tax base for the local area are factors included in the hearing record which must be balanced against other local public interest factors.

9. Finding of Fact 12h. *A moratorium is still in effect. Why would IDWR consider applications that benefit only a few individuals at the expense of the remainder of the population?*

Response: The response to Huggin's Conclusion of Law No. 20 addresses the effect of the moratorium. Idaho's constitution and statutes provide for the appropriation of public water by private entities and include procedures for doing so (Reference: Section 42-201, Idaho Code, et. seq.). The applicants satisfied IDWR's requirements to recommence processing of the applications under the moratorium provisions.

10. Finding of Fact 28. *Mr Sorenson (*sic*) has stated that he will comply with "mitigation requirements of Rule 50" However, he has never said how he proposes to do so.*

Response: McCray only protested against approval of application for permit No. 34-07430. Finding of Fact No. 28 does not refer to application for permit 34-07430. Mitigation is not a requirement under the recommended conditions of approval for this application.

11. Finding of Fact No. 27. *Illegal past practices should never be used as bases for justification of legalizing an illegal past historical practice The fact that Mr. Sorensen has used water under 34-07247 in 10 of the past 20 years, many of these years while the river was dry and Senior water right owners were not getting their rights filled, is a perfect example of illegal past practices as a result of unethical individuals that fill water rights according to a "buddy system" rather than implementing the law of "first in time, first in right".*

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Response: McCray only protested against approval of application for permit No. 34-07430, and her petition only seeks reconsideration of the recommended order relative to application for permit No. 34-07430. McCray does not accurately reference the substance of Finding of Fact No. 27 which indicates that the diversion and use of water sought under application for permit No. 34-07247 has been occurring since 1978. The relevance of the use of water to the consideration of whether application for permit No. 34-07430 should be approved or denied is reviewed in Conclusion of Law No. 10.

12. Finding of Fact No. 38. *Two of the three "public benefits" stated (Items B and C) are obviously not in the "local public interest" but are truly in the interest of the few landowners. Item a, which would be the only true "public interest" can be achieved utilizing all diversions from the river by maximizing those diversions under emergency conditions and encouraging all of the "local public" the opportunity of unlimited water usage during severe flood conditions. Obviously, reducing Timberdome's pumping costs for irrigation is not in my interest or the local public's interest.*

Response: The elements of the "local public interest" are perhaps subjective and depend somewhat on one's point of view. However, in this case, it is difficult to understand how McCray can argue that increasing ground water recharge or reducing the diversion and use of ground water in Basin 34 is not in the local public interest. The citizens of Big Lost River and throughout southern Idaho have a strong interest in enhancing and protecting ground water resources. Similarly, the conservation of energy is usually considered to be a desirable practice with many federal, state and local programs seeking to save various energy sources. McCray urges the unlimited usage of water by those not authorized to divert the extra water, while insisting that similar actions by the applicants should be punished.

D. Big Lost Water Users Association Petition. On behalf of the BLWUA, Lawrence R. Babcock seeks reconsideration of applications for permit 34-07247 and 34-07430 and asks for oral argument. The petition for reconsideration filed by Reva W. Walker addresses the same matters as the BLWUA petition.

1. The Eastern Snake River Plain Moratorium prohibits the approval of these two applications.

Response: See the response to Huggins in item 7 above.

2. The reference to the 1968 U.S.G.S. 300,000 acre feet per year is taken out of context and is irrelevant.

Response: The availability of unappropriated water is a relevant factor in determining whether an application for permit can be approved (Section 42-203A(5)), Idaho Code. The U.S.G.S. estimate of the amount of ground water exiting the basin is an important consideration.

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3. *The Watermaster is obligated by law to deliver water according to the decree.*

Response: A watermaster, when appointed by the Director of IDWR, is charged with the distribution of water in accordance with the prior appropriation doctrine under the direction of the Director of IDWR. The provisions of relevant decrees provide a basis for determining the distribution of water. It is unclear which decree is being referred to in this comment, but proper distribution of water whether or not the present applications are approved relies upon the watermaster's performance of his duties.

4 *Application 34-07247* ***IS UPGRADIENT*** *from the "A-line" or transition zones.*

Response: The location of the well sought in application for permit 34-07247 is upgradient from the A-line but is within the "transition zone" postulated by Steve Baker in his memorandum dated July 14, 1989. This memorandum is included in the department's file for application for permit No. 34-07247 and is a part of the hearing record.

5. *Applications 34-07247 and 34-07430 are subject to 42-203C.*

Response: Finding of Fact No. 22 addresses this issue. Based upon the provisions of the Snake River Water Rights Agreement, these applications do not require processing under 42-203C.

6. *Mr. Sorensen testified under oath that he had* ***NO*** *water to use as mitigation.*

Response: When required, mitigation is to be supplied in accordance with Rule 50 of the "Water Distribution Rules, Water District 34." When a call is made for mitigation water, the owner of a ground water right must identify adequate water to be supplied through the watermaster or curtail diversion of ground water for the period of the call.

7. *If these applications are granted, IDWR sanctions the illegal use of water to set a precedent.*

Response: Approval of an application authorizes the use of water in accordance with the permit conditions. The approval does not pass judgment on the legality of previous use of water by the applicant.

8. *Consumptive use of water will be greatly increased.*

Response: The hearing record indicates that the use of water under application for permit No. 34-07430 is to replace the source of water for lands already having a full supply of water. The record indicates that consumptive use will not be increased in either the Big Lost River basin or the Eastern Snake River Basin. The record indicates that the lands proposed to be irrigated under

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application for permit 34-07247 have been irrigated since 1978. The consumptive use occurring since then will not be increased.

9 *All of these diversions are upgradient from the Arco gauging station.*

Response: The recommended order is in agreement with this statement.

10. High water flows are needed to scour channels and fill surface rights at the Big Lost River Sinks.

Response: The recommended agreement fully considers and protects these concerns.

E. Idaho Rivers United's Petition. Marti L. Bridges, on behalf of IRU, seeks reconsideration of the following:

1. Finding of Fact No. 21 *describes a "transition zone" within which wells can be operated without interference with surface water rights in the Big Lost River Basin if cased and sealed through the shallower ground water zones. No reference at to what expert provided this information or basis for this finding of fact is included in the recommended order. To protestants knowledge, no known case of casing and sealing a well in the Big Lost River Basin to prevent interference with surface water rights has occurred or been identified. This finding of fact is supposition and unverifiable.*

Response: Finding of Fact No. 21 is a "carryover" from the "Proposed Memorandum Decision and Order" issued on application for permit No. 34-7247 in 1989 described in Finding of Fact No. 3. The hearing officer took official notice of the department's files for this and the other contested applications. The proposed order and a memorandum report by Steven Baker providing a technical basis for the finding are included in the file.

2. Mr. Sorenson's (sic) *testimony is not necessarily a finding of fact. Many people testified throughout the hearing process, some as expert witnesses, others were not. For instance, Bob Martin, Idaho Dept. of Fish and Game provided substantial expert testimony regarding hydrology of the basin and public values, yet he is never cited in the recommended order. Are all of these peoples testimony findings of fact? You must clearly identify individual testimony as such and determine based on all the testimony what constitutes a finding of fact This does not appear to have occurred.*

Response: A hearing officer in an administrative proceeding considers the testimony and other evidence in the hearing record, determines its relevance to the issues and gives each part of the evidence the appropriate weight in reaching a decision. The findings of fact included in the recommended order are those the hearing officer determined to be credible, relevant and necessary to the decision.

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Findings of fact were not credited to specific protestants or their witnesses because a number of witnesses testified to the same public interest issues.

3. Finding of Fact No. 38 *provides inconclusive hydrologic findings regarding flood damage to private property, increases in groundwater supplied and increased aquifer recharge. Whose expertise are you relying on? Mr Sorenson* (sic) *is not an expert witness on these issues.*

Response: Testimony by Sorensen and other witnesses is considered for credibility and relevance, then using the hearing officer's understanding of the facts and law, weighted to reach the recommended order. Although Sorensen was not accepted as an expert witness, his testimony was allowed into the record and can be considered, but with appropriate weight relative to other evidence.

4. *Under "Conclusions of Law Concerning Application for Permit No. 34-07247" Idaho Rivers United finds a fundamental misapplication of local public interest and the law. Under Item 10, page 16 there is not a showing of the local public interest. IDWR is rewarding the illegal use for nearly twenty years, clearly not in the local public interest. The local public interest identified in this case includes but is not limited to fish and wildlife values, maintenance of the aquifer, ensuring adequate streamflows, protection of water quality.*

Mr Sorensen's illegal use of water for more than twenty years is clearly in the private interest, not in the public interest as outlined in Shokal vs. Dunn. Furthermore, this is an internal contradiction for item 10 regarding the twenty years of use. Mr. Sorensen is illegal under the permit system of Idaho Code 42-201(2), the 1963 groundwater permitting statute. Item 11 is not in the local public interest nor made in good faith. Mr. Sorensen also failed to show he had adequate financial resources at hearing.

Response: The local public interest includes any locally important factor. The values listed by Bridges are important and are considered and protected in the decision. The decision also considers other locally important factors including the economy of the local area, employment, and tax base. The department is required to consider these additional factors under Rule 45.01.e of the "Water Appropriation Rules, IDAPA 38.03.08. Bridge's concern for the use of water prior to issuance of the permit is considered fully in Conclusion of Law No. 10. Sorensen testified that the facilities necessary to divert and use water under application for permit No. 34-07247 exist and the project is operational (see Finding of Fact No. 25). The hearing record shows that the financial resources are adequate, the applicant in good faith intends to divert and use the water and the application is not for delay or speculative purposes (Reference: Rule 45.01.c. of the "Water Appropriation Rules").

5 *Regarding conditions of approval for permit no. 34-07430 Idaho Rivers United believes this permit should outright be denied. However, we want to support the conditions for Antelope Creek because they clearly provide several protections to the local public interest*

Response: None required.

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F. Petition of Idaho Fish and Game. Peter J. Ampe, on behalf of the Idaho Department of Fish and Game, seeks reconsideration for the following reasons:

1. The Recommended Order, as part of the Order regarding Application No. 34-07430, should include the provisions from the "Plan of Operation, Basin 34 Recharge, April 1997" that Applicant stipulated the Application be conditioned on...

Response: Under the recommended conditions of approval, the permit holder cannot call for water to be diverted into the canal. Adding the condition requested by Ampe could be construed as allowing the permit holder to seek diversion into the canal based upon the flow at the Arco gauging station exceeding the referenced flow rate. The conditions of approval for application for permit No. 34-07430 allow use of water only when the responsible officials have put water into the Blaine Canal to alleviate flood conditions, unless the permit holder seeks a change in the permit condition in accordance with Item 3g of the recommended order.

2. Protestant further requests the Order at 3(f) be modified with the additional requirement that a true and correct copy of the written direction and request required under this paragraph be served on the Department of Water Resources.

Response: Item 3c.of the recommended conditions of approval for application for permit No. 343-07430 places use of water under the control of the watermaster of Water District 34. If the permit holder were requested to place water in the Blaine Canal by an official responsible for flood control, the watermaster will verify the request to assure compliance with permit conditions.

After review and consideration, the petitions for reconsideration and oral argument are **DENIED.**

Signed at Boise, Idaho this 20th day of April, 1999.

Norman C. Young
Hearing Officer

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CERTIFICATE OF SERVICE

I DO HEREBY CERTIFY that on the 21st day of April, 1999, the above and foregoing document was served upon the following by placing a copy of the same in the United States Mail, postage prepaid and properly addressed to the following.

Mitchell D Sorensen
c/o Kent W Foster
HOLDEN KIDWELL
HAHN & CRAPO
PO Box 50130
Idaho Falls ID 83405

Idaho Power Company
Kirby Jensen
c/o Norman M Semanko
ROSHOLT ROBERTSON
TUCKER
PO Box 1906
Twin Falls ID 83303-1906

Idaho Dept of Fish & Game
c/o Peter J Ampe
Deputy Attorney General
PO Box 83720
Boise ID 83720-0010

Idaho Rivers United
c/o Marti L Bridges
PO Box 633
Boise ID 83702

Big Lost River Water Users Assoc
c/o Lawrence R Babcock
2771 N 3325 W
Moore ID 83255

Joe Smith
c/o Dale Smith
Rt 1 Box 22
Moore ID 83255

Charles D Huggins
Rt 1 Box 216
Arco ID 83213

Ned R Walker
c/o Reva Walker
PO Box 32
Arco ID 83213

David & Lois Bleak
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Deborah Drew-Ellis
Administrative Assistant I, Legal Services

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BEFORE THE DEPARTMENT OF WATER RESOURCES

OF THE

STATE OF IDAHO

IN THE MATTER OF APPLICATIONS FOR PERMIT NOS. 34-07247 AND 34-07410 IN THE NAME OF MITCHELL D. SORENSEN AND APPLICATION NO. 34-07430 IN THE NAME OF TIMBER-DOME CANAL COMPANY	**RECOMMENDED ORDER**

The above referenced matter is before the Department of Water Resources (department) because of protests against approval of three applications to appropriate the public waters of the state. An administrative hearing has been held, testimony and evidence have been received and post-hearing briefing has been completed. The hearing officer recommends the following Findings of Fact, Conclusions of Law, and Order.

FINDINGS OF FACT CONCERNING THE APPLICATIONS AND PROTESTS

1. The following details apply to application for permit no. 34-07247:

   Name of Applicant: Mitchell D. Sorensen (Sorensen)

   Date Filed: May 30, 1980

   Source: Ground Water

   Diversion Rate: 8.34 cfs

   Purpose of Use: Irrigation

   Period of Use: April 1 to November 1

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Point of Diversion: SENE,[1] Section 5, Township 4N, Range 26E, B.M.[2]

Place of Use: NW, SESW, Section 35, Township 4N, Range 25E (200 acres)

Explanatory Information: Water is to be pumped from an existing well into the Moore Canal, then into the Old Utah Construction Canal,[3] and re-diverted from the canal at a point within the NESE, Section 35, Township 4 North, Range 25 East, and transported in a pipe to the place of use.

2. Application for permit no. 34-07247 was amended on February 21, 1984, changing the place of use to 200 acres in the NW, NESW, and SESW, Section 35, Township 4 North, Range 25 East.

3. Application for permit no. 34-07247 was protested by Gerald Stewart, Lewis Rothwell, Mrs. Jesse W. Jensen, Ned R. Walker, David, Lois and Chris Bleak, Larman Anderson, Jay F. Pearson, Virgil Hail, Joe Smith, Ruben Babcock, Richard Taylor, Bill Haralson and the Big Lost River Irrigation District (BLRID). The BLRID subsequently withdrew its protest. A hearing was held on the matter and a "Proposed Memorandum Decision and Order" was issued on August 1, 1989, approving the application with conditions including a requirement to reconstruct the well to take water from aquifers deeper than 300 feet below land surface. The decision did not become final because Sorensen filed exceptions to it.

4. The following details apply to application for permit no. 34-07410:

Name of Applicant: Sorensen

Date Filed: April 12, 1982

Source: Ground Water

Diversion Rate: 10.0 cfs

Purpose of Use: Irrigation

Period of Use: April 1 to November 1

Point of Diversion: SESE, Section 5, Township 4 North, Range 26 East

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1 The "¼" designation is omitted from legal descriptions throughout the document. For example, the term "SENE" means the "SE1/4 of the NE1/4" or more completely, "the southeast quarter of the northeast quarter."

[2] The term "B.M." is a reference to the "Boise Meridian" upon which legal surveys in the state of Idaho are based. The term is omitted from, but implied in subsequent descriptions.

[3] The "Old Utah Construction Canal," which traverses the west side of the lower Big Lost River Valley is known locally by several other names including the "UC Canal," the "Blaine Canal" and the "Timberdome Canal." Herein it is termed the "Blaine Canal" except when quoting from an application or other document.

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Place of Use: SE, Section 34, Township 4 North, Range 25 East, N1/2N1/2, Section 3, Township 3 North, Range 25 East (310 acres)

Explanatory Information: Water from a new well will be pumped into the Westside Canal in exchange for water to be diverted from the Blaine Canal in the SWNW, Section 36, Township 4 North, Range 25 East. The diversion rate includes an amount to offset canal company transportation losses that are anticipated to be 60 percent of the diversion rate.[4]

5. Application for permit no. 34-07410 was protested by David B. Bleak, Joe Smith, Gerald Stewart, Big Lost River Irrigation District, Donald Rittenhouse, Idaho Department of Fish and Game, Lawrence R. Babcock representing the Big Lost River Water Users Association, Kirby Jensen, Idaho Rivers United and Idaho Power Company.

6. The following details apply to application for permit no. 34-07430:

Name of Applicants: Mitchell Sorensen, Greg Daniels, Todd Perkes, Norman Niederer, and Everett Acor, Jr. The application has been assigned to the Timberdome Canal Company.

Date Filed: April 8, 1983

Source: Big Lost River and Antelope Creek

Diversion Rate: 199.6 cfs

Purpose of Use: Irrigation

Period of Use: April 1 to November 1

Point of Diversion: NWSE, Section 14, NENW, Section 36, Township 6 North, Range 25 East and NENW, Section 6, Township 6 North, Range 26 East.

Place of Use: Portions of Sections 25, 34, 35 and 36, Township 4 North, Range 25 East, portions of Sections 1, 2, 3, 11, and 12, Township 3 North, Range 25 East, and portions of Sections 17 and 18, Township 3 North, Range 26 East (4990 acres)

Explanatory Information: The water is to be diverted into the Blaine Canal at the Blaine Diversion from the Big Lost River and from headgates on the North and

[4] The applicant testified that the delivery system now employed to convey water from the well to the place of use had been revised to pipe the water to a ditch feeding the Timberdome Canal. The exchange of water with the BLRID is no longer proposed

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South Forks of Antelope Creek. The diversion rate includes a 50 percent conveyance loss.

7. Application for permit no. 34-07430 was protested by Lawrence R. Babcock representing the Big Lost River Water Users Association, Idaho Department of Fish and Game, Idaho Rivers United, Charles Huggins, and Idaho Power Company. Matea H. McCray filed a late protest, but was allowed to intervene.

8. Processing of the applications has been delayed by a series of administrative actions affecting the Big Lost River Basin separately or as a part of the Eastern Snake River Basin. These actions include: a) an administrative hold on processing of applications for new consumptive uses in the Snake River Basin above Swan Falls Dam from November 1982 to November 1988; b) a moratorium on processing applications in the Big Lost River Basin from August 1990 to April 1993, herein termed the "Big Lost Moratorium;"[5] and c) a moratorium on processing of applications in the Snake River Basin upstream from King Hill from April 1993 to the present time, herein termed the "Eastern Snake Plain Area Moratorium."[6]

9. Paragraphs 9 and 12 of the Eastern Snake Plain Area Moratorium provide as follows:

> 9. The moratorium does not prevent the Director from reviewing for approval on a case-by-case basis an application which otherwise would not be approved under terms of this moratorium if,
>
> > a. Protection and furtherance of the public interest as determined by the Director, requires consideration and approval of the application irrespective of the general drought related moratorium; or
> >
> > b. The Director determines that the development and use of the water pursuant to an application will have no effect on prior surface and ground water rights because of its location, insignificant consumption of water or mitigation provided by the applicant to offset injury to other rights.
>
> 12. This moratorium supercedes and rescinds the Final Order of the department issued on August 7, 1990 which established a moratorium on the issuance of new permits within the Big Lost River drainage. Pending applications for permit or applications for transfer will be treated under terms of this amended moratorium order and may be considered for approval by the

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[5] Reference "Final Order – In the Matter of the Administration of the Use of the Surface and Ground Water of the Big Lost River Basin, Water District 34" entered by the Director of the Department of Water Resources on August 7, 1990.

[6] Reference "Amended Moratorium Order – In the Matter of Application for Permits for the Diversion and Use of Surface and Ground Water within the Eastern Snake Plain Area and the Boise River Drainage Area" entered by the Director of the Department of Water Resources on April 30, 1993.

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department in connection with proposed mitigation or compensation for prior water rights.

10. By letter dated November 17, 1997, Sorensen requested that processing of the applications be recommenced and continued to a final decision on each of the applications. Sorensen argued that the applications are not subject to the Eastern Snake Plain Area Moratorium and questioned whether the moratorium remained effective after December 31, 1997, the sunset date for Section 42-1806, Idaho Code, which required that the moratorium order remain in effect until that date. If the moratorium is in effect after December 31, 1997 and does apply to the applications, he sought issuance of permits for applications 34-07247 and 34-07410 conditioned upon compliance with the Water District 34 Water Distribution Rules (IDAPA 37.03.12), herein termed the "Water District 34 Rules," and the mitigation requirements contained in those rules.

11. A hearing was held on September 23 and 24, 1998, in Idaho Falls to consider the applications and the protests against their approval. The matters were consolidated into a single, combined hearing. Sorensen was present and represented by Mr. Kent W. Foster. Mr. Sorensen and Mr. Foster also represented Timberdome Canal Company. The protestants were present and represented as follows: Idaho Department of Fish and Game represented by Mr. Peter Ampe; Idaho Rivers United represented by Marti L. Bridges; Idaho Power Company represented by Norman M. Semanko; Big Lost River Water Users Association represented by Lawrence R. Babcock; Kirby Jensen represented by Norman M. Semanko; Joe Smith represented by Dale Smith; David and Lois Bleak, Reva Walker, Larman Anderson, Matea McCray, and Charles Huggins were present and represented themselves.

12. The following issues were raised in connection with this matter:

a. The proposed use will reduce the quantity of water under existing water rights.

b. The water supply itself is insufficient for the purpose for which it is sought to be appropriated.

c. The application is not made in good faith, but is for speculation or delay.

d. The applicant does not have sufficient financial resources to complete the project to divert and beneficially use the water.

e. The proposed use conflicts with the local public interest.

f. The proposed use is contrary to conservation of water resources for use within the state of Idaho.

g. The processing procedures have not followed Idaho law because the water

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sought to be appropriated is water held in trust by the state of Idaho under Section 42-203B, Idaho Code, and should be processed as a trust water diversion using the procedures and criteria of Section 42-203C, Idaho Code.

h. Issues regarding the applicability and effect of the Eastern Snake Plain Area Moratorium: Did the moratorium expire on December 31, 1997? Can applications be processed while the moratorium is in effect? Has an acceptable mitigation plan been proposed?

i. The applications are invalid because they were not claimed in the Snake River Basin Adjudication (SRBA).

13. In accordance with Rule 602 of the "Rules of Procedure" of the department (IDAPA 37.01.01), official notice was taken of the following documents:

a. The department's files for the three applications listed in the caption as they were constituted at the time of the hearing.

b. The "Water Appropriation Rules and Regulations," (IDAPA 37.03.08).

c. The "Water District 34 Rules," (IDAPA 37.03.12).

d. The "Rules for Conjunctive Management of Surface and Ground Water Resources," (IDAPA 37.03.11).

e. The department's files for water right applications, permits and licenses and for claims filed in the SRBA for any right associated with the same point of diversion or place of use as the applications listed in the caption.

f. Topographic maps published by the USGS.

g. The Eastern Snake Plain Area Moritorium order.

h. The Big Lost Moratorium order.

i. The "Plan of Operations for the Big Lost River Irrigation District" adopted about 1935.[7]

j. A report published by the Idaho Water Resources Research Institute entitled "Ground-Water Pumping Impacts on Surface Water Irrigation Diversions from Big Lost River" (1991).

[7] The hearing record includes only a copy of a document purporting to be "Excerpts from Plan of Operations."

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k. "Water Resources in the Big Lost River Basin, South Central Idaho," USGS Open File Report No. 79-93, (1970).

l. A departmental open-file report by Steven Baker entitled "Review of Ground Water Conditions in the Big Lost River Valley" (1989).

m. Maps published by the USGS entitled "Aquifer –Test Results, Direction of Ground-Water Flow, and 1984-90 Annual Ground-Water Pumpage for Irrigation, Lower Big Lost River Valley, Idaho" (1992).

n. A report published by the department entitled "Upper Snake River Basin Study" (1997).

o. The department's files for any water right referred to in testimony at the hearing on this matter, including the file for Transfer No. 808 and the "Settlement Agreement and Plan of Operation" dated April 21, 1997, in the files for permits 34-07571 and 34-07573.

p. Watermaster reports and delivery records of Water District 34.

q. List of water quality limited stream segments, 1998 amendment.

FINDINGS OF FACT
APPLICABLE TO ALL THREE APPLICATIONS

14. The name "Big Lost River" properly describes this unusual water system. During the course of its travel from the mountain watershed to the place of discharge onto the Snake River Plain the water of the river sinks then rises again at several locations. The result is a closely interconnected surface and ground water system within the basin. These surface and ground waters are, for the most part, one single water source. Diversion and consumptive use of water, whether from a surface diversion or from a well, decreases the total water supply available and can have an effect on other uses of the resource.

15. Where water was available in the surface streams, it was used early in the settlement of the basin. As a result, rights were established to use surface water for the irrigation of some 23,000 acres of land with priorities generally from 1880 to 1900. In low streamflow periods, the holders of these rights divert and use the entire available water supply of the river. However, during most years, only the very earliest priority surface water rights are able to receive water throughout the entire irrigation season.

16. Rights to the use of water pumped from wells within the basin have been established with priorities generally subsequent in time and inferior to rights from surface water sources for direct flow and storage. Several hundred wells have been drilled within the basin and the water from these wells is used for domestic, municipal and agricultural purposes, including irrigation and

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livestock watering. These wells intercept part of the total water supply of the basin and, except as hereafter noted, have an impact on the quantity of water available to those diverting surface water from the Big Lost River and its tributaries. There is only a finite quantity of water within the system and any increase in consumptive use of surface or ground water at one location results in a decrease in the water supply available for use at another location, at some later time, either within the Big Lost River Basin or outside of the basin. Some of these wells have operated for more than 30 years without objection from surface right holders.

17. The flow of the Big Lost River fluctuates widely from year to year and during the year. As measured at the USGS gauging station near Arco, it has annually totaled as much as 395,900 acre feet in water year 1984. The gauging station recorded zero annual flow for several years during the late 1980's and early 1990's.

18. A number of studies and estimates have been made of the ground water resources of the basin. An estimate by the USGS based on data collected in 1968 indicated that the underflow of ground water past Arco in a southerly direction toward the Snake Plain ground water system was in the range of 300,000 acre feet per year (425 cfs).[8] This indicates that there was then a substantial resource, which had been partially developed and was being used to supplement and augment the widely fluctuating surface water supplies of the basin. There has been considerable development of ground water since that time and the amount of unused ground water exiting from the basin has not been recently quantified.

19. The ground water rights in Basin 34 have been included for administration with the surface water rights in a single water district in Basin 34 since 1993. Water District 34 has been active each year for many decades and has provided a watermaster to distribute water during times of scarcity.

20. The Water District 34 Rules provide for the conjunctive management of surface and ground water in the basin. Rule 50 includes a procedure for the holders of senior surface rights injured by the use of junior ground water rights to receive water made available by holders of junior priority ground water rights to mitigate loss of water.

21. Hydrologic information indicates that the surface and ground water within the Big Lost River Basin are closely connected from the headwaters of the stream to a point near Arco. South of this point ground water levels drop steeply to join the Eastern Snake Plain Aquifer (ESPA) which exits to Snake River at Thousand Springs and other locations. Wells drilled south of the location where the ground water loses connection with the Big Lost River will have no effect on the flow of the river. There is a "transition zone" within which wells can be operated without interference with surface water rights in the Big Lost River Basin if cased and sealed through the shallower ground water zones. Upgradient from this transition zone, any well will intercept water tributary to the Big Lost River and thus, at times, will injure prior surface water rights from the Big

[8] "Water Resources in the Big Lost River Basin, South Central Idaho, USGS Open File Report No 70-93, 1970, page 97.

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Lost River and tributaries unless a mitigation or compensation plan is implemented to protect holders of rights to surface water. The locations of the wells sought in applications 34-07247 and 34-07410 are in the "transition zone."

22. Application for Permit No. 34-07247 has been released by Idaho Power Company from Ada County Case No. 81375. Paragraph 7C of the Snake River Water Rights Agreement[9] subordinated the use of water under Idaho Power Company's prior water rights for hydropower generation purposes in the Milner Dam to Swan Falls reach of the Snake River to water uses in place by October 24, 1984, for which applications for permit were filed by June 30, 1985. Because applications for permit 34-07247 and 34-07430 satisfy these criteria, they are not subject to the additional evaluation criteria of Section 42-203C, Idaho Code. Water has not been diverted and used under application for permit 34-07410. Therefore, that application is considered to be a request for reallocation of trust water subject to the provisions of Section 42-203C, Idaho Code.

23. The protestants argued that diversion and use of water from the Big Lost River Basin should not be approved as proposed in any or all of the three applications because:

a. The benefits of diverting and using the water accrue to the applicants and their families not to the general public.

b. Adequate water is not available to fill existing rights to surface and ground water. The protestants and other rightholders in the basin do not receive adequate water for irrigation and other beneficial uses during drought periods such as that occurring from 1986 to 1994. Ground water levels declined during this period forcing the reconstruction of wells used for irrigation, domestic and other uses. The additional diversion and use of water proposed in the three applications would further reduce flows in the Big Lost River and tributaries and reduce ground water supplies. Although the incremental reduction in water availability caused by the proposed uses may not be measurable, it is a real amount that should be quantified to allow the effect to be fully mitigated or the applications should not be approved. Water availability would be further reduced and the injury to existing rights increased because the uses proposed in the applications would divert water to an area from which return flows do not return to the Big Lost River or to aquifers in the Big Lost River Basin.

c. The applicants did not offer mitigation plans with adequate information and detail to assure that existing rights will not be injured. Offering to provide mitigation using the procedures of the Water District 34 rules does not assure that the effects of using water under the applications will be fully mitigated.

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[9] The Snake River Water Rights Agreement is the contract entered into by the Governor of the State of Idaho and Idaho Power Company on October 25, 1984, resolving the Swan Falls controversy

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d. Legalizing the unauthorized use of water, even when the use has occurred for many years, encourages and rewards use outside of the established systems of water management.

e. The applicants did not supply financial statements, loan commitments or other information to demonstrate that the projects could be constructed and water used as proposed.

f. Approval of the applications would set a precedent for approval of all of the approximately 60 applications pending in the basin seeking to appropriate about 600 cfs of water.

FINDINGS OF FACT CONCERNING APPLICATION FOR PERMIT NO. 34-07247

24. Sorensen testified that the well in the SENE, Section 5, Township 4 North, Range 26 East (hereafter termed the SENE, Section 5 well), from which the water is sought to be appropriated under application for permit no. 34-07247, was drilled in 1961 and that the following rights are diverted from this well:

- License no. 34-02428, with a priority date of June 25, 1961,[10] authorizes diversion of 3.85 cfs of ground water for irrigation of 192.5 acres in portions of Section 5 and 9, Township 4 North, Range 26 East.

- Permit no. 34-07096B, with a priority date of January 31, 1975, authorizes diversion of 1.43 cfs of ground water for irrigation of 72 acres in a permissible place of use of 828 acres in parts of Sections 2 and 3, Township 3 North, Range 25 East, and parts of Sections 34 and 35 in Township 4 North, Range 25 East.

- Permit no. 34-07097B, with a priority date of January 31, 1975, authorizes diversion of 1.29 cfs of ground water for irrigation of 64 acres in the same permissible place of use as permit no. 34-07096B.[11]

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[10] The department has recommended that the Snake River Basin Adjudication court change the priority of right no. 34-02428 to April 1, 1979, to avoid injury to other rights because the place of use of the right has been changed under the accomplished transfer provisions of Section 42-1425, Idaho Code The place of use recommended to the SRBA court is 193 acres within a permissible place of use of 945 acres in parts of Sections 2 and 3, Township 3 North, Range 25 East; parts of Sections 34 and 35, Township 4 North, Range 25 East; and part of Section 5, Township 4 North, Range 26 East.

[11] The point of diversion authorized for permit nos 34-07096 and 34-07097 is a well in the SENW, Section 17, Township 4 North, Range 26 East. The department's recommendation to the SRBA court split these permits, recognizing part of the diversion rate from the well described on the permits and part from the SENE, Section 5 well. The change in point of diversion recommended by the department is based upon an accomplished change in accordance with Section 42-1425, Idaho Code.

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25. The department measured the diversion rate from Sorensen's SENE, Section 5 well in August 1971 (Ref: Proof of beneficial use examination report, dated August 31, 1971, in the department's file for license no. 34-02428). This measurement, used in licensing right no. 34-02428 found the diversion capacity of the well to be 8.34 cfs of which 3.85 cfs was licensed for diversion and use under right no. 34-02428. Sorensen has claimed in the SRBA and the department has recommended that 2.72 cfs from the SENE, Section 5 well be decreed under permit nos. 34-07096B and 34-07097B. If the SRBA court decrees the permits as recommended, existing rights account for all but 1.77 cfs of the diversion rate from the SENE, Section 5 well. If the SRBA court does not decree the permits, 4.49 cfs of the measured diversion rate from the well is not accounted for by existing rights. Sorensen testified that, although the application lists a rate of diversion of 8.34 cfs, he intends to validate through approval of application no. 34-07247 the diversion capacity of the well not now covered by existing rights; i.e., 1.77 cfs to 4.49 cfs depending upon the SRBA court's action with respect to the claims filed. He does not intend to increase the capacity of the well above 8.34 cfs, but does intend to resize the pump and motor at a cost of about $5,000 to allow the full diversion rate to be pumped when the pumping lift from the well is increased by extended drought or extensive pumping from nearby wells.

26. The location of the point of diversion is more than six miles from the requested place of use (Protestant's Exhibit A). A diversion rate of 4.49 cfs to irrigate 200 acres with conveyance through an open canal is reasonable.

27. Sorensen testified that water from the NESE, Section 5 well has been commingled with water from other sources to irrigate the land listed as the proposed place of use in application for permit no. 34-07247 as part of an 828 acre place of use. He indicated that this practice has been occurring since 1978 and no new or additional land would be irrigated if application for permit no. 34-07247 is approved.

28. Sorensen testified that he will comply with the mitigation requirements of Rule 50 of the Water District 34 Rules as necessary to prevent injury to existing water rights. If mitigation cannot be provided to protect existing water rights, the well will be reconstructed to divert water from deeper layers of the aquifer not tributary to the Big Lost River.

•FINDINGS OF FACT
CONCERNING APPLICATION NO. 34-07410

29. Application for permit no. 34-07410 seeks to appropriate ground water from a well to be constructed for irrigation of 310 acres of land that is not irrigated now and has not previously been irrigated using ground water.

30. Sorensen estimated the cost of construction of the well would be about $50,000 plus the cost of the pump and associated equipment. He indicated that he has or could obtain the money to complete the project, but did not provide a financial statement or a loan commitment.

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31. The applicant asserted that the project is in the local public interest because it will provide financial assistance to the applicant and his family, will provide jobs in the community and will increase the local tax base.

32. The applicant asserted that the water supply is adequate for the purposes intended and that other rights will not be injured. He offered to provide water for mitigation under the provisions of Rule 50 of the Water District 34 Rules.

FINDINGS OF FACT
CONCERNING APPLICATION NO. 34-07430

33. The original applicants are stockholders in the Timberdome Canal Company and own or operate the place of use listed on application for permit no. 34-07430.

34. Sorensen testified that approval of the application is sought to document an existing practice of diverting flood flows from Big Lost River and Antelope Creek when flow rates exceed that necessary to supply water rights calling for water. Flows have been diverted into the Blaine Canal and used for irrigation of the land at the place of use listed on application for permit no. 34-07430 in ten of the past twenty years.

35. The diversion rate requested includes a conveyance loss based upon the losses observed in the canal. Data to support the requested conveyance loss were not provided. Several protestants testified that the Blaine Canal does not lose large amounts of water to seepage to the ground water system, but does leak and overflow onto the fields through which it traverses.

36. The facilities necessary to divert and transport the water to the place of use are in place, but need improvement. By using excavation equipment to move gravel, the water can be diverted and used with the system now in place. The Timberdome Canal Company will improve the diversion facilities in the future if the permit is issued.

37. Water diverted from Big Lost River and Antelope Creek as requested under application for permit 34-07430 is to replace and augment water available to the land at the place of use from other sources, in particular that presently diverted from ground water. The volume of water consumed from the Big Lost River Basin or from the ESPA will not be increased because no new or additional land will be irrigated.

38. Sorensen testified that diversion and use of water as proposed in application for permit no. 34-07430 is in the public interest because: a) flood flows in Antelope Creek and Big Lost River would be decreased thereby reducing or preventing damage to private and public property; b) ground water supplies would be increased by reducing pumping under existing rights and increasing recharge to the aquifers from seepage from the Blaine Canal through which the water is transported; and c) pumping costs would be reduced for the members of the Timberdome Canal Company.

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39. Sorensen testified that diversion and use of water under the right would not injure other rights if administered in priority with other rights in the system.

40. Sorensen testified that the appropriation would conserve water for use in the state of Idaho.

41. David Shaw, testifying as an expert representing the applicants, asserted that the water supply is adequate for the purposes of application for permit 34-07430. Based upon Applicant's Exhibit 2, the flow of the Big Lost River at the USGS Arco gauging station on an average year is 100 to 200 cfs. Mr. Shaw testified that the Arco gauging station is downstream from all diversions from the river in the Big Lost River Valley and, therefore, flow passing this point is excess to that needed under existing water rights.

42. Mr. Shaw testified that diversion and use of water as proposed in application for permit no. 34-07430 would not increase the consumptive use of water from the land to which it is applied because it substitutes for water from other sources. The volume of water entering the ESPA from the Big Lost River Basin would not be reduced, but the location and timing of water entering the ESPA would be changed. The geohydrologic evaluation methods available at this time are not adequate to quantify the effect this change would have on water levels in the ESPA or the flows at Thousand Springs and other discharges from the aquifer.

43. Mr. Sorensen testified that use of water in accordance with application for permit no. 34-07430 would complement the recharge program of Water District 34 under permits 34-07571 and 34-07573 because it serves the same hydrologic purpose. Mr. Sorensen requested that the approval of application for permit 34-07430 be conditioned using the following paragraphs from the "Plan of Operation, Basin 34 Recharge, April 1997:"

> For the Big Lost River itself downstream from Mackay Dam, diversion for recharge downstream from Mackay Dam will not occur unless the flow at the Arco gage is 60 cfs or more, measured as a three consecutive day average. The 60 cfs at the Arco gage is for purposes of this Plan of Operation only and is not and cannot be construed as a minimum flow or minimum flow water right under any theory of law.
>
> In the event of a brief but intense weather event which is anticipated to produce flood flows for a period of three days or less, the Recharge Committee may call for and the Watermaster may deliver water for recharge purposes even if the flows at the Arco gage are below 60 cfs so long as the flow at the 2-B Gage is 300 cfs, or more, in excess of the non-recharge water deliveries occurring from the Big Lost River downstream from Mackay Dam.

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44. The protestants asserted that diversion and use of water from Big Lost River and Antelope Creek as proposed in application for permit no. 34-07430 is not in the public interest because:

a. High water flows in Antelope Creek are used and necessary to supply water to existing rights from Antelope Creek and the Big Lost River. The flows are particularly needed early in the irrigation season when the spring freshet has not begun in the Big Lost River upstream from Antelope Creek or the Big Lost River flows are reduced by diversion to storage to Mackay Reservoir;

b. Flood flows in the Big Lost River and Antelope Creek are necessary for maintenance of the stream environment, including black cottonwood trees, and to maintain fish and wildlife values that are important to the area.

c. Reaches of the Big Lost River and Antelope Creek that would have reductions in flows if application for permit 34-07430 is approved are on the list of water quality impaired streams issued under section 303d of the federal Clean Water Act. Further reduction in flow in these reaches and the operation of equipment in the channels to build diversions will add to existing water quality problems.

d. The state of Idaho, through action of the Legislature and the Water Resource Board, has an on-going program seeking to increase recharge to the ESPA. Diversions from Big Lost River and tributaries reduce the volume of water available for recharging the aquifer and are counter to the objectives of the state's program to emphasize recharge to the ESPA.

45. Permit nos. 34-07571 and 34-07573 held by Water District 34 authorize the diversion of 800 cfs from the Big Lost River and various tributaries including Antelope Creek for ground water recharge purposes at various locations in the Big Lost River Basin.

CONCLUSIONS OF LAW
APPLICABLE TO ALL THREE APPLICATIONS

1. Section 42-203A(5), Idaho Code, provides in pertinent part:

> In all applications whether protested or not protested, where the proposed use is such (a) that it will reduce the quantity of water under existing rights, or (b) that the water supply itself is insufficient for the purpose for which it is sought to be appropriated, or (c) where it appears to the satisfaction of the director that such application is not made in good faith, is made for delay or speculative purposes, or (d) that the applicant has not sufficient financial resources with which to

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> complete the work involved therein, or (e) that it will conflict with the local public interest, where the local public interest is defined as the affairs of the people in the area directly affected by the proposed use, or (f) that it is contrary to conservation of water resources within the state of Idaho; the director of the department of water resources may reject such application and refuse issuance of a permit therefor, or may partially approve and grant a permit for a smaller quantity of water than applied for, or may grant a permit upon conditions.

2. Section 42-203C(1), Idaho Code, provides that applications to appropriate water held in trust by the state of Idaho must be evaluated using the additional criteria of Section 42-203C(2) if the proposed use will significantly reduce the amount of trust water available to the holder of the water right used for power production. Surface and ground water within the Big Lost River Basin is within the area determined by Rule 30.01.a. of the Water Appropriation Rules to be administered as trust water under the Snake River Water Rights Agreement. Rule 45.02 of the Water Appropriation Rules presumes that a significant reduction will not occur if the proposed use will not reduce flows at the USGS Murphy Gauge by more than two acre feet per day, and that an irrigation project of 200 acres or less will not cause a significant reduction.

3. Rule 45 of the "Water Appropriation Rules" (IDAPA 37.03.08) further defines the criteria of Sections 42-203A(5) and 42-203C, Idaho Code, for evaluating applications for permit.

4. Rule 40.04.c of the "Water Appropriation Rules" provides as follows:

> The applicant has the ultimate burden of persuasion for the criteria of Section 42-203A, Idaho Code, and the protestant has the ultimate burden of persuasion for the criteria of Section 42-203C, Idaho Code.

5. The Eastern Snake Plain Area Moratorium did not sunset on December 31, 1997 and remains in effect until withdrawn or amended by order of the Director of the department. Section 42-1806(2), Idaho Code, "approved and confirmed" the moratorium order. Paragraph 1 of the moratorium provides as follows:

> The moratorium shall be in effect on and after its entry and shall remain in effect until withdrawn or modified by order of the Director.

6. Applications to appropriate water are not lost or voided by failure to claim a right in the SRBA. Section 42-1420(1), Idaho Code, provides in pertinent part:

> The decree entered in a general adjudication shall be conclusive as to the nature and extent of all water rights in the adjudicated water system except that the following described rights shall not be lost by failure to file a notice of claim:
> ....

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(b) a water right application for permit filed under chapters 2 or 15, title 42, Idaho Code;

....

CONCLUSIONS OF LAW
CONCERNING APPLICATION FOR PERMIT NO. 34-07247

7. Application for permit no. 34-07247 is exempt from processing under the trust water conditions of Section 42-203C, Idaho Code.

8. Pumping of the well from which water is proposed to be diverted under application for permit no. 34-07247 depletes flows in the Big Lost River and other surface flows because the well is not constructed to seal out ground water from near surface zones. Whenever flow in the Big Lost River and other surface sources is not adequate to satisfy all rights with priorities earlier than May 30, 1980 (the filing date for application 34-07247), diversion and use of water as proposed in the application will injure other rights unless the well is reconstructed to seal out near surface ground water that is in hydrologic contact with the river or mitigation is provided to fully offset the injury.

9. The diversion and use proposed in application for permit 34-07247 was occurring during the period of years used as the basis for the mitigation requirement in the Water District 34 Rules. The Rules are subject to amendment as necessary to provide adequate mitigation or other actions required to prevent injury to prior rights from both surface and ground water sources. Mitigation under the Rules will protect surface water rights from injury by ground water uses existing at the time the study was made upon which the mitigation provisions of the Rules are based.

10. Diversion and use of water under application 34-07247 is in the local public interest. The use has been occurring for nearly twenty years and is relied upon by the applicant as a part of his overall farming operation. The use was commenced prior to the enactment of Subsection 42-201(2), Idaho Code, requiring that a permit be obtained before diverting and using water. The Idaho Legislature by enacting Section 42-203B, Idaho Code, recognized the provisions of the Snake River Water Rights Agreement allowing permits to be issued to certain uses commenced prior to October 25, 1984 and for which applications for permit were filed by June 30, 1985. Application for permit 34-07247 meets these requirements.

11. The application is made in good faith, and the applicant has sufficient financial resources to complete the project.

12. Use of water under application for permit no. 34-07247 conserves water for use in Idaho.

13. Application for permit no. 34-07247 should be approved with conditions to prevent injury to prior rights.

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CONCLUSIONS OF LAW
CONCERNING APPLICATION FOR PERMIT NO. 34-07410

14. Application for permit no. 34-07410 is subject to the trust water criteria of Section 42-203C, Idaho Code.

15. Application for permit no. 34-07410 is subject to the Eastern Snake Plain Area Moratorium and cannot be approved without a finding by the department that the use complies with the requirements of paragraphs 9 and 12 of the moratorium order. The applicant has not met his burden to show that the proposed diversion and use of water will not injure prior rights to use of water in Basin 34 or from the ESPA nor has he offered a mitigation plan adequate to prevent existing rights from injury. The proposed well and proposed use were not a part of the water use that was analyzed by the study upon which the Water District 34 Rules are based. The impact of diverting water from a new well for a new use may differ from that determined for the aggregate effect of wells existing at the time of the study.

16. The effect of diversion and use of water under application for permit no. 34-07410 on water supplies in Basin 34 and the ESPA is a small but real amount.

17. The applicant did not meet his burden to show that diversion and use of water for irrigation of an additional 310 acres in the Big Lost River Basin is in the local public interest.

18. The applicant did not meet his burden to show financial ability to construct the project.

19. Application for permit no. 34-07410 should be denied.

CONCLUSIONS OF LAW
CONCERNING APPLICATION FOR PERMIT NO. 34-07430

20. The use proposed by application for permit no. 34-07430 will not increase consumptive use of water in the Snake River Basin because it would replace water now used under other existing rights. Application for permit no. 34-07430 is exempt from the trust water processing requirements of Section 42-203C, Idaho Code, and can be processed under paragraphs 9 and 12 of the Eastern Snake Plain Area Moratorium.

21. Diversion and use of water under application for permit no. 34-07430 will not injure other existing rights if diversion is administered in priority with existing rights.

22. The water supply is adequate and the proposed use is a beneficial use of water as a replacement supply for uses already having a full supply under other existing rights.

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23. Because the facilities to divert, deliver and use water under application for permit no. 34-07430 presently exist, the application is not speculative and the applicant has the financial resources necessary for the project.

24. The determination of whether diversion and use of water under application for permit no. 34-07430 is in the local public interest requires balancing of several relevant factors. The hearing record documents that maintenance of flows in the Big Lost River and Antelope Creek is necessary to protect the public's interest in important fish and wildlife habitat and water quality values. The record also documents that the use will have a positive impact by reducing diversion of ground water in Basin 34 and leakage from the Blaine Canal will recharge the aquifers in Basin 34. This apparent conflict can be resolved by approving the application for permit with conditions to allow diversion only when the flows in the Big Lost River and Antelope Creek are in excess of those needed to protect the public values.

25. The applicant did not provide adequate information to justify the amount of water requested for conveyance.

26. Application for permit no. 34-07430 should be approved with conditions to protect prior rights and public interest values.

ORDER

IT IS HEREBY ORDERED THAT:

1. Application for permit no. 34-07247 is **APPROVED** subject to the following conditions:

a. Use of water under this permit is subject to all prior water rights.

b. Proof of application of water to beneficial use shall be submitted on or before the date indicated in the final order entered by the Director in this matter.

c. Use of water under this permit is subject to the control of the watermaster of Water District no. 34, Big Lost River and tributaries. Distribution of water for use under this permit shall be in accordance with the Water District 34 Rules including requirements for mitigation as therein provided. If mitigation is not provided to avoid injury to existing rights the well shall be reconstructed to prevent water from any depth less than 300 feet from entering the well.

d. Prior to diversion of water under this permit, the permit holder shall install a lockable control device and a measuring device, subject to the approval of the department, that will provide the watermaster suitable control of the diversion.

e. This permit does not authorize construction of additional wells. If the existing well is reconstructed, the reconstruction shall comply with the permitting

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requirements of Section 42-235, Idaho Code.

f. Issuance of this permit does not grant a right-of-way or easement across the lands of another.

g. The rate of diversion under this permit shall not exceed 4.49 cfs and when combined with right no. 34-02428 or any other right or rights determined by the SRBA court to divert from the permit holder's well in the SENE, Section 5, Township 4 North, Range 26 East, the rate of diversion is limited to 8.34 cfs from the well.

h. The place of use is limited to the 200 acres described in the application unless an amendment is filed and approved as provided in Section 42-211, Idaho Code.

2. Application for permit 34-07410 is **DENIED.**

3. Application for permit 34-07430 is **APPROVED** subject to the following. conditions:
a.Use of water under this permit is subject to all prior water rights.

b.Proof of application of water to beneficial use shall be submitted on or before the date indicated in the final order entered by the Director in this matter.

c.Use of water under this permit is subject to the control of the watermaster of Water District no. 34, Big Lost River and tributaries.

d.Issuance of this permit does not grant a right-of-way or easement across the lands of another.

e.Use of water is authorized only during flood events when county commissioners, highway district commissioners, or state emergency agency officials are diverting water into the Blaine Canal as they determine necessary to prevent or reduce damage to public or private property. The amount diverted at the field headgate from the Blaine Canal shall not exceed 0.02 cfs/acre when combined with all other rights appurtenant to the acreage upon which it is being used.

f.The permit holder is not authorized to call for diversion of water under permit no. 34-07430 or to take any action to divert water under the permit unless acting on the written direction and request of the responsible officials acting as provided in paragraph e. This permit has the sole and limited effect of allowing the permit holder to use, in accordance with the permit's priority date, water placed in the Blaine Canal by responsible officials during flood emergencies.

g.At any time within two years from the effective date of this permit, the permit holder may petition the director of the department to consider information allowing

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for a determination of the specific flow rates necessary to protect the public interest values in the Big Lost River and Antelope Creek, as recognized in this decision. Upon a determination by the Director of the required flow rates, the approval conditions of permit no. 34-07430 will be amended to allow the permit holder to request the diversion of water under this permit at times when the flow in Antelope Creek or Big Lost River exceeds that required to protect public values. The permit holder shall serve the parties to this proceeding with copies of the petition and any supporting information for the purpose of their review and comment to the department. Upon request, the department will provide an opportunity for hearing on the petition.

h.The permit holder's diversion rate from the Blaine Canal shall not exceed 99.8 cfs when combined with all other rights supplying water to the place of use authorized under permit no. 34-07430.

Signed at Boise, Idaho this 12TH day of March, 1999.

Norman C. Young
Hearing Officer

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CERTIFICATE OF MAILING

I DO HEREBY CERTIFY that on the 10th day of March, 1999, the above and foregoing document was served upon the following by placing a copy of the same in the United States Mail, postage prepaid and properly addressed to the following:

Mitchell D. Sorenson
c/o Kent W. Foster
HOLDEN KIDWELL
HAHN & CRAPO
PO Box 50130
Idaho Falls ID 83405

Idaho Power Company
Kirby Jensen
c/o Norman M. Semanko
ROSHOLT ROBERTSON TUCKER
PO Box 1906
Twin Falls ID 83303-1906

Idaho Dept. of Fish & Game
c/o Peter J. Ampe
Deputy Attorney General
PO Box 83720
Boise ID 83720-0010

Idaho Rivers United
c/o Marti L. Bridges
PO Box 633
Boise ID 83702

Big Lost River Water Users Assoc.
c/o Lawrence R. Babcock
2771 N 3325 W
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Rt 1 Box 550
Arco ID 83213

Mrs. Jesse W. Jensen
517 N 2 W
Moore ID 83255

Jay F. Pearson
Rt 1 Box 47
Moore ID 83255

MICROFILMED
FEB 11 2000

Virgil Hail
PO Box 454
Moore ID 83255

Ruben Babcock
Moore ID 83255

Richard Taylor
Moore ID 83255

Bill Harelson
Arco ID 83213

Donald Rittenhouse
Rt 1
Moore ID 83255

JULIE L. YARBROUGH
Senior Secretary, Water Allocation Bureau

MICRO...
FEB 1 1 2000

State of Idaho
DEPARTMENT OF WATER RESOURCES
1301 North Orchard Street, Boise, ID 83706 - P.O. Box 83720, Boise, ID 83720-0098
Phone: (208) 327-7900 Fax: (208) 327-7866 Web Site: www.idwr.state.id.us

DIRK KEMPTHORNE
Governor

KARL J. DREHER
Director

February 5, 2004

MITCHELL D SORENSEN
3871 W 2500 N
MOORE ID 83255

Re: Field Examination proposal for permit no. 34-7247

Dear Mr. Sorensen:

On November 22, 2003 you wrote a letter to Deborah J. Gibson of the Idaho Department of Water Resources (IDWR). In the letter, you discuss permit to appropriate water no. 34-7247. You submitted proof of beneficial use for permit no. 34-7247 in 2001. When you submitted the proof of beneficial use, you requested that IDWR delay an inspection of the well and beneficial use being made of the ground water because of declining ground water levels caused by the prolonged drought.

You suggest in your letter that IDWR rely on a previous field examination for water right no. 34-2428 which describes the same well you sought to appropriate water from under 34-7247. You suggest that IDWR recognize a diversion capacity from the well of 8.34 cfs as measured in 1971.

There have been numerous controversies over use of ground water and its effect on other water rights in the Big Lost River Basin. Some of these controversies have been created because of the declining water levels you refer to. You imply that the ability to divert water from the well has diminished since 1971. There is no evidence that the ground water levels will ever recover to earlier levels. In addition, the well that was once measured in 1971 may not be capable of production at the same flow rate today.

Idaho Code § 42-204 states that the "department shall require that actual construction work and application of the water to a full beneficial use shall be complete within a period of five (5) years from the date of such approval... ." After submittal of proof of beneficial use, a field exam must be conducted. Once the exam is completed, a water right license is prepared. Idaho Code § 42-219 states that "in no case shall" the license be issued for "an amount in excess of the amount that has been beneficially applied."

The law provides that IDWR should recognize the beneficial use that occurred during the development period. If the well identified as a point of diversion by the permit did not produce sufficient water during the development period, you had the opportunity during the development period to deepen the well or pursue other options to find sufficient water under the permit.

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MAR 1 0 2004

By this letter, I am asking our Eastern Regional Office to conduct the examination as soon as possible. Failure to examine the beneficial use at this time could result in an enlargement of use from what was developed during the permitted period.

Respectfully,

Gary Spackman

Cc: Eastern Region

MICROFILMED

MAR 1 0 2004

Nov. 22, 2003

Deborah J. Gibson, Admin. Assistant
Water Allocation Bureau
Idaho Dept. of Water Resources
1301 North Orchard Street
P. O. Box 83720
Boise, Idaho 83706

RE: Field Examination Proposal for Permit 34-7247

Dear Deborah J. Gibson;

In the past recent years I have been working with IDWR in an effort to develop and perfect a water right under permit 34-7247. This permit is currently at the stage where a Field Examination is needed prior to the issuance of a License. IDWR agency files contains our correspondence relative to this process.

You will recall a field examination for this water right has not been completed at my request due to declining ground water levels caused by the prolonged drought. After discussing this matter with David B. Shaw, my hired certified water right examiner, we believe it is appropriate to suggest that a possible way of completing the required field examination could be to rely upon a previously conducted proof of beneficial use examination performed on August 31, 1971 on the same well. A copy of a license referencing that examination is attached.

A detailed reference to the capacity of this existing "SESE, Section 5 well" is found in IDWR's FINAL ORDER, IN THE MATTER OF APPLICATIONS FOR PERMIT NOS. 34-07247 AND 07410 IN THE NAME OF MITCHELL D. SORENSEN AND APPLICATION NO. 34-07430 IN THE NAME OF TIMBERDOME CANAL COMPANY, dated Nov. 30, 1999. See FINDINGS OF FACT CONCERNING APPLICATION FOR PERMIT NO. 34-07247 paragraphs 24 and 25, pages 11 and 12.

It is clear the well's diversion works are capable of producing 8.34 cfs under the combined water rights 34-02428 and 34-07247 in normal operating conditions. Acceptance of the 1971 field examination, together with the relevant SRBA claims and Director's Recommendations, and SRBA Partial Decrees should be adequate proof that the entire amount has been diverted and put to beneficial use as described in the permit. IDWR's willingness to accept this evidence will save time and money for everyone, and meet the requirements of the law.

Although there is no rush for a response to this proposal, I would greatly appreciate hearing from you at your convenience. Thank you for your consideration of this matter.

Sincerely,

Mitchell D. Sorensen

Mitchell ...

MAR ...

Attachment:

RECEIVED

MAY 17 1978

Department of Water Resources
Eastern District Office

State of Idaho
Department of Water Administration

LICENSE OF WATER RIGHT

License of Water Right No. 29837/34-2428 Priority June 25, 1961 (late proof) Amount 3.85 cfs

THIS IS TO CERTIFY, that WILLARD H. SORENSEN & SONS

of Moore, Idaho, has complied with the terms and conditions of Permit No. 29837/34-2428 issued pursuant to Application for Permit dated June 19, 1961, and has submitted proof to the Department of Water Administration on June 27, 1966, that he has applied water to a beneficial use; [redacted] right to the use of water from a ground water source tributary of _____, is hereby confirmed in the following amounts:

Amount 3.85 cfs for Irrigation from April 1 to Nov. 1 (both dates inclusive)

Amount _____ for _____ from _____ to _____ (both dates inclusive)

Amount _____ for _____ from _____ to _____ (both dates inclusive)

Subject, however, to the condition that no more than 3.85 cfs of water be diverted at any one time, said waters to be diverted within the SE¼NE¼ Sec. 5, Twp. 4 N, Rge. 26 E, B.M.

in the county of Butte, and that the amount of water so diverted and to which such right is entitled and confirmed is for the purposes aforesaid and is limited to the amount which can actually be beneficially used and shall not exceed 577.5 acre feet per year or _____ 3.0 acre feet per acre.

Description and location of place of use

TWP	RANGE	SEC	NE¼				NW¼				SW¼				SE¼				TOTALS
			NE¼	NW¼	SW¼	SE¼	NE¼	NW¼	SW¼	SE¼	NE¼	NW¼	SW¼	SE¼	NE¼	NW¼	SW¼	SE¼	
4 N	26 E	5				39									39			39	117.0
		9					37.5	38											75.5

MICROFILMED

Total number of acres irrigated 192.5

MAR 1 0 2004

The right to the use of the water hereby confirmed is restricted and appurtenant to the lands or place of use herein described, as provided by the laws of Idaho.

SE¼NE¼ Sec. 5, Twp. 4 N, Rge. 26 E, B.M.

in the county of B[redacted], and that the amount of w[redacted] so diverted and to which such right is entitled and confirmed is for the purposes aforesaid and is limited to the amount which can actually be beneficially used and shall not exceed 577.5 acre feet per year or _____ 3.0 acre feet per acre.

Description and location of place of use:

TWP	RANGE	SEC	NE¼				NW¼				SW¼				SE¼				TOTALS
			NE¼	NW¼	SW¼	SE¼	NE¼	NW¼	SW¼	SE¼	NE¼	NW¼	SW¼	SE¼	NE¼	NW¼	SW¼	SE¼	
4 N	26 E	5				39									39			39	117.0
		9					37.5	38											75.5

Total number of acres irrigated 192.5

The right to the use of the water hereby confirmed is restricted and appurtenant to the lands or place of use herein described, as provided by the laws of Idaho.

Witness the seal and signature of the Director, affixed at Boise, Idaho, this 4 day of October, 19 72.

Director

MICROFILMED

MAR 1 0 2004

State of Idaho
DEPARTMENT OF WATER RESOURCES
1301 North Orchard Street, Boise, ID 83706 - P.O. Box 83720, Boise, ID 83720-0098
Phone: (208) 327-7900 Fax: (208) 327-7866 Web Site: www.idwr.state.id.us

DIRK KEMPTHORNE
Governor

KARL J. DREHER
Director

September 18, 2003

MITCHELL D SORENSEN
3871 W 2500 N
MOORE ID 83255

RE: Notice of Security Interest for Water Right Permits 34-7247 and 34-7430

Dear Water Right Holder(s):

The department acknowledges receipt of correspondence introducing a Notice of Security Interest in a Water Right for the above referenced water right permits. The department has modified its records to reflect the changes and has enclosed computer-generated report for your records.

Please note that as of July 1, 1996, water right owners are required to report any change of water right ownership and any change of mailing address of the owner of a water right to the department. Notice of the change must be provided to the department within 120 days of the change. Change reporting forms are available from any office of the department.

Please feel free to contact this office if you have any questions regarding this matter.

Sincerely,

for Jeff Peppersack, Manager
Water Right Permits Section

JP:klt

Enclosure

cc: IDAHO AG CREDIT FLCA
PO BOX 386
REXBURG ID 83440

MICROFILMED
NOV 1 - 2003

State of Idaho
DEPARTMENT OF WATER RESOURCES
1301 North Orchard Street, Boise, ID 83706 - P.O. Box 83720, Boise, ID 83720-0098
Phone: (208) 327-7900 Fax: (208) 327-7866 Web Site: www.idwr.state.id.us

DIRK KEMPTHORNE
Governor

KARL J. DREHER
Director

December 5, 2001

MITCHELL D SORENSEN
3871 WEST 2500 NORTH
MOORE ID 83255

PROOF ACKNOWLEDGMENT LETTER

RE: PERMIT NO. 34-07247

Dear Permit Holder:

The department acknowledges receipt of the proof of beneficial use form submitted for the above referenced permit. The next step in the process of developing a water right is for the department to contact you to schedule a field examination to determine and confirm the use being made of the water, and that it meets the permitted beneficial use.

I have enclosed a copy of your Proof of Beneficial Use for the regional office to be advised that you request a field examination be conducted after groundwater levels have returned to normal.

Be advised that Section 42-248, Idaho Code, requires you or the owner of these water rights to maintain current ownership and address records on file with the department. Forms to file a change of ownership of a water right and/or a change in the address of the water right owner are available from any department office.

If you have questions, please contact the **Eastern** Regional Office of the department in Idaho Falls at (208) 525-7161.

Sincerely,

Deborah J. Gibson

Deborah J. Gibson
Administrative Assistant
Water Allocation Bureau

Encl.
c: IDWR - Regional Office (w/encl.)

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DEC 12 2001

ANALYSIS SHEET FOR PROOF OF BENEFICIAL USE

Permit No · 34-7247 Reviewed By: dgibson Date. December 4, 2001

	Yes	No		Yes	No
Proof received timely?	X		Drilling permit required?		X
License examination fee required?	X		Drilling permit No ·		
Appropriate fee submitted?	X		Drilling permit upgrade needed?		
Receipt No.:	C057717		Well driller's report filed?		X
Additional Amount Due.			Measuring device required?	X	
Name and address same as permit?	X		Measuring device installed?	X	
Are the water uses correct?	X		Measure device waiver requested?		

Priority Calculation

Date proof received		11/09/2001
Date proof due	-	12/01/2001
Lapse notice sent	-	
No of days late	=	0
Holiday allowance	+	
Priority date	+	05/30/1980
New priority date	=	05/30/1980

Deficiencies of Actions Items

Acknowledge proof. Note that the examination will not be made during a drought year

September 30, 2001

MITCHELL D SORENSEN
3871 WEST 2500 NORTH
MOORE, ID 83255

PROOF DUE NOTICE

RE: PERMIT NO. 34-7247

Dear Permit Holder:

One of the conditions of approval of the above referenced water permit was that proof of the extent of your beneficial use must be submitted to this office on or before December 01, 2001. (See last page of your approval permit or your last approved extension request.) Enclosed is a form which when accompanied by the license examination fee or a completed field examination report prepared by a certified water right examiner may be used to submit the required proof.

If you have not fully completed your project, and you or a previous owner of this permit have not received a prior extension of time, you may request an extension of time if the delay is for reasonable cause as provided in Section 42-204, Idaho Code. If you have been prevented from proceeding by a governmental agency or by litigation which might bring title to the water in question, more than one extension of time can be granted. An extension of time request form is enclosed for your convenience.

Either an acceptable proof of beneficial use submittal or an acceptable request for an extension of time must be received by this department on or before the above described proof due date. If neither is received, the department will send you a lapse notice. Within sixty (60) days of the mailing of the lapse notice, the permit will no longer be of any force nor effect.

Sincerely,

Deborah J. Gibson, Administrative Assistant
Water Allocation Bureau

Enclosures

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DEC 12 2001

CERTIFIED MAIL
7099 3220 0005
NO. 5178 3199

State of Idaho
DEPARTMENT OF WATER RESOURCES
1301 North Orchard Street, P.O. Box 83720, Boise, Idaho 83720-0098
Phone: (208) 327-7900 FAX: (208) 327-7866

DIRK KEMPTHORNE
GOVERNOR

KARL J. DREHER
DIRECTOR

November 2, 2000

MITCHELL D SORENSEN
3871 WEST 2500 NORTH
MOORE ID 83255

RE: PERMIT NO. 34-07247

Dear Permit Holder:

Enclosed is a copy of the approved request for extension of time submitted in connection with the above referenced permit which extends the time within which to submit proof of beneficial use of water to **December 1, 2001.**

Please note that the department granted this extension based on **due diligence**. It is important that you work diligently toward the completion of this project during the construction period allowed since the department **may not** be able to grant additional extensions based on due diligence.

Section 42-248, Idaho Code, requires you or the owner of this water right to maintain current ownership and address records on file with the department Please contact any office of the department for the proper form to file a change of ownership of a water right and/or a change in the address of the owner.

Please feel free to contact the department if you have questions.

Sincerely,

Deborah J. Gibson

Deborah J. Gibson
Administrative Assistant
Water Allocation Bureau

Enclosure
c: IDWR - Regional Office

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DEC 1 2 2001

ANALYSIS SHEET FOR EXTENSION OF TIME

Permit No. 34 - 07247 Reviewed by D. Gibson Date 11/2/00

BASIC INFORMATION

11/1/00 Date stamp received

Yes Extension received timely

Yes Fee received and receipted

Yes Name and signature same as permit

Yes Address Change

BASIS FOR EXTENSION REQUEST

Yes Has adequate work been completed to demonstrate due diligence?

_____ Has the permit been involved in litigation?
Is supporting documentation needed to complete the file?_____ Requested?_____

_____ Is delay by a government agency?
Is supporting documentation needed to complete the file?_____ Requested?_____

_____ Is the project more than 25,000 acre feet for irrigation or 10,000 acre feet for a reservoir?

ACTION TAKEN

Approve extension based on due diligence and set new proof deadline for 12/1/01.

PRIORITY CALCULATION

Date extension received	11/1/00	=	
Proof due date	12/1/00	=	
Number of days late		=	
Priority date		=	
New Priority Date		=	

DATA ENTRY

New Address 3871 West 2500 North, Moore, ID. 83255

Change Proof Due Date 12/1/01

Change Priority Date No

RECEIPT
For Monies Paid
to the
Idaho Department of Water Resources

Receipt No:
[illegible]

Date:
Time: 11/ 1/2000
14:30:20

Received
From: SORENSEN CROP LIVESTOCK

Type of Payment		Program Acct		Amount
EXTENSION	PERMIT # 34-07247	56103	129 21 1155	50.00

Total $ 50.00

CHECK 1557

Region: STATE

Signature: J. Barrow

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DEC 12 2001

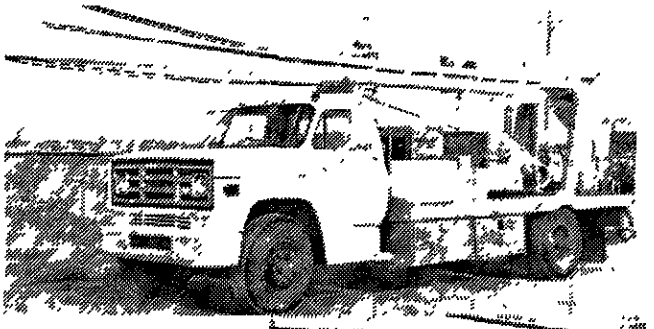
Golden West Pump, Inc.

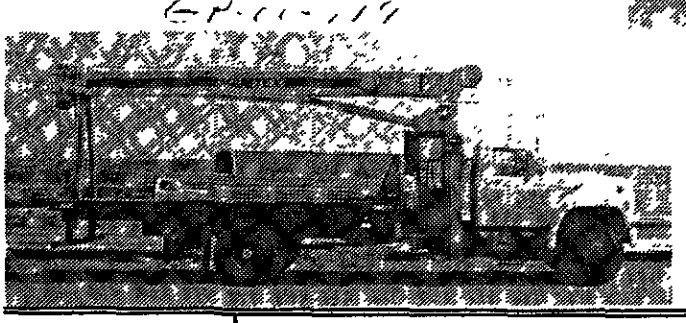
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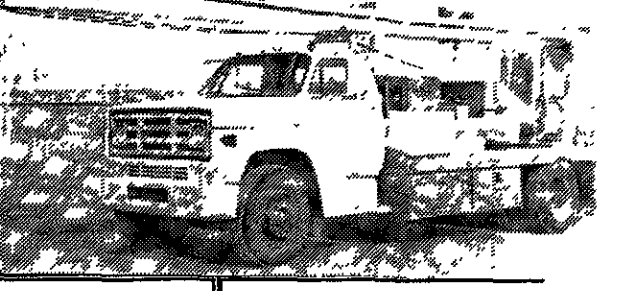
356-9318 524-3203

2256 South Hwy. 191 Rexburg - 4456 Haroldsen Dr. Idaho Falls

Bill To







DATE	DESCRIPTION	AMOUNT

Accounts due 10th of the month following purchase. Purchaser agrees to pay all collecting costs including reasonable attorney fee with or without suit. A FINANCE CHARGE of 1.75 PER CENT PER MONTH (21% ANNUAL PERCENTAGE RATE) will be charged on all Past Due Accounts in excess of 30 days.

TOTAL

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DEC 12 2001

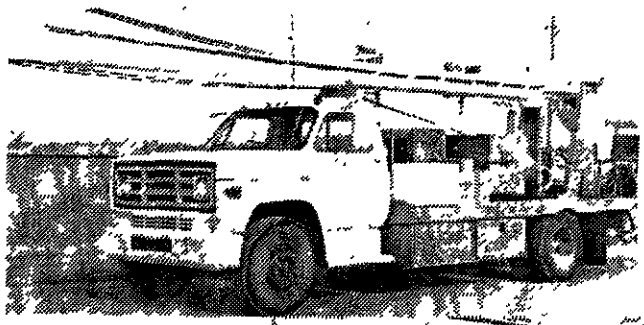
Golden West Pump, Inc.

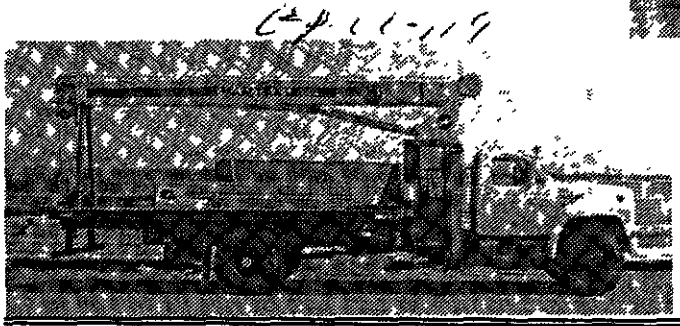
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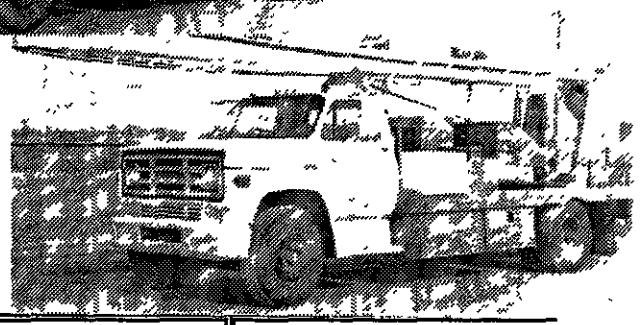
356-9318 524-3203

2256 South Hwy. 191 Rexburg - 4456 Haroldsen Dr. Idaho Falls

Bill To







DATE	DESCRIPTION	AMOUNT
1	10 HP x 1 C Impeller	584 00
1	10 HP Wiring	312 00
1	Labor - Engineer	60 00
1	Labor Mechanical	112 00
	& Assembly Time	
1	Fuel Filter 2 3/8"	32 00
	12" x 12" x 1" 1/4 CTS	

Accounts due 10th of the month following purchase. Purchaser agrees to pay all collecting costs including reasonable attorney fee with or without suit. A FINANCE CHARGE of 1.75 PER CENT PER MONTH (21% ANNUAL PERCENTAGE RATE) will be charged on all Past Due Accounts in excess of 30 days.

TOTAL	1414 00

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DEC 12 2001

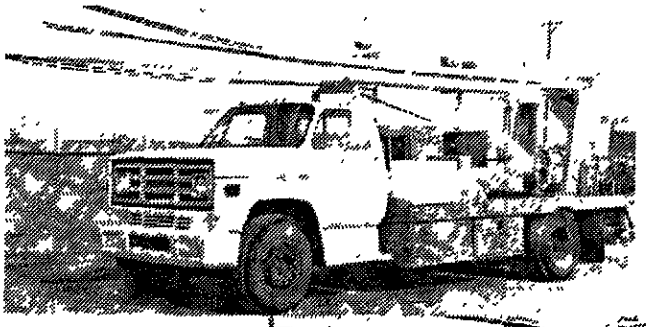
Golden West Pump, Inc.

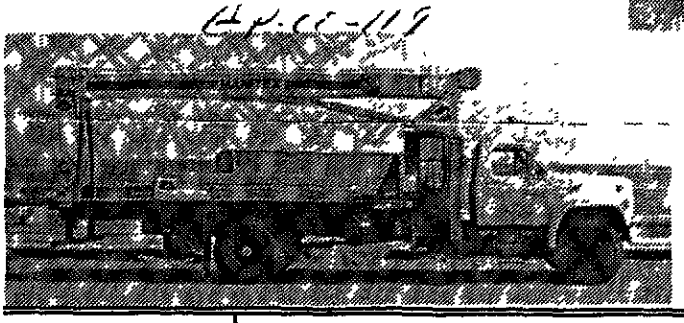
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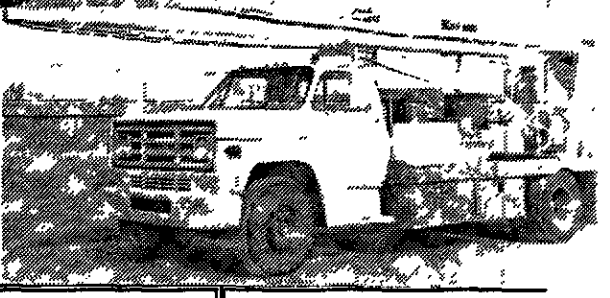
356-9318 524-3203

2256 South Hwy. 191 Rexburg - 4456 Haroldsen Dr. Idaho Falls

Bill To Mitchell Sprinkler







DATE	DESCRIPTION	AMOUNT
9-26-00	Fuel pump	50 00
	Fuel Sender	2150 00
	Fuel Pump	91 50 #12
	Wet pump	200 00

Accounts due 10th of the month following purchase. Purchaser agrees to pay all collecting costs including reasonable attorney fee with or without suit. A FINANCE CHARGE of 1.75 PER CENT PER MONTH (21% ANNUAL PERCENTAGE RATE) will be charged on all Past Due Accounts in excess of 30 days.

TOTAL 2491 00

MICROFILMED
DEC 12 2001

September 30, 2000

MITCHELL D SORENSEN
RT 1 BOX 63
MOORE ID 83255

PROOF DUE NOTICE

RE: PERMIT NO. 34-07247

Dear Permit Holder:

One of the conditions of approval of the above referenced water permit was that proof of the extent of your beneficial use must be submitted to this office on or before December 1, 2000. (See last page of your approved permit or your last approved extension request.) Enclosed is a form which when accompanied by the license examination fee or a complete field examination report prepared by a certified water right examiner may be used to submit the required proof.

If you have not fully completed your project, and you or a previous owner of this permit have not received a prior extension of time, you may request an extension of time if the delay is for reasonable cause as provided in Section 42-204, Idaho Code. If you have been prevented from proceeding by a governmental agency or by litigation which might bring title to the water in question, more than one extension of time can be granted. An extension of time request form is enclosed for your convenience.

Either an acceptable proof of beneficial use submittal or an acceptable request for an extension of time must be received by this department on or before the above described proof due date. If neither is received, the department will send you a lapse notice. Within sixty (60) days of the mailing of the lapse notice, the permit will no longer be of any force nor effect.

SINCERELY,

DEBORAH GIBSON
Administrative Assistant

Enclosures

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DEC 12 2001

CERTIFIED MAIL
7099 3220 0006
NO. 2688 4134

RICHARD TAYLOR
350 RENA
MOORE ID 83255

Final Order corresp.
returned

MICROFILMED

MICROFILMED

MOORE ID
DEC
12
1999
PM
83255

DONALD [illegible]TTENHOUSE
RT 1
MOOR[illegible] ID 83255

Final Order
corresp. returned

MICROFILMED
[illegible]

MICROFILMED

MOORE
DEC
12
1999
PM
83255

State of Idaho
DEPARTMENT OF WATER RESOURCES
1301 North Orchard Street, P.O. Box 83720, Boise, Idaho 83720-0098
Phone: (208) 327-7900 FAX: (208) 327-7866

DIRK KEMPTHORNE
GOVERNOR

KARL J. DREHER
DIRECTOR

November 30, 1999

RE: IN THE MATTER OF APPLICATIONS FOR PERMIT NOS. 34-07247 AND 34-07410 IN THE NAME OF MITCHELL D. SORENSEN AND APPLICATION NO. 34-07430 IN THE NAME OF TIMBERDOME CANAL COMPANY

Dear Interested Parties:

EXPLANATORY INFORMATION TO ACCOMPANY A FINAL ORDER

(Required by Rule of Procedure 740.02)

The accompanying order is a "**Final Order**" issued by the department pursuant to section 67-5246 or 67-5247, Idaho Code.

Section 67-5246 provides as follows:

(1) If the presiding officer is the agency head, the presiding officer shall issue a final order.

(2) If the presiding officer issued a recommended order, the agency head shall issue a final order following review of that recommended order.

(3) If the presiding officer issued a preliminary order, that order becomes a final order unless it is reviewed as required in section 67-5245, Idaho Code. If the preliminary order is reviewed, the agency head shall issue a final order.

(4) Unless otherwise provided by statute or rule, any party may file a petition for reconsideration of any order issued by the agency head within fourteen (14) days of the issuance of that order. The agency head shall issue a written order disposing of the petition. The petition is deemed denied if the agency head does not dispose of it within twenty-one (21) days after the filing of the petition.

(5) Unless a different date is stated in a final order, the order is effective fourteen (14) days after its issuance if a party has not filed a petition for

MICROFILMED
DEC 12 2001

reconsideration. If a party has filed a petition for reconsideration with the agency head, the final order becomes effective when:

(a) the petition for reconsideration is disposed of; or
(b) the petition is deemed denied because the agency headdid not dispose of the petition within twenty-one (21) days.

(6) A party may not be required to comply with a final order unless the party has been served with or has actual knowledge of the order. If the order is mailed to the last known address of a party, the service is deemed to be sufficient.

(7) A non-party shall not be required to comply with a final order unless the agency has made the order available for public inspection or the nonparty has actual knowledge of the order.

(8) The provisions of this section do not preclude an agency from taking immediate action to protect the public interest in accordance with the provisions of section 67-5247, Idaho Code.

PETITION FOR RECONSIDERATION

Any party may file a petition for reconsideration of a final order within fourteen (14) days of the service date of this order. The department will act on a petition for reconsideration within twenty-one (21) days of its receipt, or the petition will be considered denied by operation of law. See section 67-5243(4) Idaho Code.

APPEAL OF FINAL ORDER TO DISTRICT COURT

Pursuant to sections 67-5270 and 67-5272, Idaho Code, any party aggrieved by a final order or orders previously issued in a matter before the department may appeal the final order and all previously issued orders in the matter to district court by filing a petition in the district court of the county in which:

i. A hearing was held,
ii. The final agency action was taken,
iii. The party seeking review of the order resides, or
iv. The real property or personal property that was the subject of the agency action is located.

The appeal must be filed within twenty-eight (28) days a) of the service date of the final order, b) of an order denying petition for reconsideration, or c) the failure within twenty-one (21) days to grant or deny a petition for reconsideration, whichever is later. See section 67-5273, Idaho Code. The filing of an appeal to district court does not in itself stay the effectiveness or enforcement of the order under appeal.

MICROFILMED
DEC 12 2001

State of Idaho
DEPARTMENT OF WATER RESOURCES
1301 North Orchard Street, P.O. Box 83720, Boise, Idaho 83720-0098
Phone: (208) 327-7900 FAX: (208) 327-7866

DIRK KEMPTHORNE
GOVERNOR

KARL J. DREHER
DIRECTOR

August 10, 1999

Kent W. Foster
HOLDEN KIDWELL HAHN & CRAPO PLLC
330 Shoup Ave, Third Floor
P.O. Box 50130
Idaho Falls, ID 83405

Re: In the Matter of Application for Permit Nos. 34-07247 and 34-07410 in the name of Mitchell D. Sorensen and Application No. 34-07430 in the name of Timberdome Canal Company

Dear Kent:

This letter is in response to your request for the status of the above-referenced applications. The department has considered this matter to be fully submitted and ready for a decision based upon the information the department has obtained. Therefore, the matter is in final review before the Director.

Sincerely,

Norman C. Young
Administrator
Water Management Division

cc: Mitchell Sorensen
Todd Perkes

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Law Offices
HOLDEN, KIDWELL, HAHN & CRAPO, P.L.L.C.

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Eastern Region

Mr. Norman C. Young
Hearing Officer
IDAHO DEPARTMENT OF
WATER RESOURCES
900 North Skyline Drive
Idaho Falls, ID 83402

Re: In the Matter of Application for Permit Nos. 34-07247 and 34-07410 in the name of Mitchell D. Sorensen and Application No. 34-07430 in the name of Timberdome Canal Company

Dear Mr. Young:

We have not heard anything on this matter since the "Order Denying Petitions for Reconsideration", dated April 20, 1999, and are wondering if there is anything else the applicants need to do before the final decision can be entered. We would very much appreciate hearing from you, especially if you are waiting for something further from us. Thank you for your kind attention to this matter. We will look forward to hearing from you.

Very truly yours,

Kent W. Foster

c. Mitchell Sorensen
Todd Perkes

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MAY 11 1999
Department of Water Resources

Karl J Dreher, Director
Department of Water Resources
1301 North Orchard Street
P O Box 83720
Boise, Idaho 83720-0098

R E Exception to Recommended Order of Application 34-07247 and 34-07430

Dear Mr. Dreher:

The Big Lost River Water Users Association by and thru their spokesman Lawrence Babcock herewith files this Exception to Recommended Order of Applications 34-07247 and 34-07430 on at least but not limited to the following grounds to wit

1 The Eastern Snake Plain Moratorium prohibits the approval of these two applications

2 The reference to the 1968 U S.G S. 300,000 acre feet per year is taken out of context and is irrelevant.

3 The Watermaster is obligated by law to deliver water according to the decree

4 Application 34-07247 **IS UPGRADIENT** from the "A-line" or transition zones

5 Applications 34-07247 and 34-07430 are subject to 42-203C

6. Mr Sorensen testified under oath that he had **NO** water to use as mitigation

7 If these applications are granted, IDWR sanctions the illegal use of water to set a precedent

8 Consumptive use of water will be greatly increased

9 All of these diversions are upgradient from the Arco gauging station

10 High water flows are needed to scour channels and fill surface rights at the Big Lost River Sinks

All exhibits and testimony at hearing and post hearing briefs are incorporated herein Oral argument is requested to be held in Arco

Dated this 10th day of May 1999

Sincerely yours,

Lawrence R. Babcock

Lawrence R Babcock, Chairman
Big Lost River Water Users Assoc

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Department of Water Resources

Arco, Idaho 83213
May 10, 1999

State of Idaho
Department of Water Resources
1301 North Orchard Street
P. O. Box 83720
Boise, Idaho 83720 0098

Karl J. Dreher, Director :

The Ned R Walker Trust and Trustee Reva W. Walker objects to Norman C. Young, Hearing, Officer in denying the reconsideration of Applications 34 07247 and 34007410 in the name oof Mitchell D. Sorensen and Application No. 3407430 in the name of Timberdome Canal Company, limited to the following grounds to wit:

1. The easter Snake Plain Moratorium prohibits the approval of these applications.

2. The reference to the 1968 U.S.G.S. 300,000 acre feet per ;year taken out of context and is irrelevant.

3. The Watermaster is obligated by law to deliver water according to the decree.

4. Application 34 07247 **is upgradient** from the "A Lime " or transition zones.

5. Applications 34 07247 and 34 0730 are subject to 42 203 C.

6. Mr. Sorensen testified under oath that he had NO water to use as mitigation.

7. If these applications are granted, **IDWR** SANCTIONS THE ILLEGAL USE OF water of set a president.

8. Consumptive use of water will be greatly increased.

9. All of these diversions are upgradient from Arco gauging station.

10. High water flows are needed to scour channels and fill surface rights at the Big Lost River Sinks.

Sincerely yours,

Reva W. Walker

Reva W. Walker Trustee for
Walker Trust

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Department of Water Resources

May 10, 1999
Karl J. Dreyer, Director
Idaho Dept. of Water Resources
1301 North Orchard Street
P O. Box 83720
Boise, Idaho 83720-0098

SUBJECT. Maten McCray's Petition for Reconsideration for Application Number 34-07430

Dear Mr. Dreyer

Please reconsider Application #34-07430. The conditions under which this subject application would be approved will not mitigate harm to senior water right holders downstream of the Blaine Diversion and is not in "the local public's interest" for the following reasons

Page 19, finding 3A does not address "futile call" Under this scenario, once Timberdome Canal begins to receive the 10,000 inches of Big Lost River (BLR) water, they can continue throughout the irrigation season even if there is no water in the BLR from the Moore diversion down as long as the flow at the 2-B gage is 300 CFS All that would be required to continue use under Mr Sorenson's request would be a "local futile call" similar to the one that IDWR has justified Mr Rosenkrance delivering water to his son under a 1928 flood water right from Alder Creek

Page 19, 3e. This condition allows for water to be diverted under emergency conditions in order to "prevent or reduce damage to public or private property" However, if the state emergency agency determines that diversion of waters from the BLR is necessary, they can require that every diversion off of the river be utilized to the maximum extent and all water users can be asked to irrigate to the maximum extent in order to protect these public and private properties. This way, all members of the " local public interest" will have the same opportunities as the Timberdome Canal Company to utilize this excess water in our own interest Since this is the only scenario in this recommended order that truly represents the "local public interest", it is a fair and equitable way to resolve any future anticipated flood conditions.

In addition, Finding 12 issues stated on Pages 5 and 6 are still true and have not been addressed or refuted by your conclusions of law For example,

12a) 200 CFS taken out of the river under the subject application using the Plan of Operation. Basin 34 Recharge. April 1997, as stated on Page 13 Item 43 would significantly reduce the flow of water in the BLR, potentially drawing the river from the Moore Diversion down

12b) Timberdome's claim of "recharge and conservation of Idaho's water" is incorrect One inch/acre of irrigation over 5000 acres will not recharge the groundwater table at depths of 100+ feet.

12c) The sole purpose of the applicant's application is to benefit them. Right now, these same individuals are in the process of trying to sell this very acreage to the Sawtooth Farms Corporation for a pig farm It is estimated that the number of pigs will exceed 700,000

12d) Timberdome Canal Co does not own the Blaine Diversion In addition, I anticipate that the next step these individuals will take will be to convince the BLRID to transfer ownership of the Blaine Diversion to this company No one should be given a dam that would cost literally millions and millions of dollars to build today to any private interest or corporation.

12E) Rivers, trees, fish, wildlife and natural beauty all benefit Idaho's (and local) public interest. Filling Senior irrigation water rights, maintaining natural recharge channels that provide recharge for groundwater irrigation and domestic wells throughout Butte County benefit all citizens of the "local public interest".

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12f) Irrigation to Era Flats, which is miles out of the irrigation district, does not conserve water for Idaho. Irrigation would only benefit a few landowners at the expense of the rest of Butte County and its citizens.

12h) A moritorium is still in effect. Why would IDWR consider applications that benefit only a few individuals at the expense of the remainder of the population?

Additional considerations based on this Recommended Order are as follows:

1) Finding 28, page 11 – Mr Sorenson has stated that he will comply with "mitigation requirements of Rule 50" However he has never said how he proposes to do so

2) Finding 27, Page 11 – Illegal past practices should never be used as bases for justification of legalizing an illegal past historical practice. The fact that Mr. Sorenson has used water under 34-07247 in 10 of the past 20 years, many of these years while the river was dry and Senior water right owners were not getting their rights filled, is a perfect example of illegal past practices as a result of unethical individuals that fill water rights according to a "buddy system" rather than implementing the law of "first in time, first in right".

3) Finding 38, Two of the three "public benefits" stated (Items B and C) are obviously not in the "local public interest" but are truly in the interest of the few landowners Item a, which would be the only true "public interest" can be achieved utilizing all diversions form the river by maximizing those diversions under emergency conditions and encouraging all of the "local public" the opportunity of unlimited water usage under severe flood conditions. Obviously, reducing Timberdome's pumping costs for irrigation is not in my interest or the local public's interest

If IDWR approves this application, within a very short period of time, I believe 10,000 inches of BLR water will be flowing out to a pig farm while the river from the Moore Diversion Down is dry. Senior water right holders will be denied their water on the bases of "futile call", and domestic wells in Butte County will have to be redrilled and deepened. We will have a replay of the dry years of 1991-1993 where hundreds of wells domestic wells below the Moore Diversion were deepened or redrilled.

IDWR needs to make sure that when they approve an application under the guise of "the public s interest"; it truly is in the public's interest To consider approval of an application such as this is harmful to everyone – small farmers, people with domestic wells, citizens of communities that depend on tourism dollars that result from Idaho's outdoor opportunities and beauty Approval of this application would only benefit this specific corporate farm whether we call this corporation Timberdome or Sawtooth

Matea McCray
3470 Cobblestone Ln.
Idaho Falls, ID 83402

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Charles D. Huggins
Rte #1, Box #216
Arco, Idaho 83213
Phone:(208)527-3351

Karl J Dreyer, Director
State of Idaho, Department of Water Resources
P.O. Box # 83720
Boise, Idaho 83720-0098

May 10, 1999

Re:RECONSIDERATION of
RECOMMENDED ORDER FOR
PERMITS #34-07247, #34-07410,and
34-074

Mr. Karl J. Dreyer:

It is my purpose to request oral argument before the director of the Idaho Department of Water Resources (IDWR) concerning applications as stated above and the "findings of facts" as singned by Mr. Young on 3/12/99. Please note the below numbered points at issue as related in your. FINDINGS OF FACT CONCERNING APP. #34-07430.

#34 1 Mr Sorensen didn't testify that diversion of water into the Blaine Diversion for ten (10) of the past twenty (20) years was a LEGAL diversion practice.

#36 2 The Timberdome Canal Company DOES NOT OWN the Blaine Diversion Facility

#38 3 If the water,as diverted from the river to a canal, is reduced to decree water only, the river is relegated – from the Blaine Diversion and south – to a canal status only and this is certainly not in the public interest.

#39 4. Diversion and use of water under application 34-0743 would cause injury to all rights diverted from the Blaine Diversion on down river as a result of lowering the water-table and not allowing water to rise in the two most southernly stretches of Big Lost River, as identified by IDWR.

#41 5 Mr Shaw's testimony using average of 100 to 200 cfs at the Arco gage is just that - an average - it reflects total yearly flows, and has no bearing on the irrigation seasons or on the necessary flows to maintain any semblance of a living and viable river.

#43 6. Sixty (60) CFS measured for three consecutive days to acquiesce total control of said waters - to the applicant , the recharge committee, and the watermaster – to do with as they please – promotes nothing more than the destruction of the water rights of individual citizens: IT IS A VIOLATION OF THE TRUST HELD BY THE STATE OF IDAHO OVER THIS STATE'S WATER!

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In the Conclusion of Law, 34-07430' If the moratorium did not sunset in December of 1997, then HOW can this application even be considered – let alone become exempt – from trust water processing? Water supply is not adequate and injury is speculative because the applicants do not own the facilities at points of diversion and the cost of purchase and repair has not been demonstrated by the applicants to be available.

Number 24, Conclusion Of Law, 34-07430, "*The hearing record documents that maintenance of flows in the Big Lost River and Antelope Creek is necessary to protect the public's interest in important fish and wildlife habitat and water quality values.*" .... ."*that the use will have a positive impact by reducing diversion of ground water in Basin 34 and leakage from the Blaine Canal will recharge the aquifers in Basin 34. This apparenet conflict can be resolved by approving the application for permit with conditions to allow diversion only when the flows in the Big Lost River and Antelope Creek are in excess of those needed to protect the public values.*" HOW COULD SUCH ACTION PROTECT PUBLIC VALUES?

Last, but not least This application has a provision for mitigation (yet to be defined). BUT, mitigation admits damage to others and such damage should not be intentionally inflicted! How can you mitigate injury by using water that legally belongs to those being injured?

This application could not even be considered in any other basin in Idaho and is not equal under Idaho Law. It is in direct violation of Idaho's 'First In Time ' clause of the Constitution of the State!

Respectfully,
Charles D. Huggins

To Karl Dreher, Director-Department of Water Resources

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State of Idaho
DEPARTMENT OF WATER RESOURCES
1301 North Orchard Street, P.O. Box 83720, Boise, Idaho 83720-0098
Phone: (208) 327-7900 FAX: (208) 327-7866

DIRK KEMPTHORNE
GOVERNOR

KARL J. DREHER
DIRECTOR

March 16, 1999

RE: In the matter of Application for Permit Nos. 34-07247 and 34-07410 in the name of Mitchell D. Sorensen and Application No. 34-07430 in the name of Timberdome Canal Company

Dear Interested Party:

The accompanying order is a "***recommended order***" issued by the department pursuant to Section 67-5243, Idaho Code. The provisions of this order will not become effective until the Director issues a final order in this matter.

Each party to these proceedings who appeared at the hearing may file a petition for reconsideration, briefs and exceptions to the recommended order and may request oral argument before the Director of the department as further described below:

PETITION FOR RECONSIDERATION

Any party may file a petition for reconsideration of a recommended order with the hearing officer issuing the order within fourteen (14) days of the service date of the order. The hearing officer will act on a petition for reconsideration within twenty-one (21) days of its receipt, or the petition will be considered denied by operation of law. See Section 67-5243(3), Idaho Code.

EXCEPTIONS AND BRIEFS

Within twenty-one (21) days after (a) the service date of this recommended order, (b) the service date of a denial of a petition for reconsideration from this recommended order, or (c) the failure within twenty-one (21) days to grant or deny a petition for reconsideration from this recommended order, any party may in writing support or take exceptions to any part of a recommended order and may file briefs in support of the party's position on any issue in the proceeding. Written briefs in support of or taking exceptions to the recommended order shall be filed with the Director. Opposing parties shall have twenty-one (21) days to respond.

ORAL ARGUMENT

The Director may schedule oral argument in the matter before issuing a final order. Oral argument on exceptions to a recommended order shall be heard at the discretion of the Director. If oral arguments are to be heard, the Director will, within a reasonable time, notify each party of the place, date and hour for the argument of the case. Unless the Director orders otherwise, all oral arguments will be heard in Boise, Idaho.

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CERTIFICATE OF SERVICE

All exceptions, briefs, requests for oral argument and any other matters filed with the Director in connection with the recommended order shall be served on all other parties to these proceedings in accordance with Rules of Procedure 302 and 303.

FINAL ORDER

The Director will issue a final order within fifty-six (56) days of receipt of the written briefs, oral argument or response to briefs, whichever is later, unless waived by the parties or for good cause shown. The agency may remand the matter for further evidentiary hearings if further factual development of the record is necessary before issuing a final order. The department will serve a copy of the final order on all parties of record.

APPEAL OF FINAL ORDER TO DISTRICT COURT

A party aggrieved by a final order of the Director is entitled to judicial review in compliance with sections 67-5271 through 67-5279, Idaho Code.

Sincerely,

L. Glen Saxton

L. GLEN SAXTON, Chief
Water Allocation Bureau

Enclosure

c: IDWR - Eastern Region

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Dept. of Water Resources

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November 9, 1998

Norman C. Young
Idaho Department of Water Resources
1301 North Orchard St.
Statehouse Mail
Boise, ID 83720

Re: Application for Permit Nos. 34-07247, 34-07410 and 34-07430

Dear Norm:

Our firm represents the Idaho Power Company and Kirby A. Jensen, Protestants to the above-referenced applications for permit. We participated on behalf of our clients at the hearing on these applications held in Idaho Falls on September 23-24.

After reviewing the opening briefs filed in this matter, we have determined that it is not necessary to file a responsive brief, primarily because the Applicants did not file an opening brief and because the other Protestants have adequately briefed the issues for your consideration. However, we reserve the right to file any motions to reconsider or exceptions, and to respond to any motions or exceptions filed by other parties, including the Applicants, or to take any other action as may be necessary upon the issuance of any preliminary, recommended or final orders by the Department.

Thank you for your attention to this matter.

Sincerely,

NORMAN M. SEMANKO

10309802.NMS

cc: Parties of Record

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Law Offices

HOLDEN, KIDWELL, HAHN & CRAPO, P.L.L.C.

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(1907-1988)

FACSIMILE TRANSMITTAL SHEET

DATE: November 9, 1998

TO: Norman Young **FAX #:** (208) 327-7866

FROM: Kent W. Foster **FAX #:** (208) 523-9518

RE: Mitchell D. Sorensen

ITEM(S) SENT:

Response to Closing Arguments and Post Hearing Briefs of Protestants

NO. OF PAGES INCLUDING TRANSMITTAL SHEET: 7

MESSAGE:

ORIGINALS: Filed with IDWR in Idaho Falls

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Telecopier Operator

Kjerstin

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Kent W. Foster, Esq.
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330 Shoup Avenue, 3rd Floor
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Idaho Falls, Idaho 83405
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BEFORE THE DEPARTMENT OF WATER RESOURCES

OF THE STATE OF IDAHO

IN THE MATTER OF APPLICATIONS FOR PERMIT NOS. 34-07247, 07410 and 07430 *In the name of MITCHELL D. SORENSEN, Et al.*	**RESPONSE TO CLOSING ARGUMENTS AND POST HEARING BRIEFS OF PROTESTANTS**

In order that the silence of the applicants not be misinterpreted to constitute acquiescence, we take this opportunity to respond to some of the closing arguments. It is probably better for us to try to articulate our own arguments rather than to rely on the misrepresentations of our position by others.

First, we did question whether there is a moratorium in effect which would have any potential impact on any of the applications. But we did not state and do not accept that the moratorium approved and confirmed by the legislature in Idaho Code §42-1806, even if still effective, precludes the granting of any of the permits sought. If it is in effect, then

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paragraph 9b of the amended moratorium order provides the basis for granting the permits sought by the applicants.

Our inquiry arose from a reading of the statute itself. Some of the protestants argue that our reading is "simplistic". Be that as it may, we suggest it is the place to start the analysis. The statute refers, in subsection (1) to the concern over the effects of the 1987 to 1994 drouth, and changes in irrigation practices which have reduced recharge to the Snake Plain aquifer. It recites that the legislature had authorized a study and declares that "Continuation of the current moratorium for the Eastern Snake Plain area is appropriate while these studies are undertaken." We cannot tell how the legislature got from the one authorized study "expected to last two (2) years" to "these studies", but we assume IDWR will know whether the contemplated two year study was undertaken, and/or completed.

Next, subsection (2) of the statute states that:

> (2) The portion of the director's moratorium entitled "In the Matter of Applications for Permits for the Diversion and Use of Surface and Ground Water within the Eastern Snake River Plain Area and the Boise River Drainage Area," dated April 30, 1993, relating to the Eastern Snake River Plain area is hereby approved and confirmed and shall continue in effect until December 31, 1997.

It seems clear then that the legislature did not enact its own or an independent moratorium; rather, it "approved and confirmed" a portion of "the director's moratorium". And so, that is the very moratorium (actually, the referenced portion, which would include the Big Lost River Basin) that "shall continue in effect until December 31, 1997". And what happens after December 31, 1997? We suggested that most people who claim to understand the English language would say that if something continues in effect until a specific date, it

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doesn't continue in effect thereafter. Otherwise, there would be no reason to say it continues in effect until the certain date. We must assume that the legislature meant something by the language it used, and usually we try to attribute the meaning to a statute derived from the clear meaning of the words used.

We have not argued that the director did not have authority to declare a moratorium in the first instance. (That is an argument for a different forum). We do accept that the legislature has the legal authority and the power to authorize the director to impose a moratorium or to enact one itself, or to revoke one, whether imposed by the director or enacted by the legislature, or to provide how long a moratorium will remain in effect, whether imposed by the director or enacted by itself. Indeed subsection (3) of §42-1806 says the statute doesn't "preclude the director from maintaining or modifying the requirements of any existing moratoriums or initiating any new, or more restrictive moratoriums. . .". But, has the director done anything to maintain the moratorium which remained in effect until December 31, 1997? Or has he initiated any new one which applies to the Big Lost River Basin? If not, we have yet to hear or read a convincing enunciation of a theory upon which the specific moratorium referenced in Idaho Code §42-1806 can be held to be in effect after December 31, 1997.

Now, having attempted to articulate our concern with the status of the moratorium, let us quickly and strongly emphasize that even if the April 30, 1993 moratorium is somehow still in effect, it does not preclude the issuance of any of the permits sought by the pending applications, if the provisions of paragraph 9b of the order can be met. That paragraph states:

> 9. The moratorium does not prevent the director from reviewing for approval on a case-by-case basis an application which would otherwise not be approved under the terms of this moratorium if,

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***

b) The director determines that the development and use of the water pursuant to an application will have no effect on prior surface and ground water rights because of its location, insignificant consumption of water or mitigation provided by the applicant to offset injury to other rights.

Application 34-07430

With respect to the application to document a practice that has persisted for many years, in reference to the typically brief times of exceptionally high water, the only expert testimony in the record is that during the times when flows in the Big Lost River and/or Antelope Creek are so high that the county commissioners are requesting diversions through the Blaine Canal for flood protection purposes, use of the water on the lands served by that canal and the Timberdome Canal Company system merely offsets diversion and use of ground water for the period and to the extent such excess high water is available. Consequently, there is no impact on water relied upon by other water users, either within the basin of origin, or who depend upon the regional aquifer. In fact, the diversion and application of such flood flows undoubtedly results in recharge of some portion of the aquifer within the basin of origin itself.

There was no expert testimony or other credible evidence to support the theory of the existence of a mystical aquifer to the Southwest of the basin which "realistically does not connect to the Eastern Snake River Plain Aquifer" where water is "lost". All of the water which percolates within the basin and flows therefrom as underflow, as well as all of the water which seeps from the river channel itself, including all that reaches the Lost River Sinks Area south of Howe, contributes to the regional aquifer system.

The fears expressed about further demands on flows of the Big Lost River and/or Antelope Creek are groundless. Applicant has agreed to the same conditions respecting the

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minimum flow (the stipulation actually denies that there is such a thing as a minimum flow) or whatever the condition is that applies to the recharge rights. Any flows sufficient to fill all or any portion of the proposed high water right are infrequent, irregular, and usually of very short duration. By definition, diversion under the proposed right cannot affect any other water rights and can only be exercised at times when there is usually a strong public interest in favor of such diversions to protect property from flood damage.

Apparently there are those in the Department of Fish and Game, as well as certain environmentalists, who would like to have valuable farmland and property destroyed or damaged by flooding. We certainly hope that is not a sentiment common to a majority of Idaho citizens. And there was no credible or expert evidence introduced to support such a philosophy

Applications 34-07410 and 34-02427

Both of these applications are for diversions of ground water within Basin 34. Mr. Shaw testified there would be no further impact to the regional aquifer under 34-07247 because the effects of that diversion have existed for twenty years. Both proposed rights would be subject to the provisions of the District 34 Water Distribution Rules, including the mitigation requirements of Rule 50. At any time those provisions are invoked, the holder of rights nos. 34-07247 and 34-07410 will either need to mitigate or be curtailed. In either case then, the laws to protect other water rights within the basin will have been satisfied.

Likewise, we understand these two rights will be subject to the provisions of the Conjunctive Management Rules which also provide for mitigation or curtailment to protect senior water rights within the regional aquifer. It seems obvious to us that whenever such provisions of either set of rules are invoked, the only way the holder of either of the two proposed rights could avoid curtailment would be through compliance with a mitigation plan

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acceptable to IDWR. No such plan can be designed unless and until the time comes when it is required because it will undoubtedly be designed to address the specific conditions giving rise to the requirement. We know of no general mitigation requirement existing at this time, and for us it is impossible to contemplate what might be satisfactory to the director in every possible case, or even in any specific one. When the time comes, the holder of each of the two rights will either be able to participate in an acceptable mitigation effort designed for the occasion, or diversion will be curtailed. Applicant has made it clear he accepts those conditions.

Given the number of years that have passed since the filing of these applications, it is certainly time to make the necessary decisions. We express appreciation to the hearing officer for his kind consideration.

Respectfully submitted this 9th day of November, 1998.

Kent W. Foster

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CERTIFICATE OF SERVICE

I hereby certify that I am a duly licensed attorney in the State of Idaho, resident of and with my office in Idaho Falls, Idaho; that I served a copy of the following described pleading or document on those listed below by mailing, with the correct postage thereon, a true and correct copy thereof.

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BEFORE THE DEPARTMENT OF WATER RESOURCES

OF THE STATE OF IDAHO

OCTOBER 25, 1998

CHARLES D. HUGGINS
2132 No., 2900 W.
Rt. #1, Box #216
ARCO, IDAHO 83213
PH (208) 527-3951
(208) 527-3351

RE: APPLICATIONS FOR PERMITS #'s: 34-07247, 34-07430, AND 34-07410 IN THE NAME OF MITCHELL D. SORENSEN, ETA

COMES NOW, CHARLES D. HUGGINS, A WATER USER IN BASIN 34 AND A MEMBER OF THE BIG LOST RIVER IRRIGATION DISTRICT, TO PROTEST THE ABOVE LISTED APPLICATIONS FOR PERMITS FOR THE FOLLOWING REASON.

1- THESE APPLICATIONS FOR SURFACE WATER CANNOT BE GRANTED DUE TO THE AMENDED MORATORIUM ORDER of APRIL 30, 1993 WHICH IS STILL IN FULL FORCE.

2- EFFECTS FROM APPROVAL OF THESE APPLICATIONS INCLUDE DEPLETIONS OF SURFACE FLOWS CAUSING ADDITIONAL INJURY TO ALL DECREES AND PERMITS EXISTING FROM THE BLAINE DIVERSION AND SOUTH; CLEARLY DEMONSTRATING FURTHER OVER-APPROPRIATIO OF IRRIGATION WATER.

3- TRANSPORT OF 10,000 MINOR INCHES WOULD CAUSE NEGATIVE INFLUENCE TO THE ECONOMY OF ALL OF BASIN 34. SINCE MOST OF THIS WATER WOULD BE DIVERTED AT THE BLAINE HEADING AND NECESSARY MAINTENANCE AND REPAIRS WILL BE COSLY TO ALL Big Lost River IRRIGATION DISTRICT MEMBERS.

4. RECHARGE OCCURRING AT PLACE OF USE WOULD BE NIL.

5. OPTIMUM DEVELOPMENT OF WATER RESOURCES IN THE PUBLIC INTEREST CANNOT BE IMPLEMENTED BY THE APPROVAL OF THESE PERMITS.

THESE APPLICATIONS SHOULD BE DENIED!

SINCERELY,

Charles D Huggins

CHARLES D. HUGGINS

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For telephone call to Mr. Huggins on 4 Nov 4, 1998, a copy of this letter was served on all parties. JG

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Attorneys for Idaho Department of Fish and Game

BEFORE THE DEPARTMENT OF WATER RESOURCES

OF THE STATE OF IDAHO

IN THE MATTER OF APPLICATION NOS. 34-07247, 34-07430, and 34-07410 In the name of MITCHELL D. SORENSON, Et al.	**CLOSING ARGUMENT**

Comes now Idaho Department of Fish and Game, by counsel and pursuant to the Hearing Officer's Oral Order and submits its closing argument in the above captioned matter in writing.

INTRODUCTION

This matter was heard before the Idaho Department of Water Resources ("IDWR") in a contested hearing September 23 and 24, 1998, in Idaho Falls, Idaho. Water Right No. 34-07247 ("No. 7247") is a ground water right for 8.34 cfs, Water Right No. 34-07410 ("No. 7410") is a ground water right for 10 cfs and water right no. 34-07430 ("No. 7430") is a surface water right for 199 cfs. These Applications are now before IDWR with Mr. Sorenson as the applicant of the

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two ground water applications and the Timberdome Canal Co. is now the applicant of the surface water right (together referred to as "Applicant"). The Idaho Department of Fish and Game, among many others, protested these applications. See, letter of June 22, 1998.

The burden of proof as to most of the elements of the application is on the Applicant. Due to the difficulty of the Protestants' position at this time having to show a lack of evidence, that is to prove a negative, the Idaho Department of Fish and Game will make this Closing Brief necessarily brief and reserves the right to file an additional reply brief, regardless of any filing or lack thereof on the part of the Applicant.

These applications have a long and convoluted history, including proposed amendments to the application at hearing. This history is adequately represented by the documents contained in the IDWR files for these three applications and will not be repeated here.

ARGUMENT AND AUTHORITY

I. THE MORATORIUM

As the Hearing Officer correctly pointed out at the hearing, a preliminary issue that must be examined is the effect of the Moratorium in Basin 34 on these applications. If the Moratorium remains in place, these water rights cannot be granted.

Basin 34 was first subject to a Moratorium on additional water development on or about August 7, 1990. This Moratorium was subsequently amended and combined with other Moratoriums, culminating in the *Amended Moratorium Order* (April 30, 1993) ("*Moratorium Order*"). The *Moratorium Order* prohibits the processing of and approval of pending and new applications for permits to appropriate water from all surface and ground water sources within the Eastern Snake River Plain Area and all tributaries thereto. *Moratorium Order* at 4.

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Applicant argues that the Moratorium is no longer in effect. This is based on the provisions of Idaho Code § 42-1806 that legislatively adopted the *Moratorium Order* as a statute. I.C. § 42-1806(2). The Statute, by its own terms, expired December 31, 1997. Applicant now argues that the Moratorium expired with the statute. However, this simplistic reading of the issue cannot be followed. The Idaho Department of Water Resources has separate and adequate authority to issue a Moratorium. Section 42-1806 is simply a legislative confirmation of the Moratorium and had the effect of prohibiting IDWR from rescinding the Moratorium while the statute was in effect. Significantly, the statute does not state the Moratorium will be lifted or that the *Moratorium Order* is no longer in effect upon expiration of the statute. Instead it only adopts the *Moratorium Order* and effectively prohibits IDWR from lifting the *Moratorium Order* while the Statute is in effect.

Applicant's view of this issue also ignores the plain language of the *Moratorium Order* itself: "The moratorium shall be in effect on and after its entry and shall remain in effect until withdrawn or modified by order of the Director." *Moratorium Order* at 4. Nowhere in Idaho Code § 42-1806 is there evidence that the legislature wished to usurp IDWR's power to establish and maintain a Moratorium. Instead, the *Moratorium Order* was valid prior to the enactment of Idaho Code § 42-1806, existed as an independent basis for the Moratorium while that statute was in effect, and continues to supply such an independent basis for a Moratorium after the expiration of the Idaho Code § 42-1806. There is no other conclusion to be reached than that the *Moratorium Order* remains in effect until withdrawn by the Director or until there is a specific directive from the Legislature that the *Moratorium Order* has been abrogated.

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II. STATUTORY ELEMENTS

These applications for water rights are evaluated under the terms of Idaho Code § 42-203A. Section 42-203A presents six (6) criteria that must be evaluated. The Applicant has the burden of proof as to all elements, except that of the local public interest. As to the local public interest, the burden of production as to which elements of the public interest are impacted and to what degree lies with the party that has knowledge peculiar to himself, however, the burden of proof in all cases as to where the public interest lies rests with the applicant. Shokal v. Dunn, 109 Idaho 330, 707 P.2d 441 (1985).

A. That The Application Will Not Reduce The Quantity Of Water Under Existing Water Rights.

The Applicant has not met his burden of proof to show that the Application will not reduce the quantity of water under existing water rights. The Applicant relies on the idea that there must be some showing of significant harm for this provision to have effect. Clearly this cannot be. Had the legislature wished to limit the question of harm to a significant reduction in the quantity of water, it could have done so. It did not. The Legislature specifically provides that the standard is simply a reduction in the quantity of water available. Applicant's expert, Mr. Shaw, testified that none of these applications would result in such quantities as to cause significant harm. However, significant harm is not the standard to be applied under the statute. The statute requires only a reduction in the amount of water available to existing rights. Mr. Shaw did not investigate this criteria and it played no part in his conclusion.

Mr. Shaw also testified that his opinion as to lack of harm was based upon the assumption that all water flows within the Big Lost River Valley flow directly into the Eastern Snake Plain Aquifer. On cross-examination, Mr. Shaw admitted that if this assumption were not correct, it would change his conclusion. The map published by the U.S. Geological Survey

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entitled, *Aquifer – Test Results, Direction of Ground-Water Flow, and 1984-90 Annual Ground-Water Pumpage for Irrigation, Lower Big Lost River Valley, Idaho* (1992) (USGS 92-4006) shows that in an area in the southwest corner of the Big Lost River Valley, ground water flows not directly into the Eastern Snake River Plain Aquifer, but instead west to southwest.

The testimony at hearing was that the proposed place of use for these water rights is in this area where the groundwater flows do not follow the typical pattern. The uncontroverted testimony at hearing is that the ground water flows in this area which flow to the west or southwest, as shown on USGS 92-4006, are effectively "lost" from the system as they flow to a very deep aquifer which realistically does not connect to the Eastern Snake River Plain Aquifer. Therefore, water applied at the place of use is "lost" and does not join the Eastern Snake River Plain Aquifer. Mr. Shaw did not consider these facts in reaching his conclusion as to harm and so the factual basis for his conclusions is incorrect. Mr. Shaw admitted that such a change in facts could change his conclusion as to this issue. Therefore, by Mr. Shaw's own admission, his conclusions as to harm testified to at hearing cannot be relied upon to establish the absence a reduction in the amount of water available to existing rights.

Further, Mr. Shaw's statements concerning harm were of the nature that, due to the limited knowledge of the groundwater systems, he could not say that water would be reduced as to any existing water right. However, upon cross-examination, Mr. Shaw admitted that due to this same lack of knowledge, he could not state that water would not be so reduced. In essence, his testimony on this subject was simply "I don't know." This cannot be used to meet the Applicant's burden of proof that the quantity of water will not be reduced to existing water rights.

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Nor has the applicant shown a sufficient mitigation plan. First, the assertion by Applicant's expert that the prior appropriation system ensures that there will never be harm is patently absurd. If this were true, there would be no need for the application process. Further, the evidence shows that the water master for Basin 34 does not follow the law, allows illegal diversions to continue with his knowledge and testified in another hearing that he fills junior water rights when senior water rights are not being met.

As to the so-called mitigation plan itself, the Applicant submits that his plan consists solely of a single paragraph contained in the Water Distribution Rules for Water District 34 (IDAPA 37.03.12.050.04). First, the assertion that an applicant can simply rely on the already enacted rules as a mitigation plan undercuts the requirement of a specific mitigation plan. The water distribution rules already apply to all water rights within the basin. Therefore, the requirement of a specific mitigation plan must mean something more than that which already exists. To find that the requirement of a specific mitigation plan may be met merely by re-incorporating what will already be a part of the water right reduces the requirement of a specific mitigation plan to a meaningless surplusage. As all provisions and requirements must be given some effect, this theory is fatally flawed and cannot be accepted. As there is no specific mitigation plan before IDWR, the applications cannot be approved.

Even if IDWR were to accept IDAPA 37.03.12.050.04 as a specific mitigation plan, it is inadequate. First, according to Mr. Shaw, a senior surface water user must make a specific request for mitigation the first time he requests his water be delivered. This means first, that the burden is upon the senior to take some additional action in order to assure the delivery of his water right, which he would not have had to do, but for the junior. Second, the senior must make a determination that sometime during the season, mitigation will be required, whether he knows

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it at the time of the initial call or not. Next, mitigation is limited only to water rights with a priority date of 1905 or later. IDAPA 37.03.12.050.04(b). Therefore, the plan is inadequate as to any water right with a subsequent priority. Further, an applicant should not be allowed to have a "mitigation plan" which forces groundwater users to come forward and propose how the applicant will mitigate as to their particular rights. See, IDAPA 37.03.12.050.04(e). This provision switches the burden of providing a mitigation plan from the applicant to the already existing water rights. Again, this cannot be considered a specific mitigation plan.

This mitigation "plan" by its own terms applies only to water rights within Basin 34. IDAPA 37.92.12.001. Therefore, there is no mitigation plan as to the rest of the Eastern Snake Plain Aquifer or the Snake River Basin. This, therefore, cannot be considered a mitigation plan. Finally, the reliance solely upon a department rule for a mitigation plan does take into account future changes to the rules themselves. If this provision were modified or eliminated altogether, the Applicant could then claim he was not subject to any mitigation provision at all.

B. That The Water Supply Itself Is Sufficient For The Purpose For Which It Is Sought To Be Appropriated.

The Applicant has not met his burden of proof to show that the water supply itself is sufficient for the purpose for which it is sought to be appropriated. Mr. Shaw presented the only evidence for the Applicant as to this matter. He presented a hydrograph of various flows as recorded at the Arco gauge, and from this information concluded there were sufficient quantities of water for these applications. This, in spite of the testimony of various water users in the valley that their rights have not been met in full on numerous occasions.

Significantly, Applicant bases the claim for No. 7430 on the mere existence of flows in excess of 200 cfs at the Arco gauge. There are numerous problems with this theory. First, as

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was testified to at hearing, the Arco gauge exists significantly below the proposed points of diversion for all of these water rights. There is no evidence as to where the water at the Arco gauge actually comes from. Second, the Applicant relies on the average hydrograph dating back to 1947. However, significant expansion in irrigation and consumptive use has occurred since that time.

These consumptive uses have significantly reduced the amount of water in the Big Lost River Valley as a whole, and the Big Lost River itself. Therefore, the use of this data dating back that far allows water which no longer exists (it has been subsequently appropriated) into the equation. This means that the average hydrograph is raised due to the inclusion of that subsequently appropriated water in determining the long-term hydrograph. Therefore this hydrograph does not and cannot present the actual conditions at the gauge, much less at the point of diversion, as they exist today. A more reliable indicator of the availability of water is the testimony of the water users, including Mr. Anderson and Mr. Huggins, who testified that their senior water rights have not been met in many years. This testimony is uncontroverted.

Further, the Applicant did not measure the flow of Antelope Creek or the Big Lost River near the point of diversion for no. 7430. There is no regression analysis or other data at the points of diversion showing how often the applied for flow would be available. There is no evidence before IDWR that even if there is water available, that there is unappropriated water available at the proposed points of diversion, at any time. There is no evidence to provide the answer the question of whether or not such flows are available sufficiently frequent enough to take No. 7430 outside the realm of speculation. Further, the Applicant presented no evidence as to the present availability of ground water at the proposed points of diversion.

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Finally, as shown above, there is no evidence that other water users in the Snake River Basin do not claim the water exiting Basin 34. The mere existence of some water exiting a subbasin does not establish that such water is free and unappropriated elsewhere. As shown above, the Applicant could not establish that this water is not appropriated and the granting of these applications would not reduce the quantity of water to senior water rights outside of Basin 34.

Most telling, Ms. Bridges testified that Idaho Rivers United applied to the Idaho Water Resources Board to have the Board establish a minimum stream flow for the Big Lost River. The Board informed Rivers United that there was no unappropriated flow in the river and so the Board would not act on that request. This evidence is uncontradicted. Although IDWR must make its own determinations as to water availability, the statement of the Idaho Water Resources Board that there are no unappropriated flows should carry with it some weight. The idea of, on the one hand the Board decreeing that there are no unappropriated flows and on the other hand, IDWR finding that such flows do exist presents a difficult image to the people of the state of Idaho.

C. That The Application Is Made In Good Faith And Not For Delay Or Speculation.

The Applicant has not met his burden of proof to show that the application is made in good faith and not for delay or speculation. There has been no evidence other than simple statements that this element has been met. IDWR should take a very hard look at these applications and the Applicants in ruling on this element. The Applicant admitted that he has, for quite some time, already diverted some of the water requested by these applications, despite the lack of permit, license or decree. Considering this evidence of the Applicant's disregard for

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the rule of law governing water appropriations and use within the state of Idaho, IDWR should not accept this bald assertion without actual supporting evidence as to intent.

Specifically as to No. 7247, there remains some question as to whether the proposed diversion works are capable of supplying the requested flow. The Applicant admitted as much when he seemed to orally amend the total amount for this claim at hearing. However, the actual flow he requests seems to be contingent on the outcome of one or more subcases currently proceeding in the Snake River Basin Adjudication. Where the applicant has not even made up his mind as to the actual amount the permit or license should be for, IDWR should decline to grant such a permit or license on the basis of speculation.

D. That The Applicant Has Sufficient Financial Resources With Which To Complete The Work Involved.

The Applicant has not met his burden of proof to show the Applicant has sufficient financial resources with which to complete the work involved. The Applicant made only general statements that he may seek a loan to develop these rights, specifically the estimated $50,000 necessary to develop No. 7410, or that the Canal Co. will be able to develop and repair conveyances necessary for No. 7430. There was no specific evidence entered other than speculation. No financial data or other evidence is in the record. No statements from potential lenders. Not even any hard evidence as to the actual development costs. Everything in the record is hypothetical. The record consists of general assertions, assumptions and speculation. The Applicant's burden cannot be met with such "evidence". IDWR must require facts as to these issues. Without evidence going beyond these mere casual assumptions and observations, the burden of proof as to this element cannot be met.

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E. That The Application Will Not Conflict With The Local Public Interest.

The Applicant has not met his burden of proof to show that the application will not conflict with the local public interest. The Idaho Supreme Court has held that the term local public interest encompasses fish and wildlife habitat, aquatic life, recreation, aesthetic beauty, transportation and navigation values, water quality, the benefit to the applicant, its economic effect, its effect of loss of alternative uses of water that might be made within a reasonable time if not precluded or hindered by the proposed appropriation, its harm to others, its effect upon access to navigable or public waters, the intent and ability of the applicant to complete the appropriation, assuring minimum stream flows, discouraging waste, and encouraging conservation. Shokal v. Dunn, 109 Idaho 330, 338, 707 P.2d 441 (1985).

As to these elements, the Applicant offered evidence only to two. First, that the Applicant himself will receive a private benefit by increasing the number of acres irrigated and decreasing his expenses. Second, the Applicant offered that the new irrigated acres would be taxed at a higher rate. There was no evidence as to what that rate would actually be. Although this may be true, without sufficient evidence before it, IDWR cannot even make an educated guess as to what that increase in tax revenue to the county might be.

Contrary to this, the residents of the local area first presented unambiguous and unopposed testimony that such values as fish and wildlife habitat, cottonwood groves and instream flows were important to the public at large and residents of the valley. Many of these residents testified that in the past, the Big Lost River area presented an extremely good habitat for fish and wildlife, that large trout were routinely found in the river and the Big Lost River's reputation for fisheries rivaled that of the Henry's Fork for quality of fisheries. Bob Martin of the Idaho Department of Fish and Game offered his expert opinion that there was great potential

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for fish and wildlife habitat in the Big Lost River, however the continued reduction of flows had diminished that habitat. No contrary testimony or evidence was admitted. Mr. Martin also testified that the desert ecosystem below the Arco gauge relied on continued flows from the Big Lost River to sustain itself. Again, this testimony is uncontradicted. Mr. Martin further testified that due to the already degraded condition of the Big Lost River ecosystem any additional loss of water, no matter how slight, would have a negative effect on these resources.

Mr. Martin further testified as to the benefits of "flood flows" in the Big Lost River; maintaining the cottonwood forest, maintaining a suitable ecosystem for fisheries, and clearing and maintaining the river channels to reduce the effects of large floods. This testimony is uncontradicted. Mr. Martin testified that a reduction in flood flows will have an adverse impact on the stream system and may lead to more devastating floods in the future. This evidence is also uncontradicted. These "flood flows" are exactly the flows that the Applicant wishes to divert through No. 7430. Additionally, Mr. King, a long time resident of the valley, testified that he relies on the "flood flows" of Antelope Creek to provide subirrigation and that such flows provide needed moisture for his lands. He considers these "flood flows" to be a benefit to himself and his lands.

IDWR must also consider the large number of other applications pending within basin 34. See, Letter from IDWR to Kent W. Foster at 2 (December 1, 1997). Clearly, this case will establish a precedent for such future applications, and therefore this precedent will impact the local public interest. Mr. Martin testified as to the adverse impacts of such development on the fish, wildlife and aesthetics so valued by the local population. Mr. Martin detailed that such development will have a very adverse effect on the values indicative of the local public interest. This testimony was unopposed. Mr. Martin did state that in some cases, as to some species of

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wildlife, an increase in farmed acres may actually prove beneficial, however he further testified that, as to these applications, their approval will have only a negative effect on wildlife in the area. Again, no contrary evidence was presented.

Mr. Martin also addressed potential effects of persons "converting" a ground water right to a surface flow, as is proposed with No. 7430. Mr. Martin testified that such a practice could only reduce the surface water flow, adversely affecting the local public interest values. This testimony was uncontradicted.

IDWR must accept that these values are included in the local public interest and their maintenance and improvement is in the local public interest. The uncontroverted evidence at the hearing is that granting these applications will have a negative impact on these local public interest values. The uncontroverted evidence is that granting these applications is against the local public interest.

Mr. Martin also testified that both the Big Lost River and Antelope Creek in the area of the proposed diversions are on the list of Water Quality Limited Stream Segments as Amended in 1998 for failing to meet the minimum criteria for water quality for various reasons, including sediment, temperature, flow alteration and dissolved oxygen content. Mr. Martin testified that any reduction in flows will have adverse impacts on these stream segments and is contrary to the stated goal of improving the water quality of these streams so that they may obtain the necessary water quality and be removed from the list. Mr. Martin also testified that the use of heavy equipment in the stream channel of Antelope Creek to effectuate a diversion, as proposed by the Applicant, would have an adverse impact on water quality. Mr. Martin testified that approving these applications would reduce the ability of the State of Idaho to meet its obligations to provide sufficient water quality. As the uncontroverted evidence shows the granting of these applications

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will have an adverse effect on water quality in these streams, these applications cannot be found to be within the public interest.

Again, IDWR must consider the precedent to be set by these applications. If these additional applications are also to go forward, the potential adverse effects on the water quality of the Big Lost River area only grows. This result cannot be found to be with the local public interest.

Mr. Martin further testified as to the larger "recharge" effort occurring throughout the Snake River Basin in an attempt to meet already existing water rights within the Eastern Snake Plain Aquifer. He testified as the general attempts at recharge, the large effort involved and the adverse impacts such recharge entails. Here we have three applications that will further interfere with the recharge effort, causing more expense and impact throughout the Snake River Basin as a whole. Not only are these applications against the local public interest of the Big Lost River Valley, but they are also contrary to the interests of the Snake River Basin as a whole.

Further, Mr. Beale testified regarding the Big Lost River Recharge Settlement Agreement and Stipulation and the Plan of Operation for Basin 34 Recharge (April 1997). Mr. Beale was involved in the negotiations of these agreements and testified that application No. 7430 contravenes the intent of the Agreement and Plan. This testimony was uncontradicted. The Agreement and Plan were the result of a long process to determine the way that the Big Lost River Valley could best be helped. By undercutting these agreements, application No. 7430 has an adverse effect as to alternative uses of water that might be made and harms the valley as a whole by interfering with the recharge project. Ms. Bridges was also involved in the negotiations regarding the Agreement and Plan. Ms. Bridges also testified as to the Agreement

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and Plan, its purpose and effects. Ms. Bridges further testified that application No. 7430 would be adverse to the operation of the Agreement and Plan. Again, her testimony was uncontradicted.

F. That The Application Is Not Contrary To The Conservation Of Water Resources Within The State Of Idaho.

The Applicant has not met his burden of proof to show that the Application is not contrary to the conservation of water resources within the state of Idaho. The Applicant's sole "proof" on this matter was the testimony of Mr. Shaw that this provision exists solely to provide the legislature jurisdiction over persons attempting to transfer water from Idaho to another state. Mr. Shaw testified that because of this, it does not apply to a solely intrastate application. Mr. Shaw's reading of the statute cannot be accepted. Mr. Shaw wishes to avoid the plain language of the statute and rewrite the provisions in his own words. However, the statute on its face is clear and unambiguous. The Applicant must show how this application is "not contrary to the conservation of water resources within the state of Idaho." I.C. § 42-203A(5)(f).

There is nothing in the statute which would allow reading this provision as being merely a bit of slight of hand on the part of the legislature to restrict interstate transfers and that IDWR really should not apply it to intrastate applications. Aside from this strained interpretation of the statute offered by Mr. Shaw, there is no other evidence as to the conservation of water resources. Therefore, the claimant has not met his burden of proof and the applications must be denied.

CONCLUSION

The Applicant bears the burden of proof as to his applications. The Applicant has completely failed to meet this burden of proof. IDWR should deny each of these applications in full.

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DATED this 26th day of October 1998.

ALAN G. LANCE
Attorney General

PETER J. AMPE
Deputy Attorney General
Natural Resources Division

CERTIFICATE OF SERVICE

I hereby certify that on this 26th day of October, 1998, I caused to be served a true and correct copy of the NOTICE OF APPEARANCE upon all parties of record in this proceeding by placing same in the United States mail, postage prepaid, addressed as follows:

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For Protestant Idaho Rivers United

Before the Idaho Department of Water Resources

State of Idaho

IN THE MATTER OF APPLICATION FOR PERMIT NOS. 34-07410, 34-07430, AND 34-07247	)))	**POST-HEARING BRIEF**

Protestant Idaho Rivers United respectfully submits the following Post-Hearing Brief on the issues raised at the hearing herein:[1]

(I) The applications for water rights may not be processed because the Director of IDWR validly extended the moratorium on additional appropriation of water in the East Snake River Plain Area.

At hearing, the question was raised as to whether the Director has somehow lost authority to continue the existing administrative moratorium on the approval of applications for additional water rights in the East Snake River Plain Area (ESPA), under the provisions of Idaho Code § 42-1806, which expired December 1997. The short answer is: Of course not. The

[1] Laird J. Lucas and William M. Eddie of the Land and Water Fund of the Rockies, Idaho office, assisted in preparation of this brief. However, they are not counsel of record for Idaho Rivers United in this matter.

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Director retains full authority to maintain the existing moratorium, or institute any new moratorium.

Idaho Code 42-1806 codified and approved at a statutory level the then-existing moratorium which Director Higginson had imposed on the ESPA. Through enactment of I.C. § 42-1806, the Idaho legislature ensured that the moratorium would continue in effect for at least a specified period of time.

The statutory moratorium created by I.C. § 42-1806 may have expired on December 31, 1997; however, the Director clearly retains full the authority to extend or renew the administrative moratorium indefinitely. Under Idaho Code § 42-1805(7), the Director has been broadly delegated the power "to suspend the issuance or further action on permits or applications as necessary to protect existing vested water rights. . . ." This power to enact an indefinite moratorium on the processing of water right applications continues to this day, unfettered by any other statutory provision.

Indeed, nothing in the statutory moratorium, I.C. § 42-1806, reduces this power -- except to the limited extent the Director was prevented from revoking the moratorium during the period specified in the statute. I.C. § 42-1806(3) thus temporarily restricted the director's authority to modify or remove the moratorium, but that restriction expired with Section 1806 on December 31, 1997. See Sec.2, S.L. 1994, ch. 449. The Director's power to extend or modify any moratorium resumed on that day, and continues in full force pursuant to I.C..42-

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1805(7).

In short, just as the Director had the power to adopt the moratorium administratively in 1993, so does he have the power to continue the moratorium after the expiration of I.C. 42-1806.

(II) IDWR must deny the applications for water rights because they are inconsistent with essential principles of Idaho water law.

Another issue that came up at hearing is whether the question of injury can only be determined after it has actually occurred, or whether the applications can be granted based on promises of future mitigation without consideration now of possible injury.

A basic tenet of Idaho water law is that IDWR must consider whether a requested permit for appropriation of water will injure vested water rights before the permit is granted. Idaho Code 42-203A(5) allows the Director of IDWR to refuse to grant a permit for the appropriation of water "where the proposed use is such (a) that it will reduce the quantity of water under existing water rights; or (b) that the water supply itself is insufficient for the purpose for which it is sought to be appropriated . . ." (emphasis added). Idaho law thus directs IDWR to consider the effects of a permit upon the source of water and other water users before the permit is granted. And if the proposed right will cause injury to another right, of course, it must be denied. I.C. § 42-222; Bennett v. Nourse, 22 Idaho 249, 125 P. 1038

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(1912); Crockett v. Jones, 47 Idaho 497, 277 P. 550 (1929).

Idaho law also expressly rejects the notion that IDWR can grant a permit to use ground or surface water in an over-appropriated basin based upon unspecified mitigation plans. The IDWR Rules for Conjunctive Management of Surface and Ground Water Resources (IDAPA 37, Title 03, Chapter 11) likewise incorporate this concept. See Rule 20 (2).

If a stream or basin such as the ESPA is over-appropriated, then any application for a new appropriation should be rejected on at least two grounds: (1) that the new appropriation will reduce the quantity of water under existing water rights, and (2) that the water supply is insufficient under current use, much less new uses. Additionally, the application should be rejected because it conflicts with the local public interest and is contrary to the conservation of water resources in the state of Idaho. IC 42-203A (5). Logic dictates that when a stream or basin currently lacks sufficient water for vested uses, it also lacks water for additional uses.

Mr. Sorenson and his retained expert Dave Shaw have stated that the exercise of the three applications at issue will not cause "material injury" to vested water users under the Rules for Conjunctive Management. See Rule 42. Their argument seems to be that, while IDWR knows there is not enough water in the ESPA to support even current uses, it will be unable to make a clear connection between the withdrawl of water by Mr. Sorenson and the loss of water by other users. Such a showing is unnecessary to

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prove "material injury". In evaluating "material injury" IDWR must weigh a number of factors, the first of which is "[t]he amount of water available in the source from which the water is diverted." Rule 42 (1)(a). There is no water available for diversion in the Big Lost River Basin or Antelope Creek.

The Rules for Conjunctive Management provide flexibility when an over-appropriated stream or basin is under conjunctive management. One element of this added flexibility is "mitigation". Since the fact of injury in a conjunctively managed area has historically been difficult to determine, the Rules allow a junior appropriator to continue using water if the appropriator can mitigate injury to senior appropriators. Rules 42 (2) and 43 [senior users may not make a delivery call upon a junior water right holder when the junior water right holder is convered by a mitigation plan]. Mitigation should not be used as a 'fast and loose' way to grant permits for new appropriations of water in over-appropriated basins.

Idaho courts have held that IDWR can grant conditioned water rights applications. See Hardy v. Higginson, 123 Idaho 485, 849 P.2d 946 (1993); Collins Bros. Corp. v. Dunn, 114 Idaho 600, 759 P.2d 891 (1988). While Hardy and Collins Bros. addressed conditions to protect the local public interest, permit conditions theoretically could include mitigation in the form of water supplies or "other appropriate compensation." See Rule 43 (3)(c). However, the Rules for Conjunctive Management are less than clear on that point. It seems that in order to submit a

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mitigation plan under the rules, a person must be a "holder of a junior-priority ground water right." Rule 10 (15). The rules allow mitigation as a means to prevent shut-down of junior water rights holders in the event of inadequate water supply in a conjunctively managed basin. The rules do not allow loose application of the term "mitigation" to acquire new rights in over-appropriated areas such as the Big Lost River Basin, and the ESPA generally. Under the Rules for Conjunctive Management, and as a practical matter, mitigation should be used as a precise tool to (1) prevent the shut-down of vested rights, and (2) return appropriations in these areas to sustainable levels.

This policy is in perfect accord with the basic tenet of water law cited above -- that an applicant cannot be granted a permit, and then be allowed to somehow mitigate injury to other appropriators once the injury is realized. If a permit application will injure other appropriators, or if the water supply is insufficient, the permit must be denied.

Regardless of how IDWR defines "mitigation", and whether IDWR can lawfully grant a permit in an over-appropriated basin based upon mitigation, IDWR cannot grant a permit without consideration of the applicant's precise mitigation plans. See Rule 43. Mr. Sorenson has not submitted any plans for mitigation. It is simply impossible for IDWR to consider whether Mr. Sorenson's appropriation will injure other users without a precise account of his mitigation plans. Antelope Creek and the ESPA are over-appropriated; one must presume that any

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appropriation threatens injury to senior users.[2]

Furthermore, application 34-07430 is clearly contrary to the local public interest under IC 42-203A (5). Antelope Creek is a water quality limited stream under § 303(d) of the Clean Water Act due to flow impairment and sedimentation. A further appropriation of 200 cfs not only directly harms fish and wildlife, but also other individuals and entities depending upon Antelope Creek for their livelihood. Mr. Sorenson's appropriation could have the effect of forcing current users to make additional compromises and sacrifices to protect water quality in Antelope Creek -- compromises they might not have to make absent Mr. Sorenson's appropriation.

Applications 34-07247 and 34-07410 likewise are inconsistent with the local public interest. The administrative and statutory moratoria on the consideration of applications in the ESPA are conclusive evidence that current, vested appropriators are best served by a conservative management approach. Rather than risk further depletion of groundwater in the ESPA and more injury to vested water rights holders, IDWR should draw a clear line by upholding the current moratorium.

The water right applications at issue also conflict with the conservation of water resources in the state of Idaho. IC 42-203A (5). If these applications were granted, it would open the floodgates to approving another 600 cfs under pending

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[2] Idaho Rivers United also incorporates by reference here the Post-Hearing Brief and Closing Argument submitted by Lawrence Babcock on behalf of Big Lost River Water Users Association.

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applications for new and/or transferred rights on some 26,000 acres in the Big Lost River Basin alone. When a stream or basin is over-appropriated, as extensively as the Big Lost is, the conservative approach to management is to reject all applications for new appropriations while attempting to achieve sustainable levels of water use to the benefit of both irrigators and fish and wildlife.

CONCLUSION

For the foregoing reasons, and as established at hearing, the Sorenson applications must be denied.

DATED: Oct. 26th 1998

Respectfully submitted,

Marti Bridges

Marti Bridges, IRU

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CERTIFICATE OF SERVICE

I hereby certify that on this __ day of October, 1998, I mailed a true and correct copy, postage prepaid of the foregoing POST-HEARING BRIEF, to the persons listed below:

Mitchell Sorenson
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Rosholt, Robertson & Tucker
PO Box 1906
Twin Falls ID 83303

Idaho Fish and Game
c/o Bob Martin
1515 Lincoln Rd.
Idaho Falls ID 83401-2198

Charles D. Huggins
Rt. 1 Box 216
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David Bleak
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Department of Water Resources

BEFORE THE DEPARTMENT OF WATER RESOURCES
OF THE
STATE OF IDAHO

Big Lost River Water Users Association
2771 North 3325 West
Moore, Idaho 83255
Phone: (208) 527-3335
FAX: (208) 527-8918

IN THE MATTER OF APPLICATIONS)
FOR PERMIT NOS. 34-07247, 34-07430)
AND 34-07410 IN THE NAME OF)
MITCHELL D. SORENSEN, ET AL.)
)

POST HEARING BRIEF
AND CLOSING ARGUMENT

Comes now, Big Lost River Water Users Association (BLRWUA), by and through its spokesman, Lawrence Babcock, and files this brief in opposition to the granting, in whole or in part, of the above captioned Applications for Permit for at least but not limited to the following reasons, to wit:

DESCRIPTIVE SUMMARY

These Applications for Water Rights were published in *The Arco Advertiser* on June 4, 1998 and June 11, 1998 and were subsequently protested by BLRWUA and several other persons and entities, all of which appeared at hearing on September 23 and 24, 1998 at Idaho Falls, Idaho, and presented testimony and/or witnesses to support their positions

STATEMENT OF LAW AND TESTIMONY

1. These applications to appropriate ground and surface water cannot be granted as they are covered under the "Amended Moratorium Order" dated April 30, 1993 (page 4, paragraph 2 under "Order").

   A. This Amended Moratorium Order is still in full force and effort as the Legislature through I C. 42-1806 only wanted to ensure that the Moratorium remained in effect at least until 12/31/97. I.C. 42-1806 is "null and void and of no force and effect on and after 12/31/97", not the Moratorium Order as Mr. Foster suggests (see Compiler's Note at the end of 42-1806).

   The Legislature did not repeal I.C. 42-1805 (7) or Rule 7, 1. Department of Water Resources Rules and Regulations.

   Mr. Foster agrees that Basin 34 is subject to the Moratorium preventing approval of

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applications proposing consumptive uses of ground water and surface water. Mr David Shaw agrees that all water delivered down gradient from the "Line A" will not return to the Big Lost River Drainage, therefore is in effect 100% consumptive use (Shaw's testimony). Also see the Ralston Report, page 40

B. Mr. Sorensen admitted in his testimony that he had no water available for mitigation or compensation for prior water rights (See Sorensen testimony)

2. Application #34-07340 cannot be approved as Johnny King, an expert witness in the Antelope Valley location, testified that Antelope Creek is fully and/or over appropriated and severe injury would result in Antelope Valley for all landowners if this application was granted The landowners there depend on high spring flows to recharge their shallow ground water reserves as they are consistently short of irrigation water and no ground water sources for irrigation have been found in Antelope Valley.

Larman Andersen testified to the amount of water already decreed in Antelope Creek (Protestant's Exhibit F) and those totals clearly show over appropriation in that drainage Application #34-07247 and #34-07410 must be denied as the decline in ground water levels south of Moore was the primary reason for the issuance of moratoriums It is well established that surface and ground water is from the same source and ground water withdrawals will deplete surface flows If a ground water source were sealed to a certain depth, that still would not prevent injury as there are "no laterally extensive confining layers exist that isolate the Big Lost River from a "deeper" ground water system" It has already been determined by IDWR that these two applications would cause injury as Cease and Desist orders and letters advising against developed were issued on November 1, 1989. (See Open-File Report; preface and pages 1, 2, 5, 7, 8, 11, 21, 24-27)

3. These applications cannot be granted because there is speculation. Applicants and their counsel admitted that additional lands may be claimed as place of use.

4. These applications must be denied because injury would result Each of the protestant's witnesses testified they have suffered injury from lowering ground water levels and depleted surface flows, and these applications would compound that injury, both physical and financial

5. These applications must be denied as they are opposed to the local public interest Each witness raised the issue and testified to the injury to local public interest criteria as listed in I C 42-1501 as it applies

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to I C. 42-203a (5)(e). (See Skokal v Dunn, 109 Idaho 330, 707, p 2d 441 (1985)) The sheer number of people and entities protesting these applications is clear evidence of public interest violations

6. These applications must be denied because they would violate the Idaho State Constitution and the Ground Water Act.

Idaho State Constitution, Article 15 - Section 7,

"State water resources Agency. - There shall be constituted a Water Resource Agency, composed as the Legislature may now or hereafter prescribe, which shall have power to formulate and implement a state water plan for **optimum** development of water resources in the public interest...;

The Ground Water Act is consistent with the constitutionally enunciated policy of promoting **optimum** development of water resources in the public interest. Baker v. Ore-Ida Foods, Inc., 95 Idaho 575, 513 P 2d 627 (1973)."

We note that the policy of **maximum** (water) utilization does not require a single-minded endeavor to squeeze every drop of water from the valley's aquifer. Section 37-92-501(e) makes clear that the objective of **maximum** use administration is **optimum** use **Optimum** use can only be achieved with proper regard for all significant factors, including environmental and economic concerns (recognizing the need to correlate the activities of mankind with reasonable preservation of nature environment). "E.g , Alamosa-La Fara Water Users Protective Association v. Gould, 674 P.2d 914 (Colo. 1983)." *Emphasis added*

The Constitution of the United States, Article 4 - Section 1 (in pertinent part);

"Full Faith and Credit shall be given in each State to the public Acts, Records, and judicial Proceedings of every other State..."

CONCLUSION

During the hearings on these applications, clear and convincing evidence was presented that a moratorium would absolutely prevent issuance of these applications and no mitigation plan was presented by the Applicant to compensate for possible injury and in fact the Applicant testified that he had no water available for mitigation. To transport 10,000 plus miners inches of water out of the Lost River drainage would cause severe injury to already short water supplies making much less water available for recharge and environmental/stream channel protection. Most of the surface water that has been delivered to Era flat in the past was done without benefit of a decree and through unauthorized actions of the Watermaster (See "Decree Governs Watermaster", Stetham v Skinner, 11 Idaho 374, 82 p. 451 (1905); and "Watermaster Duties", Jones v. Big Lost River Irrigation District, 93 Idaho 227, 459 p. 2d 1009 (1969), all footnotes under I C. 42-607)

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In the Order Granting Transfer #808 the clear intent is to restrict water to lands within the Big Lost River Irrigation District and is in complete agreement with said District's *Plan of Operations* accepted in 1935.

The granting of these applications would further aggravate a long list of water problems in Basin 34 and aggravate concerns of a large number of people

These applications should be denied.

Dated this 23rd day of October, 1998

Lawrence R Babcock

Lawrence R. Babcock
Big Lost River Water Users Association, Spokesman

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I hereby certify that on the 23rd day of October, 1998, mailed a true and correct copy, postage prepaid, of the document to the applicant(s) and protestant(s) listed below

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C/O Bob Martin
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(1907-1988)

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Department of Water Resources

October 23, 1998

Mr. Norman C. Young
IDAHO DEPARTMENT OF
WATER RESOURCES
1301 North Orchard Street
Statehouse Mail
Boise, Idaho 83720

Re: Application Nos. 34-07247, 34-07410 and 34-07430

Dear Mr. Young:

This letter is to advise everyone that the applicants will not be filing an initial memorandum or brief containing its closing argument in this matter. It is our belief that the factual and legal issues have been presented clearly enough that additional argument would not be particularly helpful.

However, applicants wish to reserve the right to respond to any closing argument memoranda or brief filed by any of the other parties herein. Thank you for your kind consideration in this matter.

Very truly yours,

Kent W. Foster

G \WPDATA\KWF\7151 01\NRMN1023 LTR kmc

Copy sent to all parties per Kent Foster 10/29/98 (or biggest list)

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FACSIMILE TRANSMITTAL SHEET

DATE: October 30, 1998

TO: Rita Fleck; IDWR **FAX #:** (208) 327-7866

FROM: Kent W. Foster **FAX #:** (208) 523-9518

RE: Letter to Norman Young, dated October 23, 1998

ITEM(S) SENT:

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October 23, 1998

Mr. Norman C. Young
IDAHO DEPARTMENT OF
WATER RESOURCES
1301 North Orchard Street
Statehouse Mail
Boise, Idaho 83720

Re: Application Nos. 34-07247, 34-07410 and 34-07430

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However, applicants wish to reserve the right to respond to any closing argument memoranda or brief filed by any of the other parties herein. Thank you for your kind consideration in this matter.

Very truly yours,

Kent W. Foster

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CERTIFICATE OF SERVICE

I hereby certify that I am a duly licensed attorney in the State of Idaho, resident of and with my office in Idaho Falls, Idaho; that I served a copy of the following described pleading or document on those listed below on October 23, 1998, by mailing, with the correct postage thereon, a true and correct copy thereof.

DOCUMENT SERVED: Letter dated October 23, 1998 (a copy attached)

ATTORNEYS AND OTHER PARTIES SERVED:

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Dated: 10/30/98

Kent W. Foster, Esq.
HOLDEN, KIDWELL, HAHN & CRAPO, P.L.L.C.

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RESOURCES CORPORATION
Consultants in Natural Resources and the Environment

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OCT 0 9 1998
Department of Water Resources

October 7, 1998

Mr. Norman C. Young
Administrator, Water Management Division
Idaho Department of Water Resources
1301 N Orchard Street
Boise, ID 83706-2237

Re: Applications for Permit Nos. 34-07247, 34-07410 and 34-07430

Dear Norm:

At the hearing on September 23 and 24, 1998 regarding the above referenced applications for permit, Norm Semanko requested that I provide you with the data used to produce the hydrographs admitted as applicant's Exhibit 2. Enclosed with this letter are the mean monthly flow values used to produce the hydrographs.

The data through May 1995 was taken from the CD-ROM of USGS daily values published by EarthInfo, Inc. These are USGS measurement data published in electronic form by EarthInfo, Inc. The data from June 1995 through September 1997 came directly from the USGS.

Please let me know if you need any additional information or if the information should be presented in a different format.

Yours truly,

Dave

David B. Shaw
Project Manager

Enc.

cc: Kent Foster

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2309 N Mountain View Dr, Suite 174, Boise, ID 83706 (208) 373-7983 FAX (208) 373-7985

Big Lost River near Arco Mean Monthly Discharge (cfs)

Year	1946	1947	1948	1949	1950	1951	1952	1953	1954	1955	1956	1957	1958	1959	1960	1961	1966
Oct		73	45	63	25	22	103	49	44	27	10	47	72	221	15	0	
Nov		74	42	35	32	23	109	82	53	34	13	67	88	109	18	0	
Dec		73	29	30	22	22	92	102	72	31	49	54	101	111	15	0.08	
Jan		55	25	26	20	15	88	125	77	22	19	35	92	99	11	0	
Feb		99	27	27	18	13	104	161	58	20	13	39	104	94	12	0	
Mar		150	27	37	20	13	123	128	46	17	126	43	112	89	12	0.12	
Apr		113	20	31	47	21	220	99	29	13	86	36	120	24	8.4	0	
May		108	10	26	13	47	447	34	13	7.3	116	212	499	14	0.94	0	
Jun		148	89	53	20	60	428	87	20	5.7	485	391	675	14	0	0	17
Jul		34	37	19	28	31	194	50	25	11	37	88	117	8.6	0.26	0	5.3
Aug		35	35	24	31	118	67	29	17	5.8	34	29	70	2.5	0	0	3.8
Sep	57	40	60	20	24	90	80	31	21	9.3	38	64	125	3.8	0	0	3.2

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Big Lost River near Arco Mean Monthly Discharge (cfs)

Year	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983
Oct	5.7	257	98	143	114	283	111	27	113	172	168	4.3	12	3.2	22		200
Nov	9.8	156	187	122	127	266	103	45	132	199	189	6.3	7.7	4.7			138
Dec	14	103	234	128	108	163	100	33	126	127	66	5	12	3.9			173
Jan	12	63	180	116	123	108	93	56	123	101	42	3.2	8.3	3.7			180
Feb	11	80	207	128	128	161	113	65	114	112	54	2.8	10	4.1			126
Mar	6.8	123	381	86	127	167	109	194	109	118	49	3	28	4.1			306
Apr	3.8	89	653	61	337	121	132	145	117	75	12	4.2	25	3.7	87		337
May	89	12	726	45	326	28	26	171	281	70	12	1.2	20	31	156	461	448
Jun	862	42	769	297	430	68	26	577	288	58	9.8	13	13	127	174	498	1118
Jul	918	23	466	342	438	46	21	207	580	23	3.8	18	7.3	93	11	623	915
Aug	143	53	118	54	184	36	14	54	97	29	1.5	13	9.5	57	7.7	118	285
Sep	218	61	218	142	266	113	25	54	174	62	2.7	33	4.5	27	11	187	291

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Resources Corp
(208) [illegible]-7985
Page 4 of 6

Big Lost River near Arco Mean Monthly Discharge (cfs)

														*** Averages ***		
Year	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	47-97	79-86	87-94
Oct	341	371	201	149	12	0	0	0	0	0	0	0	49	26	82	164	20
Nov	759	363	54	90	22	0	0	0	0	0	0	0	38	14	87	221	14
Dec	614	293	31	98	13	0	0	0	-6	0	0	0	48	10	75	188	13
Jan	347	209	19	66	10	0	0	0	0	0	0	0	91	59	62	128	10
Feb	314	93	51	76	9.8	0	0	0	0	0	0	0		89	64	100	11
Mar	390	162	97	85	6.3	0	0	0	0	0	0	0	154	142	86	165	11
Apr	578	314	232	39	4.8	0	0	0	0	0	0	0	100	106	99	225	5
May	841	132	351	8.4	4.1	0	0	0	0	0	0	18	134	228	134	305	2
Jun	996	15	917	8.9	0.1	0	0	0	0	176	0	626	247	910	250	482	23
Jul	472	3.5	79	13	0	0	0	0	0	2.6	0	700	27	96	145	275	2
Aug	502	7.4	57	6.7	0	0	0	0	0	0	0	31	15	71	52	130	1
Sep	395	229	328	4.1	0	0	0	0	0	0	0	26	23	65	76	184	1

05-49

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Resources Corp
(208) 7996
Page 5 of 5

State of Idaho
DEPARTMENT OF WATER RESOURCES
1301 North Orchard Street, P.O. Box 83720, Boise, Idaho 83720-0098
Phone: (208) 327-7900 FAX: (208) 327-7866

PHILIP E. BATT
GOVERNOR

KARL J. DREHER
DIRECTOR

September 29, 1998

Interested Parties:

Attached is a Post-Hearing Memorandum documenting the hearing officer's, Norman C. Young, understanding of certain procedural matters agreed to by parties.

If you have any questions, please feel free to contact him at (208) 327-7910 or the address listed above.

Sincerely,

Rita I. Fleck
Administrative Secretary

c: Service List
IDWR – Eastern Region

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SEP 12 2001

BEFORE THE DEPARTMENT OF WATER RESOURCES
OF THE
STATE OF IDAHO

IN THE MATTER OF APPLICATIONS)
FOR PERMIT NOS. 34-07247, 34-07430)
AND 34-07410 IN THE NAME OF)
MITCHELL D. SORENSON, ET AL.)
)

POST-HEARING MEMORANDUM

A hearing was held on the above referenced applications for permit on September 23 and 24, 1998 at Idaho Falls, Idaho. The purpose of this memorandum is to document the hearing officer's understanding of certain procedural matters agreed to by all parties present at the hearing.

OFFICIAL NOTICE – In accordance with Rule 602 of the *Rules of Procedure* of the Idaho Department of Water Resources (IDAPA 37.01.01), the hearing officer indicated his intention to take official (or administrative) notice of the following documents:

1. The Idaho Department of Water Resources' files for the three applications listed in the caption as constituted at the time of the hearing;

2. The Idaho Department of Water Resources' *Water Appropriation Rules and Regulations* (IDAPA 37.03.08);

3. The Idaho Department of Water Resources' *Water Distribution Rules, Water District 34* (IDAPA 37.03.12);

4. The Idaho Department of Water Resources' *Rules for Conjunctive Management of Surface and Ground Water Resources* (IDAPA 37.03.11);

5. The Idaho Department of Water Resources' files for water right applications, permits and licenses and for claims filed in the Snake River Basin Adjudication for any right associated with the same point of diversion or place of use as the applications listed in the caption;

6. Maps published by the U.S. Geological Survey;

7. Amended Moratorium Order issued by the Director of the Idaho Department of Water Resources on April 30, 1993 for the Eastern Snake River Plain Area and the Boise River Drainage;

8. Moratorium order issued by the Director of the Idaho Department of Water Resources on August 7, 1990 for the Big Lost River Drainage;

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DEC 12 2001

9. The Plan of Operations for the Big Lost River Irrigation District adopted about 1935;

10. A report published by the Idaho Water Resources Research Institute entitled, *Ground-Water Pumping Impacts on Surface Water Irrigation Diversions from Big Lost River*, (1991);

11. A report published by the U. S. Geological Survey entitled, *Water Resources in the Big Lost River Basin, South Central Idaho*, (1970);

12. An open-file report of the Idaho Department of Water Resources entitled, *Review of Ground Water Conditions in the Big Lost River Valley*, (1982) (Szczepanoski Report), (1989)(Baker Update to Report);

13. Maps published by the U.S. Geological Survey entitled, *Aquifer –Test Results, Direction of Ground-Water Flow, and 1984-90 Annual Ground-Water Pumpage for Irrigation, Lower Big Lost River Valley, Idaho*, (1992) (USGS 92-4006);

14. A report published by the Idaho Department of Water Resources entitled, *Upper Snake River Basin Study*, (1997);

15. The Idaho Department of Water Resources' files for any water right referred to in testimony at the hearing on this matter, including the file for Transfer No. 808 and the "Settlement Agreement and Plan of Operation " dated April 21, 1997 in the files for permits Nos. 34-07571 and 34-07573;

16. Watermaster reports and delivery records of Water District 34; and,

17. List of water quality limited stream segments as amended in 1998. (Note: Mr. Foster was not present when this item was discussed and opportunity was reserved for him to object to its inclusion in the list.)

Briefing Schedule – Initial briefs may be filed by any party on or before October 26, 1998 and reply briefs must be submitted on or before November 9, 1998.

Dated this 22nd day of September, 1998.

Rita Fleck for
Norman C. Young
Norman C. Young
Administrator, Water Management Division

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DEC 12 2001

I hereby certify that on the 29th day of September, 1998 mailed a true and correct copy, postage prepaid, of the document to the applicants and protestants listed below:

Rita Fleck
Administrative Secretary

Mitchell Sorensen
Rt. 1 Box 63
Moore, ID 83255

Norman M. Semanko
Rosholt Robertson & Tucker
for Kirby Jensen
PO Box 1906
Twin Falls, ID 83303-1906

Idaho Fish & Game
C/O Bob Martin
1515 Lincoln Road
Idaho Falls, ID 83401-2198

Charles D. Huggins
Rt. 1 Box 216
Arco, ID 83213

Joe Smith
Rt. 1 Box 22
Moore, ID 83255

David Bleak
355 Louise Dr
Arco, ID 83213

Matea G. McCray
782 Whittier
Idaho Falls, ID 83402

Lawrence R. Babcock
Big Lost River Water Users Assoc.
2771 N 3325 W
Moore, ID 83255

James C. Tucker
Rosholt Robertson & Tucker
for Idaho Power Company
PO Box 1906
Twin Falls, ID 83303-1906

Marti Bridges
Water Policy Director
Idaho River United
PO Box 633
Boise, ID 83701

Gerald Stewart
Box 59
Moore, ID 83255

Peter J. Ampe
Deputy Attorney General
Idaho Attorney General
PO Box 83720
Boise, ID 83720-0010

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DEC 12 2001

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES
ASSIGNMENT OF APPLICATION FOR PERMIT

To appropriate the public water of the State of Idaho

We, the following named individuals whose addresses are set forth opposite our signatures:

Mitchell D. Sorensen and Elaine Sorensen, husband and wife	3871 West 2500 North Moore, Idaho 83255
M. Todd Perkes and Norma Perkes, husband and wife	Route 1, Box 69 Moore, ID 83255
Norman Niederer and LeOla Niederer husband and wife	65 South 1420 West Rexburg, Idaho 83440
Everett T. Acor, Jr. and Ruth P. Acor, husband and wife	Route 1, Box 13 Moore, ID 83255

do hereby assign to Timberdome Canal Company, in care of Dexter Douglas, president, P.O. Box 916, Moore, Idaho 83255, all our right, title and interest in and to application for permit no. 34-7430 to appropriate the public waters of the State of Idaho.

The dates of signing are set forth opposite the signatures of the assignors below.

Dated: Sept 9, 1998 — Mitchell D. Sorensen

Dated: September 8, 1998 — Elaine Sorensen

Dated: Aug 7 1998 — M. Todd Perkes

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2001

Dated: 8-7-98

Norma Perkes
Norma Perkes

Dated: 9-17-98

Norman Niederer
Norman Niederer

Dated: 9-17-98

LeOla Niederer
LeOla Niederer

Dated: 8/17/98

Everett T. Acor, Jr.
Everett T. Acor, Jr.

Dated: 8/17/98

Ruth P. Acor
Ruth P. Acor

STATE OF IDAHO)
)ss.
County of BUTTE)

On the 8th & 9th day of SEPTEMBER 1998, before me, the undersigned, a notary public in and for said State, personally appeared Mitchell D. and Elaine Sorensen, husband and wife, known or identified to me to be the persons whose names are subscribed to the within instrument and acknowledged to me that they executed the same.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed my official seal, the day and year in this certificate first above written.

DENTON T. GRAVES NOTARY PUBLIC STATE OF IDAHO (seal)

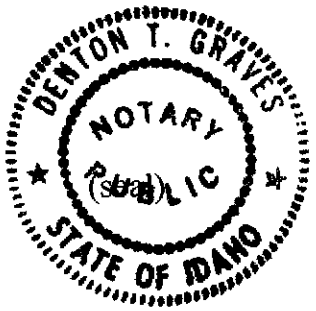
Denton T. Graves
Notary Public for Idaho
Residing at ARCO, ID.
My Commission Expires: 4-23-03

MICROFILMED
DEC 12 2001

STATE OF IDAHO)
)ss.
County of Butte)

On the 7 day of August, 1998, before me, the undersigned, a notary public in and for said State, personally appeared M. Todd Perkes and Norma Perkes, husband and wife, known or identified to me to be the persons whose names are subscribed to the within instrument and acknowledged to me that they executed the same.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed my official seal, the day and year in this certificate first above written.

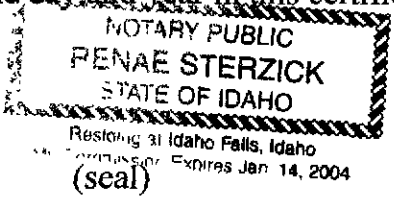


Denton T. Graves
Notary Public for Idaho
Residing at Arco, ID
My Commission Expires: 4-23-03

STATE OF IDAHO)
)ss.
County of Bonneville)

On the 17 day of September, 1998, before me, the undersigned, a notary public in and for said State, personally appeared Norman Niederer and Lela Niederer, husband and wife, known or identified to me to be the persons whose names are subscribed to the within instrument and acknowledged to me that they executed the same.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed my official seal, the day and year in this certificate first above written.



(seal)

Renae Sterzick
Notary Public for Idaho
Residing at Idaho Falls Id
My Commission Expires: 1-14-2004

MICROFILMED
DEC 12 2001

STATE OF IDAHO)
)ss.
County of Bonneville)

On the 17 day of September, 1998, before me, the undersigned, a notary public in and for said State, personally appeared Everett T. Acor, Jr. and Ruth P. Acor, husband and wife, known or identified to me to be the persons whose names are subscribed to the within instrument and acknowledged to me that they executed the same.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed my official seal, the day and year in this certificate first above written.

NOTARY PUBLIC
RENAE STERZICK
STATE OF IDAHO
Residing at Idaho Falls, Idaho
My Commission Expires Jan 14 2004
(seal)

Renae Sterzick
Notary Public for Idaho
Residing at Idaho Falls Id
My Commission Expires: 1-14-2004

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MICROFILMED
DEC 12 2001

BEFORE THE DEPARTMENT OF WATER RESOURCES

OF THE STATE OF IDAHO

IN THE MATTER OF PETITION TO INTERVENE IN PROTESTED APPLICATION FOR PERMIT NO 34-7430 IN THE NAME OF MITCHELL SORENSEN AND OTHER	**ORDER GRANTING PETITION TO INTERVENE**

On June 23, 1988, Matea McCray (petitioner) submitted to the Department of Water Resources (department) a petition for an order to intervene in the Matter of Application No. 34-07430 as authorized in Rule of Procedure IDAPA 37.01.01350 (Rule 350).

Petitioner has shown sufficient direct and substantial interest in the above captioned matter without unduly broadening the issues for the department to grant the petitioner intervention into the matter.

ORDER

IT IS THEREFORE HEREBY ORDERED that the petition of Matea McCray requesting intervention in any conference and/or hearing scheduled by the department in connection with the above captioned matter is GRANTED.

DATED 27th **day of** August, **1998.**

Ronald D Carlson
Regional Manager

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DEC 12 2001

I hereby certify that on the 27th day of August, 1998 mailed a true and correct copy, postage paid, of the document to the applicant(s) and protestant(s) listed below:

Sharla Cox
Secretary

Certified

Kent Foster
Holden, Kidwell, Hahn & Crapo
PO Box 50130
Idaho Falls ID 83405

Matea G McCary
782 Whittier
Idaho Falls ID 83402

MICROFILMED

DEC 1 2 2001

June 29, 1998

[redacted]
NORMAN M SEMANKO
ROSHOLT, ROBERTSON & TUCKER
PO BOX 1906
TWIN FALLS ID 83303-1906

For Kirby Jensen

RE: Applications for PERMIT No. 34-07410 and 34-07247 for Mitchell D Sorenson

Dear Protestant:

Your protest against approval of the above referenced application has been received and a copy has been sent to the applicant. The Department suggests you contact the applicant directly in an effort to determine what is proposed by the application and to attempt to resolve the protest.

Unless this office is advised that either the matter has been resolved or there exists extenuating circumstances, our objective is to schedule a conference and/or hearing in the near future to consider the protest. At such a conference and/or hearing, the following are the principle items the Department can consider in their approving or denying the application (Idaho Code § 42-203) he following are the principle items the Department can consider in either approving or denying the applications for (Idaho Code § 42-203):

1. Will the proposed use reduce the quantity of water under existing rights?
2. Is the proposed water supply insufficient for the purpose intended?
3. Is the application made in good faith or for delay or speculative purposes?
4. Has the applicant sufficient financial resources with which to complete the project?

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5. Will the proposed use under this permit conflict with the local public interest?
6. Is the proposed use contrary to conservation of water resources within the State of Idaho?

The protestant must be prepared to present proof of allegations involving one or more of the six items.

In addition, Rule 302 of the Department's Rules of Procedure requires a protestant to send a copy of the protest to the applicant in question.

If this office can be of further assistance, please contact us.

Sincerely,

Harold W. Jones

HAROLD W. JONES
Water Rights Supervisor

HWJ:sc
pc: IDWR - State Office

MICROFILMED

DEC 1 2 2001

June 29, 1998

[redacted]
JAMES C TUCKER
ROSHOLT, ROBERTSON & TUCKER — for Idaho Power Comp
PO BOX 1906
TWIN FALLS ID 83303-1906

RE: Applications for PERMIT No. 34-07247, 34-07430, and 34-07410 for Mitchell D Sorenson

Dear Protestant:

Your protest against approval of the above referenced application has been received and a copy has been sent to the applicant. The Department suggests you contact the applicant directly in an effort to determine what is proposed by the application and to attempt to resolve the protest.

Unless this office is advised that either the matter has been resolved or there exists extenuating circumstances, our objective is to schedule a conference and/or hearing in the near future to consider the protest. At such a conference and/or hearing, the following are the principle items the Department can consider in their approving or denying the application (Idaho Code § 42-203) he following are the principle items the Department can consider in either approving or denying the applications for (Idaho Code § 42-203):

1. Will the proposed use reduce the quantity of water under existing rights?
2. Is the proposed water supply insufficient for the purpose intended?
3. Is the application made in good faith or for delay or speculative purposes?
4. Has the applicant sufficient financial resources with which to complete the project?

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SEP 1 2 2001

5. Will the proposed use under this permit conflict with the local public interest?
6. Is the proposed use contrary to conservation of water resources within the State of Idaho?

The protestant must be prepared to present proof of allegations involving one or more of the six items.

In addition, Rule 302 of the Department's Rules of Procedure requires a protestant to send a copy of the protest to the applicant in question.

If this office can be of further assistance, please contact us.

Sincerely,

Harold W. Jones

HAROLD W. JONES
Water Rights Supervisor

HWJ:sc
pc: IDWR - State Office

MICROFILMED
DEC 12 2001

June 29, 1998

[redacted]
MARTI BRIDGES
WATER POLICY DIRECTOR
IDAHO RIVERS UNITED
PO BOX 633
BOISE ID 83701

RE: Applications for PERMIT No. 34-07247, 34-07430, and 34-07410 for Mitchell D Sorenson

Dear Protestant:

Your protest against approval of the above referenced application has been received and a copy has been sent to the applicant. The Department suggests you contact the applicant directly in an effort to determine what is proposed by the application and to attempt to resolve the protest.

Unless this office is advised that either the matter has been resolved or there exists extenuating circumstances, our objective is to schedule a conference and/or hearing in the near future to consider the protest. At such a conference and/or hearing, the following are the principle items the Department can consider in their approving or denying the application (Idaho Code § 42-203) he following are the principle items the Department can consider in either approving or denying the applications for (Idaho Code § 42-203):

1. Will the proposed use reduce the quantity of water under existing rights?
2. Is the proposed water supply insufficient for the purpose intended?
3. Is the application made in good faith or for delay or speculative purposes?
4. Has the applicant sufficient financial resources with which to complete the project?

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DEC 12 2001

5. Will the proposed use under this permit conflict with the local public interest?
6. Is the proposed use contrary to conservation of water resources within the State of Idaho?

The protestant must be prepared to present proof of allegations involving one or more of the six items.

In addition, Rule 302 of the Department's Rules of Procedure requires a protestant to send a copy of the protest to the applicant in question.

If this office can be of further assistance, please contact us.

Sincerely,

Harold W. Jones

HAROLD W. JONES
Water Rights Supervisor

HWJ:sc
pc: IDWR - State Office

MICROFILMED
DEC 12 2001

June 29, 1998

[redacted] Applicant

MITCHELL SORENSEN
RT 1 BOX 63
MOORE ID 83255

RE: Applications for Permit Nos. 34-07247, 34-07410, 34-7430

Dear Applicant:

Enclosed are copies of a protests filed against the issuance of the above referenced applications. The Department suggests you contact the protestants directly in an effort to determine the nature of the protests and to attempt to resolve the protests.

Unless this office is advised that either the matter has been resolved or there exists extenuating circumstances, our objective is to schedule a conference and/or hearing in the near future to consider the protests. At a conference and/or hearing, the following are the principle items the Department can consider in either approving or denying the application for permit (Idaho Code § 42-203):

1. Will the proposed use reduce the quantity of water under existing water rights?

2. Is the proposed water supply insufficient for the purpose intended?

3. Is the application made in good faith or for delay or speculative purposes?

4. Has the applicant sufficient financial resources with which to complete the project?

5. Will the proposed use conflict with the local public interest?

6. Is the proposed use contrary to conservation of water resources within the State of Idaho?

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DEC 1 2 2001

The applicant must be prepared to present evidence and/or testimony addressing each of the six items. Although representation by legal counsel is not mandatory at a proceeding before the Department, you may retain an attorney in your behalf.

If this office can be of further assistance, please contact us.

Sincerely,

Harold W. Jones

HAROLD W. JONES
Water Rights Supervisor

Enclosure

HWJ:sc

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DEC 1 2 2001

June 29, 1998

[redacted]

LAWRENCE R BABCOCK
BIG LOST RIVER WATER USERS ASSOCIATION
~~US HWY 93~~ 2771 N. 3325 W.
~~ARCO~~ ID ~~83213~~
Moore 83255

RE: Applications for PERMIT No. 34-07410 and 34-07247 for Mitchell D Sorenson

Dear Protestant:

Your protest against approval of the above referenced application has been received and a copy has been sent to the applicant. The Department suggests you contact the applicant directly in an effort to determine what is proposed by the application and to attempt to resolve the protest.

Unless this office is advised that either the matter has been resolved or there exists extenuating circumstances, our objective is to schedule a conference and/or hearing in the near future to consider the protest. At such a conference and/or hearing, the following are the principle items the Department can consider in their approving or denying the application (Idaho Code § 42-203) he following are the principle items the Department can consider in either approving or denying the applications for (Idaho Code § 42-203):

1. Will the proposed use reduce the quantity of water under existing rights?
2. Is the proposed water supply insufficient for the purpose intended?
3. Is the application made in good faith or for delay or speculative purposes?
4. Has the applicant sufficient financial resources with which to complete the project?

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DEC 12 2001

5. Will the proposed use under this permit conflict with the local public interest?
6. Is the proposed use contrary to conservation of water resources within the State of Idaho?

The protestant must be prepared to present proof of allegations involving one or more of the six items.

In addition, Rule 302 of the Department's Rules of Procedure requires a protestant to send a copy of the protest to the applicant in question.

If this office can be of further assistance, please contact us.

Sincerely,

Harold W. Jones

HAROLD W. JONES
Water Rights Supervisor

HWJ:sc
pc: IDWR - State Office

MICROFILMED

DEC 1 2 2001

June 29, 1998

[redacted] c/o Bob Martin

IDAHO FISH & GAME
1515 LINCOLN RD
IDAHO FALLS ID 83401-2198

RE: Applications for PERMIT No. 34-07410 and 34-07247 for Mitchell D Sorenson

Dear Protestant:

Your protest against approval of the above referenced application has been received and a copy has been sent to the applicant. The Department suggests you contact the applicant directly in an effort to determine what is proposed by the application and to attempt to resolve the protest.

Unless this office is advised that either the matter has been resolved or there exists extenuating circumstances, our objective is to schedule a conference and/or hearing in the near future to consider the protest. At such a conference and/or hearing, the following are the principle items the Department can consider in their approving or denying the application (Idaho Code § 42-203) he following are the principle items the Department can consider in either approving or denying the applications for (Idaho Code § 42-203):

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4. Has the applicant sufficient financial resources with which to complete the project?

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5. Will the proposed use under this permit conflict with the local public interest?
6. Is the proposed use contrary to conservation of water resources within the State of Idaho?

The protestant must be prepared to present proof of allegations involving one or more of the six items.

In addition, Rule 302 of the Department's Rules of Procedure requires a protestant to send a copy of the protest to the applicant in question.

If this office can be of further assistance, please contact us.

Sincerely,

Harold W. Jones

HAROLD W. JONES
Water Rights Supervisor

HWJ:sc
pc: IDWR - State Office

MICROFILMED
DEC 12 2001

Before the Department of Water Resources
of the
State of Idaho

IN THE MATTER OF APPLICATIONS)
FOR PERMIT NO.S 34-07247, 34-07430)
AND 34-07410 IN THE NAME OF)
MITCHELL D SORENSON ET AL.)

NOTICE OF HEARING

On June 4, 1998, Applications for Permit No.s 34-07247, 34-07430 and 34-07410 were advertised.

These Applications were subsequently protested by Idaho Rivers United and others.

The Department has scheduled the matter for hearing at 9:00 am on Sept 23 and 24, 1998, at the Idaho Department of Water Resources office at 900 N Skyline Drive, Ste A, Idaho Falls, ID, in accordance with the provisions of the adopted Rule of Procedure of the Department of Water Resources. The hearing officer will be Norm Young.

If you plan to offer exhibits for the record, note that IDAPA Rule of Procedure 37.01.0106 requires that you provide a copy of exhibits to each party and to the presiding officer.

The hearing will be conducted in a facility which meets the accessibility requirements of the Americans with Disabilities Act. If you require special accommodations in order to attend, participate in or understand the hearing, please advise the Department within ten (10) days prior to the conference.

Dated this 26th **day of August, 1998.**

RONALD D CARLSON
Regional Manager

MICROFILMED
DEC 12 2001

I hereby certify that on the 26th day of August, 1998, mailed a true and correct copy, postage prepaid, of the document to the applicant(s) and protestant(s) listed below:

Sharla Cox
Secretary

Certified

Mitchell Sorensen
Rt 1 Box 63
Moore ID 83255

Matea G McCray
782 Whittier
Idaho Falls ID 83402

Norman M Semanko
Rosholt Robertson & Tucker
for Kirby Jensen
PO Box 1906
Twin Falls ID 83303-1906

Lawrence R Babcock
Big Lost River Water Users Assoc.
2771 N 3325 W
Moore ID 83255

Idaho Fish & Game
C/O Bob Martin
1515 Lincoln Rd
Idaho Falls ID 83401-2198

James C Tucker
Rosholt Robertson & Tucker
for Idaho Power Company
PO Box 1906
Twin Falls ID 83303-1906

Charles D Huggins
Rt 1 Box 216
Arco Id 83213

Marti Bridges
Water Policy Director
Idaho River United
PO Box 633
Boise ID 83701

Joe Smith
Rt 1 Box 22
Moore ID 83255

Gerald Stewart
Box 59
Moore ID 83255

David Bleak
355 Louise Dr
Arco ID 83213

NOTICE OF HEARING 2

MICROFILMED
DEC 12 2001

I hereby certify that on the 27th day of August, 1998 mailed a true and correct copy, postage paid, of the document to the applicant(s) and protestant(s) listed below:

Sharla Cox

Sharla Cox
Secretary

Certified

Big Lost River Irrigation District
C/O Ron Schnabel
101 S Main Ave
Mackay ID 83251

MICROFILMED
DEC 1 2 2001

[redacted]

Name and Address of Sender

DEPARTMENT OF WATER RESOURCES
EASTERN DISTRICT OFFICE
900 N. SKYLINE DR.
IDAHO FALLS, IDAHO 83402

Indicate type of mail
☐ Registered ☐ Return Receipt for Merchandise
☐ Insured ☐ Int'l Recorded Del
☐ COD ☐ Express Mail
☑ Certified

Check appropriate block for Registered Mail.
☐ With Postal Insurance
☐ Without Postal Insurance

Affix stamp here if issued as certificate of mailing or for additional copies of this bill.

Postmark and Date of Receipt

Line	Article Number	Name of Addressee, Street, and Post Office Address	Postage	Fee	Handling Charge	Act Value (If Regis.)	Insured Value	Due Sender If COD	R. R Fee	S D Fee	S H Fee	Rest Del Fee / Remarks
1	63	Mitchell SORENSEN Rt 1 BOX 63 Moore ID 83255	.32	1.35					1.10			Notice of HEARING
2	64	Matea G McCary 782 Whittier Idaho Falls ID 83402	.32	1.35					1.10			
3	65	Norman Semanko. Rosholt Robertson PO BOX 1906. Twin Falls ID 83303-1906	.32	1.35					1.10			
4	66	Lawrence Babcock. Big Lost River Water Us. 2771 N. 3325 W. Moore ID 83255	.32	1.35					1.10			
5	67	Idaho Fish & Game C/O Bob Martin 1515 Lincoln Rd Idaho Falls ID 83401	.32	1.35					1.10			
6	68	James Tucker. Rosholt Robertson & Tucker PO Box 1906 Twin Falls ID 83303-1906	.32	1.35					1.10			
7	69	Charles Higgins Rt 1 Box 216 Arco ID 83213	.32	1.35					1.10			
8	70	Marti Bridges. Water Policy Director PO Box 633 Boise ID 83701	.32	1.35					1.10			
9	71	Joe Smith Rt 1 Box 22. Moore ID 83255	.32	1.35					1.10			
10	72	Gerald Stewart Box 59 Moore ID 83255	.32	1.35					1.10			
	73	David Bleak 355 Louise Dr. Arco ID 83213	.32	1.35					1.10			
12												
13			30.47									

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15

Total Number of Pieces Listed by Sender	Total Number of Pieces Received at Post Office	Postmaster, Per *(Name of Receiving Employee)*
11	11	

The full declaration of value is required on all domestic and international registered mail. The maximum indemnity payable for the reconstruction of nonnegotiable documents under Express Mail document reconstruction insurance is $50,000 per piece subject to a limit of $500,000 per occurrence. The maximum indemnity payable on Express Mail merchandise insurance is $500. The maximum indemnity payable is $25,000 for registered mail, sent with optional postal insurance. See *Domestic Mail Manual* R900, S913, and S921 for limitations of coverage on insured and COD mail. See *International Mail Manual* for limitations of coverage on international mail. Special handling charges apply only to third and fourth class parcels.

PS Form **3877**, February 1994 — **Form Must be Completed by Typewriter, Ink or Ball Point Pen** — *U.S. Government Printing Office: 1994 — 386-012

State of Idaho
DEPARTMENT OF WATER RESOURCES
900 N. Skyline Dr., Idaho Falls, Idaho 83402-1718 - (208) 525-7161 - Fax (208) 525-7177

EASTERN REGION

PHILIP E. BATT
GOVERNOR

KARL J. DREHER
DIRECTOR

June 29, 1998

MATEA H MCCRAY
782 WHITTIER
IDAHO FALLS ID 83402

Dear Ms. McCray:

The Idaho Department of Water Resources has received your protest against application 34-07430 in the name of Mitchell D Sorenson. Due to the fact that we did not receive it until June 23, 1998, we are unable to except it as a valid protest.

The Department of Water Resources' Water Appropriation Rules and Regulations states: 4,3,1,2. Protests against the approval of an application for permit or against a permit being reprocessed will only be considered if received by the department after receipt of the application by the department and prior to the expiration of the protest period announced in the advertisement unless the protestant successfully intervenes in the proceeding.

At this point however, we will consider your protest a petition to intervene.

If you have any questions, please give us a call.

Sincerely,

Harold W. Jones

Harold W Jones
Water Rights Supervisor

HWJ:sc

MICROFILMED

June 29, 1998

[redacted]

CHARLES D HUGGINS
RT 1 BOX 216
ARCO ID 83213

RE: Application for PERMIT No. 34-07430 for Mitchell D Sorenson

Dear Protestant:

Your protest against approval of the above referenced application has been received and a copy has been sent to the applicant. The Department suggests you contact the applicant directly in an effort to determine what is proposed by the application and to attempt to resolve the protest.

Unless this office is advised that either the matter has been resolved or there exists extenuating circumstances, our objective is to schedule a conference and/or hearing in the near future to consider the protest. At such a conference and/or hearing, the following are the principle items the Department can consider in their approving or denying the application (Idaho Code § 42-203) he following are the principle items the Department can consider in either approving or denying the applications for (Idaho Code § 42-203):

1. Will the proposed use reduce the quantity of water under existing rights?
2. Is the proposed water supply insufficient for the purpose intended?
3. Is the application made in good faith or for delay or speculative purposes?
4. Has the applicant sufficient financial resources with which to complete the project?

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[illegible] 2001

5. Will the proposed use under this permit conflict with the local public interest?
6. Is the proposed use contrary to conservation of water resources within the State of Idaho?

The protestant must be prepared to present proof of allegations involving one or more of the six items.

In addition, Rule 302 of the Department's Rules of Procedure requires a protestant to send a copy of the protest to the applicant in question.

If this office can be of further assistance, please contact us.

Sincerely,

Harold W. Jones

HAROLD W. JONES
Water Rights Supervisor

HWJ:sc
pc: IDWR - State Office

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DEC 12 2001

Receipt # E02[redacted]16

RECEIVED
JUN 2 3 1998
Department of Water Resources
Eastern Region

June 20, 1998

Matea H McCray
782 Whittier
Idaho Falls, Idaho 83402

Department of Water Resources
Director, Karl H Dreher
900 No. Skyline Drive
Idaho Falls, Idaho 83402

SUBJECT: Objection to application 34-07430

Dear Mr. Dreher:

1. As a water user of Water District 34 who has a Big Lost River Water Right approximately 0.5 miles below the point where Antelope Creek drops into the Big Lost River, I object to the above application. I already take a large shrink on my water and since water rights in the valley have previously been distributed in accordance with "who is further up the valley" and not with "first in time, first in right", I object.

2. As a landowner in Butte County that had to deepen a domestic well in 1993 due to the water table dropping throughout the valley, and understanding the concept of a "conjunctive water system" and "ground water and surface water being one and the same", I object.

3 As an individual that grew up on a farm South of Arco and personally witnessed approximately 10 years of no water in the Big Lost River below the Moore Diversion, I object I have personally seen and felt the devastation of living in a "dust bowl" where my parents had water rights that were early enough in time but could not be filled because water rights were being filled as stated in number 1 above, and not a drop of water could reach my father's pump

4 As a litigant in an ongoing case where it is my contention that the water master of district 34 has delivered every drop of my 1882 water from Alder Creek entering the Darlington Ditch (Big Lost River waters) directly to his family member's pump when the family member has a new (1992 Director's report) 250 inch 1928 flood water right, ignoring the hundreds of BLR water rights in between 1882 and 1928, I object to giving anyone the "stealing rights" to do the same on Antelope

5. As a taxpayer who has seen time and time again and formed an opinion on what I will define as and refer to as "corporate farmers" who borrow FHA (government) money to purchase BLM (government) lands for "ten cents on the dollar" to divert all of the waters out of the river and take them out of district, to produce potatoes that bring $1.25 per hundred weight while collecting their large (I assume the maximum allowed $40K unless you are a corporation which will allow up to $120K) FAIR (1997 – 2004) farm payments, I object. Approval of this request for a mere 10,000 inches for an additional 5000 acres of land out of district would just be one additional example of corporate farm welfare. In addition, it has previously been my understanding that lands were limited to 1" per acre, not a greedy 2" per acre that has been requested here at the expense of everyone else in the valley.

6. As a person who comes from a family that loves to hunt the Arco desert near the Big Butte for Big game (which gets their drinking water from the BLR) and used to fish Box Canyon for the "big" rainbow trout, I object to any new surface water rights

7. As a Butte and Custer County property taxpayer where my tax dollars went to the City of Arco to deepen their well in the early 1990's because of the water table dropping everywhere south of the Moore diversion during the approximate ten years of no water in the river, and as a federal taxpayer who saw ~~MICROFILMED~~ Wells water table drop the same way, I object.

DEC 1 2 2001

8. As a citizen of the State of Idaho who takes great offense to the [redacted] insinuation from any government agency that "beneficial use" only applies to farmers, agriculture, and irrigation, I object. If IDWR promotes this erroneous concept, then they are promoting a small percentage of wealthy Idaho citizen's at the expense of a large number of us

   The only "mitigation" to this subject application or any other new surface water right in the Big Lost River Basin is "prevention" Forget "mitigation" Prevent the "cat from getting out of the bag"; don't try to mitigate the consequences after it has escaped.

Respectfully,

Matea McCray

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RECEIVED
JUN 2 4 1998
Department of Water Resources
Eastern Region

RECEIVED
JUN 2 2 1998
Department of Water Resources
Eastern Region

James C. Tucker
ROSHOLT, ROBERTSON & TUCKER
P. O. Box 1906
Twin Falls, Idaho 83703-1906
Telephone: (208) 734-0700

BEFORE THE DEPARTMENT OF WATER RESOURCES

OF THE STATE OF IDAHO

IN THE MATTER OF	)	
	)	
APPLICATION FOR TRUST WATER RIGHT 34-07410;	)	**NOTICE OF PROTEST**
APPLICANT:	)	
MITCHELL SORENSEN	)	
	)	
	)	

IDAHO POWER COMPANY (hereinafter the Protestant), by and through its attorneys, Rosholt, Robertson & Tucker, files its Notice of Protest to the approval of the above-numbered Application for Permit filed in the name of MITCHELL D. SORENSEN. The basis for the Protestant's protest is as follows:

1. The application filed by the applicant seeks to divert waters held in trust by the state of Idaho under Idaho Code Section 42-203B and, as a result, said application should be processed by the Department as a trust water diversion; and

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DEC 1 2 2001

Receipt # 5021250
6/22/98
CS

2. The proposed diversion and use of the waters described in the aforesaid application violate all, or a portion of, the criteria set forth in Idaho Code Sections 42-203A(5) and 42-203C; and

3. Processing of the application has not followed the procedure required by law; and

4. An acceptable mitigation plan has not been proposed; and

5. For such other and further reasons as may be set forth at the hearing on this matter.

DATED this 22nd day of June 1998.

ROSHOLT, ROBERTSON & TUCKER

By: _____
James C. Tucker

CERTIFICATE OF MAILING

I hereby certify that on this 22nd day of June, 1998, I served a copy of the foregoing NOTICE OF PROTEST, by depositing same in the United States mail, postage prepaid, in an envelope, addressed to the following:

Idaho Department of Water Resources
Southern Region
222 Shoshone St. East
Twin Falls, ID 83301

Mitchell Sorensen
Rt. #1, Box 63
Moore, Idaho 83255

_____
James C. Tucker

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DEC 12 2001

Receipt #B024214

RECEIVED

JUN 22 1998

Department of Water Resources
Eastern District Office

Charles D. Huggins
Rt. #1, Box #216
Arco, Idaho 83213

Department of Water Resources
Director, Karl H. Dreher
900 No. Skyline Drive
Idaho Falls, Idaho 83402

RE: PROTEST; App #34-07430
June 18, 1998

Sirs:

I am submitting this letter to protest the above application #34-07430. This water, from Antelope Creek in Butte and Custer Counties is an unencumbered Natural Recharge Source, a tributary to the Big Lost River, facilitating efficient and orderly recharge of the Big Lost River Basin, south of the Mackay Reservoir.

To the best of my knowledge, this water belongs or the Big Lost River to be used by the Irrigation District to fill water rights of its constituents and to keep existing channels wetted for its resource users.

To allow this water for use to irrigate 4,990 acres outside of the district, to those lands which were long ago purchased from the old Carey Act Project, would be to plunder the natural course of the stream and purchased Water Rights. It would result in acute damage of or destruction of the eco-system; another man-made drought, because of gate-closures of the Big Lost River at its diversion points - the Moore Diversion.

Concerning the principle of mitigation to protect surface and groundwater rights, I ask: how?, where?, when?, and what rights? This is not applied or enforced on any significant scale and as such it is worthless! I have, on numerous occasions requested from the IDWR a clear description of mitigation, its purpose, the procedure, and its enforcement and have not yet recieved any specific information. I see this mitigation as a way around the moratorium in Basin-34 that will shut off natural stream flows (possibly forever).

My own 1900 Decreed Water and my licensed water could be rendered useless and/or non-existent.

The area from the Moore Deversion to the Arco Guage already illustrates the damage that results from non-enforcement of the Idaho Stream Protection Act and over-appropriation of Big Lost River waters. A stamp of approval on this application would be a severe blow to the Lower Big Lost River Valley and could have future impact on those water rights further north!

I cannot find these application numbers in the State Director's Report. The water of Antelope Creek belongs to the Big Lost River and the Irrigation District; this is the supplier of the River in the Spring except for small leakage at the Mackay Dam Site. To approve this permit will destroy existing water-rights from Moore and to the south and will provide only for the so-called "mitigation".

MICROFILMED
DEC 12 2001

Sincerely,

Charles D. Huggins

Receipt #E024209

Karl J Dreher Director
Idaho Department of Water Resources
Eastern Region
900 N Skyline Drive
Idaho Falls, Idaho 83402

RE: Protest to Application numbers 34-07247, 34-07430, 34-07410

Dear Mr Dreher

The undersigned protest the granting of application for water right numbers 34-07247, 34-07430, and 34-07410 for at least, but not limited to the following reasons to-wit

1. There is a moratorium on further ground water development in Basin 34
2. Antelope Creek is fully appropriated.
3. These applications would result in 100% consumptive use
4. There would be injury to land owners within the Big Lost River Irrigation District (BLRID) and in the Antelope Creek drainage.
5. There would be depletion of ground water supplies in the Antelope Creek drainage and less recharge in the BLRID
6. The filing dates are void as these applications were not claimed in the S R B A
7. There is speculation

It is requested that all hearings and discussions pertaining to the above applications be held in Arco

Dated this 18th day of June 1998.

Sincerely,

Lawrence R. Babcock

Lawrence R Babcock, Chairman
Big Lost River Water Users Association

Reva H. Walker P O Box 32 Arco, Id. 83213
Lewis Rothwell Rt. 1 Box 550 Arco Id. 83213
Alice Rothwell RR #1 Box 550 Arco Idaho 83213
Judy Lederer Campbell P.O. Box 724 Arco, Id 83213
Kent Campbell P.O Box 724 Arco Id 83213
Jay Stewart P.O Box 57 Moore Ida. 83255
J. Offerdahl 2727 N 3375 W Moore ID 83255
Gerald Stewart 2760 N 3449 W Moore Ida

MICROFILMED

NOTICE APPLICATIONS FOR WATER RIGHT

The following application(s) have been filed to appropriate the public waters of the State of Idaho:

34-07247

SORENSEN, MITCHELL D
RT 1 BOX 63
MOORE ID 83255
Source GROUNDWATER
Diversion Pt. SENE Sec 5 T04N R26E in BUTTE County.
Use: IRRIGATION (8 340 CFS)
Total Diversion (8 340 CFS)
Date Filed 05/30/1980
In: BUTTE County
T04N R25E S35 NW ¼ SESW
200 0 ACRES TOTAL

34-07430

SORENSEN, MITCHELL
DANIELS, GREG
PERKES, M TODD
NIEDERER, NORMAN
ACOR, EVERETT JR.
RT 1 BOX 63
MOORE ID 83255
Source: BIG LOST RIVER
Tributary: ANTELOPE CREEK
Diversion Pt. NWSE Sec 14 T06N R25E in CUSTER County
NENW Sec 36 T06N R25E in CUSTER County
NENW Sec 6 T06N R26E, in CUSTER County
Use IRRIGATION (199.60 CFS)
Total Diversion (199 60 CFS)
Date Filed 04/08/1983
In: CUSTER County
PORTIONS OF S1, S2, S3, S11, S12 T03N R25E
PORTIONS OF S17, S18 T03N R26E
PORTIONS OF S25, S34, S35, S36 T04N R25E
4990.0 ACRES TOTAL

34-07410 - CURRENTLY PROTESTED

SORENSEN, MITCHELL
RT 1 BOX 63
MOORE ID 83255
Source: GROUNDWATER
Diversion Pt: SESE Sec 5 T04N R26E
BUTTE County
Use: IRRIGATION (10 0 CFS)
Total Diversion (10.0 CFS)
Date Filed: 04/12/1982
In: BUTTE County
PORTIONS OF S3 T03N R25E in BUTTE County. SE¼ S34 T04N R25E in BUTTE County
310 0 ACRES TOTAL

The applicants have asked for processing of these applications under a provision of the existing order placing a moratorium on approval of new consumptive uses in the Eastern Snake River Basin including the Big Lost River Basin In accordance with this provision the applicants have offered for IDWR's consideration to provide mitigation to protect prior surface and groundwater rights in accordance with IDWR's water distribution rules - Water Dist #34.

The permit(s) if issued will be subject to all prior water rights. Protests must be filed with the applicant and the Director, Dept. of Water Resources, along with a $25.00 filing fee, Eastern Region, 900 N Skyline Dr Ste A, Idaho Falls ID 83402 on or before June 22 1998

KARL J. DREHER
Director

Published in The Arco Advertiser on June 4, 1998 and June 11, 1998.

PROTEST of application for water right numbers 34-07247, 34-07430, and 34-07410

Joel L. Andersen Rt 1 Box 49 Moore Id 83255
Lamar L. Andersen Rt 1 Box 52 Moore Id 83255
J T Guthrie Box 219 Arco 83213
Virgil I Hall Moore Idaho Box 454
Lawrence T. Haney Moore Idaho Box 475 83255
Della Stewart Moore Idaho 2700N 3449W 83255
Linda J Archer Moore Ida Rt 64-C 83255
Tom D Archer Rt. 1 Box 64C Moore Id 83255
Walter Gabert Rt #1 Box 398 Arco Id 83213
Curtis Ross RT#1 Box 313 Arco Idaho 83213
Vicky A. Jones 2781N 3375W Moore, Idaho 83255
Joey D Pearson 2830N 3375W " " "
Tina Pearson " "
Scott Bell Box 46B Moore Id. 83255
Richard E Beal Box 31 Moore, Id 83255
Dennis Braswell RI Box 215 Arco Id 83213
Lester Braswell RI Box 214 Arco 83213
Colvin J Roessner R#1. Box 247 Arco, Ida. 83213
Clyde Benedict Rt 2 Box 106 Moore Ida 83255
Rubie Benedict RR 1 Box 106 Moore 83255
William Teare Box 267 Howe Id
Harold E Smith 4473 Antaiyo Road Moore Ida
Josephine Spraker Rt 1, Box 436 Arco Id 83213
Robert Spraker Rt 1, Box 436 Arco Id. 83213

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DEC 12 2001

Karl J Dreher, Director
Idaho Department of Water Resources
Eastern Region
900 N Skyline Drive
Idaho Falls, Idaho 83402

RE Protest to Application numbers 34-07247, 34-07430, 34-07410

Dear Mr Dreher,

The undersigned protest the granting of application for water right numbers 34-07247, 34-07430, and 34-07410 for at least, but not limited to the following reasons to-wit·

1. There is a moratorium on further ground water development in Basin 34.
2. Antelope Creek is fully appropriated.
3. These applications would result in 100% consumptive use
4. There would be injury to land owners within the Big Lost River Irrigation District (BLRID) and in the Antelope Creek drainage.
5. There would be depletion of ground water supplies in the Antelope Creek drainage and less recharge in the BLRID.
6. The filing dates are void as these applications were not claimed in the S.R.B A.
7. There is speculation

It is requested that all hearings and discussions pertaining to the above applications be held in Arco.

Dated this 18th day of June 1998.

Sincerely,

Lawrence R. Babcock

Lawrence R. Babcock, Chairman
Big Lost River Water Users Association

Duplicate L.B.

Reese Burgess
Sharon Burgess
Dale Smith - Moore, Idaho 83255
Alan Wheeler Moore Id 83255
Reuben H Babcock
Ray M Boyack Moore, ID 83255
James L Babcock moore

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DEC 12 2001

NOTICE APPLICATIONS FOR WATER RIGHT

The following application(s) have been filed to appropriate the public waters of the State of Idaho:

34-07247

SORENSEN, MITCHELL D
RT 1 BOX 63
MOORE ID 83255
Source: GROUNDWATER
Diversion Pt: SENE Sec 5 T04N R26E in BUTTE County.
Use: IRRIGATION (8.340 CFS)
Total Diversion (8.340 CFS)
Date Filed: 05/30/1980
In: BUTTE County
T04N R25E S35 NW ¼ SESW
200.0 ACRES TOTAL

34-07430

SORENSEN, MITCHELL
DANIELS, GREG
PERKES, M. TODD
NIEDERER, NORMAN
ACOR, EVERETT JR.
RT 1 BOX 63
MOORE ID 83255
Source: BIG LOST RIVER
Tributary: ANTELOPE CREEK
Diversion Pt: NWSE Sec 14 T06N R25E in CUSTER County
NENW Sec 36 T06N R25E in CUSTER County
NENW Sec 6 T06N R26E, in CUSTER County
Use: IRRIGATION (199.60 CFS)
Total Diversion (199.60 CFS)
Date Filed: 04/08/1983
In: CUSTER County
PORTIONS OF S1, S2, S3, S11, S12 T03N R25E
PORTIONS OF S17, S18 T03N R26E
PORTIONS OF S25, S34, S35, S36 T04N R25E
4990.0 ACRES TOTAL

34-07410 - CURRENTLY PROTESTED

SORENSEN, MITCHELL
RT 1 BOX 63
MOORE ID 83255
Source: GROUNDWATER
Diversion Pt: SESE Sec 5 T04N R26E
BUTTE County
Use: IRRIGATION (10.0 CFS)
Total Diversion (10.0 CFS)
Date Filed: 04/12/1982
In: BUTTE County
PORTIONS OF S3 T03N R25E in BUTTE County, SE¼ S34 T04N R25E i. BUTTE County
310.0 ACRES TOTAL

The applicants have asked for processing of these applications under a provision of the existing order placing a moratorium on approval of new consumptiv uses in the Eastern Snake River Basi including the Big Lost River Basin. In accordance with this provision the applicants have offered for IDWR's consideration to provide mitigation to protect pri surface and groundwater rights in accordance with IDWR's water distributio rules - Water Dist #34.

The permit(s) if issued will be subje to all prior water rights. Protests must filed with the applicant and the Direct Dept. of Water Resources, along with $25.00 filing fee, Eastern Region, 900 Skyline Dr. Ste A. Idaho Falls ID 834 on or before June 22, 1998.

KARL J. DREHER
Director

Published in The Arco Advertiser June 4, 1998 and June 11, 1998.

RECEIVED
JUN 2 4 1998
Department of Water Resources
Eastern Region

RECEIVED
JUN 2 2 1998
Department of Water Resources
Southern Region

James C. Tucker
ROSHOLT, ROBERTSON & TUCKER
P. O. Box 1906
Twin Falls, Idaho 83703-1906
Telephone: (208) 734-0700

BEFORE THE DEPARTMENT OF WATER RESOURCES

OF THE STATE OF IDAHO

IN THE MATTER OF	)	
	)	
APPLICATION FOR TRUST WATER RIGHT 34-07247;	)	**NOTICE OF PROTEST**
APPLICANT:	)	
MITCHELL D. SORENSEN	)	
	)	
	)	

IDAHO POWER COMPANY (hereinafter the Protestant), by and through its attorneys, Rosholt, Robertson & Tucker, files its Notice of Protest to the approval of the above-numbered Application for Permit filed in the name of MITCHELL D. SORENSEN. The basis for the Protestant's protest is as follows:

1. The application filed by the applicant seeks to divert waters held in trust by the state of Idaho under Idaho Code Section 42-203B and, as a result, said application should be processed by the Department as a trust water diversion; and

MICROFILMED
SEP 1 2 2001

Receipt # 5021250
6/22/98
CS

2. The proposed diversion and use of the waters described in the aforesaid application violate all, or a portion of, the criteria set forth in Idaho Code Sections 42-203A(5) and 42-203C; and

3. Processing of the application has not followed the procedure required by law; and

4. An acceptable mitigation plan has not been proposed; and

5. For such other and further reasons as may be set forth at the hearing on this matter.

DATED this 22nd day of June 1998.

ROSHOLT, ROBERTSON & TUCKER

By: _____
James C. Tucker

CERTIFICATE OF MAILING

I hereby certify that on this 22nd day of June, 1998, I served a copy of the foregoing NOTICE OF PROTEST, by depositing same in the United States mail, postage prepaid, in an envelope, addressed to the following:

Idaho Department of Water Resources
Southern Region
222 Shoshone St. East
Twin Falls, ID 83301

Mitchell D. Sorensen
Rt. #1, Box 63
Moore, Idaho 83255

MICROFILMED
DEC 1 2 2001

_____
James C. Tucker

RECEIPT
For Monies Paid
to the
Idaho Department of Water Resources

Receipt No: S021237

Date:
Time: 6/17/1998
15:01:29

Received
From: ROSHOLT ROBERTSON TUCKER

Type of Payment		Program Acct	Amount
PROTEST, APP 34-07410-SORENSON	64103	229 21 1155	25.00
PROTEST, APP 34-07247-SORENSON	64103	229 21 1155	25.00
		Total $	50.00

CHECK. 27214

Region: SOUTHERN Signature: Mary Baldwin

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DEC 1 2 2001

RECEIVED
JUN 18 1998
Department of Water Resources
Eastern Region

Norman M. Semanko
ROSHOLT, ROBERTSON & TUCKER
P. O. Box 1906
Twin Falls, Idaho 83703-1906
Telephone: (208) 734-0700
06159804.NMS/bh

RECEIVED
JUN 17 1998
Department of Water Resources
Southern Region

BEFORE THE DEPARTMENT OF WATER RESOURCES

OF THE STATE OF IDAHO

IN THE MATTER OF APPLICATION FOR PERMIT NUMBER 34-07247; APPLICANT: MITCHELL SORENSEN	**NOTICE OF PROTEST**

****

KIRBY JENSEN (hereinafter "Jensen"), by and through his attorneys, Rosholt, Robertson & Tucker, file this Notice of Protest to the approval of the above-numbered Application for Permit filed by Mitchell Sorensen. The basis for the Jensen's protest is as follows:

1. The proposed diversion and use of the waters described in the aforesaid application violates all or portions of the criteria set forth in Idaho Code Sections 42-203A(5); and

2. For such other and further reasons as may be set forth at the hearing on this matter.

MICROFILMED
DEC 12 2001

Receipt # 5021237
MB
6/17/98

DATED this 16 day of June 1998.

ROSHOLT, ROBERTSON & TUCKER

By: _____
Norman M. Semanko

CERTIFICATE OF MAILING

I hereby certify that on this 16 day of June, 1998, I served a copy of the foregoing NOTICE OF PROTEST, by hand delivery or by depositing same in the United States mail, postage prepaid, in an envelope, addressed to the following:

Idaho Department of Water Resources — by U.S. Mail
Eastern Regional Office
900 N. Skyline
Idaho Falls, ID 83401-3653

Mitchell Sorensen — by U.S. Mail
3871 W. 2500 N.
Moore, ID 832555

_____
Norman M. Semanko

MICROFILMED
DEC 12 2001

RECEIPT
For Monies Paid
to the
Idaho Department of Water Resources

RECEIVED
JUN 2 4 1998
Department of Water Resources
Eastern Region

Receipt No: C042606

Date:
Time: 6/17/1998
09:24:53

Received
From: IDAHO RIVERS UNITED

Type of Payment	Program Acct		Amount
PROTEST 34-07247, 34-07430, 34-07410	56103	229 21 1155	50.00
63-00120F,00198Q,00199B,00200B	56103	229 21 1155	50.00
		Total $	100.00

CHECK 4779

Region: STATE Signature:

MICROFILMED

Receipt # E024218

IDAHO FISH & GAME
UPPER SNAKE REGION
1515 Lincoln Road
Idaho Falls, Idaho 83401-2198

Philip E. Batt / Governor
Stephen P. Mealey / Director

June 22, 1998

Director
Idaho Department of Water Resources
c/o Harold Jones, Water Right Supervisor
Eastern Region
900 N. Skyline Dr. Ste. A
Idaho Falls, ID 83402
Attention

RECEIVED
JUN 2 2 1998
Department of Water Resources
Eastern Region

Subject: Water right applications 34-07430, 34-07247, and 34-07410

Dear Mr. Jones:

Idaho Department of Fish and Game personnel have reviewed these applications. The Big Lost River supports valuable fish and wildlife resources, and provides a popular public fishery. The water resources of this basin already appear to be depleted, and further approval of consumptive water rights does not appear to be in the public interest. We must protest issuance of these permits based on the belief that they are not in the local public interest, do not conserve water, and are speculative. Furthermore, the application does not appear to provide a mitigation plan assuring that flows in the Big Lost River will not be reduced.

Sincerely,

Don Wright

Don Wright
Regional Supervisor

DW:RM

cc: Natural Resources Policy Bureau, IDFG
Mitchell D. Sorensen et al.
Rt. 1, Box 63
Moore, ID 83255

MICROFILMED
DEC 1 2 2001

Marti L Bridges
Water Policy Director
Idaho Rivers United
PO Box 633
Boise, ID 83701

RECEIVED
JUN 16 1998
Dep[illegible]s

June 11, 1998

208-343-7481

RECEIVED
JUN 24 1998
Department of Water Resources
Eastern Region

BEFORE THE DIRECTOR OF THE DEPARTMENT

OF WATER RESOURCES OF THE STATE OF IDAHO

IN THE MATTER OF THE
APPLICATIONS FOR PERMIT
TO APPROPRIATE WATER
RIGHT NO.S 34-07247,
34-07430, AND 34-07410,
IN THE NAME OF
MITCHELL D. SORENSON ET AL
OF MOORE, IDAHO

PROTEST AND PETITION
TO INTERVENE

Idaho Rivers United is an Idaho non-profit corporation representing 1700 members in improving river and stream management in keeping with public interest and public trust considerations. Our members have been actively engaged in working to preserve, protect and enhance the fishery and biological attributes of the Big Lost River system and its interconnected groundwater resources. Our members use and enjoy the Big Lost River for fishing, wildlife viewing, hunting, photography and contemplative recreational use. Idaho Rivers United has a direct and substantial interest in the above proceeding in that many of our members could be negatively impacted by the proposed appropriation of groundwater for irrigation.

Idaho Rivers United is concerned that granting new consumptive use water rights from groundwater in the Big Lost River basin will have an adverse impact on surface flows by reducing instream flows, reducing flows which may contribute to maintaining or improving surface water quality, raising instream flow temperatures by reducing flows and thereby further impairing water quality, adversely impacting natural groundwater recharge in the Big Lost River aquifer and causing adverse impacts to fish and wildlife habitat and stream health and function. The approval of this consumptive use groundwater right may have irretrievable impacts to the Big Lost River and Spring Creek, may adversely impact the family farming tradition of downgradient and downstream senior surface water users, and will further adversely impact the deteriorated ecological conditions of the Big Lost River valley, its surface waters and exacerbate groundwater depletion.

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DEC 12 2001

MICROFILMED

Approval of these consumptive use irrigation water rights during a consumptive use moratorium will open the floodgate to more applications and set a very bad precedent. Furthermore, approval of such a far reaching policy shift deserves full opportunity for public involvement. We do not believe any amount of "mitigation" could possibly make up for all the damage done to the Big Lost River valley and Spring Creek by excessive demands being placed on the groundwater resource by consumptively used water for irrigation

In summary, we believe that approval of these new water rights are not in the "local public interest" under IC 42-203A(5), do not conserve water as required under IC 42-203A(5), are speculative and should be rejected.

Idaho Rivers United requests that a hearing be scheduled to consider the public impacts of these three proposed water right applications Please place Laird Lucas of the Land and Water Fund on the service list. He is designated counsel for Idaho Rivers United

Sincerely, Dated June 11, 1998

Marti L. Bridges

Marti L Bridges
Water Policy Director

copies mailed to·

Karl Dreher, Director
IDWR
1301 N. Orchard
Boise, ID 83706

Ron Carlson, Regional Director
IDWR Eastern Region
900 N. Skyline Dr , Ste A
Idaho Falls, ID 83402

Mitchell Sorenson et al
Rt. 1, Box 63
Moore, ID 83255

Laird Lucas
LAW Fund - Idaho Office
PO Box 1612
Boise, ID 83701

DEC 1 2 2001

MICROFILMED
DEC 1 2 2001

AFFIDAVIT OF PUBLICATION

State of Idaho, County of Custer, ss:

I, Ruth E. Burchill, representing the Challis Messenger, a weekly newspaper, published at Challis, Idaho, do solemnly swear that the notice hereto attached and made a part hereof, was published in the regular and entire issue of the Challis Messenger for 2 consecutive weeks, commencing with the issue dated June 4 19 98 and ending with the issue dated June 11 19 98.

STATE OF IDAHO

COUNTY OF CUSTER

RECEIVED
JUN 11 1998
Department of Water Resources
Eastern Region

On this 11th day of June in the year of 1998 before me, a Notary Public, personally appeared Ruth E. Burchill known or identified to me to be the person whose name subscribed to the within instrument, and being by me first duly sworn, declared that the statements therein are true, and acknowledged to me that he executed the same.

Ethel M. Peck
Notary Public for Idaho
Residing at Challis, Id.
My commission expires: 3-19-2004.

MICROFILM

NOTICE OF APPLICATION FOR WATER RIGHT

The following application(s) have been filed to appropriate the public waters of the State of Idaho:

34-07247

SORENSEN, MITCHELL D., RT 1 BOX 63, MOORE, ID 83255
Source: GROUNDWATER
Diversion Pt: SENE Sec 5 T04N R26E in BUTTE County.
Use: IRRIGATION (8.340 CFS)
Total Diversion (8.340 CFS)
Date Filed: 05/30/1980
In: BUTTE County
T04N R25E S35 NW 1/4 SESW
200.0 ACRES TOTAL

34-07430

SORENSEN, MITCHELL
DANIELS, GREG
PERKES, M. TODD
NIEDERER, NORMAN
ACOR, EVERETT JR., RT 1 BOX 63, MOORE, ID 83255
Source: BIG LOST RIVER
Tributary: ANTELOPE CREEK
Diversion: Pt: NWSE Sec 14 T06N R25E in CUSTER County
NENW Sec 36 T06N R25E in CUSTER County
NENW Sec 6 T06N R26E in CUSTER County
Use: IRRIGATION (199.60 CFS)
Total Diversion (199.60 CFS)
Date Filed: 04/08/1983
In: CUSTER County
PORTIONS OF S1, S2, S3, S11, S12 T03N R25E
PORTIONS OF S17, S18 T03N R26E
PORTIONS OF S25, S34, S35, S36 T04N R25E
4990.0 ACRES TOTAL

34-07410-
CURRENTLY PROTESTED

SORENSEN, MITCHELL, RT 1 BOX 63, MOORE, ID 83255
Source: GROUNDWATER
Diversion Pt: SESE Sec 5 T04N R26E BUTTE County
Use: IRRIGATION (10.0 CFS)
Total Diversion (10.0 CFS)
Date Filed: 04/12/1982
In: BUTTE County
PORTIONS OF S3 T03N R25E in BUTTE County
SE 1/4 S34 T04N R25E in BUTTE County
310.0 ACRES TOTAL

The applicants have asked for processing of these applications under a provision of the existing order placing a moratorium on approval of new consumptive uses in the Eastern Snake River Basin including the Big Lost River Basin. In accordance with this provision the applicants have offered for IDWR's consideration to provide mitigation to protect prior surface and groundwater rights in accordance with IDWR's water distribution rules - Water District #34.

The permit(s) if issued will be subject to all prior water rights. Protests must be filed with the applicant and the Director, Dept of Water Resources, along with a $25 filing fee, Eastern Region, 900 N Skyline Dr. Ste A, Idaho Falls, ID 83402 on or before June 22, 1998.

KARL J. DREHER, Director
Pub: June 4 & 11, 1998.

NOTICE OF APPLICATION FOR WATER RIGHT

The following application has been filed to appropriate the public waters of the State of Idaho:

34-07430
SORENSEN, MITCHELL
DANIELS, GREG
PERKES, M TODD
WIEDERER, NORMAN
ACOR, EVERETT JR
RT 1 BOX 63
MOORE, ID 83255
Source BIG LOST RIVER
Tributary ANTELOPE CREEK
Diversion Pt NWSE Sec 14 T06N R25E in CUSTER County
NENW Sec 36 T06N R25E in CUSTER County
NENW Sec 6 T06N R26E in CUSTER County
Use: IRRIGATION (199 60 CFS)
Total Diversion. (199 60CFS)
Date Filed 04/06/1983
In: CUSTER County
PORTIONS OF S1, S2, S3, S11, S12 T03N R25E
PORTIONS OF S17, S18 T03N R26E
PORTIONS OF S25, S34, S35, S36 T04N R25E
4990 0 ACRES TOTAL

The applicants have asked for processing of this application under a provision of the existing order placing a moratorium on approval of new consumptive uses in the Eastern Snake River Basin including the Big Lost River Basin. In accordance with this provision the applicants have offered for IDWR's consideration to provide mitigation to protect prior surface and groundwater rights in accordance with IDWR's water distribution rules, Water District #34.

The permit if issued will be subject to all prior water rights Protests must be filed with the applicant and the Director, Dept of Water Resources, along with a $25.00 filing fee, Eastern Region, 900 N Skyline Dr, Ste A, Idaho Falls ID 83402 on or before June 22, 1998
Karl J Dreher, Director

PUBLISH June 4 and 11, 1998

Affidavit of Publication

STATE OF IDAHO }
COUNTY OF TWIN FALLS } SS.

No 39574

I, Emily McKnight being first duly sworn upon oath, depose and say that I am Principle Clerk of the TIMES-NEWS, published daily, at Twin Falls, Idaho, and do solemnly swear that a copy of the notice of advertisement, as per clipping attached, was published in the regular and entire issue of said newspaper, and not in any supplement thereof, for Two consecutive weeks, commencing with the issue dated June 4, 19 98, and ending with the issue dated June 11, 19 98.

And I do further certify that said newspaper is a consolidation, effective February 16, 1942, of the Idaho Evening Times, published theretofore daily except Sunday, and the Twin Falls News, published theretofore daily except Monday, both of which newspapers prior to consolidation had been published under said names in said city and county continuously and uninterruptedly during a period of more than twelve consecutive months, and said TIMES-NEWS, since such consolidation, has been published as a daily newspaper except Saturday, until July 31, 1978, at which time said newspaper began daily publication under said name in said city and county continuously and uninterruptedly.

And I further certify that pursuant to Section 60-108 Idaho Code, Thursday of each week has been designated as the day on which legal notice by law or by order of any court of competent jurisdiction within the state of Idaho, to be published weekly, will be published, and that at the head of the editorial column of said combined newspapers, and in each issue thereof, Thursday is announced as the day on which said legal notices will be published

STATE OF IDAHO
COUNTY OF TWIN FALLS

On this 11th day of June in the year of 1998, before me, a Notary Public, personally appeared Emily McKnight, known or identified to me to be the person whose name subscribed to the within instrument, and being by me first duly sworn, declared that the statements therein are true, and acknowledged to me that he executed the same

MICROFILMED

Treva R. Feltman
Notary Public for Idaho
Residing at Twin Falls, Idaho
My commission expires: 5/19/2000

TRIBUNE PUBLISHING COMPANY, INC.
The Lewiston Morning Tribune
505 C St., P O Box 957
Lewiston, Idaho 83501
(208) 743-9411

Date 06/11/98 INVOICE NO. 175475

Account No. 446600

Description 175475NOTICEOFAPPLICAT

Times 2 Lines 37

Tab Lines

$ 111.00

LEGAL ADVERTISING INVOICE

SOLD TO: IDAHO DEPT OF WATER RESOURCES
900 N. SKYLINE
IDAHO FALL ID 83402

RECEIVED
JUN 15 1998
Department of Water Resources
Eastern Region

NOTICE: This is an invoice of Purchase made by you. Statement will be rendered the first of the month.
Please Retain This Invoice as Your Statement Will Refer to Invoice by No. Only.

AFFIDAVIT OF PUBLICATION

STATE OF IDAHO, ss.
County of Nez Perce

175475

NOTICE OF APPLICATION FOR WATER RIGHT

The following application has been filed to appropriate the public waters of the State of Idaho:

34-07430

SORENSEN, MITCHELL
DANIELS, GREG
PERKES, M. TODD
NIEDERER, NORMAN
ACOR, EVERETT JR
RT 1 BOX 63
MOORE ID 83255
Source: BIG LOST RIVER
Tributary: ANTELOPE CREEK
Diversion: Pt: NWSE Sec 14 T06N R25E in CUSTER County
NENW Sec 36 T06N R25E in CUSTER County
NENW Sec 6 T06N R26E in CUSTER County
Use: IRRIGATION (199.60 CFS)
Total Diversion (199 60 CFS)
Date Filed: 04/08/1983
In: CUSTER County
PORTIONS OF S1, S2, S3, S11, S12 T03N R25E
PORTIONS OF S17, S18 T03N R26E
PORTIONS OF S25, S34, S35, S36 T04N R25E
4990.0 ACRES TOTAL

The applicants have asked for processing of this application under a provision of the existing order placing a moratorium on approval of new consumptive uses in the Eastern Snake River Basin including the Big Lost River Basin. In accordance with this provision the applicants have offered for IDWR's consideration to provide mitigation to protect prior surface and groundwater rights in accordance with IDWR's water distribution rules - Water District #34.

The permit if issued will be subject to all prior water rights Protests must be filed with the applicant and the Director, Dept of Water Resources, along with a $25.00 filing fee, Eastern Region, 900 N Skyline Dr Ste A, Idaho Falls ID 83402 on or before June 22, 1998.

KARL J DREHER, Director

Published:in Lewiston Morning Tribune on 6/4/1998 and 6/11/1998

is _____, being duly sworn, deposes and says, I am
Clerk of the Tribune Publishing Company, a corporation
nd existing under and by virtue of the laws of the
ho, publishers of the LEWISTON MORNING TRIBUNE,
er of general circulation published at Lewiston, Nez Perce County,
the said Lewiston Morning Tribune is an established newspaper
en published regularly and issued regularly at least once a day
an 21 consecutive years next immediately preceding the first
of this notice, and has been so published uninterrupted for
, that the 175475NOTICEOFA attached hereto and which is made
is affadavit was published in the said Lewiston Morning Tribune,
e(s). Publication being on 06/04, or once a WEEK
consecutive WEEK, the first publication thereof being on
98, and the last publication thereof being on
98, and said 175475NOTICEOFA was so published in the
d entire issue of said newspaper and was not in a supplement
d was so published in every issue and number of the said
ing the period and times of publication as set forth above.

Karen J. Lewis

BED AND SWORN BEFORE ME THIS THE 11

June 1998

Notary Public in and for the State of Idaho,
residing at Lewiston, therein
Commission Expires 7/1/00

MICROFILMED

TRIBUNE PUBLISHING COMPANY, INC.
The Lewiston Morning Tribune
505 C St., P.O Box 957
Lewiston, Idaho 83501
(208) 743-9411

Date 06/11/98 INVOICE NO. 175475

Account No. 446600

Description 175475NOTICEOFAPPLICAT

Times 2 Lines 37

Tab. Lines

LEGAL ADVERTISING INVOICE

SOLD TO: IDAHO DEPT OF WATER RESOURCES
900 N SKYLINE
IDAHO FALL ID 83402

$ 111.00

RECEIVED
JUN 15 1998
Department of Water Resources
Eastern Region

NOTICE: This is an invoice of Purchase made by you Statement will be rendered the first of the month.
Please Retain This Invoice as Your Statement Will Refer to Invoice by No. Only.

AFFIDAVIT OF PUBLICATION

STATE OF IDAHO, ss.
County of Nez Perce

Karen Lewis, being duly sworn, deposes and says, I am the Legal Clerk of the Tribune Publishing Company, a corporation organized and existing under and by virtue of the laws of the State of Idaho, publishers of the LEWISTON MORNING TRIBUNE, a newspaper of general circulation published at Lewiston, Nez Perce County, Idaho, That the said Lewiston Morning Tribune is an established newspaper and has been published regularly and issued regularly at least once a day for more than 21 consecutive years next immediately preceding the first publication of this notice, and has been so published uninterrupted for said period; that the 175475NOTICEOFA attached hereto and which is made a part of this affadavit was published in the said Lewiston Morning Tribune, 2 time(s) Publication being on 06/04, or once a WEEK for 2 consecutive WEEK, the first publication thereof being on the 06/04/98, and the last publication thereof being on the 06/11/98, and said 175475NOTICEOFA was so published in the regular and entire issue of said newspaper and was not in a supplement thereof and was so published in every issue and number of the said paper, during the period and times of publication as set forth above

Karen J. Lewis

SUBSCRIBED AND SWORN BEFORE ME THIS THE 11 day of June 1998

Notary Public in and for the State of Idaho,
residing at Lewiston, therein
Commission Expires 7/1/2...

NOTICE OF APPLICATION F[illegible] 5% WIT
The following application has been filed to a
State of Idaho:

34-07430 [redacted]

SORENSEN, MITCHELL
DANIELS, GREG
PERKES, M. TODD
NIEDERER, NORMAN
ACOR, EVERETT JR
RT 1 BOX 63
MOORE ID 83255
Source: BIG LOST RIVER
Tributary: ANTELOPE CREEK
Diversion: Pt: NWSE Sec 14 T06N R25E in CUST
NENW Sec 36 T06N R25E in CUST
NENW Sec 6 TO6N R26E in CUST
Use: IRRIGATION (199.60 CFS)
Total Diversion (199.60 CFS)
Date Filed: 04/08/1983
In: CUSTER County
PORTIONS OF S1, S2, S3, S11, S12 T03N R25E
PORTIONS OF S17, S18 TO3N R26E
PORTIONS OF S25, S34, S35, S36 T04N R25E
4990.0 ACRES TOTAL

The applicants have asked for processing of this ap[illegible] of the existing order placing a moratorium on approva[illegible] in the Eastern Snake River Basin including the Big L[illegible] dance with this provision the applicants have offered fo[illegible] provide mitigation to protect prior surface and groundw[illegible] with IDWR's water distribution rules - Water District #[illegible]
The permit if issued will be subject to all prior water[illegible] filed with the applicant and the Director, Dept of Water S25.00 filing fee, Eastern Region, 900 N Skyline Dr Ste A, or before June 22, 1998.

KARI

Published:in Lewiston Morning Tribune on 6/4/1998 and [illegible]

MICROFILMED

TRIBUNE PUBLISHING COMPANY, INC.
The Lewiston Morning Tribune
505 C St , P.O.Box 957
Lewiston, Idaho 83501
(208) 743-9411

Date 06/11/98 INVOICE NO 175475

Account No. 446600

Description 175475NOTICEOFAPPLICAT

Times 2 Lines 37

Tab. Lines

$ 111 00

RECEIVED
JUN 15 1998
Department of Water Resources
Eastern Region

LEGAL ADVERTISING INVOICE

SOLD TO: IDAHO DEPT. OF WATER RESOURCES
900 N SKYLINE
IDAHO FALL ID 83402

NOTICE This is an invoice of Purchase made by you. Statement will be rendered the first of the month.
Please Retain This Invoice as Your Statement Will Refer to Invoice by No. Only.

AFFIDAVIT OF PUBLICATION

STATE OF IDAHO, ss.
Nez Perce

175475

NOTICE OF APPLICATION FOR WATER RIGHT

The following application has been filed to appropriate the public waters of the State of Idaho:

34-07430

SORENSEN, MITCHELL
DANIELS, GREG
PERKES, M. TODD
NIEDERER, NORMAN
ACOR, EVERETT JR
RT 1 BOX 63
MOORE ID 83255
Source: BIG LOST RIVER
Tributary: ANTELOPE CREEK
Diversion: Pt: NWSE Sec 14 T06N R25E in CUSTER County
NENW Sec 36 T06N R25E in CUSTER County
NENW Sec 6 TO6N R26E in CUSTER County
Use: IRRIGATION (199.60 CFS)
Total Diversion (199.60 CFS)
Date Filed: 04/08/1983
In: CUSTER County
PORTIONS OF S1, S2, S3, S11, S12 T03N R25E
PORTIONS OF S17, S18 TO3N R26E
PORTIONS OF S25, S34, S35, S36 T04N R25E
4990.0 ACRES TOTAL

The applicants have asked for processing of this application under a provision of the existing order placing a moratorium on approval of new consumptive uses in the Eastern Snake River Basin including the Big Lost River Basin. In accordance with this provision the applicants have offered for IDWR's consideration to provide mitigation to protect prior surface and groundwater rights in accordance with IDWR's water distribution rules - Water District #34.

The permit if issued will be subject to all prior water rights. Protests must be filed with the applicant and the Director, Dept of Water Resources, along with a $25.00 filing fee, Eastern Region, 900 N Skyline Dr Ste A, Idaho Falls ID 83402 on or before June 22, 1998.

KARL J DREHER, Director

Published:in Lewiston Morning Tribune on 6/4/1998 and 6/11/1998

is _____, being duly sworn, deposes and says, I am
Clerk of the Tribune Publishing Company, a corporation
nd existing under and by virtue of the laws of the
ho, publishers of the LEWISTON MORNING TRIBUNE,
r of general circulation published at Lewiston, Nez Perce County,
the said Lewiston Morning Tribune is an established newspaper
en published regularly and issued regularly at least once a day
in 21 *consecutive years next immediately preceding* the first
of this notice, and has been so published uninterrupted for
that the 175475NOTICEOFA attached hereto and which is made
s affadavit was published in the said Lewiston Morning Tribune,
e(s). Publication being on 06/04 , or once a WEEK
consecutive WEEK , the first publication thereof being on
98 , and the last publication thereof being on
98 , and said 175475NOTICEOFA was so published in the
entire issue of said newspaper and was not in a supplement
was so published in every issue and number of the said
ng the period and times of publication as set forth above

_____

BED AND SWORN BEFORE ME THIS THE _____

day of _____ 1998

_____

MICROFILMED

Notary Public in and for the State of Idaho,
residing at Lewiston, therein
Commission Expires _____

TRIBUNE PUBLISHING COMPANY, INC.
The Lewiston Morning Tribune
505 C St., P O.Box 957
Lewiston, Idaho 83501
(208) 743-9411

Date 06/11/98 INVOICE NO 175475

Account No 446600

Description 175475NOTICEOFAPPLICAT

Times 2 Lines 37

Tab. Lines

$ 111.00

LEGAL ADVERTISING INVOICE

SOLD TO: IDAHO DEPT OF WATER RESOURCES
900 N SKYLINE
IDAHO FALL ID 83402

RECEIVED
JUN 15 1998
Department of Water Resources
Eastern Region

NOTICE This is an invoice of Purchase made by you. Statement will be rendered the first of the month.
Please Retain This Invoice as Your Statement Will Refer to Invoice by No. Only.

AFFIDAVIT OF PUBLICATION

STATE OF IDAHO, ss.
County of Nez Perce

Karen Lewis, being duly sworn, deposes and says, I am the Legal Clerk of the Tribune Publishing Company, a corporation organized and existing under and by virtue of the laws of the State of Idaho, publishers of the LEWISTON MORNING TRIBUNE, a newspaper of general circulation published at Lewiston, Nez Perce County, Idaho; That the said Lewiston Morning Tribune is an established newspaper and has been published regularly and issued regularly at least once a day for more than 21 consecutive years next immediately preceding the first publication of this notice, and has been so published uninterrupted for said period, that the 175475NOTICEOFA attached hereto and which is made a part of this affadavit was published in the said Lewiston Morning Tribune, 2 time(s). Publication being on 06/04, or once a WEEK for 2 consecutive WEEK, the first publication thereof being on the 06/04/98, and the last publication thereof being on the 06/11/98, and said 175475NOTICEOFA was so published in the regular and entire issue of said newspaper and was not in a supplement thereof and was so published in every issue and number of the said paper, during the period and times of publication as set forth above.

SUBSCRIBED AND SWORN BEFORE ME THIS THE _____ day of _____ 1998

Notary Public in and for the State of Idaho,
residing at Lewiston, therein
Commission Expires _____

NOTICE OF APPLICATION FOR WAT

The following application has been filed to appropri
State of Idaho:

34-07430

SORENSEN, MITCHELL
DANIELS, GREG
PERKES, M. TODD
NIEDERER, NORMAN
ACOR, EVERETT JR
RT 1 BOX 63
MOORE ID 83255
Source: BIG LOST RIVER
Tributary: ANTELOPE CREEK
Diversion: Pt: NWSE Sec 14 T06N R25E in CUSTER C
NENW Sec 36 T06N R25E in CUSTER C
NENW Sec 6 TO6N R26E in CUSTER C
Use: IRRIGATION (199.60 CFS)
Total Diversion (199 60 CFS)
Date Filed: 04/08/1983
In: CUSTER County
PORTIONS OF S1, S2, S3, S11, S12 T03N R2SE
PORTIONS OF S17, S18 TO3N R26E
PORTIONS OF S25, S34, S35, S36 T04N R25E·
4990.0 ACRES TOTAL

The applicants have asked for processing of this applic of the existing order placing a moratorium on approval of in the Eastern Snake River Basin including the Big Lost dance with this provision the applicants have offered for li provide mitigation to protect prior surface and groundwat with IDWR's water distribution rules - Water District #3·

The permit if issued will be subject to all prior water ri filed with the applicant and the Director, Dept of Water R S25.00 filing fee, Eastern Region, 900 N Skyline Dr Ste A, Id or before June 22, 1998.

KARL

Published:in Lewiston Morning Tribune on 6/4/1998 and 6

administratio pendent ca tracts
The Tribun for someone ganized, sell outgoing, oriented, del and can tea sell newsp scriptions must have a ing recor transportatic must be eac If this sour we are in hearing fro position offe itive salar program, m tal and 40 Pre-employ testing is re Those int fill out an a drop off a r Tribune loc Street in mail it to Roberts, Morning T Box 1387, 83501-996 information 9600 ext 2

MICROFILMED

AFFIDAVIT OF PUBLICATION

I, Colleen Babcock
of the Arco Advertiser, a weekly newspaper of general circulation, published weekly at Arco, Idaho, since March, 1909, do solemnly swear that a copy of this notice, per clipping attached, was published weekly in the regular and entire issue of said newspaper, and not in any supplement thereof

for 2 consecutive weeks, commencing with

the issue dated June 4, 1998

and ending with the issue dated

June 11, 1998

Colleen Babcock

STATE OF IDAHO)
COUNTY OF BUTTE)

On this 11th day of June

in the year of 1998, before me, a Notary Public,

personally appeared

Colleen Babcock

known or identified to me to be the person whose name subscribed to the within instrument, and being by me first duly sworn, declared that the statements therein are true, and acknowledged to me that he executed the same

Thomas D. Carr

Notary Public for Idaho

Residing at Arco, Id

My commission expires 1-23-2004

RECEIVED

JUN 15 1998

MICROFILMED

Department of Water Resources
Eastern Region

NOTICE APPLICATIONS FOR WATER RIGHT

The following application(s) have been filed to appropriate the public waters of the State of Idaho:

34-07247

SORENSEN, MITCHELL D
RT 1 BOX 63
MOORE ID 83255
Source: GROUNDWATER
Diversion Pt: SENE Sec 5 T04N R26E in BUTTE County.
Use: IRRIGATION (8.340 CFS)
Total Diversion (8.340 CFS)
Date Filed: 05/30/1980
In: BUTTE County
T04N R25E S35 NW ¼ SESW
200.0 ACRES TOTAL

34-07430

SORENSEN, MITCHELL
DANIELS, GREG
PERKES, M. TODD
NIEDERER, NORMAN
ACOR, EVERETT JR.
RT 1 BOX 63
MOORE ID 83255
Source: BIG LOST RIVER
Tributary: ANTELOPE CREEK
Diversion Pt: NWSE Sec 14 T06N R25E in CUSTER County
NENW Sec 36 T06N R25E in CUSTER County
NENW Sec 6 T06N R26E, in CUSTER County
Use: IRRIGATION (199.60 CFS)
Total Diversion (199.60 CFS)
Date Filed: 04/08/1983
In: CUSTER County
PORTIONS OF S1, S2, S3, S11, S12 T03N R25E
PORTIONS OF S17, S18 T03N R26E
PORTIONS OF S25, S34, S35, S36 T04N R25E
4990.0 ACRES TOTAL

34-07410 - CURRENTLY PROTESTED

SORENSEN, MITCHELL
RT 1 BOX 63
MOORE ID 83255
Source: GROUNDWATER
Diversion Pt: SESE Sec 5 T04N R26E BUTTE County
Use: IRRIGATION (10.0 CFS)
Total Diversion (10.0 CFS)
Date Filed: 04/12/1982
In: BUTTE County
PORTIONS OF S3 T03N R25E in BUTTE County, SE¼ S34 T04N R25E in BUTTE County
310.0 ACRES TOTAL

The applicants have asked for processing of these applications under a provision of the existing order placing a moratorium on approval of new consumptive uses in the Eastern Snake River Basin including the Big Lost River Basin. In accordance with this provision the applicants have offered for IDWR's consideration to provide mitigation to protect prior surface and groundwater rights in accordance with IDWR's water distribution rules - Water Dist #34.

The permit(s) if issued will be subject to all prior water rights. Protests must be filed with the applicant and the Director, Dept. of Water Resources, along with a $25.00 filing fee, Eastern Region, 900 N Skyline Dr. Ste A, Idaho Falls ID 83402 on or before June 22, 1998.

KARL J. DREHER
Director

Published in The Arco Advertiser on June 4, 1998 and June 11, 1998.

The Idaho
Statesman

P O BOX 40, BOISE, IDAHO 83707-0040

LEGAL ADVERTISING INVOICE

Account # /Trans #	Identification		Amount
100564	APPLICATION FOR WATER RIGHT - SORENSEN, DANIELS, PERKES, NIEDERER, ACOR		$117 00
Ordered by	**P O. Number**	**Rate**	**Run Dates**
S COX		NT	JUNE 4, 11, 1998

	Estimated Inches	Real Inches
STATE OF IDAHO DEPT OF WATER RESOURCES EAST 900 N SKYLINE DRIVE IDAHO FALLS, IDAHO 83402-1718		
	Affadavit	**Legal Number**
	1	1495

JUN 2 2 1998

Dep... Eas...

JANICE HILDRETH, being duly sworn, deposes and says That she is the Principal Clerk of The Idaho Statesman, a daily newspaper printed and published at Boise, Ada County, State of Idaho, and having a general circulation therein and which said newspaper has been continuously and uninterruptedly published in said County during a period of twelve consecutive months prior to the first publication of the notice, a copy of which is attached hereto; that said notice was published in The Idaho Statesman in conformity with Section 60-108, Idaho Code as amended for TWO

X consecutive weekly ____ single

___ consecutive daily ____ odd skip

insertion(s) beginning with the issue of. JUNE 4, 1998

and ending with the issue of JUNE 11, 1998

Janice Hildreth

STATE OF IDAHO)
) ss.
COUNTY OF ADA)

On this 11 th day of JUNE in the year of 1998, before me, a Notary Public, personally appeared Janice Hildreth known or identified to me to be the person whose name subscribed to the within instrument, and being by me first duly sworn, declared that the statements therein are true, and acknowledged to me that she executed the same.

Janice Modie

Notary Public for Idaho
Residing at: Boise, Idaho
My commission expires: 5703

JANIE MC... NOTARY PUBLIC STATE OF IDAHO

MICROFILMED

LEGAL NOTICE

NOTICE OF APPLICATION FOR WATER RIGHT

The following application has been filed to appropriate the public waters of the State of Idaho:
34-07430

SORENSEN, MITCHELL
DANIELS, GREG
PERKES, M TODD
NIEDERER, NORMAN
ACOR, EVERETT JR
RT 1 BOX 63
MOORE ID 83255
Source. BIG LOST RIVER
Tributary. ANTELOPE CREEK
Diversion Pt; NWSE Sec 14 T06N R25E in CUSTER County
NENW Sec 36 T06N R2SE in CUSTER County
NENW Sec 6 T06N R26E in CUSTER County
Use: IRRIGATION (199.60 CFS)
Total Diversion (199.60 CFS)
Date Filed. 04/08/1983
In' CUSTER County
PORTIONS OF S1, S2, S3, S11, S12 T03NR25E
PORTIONS OF S17, S18 T03N R26E
PORTIONS OF S25, S34, S35, S36 T04N R2SE
4990.0 ACRES TOTAL

The applicants have asked for processing of this application under a provision of the existing order placing a moratorium on approval of new consumptive uses in the Eastern Snake River Basin including the Big Lost River Basin. In accordance with this provision the applicants have offered for IDWR's consideration to provide mitigation to protect prior surface and groundwater rights in accordance with IDWR's water distribution rules - Water District #34

The permit if issued will be subject to all prior water rights. Protests must be filed with the applicant and the Director, Dept of Water Resources, along with a $25 00 filing fee, Eastern Region, 900 N Skyline Dr Ste A, Idaho Falls 83402 on or before June 22, 1998

KARL J DREHER, Director

Pub June 4,11, 1998 14⁹

MICROFILMED

State of Ida[redacted]
DEPARTMENT OF WATER RESOURCES
900 N. Skyline Dr., Idaho Falls, Idaho 83402-1718 - (208) 525-7161 - Fax (208) 525-7177

EASTERN REGION

June 3, 1998

PHILIP E. BATT
GOVERNOR

KARL J. DREHER
DIRECTOR

Lawrence Babcock
C/O BLRWUA
Box 66
Moore ID 83255

Dear Interested Party:

Please be aware that Mitch Sorensen has requested that water right application #34-07430 and 34-07247 be advertised and considered for approval. You originally had protested application #34-07410 filed by Mr. Sorensen in 1982 and which is still being held.

I have enclosed a copy of the advertising copy on the new applications for your information.

Sincerely,

Harold W. Jones

Harold W Jones
Water Rights Supervisor

HWJ:sc

MICROFILMED
DEC 12 2001

State of Idaho
DEPARTMENT OF WATER RESOURCES
900 N. Skyline Dr., Idaho Falls, Idaho 83402-1718 - (208) 525-7161 - Fax (208) 525-7177

EASTERN REGION

June 3, 1998

PHILIP E. BATT
GOVERNOR

KARL J. DREHER
DIRECTOR

Larman D Anderson
So of Moore
Moore ID 83255

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MICROFILMED

DEC 12 2001

State of Idaho
DEPARTMENT OF WATER RESOURCES
900 N. Skyline Dr., Idaho Falls, Idaho 83402-1718 - (208) 525-7161 - Fax (208) 525-7177

EASTERN REGION

June 3, 1998

PHILIP E. BATT
GOVERNOR

KARL J. DREHER
DIRECTOR

Virgil Hail
Box 454
Moore ID 83255

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HWJ:sc

MICROFILMED
DEC 12 2001

State of Idaho
DEPARTMENT OF WATER RESOURCES
900 N. Skyline Dr., Idaho Falls, Idaho 83402-1718 - (208) 525-7161 - Fax (208) 525-7177

EASTERN REGION

June 3, 1998

PHILIP E. BATT
GOVERNOR

KARL J. DREHER
DIRECTOR

Reva Walker
Hwy 39
Arco ID 83213

Dear Interested Party:

Please be aware that Mitch Sorensen has requested that water right application #34-07430 and 34-07247 be advertised and considered for approval. You originally had protested application #34-07410 filed by Mr. Sorensen in 1982 and which is still being held.

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Water Rights Supervisor

HWJ:sc

MICROFILMED
DEC 12 2001

State of Idaho
DEPARTMENT OF WATER RESOURCES
900 N. Skyline Dr., Idaho Falls, Idaho 83402-1718 - (208) 525-7161 - Fax (208) 525-7177

EASTERN REGION

PHILIP E. BATT
GOVERNOR

KARL J. DREHER
DIRECTOR

May 29, 1998

CHALLIS MESSENGER
PO BOX 405
CHALLIS ID 83226

Dear Publisher:

Enclosed you will find a legal notice which we wish to have published on the dates indicated in your newspaper. If you cannot publish the notice on the proposed dates, please contact us immediately.

An affidavit of publication must be submitted to the Department along with the publication bill. Your cooperation is appreciated.

Please send the affidavit of publication and publication billing to this office before JUNE 22, 1998.

Yours truly,

Sharla Cox
Secretary

Enc.

Mailed
5/29/98
SC

MICROFILMED

JUN 2 2001

NOTICE OF APPLICATIONS FOR WATER RIGHT

The following application(s) have been filed to appropriate the public waters of the State of Idaho:

34-07247

SORENSEN, MITCHELL D
RT 1 BOX 63
MOORE ID 83255
Source: GROUNDWATER
Diversion Pt: SENE Sec 5 T04N R26E in BUTTE County.
Use: IRRIGATION (8.340 CFS)
Total Diversion (8.340 CFS)
Date Filed: 05/30/1980
In: BUTTE County
T04N R25E S35 NW 1/4 SESW
200.0 ACRES TOTAL

34-07430

SORENSEN, MITCHELL
DANIELS, GREG
PERKES, M. TODD
NIEDERER, NORMAN
ACOR, EVERETT JR.
RT 1 BOX 63
MOORE ID 83255
Source: BIG LOST RIVER
Tributary: ANTELOPE CREEK
Diversion: Pt: NWSE Sec 14 T06N R25E in CUSTER County
NENW Sec 36 T06N R25E in CUSTER County
NENW Sec 6 T06N R26E in CUSTER County
Use: IRRIGATION (199.60 CFS)
Total Diversion (199.60 CFS)
Date Filed: 04/08/1983
In: CUSTER County
PORTIONS OF S1, S2, S3, S11, S12 T03N R25E
PORTIONS OF S17, S18 T03N R26E
PORTIONS OF S25, S34, S35, S36 T04N R25E
4990.0 ACRES TOTAL

MICROFILMED
DEC 12 2001

34-07410 - CURRENTLY PROTESTED

SORENSEN, MITCHELL
RT 1 BOX 63
MOORE ID 83255
Source: GROUNDWATER
Diversion Pt: SESE Sec 5 T04N R26E BUTTE County
Use: IRRIGATION (10.0 CFS)
Total Diversion (10.0 CFS)
Date Filed. 04/12/1982
In: BUTTE County
PORTIONS OF S3 T03N R25E in BUTTE County
SE 1/4 S34 T04N R25E in BUTTE County
310.0 ACRES TOTAL

The applicants have asked for processing of these applications under a provision of the existing order placing a moratorium on approval of new consumptive uses in the Eastern Snake River Basin including the Big Lost River Basin. In accordance with this provision the applicants have offered for IDWR's consideration to provide mitigation to protect prior surface and groundwater rights in accordance with IDWR's water distribution rules - Water District #34.

The permit(s) if issued will be subject to all prior water rights. Protests must be filed with the applicant and the Director, Dept of Water Resources, along with a $25.00 filing fee, Eastern Region, 900 N Skyline Dr Ste A, Idaho Falls ID 83402 on or before June 22, 1998

KARL J DREHER, Director

Published: in Challis Messenger on 6/4/1998 and 6/11/1998

MICROFILMED
DEC 12 2001

State of Idaho
DEPARTMENT OF WATER RESOURCES
900 N. Skyline Dr., Idaho Falls, Idaho 83402-1718 - (208) 525-7161 - Fax (208) 525-7177

EASTERN REGION

PHILIP E. BATT
GOVERNOR

KARL J. DREHER
DIRECTOR

May 29, 1998

ARCO ADVERTISER
PO DRAWER C
ARCO ID 83213

Dear Publisher:

Enclosed you will find a legal notice which we wish to have published on the dates indicated in your newspaper. If you cannot publish the notice on the proposed dates, please contact us immediately.

An affidavit of publication must be submitted to the Department along with the publication bill. Your cooperation is appreciated.

Please send the affidavit of publication and publication billing to this office before JUNE 22, 1998.

Yours truly,

Sharla Cox
Secretary

Enc.

Faxed 5/29/98 SC

Verified w/ Check at arco advertiser

MICROFILMED
DEC 12 2005

NOTICE OF APPLICATIONS FOR WATER RIGHT

The following application(s) have been filed to appropriate the public waters of the State of Idaho:

34-07247

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MOORE ID 83255
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Diversion Pt: SENE Sec 5 T04N R26E in BUTTE County.
Use: IRRIGATION (8.340 CFS)
Total Diversion (8.340 CFS)
Date Filed: 05/30/1980
In: BUTTE County
T04N R25E S35 NW 1/4 SESW
200.0 ACRES TOTAL

34-07430

SORENSEN, MITCHELL
DANIELS, GREG
PERKES, M. TODD
NIEDERER, NORMAN
ACOR, EVERETT JR.
RT 1 BOX 63
MOORE ID 83255
Source: BIG LOST RIVER
Tributary: ANTELOPE CREEK
Diversion: Pt: NWSE Sec 14 T06N R25E in CUSTER County
NENW Sec 36 T06N R25E in CUSTER County
NENW Sec 6 T06N R26E in CUSTER County
Use: IRRIGATION (199.60 CFS)
Total Diversion (199.60 CFS)
Date Filed: 04/08/1983
In: CUSTER County
PORTIONS OF S1, S2, S3, S11, S12 T03N R25E
PORTIONS OF S17, S18 T03N R26E
PORTIONS OF S25, S34, S35, S36 T04N R25E
4990.0 ACRES TOTAL

MICROFILMED
DEC 12 2001

34-07410 - CURRENTLY PROTESTED

SORENSEN, MITCHELL
RT 1 BOX 63
MOORE ID 83255
Source: GROUNDWATER
Diversion Pt: SESE Sec 5 T04N R26E BUTTE County
Use: IRRIGATION (10.0 CFS)
Total Diversion (10.0 CFS)
Date Filed: 04/12/1982
In: BUTTE County
PORTIONS OF S3 T03N R25E in BUTTE County
SE 1/4 S34 T04N R25E in BUTTE County
310 0 ACRES TOTAL

The applicants have asked for processing of these applications under a provision of the existing order placing a moratorium on approval of new consumptive uses in the Eastern Snake River Basin including the Big Lost River Basin. In accordance with this provision the applicants have offered for IDWR's consideration to provide mitigation to protect prior surface and groundwater rights in accordance with IDWR's water distribution rules - Water District #34.

The permit(s) if issued will be subject to all prior water rights Protests must be filed with the applicant and the Director, Dept of Water Resources, along with a $25 00 filing fee, Eastern Region, 900 N Skyline Dr Ste A, Idaho Falls ID 83402 on or before June 22, 1998.

KARL J DREHER, Director

Published in Arco Advertiser on 6/4/1998 and 6/11/1998

MICROFILMED
DEC 12 2001

MEMORANDUM

TO: **Ron Carlson &** [redacted]

FROM: **Norman C. Young**

DATE: **March 23, 1998**

RE: **Mitchell Sorenson's applications nos. 34-07247, 34-07410 & 34-07430**

Mitch Sorenson has requested processing of these permits and has provided a suggested plan for mitigation. (See letter dated 12/11/97).

My letter of 12/1/97 indicates that specific actions will be taken to process these filings upon receipt of the plan. While I am not sure that the plan is fully acceptable it is adequate to initiate processing.

Please immediately prepare and advertise the notice of processing the fillings. Mention the mitigation plan and provision in the moratorium allowing processing but do not give specific details of the plan.

Provide copies of the notice by mail to all present parties. Let Karl or me review the notices before publication.

Thanks.

P.S. Norm is out on vacation the week of March 23-27, 1998.

NCY/dde

MICROFILMED
DEC 12 2001

RECEIVED
JAN 14 1998
Department of Water Resources

Jan. 12, 1998

Norman C. Young
Administrator
Water Management Div.
Idaho Department of Water Resources

R.E. Application #34-07247, 34-07410, 34-07430

Dear Mr. Young:

Norm, after reading your letter to Mr. Foster, and Mr. Sorensen's letter, we would like to make a few comments.

1. We do concur with BLRWUA's letter which we signed.

2, We also concur with your letter to Mr. Foster dated Dec 1, 1997.

3. Regarding application #34-07247. This well, we believe is the same well as 34 - 2428 which had a cease and desist order issued on Dec. 19, 1989. This well was drilled to be a supplemental well to water rights #34-0496/ 0692/ T921, they also received cease and desist orders issued on Dec. 19, 1989.

4. 34-7410 was also issued a cease and desist order on Dec. 19, 1989.

5. Application for permit #3407430. We concur with you in your letter to Mr. Foster. If a hearing on this petition is required, we would propose to participate.

Norm, as we recall, Mr. Foster has proposed in the past that these water applications be posponed until a later date. We are sure you have this in your file. We would appreciate being kept informed on this matter.

MICROFILMED
DEC 12 2001

Sincerely,

Norman C. Sorensen
Reva W. Walker
Dale Smith

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES
1301 North Orchard Street, P.O. Box 83720
Boise, Idaho 83720-0098

Return Service Requested

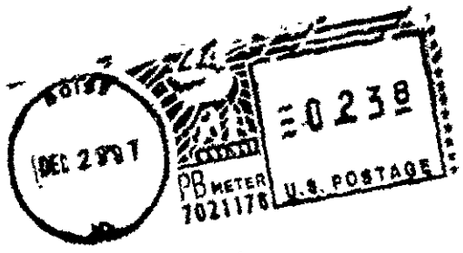


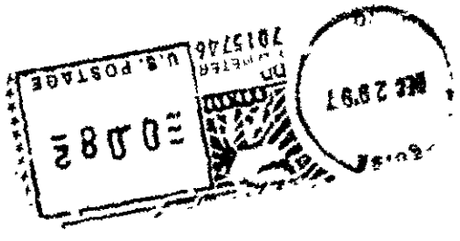
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☑ ATTEMPTED-NOT KNOWN
☐ FORWARDING ORDER EXPIRED
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☐ OTHER_____
INITIALS_____ROUTE_____

MORMA K SORENSON
707 EAST 50 SOUTH
PROVO UT

RECEIVED
JAN 08 1998
Department of Water Resources

84606-4837128/0038





Big Lost River Water Users Association
Box 66
Moore, Idaho 83255

RECEIVED
DEC 2 2 1997
Department of Water Resources

December 17, 1997

Norman C. Young, Administrator
Water Management Division
Idaho Department of Water Resources

RE: Application # 34-07247, 34-07410, and 34-07430

Dear Mr Young

Having been made aware of your letter of December 1, 1997 to Mr. Foster on the above referenced application for water right numbers, the following points are of primary importance

1. It is imperative that the moratorium now in place be left operative at least to the date of the completion of the adjudication of Basin 34 to assure a measure of stability in trying to balance the decreed ground water use with the optimum supply available.

2 Any application for new consumptive uses must be publicly analyzed.

3. Any mitigation or compensation plans must be published and carefully analyzed in public hearings before decisions are made.

Sincerely yours,

Lawrence Babcock
Lawrence R Babcock, Chairman
Big Lost River Water Users Association

Concurring signatures.

Reva W. Walker
Norman D. Anderson
Dale Smith
Ken Virgil J Hart

MIRD 7A-

Operation and distribution of the new use will be governed by the doctrines of "prior appropriation" and "futile call". Applicant also reserves the right to participate with any individual or group of water users similarly situated in the development, proposing, and operation of mitigation plans that would allow the use to divert "out of priority" in a conjunctively managed water system.

With these proposed mitigation plans, I believe IDWR is now in a position to immediately begin the processing of the application for permits pursuant to the "mandatory permitting system". Again I ask IDWR to review actions previously taken relevant to each application and avoid further delays by attempting to conduct duplicative procedures and/or hearings.

Finally, your letter makes reference to "Others" and a "Mailing list". I presume that means you will forward copies of this and all future letters to these persons. Conversely, I am requesting that you send me copies of all past, present, and future communication (i.e. letters, protests, objections, facsimile, charts, graphs, photographs, documents, reports, summary of telephone calls, etc.) IDWR receives from whomever these persons might be.

Thank you for your time and consideration.

Sincerely,

Mitchell D. Sorensen

Mitigation for the ESPA

There is currently pending within the Snake River Basin Adjudication (SRBA), at the Supreme Court level, an appeal of the matter whether or not conjunctive management will be included in the management and distribution of water rights within water systems. Due to this pending litigation, the applicant is unable to determine whether mitigation will be required, and if so, at what level. Until the matter is adjudicated, the applicant proposes the application for permit be processed immediately and a permit issued subject to the following conditions.

Operation and distribution of the new use will be governed by the doctrines of "prior appropriation" and "futile call". Applicant also reserves the right to participate with any individual or group of water users similarly situated in the development, proposing, and operation of mitigation plans that would allow the use to divert "out of priority" in a conjunctively managed water system.

Application For Permit 34-07410 (Ground water)

(Mitigation for this application for permit is identical to that of application for permit 34-07247.)

Application For Permit 34-07430 (Surface water)

Mitigation for Basin 34 and ESPA

Water supplies for this new use are available only during periods of high water run off. Diversion and dispersion of a portion of these flood water supplies through irrigation will help alleviate damage to low lying flood plains and stream banks. Because this proposed new use will be a secondary water right to existing acres irrigated by ground water diversions, primary water rights will not need to be diverted from ground water supplies whenever surface supplies are available. This plan allows aquifers to remain saturated due to non-pumpage and delay those water supplies leaving local alluvial fills that otherwise will be lost by the natural means of percolation and discharge. Electrical resources will also be conserved due to not operating deep well pumps during such periods.

December 11, 1997

RECEIVED
DEC 15 1997
Department of Water Resources

Mr. Norman C. Young
IDAHO DEPT. OF WATER RESOURCES
1301 North Orchard Street
Statehouse Mail
Boise, Idaho 83720

RE: Proposed Mitigation Plan for Application for Permit Nos. 34-07247, 34-07410, and 34-07430

Dear Mr. Young:

It is my understanding of your letter dated December 1, 1997, that you believe it is necessary for me to propose a mitigation plan prior to IDWR commencing the processing of the three pending applications referenced above. I also understand that you believe it is necessary the plan include mitigation for prior water rights within the Big Lost River sub-basin and the Eastern Snake River Plain Aquifer (ESPA). Although I do not concur with these requirements being impose upon the proposed new uses prior to the issuance of permit(s), I propose the following mitigation plan.

Application For Permit 34-07247 (Ground water)

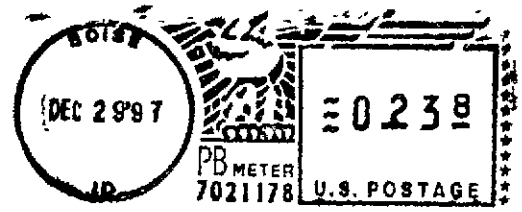
Mitigation in Basin 34

As I indicated through counsel, mitigation of this new use will be operated and regulated pursuant to the conjunctive management rules (Rule 50 of the Water Distribution Rules-Water District 34, IDAPA 37, Title 03, Chapter 12, adopted October 26, 1994). If IDWR or any other party does not feel the mitigation level adopted by the Director in the rule is sufficient, they must challenge the rule promulgated by the Director, not the equitable application of the rule to this specific application. Any condition imposed upon the newly issued permit must be consistent with the water distribution rules for Water District 34.

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES
1301 North Orchard Street, P.O. Box 83720
Boise, Idaho 83720-0098

Return Service Requested

PRESORTED FIRST CLASS



RECEIVED
JAN 08 1998
Department of Water Resources

STEW449

GERALD STEWART
BOX 59
MOORE ID 83255

STEW449 T832553005 1C97 05 01/02/98
RETURN TO SENDER
STEWART GERALD RELLA
TEMPORARILY AWAY
RETURN TO SENDER

83255

State of Idaho
DEPARTMENT OF WATER RESOURCES
1301 North Orchard Street, P.O. BOX 83720, Boise, Idaho 83720-0098
Phone: (208) 327-7900 FAX: (208) 327-7866

PHILIP E. BATT
GOVERNOR

KARL J. DREHER
DIRECTOR

December 29, 1997

Re: Application for Permit Nos. 34-07247, 34-07410, and 34-07430

Interested Parties:

Enclosed is a copy of a letter from Mitchell Sorenson regarding the mitigation plan for the three water right filings listed above. Please provide any comments within 14 days of the date of this letter.

Also, for information purposes, enclosed is a copy of a letter received from the Big Lost River Water Users Association.

If you have any questions concerning this matter, please feel free to contact this office.

Sincerely,

Norman C. Young
Administrator
Water Management Division

NCY:rf

Enclosures

RECEIVED
DEC 15 1997
Department of Water Resources

December 11, 1997

Mr. Norman C. Young
IDAHO DEPT. OF WATER RESOURCES
1301 North Orchard Street
Statehouse Mail
Boise, Idaho 83720

RE: Proposed Mitigation Plan for Application for Permit Nos. 34-07247, 34-07410, and 34-07430

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Application For Permit 34-07247 (Ground water)

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Operation and distribution of the new use will be governed by the doctrines of "prior appropriation" and "futile call". Applicant also reserves the right to participate with any individual or group of water users similarly situated in the development, proposing, and operation of mitigation plans that would allow the use to divert "out of priority" in a conjunctively managed water system.

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Water supplies for this new use are available only during periods of high water run off. Diversion and dispersion of a portion of these flood water supplies through irrigation will help alleviate damage to low lying flood plains and stream banks. Because this proposed new use will be a secondary water right to existing acres irrigated by ground water diversions, primary water rights will not need to be diverted from ground water supplies whenever surface supplies are available. This plan allows aquifers to remain saturated due to non-pumpage and delay those water supplies leaving local alluvial fills that otherwise will be lost by the natural means of percolation and discharge. Electrical resources will also be conserved due to not operating deep well pumps during such periods.

Operation and distribution of the new use will be governed by the doctrines of "prior appropriation" and "futile call". Applicant also reserves the right to participate with any individual or group of water users similarly situated in the development, proposing, and operation of mitigation plans that would allow the use to divert "out of priority" in a conjunctively managed water system.

With these proposed mitigation plans, I believe IDWR is now in a position to immediately begin the processing of the application for permits pursuant to the "mandatory permitting system". Again I ask IDWR to review actions previously taken relevant to each application and avoid further delays by attempting to conduct duplicative procedures and/or hearings.

Finally, your letter makes reference to "Others" and a "Mailing list". I presume that means you will forward copies of this and all future letters to these persons. Conversely, I am requesting that you send me copies of all past, present, and future communication (i.e. letters, protests, objections. facsimile, charts, graphs, photographs, documents, reports. summary of telephone calls, etc.) IDWR receives from whomever these persons might be.

Thank you for your time and consideration.

Sincerely,

Mitchell D. Sorensen

Big Lost River Water Users Association
Box 66
Moore, Idaho 83255

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Department of Water Resources

December 17, 1997

Norman C Young, Administrator
Water Management Division
Idaho Department of Water Resources

RE: Application # 34-07247, 34-07410, and 34-07430

Dear Mr. Young.

Having been made aware of your letter of December 1, 1997 to Mr Foster on the above referenced application for water right numbers, the following points are of primary importance:

1 It is imperative that the moratorium now in place be left operative at least to the date of the completion of the adjudication of Basin 34 to assure a measure of stability in trying to balance the decreed ground water use with the optimum supply available.

2 Any application for new consumptive uses must be publicly analyzed.

3 Any mitigation or compensation plans must be published and carefully analyzed in public hearings before decisions are made.

Sincerely yours,

Lawrence Babcock

Lawrence R Babcock, Chairman
Big Lost River Water Users Association

Concurring signatures.

Reva W. Walker

Norman D. Christensen

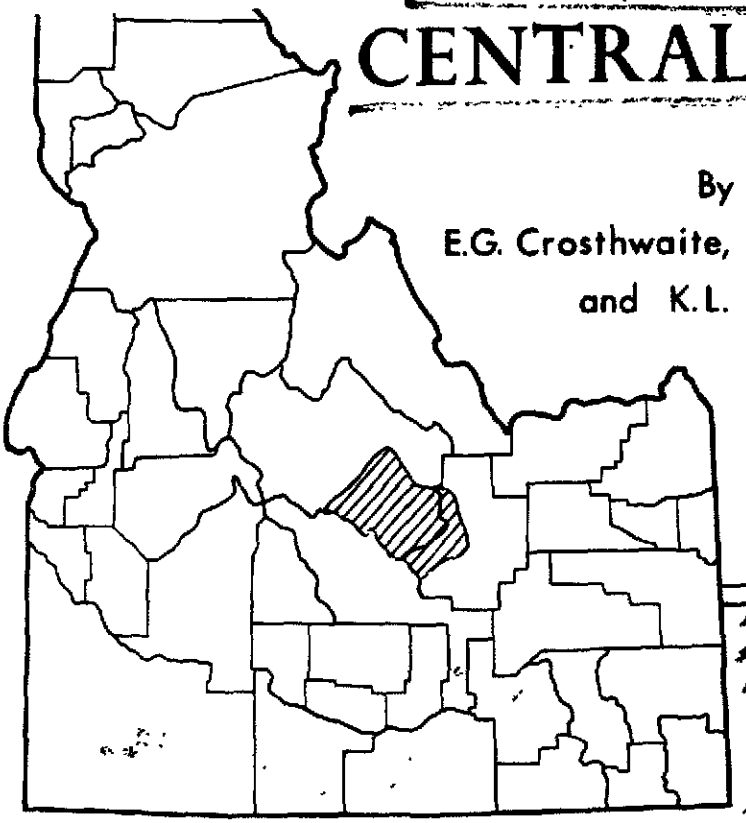
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WATER RESOURCES IN THE BIG LOST RIVER BASIN, SOUTH CENTRAL, IDAHO

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By
E.G. Crosthwaite, C.A. Thomas,
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UNITED STATES DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
WATER RESOURCES DIVISION

Prepared in cooperation with the
IDAHO DEPARTMENT OF RECLAMATION

Boise, Idaho
1970

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UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
Water Resources Division

WATER RESOURCES IN THE BIG LOST RIVER BASIN, SOUTH-CENTRAL IDAHO

By

E. [illegible] K. L. Dyer

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Boise, Idaho
1970

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WATER RESOURCES IN THE BIG LOST RIVER BASIN, SOUTH-CENTRAL, IDAHO

By E. G. Crosthwaite, C. A. Thomas, and K. L. Dyer

ABSTRACT

The Big Lost River basin occupies about 1,400 square miles in south-central Idaho and drains to the Snake River Plain. The economy in the area is based on irrigation agriculture and stockraising. The basin is underlain by a diverse assemblage of rocks which range in age from Precambrian to Holocene. The assemblage is divided into five groups on the basis of their hydrologic characteristics: Carbonate rocks, noncarbonate rocks, cemented alluvial deposits, unconsolidated alluvial deposits, and basalt. The principal aquifer is unconsolidated alluvial fill that is several thousand feet thick in the main valley. The carbonate rocks are the major bedrock aquifer. They absorb a significant amount of precipitation and, in places, are very permeable as evidenced by large springs discharging from or near exposures of carbonate rocks. Only the alluvium, carbonate rock and locally the basalt yield significant amounts of water.

A total of about 67,000 acres is irrigated with water diverted from the Big Lost River. The annual flow of the river is highly variable and water-supply deficiencies are common. About 1 out of every 2 years is considered a drought year. In the period 1955-68, about 175 irrigation wells were drilled to provide a supplemental water supply to land irrigated from the canal system and to irrigate an additional 8,500 acres of new land.

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Average annual precipitation ranged from 8 inches on the valley floor to about 50 inches at some higher elevations during the base period 1944-68. The estimated water yield of the Big Lost River basin averaged 650 cfs (cubic feet per second) for the base period. Of this amount, 150 cfs was transpired by crops, 75 cfs left the basin as streamflow, and 425 cfs left as ground-water flow. A map of precipitation and estimated values of evapotranspiration were used to construct a water-yield map.

A distinctive feature of the Big Lost River basin is the large interchange of water from surface streams into the ground and from the ground into the surface streams. Large quantities of water disappear in the Chilly, Darlington, and other sinks and reappear above Mackay Narrows, above Moore Canal heading, and in other reaches. A cumulative summary of water yield upstream from selected points in the basin is as follows:

	Water yield (cfs)	Surface water (cfs)	Ground water (cfs)	Crop evapotranspiration (cfs)
Above Howell Ranch	345	310	35	-
Above Mackay Narrows	450	325	75	50
Above Arco	650	75	425	150

Ground-water pumping affects streamflow in reaches where the stream and water table are continuous, but the effects of pumping were not measured except locally. Pumping depletes the total water supply by the amount of the pumped water that is evapotranspired by crops. The part of the pumped water that is not consumed percolates into the ground or runs off over the land surface to the stream. The estimated 425 cfs that leaves the basin as ground-water flow is more than adequate for present and foreseeable needs. However because much of the outflow occurs at considerable depth, the quantity that is salvageable is unknown.

Both the surface and ground waters are of good quality and are suitable for most uses. Although these waters are low in total dissolved solids, they tend to be hard or very hard.

INTRODUCTION

The Big Lost River basin occupies about a 1,400 square mile area along the northwest side of the Snake River Plain in south-central Idaho (fig. 1). It is one of several basins along the northwest side of the Plain that has no surface drainage tributary to the Snake River. The mouth of the basin at Arco is about 65 miles west of Idaho Falls. That part of the Big Lost River drainage that lies below Arco is considered to be part of the Snake River Plain and is not included in this report.

Water shortages occur frequently in the basin because of wide fluctuations in annual precipitation and because the single reservoir in the basin can store only about 20 percent of the average annual flow of the Big Lost River. Thus, during wet years, much of the surface flow leaves the basin before it is used. Some of this water could be retained for use in dry years and to control floods if reservoir space were available. Despite the water shortages and lack of storage, about 67,000 acres is irrigated with surface water. During the period 1955-68, many farmers drilled irrigation wells to provide a supplemental water supply for use in dry years and also to put more land into crop production.

The Big Lost River loses and gains large volumes of water in some of its reaches resulting in a complex interchange of surface and ground water in the basin. Most of the water used for irrigation is diverted from gaining reaches of the river. Beginning about 1955, significant quantities of ground water have been pumped for irrigation, particularly during dry years.

A detailed description of the hydrology of the basin is a prerequisite to the efficient use of its water resources and the administration of State water laws. The purpose of this report, therefore, is to (1) describe the distribution of the water resources in the basin, and (2) estimate the total quantity of water available to the basin.

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GAGING STATION- AND WELL-NUMBERING SYSTEM

The gaging stations in this report are numbered in downstream order in accordance with the permanent numbering system used by the Geological Survey except that the prefix (13-), which indicates that the station is in the Snake River basin, is deleted. Text and table references show a network name and number, for example, as: Big Lost River at Howell Ranch, near Chilly, Idaho (1205). To avoid repetition, the entire name and number are not always repeated when the reference to the station is clear. Points from which only miscellaneous measurements are available are not numbered in this report.

The well-numbering system used by the Geological Survey indicates the locations of wells within the official rectangular land subdivision, with reference to the Boise base line and meridian. The first two segments of a number designate the township and range. The third segment gives the section number, followed by three letters and a numeral, which indicate the quarter section, the 40-acre tract, the 10-acre tract, and the serial number of the well within the tract, respectively. Quarter sections are lettered a, b, c, and d in counterclockwise order, from the northeast quarter of each section (fig. 2). Within the quarter sections, 40-acre and 10-acre tracts are lettered in the same manner. Well 9N-21E-14bbc1 is in the SW¼NW¼NW¼ sec. 14, T. 9 N., R. 21 E. and is the first well visited in that tract.

DATA AVAILABLE

No detailed appraisal of the water resources of the Big Lost River basin has previously been made. Most of the previous investigators of the basin's water resources were concerned only with gains and losses in streamflow, with leakage from Mackay Reservoir, and with other aspects of this resource.

Stearns, Crandall, and Steward (1938, p. 245), as a part of their study of the Snake River Plain, estimated that the annual outflow of both surface and ground water from the basin averaged 226,000 acre-feet for the years 1921-27 inclusive. Mundorff, Crosthwaite, and Kilburn (1964, p. 122),

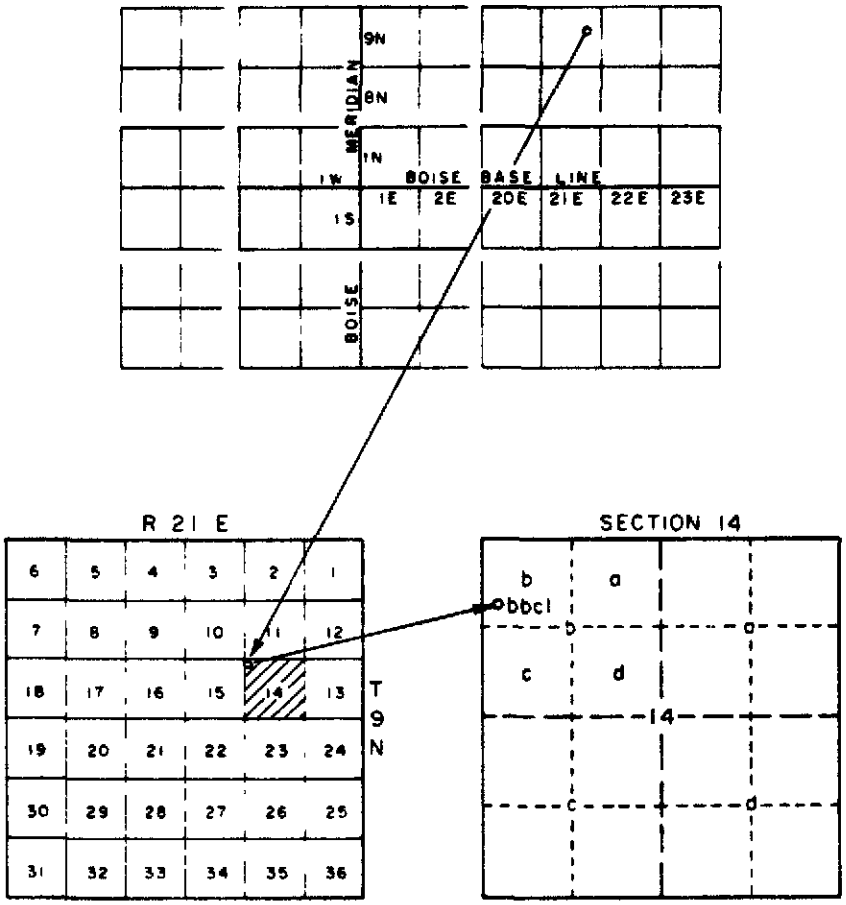


FIGURE 2.-- Diagram of the well-numbering system. (Using well 9N-21E-14bbc1).

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as a part of a study of the Snake River Plain, estimated the average annual outflow from the basin to be 330,000 acre-feet.

The first measurement of streamflow was made by the U.S. Geological Survey in December 1903 at the gage site below Mackay Reservoir, near Mackay (1270). Since that time the Survey has operated gaging stations at 25 other sites in the basin for various lengths of time. In addition, a large number of miscellaneous measurements of discharge are in the files of the Survey, and the Lost River Irrigation District has measured many streams and canals during the course of the District's distribution of irrigation water. The U.S. Weather Bureau has collected temperature and rainfall data for significantly long periods at several sites since the first record began at Arco in 1894. The U.S. Soil Conservation Service has collected data on snow depth and water content of snow at a number of locations, the longest record dating back to 1936.

Much geologic mapping has been done in part of the Lost River Range (Ross, 1947) and in the mining areas in Copper Basin and the White Knob Mountains (Nelson and Ross, 1968, and Nelson, in press). General geologic mapping has been done west of the longitude of Leslie (Ross, 1963) and reconnaissance mapping has been done in the eastern part of the basin (Ross, 1963, and Mapel, written commun., 1969).

DATA COLLECTED

Although a large body of hydrologic and geologic data were available at the start of this study, many additional data were required to fulfill the purposes of this report. Beginning in the summer of 1966, continuous-record gages were operated on Lower Cedar Creek above diversions, near Mackay (1289); Alder Creek below South Fork, near Mackay (1298); and Antelope Creek above Willow Creek, near Darlington (1309). Additional miscellaneous measurements were made on tributaries and the main stem of Big Lost River in water years 1966-68. Ground-water levels were measured periodically in 30 wells. Additional water-level measurements were made in about 200 wells, and other well data were collected. Six wells were drilled to collect geologic and hydrologic data, and seismic, gravity, and resistivity surveys were made at key sites in the basin by the Regional Geophysics Section,

U.S. Geological Survey. Eight precipitation-storage gages were operated in mountainous parts of the basin in cooperation with the U.S. Weather Bureau.

Unless noted otherwise, the average figures for water yield, much of the streamflow and precipitation data and other hydrologic data given in this report have been adjusted to the 25-year base period 1944-68.

CULTURE

Agriculture, dependent on irrigation, is the principal economic resource of the basin. Most of the nonirrigated area, including the mountainous terrain, is used primarily for production of beef cattle and sheep. Principal crops grown are seed potatoes, hay, and grain. Enterprises related to outdoor recreation provide considerable income to residents of the basin. Mining and logging are of minor importance.

Arco and Mackay are the principal towns with populations of 1,562 and 652, respectively, according to the 1960 census (U.S. Bureau of Census, 1961). The total population of the basin was about 4,360 in 1960.

WATER USE

The dominant use of water in the basin is for irrigation. Most irrigation water is supplied from surface sources. Table 1 shows the acreage of land irrigated by surface water and by ground water in segments of the basin. There are four irrigation wells above Mackay Reservoir and 175 wells below the reservoir. When surface-water supplies are short, ground water is pumped to supplement needs for part of the land, principally downstream from Mackay Reservoir, supplied by the canal system.

All municipal and practically all domestic water supplies are provided by wells and springs. Streams are the primary source of supply for livestock on the grazing lands.

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Table 1. Irrigated and nonirrigated crop lands in Big Lost River basin.[a]

Location	Acres irrigated: Surface water	Acres irrigated: Ground water	Non-irrigated[b] crop land
Along Big Lost River basin above Mackay Reservoir, including Warm Springs Creek	10,840	200	1,000
Along tributaries above reservoir	1,840		
Thousand Springs Valley			9,150
Along Big Lost River below reservoir	29,340	8,300	8,155
Antelope Creek	6,200		
Alder Creek	1,000		
Totals (rounded)	49,000	8,500	18,000

a Data from Soil Conservation Service and Big Lost River Irrigation District.

b Locally called subirrigated land because the water table is near the land surface.

The large inflows of ground water to the surface streams are ideal for fish propagation. Large numbers of tourists fish for trout in the streams and in Mackay Reservoir during the summer months and enjoy the rugged alpine-type scenery of the basin.

ACKNOWLEDGMENT

Many well owners supplied useful data and permitted measurement of their wells. Well drillers furnished well logs and information concerning hydrologic and drilling conditions in the area. The Big Lost River Irrigation District and the Lost River Electric Cooperative, Inc., supplied records of their operations which helped greatly in this study. The individual members of the Cooperative and the service clubs of Arco also contributed materially to the study. The U.S. Forest Service, U.S. Soil Conservation Service, and U.S. Weather Bureau provided manpower assistance in making measurements of precipitation. The enthusiastic cooperation of all the above is gratefully acknowledged.

Special thanks are given to Mr. DeVon Jensen, watermaster of Water District 27, whose generous efforts and cooperation expedited the progress of this study.

PHYSIOGRAPHY

The Big Lost River basin is at the southern edge of the Northern Rocky Mountain Province of the Rocky Mountain System in central Idaho. The basin is roughly rectangular, averaging about 45 miles long and 30 miles wide, with the long axis oriented in a northwesterly direction. The basin is bounded on the east and northeast by the Lost River Range, on the northwest by the northeast extension of the Boulder Mountains, on the southwest by the Pioneer Mountains, and on the southeast by the Snake River Plain (fig. 3). The White Knob Mountains lie almost in the center of the basin. Altitudes in the basin range from about 5,300 feet above sea level at Arco to 12,662 feet at the top of Borah Peak in the Lost River Range. Most of the divides between the basin and adjacent basins exceed 9,000 feet. About 85 percent of the basin is steep mountainous terrain. The Lost River Range is the

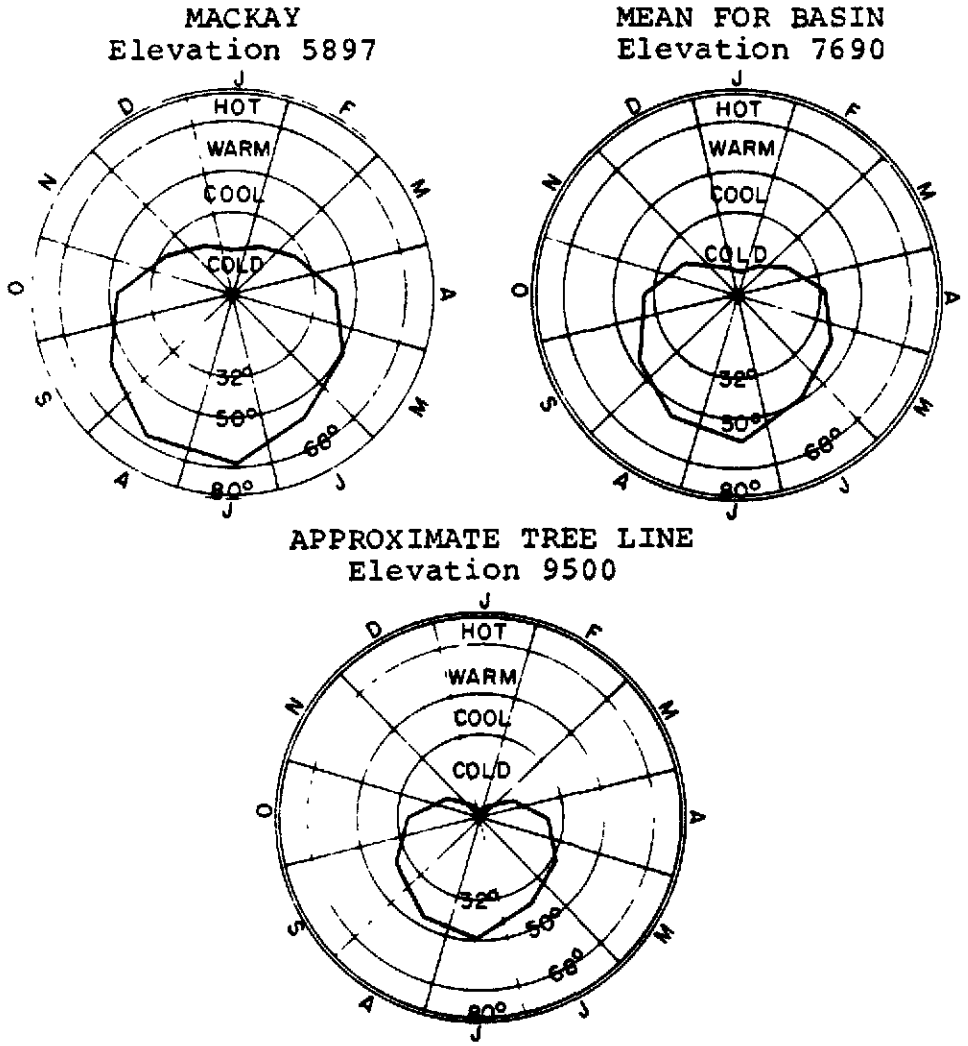
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highest and most precipitous; the Pioneer Mountains are rugged and high; the other ranges are somewhat less rugged and less high but their highest peaks exceed 10,000 feet. Approximately 10 percent of the basin is above the tree line which is at about 9,500 feet, and an equal amount is below 6,000 feet. Roughly 230 square miles, or about 16 percent, is gently sloping valley lands. These lands are confined to the main valley of the basin for about 50 miles upstream from Arco, to Copper Basin, to Antelope Creek Valley near Grouse, and to narrow bottom lands along streams and tributaries.

The Big Lost River is formed about 60 miles upstream from the mouth of the basin by the confluence of East Fork Big Lost River and North Fork Big Lost River. Star Hope and Wild Horse Creeks are important tributaries of the East Fork which rises in Copper Basin. North Fork rises in the western part of the basin and Summit Creek is its largest tributary. Thousand Springs Creek, the next important tributary, joins the river 25 miles downstream from the confluence of the East Fork and the North Fork of Big Lost River. Eight miles farther downstream at the upstream end of Mackay Reservoir, Warm Springs Creek enters the river, next below the reservoir are Alder, Antelope, and Pass Creeks. Below Arco, the Big Lost River flows on the Snake River Plain, and its channel ends about 25 miles east northeast of Arco at the so-called Lost River Sinks.

CLIMATE

The Big Lost River basin has a continental type climate characterized by a large range in seasonal and daily temperatures, in wind directions and velocities, and by the large local variations in precipitation that result from the high degree of relief in the basin. Of most significance to this hydrologic study was the appraisal of temperature, precipitation, and wind as these three parameters are critical to assessment of the evapotranspiration rates used in this report. Average monthly temperatures and precipitation at sites in and near the basin are shown in figures 4 and 5.



TEMPERATURE, IN DEGREES FAHRENHEIT, AND ELEVATION, IN FEET ABOVE MEAN SEA LEVEL

FIGURE 4.-- Monthly mean temperatures at selected elevations in Big Lost River basin.

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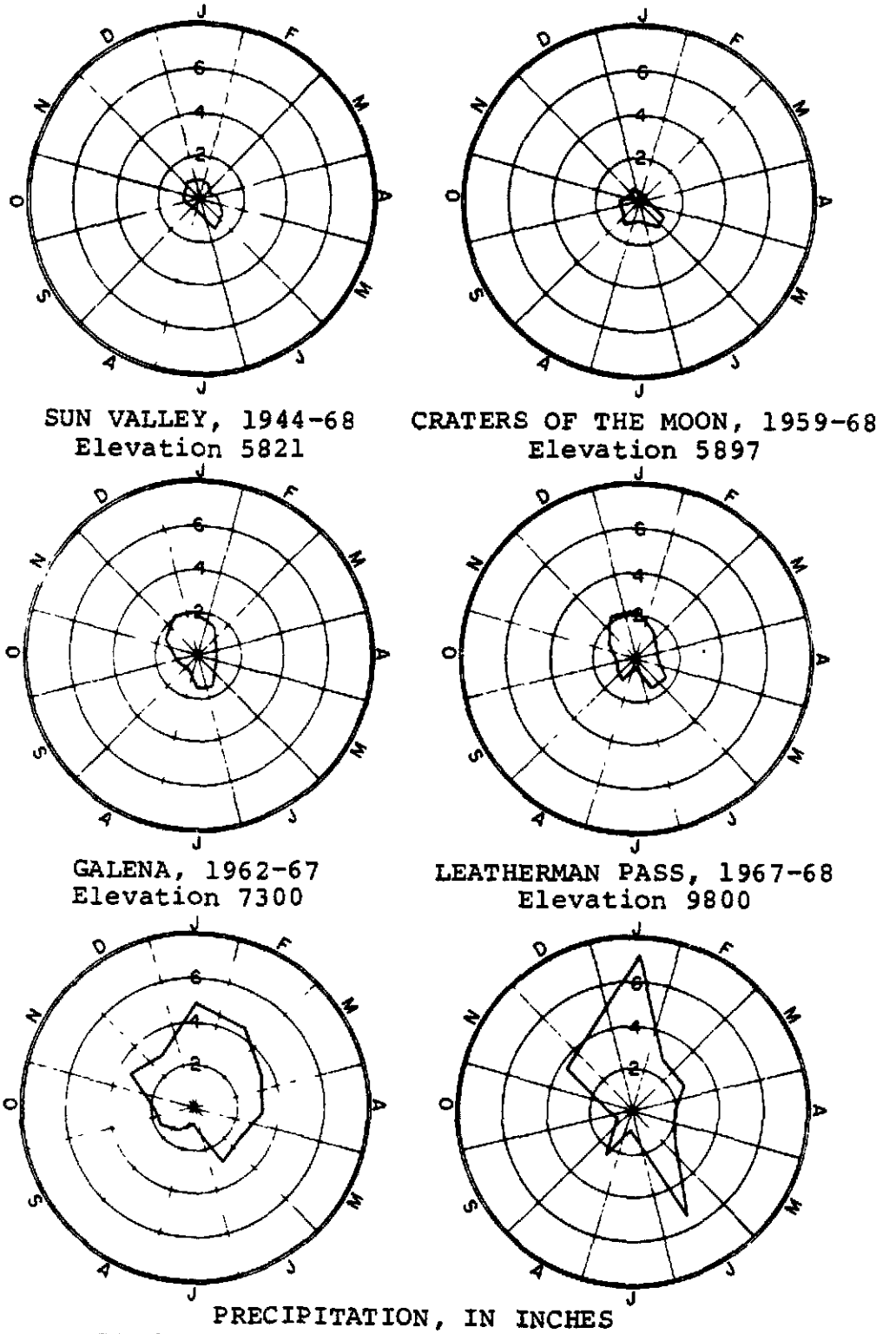


FIGURE 5.-- Monthly distribution of precipitation at selected sites in and near the Big Lost River basin. (Average for years as shown).

Temperature

Figure 4 shows the mean monthly temperatures at Mackay, at 7,690 feet, the mean elevation for the basin, and at 9,500 feet elevation, the approximate tree line. Temperatures at Mackay were from records of the U.S. Weather Bureau. The recorded minimum, maximum, and annual mean at Mackay was -29°, 104°, and 42° F, respectively. Temperatures at 7,690 feet and at 9,500 feet elevation were computed from lapse rates (see p. 20).

Precipitation

Precipitation data were available at the start of this study at Arco, Chilly-Barton Flats, Grouse, Mackay ranger station, and at a point 4 miles northwest of Mackay (fig. 3). All these stations are below 6,200 feet in elevation, and all showed a low level of precipitation, with more than 50 percent of the annual total occurring in the spring and summer. However, streamflow records, snow-course data, and daily weather records for nearby high-elevation stations at Craters of the Moon, at Sun Valley, and at Galena indicated three important trends: (1) Precipitation increases rapidly with elevation, (2) precipitation is highest on the windward (southwest) side of the Big Lost River basin, and (3) the relative proportion of cold-season precipitation increases rapidly with elevation.

Because topography has such an important effect on the distribution of precipitation, records from the daily stations (all at relatively low elevation) are poor indices of basin-wide precipitation. Prior to 1967, insufficient data were available to define elevation-precipitation relations within the basin. The then available data indicated that any given elevation-precipitation relation defined would, at least during the colder months, apply only to a relatively small part of the basin. Therefore, a considerable quantity of supplemental precipitation data was needed to define the amount and distribution of precipitation in the Big Lost River basin.

To supplement existing data, precipitation-storage gages were measured one to four times annually during the period August 1966 to September 1968 at nine high-elevation sites in or near the basin. In addition, in late March 1967 and

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1968, miscellaneous measurements of snow accumulations were made at medium- and high-elevation sites in the basin. All sites from which meteorological data were obtained are shown in figure 3.

Precipitation at the storage-gage sites was proportioned by months on the basis of records at the nearby U.S. Weather Bureau stations. Efficiencies of catch at precipitation gages during winter ranged from 56 to 100 percent (average 80 percent) based on comparisons between the catch in cans and the measured water content of snow at the storage gage. Practically every comparative measurement showed that the catch in the cans was lower than the catch on the ground except at a few locations where significant melting might have occurred.

The relation between precipitation and elevation was studied in detail for the 1967 and 1968 water years. Distribution patterns of warm- and cold-season precipitation were distinctly different, so elevation-precipitation relations were developed for both seasons. The 5 months, November through March, were assigned to the cold season while the remaining 7 months were assigned to the warm season. Using these elevation-precipitation relations, detailed isohyetal maps were constructed for the 1967 and 1968 water years for use in the yield studies discussed in a later section of this report.

Warm-season elevation-precipitation relations for 1967 water year are shown in figure 6 and cold-season relations for the same period are shown in figure 7. The same relations were plotted for the 1968 water year. Only data for the 1967 and 1968 water years were available for most of the stations; therefore, the precipitation values plotted were adjusted by correlation with data from the long-term stations to make them representative of the base period 1944-68.

Figure 6 shows that a single straight line is adequate to define the warm-season elevation-precipitation relations. Although there is considerable deviation from this straight-line relation, the deviation is without pattern and can be attributed to statistical fluctuations which would tend to smooth out over a longer period of record. Also it can be seen that the deviation in the warm season is from about 6 inches to about 16 inches. Because warm-season precipitation tends to be very unevenly distributed within any given year, a very long period of record is required before a dependable average value can be established at any given station.

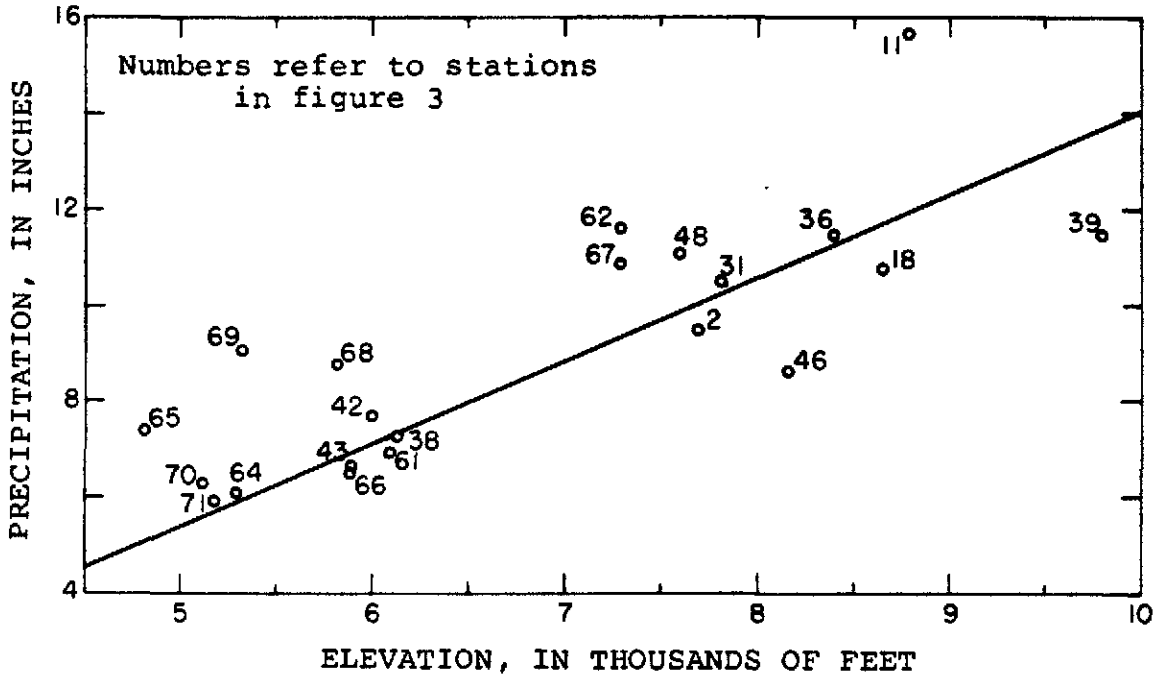


FIGURE 6.-- Precipitation-elevation relations in the Big Lost River area for the warm season of the 1967 water year.

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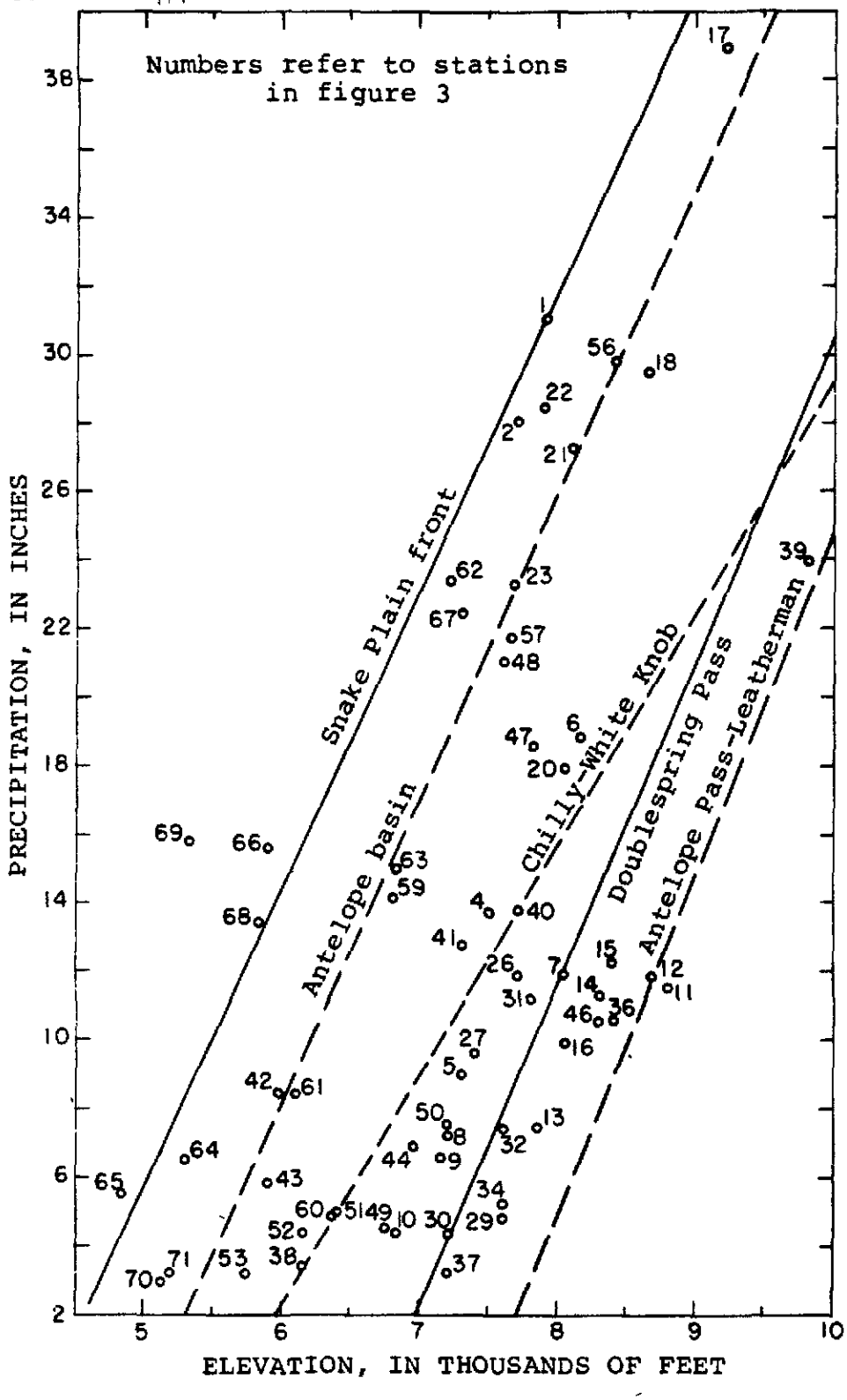


FIGURE 7.-- Precipitation-elevation relations in the Big Lost River area for the cold season of the 1967 water year.

The cold-season data shown in figure 7 are so widely scattered that a single line elevation-precipitation relation could not be established. Because a distinct linear elevation-precipitation relation was noted for each of several segments of the basin, separate straight lines were drawn to represent more nearly the elevation-precipitation relation applicable to segments of the basin. It can be seen that the deviation in the cold season is from about 3 inches to 39 inches, or nearly four times larger than during the warm season.

The information shown in figures 6 and 7 was combined with the 1968 water-year data and extended by correlation with nearby stations having a significant length of record to give an average annual (1944 to 1968) elevation-precipitation relation for each part of the basin as shown in figure 8. This relation was then used to construct the isohyetal map shown in figure 9.

Wind

Wind data collected at several atmospheric levels at the National Reactor Testing Station (Yanskey, Markee, Jr., and Richter, 1966) about 25 miles east of Arco indicate that wind movement persists most of the time at all elevations and that the prevailing direction is from the west at the general level of the higher ridges of Big Lost River basin. At lower elevations, topography exerts considerable influence on wind direction. Channeling of air flow through some of the longer valleys and over some of the ridges causes strong, persistent winds in parts of the basin.

Evapotranspiration

Evapotranspiration, as used in this study, is a term applied to the actual amount of water evaporated directly from land, water, and plant surfaces plus that transpired into the atmosphere by vegetation. In contrast, potential evapotranspiration is the water loss that could occur if at no time were there a deficiency of water in the soil for use by vegetation or for evaporation from the soil surface. In the Big Lost River basin, actual evapotranspiration is less than potential evapotranspiration because deficiencies in

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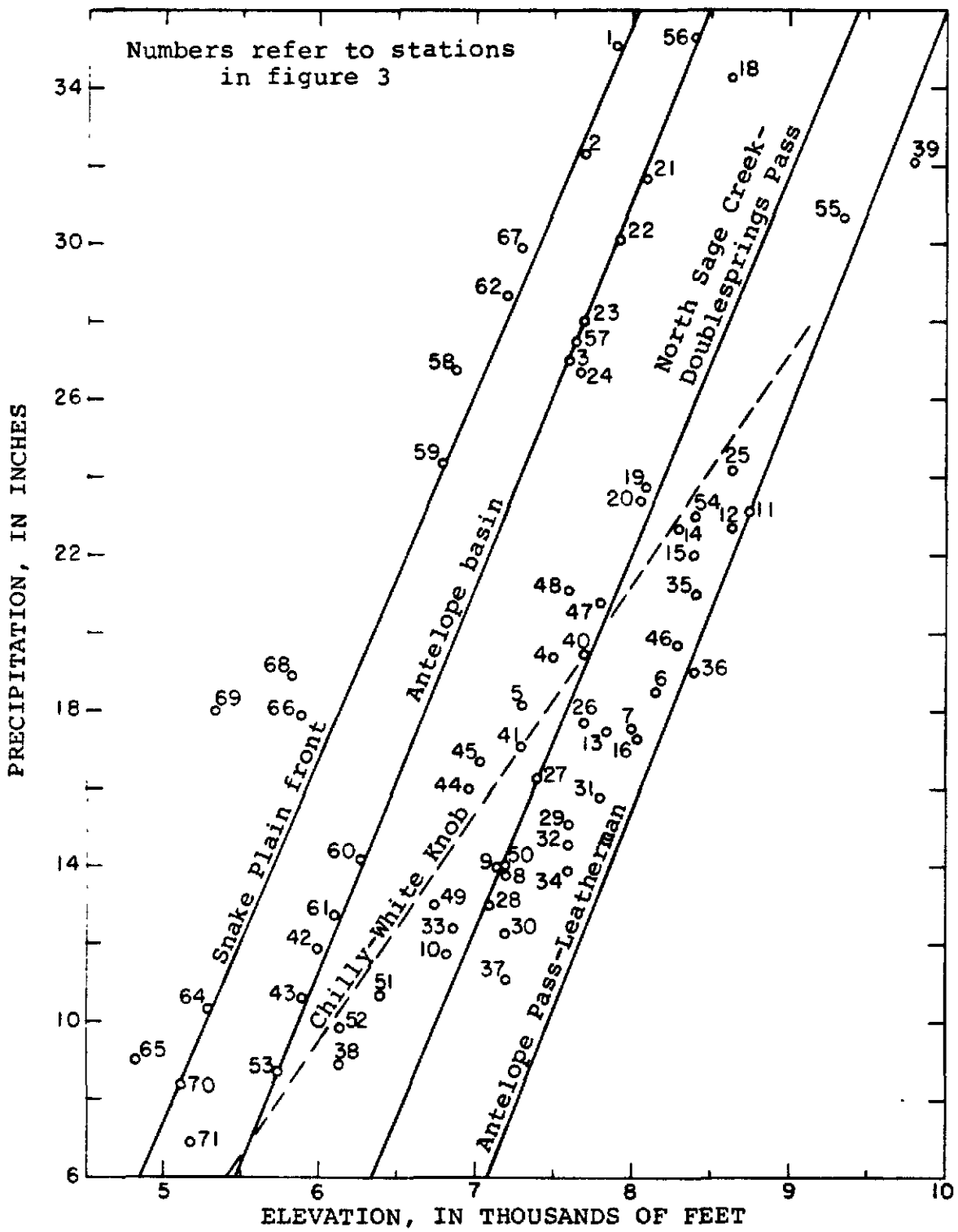


FIGURE 8.-- Precipitation-elevation relations in the Big Lost River area (25-year average).

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soil moisture exist, often for extended periods of time. Actual evapotranspiration is of prime interest in this study and the techniques used to compute it are described in some detail.

Direct measurements of evapotranspiration in the Big Lost River basin were not possible within the scope of this study. Indirect estimates of monthly evapotranspiration rates were computed from potential rates using the soil-dryness correction curve published by Palmer and Havens (1958) in which the effects of available soil moisture and monthly precipitation have been empirically described. The available-water capacities of soils in the study area were estimated from soil surveys, geologic maps, vegetal cover, and limited field observations.

Potential evapotranspiration values were computed from the available data. Evaporation rates from lake surfaces and pans are generally considered to be good indices of potential evapotranspiration, and most investigators now believe that lake evaporation is nearly equivalent to potential evapotranspiration (Chow, 1964, p. 11-31; Crippen, 1965, p. E10-12). In this study, it was assumed that potential evapotranspiration in each part of the Big Lost River basin would be equivalent to the evaporation which would occur from a large lake in the same area. Using a formula developed by Rohwer (1931, p. 88), it was possible to compute a reasonable value for lake evaporation for any point within the basin. Rohwer's equation is:

$$E = 0.771\ (1.465-0.0186\ B)\ (0.44+0.118\ V)\ (Pw-Pa)$$

where

E = Lake evaporation, in inches per day

B = Mean barometric pressure, in inches of mercury at 32° F

V = Monthly mean wind velocity, in miles per hour at 6 inches above the ground

Pw = Mean vapor pressure, in inches of mercury, of saturated air at the mean temperature of the water surface

Pa = Average vapor pressure in the air, in inches of mercury

0.771 = Pan coefficient to adjust from evaporation in pans to evaporation in lakes

The climatological data needed for the formula were taken from weather-station records in and near the basin.

In this study, in lieu of actual measurements, it was assumed that the temperature of the water surface would be the same as the air temperature. This assumption should not introduce serious error into the evapotranspiration calculations because most of the evaporation rates computed in this study are applied not to evaporation from lakes but to evapotranspiration from plant and land surfaces that do have a mean temperature very close to that of the air. Monthly temperatures for points in the basin were estimated from data at Mackay adjusted for elevation on the basis of a calculated temperature-elevation lapse rate. The lapse rate was based on the relation between elevation and temperature at nearby weather stations, with elevations ranging from 3,800 feet at Buhl, Idaho, to 7,762 feet at Lake Yellowstone, Wyo. Different lapse rates were found to prevail during different months as follows: November to March, 4.6° F per 1,000 feet; June to August, 5.1° F per 1,000 feet; and April, May, September, and October, 4.5° F per 1,000 feet.

Wind movement within the basin has been measured only during the summer months and then only at Mackay beginning in 1965. Monthly estimates of wind movement at Mackay were obtained by correlation of the available data from Mackay with the 1944-1968 record for Pocatello. It was assumed that the wind velocities observed and estimated at Mackay prevailed over the entire basin, and that errors in computation of lake evaporation should largely be compensating within any large segment of the basin.

Few data on relative humidity are available in Idaho except at Boise and Pocatello. In general, the relative humidity in Idaho does not appear to increase rapidly with elevation so data taken from the Pocatello station were used without major adjustment for computations of lake evaporation in the Big Lost River basin.

Barometric pressures for points in the study area were obtained by adjusting Pocatello data for differences in elevation. The barometric estimates thus obtained should be sufficiently reliable to introduce no significant error into computations of lake evaporation.

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Consumptive-irrigation requirement (net consumptive use) by crops and the associated land and water surfaces was estimated from values determined by Jensen and Criddle (1952, p. 12) and Simons (1953, p. 67). Jensen and Criddle assign values ranging from 1.07 to 1.25 acre-feet per acre depending on the type of crop grown. Simons uses 1.3 acre-feet per acre as an average value for all crops. On the basis of the consumptive-irrigation requirement determined by Jensen and Criddle (1952) and Simons (1953), it was estimated that the consumptive irrigation requirement for the irrigated lands in the valley between Arco and Mackay Reservoir was about 1.2 feet. Evapotranspiration in the irrigated areas is equal to the consumptive-irrigation requirement plus precipitation, because nearly all the precipitation falling on irrigated land in the Big Lost River valley is lost by evapotranspiration. Total evapotranspiration (including 0.8 foot of precipitation) would thus be about 2.0 feet on these irrigated lands.

HYDROGEOLOGIC FRAMEWORK

Geologic factors affect the amount of water that flows over the surface, that becomes soil moisture, or that moves underground. Alluvium and colluvium in the valley areas accept recharge and transmit large volumes of water. Also, much of the basin is underlain by limestone that absorbs and transmits large quantities of water. A characteristic of large parts of the basin is that even quick snowmelt rarely reaches the river by overland flow but rather flows underground. For example, the mountains on the northeast border of the basin nearly all exceed an altitude of 10,000 feet and nowhere is the divide more than 10 miles from the Big Lost River channel. The distances to the river from the snowfields are short and the gradients are steep (10 percent or more). Under these conditions, considerable runoff would normally be expected to occur, especially during snowmelt, but practically no surface flow reaches the Big Lost River channel. In the eastern part of the basin, stream channels are poorly developed in many of the steep canyons indicating that surface flows occur rarely. Soils are relatively thin over large parts of the basin, and many of the soils contain highly permeable gravels.

A large variety of rock types make up the geologic framework of the basin. Consolidated sedimentary strata consisting mostly of limestone, dolomite, quartzite, sandstone, shale, and argillite, ranging in age from Precambrian to Permian, occupy the mountainous areas. The strata have

been folded and faulted, and are highly jointed. At some places, these rocks have been intruded by granitic rocks of Cretaceous and early Tertiary age. The Challis Volcanics, consisting principally of latite-andesite flows, breccia, and tuffs with some conglomerate at the base of the formation, blanket a large part of the older consolidated sedimentary strata at altitudes ranging from 5,500 to 9,500 feet. Glacial and stream deposits occupy the valleys in the mountainous areas. Cemented older alluvium, alluvial fans, and river alluvium comprise the fill material in the main valley, and much of the valley floor is covered with loam and gravelly loam soils. Basalt of the Snake River Group is present at the mouth of the basin.

The unconsolidated alluvial deposits transmit large amounts of water and yield large amounts of water to wells. The carbonate rocks absorb significant amounts of precipitation in the mountains and transmit water to the lowlands and probably to the Snake River Plain. Locally, the basalt transmits significant amounts of water out of the basin and yields moderately large amounts to wells.

ROCK UNITS

To describe the relation between the hydrology and the lithology of the basin, the rocks have been divided into five lithologic groups or units (fig. 10): (1) carbonate rocks, (2) noncarbonate rocks, (3) older cemented alluvial deposits, (4) unconsolidated alluvial deposits, and (5) basalt. Although the loam and gravelly loam soils in the valley are important in transmitting water from the surface to the underlying alluvial deposits and from the alluvial deposits to the atmosphere, they are not considered as aquifers and are not shown as a separate unit on the hydrogeologic map.

Carbonate Rocks

Carbonate rocks include the consolidated sedimentary strata that are predominantly limestone and dolomite. Some of the carbonate rocks are highly jointed and weathered by solution. Most of the large springs issue from or near exposures of these rocks. In many areas underlain by carbonate rocks, streamflow is lower than would be expected from established altitude-precipitation relations. For example, Elbow and Ramshorn Canyons in the southern part of

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the Lost River Range have only ephemeral streams because most of the water draining them flows underground through joints and solution cavities in the underlying carbonate rocks. Conversely, Lower Cedar Creek is perennial and receives about 12 cfs from a spring which issues about 50 feet above the base of a limestone cliff (p. 58). Thus, the carbonate rocks absorb and transmit significant quantities of the precipitation that falls on the basin. However, discharge measurements of streams flowing over these rocks at some places indicate that they are not all permeable.

Noncarbonate Rocks

This group includes all rather impermeable rocks: Granitic intrusive rocks, the Challis Volcanics, and sandstone, quartzite, argillite, and shale (fig. 10). These rocks, like the carbonates, also are jointed and fractured, but streams flowing over them usually are perennial, losing little, if any, flow. Springs are small and the precipitation percolating into the jointed and weathered upper part of the rocks moves laterally and eventually discharges into the streams as base flow.

The noncarbonate rocks are not uniformly less permeable, however, than the rocks in the other groups. A test well drilled near the gaging station at Howell Ranch, for example, showed that some of the shaley sandstone penetrated in the well is as permeable as the fine-grained alluvial deposits. Thus, the groupings are based on gross lithology, and exceptions to the implied permeability of the rocks must be expected.

Cemented Alluvial Deposits

These deposits compose the old alluvial fans and consist principally of calcite-cemented angular fragments of limestone, sandstone, and quartzite. They are exposed along the northeast side of the main valley from north of Leslie to beyond the upstream end of Mackay Reservoir. Seismic studies and test drilling show that the cemented alluvium extends completely across the main valley at the narrows just below Mackay Dam, but its subsurface extent is not known elsewhere. Although tightly cemented, it has some permeability and transmits some water.

Unconsolidated Alluvial Deposits

The unconsolidated alluvial deposits include river alluvium, glacial deposits, and young alluvial fans that form the main part of the valley fill and extend upstream to the heads of the tributary streams. The continuity of the alluvial deposits in the main valley is interrupted by the carbonate rocks at The Narrows above Mackay. The alluvial deposits consist of clay, silt, sand, gravel, and boulders. Most of these deposits are permeable and saturated, and they are the most important aquifer in the basin.

Drillers' logs of wells show that the alluvial deposits are highly variable in particle size and in degree of sorting. The fan deposits consist of materials ranging in size from clay to boulders. Where the side streams discharged into the main valley, their sedimentary loads were deposited within short distances, leaving little opportunity for sorting and stratification. Thus wells drilled on the alluvial fans normally encounter poorly sorted material. Subsequently, the Big Lost River eroded the toes of the fans and reworked the deposits together with younger alluvium. This resulted in the formation of good aquifers composed largely of well-sorted and stratified sand and gravel. Most wells drilled on the flood plain of the river are finished in these aquifers.

Geophysical Studies

Geophysical studies consisting of seismic profiles, gravity observations, and resistivity soundings were made in 1967 and 1968 to determine the nature and the thickness of the alluvial deposits. The work was accomplished by R. E. Mattick, D. R. Mabey, A. A. R. Zohdy, and D. L. Peterson of the Geological Survey (written commun., 1969), and R. G. Charboneau, of the Idaho Department of Highways (written commun., 1967). The following is a summary of results.

Gravity survey.--The results of approximately 215 gravity observations made by D. L. Peterson and D. R. Mabey in the main valley are shown in figure 11. The prominent features are gravity anomalies that presumedly are produced by a contrast between the less dense unconsolidated sediments and the more dense consolidated rocks.

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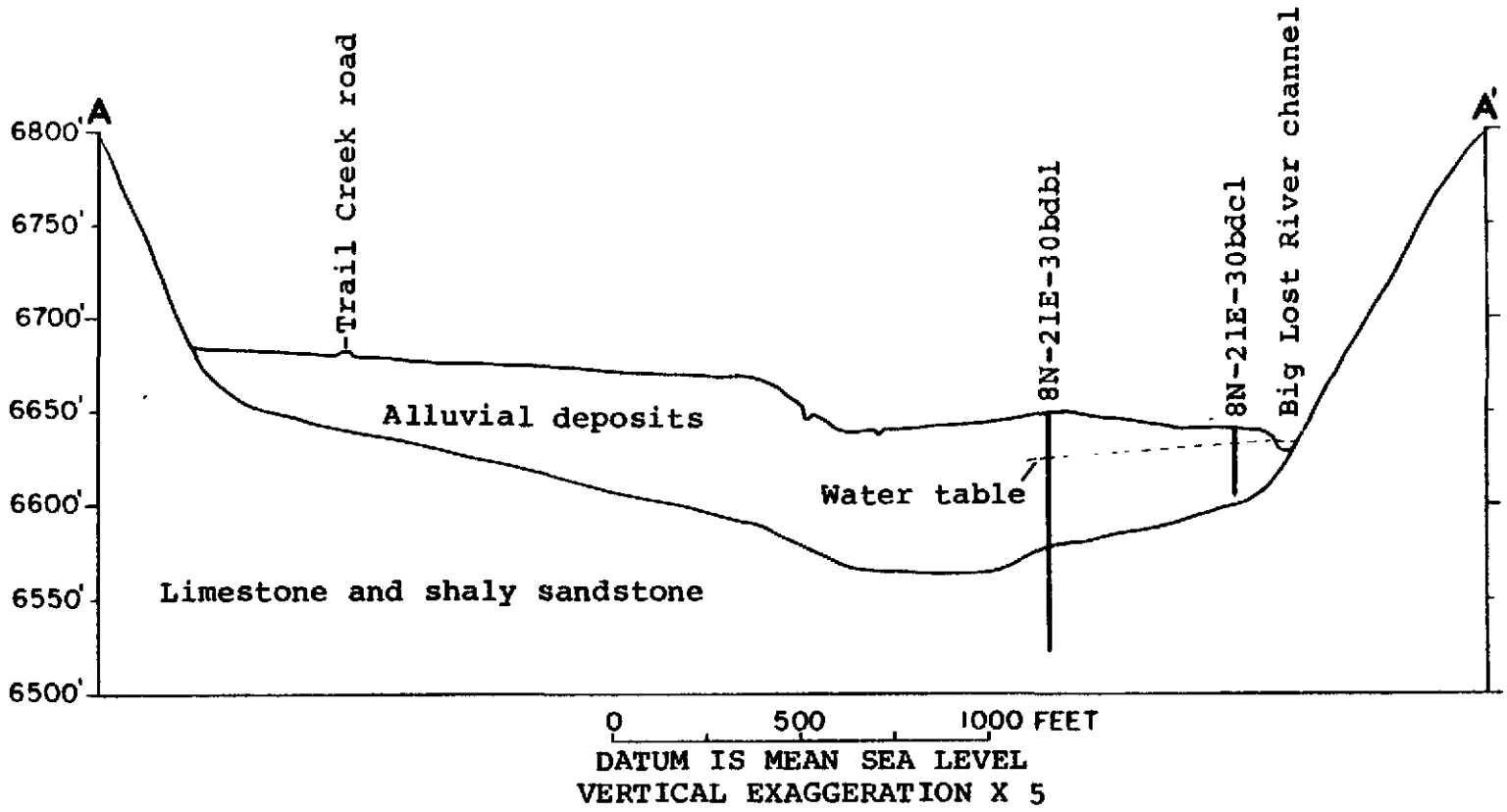


FIGURE 12.-- Geologic section A-A' near Howell Ranch compiled from well logs and seismic data. (See fig. 10 for location of section

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An interpretation of the gravity data indicates that the thickness of the valley fill is on the order of 2,000-3,000 feet in the Thousand Springs and Barton Flats areas. The north-northeast plunging gravity nose in the vicinity of Chilly Buttes seems to be a buried bedrock high and the valley fill in this area and to the southwest is probably relatively thin. Another gravity high extends completely across the main valley at Mackay Narrows where the valley fill is interrupted by the carbonate rocks. Gravity data imply that northeastward from The Narrows to the Lost River Range, the fill is 200-400 feet thick. The large gravity anomaly east of Mackay indicates an alluvial fill that exceeds 5,000 feet in thickness. From Leslie southward, the gravity data suggest that the valley fill becomes progressively thinner and may be about 2,500 feet thick near the mouth of the valley. However, as explained later, other geophysical data indicate that some basalt may extend up the valley several miles north of Arco. This basalt would influence interpretation of the gravity data to the extent that the depth to bedrock probably is greater than indicated.

Seismic survey.--Six seismic profiles were made by R. E. Mattick of the Geological Survey and one by R. G. Charboneau of the Idaho Department of Highways. An interpretation of the seismic profiles in terms of the geologic conditions is shown in figures 12, 13, 14, 15, and 16 and the locations of the profiles are shown in figure 10. The profile just upstream from Howell Ranch shows that the maximum thickness of the valley fill is 75 feet (fig. 12). A test hole drilled to determine the character of the fill verified this thickness. A second seismic profile at Chilly Narrows shows that the fill is about 150 feet thick (fig. 13). The results of three seismic profiles at and near Mackay Narrows were combined to construct figure 14. Seismic data and test drilling show that the alluvial deposits are about 115 feet thick in the Mackay Narrows. The seismic data also indicate that the cemented alluvial deposits underlying the unconsolidated alluvial deposits at this place extend to a minimum depth of 1,000 feet below the surface and a maximum depth of at least 1,300 feet. Northeast of Mackay Narrows much of the surficial material is unconsolidated alluvium, but cemented alluvium also crops out along the line of the seismic profile. The seismic data indicates that the combined thickness of these deposits range from about 300-425 feet. This is in good agreement with gravity data which indicates a combined thickness ranging from 200-400 feet. Interpretation of the surficial geology and geophysical

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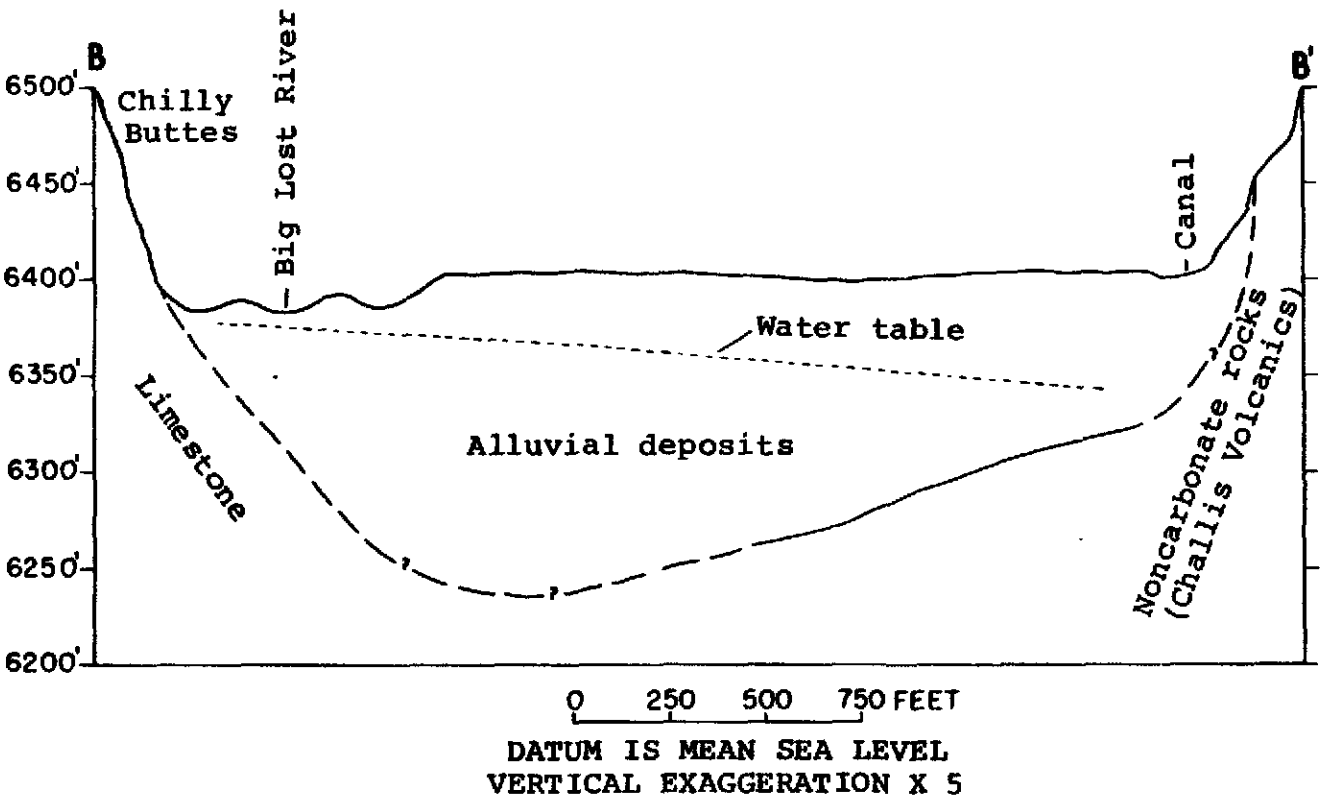


FIGURE 13.-- Geologic section B-B' across Big Lost River valley at Chilly Buttes based on seismic data. (See fig. 10 for location of section).

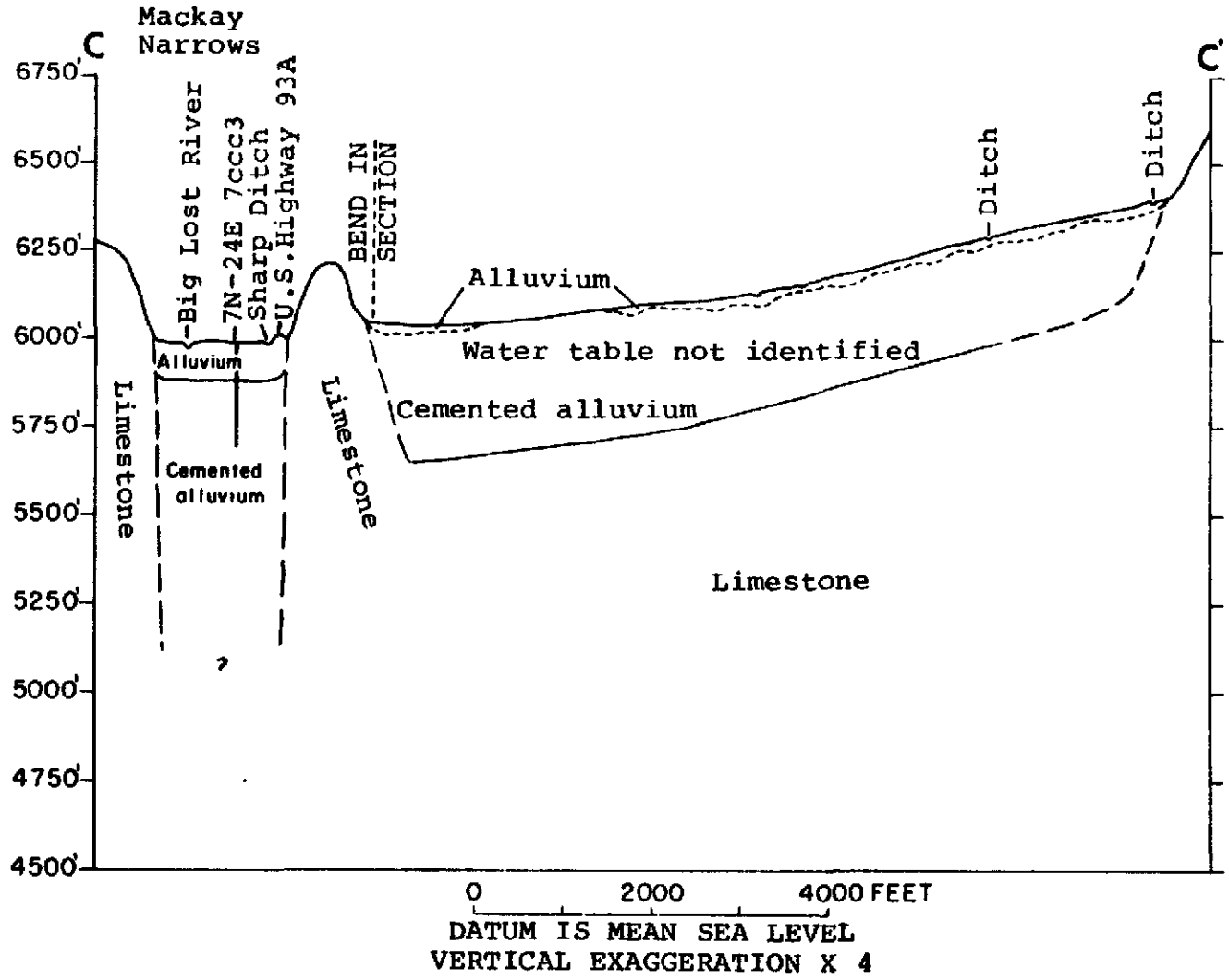


FIGURE 14.-- Geologic section C-C' across Big Lost River at Mackay Narrows, compiled from well logs, seismic data, and surficial geology. (See fig. 10 for location of section).

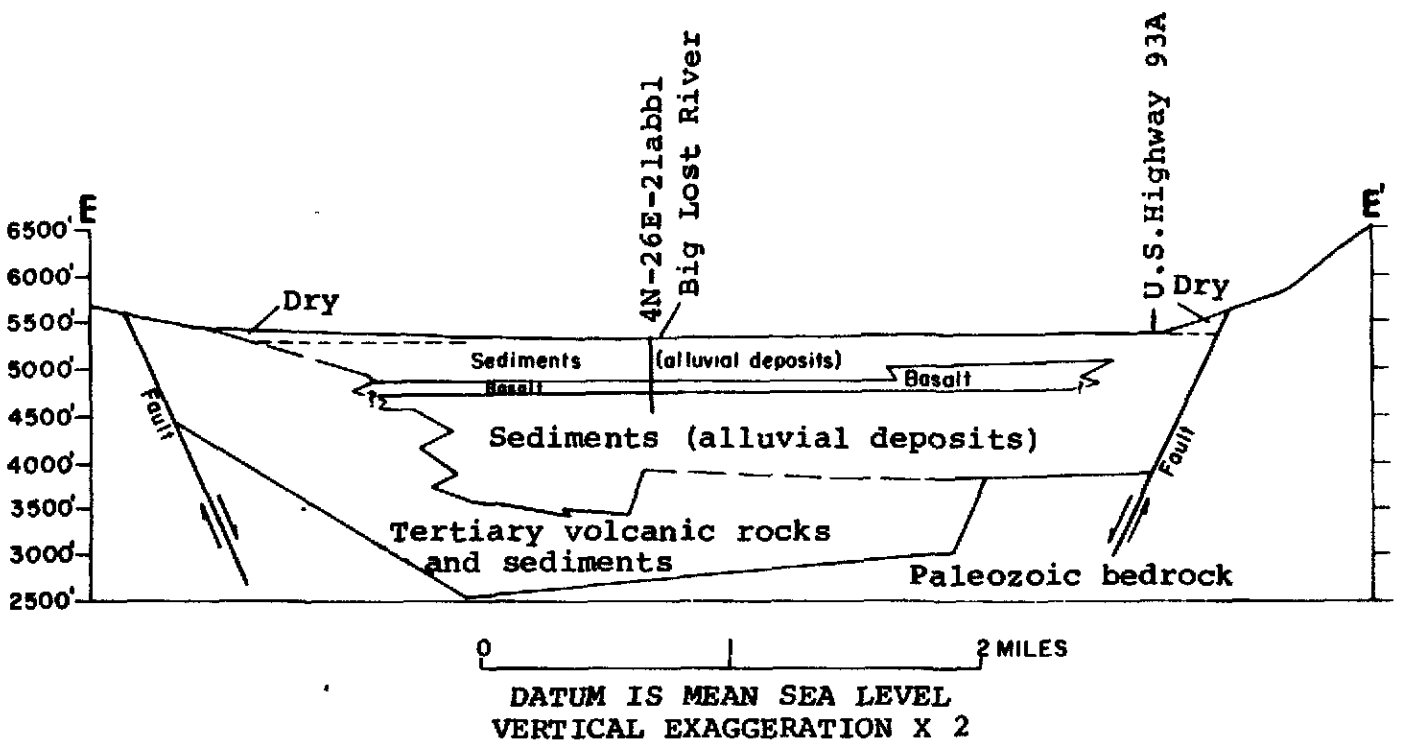


FIGURE 15.-- Generalized geologic section E-E' north of Arco compiled from gravity, seismic-refraction, and resistivity surveys. By Mabey, Zohdy, Peterson, and Mattick, 1969 personal communication. (See fig. 10 for location of section).

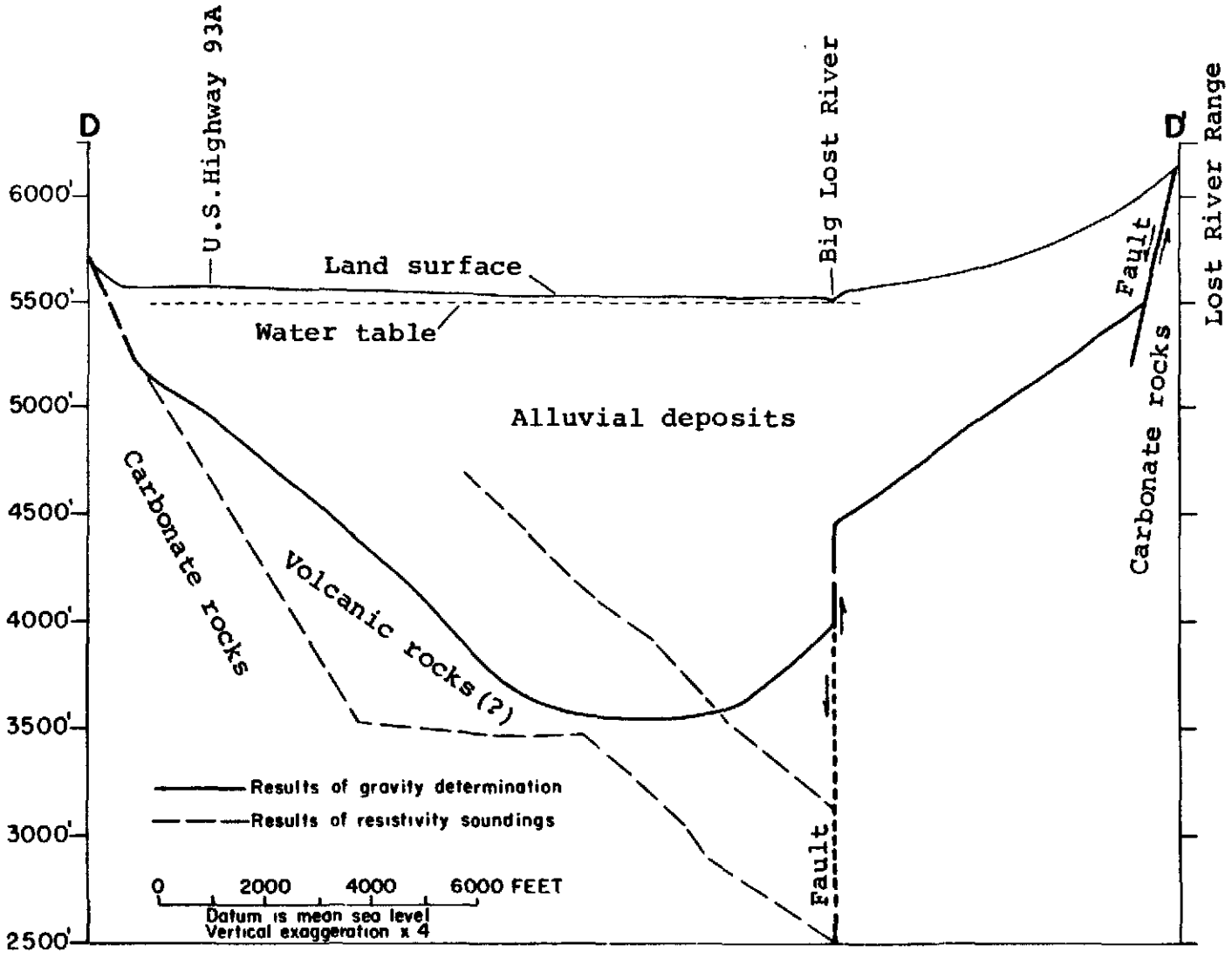


FIGURE 16.-- Geologic section D-D' north of Moore showing results of gravity and resistivity surveys. (After Mabey and Zohdy, 1968). (See fig. 10 for location of section).

data suggest that the unconsolidated alluvium is only a few feet thick whereas the cemented alluvium is on the order of 200-400 feet thick and that, although not shown in figure 14, there may be considerable relief on the underlying limestone.

The profile just north of Arco (fig. 15) was compiled from gravity, seismic, and resistivity studies together with data from a test hole 760 feet deep. The profile shows that faults bound both sides of the valley and that the total thickness of the alluvial deposits and basalt is on the order of 2,500 feet.

Resistivity soundings.--A geologic cross section of the valley 2.3 miles north of Moore is shown in figure 16. This profile is based on resistivity data collected by A. A. R. Zohdy and gravity data collected by D. R. Mabey. The data suggest that the valley fill is about 2,000 feet thick and that there is a fault about 1¼ miles west of the exposed base of the Lost River Range. The resistivity data also suggest that volcanic rocks lie between the valley fill and the older consolidated rocks. The volcanic rocks may be either Challis Volcanics, basalt of the Snake River Group, or both. The data are not adequate to determine the rock type. Aeromagnetic surveys also imply that volcanic rocks are present in this area, but the data are insufficient to interpret the depth to the volcanic rocks, their nature, or their thickness (D. R. Mabey, written commun., 1969).

Basalt

A flow of basalt of the Snake River Group crops out over 15 square miles west of Arco (fig. 10) and basalt buried by and interbedded with alluvial deposits extends from a few miles north of Arco to the Snake River Plain. The main body of basalt of the Snake River Group crops out about 5 miles south of Arco. In general, the basalt is very permeable and yields large volumes of water to wells, but interbedded sedimentary deposits, particulary west and south of Arco, tend to fill the joints in the basalt and restrict the movement of water. The significance of the basalt and interbedded sediments and the uncertainties of the hydrology of the basalt are discussed on pages 72-78.

STRUCTURE

The main valley of the Big Lost River basin was formed by block faulting of large magnitude. Baldwin (1951, fig. 1) shows the Lost River fault extending along the southwest side of the Lost River Range from beyond the northwest corner of the main valley to Pass Creek (fig. 10). Mapel (written commun., 1969) and Baldwin (1951, fig. 1) showed another fault just east of Pass Creek extending southward toward Arco along the west base of the Lost River Range. This fault is on the cross sections near Arco and Moore, figures 15 and 16, and has been exposed in an excavation in an alluvial fan 6 miles north of Arco. Relatively recent movement has occurred along this fault near Arco (Malde, H. E., oral commun., 1969). Baldwin also showed a fault, which probably does not extend very far up the main stem of the Big Lost River, along the east base of the northeast extension of the Boulder Mountains just west of the Thousand Springs area (fig. 10). Strata in the Lost River Range and the northeast extension of the Boulder Mountains have moved upward relative to the strata in the White Knob and Pioneer Mountains thus forming the main valley of the Big Lost River basin.

Many other faults displace the consolidated rocks. Hydrologically, the most important are northeast-trending faults that bound the central mass of the White Knob Mountains (Ross and Nelson, 1969). The block bounded by these faults has moved upward relative to the adjacent rocks. The uplift of the block resulted in a ridge across the main valley that now is buried by the cemented alluvium and river alluvium except where the limestone is exposed on the northeast side of Mackay Narrows (fig. 10).

Another significant fault trends north at the western edge of Barton Flats. Hamilton Springs issues from this fault, as also may Warm Springs.

All the older sedimentary deposits have been folded, some very intensely. The Challis Volcanics have been little disturbed by folding, the beds commonly having gentle undulations. The alluvial deposits are largely undisturbed other than by some gentle tilting caused by faulting.

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GEOLOGIC HISTORY

The early pre-Tertiary geologic history of the area has been discussed by Ross and Forrester (1947) and by Baldwin (1951) and because it is not pertinent to the hydrology of the basin, it is not described here.

During Tertiary time, within the area of the Big Lost River basin, the Challis Volcanics were extruded on an erosion surface of low to moderate relief. After the end of volcanism, erosion again produced an area of low relief. Although some faulting occurred before and after the volcanism, the faulting that formed the main valley probably began in late Pliocene time, and continued into the Pleistocene (Baldwin, 1951, p. 901).

Glaciation during the Pleistocene Epoch has modified most of the valleys in Copper Basin and in the western part of the Big Lost River basin above an altitude of about 7,000 feet. Ross and Nelson (1969) have recognized three periods of glaciation in the White Knob and Pioneer Mountains. A glacier may have extended down the main valley of the Big Lost River as far as Chilly Buttes, but evidence of this is not conclusive. Evidence of glaciation is present on the southwest and west slopes of the Big Lost River Range, but the glacial deposits have been largely removed by subsequent erosion.

Deposition of stream-laid alluvium throughout the basin and the eruption of lava south of about the latitude of Moore have been the dominant geologic processes since the formation of the main valley. The surficial basalt at the mouth of the basin erupted from a vent about 3 miles west of Arco. The basalt interbedded with the alluvium west and southwest of Arco may be, in part, from this same vent, but it seems more likely that the flows came from the south and encroached on the alluvium contemporaneously being deposited at the mouth of the basin by the Big Lost River.

WATER RESOURCES

The source of water in the Big Lost River basin is precipitation falling on the land surface. A large part of the precipitation evaporates or is consumed by plant growth. Part

of the remainder runs off from the land surface; part replenishes soil moisture; and part infiltrates to recharge the ground-water reservoir. For the purposes of this report, it is assumed that there is no interbasin movement of water.

INTERRELATIONS BETWEEN SURFACE WATER AND GROUND WATER

A distinctive feature of the Big Lost River basin is the large interchange of water from surface streams into the ground and from the ground into surface streams. At medium and low flows, all the surface flow in the main stem of Big Lost River disappears into the ground at the Chilly Sinks. Large quantities reappear in the vicinity of Mackay Reservoir, disappear again at the Darlington Sinks, reappear near Moore, and finally disappear beneath the Snake River Plain downstream from Arco.

Surface and ground water are so closely related that neither can be considered as a separate source of supply. The river alternately loses water to and gains water from the alluvial deposits in the main valley. These deposits also serve as conduits through which large amounts of water move down valley and into the Snake Plain aquifer. Glacial and stream deposits discharge water to East Fork and North Fork Big Lost River and Antelope Creek and to all tributaries. Many tributaries from the mountains bordering the main valley lose their entire flow to the alluvial deposits on entering the main valley, whereas others flow into Big Lost River only rarely when unusually large quantities of runoff occur. Surface flows are large at several places in the basin, but much of the water supply is unused and leaves the basin as ground-water underflow.

SURFACE WATER

The relatively free interchange between surface and ground water increases the difficulty of adequately describing the surface-water supply of the basin. Data from continuous-record gaging stations or miscellaneous measurements define the characteristics of the surface flow only at the gaged points, but not necessarily at other points along the stream. Not only is the surface flow affected by losses and gains, but it also is affected by diversion for irrigation.

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Water from Big Lost River, and from Antelope, Alder, and Pass Creeks, and other streams is diverted for irrigation and water is stored and regulated in Mackay Reservoir. Irrigation and storage have affected profoundly some of the characteristics of surface flows in the basin. To be meaningful, the surface-water supply of the basin should be analyzed and evaluated after accounting for these effects.

Records Available

A total of about 430 station years of continuous-record streamflow data at 26 sites has been obtained by the Geological Survey at regular gaging stations in the basin. The records are summarized in table 2. Records of streamflow collected by the Geological Survey prior to 1960 are published in an annual series of water-supply papers and summarized in Water-Supply Papers 1317 and 1737. From 1961-68, streamflow data have been published in annual reports on a statewide basis. In addition, since 1922, the watermaster of the Big Lost River has collected discharge data for streams and canals in connection with the distribution of water to the water users. These data are on file with the Idaho Department of Reclamation.

To define more adequately the areal distribution of the water resources of the basin, additional measurements at miscellaneous sites were made for this study. In September 1966, the Geological Survey made measurements at 35 miscellaneous sites on tributaries in the basin. During the 1967 water year, 1 to 11 measurements were made at each of 42 miscellaneous sites, of which seven were of the flow in the main river channel; and, during the 1968 water year, 1 to 10 measurements were made at each of 41 miscellaneous sites, of which four were of the flow in the main river channel.

Characteristics of the Surface Flows

For the purposes of describing streamflow characteristics, the basin is divided into four major subareas: 1) Above Howell Ranch, 2) Howell Ranch to Mackay Narrows, 3) Mackay Narrows to Moore Canal heading, and 4) Moore Canal heading to the gaging station downstream from Arco. The streamflows, diversions from streamflow, and interchange of surface and ground water as it relates to streamflow in these subareas are described in the following sections.

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Table 2. Streamflow at gaging stations in the Big Lost River basin.

Station No.	Name	Drainage area (sq mi)	Period of record	Discharge, cfs Max.	Min.	Mean for period of record[a]
1200	Big Lost R. at Wild Horse, near Chilly	114	3/44 to 9/68	1,380	65	103
1205	Big Lost R. at Howell Ranch, near Chilly	450	4/04 to 11/20[b] 5/20 to 9/68	4,420	19	309
1210	Big Lost R. below Chilly Canal, nr Chilly	493	4/21 to 10/21 4/22 to 10/22	3,210	(c)	-
1215	Big Lost R. at Chilly Bridge, near Chilly	502	6/20 to 9/20	714	0	-
1220	Thousand Springs Creek near Chilly	145	12/12 to 2/13 2/14 to 9/14 4/21 to 11/21 5/22 to 9/22	85	1.0	-
1225	Big Lost R. below Chilly Sinks, nr Chilly	(c)	5/21 to 12/21	2,330	(c)	-
1235	Big Lost R. (east channel) above Mackay Res., near Mackay	(c)	5/19 to 11/59	1,360	0	72.1
1240	Big Lost R. (west channel) above Mackay Res., near Mackay	(c)	5/19 to 11/59	1,200	3.8	58.5

1245	Warm Spring Cr. (east channel) near Mackay	(c)	5/19 to 11/59	285	5.2	32.2
1250	Warm Spring Cr. (west channel) near Mackay	(c)	5/19 to 11/59	600	49	96.6
1255	Surface inflow to Mackay Res., nr Mackay	766	5/19 to 11/59	d2,760	d75	260
1260	Mackay Res. nr Mackay	788	1/19 to 9/68	45,580 ac-ft	0	(c)
1265	Sharp ditch nr Mackay	-	6/12 to 10/18 3/19 to 9/68	47	0	(c)
1270	Big Lost R. below Mackay Res., nr Mackay	813	12/03 to 8/06 5/12 to 3/15 1/19 to 9/68	2,990	18	288
1280	Cedar Creek above forks, near Mackay	4.1	11/12 to 3/13	33	.1	-
1285	Cedar Creek below forks, near Mackay	6.1	11/12 to 3/15	116	(c)	-
1289	Lower Cedar Cr. above div., near Mackay	e8.26	8/66 to 9/68	194	(c)	-

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Table 2. Streamflow at gaging stations in the Big Lost River basin.

Station No.	Name	Drainage area (sq mi)	Period of record	Discharge, cfs Max.	Min.	Mean for period of record[a]
1290	Clark ditch nr Mackay	-	5/20 to 9/20 4/21 to 11/21 6/22 to 9/22	26	0	-
1295	Cedar Cr. (below power-plant) near Mackay	8.4	5/20 to 9/20 4/21 to 11/21 4/22 to 9/22	297	.4	-
1298	Alder Cr. below South Fork, near Mackay	27.6	8/66 to 9/68	165	17	-
1300	Alder Cr. near Mackay	37	5/20 to 9/20 4/21 to 9/21 4/22 to 9/22	(c)	(c)	-
1305	Big Lost R. at Leslie	1,020	6/19 to 11/19 3/20 to 12/21 3/22 to 9/22	2,580	24	-
1309	Antelope Cr. above Willow Cr., near Darlington	93.4	5/66 to 9/68	829	13	-
1310	Antelope Cr. near Darlington	f210	5/13 to 9/22	833	3	-

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1315	Pass Cr. near Leslie	23.6	5/20 to 9/20 4/21 to 11/21 5/22 to 9/22	(c)	(c)	-
1320	Big Lost R. near Moore	1,310	12/20 to 5/21 8/21 to 12/25 6/26 to 11/26	2,330	12	
1325	Big Lost R. near Arco	1,410	8/46 to 9/61 5/66 to 9/68	2,500	0	

a Means computed only for records having 5 years or more of continuous record.
b No winter records 1904, 1906-14, 1920-48.
c Not determined.
d Mean daily discharge.
e Records for station 1289 equivalent to combination of stations 1290 and 1295.
f No winter records except 1914-15.

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Above Howell Ranch

The North Fork Big Lost River and East Fork Big Lost River supply most of the flow in the Big Lost River at the gaging station at Howell Ranch (1205). These streams in the northwestern part of the basin drain about a third of the total area, but they supply nearly half the total water yield of the basin. Runoff per unit area is higher than in most other parts of the basin. Some characteristics of the flow of Big Lost River at Howell Ranch are shown by the duration curve in figure 17. The graph shows the percent of time flow at the gage can be expected to be equalled or exceeded. For example, a discharge of 63 cfs probably will be equalled or exceeded 90 percent of the time at the Howell Ranch gage. The "departure point," about 190 cfs, at which the curve flattens noticeably, is approximately the discharge at which base flow begins or when nearly all flow comes from ground water. Most of the flow above 190 cfs comes from snowmelt. Base flow is exceeded about 30 percent of the time.

The base flow of the North Fork Big Lost River and its tributaries is sustained by ground water in the alluvium-filled valleys. Just above the gaging station North Fork Big Lost River at Wild Horse (1200), the North Fork has cut through the alluvium and flows on consolidated rock thus causing nearly all the ground water flowing through the alluvium to discharge into the stream. Table 3 shows the magnitude of inflow in this reach.

A large part of Copper Basin is underlain by glacial deposits through which flows much of the precipitation falling on headwater areas. Miscellaneous measurements of streamflow made in September 1966 show that above Wild Horse Creek the East Fork is a gaining stream in that surface outflow from Copper Basin is 17 cfs greater than total surface flow in the streams along the periphery of the basin. Similarly, as shown by column 7, table 4, measurements show an average contribution of 33 cfs of ground water to the reach of East Fork between Corral Creek and the confluence of East and North Forks.

Differences between the flows below the confluence of the North and East Forks and the flow at Howell Ranch are listed in column 11, table 4. Irregularities in the differences are caused by storage changes in the channel between the measuring sections. Selected measurements made during periods of near-steady flow indicate that an average loss to ground water of about 7 cfs occurs in the reach.

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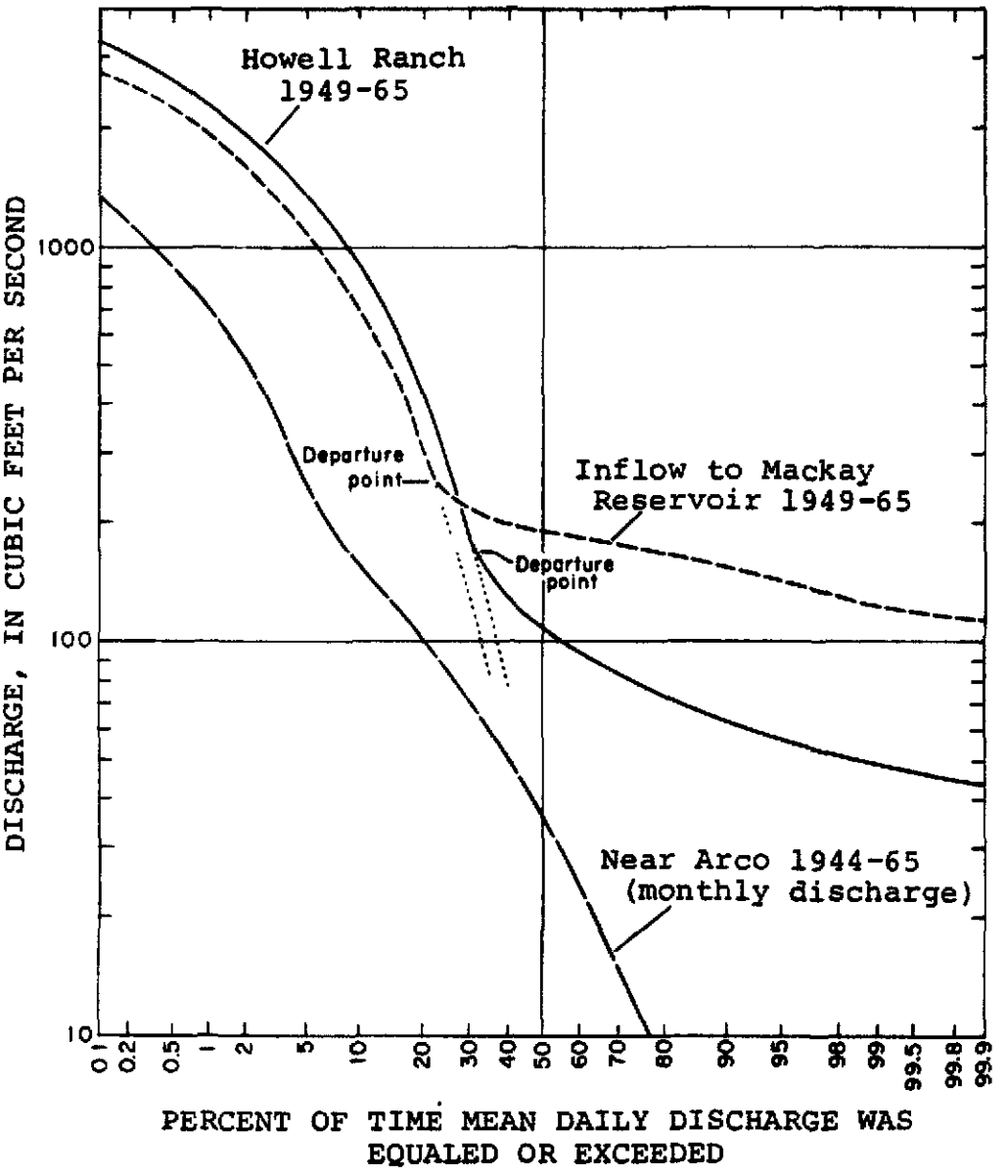


FIGURE 17.--Duration curves for flows at selected points in Big Lost River.

Table 3. Miscellaneous measurements of North Fork plus Summit Creek compared with Big Lost River at Wild Horse near Chilly (discharge, in cfs)

Date	North Fork Big Lost R. at narrows	Summit Creek	Total	Big Lost River at Wild Horse, near Chilly (1200)	Gain
Sept. 14, 1966	10.9	10.6	21.5	30	+8.5
Nov. 8, 1966	4.8	5.7	10.5	20	+9.5
July 11, 1967	1189	191	380	380	0
July 19, 1967	128	130	258	274	+16
Aug. 18, 1967	35.2	29.8	65.0	80	+15
Sept. 20, 1967	17.3	15.2	32.5	53	+20
Oct. 20, 1967	12.8	15.6	28.4	47	+19
Dec. 1, 1967	28.5	18.3	46.8	24	a-23
May 26, 1968	73.6	68.0	142	167	+25
June 20, 1968	262	280	542	549	b+7
July 31, 1968	31.2	24.8	56.0	71	+15
Aug. 29, 1968	38.7	45.8	84.5	104	+20
Average (rounded)					+11

a Affected by changing stage in the channels.

b Difference within accuracy of measurement.

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Table 4. Summary of miscellaneous measurements of surface flow in East Fork Big Lost River and other tributaries above Howell Ranch, cfs.

Date	East Fork below Corral Creek	Star Hope Creek at Mouth	East Fork downstream from Big Rocky Canyon	Wild Horse Creek	Total 1,2,4 (rounded)	East Fork Big Lost at mouth	Difference 6-5	North Fork Big Lost at Wild Horse	Howell Ranch	Total 6+8 (rounded)	Difference 9-10
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
9-15-66	18.9			28.1		89.9		33	116	123	-7
11- 7-66						61.5		21	77	82	-5
11- 8-66	a8.6	18.6		11.9	39	59.0	+20	20	75	79	-4
11-10-66	9.12							21	72		
12-10-66				8.86		44.3		17	66	61	+5
1- 5-67						47.1		18	70	65	+5
2-22-67						43.3		17	96	60	+36
3-17-67						49.0		17	78	66	+12
4-23-67						55.2		21	74	76	-2
5-27-67				476				808	2,560		
6-17-67		863		505				847			
6-22-67								b1,040	b3,620		
7-10-67	108	515	672	329	950			396	1,490		
7-11-67								b380	b1,450		
7-18-67		247		267				291	1,100		

Table 4. Summary of miscellaneous measurements of surface flow in East Fork Big Lost River and other tributaries above Howell Ranch, cfs--Continued.

Date	East Fork below Corral Creek (1)	Star Hope Creek at Mouth (2)	East Fork downstream from Big Rocky Canyon (3)	Wild Horse Creek (4)	Total 1,2,4 (rounded) (5)	East Fork Big Lost at mouth (6)	Difference 6-5 (7)	North Fork Big Lost at Wild Horse (8)	Howell Ranch (9)	Total 6+8 (rounded) (10)	Difference 9-10 (11)
7-19-67	72.1								1,000		
8-18-67	31.2	51.5		72.3	155	a226	+71	80	277	306	-29
8-19-67						224		79	274	303	-29
9-20-67	29.2	42.0		27.3	98			53	169		
9-21-67					a95			53	163		
10-27-67	21.7	36.9		29.5	88	117	+29	42	158	159	-1
12- 1-67				17.4		117		24	90	141	-51
1- 6-68				18.5		69.3		24	80	93	-13
2-10-68						63.5		24	76	87	-11
3-16-68						69.2		26	84	95	-11
4-20-68				19.5		81.8		b42	b136	124	+12
5-26-68	27.4	154		78.3	260			b167	b522		
6-19-68	103	524	705	464	1,090			511	1,790		
7-31-68	23.2	58.0		79.2	160	175	+15	71	237	246	-9
8-29-68	28.1	96.8		107	232	264	+32	104	345	368	-23

a Estimated on basis of measurements on preceding or following day.

b Surface flow in tributaries from left bank between gaging stations at Wild Horse and at Howell Ranch was measured at 59.8 cfs on June 22, 1967, 20.5 cfs on July 11, 1967, 3.5 cfs on April 20, 1968, and 5.4 cfs on May 27, 1968. Yield determination show an average of 16 cfs from drainage between Big Lost River at mouth of East Fork and gaging station at Howell Ranch.

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Howell Ranch to Mackay Narrows

Although flow in the main stem of Big Lost River is perennial from its headwaters to a few miles below the gaging station at Howell Ranch (1205), large volumes of water percolate from the river channel into the ground in the reach between Howell Ranch to near the upstream end of Mackay Reservoir. A large part of this loss occurs near Chilly. Table 5 shows that measured losses in the river channel between Howell Ranch and Bartlett Point averaged about 45 cfs. However, during higher stages when the river was gaged at Chilly Store, 2 miles farther downstream, measured losses averaged about 120 cfs.

The main channel of the river is frequently dry in most of the reach between Chilly Sinks and Mackay Reservoir, containing water only during periods of highest flows, or for about 4 months during normal years. Thousand Springs Creek contributes flow to the reach, but much of this flow is diverted for irrigation, and water loss by percolation from the Big Lost River channel continues for several miles below its confluence with Thousand Springs Creek.

In 1934, the lowest year of record at Howell Ranch, when the water table adjacent to the river channel was low, the river lost its entire yearly discharge, or about 85,000 acre-feet, into the Chilly Sinks. The hydrograph in figure 18 shows that no rise occurred in the inflow to Mackay Reservoir during the period of snowmelt runoff that year. The only flow into Mackay Reservoir was base flow from the alluvial deposits downstream from the Sinks. At times, when the channel near Chilly was dry for extended periods, as in 1935 and 1959, more than 1,000 cfs was lost to underground storage along the channel (fig. 18). As shown by the hydrographs, the channel absorbed much less water after it had been wetted for a few weeks. Following high-water seasons and after water had been flowing across the Chilly Sinks for relatively long periods, flow across the Chilly Sinks did not stop until the river flow receded to less than about 300 cfs at the Howell gage.

The estimated quantity of surface water that has entered the ground in the Chilly Sinks during the period of record is shown in the last column of table 6. The contribution to ground water is assumed equal to the flow at Howell Ranch less the flow in the river channel crossing the Sinks (column 4). The figures in column 4 were computed by subtracting the base flow (column 3) from the measured inflow to Mackay

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Table 5. Measurements showing losses in the river and canals between Howell Ranch and points near Chilly. (Quantities, in cfs)

Date	Howell Ranch	Discharge at Bartlett Point (River channel plus diversions)	Loss	Discharge at the bridge at the Chilly Store	Loss
(1)	(2)	(3)	(4)	(5)	(6)
11- 6-66	77	39	38		
5-29-67	2,750			2,600	150
8-22-67	255	208	47		
9-20-67	169	147	22		
10-28-67	188	140	48	--	--
4-20-68	136	89	47		
5-27-68	494			306	188
6-23-68	1,380			1,360	20
8- 1-68	223			99	124
8-30-68	324	268	56		
Average (rounded)			45		120

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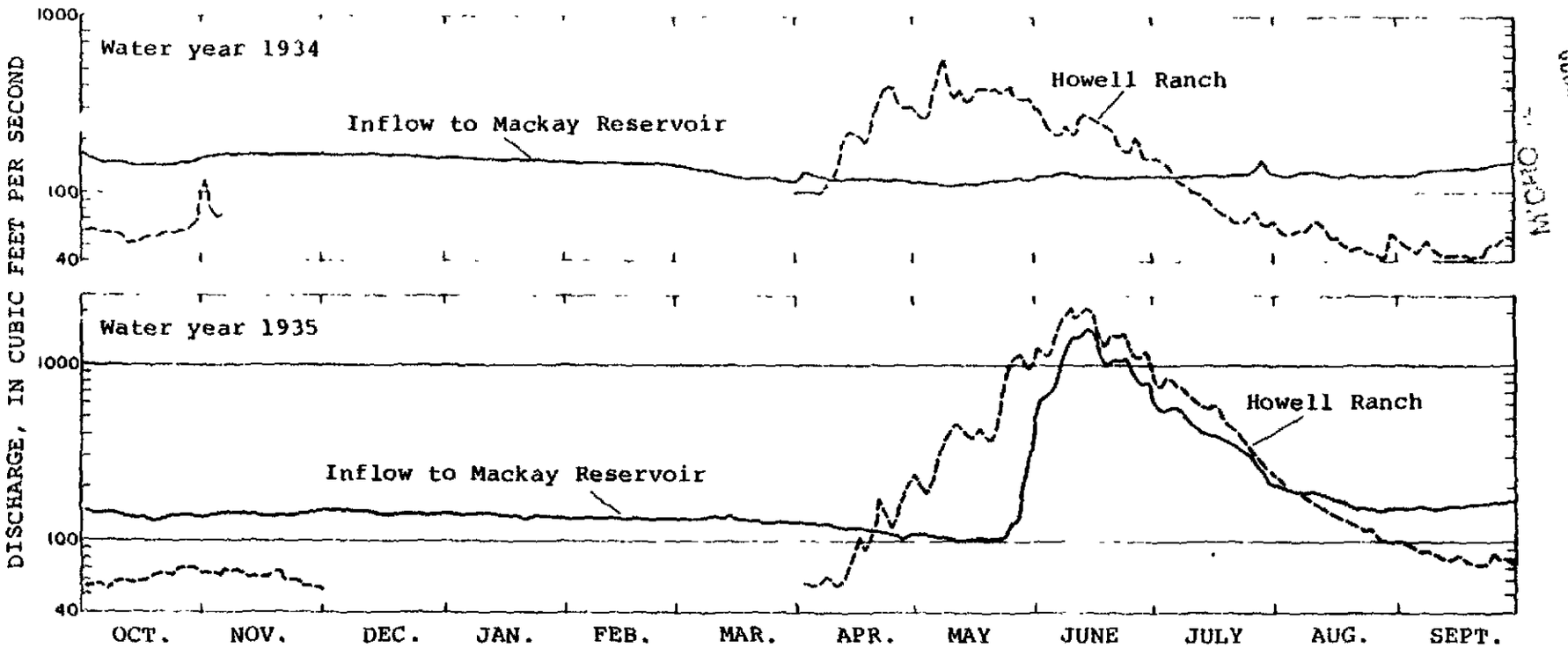


FIGURE 18.-- Hydrographs of discharge of Big Lost River at Howell Ranch and inflow to Mackay Reservoir.

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Table 6. Annual flows in Big Lost River in reach between Howell Ranch and Mackay Reservoir.
(Quantities, in cfs)

Water Year	Inflow to Mackay Reservoir	Base Flow	Flow crossing Chilly Sinks	Flow at Howell Ranch	Ground-water recharge (rounded)
1920	236	164	72	263	190
1921	387	185	202	378	175
1922	385	196	189	300	110
1923	333	204	129	305	175
1924	200	181	19	150	130
1925	326	203	123	329	205
1926	195	178	17	158	140
1927	293	165	128	308	180
1928	276	180	96	261	165
1929	199	162	37	179	140
1930	235	157	78	250	170
1931	172	167	5	141	135
1932	269	146	123	284	160
1933	213	157	56	197	140
1934	137	137	0	118	120
1935	241	133	108	271	165
1936	203	157	46	204	160
1937	165	150	15	140	125
1938	405	146	259	450	190
1939	219	189	30	198	170
1940	231	167	64	237	175
1941	267	176	91	276	185
1942	330	180	150	311	160
1943	441	184	257	440	185
1944	392	200	192	354	160
1945	293	192	101	258	155
1946	311	199	112	291	180
1947	308	191	117	291	175
1948	318	173	145	307	165
1949	259	176	83	241	160

Table 6. Annual flows in Big Lost River in reach between Howell Ranch and Mackay Reservoir--Continued. (Quantities, in cfs)

Water Year	Inflow to Mackay Reservoir	Base Flow	Flow crossing Chilly Sinks	Flow at Howell Ranch	Ground-water recharge (rounded)
1950	263	168	95	260	165
1951	367	199	168	355	185
1952	420	194	226	406	180
1953	320	173	147	307	160
1954	280	175	105	271	165
1955	237	165	72	215	145
1956	403	180	223	407	185
1957	346	179	167	354	185
1958	409	195	214	395	180
1959	227	185	42	191	150
1960	213	170	43	186	145
1961	182	153	29	170	140
1962	265	154	111	292	180
1963	333	174	159	337	180
1964	329	195	134	310	175
1965	569	214	355	538	185
1966	248	200	48	203	155
1967	488	176	312	492	180
1968	325	200	125	306	180

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Reservoir. During the 8 months, on the average, when there is no flow crossing the Sinks, all inflow to Mackay Reservoir is base flow. For the remaining period of each year, base flow could be estimated with considerable accuracy to complete the annual means of column 3. The approximate annual ground-water recharge (column 6) ranged from 120 cfs (about 85,000 acre-feet) in 1934 to 205 cfs (150,000 acre-feet) in 1925. The average for the study period (1944-68) was 170 cfs (120,000 acre-feet). These quantities greatly exceed the capacity for storage in Mackay Reservoir.

Beginning at Hamilton Springs, about 4 miles southwest of the mouth of Thousand Springs Creek, and continuing to Mackay Narrows, large quantities of ground water are discharged to surface streams.

Warm Springs Creek is fed in part by Hamilton Springs and by Warm Springs which discharge near the foothills, more than 100 feet above the level of the river channel. These springs are perennial and flowed at 34.7 and 26.6 cfs, respectively, on September 23, 1968. Both springs are near outcrops of carbonate rocks and appear to discharge water from the mountains on the west rather than from the valley alluvium. The elevation of the springs, topography, and nearby geology suggest that the source or sources of water to the springs probably are upstream from Bartlett Point. Warm Springs Creek flows for several miles along the valley floor and, with Parsons Creek and other similar streams, receives additional large ground-water inflows from the valley alluvium before discharging into Mackay Reservoir.

Stations 1235, 1240, 1245, and 1250 on the four principal channels discharging into Mackay Reservoir were gaged for more than 40 years to monitor surface inflow to the reservoir (table 2). Flows at these four gaging stations are added together to give the discharges published as Surface inflow to Mackay Reservoir, near Mackay (1255).

The records of these four streams indicate that the inflow from ground water comes principally from the west side of the valley although much water undoubtedly flows underground from mountains to the east. Surface flow measured at Mackay Narrows, downstream from the reservoir, adjusted for changes in reservoir storage, averages about 30 cfs greater than that passing the above four gages, indicating additional ground-water inflow into the reservoir and at Mackay Narrows.

A duration curve of average monthly flows at Mackay Narrows is plotted in figure 17. Because all discharge is base flow for many months of each year, it is relatively uniform. The duration curve shows the change in characteristics of flow in the Big Lost River that results from losses and gains in water in the river between Howell Ranch and Mackay Narrows. The curve can also be used to estimate the part of the streamflow that comes from ground-water discharge in the gaged reaches (see Iorns, Hembree, and Oakland, 1965, p. 48-53). At Mackay Reservoir, the computed base flow averages 195 cfs, or 59 percent of the total flow. At Howell Ranch, the computed base flow averages only 100 cfs, or 30 percent of the total flow. The difference demonstrates the regulating effect of underground storage in the reach whereby the base flow was increased 95 cfs, or 68,000 acre-feet per year, 1.5 times the usable storage in Mackay Reservoir.

Annual mean flows, after adjustment for storage and releases from Mackay Reservoir, are nearly always more at Mackay Narrows than at Howell Ranch. The adjusted flows were less at Mackay Narrows only when comparatively large quantities of water went into storage in the Chilly Sinks reach (fig. 19). Records for the base period 1944-68 show that the average surface flow at Howell Ranch is 310 cfs and inflow to Mackay Reservoir is 325 cfs, an average gain of 15 cfs in the reach.

The river flow is regulated at Mackay Narrows by Mackay Dam. Mackay Reservoir (capacity 44,370 acre-feet) stores water for release on demand for irrigation of about 29,500 acres of land in the Big Lost River Irrigation District. Water leaks through the dam and its bedrock abutment. A large quantity of this leakage returns to the river channel downstream and is measured at the gaging stations below the dam. This portion of the leakage varies with the water level in the reservoir and ranges from about 40 cfs at low stages in the reservoir to 130 cfs or more at high stages.

Mackay Narrows to Moore Canal Heading

From Mackay Narrows to below Leslie the river loses slightly at high stages and gains slightly at low stages. Losses from the river channel are heavy in the Darlington Sinks, about 18 miles below Mackay Dam. Part of the water lost returns to the river just above the Moore Canal heading, a few miles below the Sinks. The watermaster's records of

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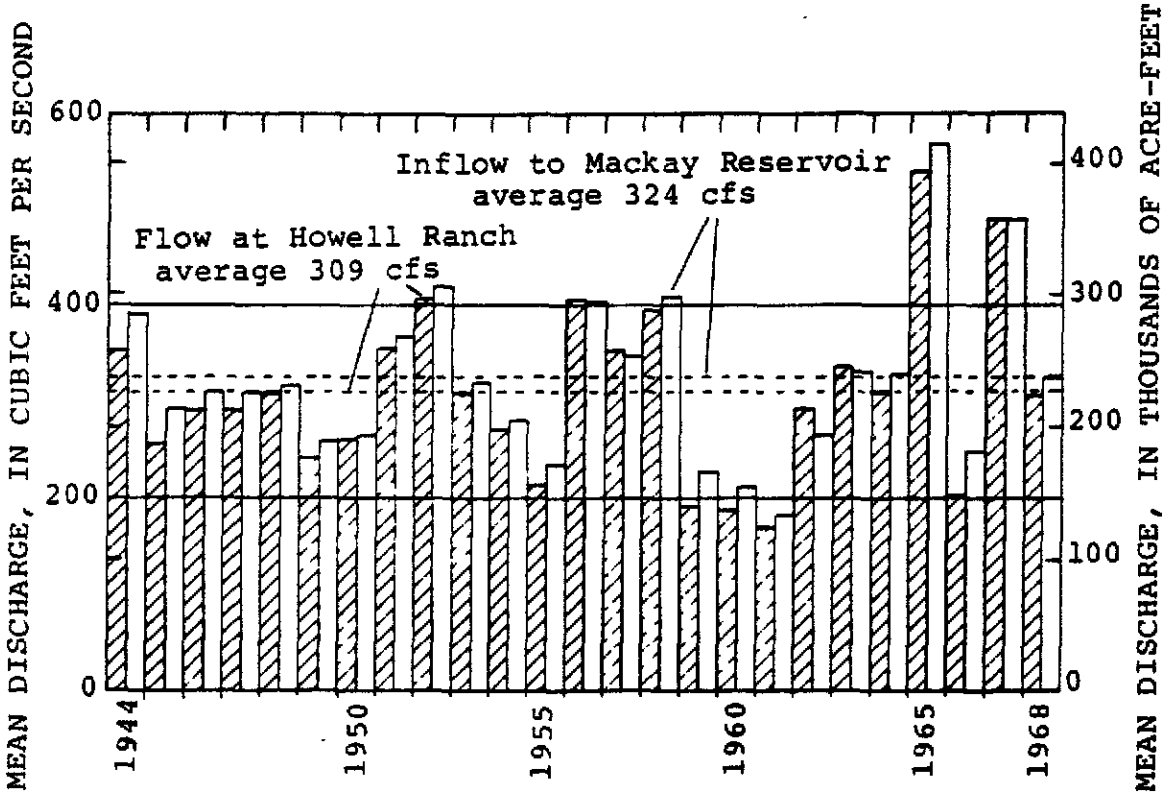


FIGURE 19.-- Annual mean discharge of Big Lost River at Howell Ranch and inflow to Mackay Reservoir, 1944-68.

surface flow at the Moore Canal heading show that the average flow for the 25-year base period was 200 cfs compared with 325 cfs at Mackay Narrows for the same period.

A correlation between annual mean flows at Mackay Narrows and at Moore Canal heading is shown in figure 20. Scatter in the plotted points reflects complex interchanges of surface and ground water in the reach. Pumping during periods of short surface-water supply, changes in inflow from the intervening tributaries, variations in diversions and percolation losses from streams, channels, and irrigated fields, and changes in ground-water storage affect the plotting of the points and cause the scatter. The points during the drought period 1930-35 tend to plot to the right because water was being diverted out of the valley through the Blaine Canal, thus bypassing the gages at the Moore Canal heading.

Moore Canal Heading to Gaging Station Downstream From Arco

Considerable water is lost by infiltration between Moore Canal heading and the gaging station on the Big Lost River near Arco (1325) although some ground-water discharges to the reach. This interchange is illustrated by measurements in the reach on November 9 and 10, 1966, when flows were steady. The total discharge in the canals and river at Moore Canal heading was 54 cfs. At Savaria road crossing, 1.3 miles downstream, the total discharge in the canal and river was 41.6 cfs. Only 3 cfs was flowing in the river and canals down the valley across the east-west road 5 miles downstream and 2.8 miles south of Moore. Surface flow increased to 16.8 cfs in the river and canals at Arco, and 11 cfs flowed at the gage near Arco, 4 miles farther downstream.

Measurements of Big Lost River made below Mackay Reservoir are listed in table 7. They further illustrate this pattern of losses and gains in surface flow. The quantities of loss and gain change with stage and with antecedent conditions. In general, the river and canals lose for several miles below the Moore Canal heading. Water reappears as surface flow a few miles above Arco in Boyles, James, and Spring Creeks, and in the river. There is a net loss between Moore Canal heading and Arco, and a further loss between Arco and the gage below Arco. Arco Canal bypasses some water around the gage near Arco, but all the flow in the canal is used consumptively or percolates into the Snake River Plain. Average loss from the Moore Canal heading to the gage below Arco was 125 cfs for the period 1944-68.

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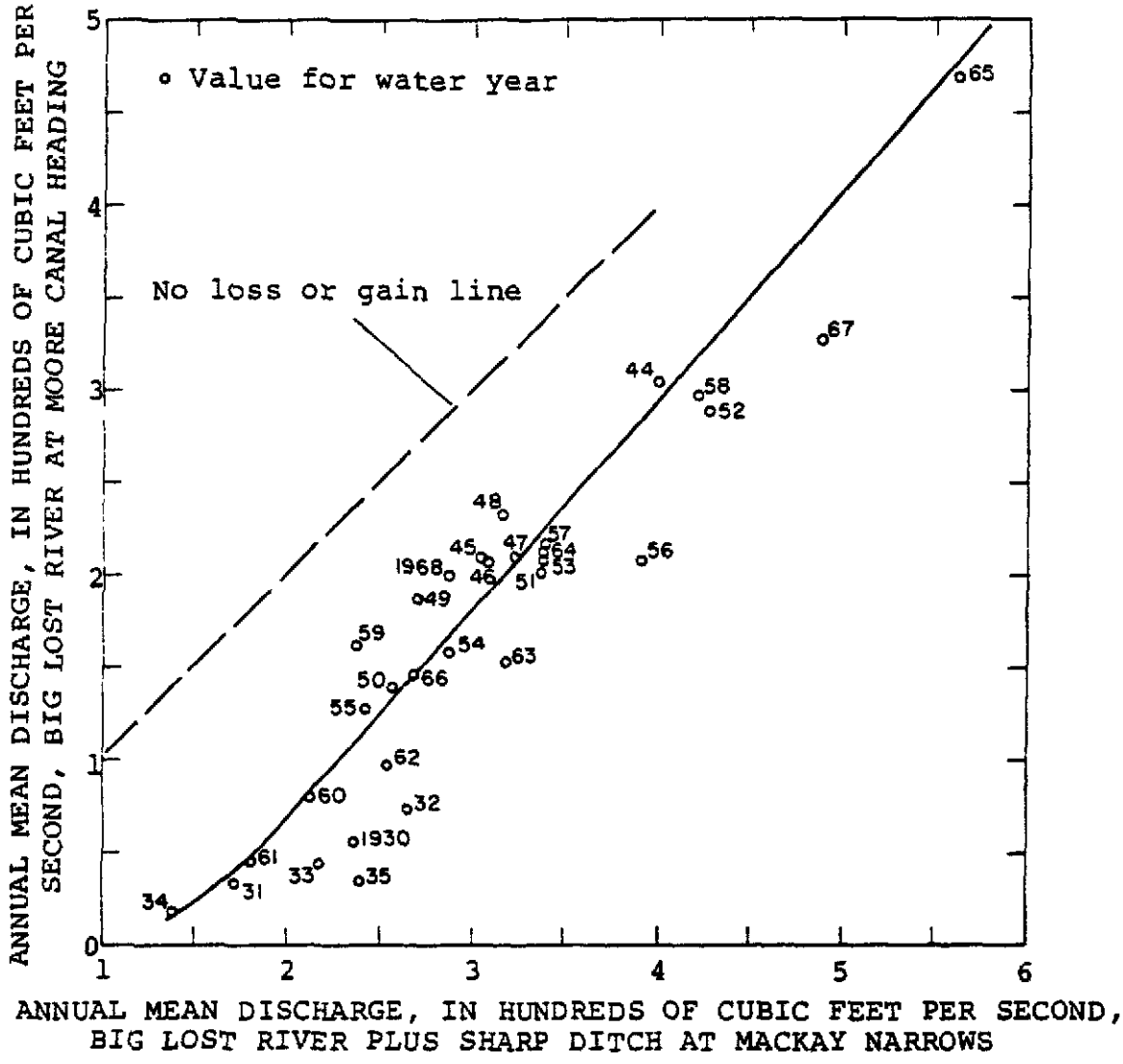


FIGURE 20.-- Correlation of annual mean discharge, Big Lost River at Mackay Narrows and at Moore Canal heading, 1930-68.

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Table 7. Discharge, in cfs, in Big Lost River below Mackay Reservoir.

Date	Big Lost below Reservoir	Sharp ditch	Total 1+2 (rounded)	Below Leslie	Difference 4-3 (rounded)	Darlington	Difference 6-4 (rounded)	Moore Canal heading	Difference 8-6 (rounded)	At Arco	Difference 10-8 (rounded)	Near Arco	Difference 12-10 (rounded)
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
11- 8-66	60	5.9	66	20.2	-46	7.95	-12					11	
11- 9-66	60	5.9	66			8.14		54	+46	16.8	-37	11	-6
12- 6-66	76	0	76							18.0		13	-5
12- 8-66	76	0	76	52.2	-24			45.3				11	
1- 3-67	92	0	92			43.2						11	
1- 6-67	93	0	93							13.1		11	-2
1- 7-67	94	0	94	39.5	-54							11	
2- 8-67	110	0	110									10	
2- 9-67	110	0				70.0		37.9	-32			12	
5-23-67	1,170	6.7	1,180							20.2		3.8	
6-20-67	1,920	22	1,940			1,130						825	
6-21-67	2,210	24	2,230							913		977	+64
6-23-67	2,370	10	2,380									1,300	
7- 8-67	1,860	25	1,880							1,730		1,680	-50
7-13-67	1,310	19	1,330	1,060	-270							1,010	
8-22-67	679	37	716	400	-316	430	+30					128	
8-23-67	649	34	683					468	a+38	220	-248	132	-88

9-19-67	498	5.1	503			405		446	+41			314		
9-28-67	416	4.0	420							273		184	-89	
10-30-67	83	0.99	84					185				170		
10-31-67	65	0.92	66	77.8	+12	98.8	+21		a+86			172		
11- 2-67	39	0.89	40							161		175	+14	
12- 3-67	74	0.09	74	74.7	+1			117				124		
4-21-68	118	4.2	122	71.7	-50	49	-23					80		
4-22-68	118	4.2	122					108		74.8	-33	76	+1	
5-29-68	568	18	586	257	-329	155	-102	162	+7			13		
5-30-68	617	17	634							46.3		8.5	-38	
6-17-68	972	15	987							188		119	-69	
6-21-68	1,610	53	1,660			743						48		
6-22-68	1,470	49	1,520	917	-603							67		
7-29-68	542	22	564	298	-266	304	+6	325	+21	60.2	-265	16	-44	
9- 8-68	225	16	241							65.9		57	-9	

a Estimated based on upstream measurement on preceding or following day.

The flow-duration curve (fig. 17) for the gaging station near Arco (1325), indicates that monthly-mean flows near Arco can be expected to be less than 10 cfs 23 percent of the time, whereas the flow into Mackay Reservoir can be expected to be less than 170 cfs 21 percent of the time. As the estimated inflow to the system below Mackay Reservoir from tributary areas averages 200 cfs (an estimated 100 cfs is used consumptively), evidently large quantities of water move underground. Flows near Arco are less than those below Mackay Reservoir at all points on the duration curve in spite of the large contributions from the intervening drainage. Hydrographs of flow at Mackay Narrows, flow at Mackay Narrows plus measured contributions from the intervening drainage, and flow near Arco are compared in figure 21. The relation between the annual flows at Mackay Narrows and those at the gage near Arco is shown in figure 22. These figures also show that the flow downstream from Arco has been considerably less than that at Mackay Narrows, even though a large volume of water flows into the reach from the tributary basins. Figure 22 shows that the largest annual loss in the reach was about 300 cfs in 1967 when considerable flow probably went into storage in the aquifer. The loss averaged only 150 cfs in 1959 when a large volume of stored water drained out of the aquifer. During the drought year 1934, only 137 cfs passed the Narrows; and during this and several other years including 1961 and 1962, no surface flow passed the Arco gage.

Tributaries

Flows in tributary streams are a significant part of the total resources of the basin. Lower Cedar, Alder, Pass, and Antelope Creeks, which enter the Big Lost River valley below Mackay Reservoir, are the most important streams. Several other tributaries enter the valley between the Howell gage and Arco. The tributary basins are outlined in figure 3 and their flows are summarized in table 12.

Lower Cedar Creek.--Lower Cedar Creek (subbasin 30, fig. 3) above the gaging station near the mouth of Lower Cedar Canyon drains 8.26 square miles of steep, rocky, mountainous terrain north of Mackay where altitudes range from 6,800 to nearly 12,000 feet. The average discharge for the 1944-68 base period is estimated at 18 cfs for an apparent average yield of 30 inches per year. Such a yield is abnormally large for the watershed. Methods outlined herein show that

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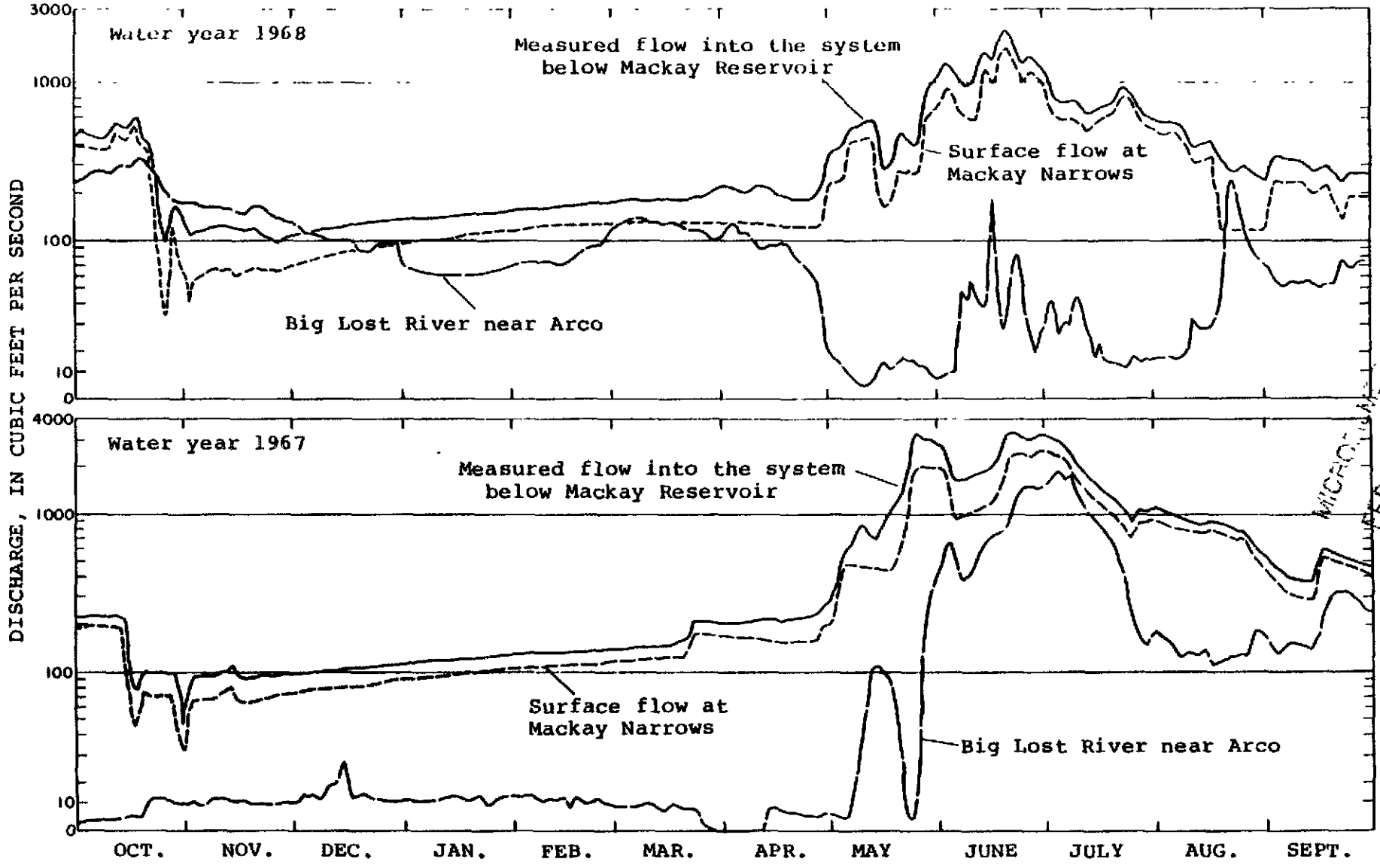


FIGURE 21.-- Hydrographs of surface flow below Mackay Narrows.

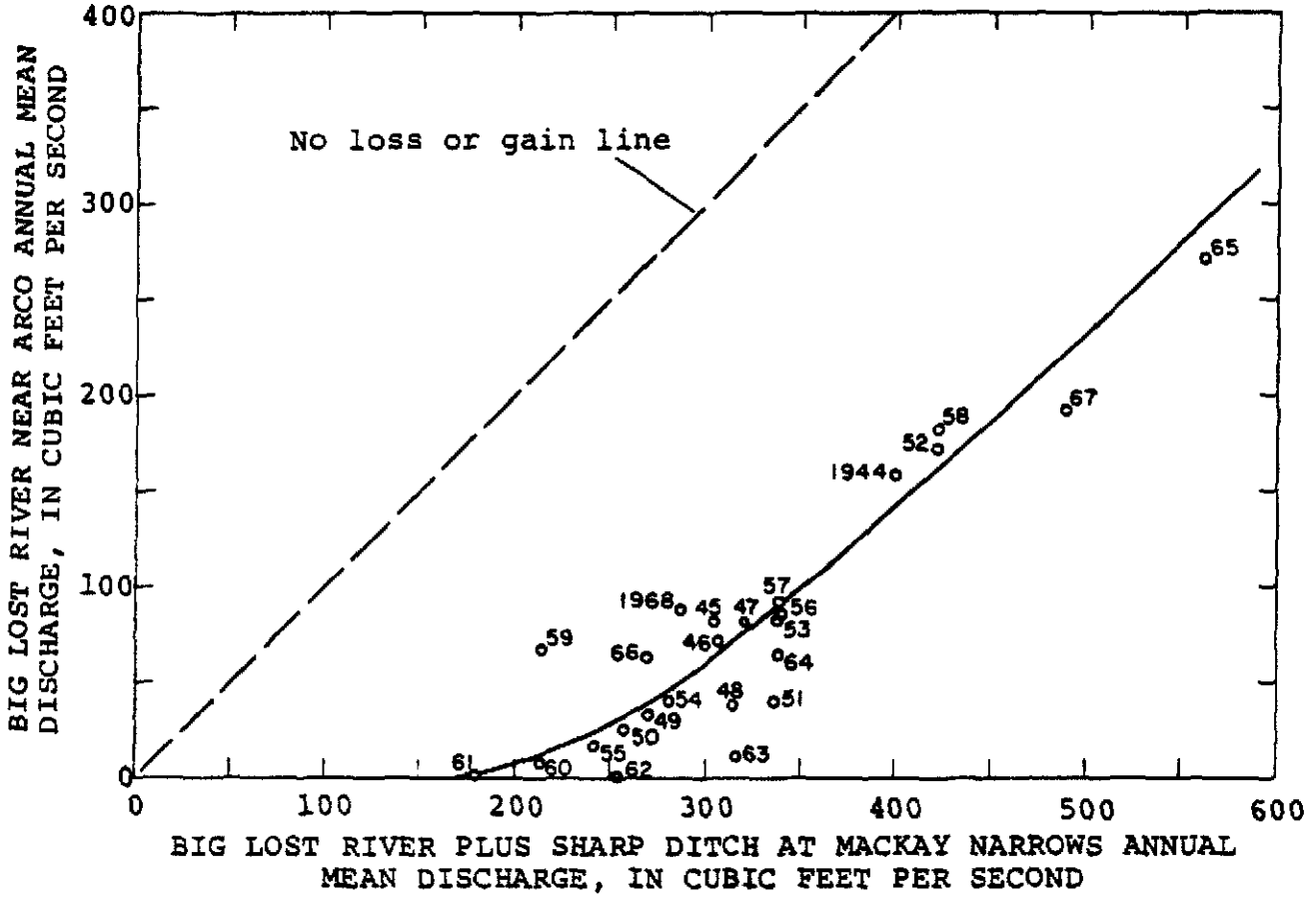


FIGURE 22.-- Relation between surface flow at Mackay Narrows and flow below Arco, 1944-68.

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the estimated average yield from the subbasin is about 19 inches per year or 12 cfs (table 12, subbasin 30), indicating that an average of about 6 cfs or a third of the flow comes as underground flow from outside the subbasin. A major contributor to the high yield of this subbasin is a large spring (p. 22) that has a surface drainage area above its outlet of about 2 square miles. Records of flow indicate that the spring discharged an average 12 cfs in the 1912 water year; the spring flow was 13 cfs on September 24, 1968. This quantity would cover the 2 square miles of surface drainage area above the spring to a depth of 81 inches per year. This is far more than could be expected from the precipitation on the subbasin. Computations of water yield and the physical features indicate that the excess water may come from Pass Creek basin, but the data are inconclusive.

Water from Lower Cedar Creek is used to irrigate about 700 acres of land north and northwest of Mackay. Transmission losses from the diversion canals and percolation losses from the irrigated lands are high. Flow from the creek seldom reaches the Big Lost River channel as surface flow.

Alder Creek.--Alder Creek basin (subbasin 37) drains the southern half of the east flank of White Knob Mountains, south of Mackay. Records of its discharge from August 1966 to September 1968 have been obtained at a site just below the South Fork Alder Creek and for irrigation seasons in 1920-22 at a site about 3 miles downstream. The drainage area of the upstream site is 27.6 square miles. A small amount of flow is believed to bypass the gage underground. Downstream from the upstream gage site, considerable flow percolates into the ground and becomes a part of the ground water of the main valley. The flow is used to irrigate an estimated 1,000 acres in Big Lost River valley.

Antelope Creek.--Antelope Creek (subbasins 39-43) drains the largest basin tributary to the Big Lost River below the East Fork. It rises in the southwest corner of Big Lost River basin, northwest of Craters of the Moon, and flows northeasterly to its confluence with Big Lost River east of Darlington. The stream was gaged a few miles upstream from Grouse, above most of the diversions, since May 1966, and at a point about 6 miles downstream from Grouse for partial years 1913-16 and 1920-22. The drainage area is 93.4 square miles at the upstream gage and 218 square miles at the downstream gage site. Miscellaneous measurements of the flow of Antelope Creek and Cherry

Creek, and their combined flow during 1967 and 1968 water years are shown in table 8. Analyses and the measurements (table 8) and the data from table 12 indicate that as much as 30 cfs flows underground past the downstream gage site. More of the flow from Antelope Creek percolates into the alluvial gravels in the vicinity of Darlington Sinks.

Antelope Creek provides irrigation water for about 6,200 acres (U.S. Soil Conservation Service, written commun., 1969).

Geologic and physical data indicate that there may be some leakage into the Snake River Plain from Dry Fork Creek (subbasin 40), a southeastern tributary of Antelope Creek. An unknown amount of water was diverted from Dry Fork into Champagne Creek for many years, but the ditch has not been used recently. Data are not available to evaluate the leakage, if any, so all the water yielded in the Dry Fork Creek subbasin is assumed to follow the natural drainage channel into the Big Lost River.

Pass Creek.--Pass Creek basin (subbasin 31), with a drainage area of about 25 square miles, lies adjacent to and east of Lower Cedar Creek basin. The altitudes in the basin range from 6,200 to more than 11,000 feet above mean sea level and average about 8,130 feet. The topography is more rolling and there is more soil on the surface than in Lower Cedar Creek basin. On the basis of miscellaneous measurements in the 1967 and 1968 water years and 18 months of record in 1920-22, creek discharge for the period 1944-68 is estimated to average about 8 cfs. This discharge is considerably less than the estimated average yield from the basin, which was estimated to be 16 cfs as shown in table 12 (subbasin 31). The 8 cfs difference may move through the mountains and discharge at the large spring in the Lower Cedar Creek basin.

Water from Pass Creek is used for irrigation in the Big Lost River valley. A considerable part of this water infiltrates into stream and canal bottoms and irrigated soils, thus recharging the main valley aquifer.

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Table 8. Measurements of Antelope Creek and tributary. (Discharge, in cfs)

Date	Antelope Creek at gage	Cherry Creek	Total 1+2	Antelope Cr. below Cherry Creek	Loss or Gain 4-3 (rounded)
	(1)	(2)	(3)	(4)	(5)
9-17-66	22	2.92	24.9		
11- 9-66	14	3.59	17.6		
11-11-66	17			14.1	
12- 7-66	18			14.3	
1- 4-67	17			3.0	
3- 6-67	16			17.8	
4-19-67	33			54.5	
5-31-67	514	76.2	590		
6-13-67	430	77.5	508	a501	-7
6-14-67	424			494	
7- 9-67	225	27.3	252	263	+11
7-15-67	183			186	
8-21-67	45	7.06	52	46.8	-5
9-18-67	36	6.05	42	38.9	-3
10-30-67	40	6.09	46	47.5	+2
12- 4-67	27			23.9	
3-18-68	24			35.2	
4-22-68	36	17.5	53.5	40.7	-13
5-29-68	167	22.4	189	145	-44
6-18-68	232	29.8	262	245	-17
7-30-68	32	6.03	38	38.9	+1
8-26-68	71	11.6	83	a98	+15
8-27-68	62			85.9	

a Estimate based on upstream measurement on preceding or following day.

Irrigation Diversions

Surface water is diverted from the Big Lost River and tributaries for irrigation of 12,680 acres above Mackay Reservoir and 36,540 acres below. Acreages irrigated from the principal tributaries and from the river are summarized in table 1.

Records of the diversions from Big Lost River and Warm Springs Creek for the years 1922-68 are available in annual reports prepared by the watermaster for Big Lost River and are filed with the Idaho State Reclamation Engineer. These diversions are summarized in table 9. Transmission losses are high, thus deliveries at farms are much less than the diversion figures indicate. Many acreages have been inadequately watered during the dry years. Because consumptive use of irrigation water has averaged only about 1.2 acre-feet per acre and diversions have been much more than that, a large part of the water diverted either returned to the river channel or percolated underground to recharge the aquifer.

Surface Water Quality

Chemical analyses for 13 surface-water stations in Big Lost River basin are given in table 10. All observed surface waters were calcium bicarbonate in type. Mountain streams tend to be low in salinity (less than 150 mg/l dissolved solids) while streams in the broad valleys tend to be of moderate salinity (between 150 and 300 mg/l dissolved solids).

As discussed previously, surface flow in the Big Lost River originates from two distinct sources: (1) Direct runoff and (2) ground-water discharge. Direct runoff enters stream channels promptly after rainfall or snowmelt and is characterized by less than 100 mg/l of dissolved solids. Ground water discharges into a stream as spring or seepage water at points where the water table intersects the ground surface. Ground water dissolves substances from aquifer materials during its passage underground, thus increasing its dissolved solids content. The amount of dissolved solids in the ground water depends upon the length of time of flow underground and upon the chemical characteristics of the aquifer materials. Dissolved solids concentrations in ground water discharged to Big Lost River generally range

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Table 9. Diversions from Big Lost River in acre-feet (rounded).

Water Year	Above Reservoir	Below Reservoir	Flow at Mackay Narrows	Flow at gage below Arco	Apparent loss or gain Mackay Narrows to Arco
1922	112,000	200,000	279,000	a7,290	-71,700
1923	203,000	241,000	235,000		
1924	55,800	124,000	162,000		
1925	85,500	222,000	232,000		
1926	65,600	123,000	144,000		
1927	71,900	175,000	212,000		
1928	75,700	173,000	201,000		
1929	63,600	97,600	143,000		
1930	79,500	119,000	171,000		
1931	52,600	69,800	125,000	a0	-55,200
1932	68,900	140,000	192,000		
1933	53,400	82,900	156,000		
1934	61,600	35,200	94,800	a0	-59,600
1935	77,700	103,000	172,900	b2,668	-67,200
1936	81,700	69,700	145,000	a0	-75,300
1937	61,900	52,400	120,000		
1938	152,000	90,300	264,100		
1939	29,500	129,000	180,200		
1940	25,200	216,000	169,000		
1941	49,000	117,000	176,300		
1942	55,000	165,000	246,100		
1943	54,100	204,000	309,700		
1944	56,400	206,000	290,100	a119,100	+35,000
1945	57,000	203,000	220,400		
1946	65,400	212,000	222,600		
1947	63,300	208,000	232,300	60,260	+36,000
1948	73,400	219,000	228,600	26,870	+17,300
1949	55,300	189,000	195,400	23,620	+17,200
1950	46,200	175,000	185,200	18,130	+7,930
1951	59,000	224,000	243,500	28,650	+9,150
1952	67,700	240,000	310,400	124,300	+53,900
1953	84,000	242,000	244,300	58,470	+56,200
1954	66,600	218,000	208,200	28,530	+38,300
1955	40,000	148,000	175,300	12,250	-15,000
1956	63,200	239,000	282,900	61,750	+17,800

Table 9. Diversions from Big Lost River in acre-feet (rounded)--Continued.

Water Year	Above Reservoir	Below Reservoir	Flow at Mackay Narrows	Flow at gage below Arco	Apparent loss or gain Mackay Narrows to Arco
1957	61,600	220,000	245,500	66,520	+41,000
1958	57,600	275,000	304,900	131,200	+101,000
1959	32,200	140,000	170,800	47,640	+16,800
1960	36,800	106,000	154,000	5,520	-42,500
1961	29,900	65,700	130,600	0	-64,900
1962	60,700	128,000	184,300	a0	-56,300
1963	52,900	200,000	229,500	c7,960	-21,500
1964	48,100	256,000	246,400	a22,400	+32,000
1965	55,300	282,000	405,800	c195,500	+71,700
1966	40,500	177,000	194,600	c44,900	+27,300
1967	66,000	235,000	353,200	138,700	+20,500
1968	52,700	187,000	207,000	64,280	+44,300
47 year average	62,000	169,000	212,700		

a From the annual report of the watermaster.
b Flow below Arco Dam, which is probably greater than flow at gage below Arco.
c Partly estimated.

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Table 10. Quality of water analysis, surface water and springs.
(Chemical constituents, in milligrams per liter)

Date of collection	Mean discharge (cfs)	Temperature (°C)	Silica (SiO_2)	Total iron (FE)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Carbonate (CO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Orthophosphate (as PO_4)	Boron (B)	Dissolved solids: Calculated	Dissolved solids: Residue on evaporation at 180° C	Dissolved solids: Tons per acre-foot	Hardness as $CaCO_3$: Calcium magnesium	Hardness as $CaCO_3$: Noncarbonate	Percent sodium	Sodium adsorption ratio	Specific conductance (micromhos at 25° C)	pH	Color
13-1205. Big Lost River at Howell Ranch, near Chilly																										
9-22-05	124																	a112								
7-20-57		13	11	0.16	20	3.4	2.4	1.0	69	0	9.4	2	0.2	0.3	0.05		84	81				7		132	7.6	0
13-1210. Big Lost River below Chilly Canal at Bartlett Point, near Chilly																										
9-20-67		9	11		27	5.5	3.8	0.8	101	0	12	2.0	0.2	0.1		0	112	116	0.16	90	7	9	0.2	190	7.9	5
13-1219. Anderson Springs near Chilly																										
9-23-68	8.13	12	14		35	10	4.4	1.0	144	0	17	3.0	0.4	0.9		0.02	157	156	0.21	128	10	7	0.2	265	8.0	0
13-1219.5 Whisky Springs near Chilly																										
8-11-67	b0.22	7	6.3		34	18	5.3	0.6	157	5	27	3.5	0.2	2.4		0	179	170	0.23	159	22	7	0.2	304	8.5	0
13-1220. Thousand Springs Creek near Chilly																										
8- 9-67		19	13		58	20	5.8	1.3	266	0	15	1.0	0.6	0.6		0	246	250	0.34	227	9	5	0.2	424	7.9	20
13-1240.3 Hamilton Springs near Chilly																										
8-24-67		9	11		33	8.5	4.7	1.0	133	0	14	2.5	0.4	0.4		0.04	191	152	0.21	118	8	8	0.2	229	8.1	0
13-1241.5 Warr Springs near Chilly																										
8-24-67		13	11		33	11	5.4	1.1	110	0	18	20	0.5	0.3		0.04	154	150	0.20	128	38	8	0.2	260	7.1	0
13-1270. Big Lost River near Mackay																										
5-15-05	124																	a218								
6-10-05	987																	a172								
7-12-05	629																	a254								
9-21-05	156																	a188								
10- 1-65	588	9	13	0.05	37	9.4	5.1	1.4	151	0	14	3.0	0.3	0.4	0.06	0.00	158	151	0.21	132	8	8	0.2	267	8.2	5
6- 9-66	663		9.4	.06	35	8.8	4.9	1.2	138	0	15	2.8	.2	.3	.01	.05	146	139	.19	124	10	8	0.2	252	7.7	0
8-26-66	235		12	.05	41	11	5.8	1.3	166	0	17	4.0	.4	.3	.05	.06	175	175	.24	148	12	8	0.2	287	7.4	5
11- 4-66			11	.04	42	11	6.1	.9	168	0	18	3.0	.3	5	.05	.04	176	174	.24	150	12	8	0.2	303	7.9	0
5-30-67		11	9.8	1.2	26	6.3	3.9	1.7	100	0	12	3.0	.3	.5	.07	.04	112	118	.16	91	9	8	0.2	194	7.3	15
7-17-67	1,100		9.9	.11	28	7.2	3.7	1.2	114	0	11	3.0	.3	.2	.07	.04	121	121	.16	100	6	7	0.2	212	7.8	5
9-21-67	513	15	12		39	10	5.2	1.3	160	0	16	4.0	.2	.5		.08	167	163	.22	138	8	8				
5-28-68		10	13		38	9.8	5.4	.9	154	0	17	2.0	.3	.2		.03	163	164	.22	136	10	8	0.2	283	8.0	0
8- 1-68		17	11		34	9.0	4.6	1.1	141	0	13	2.5	.3	.4			145	133	.18	122	6	7	0.2	280	8.1	0
10-11-68		9	12		39	9.5	5.6	1.4	162	0	15	2.5	.3	.0			165	163		136	4		0.2	252	7.9	5
																							0.2	286	7.9	5

Table 10. Quality of water analysis, surface water and springs--Continued.

Date of collection	Mean discharge (cfs)	Temperature (°C)	Silica (SiO_2)	Total iron (FE)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Carbonate (CO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Orthophosphate (as PO_4)	Boron (B)	Dissolved solids: Calculated	Dissolved solids: Residue on evaporation at 180° C	Dissolved solids: Tons per acre-foot	Hardness as $CaCO_3$: Calcium magnesium	Hardness as $CaCO_3$: Noncarbonate	Percent sodium	Sodium adsorption ratio	Specific conductance (micromhos at 25° C)	pH	Color
13-1310. Antelope Creek near Darlington																										
9-18-67		13	15		32	7.1	5.3	1.2	123	0	17	2.0	0.3	0.2		0.06	141	144	0.20	109	8	9	0.2	233	8.2	10
13-1315. Pass Creek near Leslie																										
9-22-67		6	12		50	6.2	5.6	0.6	180	0	9.2	3.0	0.2	0.4		0.04	176	173	0.24	150	3	7	0.2	294	8.1	
13-1324. Big Lost River at Arco																										
8-21-49		13	19				--7.6--		274	0	26	8	0.2	1.5						248	19	6	0.2	476		
10- 9-51					64	12	9.0		244	0	21	5					231			209	9	9	0.3	461		
5-24-58			14	0.03	40	13	5.9	2.9	135	0	47	4.4	0.3	0.5			195	212		152	22	8	0.2	327	7.0	
13-1325. Big Lost River near Arco																										
10- 1-65			15	0.48	51	13	7.8	1.7	209	0	17	4.8	0.3	0.7	0.04	0.00	214	202	0.27	180	8	8.6	0.3	358	8.0	5
12- 1-65			14	.62	62	14	9.3	1.7	247	0	20	5.5	.3	2.4	.04	.04	251	247	.34	212	10	9	.3	434	8.0	5
1-10-66			13	.41	58	13	8.2	1.3	227	0	20	4.0	.3	1.7	.04	.00	232	225	.31	198	12	8	.3	402	7.9	5
2-15-66			13	.31	56	15	8.1	1.2	230	0	20	4.5	.4	1.7	.03	.01	233	230	.31	202	13	8	.2	403	8.0	0
3-28-66			11	.43	55	13	7.8	1.8	219	0	20	5.2	.3	1.3	.03	.00	223	225	.31	192	12	8	.2	384	8.2	5
5- 4-66			11	1.0	59	13	9.1	1.5	234	0	22	6.8	.3	2.0	.02	.03	240	245	.33	202	10	9	.3	405	8.1	10
6- 9-66	23		12	.08	51	17	11	2.0	223	0	26	8.5	.3	.4	.01	.00	238	255	.35	197	14	11	.3	449	7.9	0
7- 8-66	9.3	24	16	.85	56	17	13	2.8	240	0	28	8.8	.4	.1	.07	.02	260	265	.36	210	13	12	.4	442	7.1	5
8-25-66	3.4		16	.05	69	19	14	2.6	291	0	28	10	.4	.2	.02	.07	302	284	.39	250	12	11	.4	508	7.9	5
9-30-66	1.8		16	.00	58	18	14	2.8	256	0	27	10	.4	.0	.01	.07	272	252	.34	218	8	12	.4	461	7.9	0
11- 1-66	8.4	4	14	.05	62	19	12	1.5	270	0	25	7.0	.3	.1	.01	.00	274	276	.38	231	11	10	.3	471	7.7	0
12- 5-66	13		13	.10	59	16	11	1.5	251	0	24	6.0	.3	.8	.02	.03	255	249	.34	213	8	10	.3	440	7.7	0
1- 4-67	11		14	.07	70	16	11	1.6	285	0	24	5.5	.3	1.5	.02	.06	284	270	.37	240	7	9	.3	481	7.9	0
2- 6-67	12	1	15	.12	64	16	11	1.5	268	0	24	6.0	.3	1.2	.02	.06	271	264	.36	226	6	10	.3	447	8.0	5
3-15-67	6.4	1	13	.11	70	17	10	1.8	282	0	22	6.5	.3	.8	.01	.06	281	285	.39	244	14	8	.3	488	8.1	5
4-17-67	7.0		14	.07	68	17	11	1.9	277	0	28	8.5	.3	.6	.02	.04	285	286	.39	240	12	9	.3	485	8.1	0
5-25-67	37	18	13	.12	52	14	8.9	1.9	214	0	23	5.5	.3	.5	.06	.02	224	229	.31	187	12	9	.3	393	8.1	5
6-14-67	706		14	1.1	44	10	6.7	2.3	180	0	18	3.0	.3	.8	.09	.16	188	192	.26	151	4	9	.2	323	7.9	5
7- 7-67	1,610		13	.43	40	10	6.2	2.2	172	0	9.6	3.0	.3	.6	.13	.06	170	182	.25	141	0	9	.2	304	8.0	10
8-24-67	134	16	16		64	15	9.5	2.1	255	0	19	6.0	.4	1.1		.03	258	259	.35	221	12	8	.3	420	8.1	5
9-26-67	280	16	14		55	15	8.6	1.5	230	0	19	6.0	.3	.8		.06	233	239	.33	198	10	8	.3	393	8.2	5
12- 8-67		0	16		63	14	8.6	1.5	248	0	21	4.5	.3	2.6		.01	254	245	.33	214	12	8	.3	433	8.1	0
1- 9-67			15		65	14	8.6	1.5	253	0	21	4.0	.3	2.5		.03	256	249	.34	220	12	8	.2	440	8.1	0
2-12-68			14		65	15	8.5	1.4	252	0	21	6.0	.3	2.2		.03	257	252	.34	224	17	8	.2	442	8.1	0
3-18-68		4	15		60	15	8.2	1.3	240	0	20	6.0	.3	1.9		.06	246	242	.33	211	14	8	.2	422	8.0	0
4-23-68		9	13		35	14	9.6	1.4	168	0	21	6.0	.3	1.2		.04	185	202	.27	145	8	12	.3	304	8.1	0
5-28-68		21	14		58	16	10	1.6	249	0	23	6.5	.3	.2		.08	253	242	.31	210	6	9	.3	443	7.9	0

13-1308. Big Lost River below Blaine Canal, near Leslie

9-19-67	14	13	43	10	5.6	1.5	172	0	16	4.0	0.3	0.9	0,06	179	181	0.25	148	8	7	0.2	302	8.0	0
6-19-68	18	13	60	16	9.7	1.8	253	0	23	6.0	.2	.8	.02	255	256	.36	216	8	9	0.3	435	8.1	5
8- 5-68		19	55	17	11	2.0	235	0	23	6.5	.3	.9		251	248	.34	207	11	10	0.3	416	8.0	5
9- 6-68	17	15	54	16	9.8	1.6	232	0	22	5.5	.3	.8		239	241	.30	200	10	10	0.3	413	7.9	5
10-11-68	7	15	66	14	9.7	1.9	257	0	22	5.0	.3	1.8		262	263	.36	222	12	9	0.3	449	7.9	0
11-16-68	1	14	57	14	8.3	1.5	233	0	20	6.0	.3	1.3		237	219	.30	200	8	8	0.3	406	8.0	0

a Erroneously published as tons per acre-foot in U.S. Geological Survey Water-Supply Paper 274.
b Estimated

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between 125 and 300 mg/l. During periods of high streamflow, direct runoff predominates; while during periods of low flow, ground-water discharge predominates.

Chemical concentrations of the surface waters listed in table 10 were compared with concentration limits recommended by the U.S. Public Health Service (1962) for drinking-water supplies. At no place did the concentration of a measured chemical constituent exceed those limits. The total iron reported in table 10 includes iron in sediment and other suspended matter, so in general it is much higher than the dissolved-iron content. Even though the total iron reported sometimes exceeds the limit of 0.3 mg/l recommended by the U.S. Public Health Service for dissolved iron, there is still no reason to expect that dissolved iron alone will exceed 0.3 mg/l in surface waters in the Big Lost River basin.

Most surface water in populated areas of Big Lost River basin is classified as either hard (120 to 180 mg/l hardness as $CaCO_3$) or very hard (above 180 mg/l hardness as $CaCO_3$) because of its high calcium plus magnesium content. Water in the smaller mountain streams at high elevations may be classified as soft or moderately soft, but this changes abruptly at the lower elevations where ground-water becomes a part of the total flow.

The surface waters were rated for irrigation suitability according to the standards set forth by the U.S. Salinity Laboratory Staff (1954). In no case was the sodium-adsorption ratio sufficiently high to indicate a potential sodium hazard. With the exception of Thousand Springs Creek and several of the springs, surface water above Mackay Reservoir tends to have a low salinity hazard. Water in Warm Springs Creek, Thousand Springs Creek, and Big Lost River below Mackay Reservoir is classed as having a moderate salinity hazard; however, this should not be a problem in the coarse-textured, well-drained soils which predominate in these valleys. Concentrations of dissolved solids in Antelope Creek appear to be on the borderline between a low and a medium salinity hazard, but here again coarse textured, well drained soils predominate so salt damage to crops should not be a significant problem in this area.

The water from Warm Springs is warmer and has a higher dissolved-solids concentration than water from Hamilton Springs. This indicates that the flow path of water from Warm Springs is probably deeper and longer than that for water discharging from Hamilton Springs.

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GROUND WATER

Occurrence

During periods of rainfall and snowmelt, water enters the fractured rocks, talus, slope wash, and the alluvial deposits. Generally, much of this water soon discharges to the streams and sustains their flow during dry weather. Some of the precipitation falling on the mountain slopes moves downward through the consolidated rocks and reaches the alluvial fill in the main valley without appearing as streamflow. Precipitation on the valley floor also contributes a small amount of recharge to the alluvial deposits during periods of intense rainfall and snowmelt.

Principal areas of natural recharge to the aquifers are where reaches of Big Lost River are above the water table and lose water by seepage and where streams tributary to the main valley emerge from the mountains and disappear into the alluvial fans. Recharge also occurs by infiltration of the water applied on irrigated lands. Ground water discharges naturally from the alluvial deposits as (1) flow into the gaining reaches of Big Lost River, (2) underground flow through the mouth of the valley at Arco, (3) spring discharge, and (4) evapotranspiration where the water table is at or near the land surface.

Ground water occurs mostly under water-table conditions in the main valley but locally artesian conditions exist. There is a flowing artesian well in Thousand Springs Valley and there may be weak artesian pressures in the wells drilled for irrigation west of Chilly Buttes. Because of the variability of the alluvial deposits, weak artesian pressures may be present in other parts of the basin, but they have not yet been observed. At some places, ground water is perched above the main water table. Southwest of Moore, near the west edge of the cultivated area, water is perched on fine-grained sediments a few feet above the main water table. In the vicinity of Arco there are at least five water-bearing zones where water is moving downward and southward to the regional water table underlying the Snake River Plain.

Figure 23 shows that the principal component of slope of the water table follows the general gradient on the main valley. Because there were few wells to use for control near

the edge of the lowland, the contours were arbitrarily curved slightly to indicate ground-water movement from the bordering mountain ranges toward the axis of the valley.

The nonuniformity of the water-table gradient in the valley is caused by variation in the cross-sectional area through which the water moves, the permeability of the alluvial fill beneath the valley floor, and the quantity of water in transit. The above factors cause the water-table gradient to range from 10 to 100 feet per mile at different places in the valley. Figure 24 shows the profile of Big Lost River and the position of the water table along the river.

Water-table contours were not drawn at the mouth of the basin because south and southwest of Arco ground water is found in at least three separate zones. Also, from Arco north for an unknown distance, the contours are shown on the surface of the upper water-bearing zone. The altitude of the water level in wells in the uppermost zone in the vicinity of Arco ranges from 5,375 to 5,300 feet; in the next zone, from 5,272 to 5,125 feet; and in the third zone, from 5,075 to 4,875 feet. A test well (4N-26E-21abb1) located 4 miles northwest of Arco found water levels at about 5,380, 5,135, 5,065, 4,965, and 4,815 feet altitude (fig. 25). The altitude of the well head is about 5,390 feet above sea level. It is not known how far upvalley the separation of the different water-bearing zones extends. Sparse data indicate that the upper zones become thinner in a southerly direction from the mouth of the valley, are not continuous, especially at some distance southwest of Arco, and finally disappear as the water percolates downward to the regional water table underlying the Snake River Plain.

Data from wells at the mouth of the basin indicate that several basalt flows are interbedded with the alluvial deposits. Most of these flows probably encroached into the mouth of the basin from the Snake River Plain, but at least one flow was erupted from the vent 3 miles west of Arco and some basalt may have been extruded from the faults which bound the valley on the eastern and western sides. Regardless of the source of the basalt flows, they have intermittently dammed the drainage from the valley resulting in a complex interbedded sequence of basalt, clay, sand, and gravel. What is assumed to be the main water table at Moore is at an elevation of 5,460 feet above sea level whereas in the Snake River Plain 2½ miles south of Arco the water table is at an elevation of about 4,385 feet, a difference of a little more than 1,000 feet. The less permeable parts of the sedimentary

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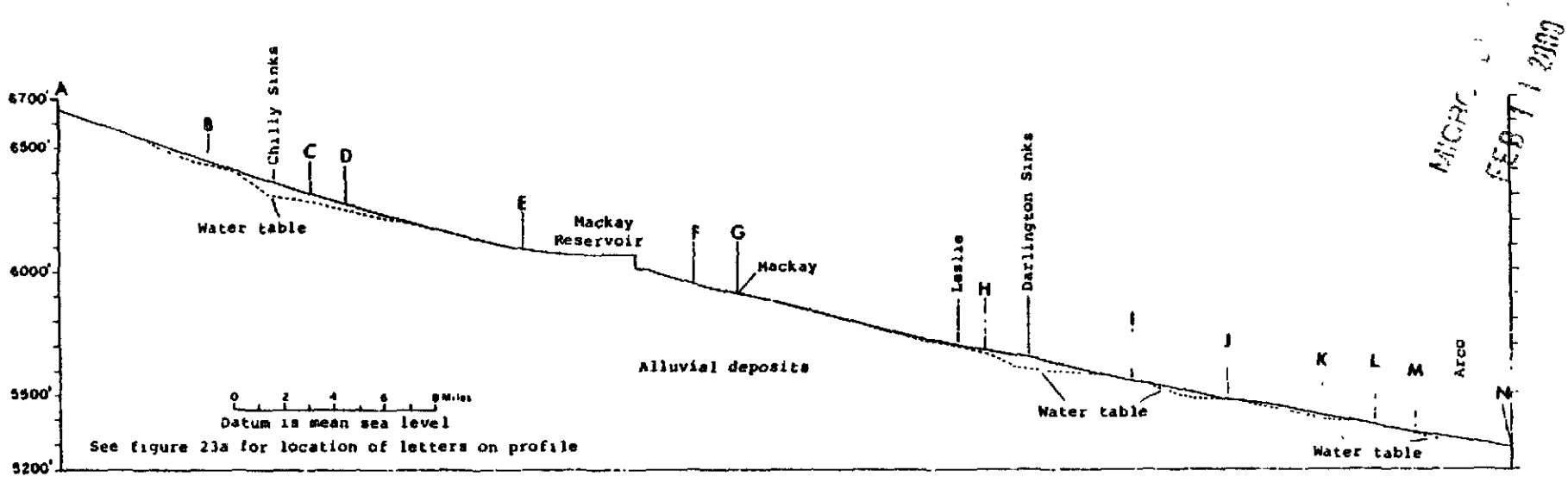


FIGURE 24.-- Profile of Big Lost River showing the position of the water table.

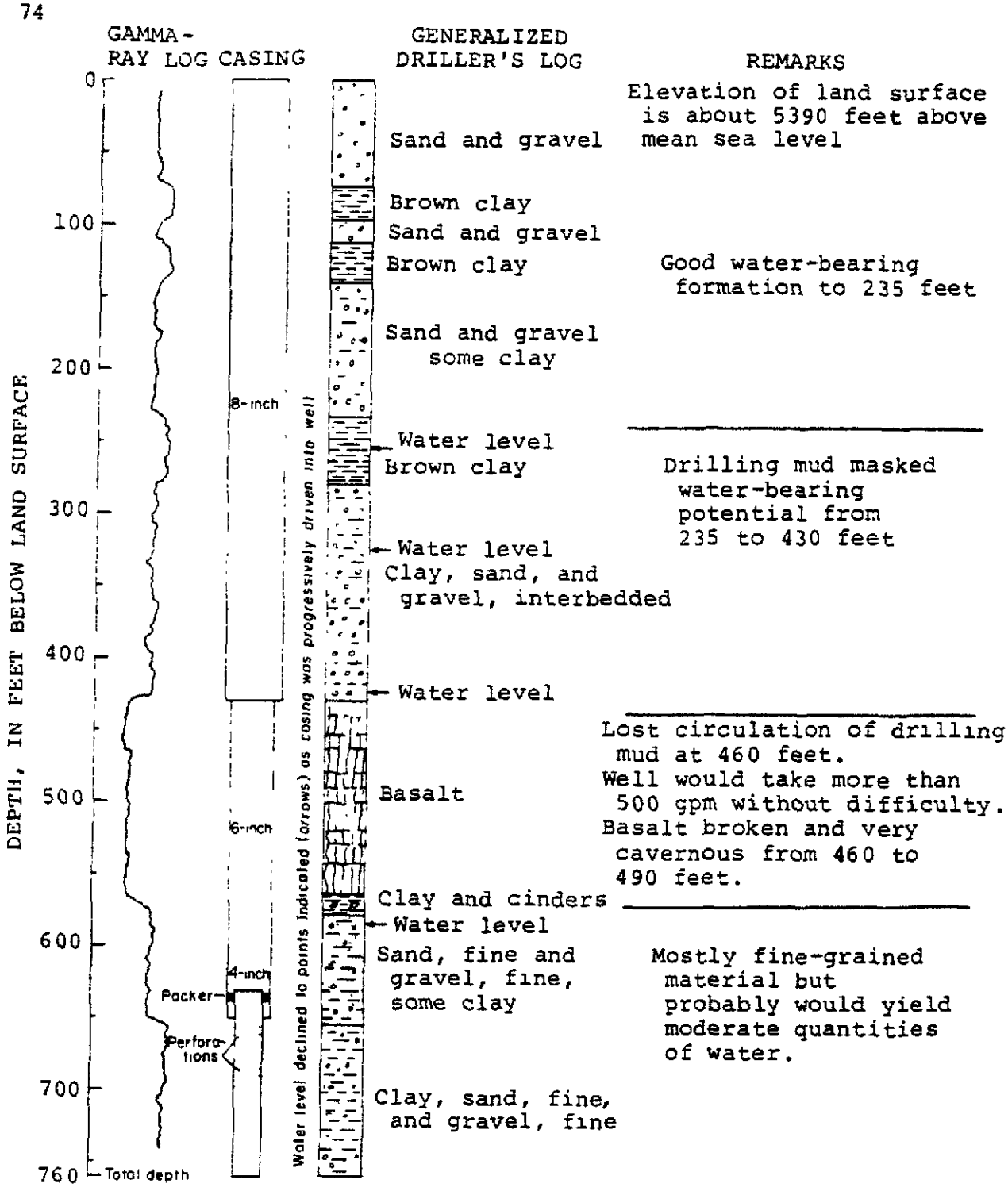


FIGURE 25.-- Logs and water levels in well 4N-26E-21abb1.

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and basalt sequence have a sufficiently large areal extent to strongly influence the lateral movement of ground water out of the basin and thus cause water levels to be at several different elevations. It would require a very large number of deep test wells to define the stratigraphic details and the water-yielding potential of this part of the basin.

Throughout much of the valley the water table is less than 50 feet below land surface and near the river it is commonly less than 10 feet below the surface. Figure 23b shows the depth to water in early October 1968, a year when the water table was at a relatively high level. In a series of dry years, the water table would be 10 to 60 feet lower in the parts of the valley where the river loses water, but only a few feet lower near gaining reaches of the river. On the flanks of the valley, high on the alluvial fans, the depth to water exceeds 200 feet. At the south end of the valley, some of the water-bearing zones are more than 500 feet below land surface.

Changes in recharge to and discharge from the alluvial deposits were monitored by measuring water levels each month in 30 observation wells in the basin and operating water-level recording gages on four wells. The hydrographs from eight selected observation wells (fig. 26) show the seasonal fluctuations in water levels during the period July 1966 to September 1968. As shown in the figure, water levels are usually lowest in late winter and early spring when streamflow is at a minimum and canals are empty. Water levels are highest from midsummer to early autumn when river flow is larger and canals are in use. The hydrographs show annual water-level fluctuations ranging from 3 to 42 feet for the period of record. In contrast, the water level in well 5N-25E-11cdc1 (hydrograph not shown in fig. 26) at the apex of the Antelope Creek fan fluctuated at least 114 feet in 1968. This anomalous fluctuation may represent water levels in an aquifer underlying the alluvial deposits. Variations in the magnitude of fluctuations from year to year are due to climatic conditions, which in turn govern irrigation practices, which together affect ground-water levels.

Water levels in three wells were measured for several years prior to this study and the hydrograph from one of these wells and the discharge of Big Lost River at the Howell Ranch and Arco gages are shown in figure 27. The hydrographs indicate that water levels in the well respond to the volumes of water available for recharge, and that trends of streamflow and fluctuations of the water table are similar. For example,

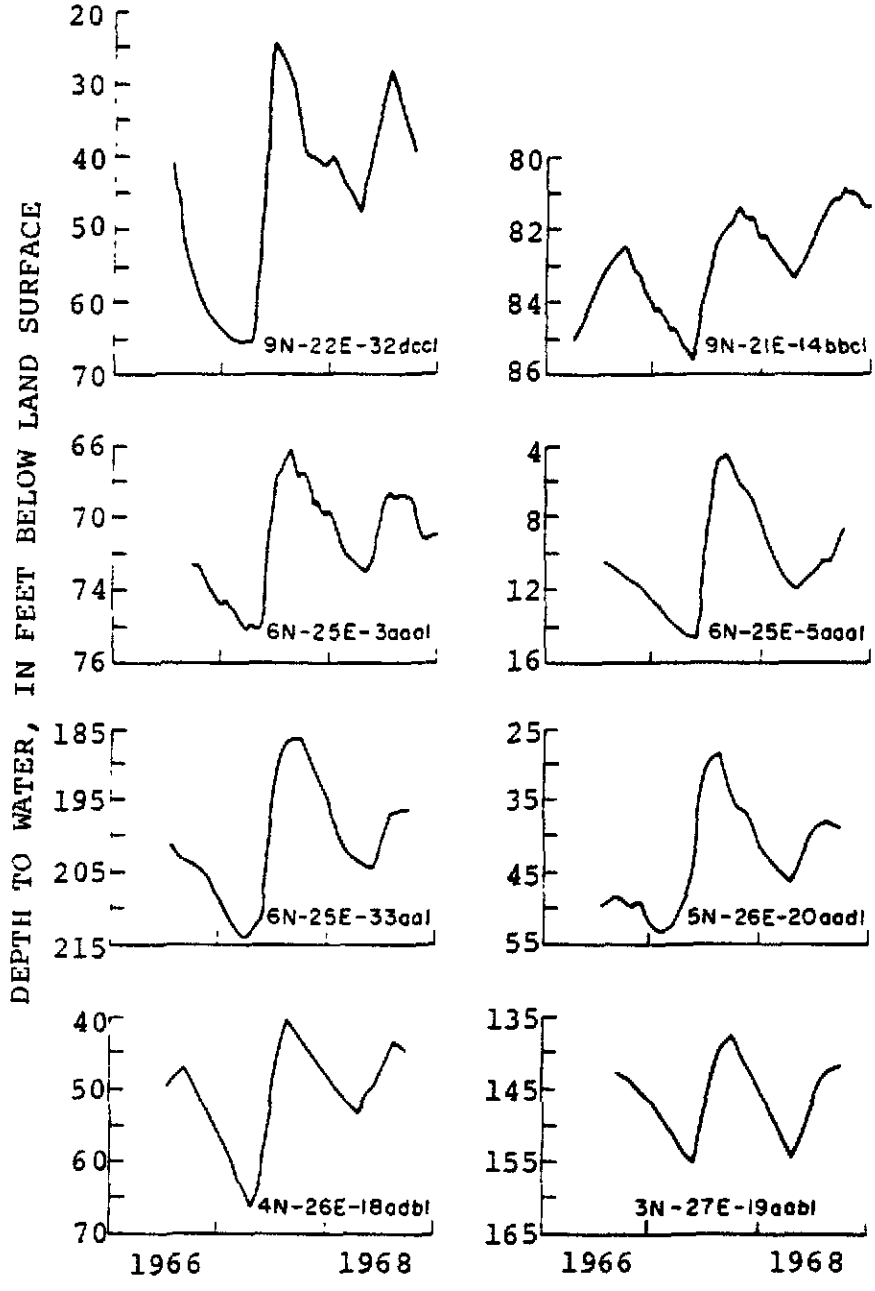


FIGURE 26.-- Hydrographs of selected wells.

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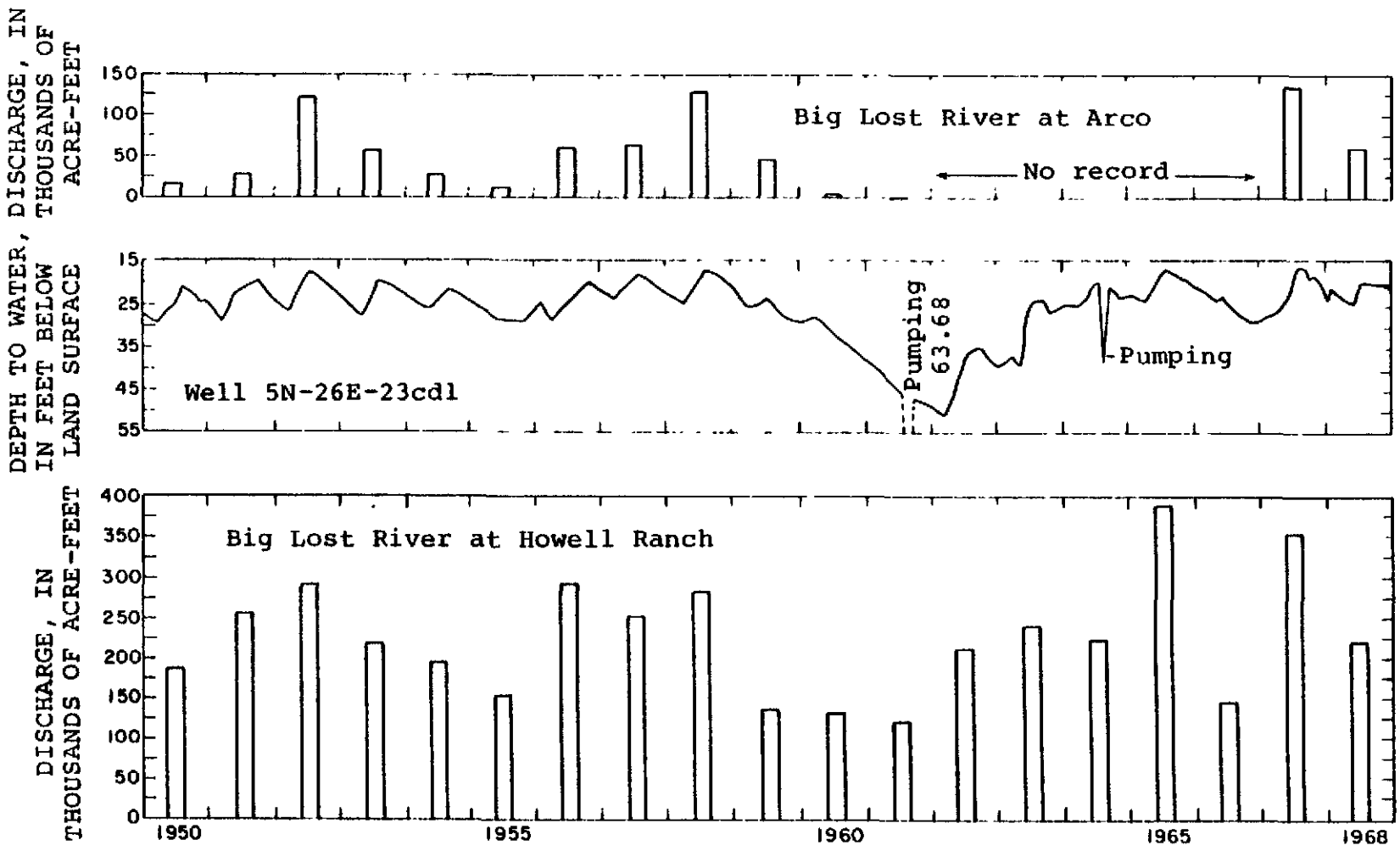


FIGURE 27.-- Hydrograph of well 5N-26E-23cd1 and discharge of Big Lost River at Howell Ranch and at Arco.

precipitation, and thus streamflow, were deficient in 1959, 1960, and 1961, so water levels declined. If it is assumed that the streamflow at the Howell gage is an approximate index of the relative amount of annual precipitation on the basin, the hydrograph shows that water levels correlate fairly well with the amount of precipitation that falls in the basin each year and, also, that the water table responds rapidly to recharge and discharge. This correlation again exemplifies the intimate cause and effect relationship between the surface- and ground-water resources of the basin.

In addition to periodic water-level measurements in the observation wells, measurements were made in about 200 other wells in the autumn of 1967, and the spring and autumn of 1968. The change in water levels from the autumn of 1967 to the autumn of 1968 are shown in figure 23c. The figure shows the natural decline in the water table in an average year of water supply following an abnormally wet year. A contour map of the water table in autumn 1968 is shown in figure 23a. Stearns and others (1939, pl. 19) show the position of the water table in 1928 or 1929. Stearns also constructed a water-table contour map for the autumn of 1920 (unpublished data in files of Lost River Irrigation District). The years 1919, 1920, 1928, and 1929, were below-average water years. The year 1966 was one of the driest of record, 1967 was one of the wettest, and 1968 was about average. Direct comparison of the water-level measurements of Stearns with the 1967-68 measurements cannot be made because different wells were measured in the two periods. However, by comparison of the water-table contours on the 1968 and 1920 maps, the generalized water-level change map shown in figure 23d was constructed. This map shows that following the dry years of 1919 and 1920, the water table was as much as 20 feet lower locally than it was during the present study, and that in the reaches where the river gains water, the water table was only slightly lower.

Effects of Pumping

As indicated previously, the surface- and ground-water resources of the basin are so closely related that the use of one affects the other with but few exceptions. Where the water table is continuous with the river, the pumping of ground water will cause a decrease in streamflow because lowering of the water level at a well changes the slope of the water table and either decreases the quantity of water entering the river or increases the loss of water from the

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river. Where the river is dry or where its bed is above the water table, pumping does not affect river flow directly. Methods are available for computing the rate and volume of streamflow depletion by individual wells (Jenkins, 1968, p. 37-46, and Theis, 1953), and these methods might be used locally; but the amount of depletion of the water resource caused by pumping is so small when compared to the total water supply that it is impractical to compute streamflow depletion. For this reason, an estimate of the reduction of the total water supply caused by pumping is made on the basis of ground water that is consumptively used by evapotranspiration.

The quantity of supplemental water required to supply the presently irrigated acreage varies widely from year to year as shown in figure 28. In most years, about 200,000 acre-feet of surface water must flow past the gaging stations on Big Lost River near Mackay (1260) and Sharp ditch (1265) to provide an adequate supply for lands irrigated with surface water below the reservoir. In years with hot dry summers (1966, for example) usually more than 200,000 acre-feet is required; in years with moist summers less water is required. Generally, when the annual supply is less than 200,000 acre-feet, much of the difference is made up by pumping ground water. In this discussion it is assumed that the distribution of irrigation wells is such that all land needing supplemental water receives an adequate supply even though shortages do occur locally in extremely dry years. During the period 1961-68, an average of 23,400 acre-feet (rounded to 25,000) or 0.8 acre-feet per acre of ground water was pumped annually to supplement the surface-water supply. The average supplemental requirement is then about 12.5 percent (25,000 ÷ 200,000) of the total requirement, but it has ranged from less than 1 percent in 1964, 1965, and 1967 to as much as 39 percent in 1966.

For the period 1944-68, the average annual diversion was 6.8 acre-feet for each acre irrigated under the present canal system. Irrigation efficiency based on the consumptive irrigation requirement of crops (p. 21) is about 18 percent (1.2 x 100 ÷ 6.8). However, as is generally known, the irrigation efficiency using ground water is higher than the irrigation efficiency using surface water because the ground water is withdrawn near its area of use and ordinarily sustains fewer transit losses. Thus, irrigation efficiency probably exceeds 25 percent but no data are available to confirm this. If a 25 percent efficiency is assumed, then net depletion of water pumped for supplemental irrigation in an average year would be about 6,000 acre-feet. The maximum ground-water use

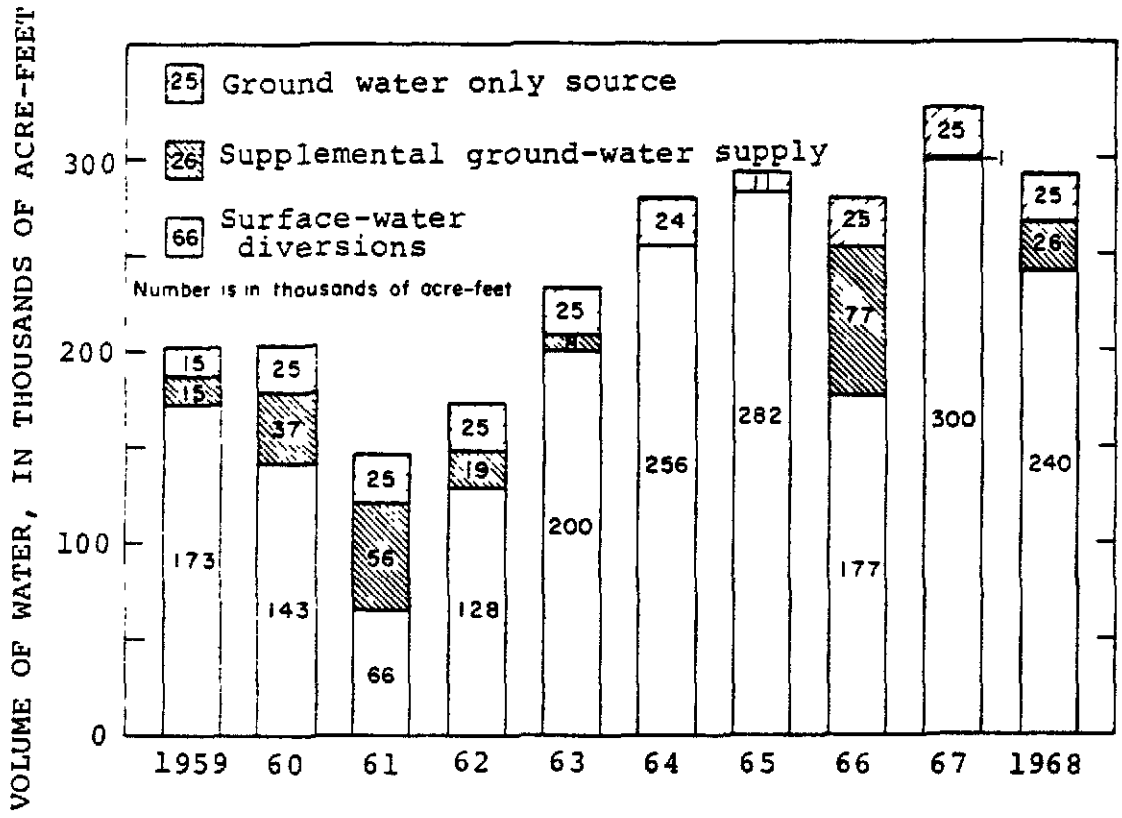


FIGURE 28.-- Sources and amounts of water used for irrigation in the Big Lost River basin, 1959-68.

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for supplemental irrigation was in 1966 when an estimated 77,000 acre-feet was pumped; therefore, evapotranspiration or net depletion probably approached 20,000 acre-feet that year. Practically all the ground-water depletion from supplemental pumping occurred downstream from the reservoir.

Approximately 8,300 acres below the reservoir and about 200 above is irrigated solely with ground water. On the basis of a consumptive irrigation requirement of 1.2 acre-feet per acre, the total ground-water depletion from this acreage is about 10,000 acre-feet. Therefore, total net depletion or evapotranspiration of pumped ground water from the entire basin is estimated to average 16,000 acre-feet per year for the present acreage in crop production.

As stated previously, the hypothetical effects caused by individual wells on streamflow can be computed by adaptation of the Theis nonequilibrium formula (Theis, 1953) or by a method devised by Jenkins (1968, p. 37-46). For example, assume a storage coefficient of 0.20 and an estimated transmissivity (coefficient of transmissibility) of 400,000 gpd per foot (estimated from specific-capacity data on 20 wells), and two hypothetical wells A and B, each pumping 2,000 gpm and located 0.5 and 1 mile respectively from the river. After 100 days of pumping well A, 72 percent of 2,000 gpm or about 6.5 acre-feet per day (3.2 cfs) would be from streamflow and total depletion would be about 480 acre-feet. After 100 days of pumping well B, streamflow depletion would be about 4 acre-feet per day (2 cfs) and total about 240 acre-feet. The stream would continue to lose water after the pumping ceased, but at the beginning of the next irrigation season the residual effects of pumping would be negligible for the well 0.5 mile from the river and about 60 gpm or about 0.027 acre-foot per day for the well 1 mile from the river.

The above analysis is based on several assumptions (Jenkins, 1968, p. 38). Although the hydraulic conditions in the Big Lost River valley do not entirely fulfill all the assumptions used in the above analysis, the conditions fit the assumptions closely enough to illustrate the effect of pumping on streamflow. The actual effect on streamflow is usually quite different. Much of the surface water lost by seepage from canals and from irrigated fields is intercepted by wells before the water returns to the river or is discharged underground past Arco. Also, some of the ground water pumped seeps back into the ground or runs off overland into the river. The net depletion of streamflow and ground-water flow is equivalent to the water evapotranspired by crops plus that evaporated from ditches. Thus the effect of ground-water

pumpage is to recycle water and generally delay the discharge of ground water to the streams or out of the basin.

The demand on ground water during the recurrence of an extended dry period such as in 1929-37 (fig. 29) would have a significant effect on streamflow. On the basis of pumping 1 acre-foot of ground water for each acre-foot of surface-water deficiency, ground-water depletion would have averaged about 12,000 acre-feet during this period and would have approached a total depletion of 40,000 acre-feet in 1934, the driest year.

Yields of Wells

Yields of irrigation wells range from 500 to 3,500 gpm, but most yields are 2,000 to 3,000 gpm (about 200 to 300 miners inches or 4.5 to 6.5 cfs). Commonly, water-level drawdowns in wells pumped at the above rates range between 10 and 20 feet, but drawdowns in a few wells are 50 to 100 feet. The greatest drawdowns are in wells southwest of Arco. Drawdown in a few of the wells on the Alder Creek and Antelope Creek fans exceeds 50 feet, but in most wells is less than 50 feet.

The yield to wells per foot of drawdown is influenced by two major factors: permeability of the water-bearing material, and well construction and development. In general, drawdowns are less in wells near the axis of the valley, as defined by the course of the river, than in wells on the flanks of the valley. This implies that the alluvial deposits penetrated by the wells along the axis of the valley are highly permeable and contain mostly well-sorted sand and gravel. Wells drilled closer to the bordering mountains penetrate more fine-grained, less permeable material and thus have larger drawdowns.

In some wells, perforations made in the casing are so large that the materials in the formation immediately surrounding the casing enter the well, thus causing the pump to discharge sand in quantities that locally has caused the ground to collapse around the casing. On the other hand, the holes opposite some sand and gravel deposits are so small that they become plugged and restrict the flow of water into the casing.

The size of the perforations in the casing should, ideally, be such that they allow about 50 to 70 percent of the material immediately surrounding the casing to pass through the perforations and into the well. Then during the initial pumping, or

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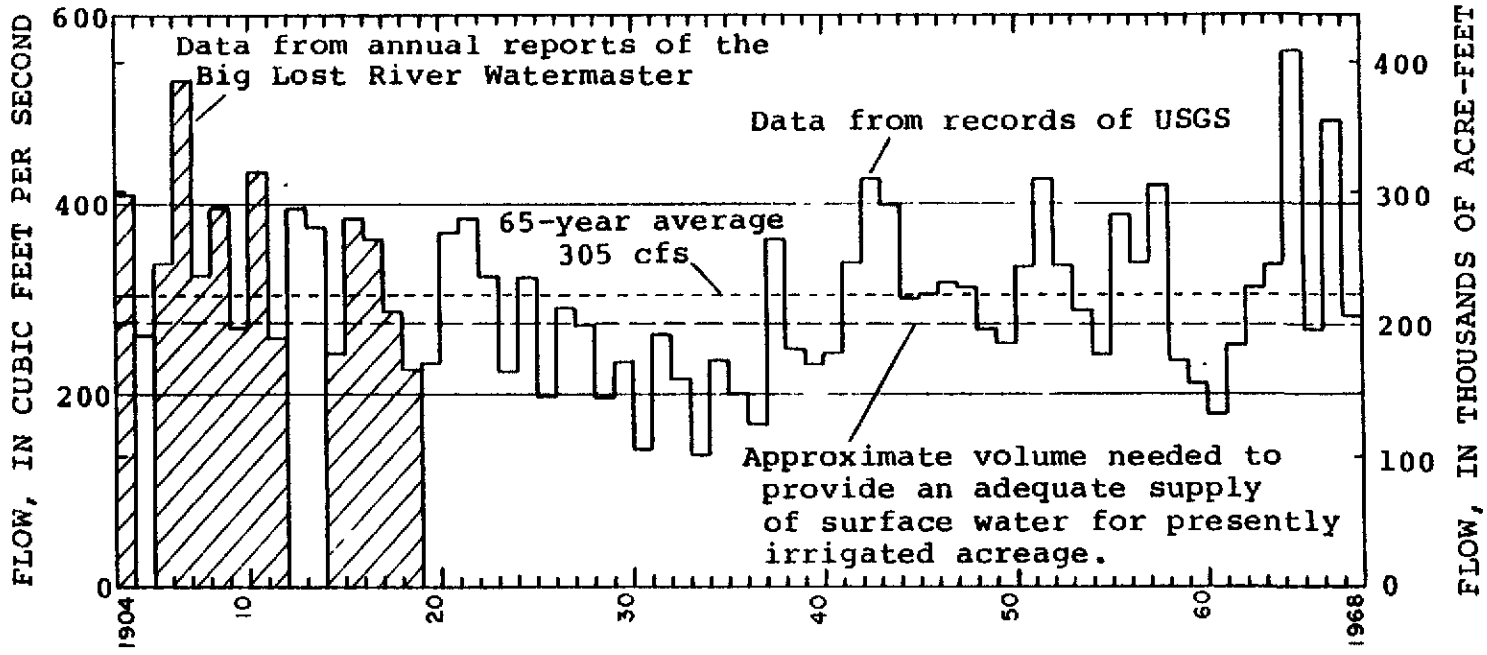


FIGURE 29.-- Flow of Big Lost River at Mackay Narrows.
(Big Lost River near Mackay and Sharp Ditch near Mackay).

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development, of the well, the finer material that passes into the well is removed, thus leaving a gravel envelope around the perforations which allows the least resistance to the flow of water into the well.

Water in Storage

A large amount of ground water is in storage in the alluvial deposits. Most irrigation wells are at least 75 feet deep and several exceed 200 feet, but none of the wells fully penetrates the saturated thickness of the alluvial deposits. Geophysical data (p. 25) indicate that the alluvial deposits exceed several hundred feet in thickness and may be as much as 5,000 feet thick at some places. Estimates can be made of the amount of water in storage in the upper 100 or 200 feet of the saturated alluvial deposits by computing the volume of the deposits to a specified depth between the valley walls and assuming a specific yield (see Glossary).

Johnson (1967, p. 1) listed the average specific yield of 10 different materials (total of 154 samples) ranging from clay to coarse gravel as 18.6 percent. Using this as a guide and considering the composition of the alluvial deposits in the basin, an assumed specific yield of 20 percent is used in this report. The saturated alluvial deposits in the Big Lost River basin from Mackay Narrows to near Arco occupy about 100 square miles, or 64,000 acres. On the basis of 64,000 acres and a specific yield of 20 percent, the upper 100 feet of saturated alluvium contains about 1.3 million acre-feet of water in storage, and the upper 200 feet contains twice as much. This is enough water to irrigate the presently developed land in the basin for about 10 years. As a practical matter, it is economically infeasible and probably physically impossible to withdraw only that water in the upper 100 feet of saturated alluvial deposits, but this illustrates the large volume of ground water in storage.

In general, the annual ground-water supply recoverable on a continual basis in the valley is not directly related to the amount in storage but is equal to the average annual discharge from the system. In fact, pumping increases recharge to the ground-water system by depleting streamflow at some places and the amount of ground water in storage cannot be depleted until discharge to streamflow and evaporation ceases. Furthermore, discharge from the system will not change until storage is depleted enough to change the water-table gradient at the mouth of the basin.

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Ground-Water Quality

Chemical analyses of water samples from 12 wells and 4 springs are given in table 11. All samples were determined to be predominantly calcium bicarbonate in type as was true of the surface waters (p. 64).

Ground water tends to have more dissolved solids than does surface runoff because of the opportunity it has had to dissolve solids from aquifer materials. In areas of shallow ground water, the loss of water by evapotranspiration tends to concentrate the dissolved minerals. Ground water in the basin normally contains between 100 and 300 mg/l dissolved solids. The less mineralized ground waters are found in the coarse-textured alluvium upstream from Mackay Reservoir.

Chemical concentrations in sampled water were compared to the tolerances recommended by the U.S. Public Health Service (1962) for drinking water. Except for dissolved iron, there were no instances where the measured concentration of a chemical constituent exceeded the recommended limits.

The dissolved-iron content in water from three wells exceeded the 0.3 mg/l limit specified in the standards; but there is reason to believe that this high level of iron is not representative of ground water in most of the basin. The maximum iron concentrations observed would not be hazardous to the health of consumers but could affect the taste of the water and leave an undesirable deposit on pipes and containers.

Almost all the ground water in the basin can be classified as either hard (120 to 180 mg/l hardness as $CaCO_3$) or very hard (above 180 mg/l hardness as $CaCO_3$). The water from one well (8N-21E-30bdb1) in the alluvium above Bartlett Point contained only 84 mg/l hardness on September 18, 1968, so it is classed as moderately hard. However, when the same well was sampled a year earlier on August 8, 1967, the hardness was 123 mg/l placing the water in the hard class. This shows that the quality of the ground water does change with time.

The chemical characteristics of water can frequently be used to indicate the origin or route of travel of the water. In this basin, water which has spent much time

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Table 11. Quality of water analysis, ground water.
(Chemical constituents, in milligrams per liter)

Well	Date of collection	Depth (ft)	Temperature (°C)	Silica (SiO_2)	Iron (FE)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Carbonate (CO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Phosphate (PO_4)	Boron (B)	Dissolved solids: Calculated	Dissolved solids: Residue on evaporation at 180° C	Hardness as $CaCO_3$: Calcium magnesium	Hardness as $CaCO_3$: Noncarbonate	Percent sodium	Sodium adsorption ratio	Specific conductance (micromhos at 25° C)	pH	Color
3N-26E- 2bb1	10-18-49	107	7					--3.7--		300	0	16	8							266	20	3		543		
3N-26E- 8dd1	10-18-49	600						--3.2--		188	0	17	11							180	26	4		360		
3N-26E- 8dd1	2- 4-50	582	11	14	0.11	50	13	7.6	4.0	204	0	24	11	0.3	0.0		0.00	225	215	178	11	8		377	7.4	
4N-26E- 4b	10- 2-68	160	10	18	.35	66	15	13	1.5	271	0	20	5.5	.2	11			284	276	226	4	11		478	7.6	0
4N-26E-19ad1	10-19-68	90	8	23						422	0		16	.4			.04							738		
4N-26E-26dcd1	10-18-69							--13--		198	0	15	8							160	0	15		368		
4N-26E-36aa1	1-16-49	190	10	22	.02	67	21	11	2.4	288	0	29	8.0	.2	2.6		.01		305	254	18	9		506	7.1	
4N-26E-36aa1	8-30-57	190	13	24	.06	67	18	9.0	1.8	274	0	24	7.5	.3	1.7	0.05		288	289	241	16	7		489	7.6	
4N-26E-36aa2	10-19-49	29	9					--3.7--		312	0	20	8							280	24			530		
5N-25E-1d	9-26-67	210	9	17		45	8.5	6.0	1.0	164	0	17	4.5	.2	5.1		.04	185	189	148	13	8	0.2	306	7.8	
6N-26E-32 c	10- 2-68	100	8	19	.73	53	10	6.9	1.4	200	0	16	3.0	.2	4.6			213	211	173	9	8		359	7.4	5
7N-24E- 7 c	9-28-67	298	7	12		38	10	5.2	1.0	160	0	13	2.5	.3	.6		.00	162	164	136	5	8	.2	279	8.0	15
7N-24E- 7 c	9-13-68	298	8	13	.18	38	11	4.9	1.4	158	0	17	4.0	.3	.7			168	165	140	10	7		276	7.8	0
8N-21E-30bdb1	8- 8-67	127	7	12		36	8.0	5.4	1.6	136	0	15	7.5	.2	.8		.00	154	164	123	12	8	.2	259	7.3	0
8N-21E-30bdb1	9-18-68	127	7	11	.44	25	5.3	3.5	.9	98	0	11	.5	.3	.1			110	106	84	4	8		183	7.4	0
8N-22E-26 c	9- 7-67	86	11	15		39	8.6	5.8	1.0	156	0	14	22.0	.3	1.0		.04	164	167	133	5	9	.2	277	8.0	0

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underground is likely to become saturated with calcium carbonate and other less soluble constituents. Water which has spent a brief time underground in coarse alluvium or consolidated rocks may not have had sufficient time to become saturated with any constituent. This appears to be the factor in water from well 8N-21E-30dbl, which, as mentioned above, changes in quality with time. There, the water occurs in a relatively narrow part of the alluvial aquifer which is situated near the base of a major snowmelt-recharge area. Apparently, because of the location and high permeability of the aquifer, water moves relatively rapidly through this section of the aquifers and its quality is affected by annual fluctuations in the quality and volume of the recharge water.

The ground waters were rated for irrigation suitability according to standards set forth by the U.S. Salinity Laboratory Staff (1954). At no place was the sodium-adsorption ratio high enough to indicate a potential sodium hazard. The electrical conductivity of the water in all but one well ranged between 250 and 750 micromhos per centimeter at 25° C (table 11), thus most of the water is in the medium salinity-hazard category. Because of the coarse-textured, well-drained soils prevalent in the Big Lost River valley, none of these waters is likely to cause salinity problems.

ANALYSIS OF WATER YIELD

Water yield is defined in this report as the total average annual input (precipitation) minus the average annual quantity evaporated at the surface and transpired by native vegetation (natural evapotranspiration) prior to the water becoming streamflow or a part of the ground-water body for the period 1944-68. In order to avoid negative values of water yield, water transpired by native vegetation after it has become a part of streamflow or the ground-water body is considered to be water consumptively used and, therefore, is a charge against water yield. The amount of ground water in storage in the basin aquifers is not a part of water yield. While all the water yield may not be feasibly used in the Big Lost River basin, it is the maximum amount perennially available for development on a continuing basis and can be changed only by changing natural water losses.

Mean annual precipitation in the basin for the period 1944-68 is shown by the isohyetal map in figure 9. Precipitation at any point, or the volume of precipitation for all or any part of the basin, can be estimated from this map.

Average annual precipitation in the basin, as derived from this map, is 20.2 inches or 1,520,000 acre-feet. Annual evapotranspiration losses were calculated for a number of representative locations in the basin using methods described previously (see p. 17-20).

Accordingly, a water yield at scattered points over the basin was obtained by subtracting annual evapotranspiration losses from mean annual precipitation and, for those areas with yields so low that in some years no water yield is produced, by using a technique described by Walker, Dutcher, Decker, and Dyer (written commun., 1969). Using the yields thus obtained, lines of equal water yield were drawn on a map of the basin (fig. 30). Water yields for each subarea were determined from this map by planimetering areas between lines of equal yield and by estimating the distribution of yield between the lines. Water yields for the 25-year period 1944-68 for each of the subbasin units shown in fig. 30 are listed in table 12. Table 12 also shows the estimated maximum and minimum annual streamflow for representative basins.

The distribution of the water crop in the basin can be determined from the detailed data in table 12. A water budget for the four principal reaches of the basin is described and the surface- and ground-water supplies summarized in the following sections.

ABOVE HOWELL RANCH

Analyses of available data for the basin above the gage at Wild Horse (1200) for the period 1944-68 and the water years 1967-68 indicate that all the water yield obtained passes this gage as streamflow even though changes in ground-water and soil-moisture storage may temporarily reduce or increase streamflow.

However, analyses of yield data for the basin above the gaging station at Howell Ranch (1205) indicate some of the yield infiltrates into the ground and bypasses this gage. Miscellaneous streamflow measurements made during the study period likewise indicate that all the yield was not at the surface at the Howell Ranch gage.

Geologic and hydrologic data indicate that about 5 to 10 cfs of flow bypasses the gage at Howell Ranch through the alluvial deposits in the valley. Also, well data and aquifer

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Table 12. Hydrologic data for subareas in Big Lost River basin for the period 1944-68.

No. of subbasin (see fig. 3)	Area (square miles)	Mean elevation (feet)	Mean precipitation (inches)	Natural evapotranspiration (inches)	Estimated water yield		Consumptive use by phreatophytes and crops (cfs)	Annual surface flow (cfs)			Estimated underground flow (cfs)
					inches	cfs		Average	Estimated Min. (1961 w.y.)	Estimated Max. (1965 w.y.)	
1	53	8,850	26.2	13.4	12.8	50		41	21	80	9
2	42	8,740	31.2	14.9	16.3	50		38	21	72	12
3	19	8,010	18.4	14.3	4.1	6		-	-	-	-
Total above gage at Wild Horse	114	8,650	26.9	14.3	12.6	105	0	103	59	184	2
4	67	8,750	22.7	17.9	4.8	24		34	19	54	10
5	76	8,960	32.5	16.0	16.5	92		77	41	156	15
6	58	9,300	31.7	13.8	17.9	76		66	38	125	10
7	78	8,230	20.8	15.5	5.3	30		-	-	-	-
Total East Fork at mouth	279	8,780	26.7	15.9	10.8	225		225	110	360	-
8	54	7,980	17.7	13.9	3.8	15		-	-	-	-
Total above gage at Howell Ranch	450	8,650	25.7	15.4	10.3	345	0	310	170	538	35
9	50	7,380	14.1	12.1	2.0	7		-	.7	3.4	-
10	13	8,050	18.4	13.1	5.3	5		2	-	-	3
11	40	7,790	15.8	13.4	2.4	8		-	-	-	-
12	18	7,220	13.8	12.1	1.7	2		-	-	-	-
13	1.0	9,330	25.4	10.6	14.8	1		1	0.6	1.6	0
14	13	8,580	22.7	14.0	8.7	8		0	.2	.6	8
15	6.2	9,580	27.9	11.5	16.4	7		3	2.8	4.0	4
16	4.8	9,470	28.2	11.4	16.8	5		4	3.8	5.0	1
17	3.7	8,360	20.5	13.1	7.4	2		0	-	-	2
18	67	6,590	9.2	9.2	.3	.1		-	-	-	-

Table 12. Hydrologic data for subareas in Big Lost River basin for the period 1944-68--Continued.

No. of subbasin (see fig. 3)	Area (square miles)	Mean elevation (feet)	Mean precipitation (inches)	Natural evapotranspiration (inches)	Estimated water yield		Consumptive use by phreatophytes and crops (cfs)	Annual surface flow (cfs)			Estimated underground flow (cfs)
					inches	cfs		Average	Estimated Min. (1961 w.y.)	Estimated Max. (1965 w.y.)	
Total Thousand Sprs. Cr. basin	149	7,490	14.7	11.4	3.3	a36		25	18	29	-
19	2.6	9,860	30.7	12.0	18.7	4		1	.2	.8	3
20	8.8	8,430	21.8	14.0	7.8	5		0	-	-	5
21	4.4	9,230	29.4	11.9	17.5	6		2	1.7	2.7	4
22	9.9	9,520	31.2	11.7	19.5	14		9	7	11	5
23	14	9,060	27.1	13.3	13.8	17		0	-	-	17
24	9.6	7,950	17.6	13.0	4.6	3		1	.7	1.7	2
25	12	7,000	11.9	11.3	.6	.5		0	-	-	.5
26	14	8,250	20.4	14.8	5.6	6		3	.9	3.2	3
27	8.8	7,010	14.3	12.6	1.7	1		0	-	-	1
28	29	6,590	10.8	10.5	.3	.6		-	-	-	-
29	33	6,200	9.2	9.2	.02	.1		-	-	-	-
Total above Mackay Narrows	813	8,110	21.1	13.6	7.5	a450	50	325	180	561	75
30	8.26	9,470	31.4	12.4	19.0	12		18	15	23	b0
31	25	8,130	23.2	14.7	8.5	16		8	4	14	b8
32	59	7,850	22.6	16.2	6.4	28		0	-	-	28
33	16	8,410	22.9	15.0	7.9	7		0	-	-	7
34	46	6,170	10.8	10.7	.06	.2		-	-	-	-
35	107	5,680	10.3	10.3	.03	.3		-	-	-	-
36	3.6	8,840	25.4	16.6	8.8	2		1	.7	1.7	1
37	27.6	8,230	21.9	15.3	6.6	13		11	6	19	2
38	45	7,000	16.0	14.4	1.6	5		0	-	-	5

39	93.4	7,960	27.5	17.1	10.4	70		c58	32	105	12
40	19	7,580	30.4	18.8	11.6	16		1	.6	2.3	15
41	33	7,850	20.8	15.5	5.3	13		9	5	16	4
42	73	6,860	17.7	15.1	2.6	14		0	-	-	14
43	22	6,900	17.0	15.1	1.9	3		0	-	-	3
Total above Moore Canal heading	d1,310	-	-	-	-	d640	115	200	45	467	325
44	18	6,510	15.4	14.2	1.2	1		0	-	-	1
Total above gage near Arco	1,410	7,700	20.2	13.9	6.3	a650	150	75	0	270	425

a Not reduced for consumptive use on irrigated acreage.
b Underflow believed to occur from Pass Creek basin to Lower Cedar Creek basin.
c Some of flow in surface diversion past the gage.
d Does not include 9 cfs from subbasins 32, 34, and 35 which enters below Moore Canal heading.

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tests show that the bedrock underlying the alluvial deposits can transmit some water. While the miscellaneous measurement and yield data are inconclusive, probably as much as 25 cfs of the average yield above Howell Ranch enters the bedrock, returning to Big Lost River in Hamilton Springs or in Warm Springs above Mackay Reservoir. Also, some of the lost water may move directly through the bedrock and discharge into the alluvial deposits above Mackay Reservoir.

HOWELL RANCH TO MACKAY NARROWS

The estimated total water yield from the area between Howell Ranch and Mackay Narrows, an area of 363 square miles, is 105 cfs (table 12). Whereas the 150 square miles of valley floor yields little water, the mountains which range from 7,000 to 12,662 feet in elevation yield considerable quantities.

Thousand Springs Creek drains nearly 150 square miles of the total area tributary to the reach. Sage, Rock, Birch, and Cedar Creeks, and an unnamed tributary of Arentson Gulch are perennial streams as they leave the mountains but disappear underground when they reach the alluvial fans. The basins of these creeks and other basins that have little or no surface flow supply an estimated 35 cfs of flow to the many springs and seeps that feed the large swamp area in Thousand Springs Creek valley. Diversion through the Chilly Canal into the Thousand Springs area averages 15 cfs. Also, an undetermined amount of water moves underground from Big Lost River upstream from the Chilly Buttes to the Thousand Springs Creek valley.

The total estimated surface flow from Thousands Springs Creek averages 25 cfs and the average consumptive use in the marshland on the valley floor is 25 cfs, giving a total of 50 cfs which equals the computed yield plus flow in the canal. Below Howell Ranch, ground-water contours show underground flow from Big Lost River into Thousand Springs basin. Water also leaves the Thousand Springs basin underground, but it is not necessary to quantify the inflow or outflow when considering the total yield between Howell Ranch and the Mackay Narrows.

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An approximate water budget can be made for the reach above Mackay Narrows by using estimated and measured data. The data are summarized in table 12. The input is the total of the yields from the subbasins above Mackay Narrows and is 450 cfs. Much of the water output from the reach is evapotranspiration. For example, the water table is perennially near the surface in 9,150 acres of swampy grassland along Thousand Springs Creek; a total of 12,680 acres of cropland is irrigated from the river and tributaries above the reservoir; about 1,000 acres of willows, cottonwood trees, and pasture use water along the river channels; and the 1,300-acre surface of Mackay Reservoir loses a considerable amount of water by direct evaporation. Total consumptive use from the above sources is estimated at 50 cfs. Subtracting the consumptive use and the surface outflow from the total yield above Mackay Narrows leaves 75 cfs bypassing the gages at Mackay Narrows, as shown in table 12.

Pump-test data and the hydraulic gradient of the water table indicate that an estimated 15 cfs flows underground through the alluvium in the valley at the narrows. The remainder, 60 cfs, could pass either underneath or through the cemented alluvium between the White Knob Mountains and the Lost River Range or pass through the carbonate rocks around the west abutment of Mackay Dam, or both.

The carbonate rocks in and near the west abutment of the dam have been shattered by faulting and drill holes showed leakage from the reservoir at this place. An attempt was made to grout the abutment in order to stop or reduce the leakage, but whether or not the attempt was a success cannot be evaluated. The grout may have reduced the leakage in the vicinity of the abutment, but it is unlikely that it spread very far from the dam. Thus, a large part of the unaccounted flow may escape from the reach through the carbonate rocks and lose its identity in the reach below the Mackay Narrows.

Figure 14 shows a considerable section of cemented alluvium northeast of the Mackay Narrows. There is no evidence to indicate the position of the water table nor the permeability of the material northeast of The Narrows; but if the upper 200 feet of the cemented alluvium in Mackay Narrows is reasonably permeable and continues to the northeast, a few cubic feet per second could bypass The Narrows. Also, the geologic and geophysical evidence indicates that carbonate rocks underlie the cemented alluvium, and some water may move through them. None of the evidence is conclusive, but it does suggest that a downstream movement of

60 cfs through material other than the alluvium in the Mackay Narrows is not unreasonable. Furthermore, the unknown effect the fault (fig. 10) bounding the northeast side of the valley might have on movement of ground water from the southwest slopes of the Lost River Range could possibly account for some of the 60 cfs.

MACKAY NARROWS TO MOORE CANAL HEADING

The inflow between Mackay Narrows and the Moore Canal is the surface and subsurface flow at Mackay Narrows plus the total yield from the intervening drainage, an area of nearly 500 square miles. Subbasins 30 to 43, except portions of 32, 34, and 35, contribute to the reach. The total input is estimated at 590 cfs. This input is also the total yield to the Moore Canal heading (640 cfs) less the consumptive use above Mackay Narrows (50 cfs).

In determining the disposition of the water entering the reach, the consumptive use was estimated as follows:

Irrigated from Antelope Creek	6,200 acres
Irrigated from Alder Creek	1,000 acres
Irrigated from Big Lost River	17,000 acres
Irrigated by pumping from ground water	6,000 acres
Total irrigated	30,200 acres
Marsh and riparian vegetation lands	5,000 acres

Assuming net consumptive use of 1.2 acre-feet per acre on the irrigated land and 2.0 acre-feet per acre on the other lands assumed subirrigated by natural means, the net consumptive use in the reach averages 65 cfs (47,000 acre-feet per year). Subtracting the consumptive use (65 cfs) and surface outflow (200 cfs) from the total input (590 cfs) leaves 325 cfs (235,000 acre-feet per year) as underflow past the Moore Canal heading (table 12).

An attempt was made to approximate the flow through the alluvium at Moore Canal heading using the following formula (Ferris and others, 1962, p. 73):

$$Q = 1.55 \times 10^{-6} TIL$$

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where

Q = discharge, in cubic feet per second,

T = transmissivity, in gpd (gallons per day per foot),

I = hydraulic gradient, in feet per mile,

L = width, in miles, of cross section through which discharge occurs, and

where

1.55×10^{-6} is a conversion constant changing gallons per day to cubic feet per second.

The water table gradient just downstream from the Moore Canal heading was about 17 feet per mile in 1968. The water-table map of Stearns (p. 95) shows the gradient was about 20 feet per mile. Because the gradient in 1920 resulted from rather dry conditions and the 1968 gradient resulted from rather wet conditions, it seems reasonable to assume that the long-term gradient would be about 18 feet per mile. The width of the saturated alluvial deposits is about 3½ miles. Assuming a transmissivity of 1 million, the largest value that would be reasonable in this section of aquifer, and using the above equation, then about 100 cfs could be presumed to move through the alluvial deposits. This, subtracted from the 325 cfs of computed ground-water flow leaves 225 cfs more than the presumed flow through the alluvium.

Geophysical evidence at cross section E-E' (fig. 15), 2 miles north of Moore, indicates a maximum thickness of alluvial deposits of about 2,000 feet and an average thickness of about 1,000 feet. The assumed transmissivity divided by the thickness of the water-bearing formation gives a coefficient of permeability of 1,000 gpd per square foot which is a reasonable value for these deposits. However, Wenzel (1942, p. 13) gave coefficients of permeability for similar materials that range upward to 4,400 gpd per square foot. If, in fact, the average coefficient of permeability of the alluvial deposits is 2,000 gpd per square foot, then the transmissivity would be 2 million and 185 cfs could flow underground past the Moore Canal heading. However, it seems unlikely that the average coefficient of permeability is this large because repeated eruption of basalt flows near and south of Arco have

encroached northward into the mouth of the valley, thus reducing the thickness and/or permeability of the alluvium. It is probable that these basalt flows dammed the ancient Big Lost River and formed lakes in which less permeable fine-grained sediments were deposited.

Geophysical evidence (p. 31) also indicates that some volcanic rock does extend northward for a distance of several miles north of Moore. If this is basalt of the Snake River Group which has the comparable transmissivity values of several million gallons per day per foot that occur beneath the Snake River Plain (Mundorff, Crosthwaite, and Kilburn, 1964, p. 147, 153), then a transmissivity of 5.5 million in the basalt and of 1 million in the alluvial deposits would be required to transmit the 325 cfs of ground-water flow at a gradient of 18 feet per mile.

As previously mentioned, the carbonate rocks can transmit water, but their permeability is inferred indirectly from observations of spring discharge and the lack of perennial streams in several tributaries of Big Lost River. Carbonate rocks form the sides of the basin at Moore and geophysical evidence indicates that they underlie the alluvial deposits and volcanic rocks. It is not unlikely that a large quantity of water moves southward through the carbonate rocks to the Snake River Plain. Feth (1964) described "hidden recharge" of alluvial deposits occurring along the Wasatch Mountain front in Utah and estimated that about 1,000 acre-feet of water per year per linear mile of mountain front percolates directly from the rocks in the mountains to the alluvial deposits in the valley, without appearing as streamflow. The Wasatch Mountain front consists of gneiss and schist which normally have low permeability. The carbonate rocks of the Lost River range have a higher permeability. Thus, hidden recharge may be a more effective process in the Big Lost River basin than in the Wasatch front.

The water yield estimated for the valley reach from Mackay Narrows to Moore Canal heading may be too large. However, even if there were no water yield in the reach, an obviously erroneous assumption, there still would have to be 135 cfs moving underground at Moore Canal heading (400 cfs inflow at Mackay Narrows minus 65 cfs consumptive use minus 200 cfs surface outflow at Moore Canal heading). This would leave 35 cfs of unaccounted underflow (135 minus 100). Thus, the available data are not adequate to resolve the problem of transmitting the estimated volume of underflow to the next downstream reach of the basin, even with a significant downward adjustment of the volume of water yield. Therefore, it

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is probable that the basalt and carbonate rocks transmit a significant part of the ground water to the next downstream reach.

MOORE CANAL HEADING TO GAGING STATION DOWNSTREAM FROM ARCO

A rather small yield from tributary basins enters the system below the Moore Canal heading. No water flows in tributaries in the reach except for rare occasions when snow melts on frozen ground or when the rate of rainfall exceeds soil-infiltration rates. Total water yield in the reach from tributary areas is estimated to be 10 cfs, which comes from subbasin 44 and part of subbasin 32, 34, and 35 (see fig. 3 and table 12). The subbasins tributary to Big Lost River below Arco are assumed not to be contributing to the system above the gage Big Lost River near Arco (1335). Consumptive use on cropland in the reach was computed for an estimated 12,340 acres irrigated from the Big Lost River, 2,300 acres irrigated by ground water, and 3,155 acres assumed subirrigated by natural means. Assuming net consumptive use per acre to be the same as in other parts of the basin, an average net use of 35 cfs (25,000 acre-feet per year) was calculated.

ESTIMATE OF VOLUME OF WATER LEAVING BASIN BELOW ARCO

Records of discharge show that streamflow losses between Moore Canal heading and the gage near Arco averaged 125 cfs for the period 1944-68. As stated above, consumptive use accounted for about 35 cfs of these losses leaving an estimated 90 cfs of surface flow that percolates to the water table. The underground flow entering the reach at the Moore Canal heading is estimated to be 325 cfs. Thus average underground flow past the Arco gage is the total of the underground flow into the reach plus the surface flow lost to the water table or 415 cfs (300,000 acre-feet per year) (table 12).

The underground flow plus much of the surface flow past the gage near Arco eventually recharges the Snake Plain aquifer. The average annual estimated total water discharge from the Big Lost River basin for the period 1944-68 is 425 cfs underground plus 75 cfs surface flow or 500 cfs (363,000 acre-feet per year). The underground flow is nearly constant each year, because the factors in the ground-water flow

equation would be relatively constant from year to year. The annual mean surface flow has ranged from zero to an estimated 270 cfs (195,000 acre-feet per year).

The formula given on pages 94-95 cannot be used to estimate the underflow leaving the basin at Arco because gradients of the several water-bearing zones found in the test well northwest of Arco cannot be determined from the existing data. It would require at least one well and probably more, upvalley from the present test well, to determine gradients. Also, because of the heterogeneity of the underlying material, no reasonable estimate can be made of its transmissivity. As mentioned previously, basalt flows have encroached into the mouth of the basin and there are at least five water-bearing zones in interbedded alluvial deposits and basalt flows in the Arco area. The relatively high permeability of the basalt in this area is indicated by the fact that during construction of test well 4N-26E-21abbl, about 200-400 gpm of water plus mud, cottonseed hulls, and visqueen plastic under a head of about 425 feet flowed into the basalt during an attempt to seal it off. However, sufficient hydrologic data are not available to determine the volumes of ground water passing through each zone. Because the carbonate rocks as discussed on page 96 and the basalt apparently transmit large quantities of water within the basin, it is reasonable to assume that similar conditions prevail at the mouth of the basin and that large quantities of water leave the basin through these rocks.

In summary, the estimated water yield of the Big Lost River basin averaged 650 cfs during the period 1944-68. Of this amount, 150 cfs was evapotranspired and 500 cfs (363,000 acre-feet per year) was contributed to the Snake River Plain--75 cfs (54,000 acre-feet per year) as surface flow and 425 cfs (308,000 acre-feet per year) as ground-water flow. Figure 31 depicts the total water yield from the headwaters of the main stem of Big Lost River to Arco and shows the estimated average water yield at any section of the valley. Also included on the figure is the water yield of Antelope Creek, the largest tributary below the East Fork.

CREDIBILITY OF RESULTS

Relief in the Big Lost River basin is large and greatly affects the quantity and distribution of precipitation and, hence, the water yield. Therefore, a good definition of the variability of precipitation was paramount in this study.

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The considerable number of precipitation indices (weather stations, storage gages, snow courses, and miscellaneous snow measurements) distributed over the basin defined the major variations in precipitation. The determinations of natural water losses are based on the best climatological data available for the basin. Wind velocities for use in Rohwer's equation (p. 19) were not known for specific points in the basin, but wind values based on records at Mackay are believed to be reasonably valid. Likewise, estimates of soil-moisture storage used in determining potential evapotranspiration were not precise, but gave credible results in areas where checks on yields could be made.

The estimated water resource of the basin can be compared with results of two other investigations by the U.S. Geological Survey. Stearns, Crandall, and Steward (1938, p. 245) estimated the annual total contribution to the Snake River Plain to average 312 cfs (226,000 acre-feet per year) during the period 1920-27. Surface flow at Mackay Narrows averaged 291 cfs during 1920-27 compared with 324 cfs during the period 1944-68. The ratio obtained by dividing the average surface flow at Mackay Narrows for 1944-68 by the average flow for 1920-27 is 1.11. Assuming that values representing the contribution to the Plain for the two periods would have the same ratios as the average flows at Mackay Narrows, the method of Stearns and others would have provided a contribution of 346 cfs (250,000 acre-feet per year) to the Plain during 1944-68. The estimate of the contribution in the present study (500 cfs) is, thus, 145 percent of that estimated by Stearns and others. Their study assumed no water yield except the measured surface flows in Cedar, Alder, Pass, and Antelope Creeks plus the surface flow at Mackay Narrows. Their estimate appears to be too low because they disregarded yields in the reach from Mackay Narrows to Arco.

Mundorff, Crosthwaite, and Kilburn (1964, p. 121) estimated that the annual contribution to the Snake River Plain from surface- and ground-water sources averaged 470 cfs (340,000 acre-feet per year) for the period 1921-50. The method used by Mundorff and others was a reconnaissance-type determination using minimal data and was for a different period. Even though their estimate and our estimate are in reasonably good agreement a comparison does not prove or disprove the validity of either estimate.

A comparison of the yields and surface flows given in table 12 provides a general check on the credibility of yield estimates made. For example, the yield estimated is within

3 percent of the total measured surface flow above the gage at Wild Horse (table 12). The underground flow probably is small there, because bedrock is at the surface in the vicinity of the gage.

A comparison of estimated and measured yields above the Howell Ranch gage also indicates reasonable agreement. Estimated yield for the area above the gage at Howell Ranch is 35 cfs more than the 310 cfs measured as surface flow. Five to 10 cfs of this yield is inferred to bypass the gage underground in the valley alluvium and about 1.5 cfs is diverted around the gage. Evidence has been presented earlier that underground flow discharging from this reach feeds Hamilton and Warm Springs or flows into the alluvial aquifer downstream.

In subbasin 10 (Sage Creek), only one of three forks contains a perennial stream. The flow in this stream equals the estimated yield of its drainage area. All the yield in the two other forks is assumed to go underground because their channels are usually dry. In the Arentson Gulch tributary, where water flows over bedrock at the measuring point, the estimated yield and the surface flow check closely.

Estimated yields from subbasins 37 and 39 (Alder and Antelope Creeks) are a few percent higher than measured surface flows. Some underground flow past both gages is probable and an unmeasured surface diversion bypasses the gage on Antelope Creek.

The comparison of flows in Lower Cedar and Pass Creeks (subbasins 30 and 31) with the estimated yields has been discussed elsewhere in the report.

The above examples of calculated yields and comparison with measured yields in significant parts of the basin imply that the method of estimation and results are credible.

SUMMARY OF RESULTS

The ground and surface water of the Big Lost River basin are so closely interrelated that they should be considered as a single resource. The data developed in this report indicate that on the average about 500 cfs (362,000 acre-feet per year) leaves the Big Lost River basin. About 75 cfs leaves as surface outflow and 425 cfs as ground-water flow, almost all to the aquifer underlying the Snake River Plain. For the

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period 1944-68, surface outflow ranged from 0 to 2,500 cfs, but the rate of ground-water outflow presumably has remained almost constant. The average annual distribution of flow for the period 1944-68 was as follows:

	Surface Water (cfs)	Ground Water (cfs)	Total (cfs)
Above Howell Ranch	310	35	345
Above Mackay Narrows	325	75	400
Above Moore Canal	200	325	525
Above gage near Arco	75	425	500

The above flow estimates have been adjusted for loss by crop and phreatophyte evapotranspiration, an amount estimated to be 150 cfs for the entire irrigated area.

A large quantity of surface water is available for upstream storage in some years, but suitable reservoir sites and costs of construction have not been studied in detail. Also, water could be stored in the alluvial deposits by artificial recharge, particularly in the Chilly-Barton Flats area and on the alluvial fans on the east side of the valley from the vicinity of Mackay to Arco. About 45,000 acre-feet additional could be recharged in a given year in the Chilly-Barton Flats area, and the recharged water presumably would discharge into the river 3 to 18 months later.

Ground-water pumping affects streamflow where the river is continuous with the water table. In the present state of development, average annual depletion of the total water supply by pumping is estimated to be 16,000 acre-feet. The total amount of water pumped is so small compared to the total water supply that the overall effects of pumping cannot be detected, except locally.

The water resources of the basin, both surface and ground water, are of good quality. Total dissolved solids and the percentage of dissolved sodium are low, but the waters which have been in contact with carbonate rocks or soils tend to be hard or very hard.

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GLOSSARY

Anomaly. Departure from a standard regional relation. For example: A certain elevation-precipitation relation may be prevalent in a given region, but not in those areas where deviations (anomalies) from the general relation occur.

Available water capacity. The quantity of water (measured in inches), retained against gravity by a soil which can be extracted and used by the vegetation growing on the soil. The available water capacity of a given soil as defined in this study is dependent upon the type of vegetation and the depth and extent of its root system.

Base flow. See Base runoff.

Base runoff. Sustained or fair weather runoff. In most streams, base runoff is composed largely of ground-water discharge.

°C. Degrees Celsius (formerly degrees Centigrade). To correct to degrees Fahrenheit (°F) multiply °C by 9/5 and add 32.

Cation. A positively charged ion species such as Ca++ (calcium), Na+ (sodium), etc.

Coefficient of permeability. The coefficient of permeability of an aquifer is the rate of flow of water in gallons per day through a cross-sectional area of 1 square foot under a hydraulic gradient of 1 foot per foot at a temperature of 60° F.

Coefficient of storage. The coefficient of storage of an aquifer is defined as the volume of water the aquifer releases from or takes into storage per unit surface area of the aquifer per unit change in the component of head normal to that surface.

Consumptive use. The quantity of water transpired and evaporated from a cropped area or the normal loss of water from the soil by evaporation and plant transpiration.

Consumptive use, net; or consumptive irrigation requirement. The consumptive use decreased by the estimated contribution by rainfall toward the production of irrigated crops.

Direct runoff. The runoff entering stream channels promptly after rainfall or snowmelt.

Discharge. Outflow from a stream or aquifer. In this report the term discharge refers to the observed flow in streams and the flow of water out of a canal, ditch, reservoir, aquifer or well.

Effective precipitation. That part of the precipitation falling on an irrigated area that helps to meet consumptive use requirements.

Evaporation. The process by which water is changed from the liquid or the solid state into the vapor state.

Evapotranspiration. Water consumed by evaporation from water surfaces and moist soil and by plant transpiration.

Flow-duration curve. A cumulative frequency curve that shows the percentage of time that specified discharges are equal or exceeded.

Ground-water outflow. That part of the discharge from a drainage basin that moves through the ground water system.

Ground-water runoff. That part of the runoff which has passed into the ground, has become ground water, and has been discharged into a stream channel as spring or seepage water. See also Base runoff and Direct runoff.

Ground-water underflow. Subsurface movement of ground water, generally through alluvial deposits or other water-bearing formations underlying a stream course or valley. See Underflow.

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Hardness. A measure of the multivalent cations in water that affect the sudsing action of soap. It is expressed on terms of the number of milligrams per liter of chemically equivalent calcium carbonate.

Hydrologic budget. An accounting of the inflow to (input), outflow from (output), and storage in, a hydrologic unit, such as drainage basin, aquifer, soil zone, lake, reservoir, or irrigation project.

Infiltration. The flow of a fluid into a substance through pores or small openings. It connotes flow into a substance in contradistinction to the word percolation, which connotes flow through a porous substance.

Isohyetal line (isohyet). A line drawn on a map or chart joining points that receive the same amount of precipitation.

Lake evaporation. The evaporation which would be expected to occur on a large lake. In this report it is assumed to be essentially equivalent to the potential evapotranspiration on a unit of land of similar size and location.

Lapse rate. The rate of temperature decrease per unit increase in elevation.

Low-flow frequency curve. A graph showing the magnitude and frequency of minimum flows for a period of given length. Frequency is usually expressed as the average interval, in years, between recurrences of an annual minimum flow equal to or less than that shown by the magnitude scale.

Milligrams per liter. Milligrams of constituent per liter of liquid. At concentrations prevailing in Big Lost River basin, milligrams per liter is equivalent to parts per million.

Pan evaporation. The evaporation (usually measured in inches) in an evaporation pan. The U.S. Weather Bureau Class A pan (the most common evaporation pan) is 4 feet in diameter by 10 inches deep and is set on a timber grillage so that the top rim is about 16 inches from the ground. A coefficient, usually near 0.70, is used to convert evaporation from Class A pans to the equivalent lake evaporation.

Percolation. The movement, under hydrostatic pressure, of water through the interstices of a rock or soil, except the movement through large openings such as caves.

Permeability. The rate at which a rock will transmit water through a given cross section under a given difference of pressure per unit of distance. See coefficient of permeability.

Potential evapotranspiration. Water loss that will occur if at no time there is a deficiency of water in the soil for use of vegetation. In this study it is measured in inches of depth per unit of time.

Return flow. That part of irrigation water that is not consumed by evapotranspiration and that returns to its source or another body of water. Also called return water.

Runoff. That part of the precipitation that appears in surface streams. It is the same as streamflow unaffected by artificial diversions, storage, or other works of man in or on the stream channels.

Salinity. In this report, the term salinity refers to the soluble salt content of water or soils.

Specific yield. The ratio of the volume of water that a saturated rock or soil will yield by gravity to the total volume of the rock or soil, usually expressed is a percentage.

Storage coefficient. See coefficient of storage.

Supplemental irrigation. In this report the term supplemental irrigation is applied to well water used to supplement streamflow, the latter being the primary source of water.

Surface runoff. That part of the runoff which travels over the soil surface to the nearest stream channel. It is also defined as that part of the runoff of a drainage basin that has not passed beneath the surface since precipitation. The term is misused when applied in the sense of direct runoff.

Transmissivity. Transmissivity is expressed as the rate of flow of water, at the prevailing water temperature, in gallons per day, through a vertical strip of the aquifer 1 foot wide extending the full saturated height of the aquifer under a hydraulic gradient of 1 foot per foot.

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Underflow. The downstream flow of water through the permeable deposits that underlie a valley and that are more or less limited by rocks of low permeability.

Water-holding capacity. The capacity of a given depth of soil to hold water against the forces of gravity. This is not a rigidly defined term since the quantity of water held against gravity tends to decrease somewhat with time.

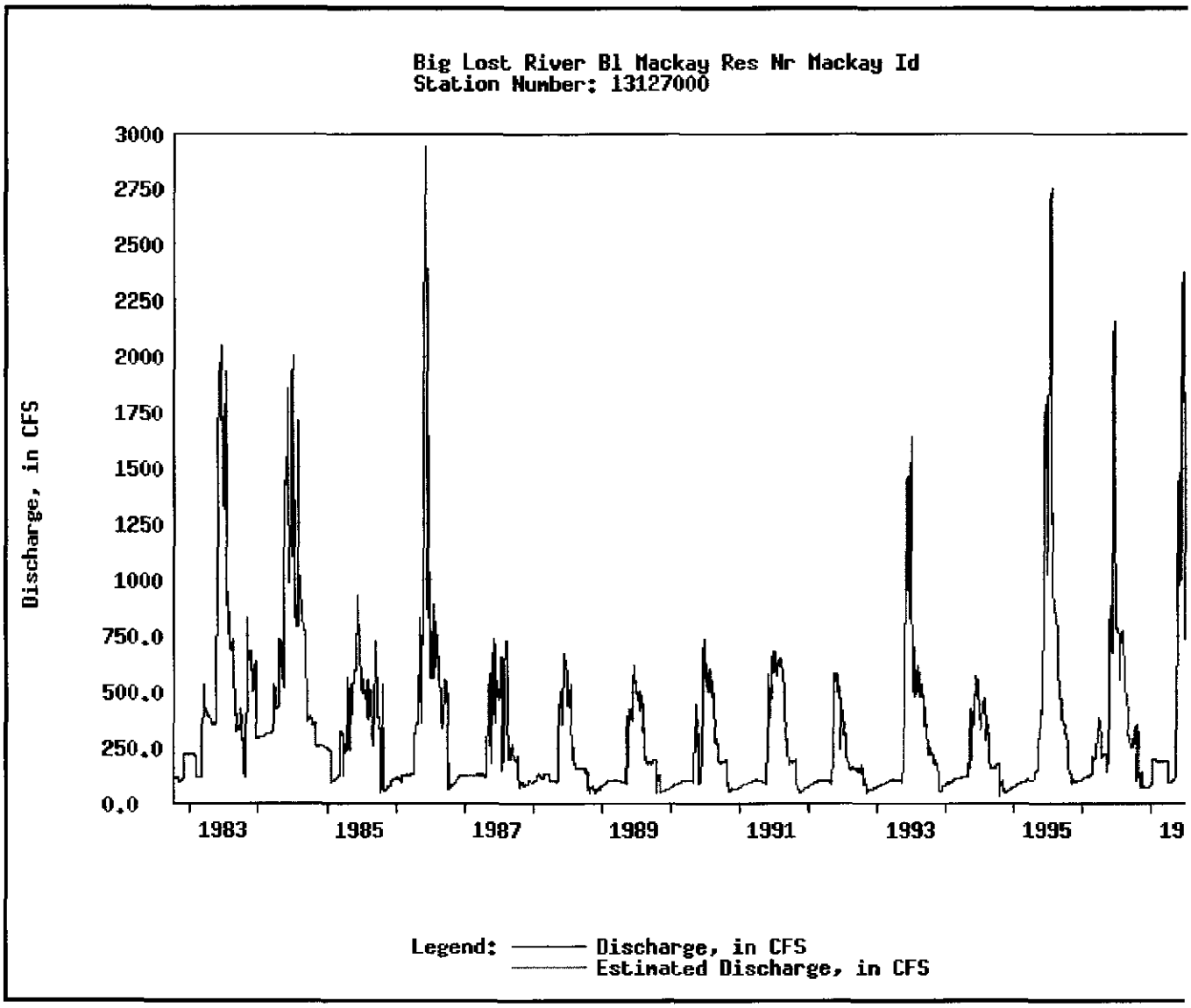
Water requirement. The quantity of water, regardless of its source, required by a crop in a given period of time, for its normal growth under field conditions. It includes transpiration, surface evaporation, and other economically unavoidable wastes.

Water table. The upper surface of a zone of saturation.

Water yield. The total average annual input (precipitation) minus the average annual quantity evaporated at the surface and transpired by native vegetation (natural evapotranspiration) prior to the water becoming streamflow or a part of the ground-water body.

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Historical Streamflow Daily Values Graph for Big Lost River Bl Mackay Res Nr Mackay Id (13127000)



Some stations have red data points. These represent days for which data were estimated, rather than recorded.

Force this graph to be redrawn

Why you might press this button

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DISTRICT COURT-SRBA
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IN THE DISTRICT COURT OF THE FIFTH JUDICIAL DISTRICT OF THE STATE OF IDAHO, IN AND FOR THE COUNTY OF TWIN FALLS

In Re SRBA	)	**NOTICE OF ISSUANCE**
	)	
Case No. 39576	)	**Water Rights: 34-00496A, 34-00692D, 34-02428, 34-07096, 34-07096A, 34-07096B, 34-07097, 34-07097A, 34-07097B, 34-07223, and 34-12416**
	)	
	)	

On February 25, 1999, Special Master Brigette Bilyeu issued a ***Special Master's Report and Recommendation*** for the above subcase(s) pursuant to ***SRBA Administrative Order 1 (AO1)***, Section 13a.

Pursuant to ***SRBA Administrative Order 1***, Section 13a, any party to the adjudication including parties to the subcase, may file a Motion to Alter or Amend by the 28th day of the month following the publication of the filing of the ***Special Master's Report and Recommendation*** in the Docket Sheet (***AO1***, Section 13a).

Failure of any party in the adjudication to pursue or participate in a Motion to Alter or Amend the ***Special Master's Report and Recommendation*** shall constitute a waiver of the right to challenge it before the Presiding Judge.

DATED: February 25, 1999.

Deputy Clerk

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DISTRICT COURT-SRBA
TWIN FALLS CO., IDAHO
FILED

IN THE DISTRICT COURT OF THE FIFTH JUDICIAL DISTRICT OF THE STATE OF IDAHO, IN AND FOR THE COUNTY OF TWIN FALLS

In Re SRBA Case No. 39576	**SPECIAL MASTER'S REPORT AND RECOMMENDATION** **FINDINGS OF FACT AND CONCLUSIONS OF LAW** **FOR WATER RIGHTS 34-00496A, 34-00692D, 34-02428, 34-07096, 34-07096A, 34-07096B, 34-07097, 34-07097A, 34-07097B, 34-07223, and 34-12416**

I. INTRODUCTION/PROCEDURAL BACKGROUND

A notice of claim was filed for each of the water rights listed above. The Director of the State of Idaho Department of Water Resources (IDWR) examined the water system for Reporting Area 1 (Basin 34) and investigated these water rights.

The *Director's Report for Reporting Area 34 (Director's Report)* recommended these water rights to the claimant Mitchell Sorensen. There were four objectors to these water rights. Kirby Jensen and Doyle Jensen (Jensens) filed Objections to the *Director's Report* for each water right. The Big Lost River Water Users Association (The Association) filed Objections to the *Director's Report* for water rights 34-00692D, 34-02428, 34-07223, and 34-12416. The claimant Mitchell Sorensen filed objections to water rights 34-02428, 34-07096, 34-07097, 34-07223, and 34-12416. Claimant and objectors each participated at trial and presented evidence.

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II. STANDARD OF REVIEW

A. DIRECTOR'S REPORT

The trial of these subcases focused on objections to changes in these water rights. The Association objected to changes in place of use, changes from supplemental right to primary right,[1] changes in allowing combined use of the rights, and changes allowing expansion in acreage.

B. *PRIMA FACIE* WEIGHT

The *Director's Report* has *prima facie* weight as set forth in I.C. § 42-1411(4)-(5). The term *prima facie* evidence is an alternative label for a rebuttable presumption. *State v. Hagerman Water Right Owners,* 130 Idaho 736, 947 P.2d 409, 418 (1997); *State v. Hebner,* 108 Idaho 196, 97 P.2d 1210 (Ct. App. 1985). Thus, giving evidence *prima facie* status confers a presumption that sufficient proof has been made to prevail on an issue absent competent evidence to the contrary. *Prima facie* proof does not shift the burden of persuasion on an issue. *Reddy v. Johnson,* 77 Idaho 412, 293 P.2d 945 (1956); D. Craig Lewis, IDAHO TRIAL HANDBOOK §§ 1.4-12.7 (1995). When rebutted, the presumption disappears and the party with the benefit of the presumption retains the burden of persuasion on the issue. *State v. Hagerman Water Right Owners,* 130 Idaho 736, 947 P.2d 409, 418 (1997).

The *Director's Report* as *prima facie* evidence draws a conclusion as to a particular element of a water right. A presumption exists until the objector presents "substantial evidence" that the element is other than as recommended. If the objector presents such evidence, the presumption disappears. Nevertheless, the facts upon which the presumption is based are to be weighed with all other facts that may be relevant. *Id.* at 419.

C. AMNESTY STATUTES

1. Issues Raised by The Association

The Association objected to changes to various water right recommendations in the *Director's Report* asserting the changes were analyzed improperly under the Amnesty Statutes,

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[1] It is common for farmers to have two rights on the same land. Often a well is drilled as a supplemental groundwater right which is available when the surface water right is not. The surface water right is usually the primary right, and the groundwater right is supplemental because it is secondary to an existing surface water right.

I.C. §§ 42-1425, 1426 & 1427. First, The Association urged the court to reject changes in place of use for rights which were transferred to an area known as Era Flat. The Association claimed that allowing rights to be used at this new place injured existing rights.

Second, The Association asked the court to reject changes in use allowing groundwater rights originally supplemental to surface water rights to be used as primary rights. The Association argued that the *Director's Report* improperly analyzed this change from supplemental to primary pursuant to I.C.§ 42-1425 which does not allow expansions of rights.

Third, The Association urged the court to reject changes allowing multiple water rights owned by a single water user to be used together on a combined place of use. The Association argued that these changes injured existing water rights.

Finally, The Association asked the court to reject expansions in acreage which were recommended in the *Director's Report.* IDWR analyzed these expansions pursuant to I.C. § 42-1426 which allows for expansions. The Association, however, argues these expansions should not be endorsed because they improperly injure existing water rights.

2. Standards Under the Amnesty Statutes

The amnesty statutes, I.C. §§ 42-1425, 42-1426, and 42-1427, have been thoroughly analyzed by the Idaho Supreme Court in *In re SRBA Case No. 39576, Fremont-Madison Irrigation District v. Idaho Groundwater Appropriators,* 129 Idaho 454, 457, 926 P.2d 1301, 1304 (1996). The amnesty statutes were tailored to protect status quo water uses by water users who had failed to follow the statutory procedure for development or change to water uses. *Id.*

a. Accomplished Transfers Under I.C. § 42-1425

I.C. § 42-1425 is entitled "accomplished transfers" and addresses changes in place of use, purpose of use, points of diversion, nature of use or period of use of existing water rights. Section 1425 provides for transfers of existing water rights for any change made prior to the date of commencement of the SRBA, regardless of compliance with I.C. §§ 42-108 and 42-222. *Id.* at 129 Idaho 458.

Two limitations exist for an accomplished transfer under this section: (1) there must be no injury to other water rights existing on the date of the change; and (2) the transfer cannot constitute an "enlargement" of the original right. *Id.* The Idaho Supreme Court

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defined the term enlargement in this context to include such events as "an increase in the number of acres irrigated, an increase in the rate of diversion or duration of diversion." *Id.* Enlargements are not allowed under I.C. § 42-1425. However, a water user may seek an enlargement under I.C. § 42-1426 subject to the limitations included in that section.[2]

The party aggrieved by the director's recommendation, whether that was the party claiming the accomplished transfer or the party claiming injury, has the burden of proof under I.C. § 42-1425.

b. Enlargements Under I.C. § 42-1426

A water user may seek an enlargement in the SRBA under I.C. § 42-1426. Unlike proceedings under I.C. § 42-1425, this section allows the enlargement of existing water rights under certain conditions. I.C. § 42-1426(2) allows an enlargement only if it does not injure water rights existing on the date of enlargement of use. *Id* at 460. Section 42-1426 provides that if injury to a water right later in time cannot be mitigated, "then a new right for the enlarged use shall be advanced to a date one (1) day later than the priority date for the junior water right injured by the enlargement." *Id.*

Only those enlargements which do not increase the rate of diversion, do not injure other water rights existing on the date of enlargement, and which fully mitigate any potential injury to junior water rights existing as of the date of enactment of the amnesty statutes are permitted. *Id.* The Idaho Supreme Court reserved the issue of what conditions directly related to the injury could be imposed to adequately mitigate injury to junior water rights existing on the date of enactment of the statute. *Id.* at 461. However, the Court recognized that some injury from an enlargement is identified if the enlargement takes priority over a validly established water right held by a junior appropriator. *Id.* The same reasoning applies in the event injury is alleged to a senior appropriator. Injury from an enlargement occurs if the enlargement takes priority over a senior water right.

The Supreme Court determined that if there are no mitigation provisions that assure there will be no injury to the junior appropriator, the new right for the enlarged use must be

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[2] I.C. § 42-1425(2) provides for remand to the Director "for future hearing to determine whether the change injured a water right existing on the date of the change or constituted an enlargement of the original right." All parties, including The Association, waived the remand provision of the section.

advanced to a date one day later than the priority date for the junior water right injured by the enlargement. *Id* at 461. The reasoning applies equally when analyzing injury to a **senior appropriator**. If no mitigation provisions assure there will be no injury to the senior appropriator, the new right for the enlarged use must be junior in priority to the senior right.

Under Idaho Code § 42-1426, a person who has filed a claim in the SRBA does not have to petition IDWR to oppose an enlargement. The Director will determine whether the enlargement should be allowed. The determination may disallow the enlargement or allow the enlargement subject to conditions that will mitigate any injury. If mitigation is not possible, the enlarged right may be advanced to a date one day later than the junior water right that would otherwise be injured. *Id.*, 129 Idaho at 462. "Either party who asserts injury, whether that be the applicant for an enlargement or the person who claims injury by the enlargement, has the burden of establishing the claim in the general adjudication." *Id.*

D. Mandatory Permit and License Statutes

Water rights developed after 1971 must comply with the application, permitting, and licensing requirements of I.C. §§ 42-202 and 42-204. Under those statutes, development of a permit is limited to a period of five years, and that time period may be extended by IDWR on a showing of good cause and a request for extension of time filed prior to the date that proof of beneficial use is due. I.C. § 42-204. Water rights developed under these statutes must comply with the mandatory permitting and licensing statutes and must, therefore, be limited to the quantity and points of diversion which were developed during the development period.

III. FINDINGS OF FACT

These water rights owned by Mitchell Sorensen are used for irrigation in the Big Lost River Basin. (Exhibit 1c, the *Director's Report*; Exhibit A, an illustrative map showing the place of use.) The recommendations for these water rights as set forth in the *Director's Report* represents the best efforts of IDWR to determine each element. (Testimony of Carter Fritschle.)

Some rights were transferred to new places of use. Some rights changed from supplemental to primary. Some rights were allowed to be used in combination with other rights on a combined place of use retaining the original acreage limitation. And some rights have been

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used on expanded acreage. The Association urged the court to disallow these changes alleging existing water rights were injured by the changes.

A. Interconnection Between Groundwater and Surface Water in the Big Lost River Basin.

There is a connection between surface water and groundwater sources in the Big Lost River Basin. (Testimony of Carter Fritschle.) IDWR has studied the interconnection between surface water and groundwater in the vicinity of the places of use for these water rights and has determined that there is a hydrological line above which the relationship between groundwater and surface water is different than below the line. This line is referred to as the "A-Line." Wells drilled north of the A-Line interfere with vicinity surface water rights, and wells drilled south of the A-Line do not interfere with the surface water rights in the area. The actual location of the A-Line varies with climatic and other conditions. (Testimony of Carter Fritschle.)

The Association objected to several of these water rights which have points of diversion north of the A-Line. The Association did not object, however, to rights owned by Dexter Douglas, Crater Farms, Leon Folkman, Doug Schureman, Jay Jensen, or Steven Aikele which are diverted north of the A-Line. (Testimony of Kurt Acor; Testimony of Lawrence Babcock.)

B. Development and Impact of Irrigation Wells

Prior to 1960, few irrigation wells had been drilled in the Big Lost River Valley. During the 1970s and 1980s wide-scale development of irrigation wells occurred in the Big Lost River Valley. Most of the new wells were drilled to supplement surface water irrigation rights. (Testimony of Lawrence Babcock.) The increased number of wells had a cumulative effect of lowering the water table. (Testimony of Juel Aikele; Testimony of Lawrence Babcock; Exhibit 2.)

The Association's expert witness testified that when the groundwater table declines and loses contact with the surface plate and matrix soils, these soils dry out and crack. Consequently, water applied to the surface goes through the soil faster than if the groundwater is in contact with the base. As a result, the amount of water usually sufficient to irrigate cannot go as far down the field as when the water table is higher. When the water table is in contact with the surface soil, a stream of water which would normally be sufficient to irrigate a field does not reach the end of the field. (Testimony of Larry Reynolds.)

C. THE DROUGHT OF THE LATE 1980S TO EARLY 1990S

During the late 1980s to early 1990s, the Big Lost River Valley experienced a significant, lengthy drought which caused surface water sources to dry up. (Testimony of Gerald Stewart; Testimony of Larman Anderson; Testimony of Charles Huggins; Testimony of James Braswell; Testimony of Lewis Rothwell; Testimony of Lawrence Babcock.) Several senior water users received less than their full amount of water. At the same time, groundwater rights with junior priorities continued to be used for irrigation pumping. (Testimony of Gerald Stewart; Testimony of Charles Huggins; Testimony of Lawrence Babcock; Testimony of Ray Boyack.) Consequently, several senior water users lost crops (Testimony of Larman Anderson; Testimony of Lawrence Babcock), lucrative agricultural contracts (Testimony of Gerald Stewart), or trees and willows which protected livestock. (Testimony of Lewis Rothwell; Testimony of Larman Anderson; Exhibits 5, 47, 48, 49, 50, and 51.)

Earlier droughts in the 1930s and 1960s in the Big Lost River Valley also caused surface water sources to dry up. (Testimony of Herman Aikele; Testimony of Lewis Rothwell; Testimony of Lawrence Babcock.) Surface water sources were not as dry during these previous droughts as they were in the drought of the 1980s to 1990s. (Testimony of Lewis Rothwell.)

The water table in the Big Lost River Valley dropped during these drought years. (Testimony of Larry Reynolds.) Many domestic wells had to be deepened during the drought of the 1980s and 1990s. (Testimony of Larman Anderson; Testimony of Ray Boyack; Testimony of Glen Guthrie: Testimony of Larry Reynolds.) Between 1989 and 1994, the water table was lower in the Big Lost River Valley, and as a result, about 400 new wells had to be drilled below the Moore Diversion. (Testimony of Glen Guthrie; Exhibit 3.)

D. CHANGES TO WATER RIGHTS

The Association objected to multiple changes to the water rights including changes in place of use, changes from supplemental to primary, changes allowing combined usage, and increases in acreage.

1. Transfer of Place of Use to Era Flat

In the late 1970s to early 1980s, some water rights diverted from irrigation wells located north of the A-Line were transferred to lands in an area known as Era Flat. The transfer of multiple rights to Era Flat sometimes caused insufficient water pressure through the remaining

system. The insufficient water pressure in turn resulted in problems getting the remaining water rights to the headgates. (Testimony of Lawrence Babcock.)

2. Changes From Supplemental to Primary

As irrigation wells were developed in the Big Lost River Valley, many farmers drilled wells to use on the same land on which they had surface rights. The wells provided a reliable supply of water to supplement those surface rights which were only available intermittently. These irrigation wells were supplemental to the earlier surface water rights on the same land. (Testimony of Carter Fritschle.)

Some water users transferred primary rights to a new place of use and changed the use of the supplemental rights to primary rights. The change from supplemental to primary use is an enlargement. IDWR recognized this change as an enlargement and adopted a policy of mitigation to prevent injury to existing rights. (Testimony of Carter Fritschle; Exhibit 7.) IDWR advanced the priority date of the supplemental rights to the date of the change to prevent injury. (Testimony of Carter Fritschle.)

3. Changes Allowing Combined Use

The *Director's Report* recommended that several water rights be allowed for use on a combined place of use. These recommendations allowed such combined use where all rights were owned by a single water user and retained the original acreage limitation. (Testimony of Carter Fritschle.)

4. Expansions in Acreage

Several subcases involved recommendations in the *Director's Report* allowing an increase or expansion in acreage. These recommendations allowed the expansion in acreage, but involved no increase in volume or diversion rate. IDWR correctly analyzed these expansions pursuant to I.C. § 42-1426 and considered the issue of injury to other water rights. (Testimony of Carter Fritschle.)

E. WATER EXCHANGE BETWEEN JENSENS AND SORENSEN

The dispute between Mr. Sorensen and the Jensens evolves out of the interrelationship between Sorensen's groundwater rights (34-07096, 34-07097, and 34-07223) and those of Kirby and Doyle Jensen. Mr. Sorensen's predecessor in interest, Boyd Burnett, and the Jensens entered into an exchange agreement to allow the Jensens to use the three groundwater rights now owned

by Mr. Sorensen and to allow Mr. Sorensen to use the surface water rights owned by Kirby Jensen and Doyle Jensen. (Exhibits 26 and 27.) Under the exchange, Jensens are authorized to use Mr. Sorensen's groundwater rights 34-07096 and 34-07097 in exchange for Mr. Sorensen's use of Jensen's surface water right 34-10037.

Mr. Sorensen's predecessor, Boyd Burnett, applied for permits for water rights 34-07096 and 34-07097. The authorized development period for these two rights was 1975 to 1980. Mr. Burnett was the owner of these permits at the time that proof of beneficial use was due and submitted to IDWR. (Testimony of Boyd Burnett; Exhibits 8 and 9.) During this time period, Mr. Burnett developed water only from the well located on Kirby Jensen's property in section 17. Mr. Burnett did not develop water from the section 5 well located on Sorensen's property. (Testimony of Boyd Burnett.) Field exams for these two rights conducted in 1983 and 1987 found development of the well in section 17, but not from the well in section 5. (Exhibits 18 and 19; Testimony of Keith Wilson; Testimony of Eric Verner.) Mr. Sorensen did not claim the well in section 5 as a point of diversion for 34-07096 and 34-07097. (Exhibits 16 and 17.) The well located in section 5 was claimed by Mr. Sorensen as a point of diversion for 34-12372 and 34-10155. (Exhibits 16 and 17.) However, IDWR recommended 34-12372 and 34-10155 for disallowance. (Exhibits 22, 24, and 25.)

The well in section 17 has a capacity of 3.42 cfs. Mr. Sorensen has used an additional 2.7 cfs from the well in section 5 since about 1982. IDWR recommended a total quantity of 6.12 cfs (3.42 cfs + 2.7 cfs) and included the well in section 17 and the well in section 5 as points of diversion for water rights 34-07096 and 34-07097. (Testimony of Carter Fritschle; Testimony of Keith Wilson; Testimony of Eric Verner; Exhibits 7, 8, 18, 26, and 27.)

The additional capacity of Mr. Sorensen's well in section 5 is not covered by water right 34-02428. (Exhibits 12, 13 and 30.) However, a pending application for permit filed in 1980 under the number 34-07247 could recognize the additional capacity from the section 5 well. (Exhibit 35.) The application for permit has not yet been granted or denied for that right, but is still under consideration by the IDWR.

IV. CONCLUSIONS OF LAW

A. INJURY

The Association argues that the changes recommended for these water rights in the *Director's Report* constitute injury to existing water rights. The facts upon which The Association relies are: (1) surface water and groundwater rights in Basin 34 are interconnected; (2) there was significant development of groundwater during the 1970s and 1980s which lowered the water table; (3) a significant number of water rights were transferred to Era Flat, leaving less water in the remaining system to deliver; (4) a number of water rights were used in combination on a combined place of use; (5) a significant number of water rights changed from supplemental to primary, resulting in enlargements of those rights; (6) a number of water rights were expanded to additional acreage; (7) senior water users did not receive their water rights during the drought of the 1980s and early 1990s; and (8) during the drought, senior water users suffered crop loss, the loss of agricultural contracts, and loss of trees and willows which provided protection for livestock.

Where groundwater and surface water are significantly interconnected, the two resources should be treated as one supply and managed as a single integrated system. Douglas L. Grant, THE COMPLEXITIES OF MANAGING HYDROLOGICALLY CONNECTED SURFACE WATER AND GROUNDWATER UNDER THE APPROPRIATION DOCTRINE, 22 Land and Water Law Review 63 (1987). The significant interconnection between groundwater and surface water has been recognized in the SRBA and is law of the case. *In re SRBA, Musser v. Higginson*, 125 Idaho 392, 871 P.2d 809 (1994). Groundwater and surface water in the Big Lost River Valley are interconnected.

Under the appropriation doctrine, priority in time gives priority in right. Priority affects the exercise of existing rights and is an important protection for senior water users. "The exercise of existing rights is curtailed in inverse order of priority if drought or seasonal fluctuation makes the supply insufficient for all, that is, junior appropriators are shut off completely to supply fully those with more senior priorities." Douglas L. Grant, THE COMPLEXITIES OF MANAGING HYDROLOGICALLY CONNECTED SURFACE WATER AND GROUNDWATER UNDER THE APPROPRIATION DOCTRINE, 22 Land and Water Law Review 63, 65 (1987); *Beecher v. Cassia Creek Irrigation Co.*, 66 Idaho 1, 9, 154 P.2d 507, 510 (1944).

The operation of the prior appropriation doctrine in a conjunctive management system is critical to the subcases before the court. Senior rights are protected during shortages, such as the drought in the Big Lost River Valley, because junior rights are shut off to supply senior rights. Compliance with the prior appropriation doctrine protects seniors from injury by junior users, because their first-in-time priority is first in right during a drought.

This court holds that use of water by a junior appropriator does not become adverse to or injure a senior appropriator *until* it results in a deprivation of his allotted amount. *See, State Ex Rel. Cary v. Cochran,* 138 Neb.163, 292 N.W. 239 (1940).

The proper application of the prior appropriation doctrine should protect the senior water rights in the Big Lost River Valley. Consequently, the injury alleged by The Association is not the kind of injury which should defeat the changes in use which occurred, since senior users could enforce the prior appropriation doctrine.

During the Big Lost River Valley drought of the 1980s and 1990s, however, senior water users failed to receive their rights. Apparently water rights in the Big Lost River Valley were not managed conjunctively or were not managed according to the prior appropriation doctrine. The problems in water delivery of which The Association complains occurred prior to the Idaho Supreme Court decision in *In re SRBA, Musser v. Higginson*, 125 Idaho 392, 871 P.2d 809 (1994). The *Musser* decision clarified the requirement to administer and deliver water in accordance with the Constitution of the State of Idaho and the doctrine of prior appropriation. *Id.*

The court finds the injury of which The Association complains did not result from allowing changes to these water rights. Instead, the harm occurred as a result of noncompliance with the prior appropriation doctrine. Under the doctrine of prior appropriation, these senior rights are superior in times of shortage to the rights to which The Association objected. The court presumes that the junior rights could be shut off in times of drought. Therefore, it follows that no injury has occurred.

B. RIGHTS TRANSFERRED TO ERA FLAT

The Association objected to many rights for which the accomplished transfer was changing the place of use from the original decreed land to land in Era Flat. I.C. § 42-1425 permits such accomplished transfers as long as no other "water rights existing on the date of the change were injured" or such transfers resulted in an "enlargement of the original right." I.C. § 42-1425(2).

For those water rights which involved a change in place of use, The Association must show that the change resulted in injury to water rights existing at the time of the change. There is insufficient evidence to show these changes in place of use to Era Flat resulted in injury of existing rights.

C. SUPPLEMENTAL RIGHTS WHICH CHANGED TO PRIMARY RIGHTS

As irrigation wells were drilled in the Big Lost River Valley, it became common for farmers to have a groundwater right which supplemented their surface water rights. The surface water right was the primary right, and the groundwater right was supplemental because it was secondary to an existing surface water right.

Later, some water users transferred the primary water right to a new place of use and changed the supplemental right to a primary right. IDWR recognized this change as an expansion. However, IDWR referred to I.C. § 42-1425 in its recommendation for these changes from supplemental to primary.

IDWR recommended changing several rights from supplemental to primary. IDWR has determined that a change from supplemental to primary is an enlargement.

> When primary rights are taken off the land leaving the supplemental rights as the only source of water for that land, an enlargement in the number of acres occurs and that may cause injury to other appropriators if the priority date is not advanced to the date the primary rights are transferred off the land.

(Testimony of Carter Fritschle, Exhibit 7.)

The *Director's Reports* recommended changes from supplemental to primary and referred to I.C. § 42-1425 which does not allow for enlargements. However, IDWR conducted the necessary analysis under I.C. § 42-1426 which does provide for enlargements. Although the *Director's Report* erroneously refers to I.C. § 42-1425, it appears that IDWR actually conducted its analysis under I.C. § 42-1426. IDWR understood the change involved an expansion and advanced the priority date of all such rights to the date of change from supplemental to primary. IDWR's analysis is strikingly similar to the analysis advanced for expansions in *In re SRBA Case No. 39576, Fremont-Madison Irrigation Dist. v. Idaho Ground Water Appropriators*, 129 Idaho 454, 926 P.2d 1301 (1996). The Supreme Court analyzed advancing priority dates in enlargements under I.C. § 42-1426.

> It is difficult, if not impossible, to perceive of a situation in which an enlargement would not injure an appropriator who had an established right if the enlargement receives priority.

Id. (emphasis added). The Court explained the need to mitigate potential injury by advancing the priority date of such enlargements.

> The issue of mitigation cannot be decided in a vacuum. but it is clear that if there are no mitigation provisions that will assure that there will be no injury to the junior appropriator, the new right for the enlarged use must be advanced to a date one day later than the priority date for the junior water right injured by the enlargement. The provision for advancement of the priority date is adequate protection to junior appropriators.

Id. (emphasis added).

The analysis conducted by IDWR recognizing that an expansion occurred, together with the advancement of priority recommended, convinces the court that IDWR conducted a proper analysis of these rights under I.C. § 42-1426. The Association has the burden of proving that existing rights were injured by the change from supplemental to primary in light of the advancement of priority. The court finds there was insufficient evidence to show that the change from supplemental to primary caused injury to senior rights since the priority was advanced.

D. CHANGE ALLOWING COMBINED USE

The Association objected to many rights for which the accomplished change in use allows a claimant to use multiple water rights on his entire place of use, while retaining the original acreage limitation. For example, if Farmer Jones owns water right A limited to 60 acres and water right B limited to 50 acres, IDWR recommended an accomplished change so right A is limited to 60 acres within the total of 110 acres (60 + 50), and right B is limited to 50 acres within the total of 110 acres (60 + 50).

IDWR adopted a policy allowing this simple combination of rights unless "other water rights existing on the date of the change were injured" or such a change resulted in "an enlargement of the original right." I.C. § 42-1425(2).

I.C. § 42-1425 permits changes such as the combined use as long as the changes do not constitute an enlargement of the water right or otherwise injure water rights existing on the date of the change. IDWR recommended allowing these rights to be used in combination with other

rights on a combined place of use, but retained the original acreage limitation. Because the acreage limitation did not change, there was no expansion in allowing the combined use. The Association has the burden of showing that the change resulted in injury to water rights existing at the time of the change. The court finds further that there was no showing of injury as a result of the combined use.

E. Expansion to Additional Acreage

IDWR recommended several rights with expanded acreage pursuant to I.C. § 42-1426. Expansions are allowed under this section subject to two limitations. The rate of diversion may not exceed the rate of diversion originally authorized and the enlargement may not injure existing water rights. None of the recommendations for expanded acreage involved an increase in the diversion rate. The Association has the burden of showing the expansion to additional acreage injured senior water rights. The court finds there was insufficient evidence to show that the increase in acreage resulted in injury to senior water rights which are fully protected by the prior appropriation doctrine.

F. Extra Capacity of Water and Section 5 Well

The issue before the court is whether the additional 2.7 cfs Mr. Sorensen developed from the well in section 5 can be recognized under water rights 34-07096 and 34-07097. The court finds that the additional capacity is not authorized under those rights.

Water rights developed after 1971 must comply with the application, permitting, and licensing requirements of I.C. §§ 42-202 and 42-204. Development of a permit is limited to a period of five years, and that time period may be extended by IDWR only upon a showing of good cause and a request for extension of time filed prior to the date proof of beneficial use is due. I.C. § 42-204.

The two permits for 34-07096 and 34-07097 were approved in 1975 and proof of beneficial use was due in 1980. During the development period between 1975 and 1980, Mr. Burnett did not develop the additional capacity from the well in section 5. No extension of time was requested or granted by IDWR.

Mr. Sorensen did not begin using the additional capacity until 1982. The authorized period of development under water rights 34-07096 and 34-07097 expired in 1980, two years before the first use of the extra water. Since the additional capacity of the well in section 5 was

not developed under the permits for these rights, the development of this water is not authorized under water rights 34-07096 and 34-07097.

G. WATER RIGHTS OF MITCHELL SORENSEN

1. **34-00496A**. The *Director's Report* recommended changes to this water right pursuant to I.C. §§ 42-1425 & 42-1426. IDWR allowed this right to be used on a combined acreage, but retained the original acreage limitation. IDWR rejected expansion of this right to additional acreage. IDWR also allowed the place of use for this right to be transferred to an area known as Era Flat. (Testimony of Carter Fritschle.)

In 1980, Sorensen filed an application to transfer this right to the land in Era Flat. Nine years later, IDWR issued a cease and desist order ordering Mr. Sorensen to stop irrigation of land outside the licensed place of use for those rights. IDWR issued a proposed Memorandum Decision and Order denying the application to transfer these water rights to a new place of use. The proposed decision concluded that the change would result in enlargement of the rights which would injure junior water users due to an increase in irrigated acres. At the time IDWR issued a *Director's Report* for this right, it concluded the transfer was permissible and recommended the change pursuant to new enacted statutes I.C. §§ 42-1425 & 1426. (Testimony of Carter Fritschle; Testimony of Mitchell Sorensen; Exhibit 7.)

I.C. § 42-1425 allows for transfers, and I.C. § 42-1426 permits expansions. IDWR analyzed this right under those statutes and allowed both the changes in place of use and the combined use. *Prima facie* weight attaches to the *Director's Report*. The court finds insufficient evidence to rebut the *Director's Report*, and this right is recommended as set forth in the *Director's Report*.

2. **34-00692D**. The *Director's Report* recommended changes to this water right pursuant to I.C. §§ 42-1425 & 42-1426. IDWR allowed this right to be used on a combined acreage, but retained the original acreage limitation. IDWR rejected expansion of this right to additional acreage. IDWR also allowed the place of use for this right to be transferred to an area known as Era Flat.

In 1980, Mr. Sorensen filed an application to transfer this right to land in Era Flat. Nine years later, IDWR issued a cease and desist order ordering Mr. Sorensen to stop irrigation of land outside the licensed place of use for those rights. IDWR issued a proposed Memorandum

Decision and Order denying the application to transfer these water rights to a new place of use. The proposed decision concluded that the change would result in enlargement of the rights which would injure junior water users due to an increase in irrigated acres. At the time IDWR issued a *Director's Report* for this right, it concluded the transfer was permissible and recommended the change pursuant to new enacted statutes I.C. §§ 42-1425 & 1426. (Testimony of Carter Fritschle; Testimony of Mitchell Sorensen, Exhibit 7; Exhibit 29, proposed Memorandum and Order denying transfer.)

I.C. § 42-1425 allows for transfers, and I.C. § 42-1426 permits expansions. IDWR analyzed this right under those statutes and allowed both the change in place of use and the combined use. *Prima Facie* weight attaches to the *Director's Report*. The court finds there is insufficient evidence to rebut the *Director's Report*, and this right is recommended as set forth in the *Director's Report*.

3. **34-07096, 34-07097, and 34-07223**. The *Director's Report* recommended additional quantity and an additional point of diversion for these rights. The extra capacity of 2.7 cfs was developed beginning in 1982. The additional quantity is from a well in section 5. The additional point of diversion is also located in section 5.

These water rights involve the exchange agreements between Mitchell Sorensen and Kirby and Doyle Jensen. (Exhibit 26; Exhibit 27.) The Jensens' decreed water rights are used on Sorensen's land in Era Flat. Mr. Sorensen's three groundwater rights 34-07096, 34-07097, and 34-07223 are used by Jensens on the Jensens' land. The exchange agreements cover only the well in section 17. The well in section 5 is not covered.

IDWR recommended a combined quantity of 6.12 cfs under rights 34-07096 and 34-07097. The combined quantity includes 2.7 cfs of additional water which Mr. Sorensen developed for the well in section 5, and 3.42 cfs which is the capacity of the section 17 well. IDWR split these rights into an A portion for the water from the section 17 well and a B portion for the water from the section 5 well.

The additional quantity from the well in section 5 cannot be recommended under these rights. The previous owner of 34-07096 and 34-07097 was Boyd Burnett. Mr. Burnett owned these water rights during the permitting process and at the time that proof of beneficial use was required to be submitted to IDWR. Mr. Burnett developed water only from the well located

in section 17 and not from section 5. There were no extensions of time for the period of showing beneficial use. (Testimony of Mr. Burnett; Exhibits 18 & 19.)

Development of a permit is limited to a period of five years, and this time period may be extended by IDWR only upon a showing of good cause and a request for extension of time filed prior to the date that proof of beneficial use is due. I.C. § 42-204. These permits were approved in 1975, and proof of beneficial use was due in 1980. Mr. Sorensen did not develop the additional water from the section 5 well until 1982, after the development period was over. (Testimony of Mitchell Sorensen.)

The *Director's Report* is afforded *prima facie* weight. However, the Jensens have met the burden of going forward with sufficient evidence to burst the evidentiary bubble pursuant to I.C. § 42-1411(5). The court holds that since the additional capacity of the well in section 5 was not developed under the permits for these rights, 34-07096B and 34-07097B should be decreed as disallowed. The court holds that 34-07096A, 34-07097A, and 34-07223 should be decreed as set forth in *Director's Report*, except that the combined quantity, volume, and diversion rates are changed to reflect the disallowance of 34-07096B and 34-07097B.

4. 34-02428. The *Director's Report* recommended changes to this water right. (Exhibit 14.) IDWR allowed a change in the place of use of a portion of this right to be transferred to Era Flat. IDWR allowed the remaining portion of this right to be changed from supplemental to primary. IDWR rejected expansion of acreage for this right. IDWR advanced the priority date to the date of change from supplemental to primary. (Testimony of Carter Fritschle; Exhibit 14; Exhibit 1c.)

Exhibit 1c indicates IDWR analyzed the change from supplemental to primary under I.C. § 42-1425. However, the testimony of Carter Fritschle and the recommendation in the *Director's Report* convinces the court that IDWR also analyzed this right under I.C. § 42-1426. IDWR recognized that the change from supplemental to primary was an expansion and moved the priority date to a date junior to the senior rights of members of The Association. The court holds IDWR conducted an I.C. § 42-1426 analysis by allowing the enlargement subject to conditions (advancing priority) that would mitigate injury. Under I.C. § 42-1426, The Association has the burden of showing that the advancement in priority did not mitigate any injury. The court finds there is insufficient evidence to show that the advancement in priority did not mitigate any injury.

Mr. Sorensen asks the court to change the priority date allowing two priorities for this right. He urges the priority should be April 1, 1979, when the right is used as a primary right; but when the original surface water rights are unavailable, this right should have the date of the original license.

The court is not persuaded that the priority date should be bifurcated as urged by Mr. Sorensen. When a water right is substantially changed, as this one has been, it seems appropriate to advance the priority date for the entire right. Since this right is no longer supplemental to surface water rights, Mr. Sorensen may not rely on the original licensed priority date when the water rights to which this right was originally supplemental are unavailable.

Prima facie weight attaches to the *Director's Report*. The court finds insufficient evidence to rebut the *Director's Report*, and this right is recommended as set forth in the *Director's Report*, except that the combined quantity, volume, and diversion rates changed in accordance with the changes to water rights 34-07096 and 34-07097.

5. 34-12416. The *Director's Report* recommended this right as an expansion pursuant to I.C. § 42-1426. Sorensen's objection to this right was withdrawn. IDWR allowed this right to be used on 365 acres not previously permitted or licensed. (Exhibit 1c.) IDWR rejected the use of additional quantity of water, but allowed irrigation of additional acres. (Testimony of Carter Fritschle; Testimony of Mitchell Sorensen; Exhibit 7.)

Prima facie weight attaches to the *Director's Report*. The court finds insufficient evidence to rebut the *Director's Report*, and this right is recommended as set forth in the *Director's Report,* except that the combined quantity, volume, and diversion rates change in accordance with the changes to water rights 34-07096 and 34-07097.

6. PENDING APPLICATION

This decision is not intended to resolve the validity of claim no. 34-07247. It is recommended that a *Director's Report* for 34-07247 should be filed by August 1, 1999 and an objection and response deadline set forth in order to resolve this claim.

Therefore, based on the files and record herein, IT IS RECOMMENDED that water rights 34-00496, 34-00692D, 34-02428, 34-07096A, 34-07097A, 34-07223, and 34-12416 **be decreed** as set forth in the attached ***Partial Decrees Pursuant to I.R.C.P. 54(b).*** IT IS FURTHER

RECOMMENDED that water rights 34-07096, 34-07096B, 34-07097, 34-07097B **not be confirmed** in any partial or final decrees.

DATED: February 25, 1999.

BRIGETTE BILYEU
Special Master
Snake River Basin Adjudication

IN THE DISTRICT COURT OF THE FIFTH JUDICIAL DISTRICT OF THE STATE OF IDAHO, IN AND FOR THE COUNTY OF TWIN FALLS

In Re SRBA)
Case No. 39576)

PARTIAL DECREE PURSUANT TO I.R.C.P. 54(b) FOR

Water Right 34-00496A

1999 FEB 25 PM 4:29

DISTRICT COURT-SRBA
TWIN FALLS CO., IDAHO
FILED

NAME AND ADDRESS: MITCHELL D. SORENSEN
RT 1 BOX 63-A
MOORE, ID 83255

SOURCE: BIG LOST RIVER TRIBUTARY: SINKS

QUANTITY: 1.20 CFS

PRIORITY DATE: 06/01/1896

POINT OF DIVERSION: T05N R26E S04 NWSESE Within Butte County

PURPOSE AND PERIOD OF USE:

PURPOSE OF USE	PERIOD OF USE	QUANTITY
Irrigation	05-01 TO 10-15	1.20 CFS

PLACE OF USE: Irrigation

			Within Butte County
T03N R25E	S02 LOT 03	(NENW)39.0	LOT 04 (NWNW)39.0
		SWNW 40.0	SENW 40.0
	S03 LOT 01	(NENE)39.0	LOT 02 (NWNE)39.0
T04N R25E	S34	NENE 39.0	NWNE 38.0
		SENE 40.0	NESE 40.0
		NWSE 40.0	SWSE 40.0
		SESE 40.0	SWNE 40.0
	S35	NENW 38.0	NWNW 38.0
		SWNW 40.0	SENW 40.0
		NESW 20.0	NWSW 40.0
		SESW 20.0	SWSW 39.0

828.0 Acres Total

USE OF THIS RIGHT WITH RIGHTS LISTED BELOW IS LIMITED TO THE IRRIGATION OF A COMBINED TOTAL OF 945 ACRES WITHIN THE PLACE OF USE DESCRIBED ABOVE IN A SINGLE IRRIGATION SEASON.
COMBINED RIGHT NOS.: 34-00692D, 34-02428, 34-07096A, 34-07097A, 34-07223 AND 34-12416.

THIS RIGHT IS LIMITED TO THE IRRIGATION OF 60 ACRES WITHIN THE PLACE OF USE DESCRIBED ABOVE IN A SINGLE IRRIGATION SEASON.

RULE 54(b) CERTIFICATE

With respect to the issues determined by the above judgment or order, it is hereby CERTIFIED, in accordance with Rule 54(b), I.R.C.P., that the court has determined that there is no just reason for delay of the entry of a final judgment and that the court has and does hereby direct that the above judgment or order shall be a final judgment upon which execution may issue and an appeal may be taken as provided by the Idaho Appellate Rules.

RECOMMENDATION
FEB 25 1999
SPECIAL MASTER

Barry Wood
Administrative District Judge
Interim Presiding Judge of the
Snake River Basin Adjudication

IN THE DISTRICT COURT OF THE FIFTH JUDICIAL DISTRICT OF THE
STATE OF IDAHO, IN AND FOR THE COUNTY OF TWIN FALLS

In Re SRBA)
)
Case No. 39576)
)

PARTIAL DECREE PURSUANT TO
I.R.C.P. 54(b) FOR

Water Right 34-00692D

1999 FEB 25 PM 4:29
DISTRICT COURT-SRBA
TWIN FALLS CO., IDAHO
FILED

NAME AND ADDRESS: MITCHELL D. SORENSEN
RT 1, BOX 63-A
MOORE, ID 83255

SOURCE: BIG LOST RIVER TRIBUTARY: SINKS

QUANTITY: 1.20 CFS

PRIORITY DATE: 07/15/1884

POINT OF DIVERSION: T05N R26E S04 NWSESE Within Butte County

PURPOSE AND PERIOD OF USE:

PURPOSE OF USE	PERIOD OF USE	QUANTITY
Irrigation	05-01 TO 10-15	1.20 CFS

PLACE OF USE: Irrigation Within Butte County

T03N R25E	S02 LOT 03 (NENW)	39.0	LOT 04 (NWNW) 39.0
	SWNW	40.0	SENW 40.0
	S03 LOT 01 (NENE)	39.0	LOT 02 (NWNE) 39.0
T04N R25E	S34 NWNE	38.0	SENE 40.0
	NESE	40.0	NWSE 40.0
	SWSE	40.0	SESE 40.0
	SWNE	40.0	NENE 39.0
	S35 NENW	38.0	NWNW 38.0
	SENW	40.0	NESW 20.0
	NWSW	40.0	SWNW 40.0
	SESW	20.0	SWSW 39.0

828.0 Acres Total

USE OF THIS RIGHT WITH RIGHTS LISTED BELOW IS LIMITED TO THE IRRIGATION OF A COMBINED TOTAL OF 945 ACRES WITHIN THE PLACE OF USE DESCRIBED ABOVE IN A SINGLE IRRIGATION SEASON.
COMBINED RIGHT NOS.: 34-00469A, 34-02428, 34-07096A, 34-07097A, 34-07223 AND 34-12416.

THIS RIGHT IS LIMITED TO THE IRRIGATION OF 60 ACRES WITHIN THE PLACE OF USE DESCRIBED ABOVE IN A SINGLE IRRIGATION SEASON.

RULE 54(b) CERTIFICATE

With respect to the issues determined by the above judgment or order, it is hereby CERTIFIED, in accordance with Rule 54(b), I.R.C.P., that the court has determined that there is no just reason for delay of the entry of a final judgment and that the court has and does hereby direct that the above judgment or order shall be a final judgment upon which execution may issue and an appeal may be taken as provided by the Idaho Appellate Rules.

RECOMMENDATION
FEB 25 1999
SPECIAL MASTER

Barry Wood
Administrative District Judge
Interim Presiding Judge of the
Snake River Basin Adjudication

IN THE DISTRICT COURT OF THE FIFTH JUDICIAL DISTRICT OF THE STATE OF IDAHO, IN AND FOR THE COUNTY OF TWIN FALLS

In Re SRBA)
) PARTIAL DECREE PURSUANT TO
Case No. 39576) I.R.C.P. 54(b) FOR
) Water Right 34-02428

1999 FEB 25 PM 4:29
DISTRICT COURT-SRBA
TWIN FALLS CO. IDAHO
FILED

NAME AND ADDRESS: MITCHELL D. SORENSEN
ROUTE 1 BOX 63-A
MOORE, ID 83255

SOURCE: GROUNDWATER

QUANTITY: 3.85 CFS

USE OF THIS RIGHT WITH RIGHT 34-12416 IS LIMITED TO A TOTAL COMBINED DIVERSION RATE OF 3.85 CFS.
USE OF THIS RIGHT WITH RIGHTS LISTED BELOW IS LIMITED TO A TOTAL COMBINED DIVERSION RATE OF 8.85 CFS AND TO A TOTAL COMBINED ANNUAL DIVERSION VOLUME OF 3229.9 AF.
COMBINED RIGHT NOS.: 34-07096A, 34-07097A, 34-07223 AND 34-12416.

PRIORITY DATE: 04/01/1979

POINT OF DIVERSION: T04N R26E S05 NWSENE Within Butte County

PURPOSE AND PERIOD OF USE:

PURPOSE OF USE	PERIOD OF USE	QUANTITY
Irrigation	04-15 TO 10-15	3.85 CFS

PLACE OF USE: Irrigation — Within Butte County

T03N R25E	S02 LOT 03 (NENW)	39.0	LOT 04 (NWNW) 39.0
	SENW	40.0	SWNW 40.0
	S03 LOT 01 (NENE)	39.0	LOT 02 (NWNE) 39.0
T04N R25E	S34 NENE	39.0	NWNE 38.0
	SWNE	40.0	NESE 40.0
	SWSE	40.0	NWSE 40.0
	SENE	40.0	SESE 40.0
	S35 SWNW	40.0	SENW 40.0
	NESW	20.0	NWSW 40.0
	SWSW	39.0	SESW 20.0
	NENW	38.0	NWNW 38.0
R26E	S05 SENE	39.0	NESE 39.0
	SESE	39.0	

945.0 Acres Total

USE OF THIS RIGHT WITH RIGHTS LISTED BELOW IS LIMITED TO THE IRRIGATION OF A COMBINED TOTAL OF 945 ACRES WITHIN THE PLACE OF USE DESCRIBED ABOVE IN A SINGLE IRRIGATION SEASON.
COMBINED RIGHT NOS.: 34-00496A, 34-00692D, 34-07096A, 34-07097A, 34-07223 AND 34-12416.
THIS RIGHT IS LIMITED TO THE IRRIGATION OF 193 ACRES WITHIN THE PLACE OF USE DESCRIBED ABOVE IN A SINGLE IRRIGATION SEASON.

RULE 54(b) CERTIFICATE

With respect to the issues determined by the above judgment or order, it is hereby CERTIFIED, in accordance with Rule 54(b), I.R.C.P., that the court has determined that there is no just reason for delay of the entry of a final judgment and that the court has and does hereby direct that the above judgment or order shall be a final judgment upon which execution may issue and an appeal may be taken as provided by the Idaho Appellate Rules.

RECOMMENDATION
FEB 25 1999
SPECIAL MASTER

Barry Wood
Administrative District Judge
Interim Presiding Judge of the
Snake River Basin Adjudication

IN THE DISTRICT COURT OF THE FIFTH JUDICIAL DISTRICT OF THE
STATE OF IDAHO, IN AND FOR THE COUNTY OF TWIN FALLS

In Re SRBA)
)
Case No. 39576)
)

PARTIAL DECREE PURSUANT TO
I.R.C.P. 54(b) FOR

Water Right 34-07096A

1999 FEB 25 PM 4:29

DISTRICT COURT-SRBA
TWIN FALLS CO., IDAHO
FILED

NAME AND ADDRESS: MITCHELL D. SORENSEN
RT 1 BOX 63-A
MOORE, ID 83255

SOURCE: GROUNDWATER

QUANTITY: 1.84 CFS

USE OF THIS RIGHT WITH RIGHTS LISTED BELOW IS LIMITED TO A TOTAL COMBINED DIVERSION RATE OF 8.85 CFS AND TO A TOTAL COMBINED ANNUAL DIVERSION VOLUME OF 3229.9 AF.
COMBINED RIGHT NOS.: 34-02428, 34-07097A, 34-07223 AND 34-12416.

PRIORITY DATE: 01/31/1975

POINT OF DIVERSION: T04N R26E S17 NWSENW Within Butte County

WATER DIVERTED UNDER THIS RIGHT IS EXCHANGED WITH WATER DIVERTED FROM THE BIG LOST RIVER UNDER RIGHT 34-10037. WATER DIVERTED UNDER THIS RIGHT IS USED FOR THE PURPOSE AND AT THE PLACES OF USE DESCRIBED IN RIGHT 34-10037, AND WATER DIVERTED FROM THE BIG LOST RIVER IS USED FOR THE PURPOSES AND AT THE PLACES OF USE DESCRIBED IN THIS RIGHT.

PURPOSE AND PERIOD OF USE:

PURPOSE OF USE	PERIOD OF USE	QUANTITY
Irrigation	04-15 TO 10-15	1.84 CFS

PLACE OF USE:

Irrigation — Within Butte County

T03N R25E	S02 LOT 03 (NENW)39.0	LOT 04 (NWNW)39.0	
	SWNW 40.0	SENW 40.0	
	S03 LOT 01 (NENE)39.0	LOT 02 (NWNE)39.0	
T04N R25E	S34 SENE 40.0	NESE 40.0	
	NWSE 40.0	SWSE 40.0	
	SESE 40.0	NENE 39.0	
	NWNE 38.0	SWNE 40.0	
	S35 NENW 38.0	NWNW 38.0	
	SWNW 40.0	SENW 40.0	
	NESW 20.0	NWSW 40.0	
	SWSW 39.0	SESW 20.0	

823.0 Acres Total

USE OF THIS RIGHT WITH RIGHTS LISTED BELOW IS LIMITED TO THE IRRIGATION OF A COMBINED TOTAL OF 945 ACRES WITHIN THE PLACE OF USE DESCRIBED ABOVE IN A SINGLE IRRIGATION SEASON.
COMBINED RIGHT NOS.: 34-00496A, 34-006920, 34-02428, 34-07097A, 34-07223 AND 34-12416.
THIS RIGHT IS LIMITED TO THE IRRIGATION OF 92 ACRES WITHIN THE PLACE OF USE DESCRIBED ABOVE IN A SINGLE IRRIGATION SEASON.

OTHER PROVISIONS NECESSARY FOR DEFINITION OR ADMINISTRATION OF THIS WATER RIGHT:

THIS RIGHT IS CONDITIONED UPON COMPLETION OF THE APPROPRIATION IN ACCORDANCE WITH THE STATUTORY PROCEDURE FOR APPROPRIATION OF WATER RIGHTS. THIS RIGHT REMAINS SUBJECT TO ALL CONDITIONS SET FORTH IN THE PERMIT UPON WHICH THIS RIGHT IS BASED, AND WILL BE SUBJECT TO ALL CONDITIONS SET FORTH IN THE LICENSE ISSUED BY IDWR UPON COMPLETION OF THE STATUTORY APPROPRIATION PROCESS.

RULE 54(b) CERTIFICATE

With respect to the issues determined by the above judgment or order, it is hereby CERTIFIED, in accordance with Rule 54(b), I.R.C.P., that the court has determined that there is no just reason for delay of the entry of a final judgment and that the court has and does hereby direct that the above judgment or order shall be a final judgment upon which execution may issue and an appeal may be taken as provided by the Idaho Appellate Rules.

RECOMMENDATION

FEB 25 1999

SPECIAL MASTER

Barry Wood
Administrative District Judge
Interim Presiding Judge of the
Snake River Basin Adjudication

IN THE DISTRICT COURT OF THE FIFTH JUDICIAL DISTRICT OF THE
STATE OF IDAHO, IN AND FOR THE COUNTY OF TWIN FALLS

In Re SRBA)
) PARTIAL DECREE PURSUANT TO
Case No. 39576) I.R.C.P. 54(b) FOR
) Water Right 34-07097A

1999 FEB 25 PM 4:29
DISTRICT COURT-SRBA
TWIN FALLS CO. IDAHO
FILED

NAME AND ADDRESS: MITCHELL D SORENSEN
RT 1 BOX 63-A
MOORE, ID 83255

SOURCE: GROUNDWATER

QUANTITY: 1.58 CFS

USE OF THIS RIGHT WITH RIGHTS LISTED BELOW IS LIMITED TO A TOTAL COMBINED DIVERSION RATE OF 8.85 CFS AND TO A TOTAL COMBINED ANNUAL DIVERSION VOLUME OF 3229.9 AF.
COMBINED RIGHT NOS.: 34-02428, 34-07096A, 34-07223 AND 34-12416.

PRIORITY DATE: 01/31/1975

POINT OF DIVERSION: T04N R26E S17 NWSENW Within Butte County

WATER DIVERTED UNDER THIS RIGHT IS EXCHANGED WITH WATER DIVERTED FROM THE BIG LOST RIVER UNDER RIGHT 34-10037. WATER DIVERTED UNDER THIS RIGHT IS USED FOR THE PURPOSE AND AT THE PLACES OF USE DESCRIBED IN RIGHT 34-10037, AND WATER DIVERTED FROM THE BIG LOST RIVER IS USED FOR THE PURPOSES AND AT THE PLACES OF USE DESCRIBED IN THIS RIGHT.

PURPOSE AND PERIOD OF USE:

PURPOSE OF USE	PERIOD OF USE	QUANTITY
Irrigation	04-15 TO 10-15	1.58 CFS

PLACE OF USE: Irrigation — Within Butte County

T03N R25E S02	LOT 03 (NENW)39.0	LOT 04 (NWNW)39.0	
	SWNW 40.0	SENW 40.0	
S03	LOT 01 (NENE)39.0	LOT 02 (NWNE)39.0	
T04N R25E S34	SENE 40.0	NESE 40.0	
	NWSE 40.0	SWSE 40.0	
	SESE 40.0	NENE 39.0	
	NWNE 38.0	SWNE 40.0	
S35	NENW 38.0	NWNW 38.0	
	SWNW 40.0	SENW 40.0	
	NESW 20.0	NWSW 40.0	
	SWSW 39.0	SESW 20.0	

828.0 Acres Total

USE OF THIS RIGHT WITH RIGHTS LISTED BELOW IS LIMITED TO THE IRRIGATION OF A COMBINED TOTAL OF 945 ACRES WITHIN THE PLACE OF USE DESCRIBED ABOVE IN A SINGLE IRRIGATION SEASON.
COMBINED RIGHT NOS.: 34-00496A, 34-00692D, 34-02428, 34-07096A, 34-07223 AND 34-12416.
THIS RIGHT IS LIMITED TO THE IRRIGATION OF 79 ACRES WITHIN THE PLACE OF USE DESCRIBED ABOVE IN A SINGLE IRRIGATION SEASON.

OTHER PROVISIONS NECESSARY FOR DEFINITION OR ADMINISTRATION OF THIS WATER RIGHT:

THIS RIGHT IS CONDITIONED UPON COMPLETION OF THE APPROPRIATION IN ACCORDANCE WITH THE STATUTORY PROCEDURE FOR APPROPRIATION OF WATER RIGHTS. THIS RIGHT REMAINS SUBJECT TO ALL CONDITIONS SET FORTH IN THE PERMIT UPON WHICH THIS RIGHT IS BASED, AND WILL BE SUBJECT TO ALL CONDITIONS SET FORTH IN THE LICENSE ISSUED BY IDWR UPON COMPLETION OF THE STATUTORY APPROPRIATION PROCESS.

MICRO
FEB 1 1 2000

RULE 54(b) CERTIFICATE

With respect to the issues determined by the above judgment or order, it is hereby CERTIFIED, in accordance with Rule 54(b), I.R.C.P., that the court has determined that there is no just reason for delay of the entry of a final judgment and that the court has and does hereby direct that the above judgment or order shall be a final judgment upon which execution may issue and an appeal may be taken as provided by the Idaho Appellate Rules.

RECOMMENDATION

FEB 25 1999

SPECIAL MASTER

Barry Wood
Administrative District Judge
Interim Presiding Judge of the
Snake River Basin Adjudication

IN THE DISTRICT COURT OF THE FIFTH JUDICIAL DISTRICT OF THE
STATE OF IDAHO, IN AND FOR THE COUNTY OF TWIN FALLS

In Re SRBA)
)
Case No. 39576)
)

PARTIAL DECREE PURSUANT TO
I.R.C.P. 54(b) FOR

Water Right 34-07223

1999 FEB 25 PM 4:29
DISTRICT COURT-SRBA
TWIN FALLS CO. IDAHO
FILED

NAME AND ADDRESS: MITCHELL D. SORENSEN
RT 1 BOX 63-A
MOORE, ID 83255

SOURCE: GROUNDWATER

QUANTITY: 1.58 CFS

USE OF THIS RIGHT WITH RIGHTS LISTED BELOW IS LIMITED TO A TOTAL COMBINED DIVERSION RATE OF 8.85 CFS AND TO A TOTAL COMBINED ANNUAL DIVERSION VOLUME OF 3229.9 AF.
COMBINED RIGHT NOS.: 34-02428, 34-07096A, 34-07097A, 34-12416.

PRIORITY DATE: 04/16/1979

POINT OF DIVERSION: T04N R26E S08 NESWSE Within Butte County

WATER DIVERTED UNDER THIS RIGHT IS EXCHANGED WITH WATER DIVERTED FROM THE BIG LOST RIVER UNDER RIGHT NO. 34-00093. WATER DIVERTED UNDER THIS RIGHT IS USED FOR THE PURPOSES AND AT THE PLACES OF USE DESCRIBED IN RIGHT NO. 34-00093, AND WATER DIVERTED FROM THE BIG LOST RIVER IS USED FOR THE PURPOSES AND AT THE PLACES OF USE DESCRIBED IN THIS RIGHT.

PURPOSE AND PERIOD OF USE:

PURPOSE OF USE	PERIOD OF USE	QUANTITY
Irrigation	04-15 TO 10-15	1.58 CFS

PLACE OF USE: Irrigation

			Within Butte County
T03N R25E	S02	LOT 04 (NWNW)39.0	SWNW 40.0
		SENW 40.0	LOT 03 (NENW)39.0
	S03	LOT 01 (NENE)39.0	LOT 02 (NWNE)39.0
T04N R25E	S34	SESE 40.0	NWSE 40.0
		NWNE 38.0	SWNE 40.0
		SENE 40.0	SWSE 40.0
		NENE 39.0	NESE 40.0
	S35	NENW 38.0	NWNW 38.0
		SWNW 40.0	SENW 40.0
		NESW 20.0	NWSW 40.0
		SWSW 39.0	SESW 20.0

828.0 Acres Total

USE OF THIS RIGHT WITH RIGHTS LISTED BELOW IS LIMITED TO THE IRRIGATION OF A COMBINED TOTAL OF 945 ACRES WITHIN THE PLACE OF USE DESCRIBED ABOVE IN A SINGLE IRRIGATION SEASON.
COMBINED RIGHT NOS.: 34-00496A, 34-00692D 34-02428, 34-07096A, 34-07097A, AND 34-12416.
THIS RIGHT IS LIMITED TO THE IRRIGATION OF 80 ACRES WITHIN THE PLACE OF USE DESCRIBED ABOVE IN A SINGLE IRRIGATION SEASON.

RULE 54(b) CERTIFICATE

With respect to the issues determined by the above judgment or order, it is hereby CERTIFIED, in accordance with Rule 54(b), I.R.C.P., that the court has determined that there is no just reason for delay of the entry of a final judgment and that the court has and does hereby direct that the above judgment or order shall be a final judgment upon which execution may issue and an appeal may be taken as provided by the Idaho Appellate Rules.

RECOMMENDATION

FEB 2 3 1999

SPECIAL MASTER

Barry Wood
Administrative District Judge
Interim Presiding Judge of the
Snake River Basin Adjudication

IN THE DISTRICT COURT OF THE FIFTH JUDICIAL DISTRICT OF THE
STATE OF IDAHO, IN AND FOR THE COUNTY OF TWIN FALLS

In Re SRBA)
)
Case No. 39576)
)

PARTIAL DECREE PURSUANT TO
I.R.C.P. 54(b) FOR

Water Right 34-12416

1999 FEB 25 PM 4:29
DISTRICT COURT-SRBA
TWIN FALLS CO., IDAHO
FILED

NAME AND ADDRESS: MITCHELL D. SORENSEN
RT 1 BOX 63-A
MOORE, ID 83255

SOURCE: GROUNDWATER

QUANTITY: 3.85 CFS

USE OF THIS RIGHT WITH RIGHT 34-02428 IS LIMITED TO A TOTAL COMBINED DIVERSION RATE OF 3.85 CFS.
USE OF THIS RIGHT WITH RIGHTS LISTED BELOW IS LIMITED TO A TOTAL COMBINED DIVERSION RATE OF 8.85 CFS AND TO A TOTAL COMBINED ANNUAL DIVERSION VOLUME OF 3229.9 AF.
COMBINED RIGHT NOS.: 34-02428, 34-07096A, 34-07097A AND 34-07223.

PRIORITY DATE: 05/01/1982

THIS WATER RIGHT IS SUBORDINATE TO ALL WATER RIGHTS WITH A PRIORITY DATE EARLIER THAN APRIL 12, 1994, THAT ARE NOT DECREED AS ENLARGEMENTS PURSUANT TO SECTION 42-1426, IDAHO CODE. AS BETWEEN WATER RIGHTS DECREED AS ENLARGEMENTS PURSUANT TO SECTION 42-1426, IDAHO CODE, THE EARLIER PRIORITY RIGHT IS THE SUPERIOR RIGHT.

POINT OF DIVERSION: T04N R26E S05 NWSENE Within Butte County

PURPOSE AND PERIOD OF USE:

PURPOSE OF USE	PERIOD OF USE	QUANTITY
Irrigation	04-15 TO 10-15	3.85 CFS

PLACE OF USE: Irrigation — Within Butte County

T03N R25E S02	LOT 03 (NENW) 39.0	LOT 04 (NWNW) 39.0	
	SWNW 40.0	SENW 40.0	
S03	LOT 01 (NENE) 39.0	LOT 02 (NWNE) 39.0	
T04N R25E S34	SWSE 40.0	NWNE 38.0	
	SWNE 40.0	SENE 40.0	
	NWSE 40.0	NENE 39.0	
	SESE 40.0	NESE 40.0	
S35	NWNW 38.0	SWSW 39.0	
	SESW 20.0	SWNW 40.0	
	SENW 40.0	NESW 20.0	
	NWSW 40.0	NENW 38.0	
R26E S05	SENE 39.0	NESE 39.0	
	SESE 39.0		

945.0 Acres Total

USE OF THIS RIGHT WITH RIGHTS LISTED BELOW IS LIMITED TO THE IRRIGATION OF A COMBINED TOTAL OF 945 ACRES WITHIN THE PLACE OF USE DESCRIBED ABOVE IN A SINGLE IRRIGATION SEASON.
COMBINED RIGHT NOS.: 34-00496A, 34-00692D, 34-02428, 34-07096A, 34-07097A AND 34-07223.

OTHER PROVISIONS NECESSARY FOR DEFINITION OR ADMINISTRATION OF THIS WATER RIGHT:

THIS RIGHT IS BASED UPON AN ENLARGEMENT OF RIGHT 34-02428 PURSUANT TO SECTION 42-1426, IDAHO CODE.

MICRO

RULE 54(b) CERTIFICATE

With respect to the issues determined by the above judgment or order, it is hereby CERTIFIED, in accordance with Rule 54(b), I.R.C.P., that the court has determined that there is no just reason for delay of the entry of a final judgment and that the court has and does hereby direct that the above judgment or order shall be a final judgment upon which execution may issue and an appeal may be taken as provided by the Idaho Appellate Rules.

RECOMMENDATION

FEB 2 3 1999

SPECIAL MASTER

Barry Wood
Administrative District Judge
Interim Presiding Judge of the
Snake River Basin Adjudication

1999 FEB 25 PM 4: 29
DISTRICT COURT-SRBA
TWIN FALLS CO. IDAHO
FILED

IN THE DISTRICT COURT OF THE FIFTH JUDICIAL DISTRICT OF THE STATE OF IDAHO, IN AND FOR THE COUNTY OF TWIN FALLS

In Re SRBA	)	**Water Rights: 34-00496A, 34-00692D, 34-02428, 34-07096, 34-07096A, 34-07096B, 34-07097, 34-07097A, 34-07097B, 34-07223, and 34-12416**
Case No. 39576	)	
	)	**CERTIFICATE OF MAILING**

I certify that a true and correct copy of the *Special Master's Report, Special Master's Recommendation for Partial Decree* and *Notice of Issuance of Special Master's Report and Recommendation* were mailed on February 25, 1999, with sufficient first-class postage prepaid to the following:

Director of IDWR
PO Box 83720
Boise, ID 83720-0098

William Hollifield
PO Box 66
Twin Falls, ID 83303-0066
Rep: Big Lost River Water Users Asso.

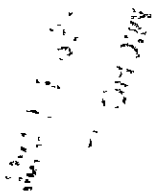
Kent Foster
PO Box 50130
Idaho Falls, ID 83406
Rep: Mitchell Sorensen

Norman Semanko
PO Box 1906
Twin Falls, ID 83303-1906
Rep: Kirby & Doyle Jensen

Teri Hranac
Deputy Clerk

Big Lost River near Arco Mean Monthly Discharge (cfs)

Year	1946	1947	1948	1949	1950	1951	1952	1953	1954	1955	1956	1957	1958	1959	1960	1961	1966
Oct		73	45	63	25	22	103	49	44	27	10	47	72	221	15	0	
Nov		74	42	35	32	23	109	82	53	34	13	67	88	109	18	0	
Dec		73	29	30	22	22	92	102	72	31	49	54	101	111	15	0.08	
Jan		55	25	26	20	15	88	125	77	22	19	35	92	99	11	0	
Feb		99	27	27	18	13	104	161	58	20	13	39	104	94	12	0	
Mar		150	27	37	20	13	123	128	46	17	126	43	112	89	12	0.12	
Apr		113	20	31	47	21	220	99	29	13	86	36	120	24	8.4	0	
May		108	10	26	13	47	447	34	13	7.3	116	212	499	14	0.94	0	
Jun		148	89	53	20	60	428	87	20	5.7	485	391	675	14	0	0	17
Jul		34	37	19	28	31	194	50	25	11	37	88	117	8.6	0.26	0	5.3
Aug		35	35	24	31	118	67	29	17	5.8	34	29	70	2.5	0	0	3.8
Sep	57	40	60	20	24	90	80	31	21	9.3	38	64	125	3.8	0	0	3.2



Big Lost River near Arco Mean Monthly Discharge (cfs)

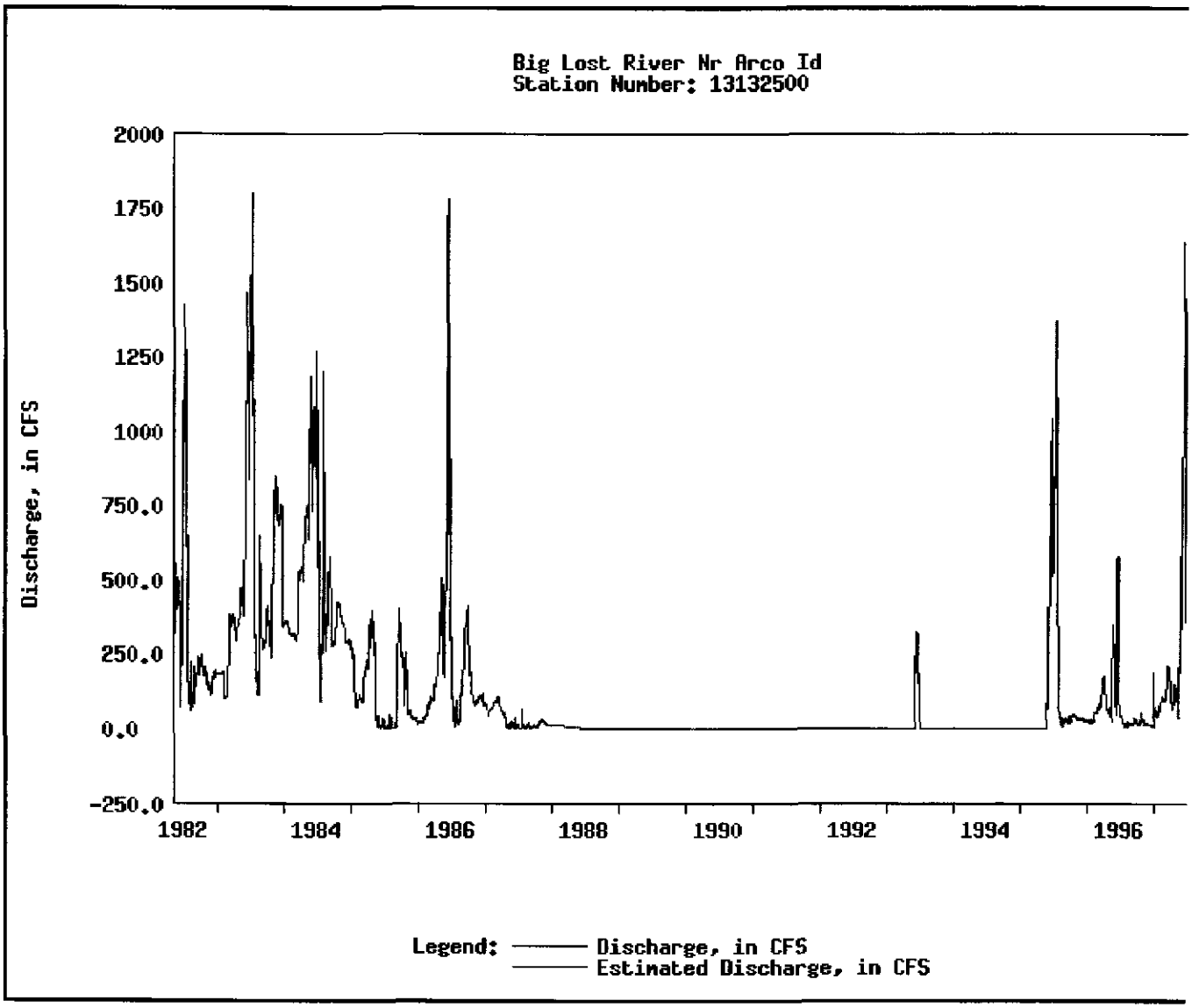
Year	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983
Oct	5.7	257	98	143	114	283	111	27	113	172	168	4.3	12	3.2	22		200
Nov	9.8	156	187	122	127	266	103	45	132	199	189	6.3	7.7	4.7			138
Dec	14	103	234	128	108	163	100	33	126	127	66	5	12	3.9			173
Jan	12	63	180	116	123	108	93	56	123	101	42	3.2	8.3	3.7			180
Feb	11	80	207	128	128	161	113	65	114	112	54	2.8	10	4.1			126
Mar	6.8	123	381	86	127	167	109	194	109	118	49	3	28	4.1			306
Apr	3.8	89	653	61	337	121	132	145	117	75	12	4.2	25	3.7	87		337
May	89	12	726	45	326	28	26	171	281	70	12	1.2	20	31	156	461	448
Jun	862	42	769	297	430	68	26	577	288	58	9.8	13	13	127	174	498	1118
Jul	918	23	466	342	438	46	21	207	580	23	3.8	18	7.3	93	11	623	915
Aug	143	53	118	54	184	36	14	54	97	29	1.5	13	9.5	57	7.7	118	285
Sep	218	61	218	142	266	113	25	54	174	62	2.7	33	4.5	27	11	187	291

Big Lost River near Arco Mean Monthly Discharge (cfs)

														*** Averages ***		
Year	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	47-97	79-86	87-94
Oct	341	371	201	149	12	0	0	0	0	0	0	0	49	26	82	164	20
Nov	759	363	54	90	22	0	0	0	0	0	0	0	38	14	87	221	14
Dec	614	293	31	98	13	0	0	0	-6	0	0	0	48	10	75	188	13
Jan	347	209	19	66	10	0	0	0	0	0	0	0	91	59	62	128	10
Feb	314	93	51	76	9.8	0	0	0	0	0	0	0		89	64	100	11
Mar	390	162	97	85	6.3	0	0	0	0	0	0	0	154	142	86	165	11
Apr	578	314	232	39	4.8	0	0	0	0	0	0	0	100	106	99	225	5
May	841	132	351	8.4	4.1	0	0	0	0	0	0	18	134	228	134	305	2
Jun	996	15	917	8.9	0.1	0	0	0	0	176	0	626	247	910	250	482	23
Jul	472	3.5	79	13	0	0	0	0	0	2.6	0	700	27	96	145	275	2
Aug	502	7.4	57	6.7	0	0	0	0	0	0	0	31	15	71	52	130	1
Sep	395	229	328	4.1	0	0	0	0	0	0	0	26	23	65	76	184	1

USGS
science for a changing world

Historical Streamflow Daily Values Graph for Big Lost River Nr Arco Id (13132500)



Some stations have red data points. These represent days for which data were estimated, rather than recorded.

Force this graph to be redrawn

Why you might press this button

Norm Young

Managed Aquifer Recharge
in the
Big Lost River Basin

Report to:
Idaho Water Resource Board
December 10-11, 1998

prepared by
Water District 34
Doug Rosenkrance
Mitchell Sorensen
Harvey Walker

MICROFILMED
Entire Book

Managed Aquifer Recharge in the Big Lost River Basin

Introduction and Background

Like other water users across the state of Idaho, water users in basin 34 have long been aware of the need for improved water resource management. This interest has been heightened by the recent periods of drought, moratoria, conjunctive management, and the Snake River Basin Adjudication.

Basin 34 was designated as Reporting Area 1 in the SRBA, and has been a test-basin for many issues and new IDWR administrative management methodology. With the expansion of the water district to include ground water diversions and the implementation of the conjunctive management rules, it was only a matter of time before water users recognized the need to engage in some type of managed aquifer recharge to mitigate the effects of drought, ground water pumping, improved irrigation practices and other water conservation practices. Such a project(s) would be among the first of it's kind in the state of Idaho.

In February and April of 1995, two applications for permits were filed by individual water users before the Director of IDWR to appropriate water supplies that could be used within the sub-basin for the development of recharge projects. These applications were protested by Idaho Power Co., Bureau of Land Management, Idaho Dept. of Fish and Game, Idaho National Engineering Laboratory, Idaho Rivers United, and some local water users. Several of these protests were later withdrawn, but several remained, requiring the Director to conduct administrative hearings on the matter. This process lead to the crafting of a settlement agreement and plan of operation[1] which the parties ultimately stipulated to, thus avoiding the need for the actual hearing.

Part of the settlement included the assignment of the two permits to Water District 34. The district subsequently formed a recharge committee which was charged with the responsibility of exercising and developing the permits to the license stage and beyond, finding and developing potential recharge sites, securing funding for such projects, and making budget recommendations to the local water district advisory board that can be approved at the annual meetings of the water district.

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[1]Big Lost River Recharge Settlement Agreement - Appendix #1 (part A)
Plan of Operation Basin 34 Recharge - Appendix #1 (part B)

Recharge Activity in Basin 34

1995 was the first year, following the recent prolonged drought, that water supplies were available for recharge efforts. Although protests were pending, IDWR allowed a portion of these water supplies to be diverted into canals and gravel pits on a temporary basis. The results were very successful and aided in the recognizable benefit to the basin of what could be accomplished with an organized managed recharge effort. A network of USGS monitoring wells[2] validated the expected recovery of ground water levels. The watermaster reports accounted for more than 71,000 AF[3] of water put to beneficial use through recharge efforts in the first year.

To promote these types of efforts and help defray some of the costs, the Idaho Legislature appropriated the sum of nearly $1,000,000.00[4] to be used by the Water Resource Board. Water District 34 requested and received $7,495.75 from this fund at the end of the 1995 water season. This money did much more than defray some of the initial costs of recharge; it gave a sense of support and reassurance to water users that the state was willing to help in the transition era to conjunctive management.

With this renewed promise for success, the water district actively promoted recharge projects throughout the basin in 1996. Land owners and conveyance entities willing joined the efforts, in many instances donating their services and access to property. By the end of the season, another 56,093 AF[5] of water had been diverted into recharge projects.

During the winter months, negotiations between the applicants and protestants continued. Settlement discussions with the parties focused on issues of public interest (i.e. stream flow and aquifer level enhancement, stream bank stabilization, flood control, wildlife and fishery habitat, senior surface vs. junior surface and ground water right administration, mitigation credit, and aesthetic values). By the spring of 1997 a settlement had been reached, and two permits[6] were granted by IDWR. Watermaster records show that an additional 55,899 AF[7] of water was diverted into canals and recharge sites for the year.

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[2]Big Lost River Valley-Ground Water Hydrographs - Appendix #2
[3]Water District 34, dated 1/24/96, 1995 Recharge - Appendix #3
[4]Expenditures Authorized Under Sec. 1, Ch 200/ Senate Bill No. 1260 - Appendix #4
[5]Water District 34, dated 11/18/1996, 1996 Recharge - Appendix #5
[6]Copies of Permit #34-07571 and #34-07573 are included as Appendix #6
[7]Water District 34, dated 5/7/98, 1997 Recharge - Appendix #7

After three years of experience, the community of water users and the water district were prepared to begin refining and enhancing recharge efforts. It became obvious that managed recharge was best, when done with good technical, social, and financial support. The water district proposed a 1998 work plan[8] for aquifer recharge to IDWR. The proposed plan included site locations[9] that had been used in past years as well as new sites being developed for the first time, improved diversion works, and operational details, and also proposed to divert approx. 115,000 AF of water. Actual diversion for 1998 are not known at this date, but it estimated that more than 61,133 AF will be diverted into recharge projects this year.

The quantity of water put to beneficial use as managed recharge in the Lost River Basin during the last four years totals 244,534 AF. Expenditures to date total $12,475.00 in direct costs and $8,085.00 in local administrative costs (i.e. watermaster, secretary, ditchrider salaries, and office expenses). Water district budgets have been relatively modest to date because water users wanted to maximize the benefit with a minimum amount of cost. Expense items[10] for these project improvements included culverts, headgates, equipment operation, and consultant fees.

Most of the recharge sites were selected because of the cooperation and willingness of property owners and conveyance entities to donate to the effort. They volunteered the use of machinery, land, access, and labor. We estimate these contributions to be in excess of $7,729.00. Without them our success would have been much more limited.

As managed recharge efforts continue to improve and meet the criteria of IDWR administration, we recognize the need for additional funding. The success of these efforts is somewhat predicated upon the budgeting process of our local water district and state funding. We hope you will consider the substantial efforts made by many individuals and conveyance entities as you respond to our request for reimbursement for water supplies diverted into recharge projects during the years of 1996, 1997, and 1998.

Thank you for the time you have given us in making this report, and we appreciate your support.

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[8]Aquifer Recharge Plan-Water District 34 - Appendix #8

[9]see map of Recharge Sites - Appendix #9

[10]A list of costs and expenses are included in Appendix #10

BIG LOST RIVER RECHARGE
SETTLEMENT AGREEMENT AND STIPULATION

WHEREAS, applications have been submitted to the Idaho Department of Water Resources to appropriate waters from the Big Lost River and tributaries for purposes of aquifer recharge, in the names of Mitchell Sorensen et al. (No. 34-07571) and Dave Nelson et al. (No. 34-07573) (hereafter, "Applicants"); and

WHEREAS, protests have been filed to said applications under I.C. § 42-203A et seq., by protestants U.S. Dept. of Energy, Idaho Rivers United, Big Lost River Waterusers Association, Reva Walker, Charles Huggins, Dennis and Trudy Braswell, and Lester Braswell (hereafter, "Protestants"); and

WHEREAS, Applicants and Protestants all desire to see recharge occur in the Big Lost River valley in a manner which is both effective hydrologically and broadly benefiting all residents and interests in the valley; and

WHEREAS, Water District 34 has already agreed to accept assignment of and hold the recharge permits issued by the Idaho Department of Water Resources (IDWR), and to conduct recharge efforts pursuant to such permits; and

WHEREAS, Applicants and Protestants desire to facilitate successful recharge in 1997 and future years, and to resolve the pending protests amicably and without the need for hearing under the terms of this agreement; and

WHEREAS, Applicants and Protestants agree and stipulate that recharge efforts in the Big Lost River basin, if conducted according to the terms and conditions set forth herein, will serve the local public interest, conserve the water resources of the State of

Idaho, will not injure existing water rights, and otherwise satisfy the criteria of I.C. § 42-203A;

NOW THEREFORE, in consideration of the mutual promises and covenants contained herein, the undersigned parties do hereby AGREE AND STIPULATE as follows:

1. Upon execution and approval of this Settlement Agreement and Stipulation by all parties hereto, the Protestants agree that all pending protests to the recharge applications shall be, and are hereby, WITHDRAWN by Protestants.

2. Upon execution and approval of this Settlement Agreement and Stipulation by all parties hereto, all Applicants and Protestants agree that IDWR may issue permits based upon the above referenced applications pursuant to the provisions of I.C. § 42-203A and other applicable law, for the appropriation of water for recharge purposes in the Big Lost River basin, said permits to be expressly conditioned and limited by the Plan of Operation and other terms and conditions set forth herein

3. Upon execution and approval of this Settlement Agreement and Stipulation by all parties hereto, Applicants agree that their above-referenced permits shall be, and are hereby, ASSIGNED AND TRANSFERRED to Water District 34 pursuant to Resolution No. 3-3-1997 of the water users of Water District 34 dated March 3, 1997. Executed ASSIGNMENT OF PERMIT documents and filing fees, payable to IDWR, accompany this Agreement and Stipulation to be filed with IDWR at the time of submitting this Agreement and Stipulation to IDWR. The intent of the Applicants being that the permits be assigned to Water District 34 upon their issuance.

4. Water District 34 shall, at its next regular or special meeting, confirm its acceptance of said recharge permits under the terms and conditions set forth herein. Failure to do so or rejection of any terms and conditions as set forth herein shall render this Settlement Agreement and Stipulation null and void, shall require IDWR to cancel the recharge permits, and shall reinstate the pending applications to the Applicants (without loss of priority date from the applications' filing), and shall reinstate the pending protests by the Protestants.

5. Upon issuance of said recharge permits by IDWR, those permits shall be held and implemented by Water District 34 strictly in accordance with Resolution No. 3-3-1997 of the water users of Water District 34 dated March 3, 1997, and the Plan of Operation, attached hereto and incorporated herein by reference as an integral part of this Settlement Agreement and Stipulation.

6 Following issuance of the recharge permits by IDWR and their acceptance by Water District 34, the terms and conditions of this Stipulation and Settlement Agreement shall be deemed fully satisfied. In the event of violation or failure to adhere to the terms and conditions of the Plan of Operation, the parties to this agreement may invoke or seek any available remedy or relief as provided by law. Any such violation or failure to adhere to the terms and conditions of the Plan of Operation may also be raised by any party and considered by IDWR as grounds for denial of a license.

7. All parties shall bear their own costs and attorneys fees associated with the applications, protests, and administrative proceedings relating thereto. However, upon approval by Water District 34, Applicants are entitled to reimbursement of their

application fees and other reasonable expenses as provided by Resolution No. 3-3-1997 of the water users of Water District 34 dated March 3, 1997.

8. In executing this Settlement Agreement and Stipulation, the undersigned parties represent and warrant that they are authorized to make all stipulations, agreements, concessions, promises, and warranties contained herein.

9. This Settlement Agreement and Stipulation shall be construed and enforced under the laws of Idaho.

AGREED AND ACCEPTED effective this 21st day of April 1997:

Applicants Mitchell Sorensen, et al.

Applicants Dave Neslon, et al.

Protestant Idaho Rivers United

Protestant Big Lost River Water Users Ass'n

Protestant Reva Walker

Protestant Charles & Karen Huggins

Dennis Braswell

Protestant Dennis & Trudy Braswell

_____

Protestant Lester Braswell

APPENDIX #1

Appendix #1 (part B)

PLAN OF OPERATION
BASIN 34 RECHARGE
April, 1997

Introduction

This Plan of Operation is intended to implement the recharge effort in Basin 34 to accomplish the objectives of the water users of Water District 34 and the parties to the Settlement Agreement and Stipulation executed herewith. Recharge efforts utilizing water rights nos. 34-07571 and 34-07573 (recharge water rights hereinafter) shall be conducted in accordance with this Plan of Operation. Under this Plan of Operation the recharge water rights are to be used without regard for the relative priority between the two water right filings in a manner to fully and efficiently use the available water supplies and provide benefit throughout the basin.

The objectives of this Plan of Operation are to benefit all lands in the basin from flood water supplies that would otherwise exit the basin by maintaining reasonable river flows from the head of the valley to the Arco gaging station and the controlled diversion of otherwise unappropriated water into selected recharge sites. The expected basin wide project benefits are anticipated to be the following:

1) greater usage of flood water supplies.
2) flood control/stream bank protection.
3) recharge to natural springs and aquifer levels.
4) enhancement to fish and wildlife habitat and aesthetic values.
5) reduce damage caused by sub-water adjacent to river.
6) extended periods of river flows.
7) improved conveyance of diverted water supplies.
8) aquifer replacement of ground water supplies.
9) mitigation for senior surface water rights.
10) demonstration of community cooperation.
11) reduce or eliminate the need to curtail existing ground water rights.
12) maintain ground water levels for domestic wells.
13) develop greater understanding of ground and surface water hydrology in the basin.

Permit Terms and Conditions

The following terms and conditions relate to elements of the recharge water rights and are sought to be incorporated into the permits issued by IDWR for the recharge water rights. These terms and conditions remain integral parts of this Plan of Operation whether or not incorporated into the permits by IDWR.

Recharge During the Non-Irrigation Season

For purposes of this Plan of Operation, the non-irrigation season is the period of the year when surface water is not being diverted for irrigation purposes from the source of water sought to be used for recharge. The non-irrigation season, for purposes of this plan, may differ from one portion of the basin to another in any year as well as differing from year to year.

The diversion of water for recharge may begin from tributaries to the Big Lost River during the non-irrigation season at any time that water is available for recharge and diversion facilities are available and capable of diverting and recharging the diverted water. Care must be taken to avoid ice damage to diversion facilities and to avoid flood threats that could result from icing conditions.

No diversion of water from the Big Lost River upstream from Mackay Reservoir can occur which would interfere with filling the storage rights for the reservoir. Diversions for recharge upstream from Mackay Reservoir should only be made after consultation and concurrence by the Directors of the Big Lost River Irrigation District and when diversion facilities are available.

Diversion of water from the Big Lost River downstream from Mackay Reservoir may occur when the conditions of stream flow described herein have been satisfied and diversion facilities are available. During the non-irrigation season water diverted into the irrigation canals and "lost" from seepage from those canals is a viable form of ground water recharge. This recharge benefits both ground water users by raising the level of the aquifer and surface water users by reducing the losses that will occur from the canals when irrigation deliveries begin.

Recharge During the Irrigation Season

For the purpose of this Plan of Operation the irrigation season is the period during each year when surface water is being diverted for irrigation purposes from the source of water sought to be used for recharge. The irrigation season, for purposes of this plan, may differ from one portion of the basin to another in any year as well as differing from year to year.

Recharge during the irrigation season will generally follow the same procedures as recharge during the non-irrigation season. All senior rights being called for must be filled prior to the use of water for recharge. Water rights for purposes other than recharge will not be diverted or delivered solely for purposes of recharge.

Requirements and Guidelines for Recharge

Diversions of water for recharge shall be limited so as to not de-water (dry up) stream channels or increase the extent of de-watered stream channels at the time of the recharge diversion. Many tributaries to the Big Lost River and the Big Lost River itself do not have wetted channels for the entire length of the stream channel during portions of the year and during periods of drought. Among the purposes of this recharge plan is to retain water within the basin that would otherwise leave the basin downstream from the Arco gage as "flood flows." While retaining the water as high in the basin as possible may produce some benefit by extending the time the water may remain in the basin that added benefit does not off-set the value of recharging in the immediate vicinity of the stream channel itself to help maintain the integrity of the stream channel. The water supply required for maintaining wetted stream channels is self limiting since, as the ground water is recharged in the vicinity of the stream channel, smaller amounts of water will be required to maintain the stream and larger amounts of water will be available for diversion for other purposes. Additionally, the diversion of water for recharge from tributaries to the Big Lost River should not increase the amount of dry channel that exists for that tributary.

For the Big Lost River itself downstream from Mackay Dam, diversion for recharge downstream from Mackay Dam will not occur unless the flow at the Arco gage is 60 cfs or more, measured as a three consecutive day average. The 60 cfs at the Arco gage is for purposes of this Plan of Operation only and is not and cannot be construed as a minimum flow or minimum flow water right under any theory of law.

In the event of a brief but intense weather event which is anticipated to produce flood flows for a period of three days or less, the Recharge Committee may call for and the Watermaster may deliver water for recharge purposes even if the flows at the Arco gage are below 60 cfs so long as the flow at the 2-B Gage is 300 cfs, or more, in excess of the non-recharge water deliveries occurring from the Big Lost River downstream from Mackay Dam.

Delivery of Water for Recharge

Delivery of water pursuant to the recharge water rights under this Plan of Operation is limited to the use of water for recharge purposes only and is subject to all prior water rights including, but not limited to, irrigation, stock water and storage. The Watermaster may, however, deliver water for recharge prior to the filling of all storage rights when the owner(s) of the stored water concurs that the reasonably anticipated runoff is sufficient to fill all storage rights and provide water for recharge.

Recharge Locations

The place of use for recharge under this Plan of Operation shall be within the following described area:

Twp 04N Rge 23E, 24E & 26E B.M.
Twp 05N Rge 24E, 25E & 26E B.M.
Twp 06N Rge 24E, 25E & 26E B.M.
Twp 07N Rge 23E, 24E, 25E & 26E B.M.
Twp 08N Rge 21E, 22E & 23E B.M.
Twp 09N Rge 21E & 22E B.M.

Recharge locations within the above described places of use shall include all locations at which recharge has been undertaken in 1995-96, including, but not limited to, Antelope Creek through the UC Canal, and Alder and Pass Creeks through private ditches, Parsons Creek, Spring Creek, Skelton Slew, and the Nielsen, Chilly, Longhurst, Ingram, Howell, Kent, Bartlett Bitton, Anderson, Thalman Hunter, Bradshaw, Burnett, Beck, Darlington, Sharp, Swager, McGowan, Vaught & Harris, 3 & 1, Moore, B&J, Sutter, Arco, Eastside and UC canals and ditches and turnouts from those canals and ditches into a number of private ditches, gravel pits and sinks. As permits, the recharge water rights shall also show, but are not limited to, places of use for potential recharge locations including the Darlington bypass, the Lower Burnett Ditch, Congden Springs area, and the Leslie gravel pit. In addition, the Recharge Committee may identify other sites and facilities which can be used for recharge of ground water within the Big Lost River basin.

Excess Ground Water

In the event ground water levels become too high while recharge is occurring, the Recharge Committee will consult with the Director of the Department of Water Resources to determine if or where recharge can continue at that time in Basin 34. This consultation will occur within 24 hours of any notification that ground water levels are too high as a result of recharge. The Recharge Committee may, in its own discretion, request the Watermaster to alter recharge diversions to avoid adding additional recharge water to areas where the ground water has become too high. The Director of the Department of Water Resources may, in his sole discretion, instruct the Watermaster to alter recharge diversions to avoid adding additional recharge water to areas where the ground water has become too high. If the Watermaster or the Director of the Department of Water Resources becomes aware of any imminent flood danger caused by recharge diversions the Watermaster may take such action as is reasonable and necessary to avoid or reduce any flooding caused by recharge diversions.

Other Terms and Conditions

The following terms and conditions are not anticipated to be included by IDWR in the recharge water permits themselves, but nevertheless are integral parts of this Plan of Operation and the recharge effort undertaken pursuant to the Plan of Operation.

Control of recharge water rights

The recharge water rights shall be held and exercised by Water District 34 and are subject to the control of the Watermaster of Water District 34 (Watermaster hereinafter) for water distribution purposes pursuant to the Water Distribution Rules for Water District 34, the terms and conditions of this Plan of Operation, and all applicable laws and regulations. The Watermaster shall be guided and informed by the Recharge Committee, as set forth herein, regarding the control of the recharge water rights.

Delivery of recharge water shall be made to benefit the Big Lost River basin as a whole. As weather and water conditions change in the Big Lost River basin and as new recharge sites are developed, the Recharge Committee shall be guided by the goal to fully and efficiently use the available water supplies to provide benefit throughout the basin in the spirit of community cooperation and consensus.

Recharge Committee

Calls for delivery of recharge water will be made only by the Recharge Committee under the conditions and guidelines set forth herein. Calls for and delivery of recharge water will be according to this Plan of Operation and other applicable laws and regulations. Calls for delivery of recharge water by the Recharge Committee will be consistent with the intent of the water users of Water District 34 to provide benefits throughout the basin.

The Recharge Committee will have principal responsibility for selecting recharge sites and locations, dates for recharge efforts in any particular year, and for working with other entities (BLRID, BLM, land owners, etc.) to obtain the necessary permits and authorizations for use of recharge sites. The Recharge Committee may make recommendations to Water District 34 and the Watermaster about appropriate arrangements for obtaining authorization for use of recharge sites. The Recharge Committee is urged to seek technical assistance, as required, from local, state, or federal natural resource agencies.

Since current irrigation diversion and delivery facilities may not have enough capacity to meet irrigation demands and divert water for recharge the Recharge Committee should begin immediately to identify recharge sites and provide facilities that can be used for recharge during the irrigation season. Possible recharge sites, in addition to existing irrigation canals, are abandoned irrigation canals, gravel pits and other as yet unidentified sites. Sites and facilities that can be used to divert and recharge "flood flows" that normally occur after the beginning of the irrigation season are essential to a successful recharge effort. The Recharge Committee should have identified additional recharge sites and have in place facilities at sites in addition to those identified above prior to submittal of proof of beneficial use to IDWR.

Members of the Recharge Committee will be appointed, and may be removed for good cause established by any interested party, by the Water District 34 Advisory Committee, with the input of the parties to the Settlement Agreement and Stipulation and the Watermaster. The Recharge Committee shall consist of twelve (12) members as follows:

(a) five (5) members who are surface water users of Water District 34, one (1) of whom shall be selected from each of the following areas:

(i) above Mackay Reservoir,

(ii) Big Lost River from Mackay Reservoir to above the Moore Diversion,

(iii) Big Lost River from Moore Diversion to above the Arco Diversion,

(iv) Big Lost River from Arco Diversion and downstream, and

(v) from the Antelope Creek drainage.

(b) four (4) members who are ground water users of Water District 34, one (1) of whom shall be selected from each geographic area generally described by items (a)(i) through (a)(iv) above.

(c) a member position available to be selected from a list of names provided by the Cities of Butte City, Arco, Moore and Mackay in a manner agreed to by the cities.

(d) a member who is a resident of two (2) years or more or a land owner in the Big Lost River basin, but not a water user of Water District 34, to be selected from a list of names suggested by others having an interest in the basin who are not water users of Water District 34.

(e) the Watermaster.

The Advisory Committee shall act promptly upon a complaint by any interested party that one or more members of the Recharge Committee should be removed for good cause. Good cause for removal of a committee member includes, but is not limited to, failure to diligently attend to the duties of the Recharge Committee, and failure to act in accordance with the goals or terms and conditions of this Plan of Operation.

Monitoring, Evaluation, and Accounting for Recharge

Recharge diversions will be accounted for by the Watermaster on an annual basis in a report to be submitted to the Recharge Committee and the Director of the Department of Water Resources. Only those flows diverted under the authority of the recharge water rights are to be accounted for as recharge. Canal seepage that occurs during the normal delivery of water pursuant to non-recharge water rights will not be counted as recharge.

Monitoring and study of the effects of recharge is a desirable part of this Plan or Operation. The Recharge Committee is encouraged to undertake a study, including monitoring and evaluation, to evaluate the effect of ground water recharge in the basin. The Recharge Committee is encouraged to seek the assistance and cooperation of local, state and federal agencies to complete the study.

Recharge and Mitigation

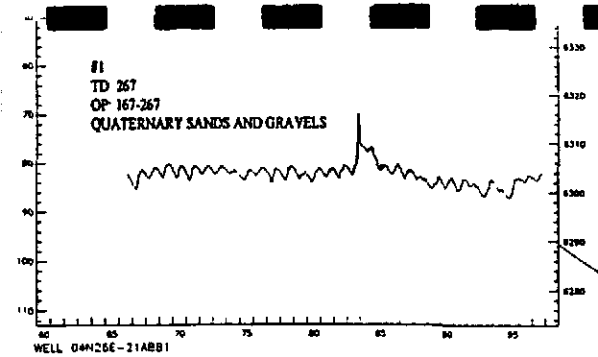
It is beyond the scope of this Plan of Operation to propose a specific mitigation plan that utilizes the recharge that will occur under this plan. Nothing in this plan, however, prevents any ground water user from proposing a mitigation plan to the Director of the Idaho Department of Water Resources, pursuant to Rule 50.04.c.iii or Rule 50.04.e of the Water Distribution Rules - Water District 34, IDAPA 37 Title 03 Chapter 12.

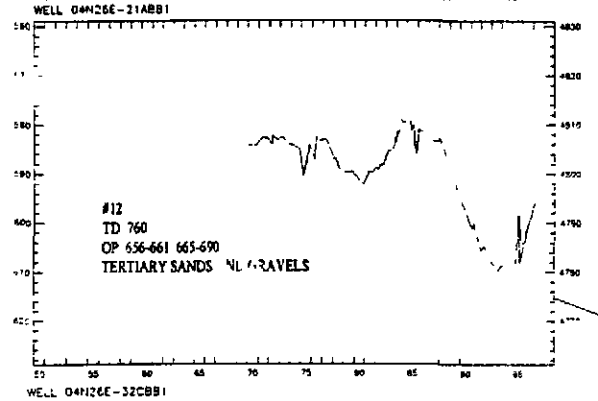
Costs

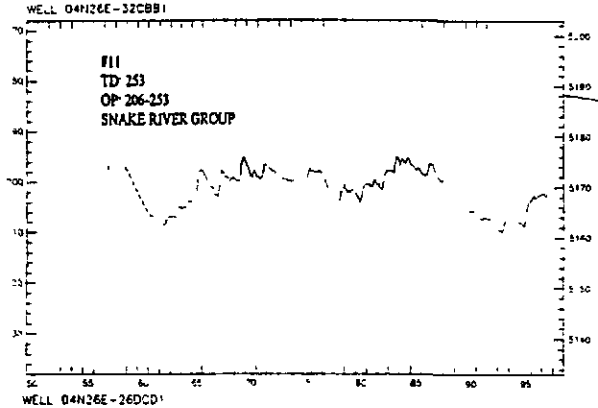
Water District 34 will be responsible for all costs associated with the recharge effort pursuant to this Plan of Operation including reimbursement of the application fees and other reasonable costs as provided by Resolution No. 3-3-1997 of the water users of Water District 34 dated March 3, 1997, and recharge facilities development and maintenance. Water District 34 may seek to defray these costs by seeking contributions from the beneficiaries of the recharge effort or by other means.

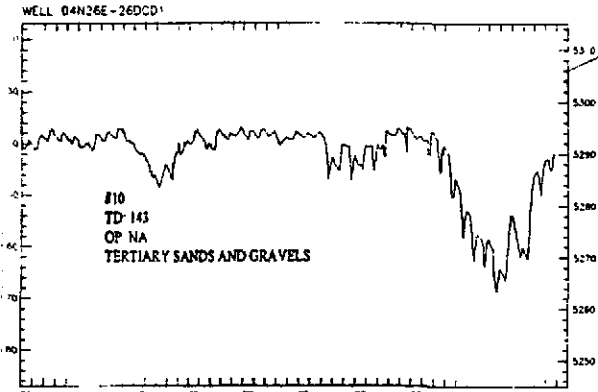
APPENDIX #2

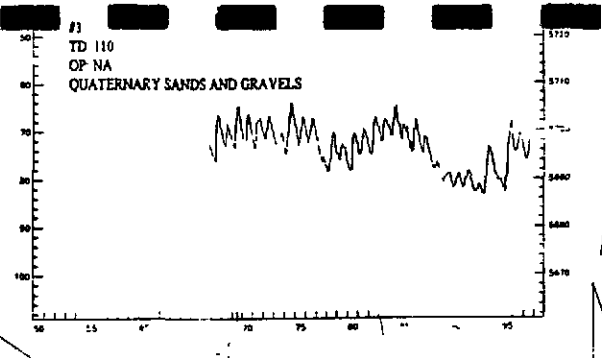
BIG LOST RIVER VALLEY GROUND WATER HYDROGRAPHS

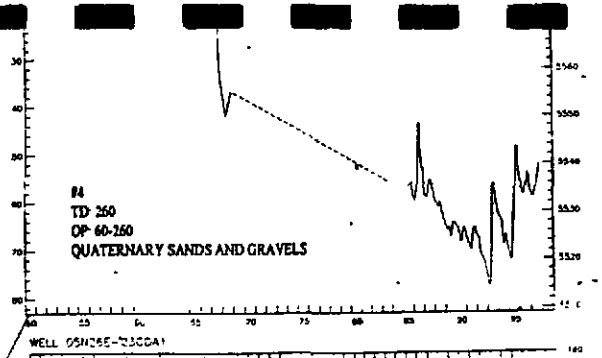


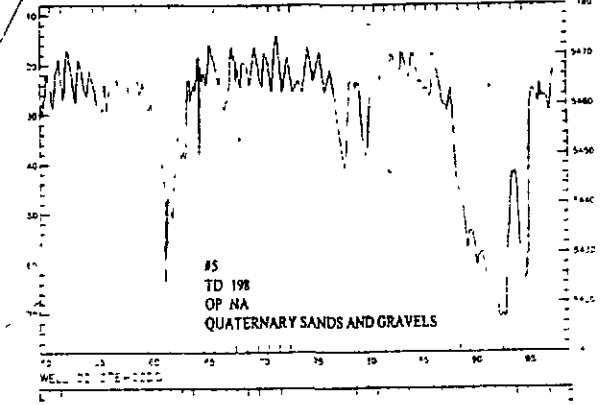


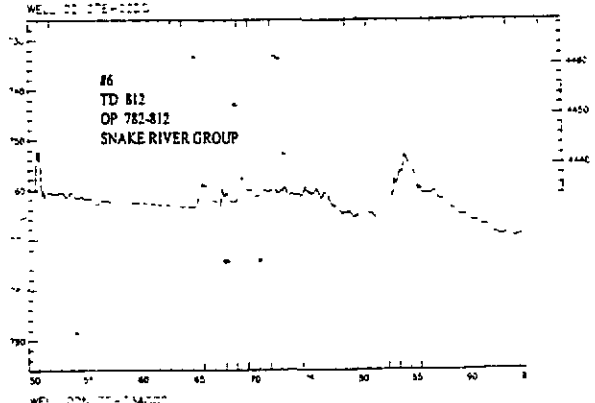


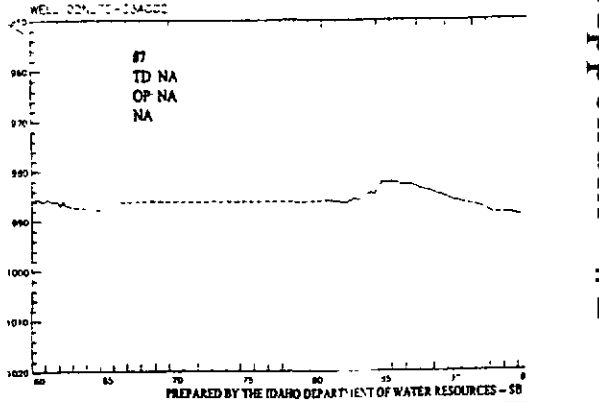


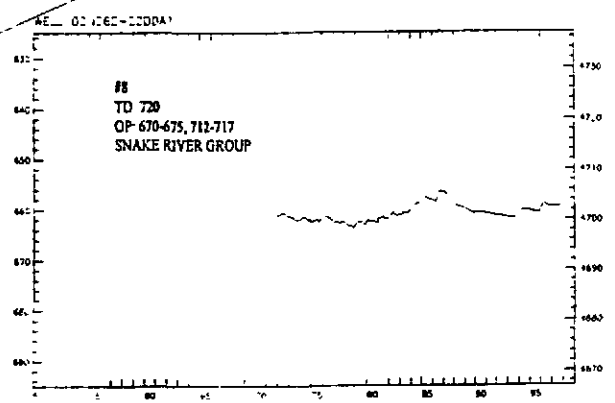


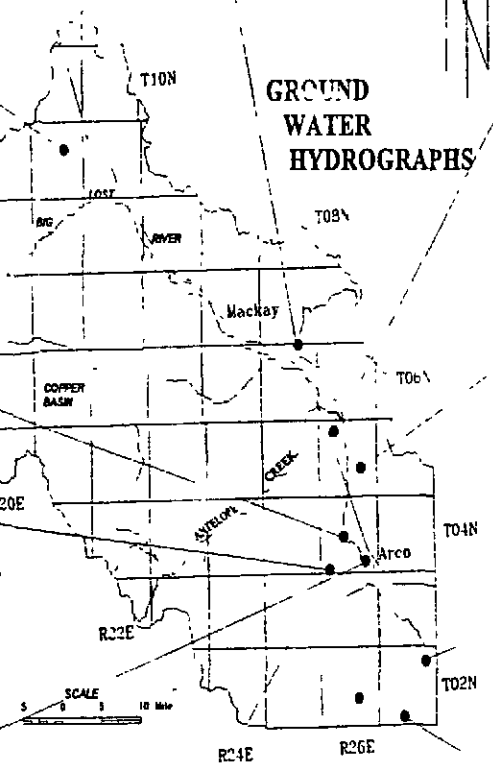












LEGEND

TD TOTAL DEPTH
OP INTERVAL IN WHICH WELL IS PERFORATED OR OPEN TO THE AQUIFER.
WATER BEARING FORMATION
LEFT SIDE. DEPTH TO WATER
RIGHT SIDE. WATER ELEVATION
BASE. YEAR
ALL MEASUREMENTS IN FEET
CURRENT TO FALL 1997

PREPARED BY THE IDAHO DEPARTMENT OF WATER RESOURCES – SB

Appendix #2

APPENDIX #3

WATER DISTRICT 34

P.O. Box 53
Mackay, Idaho 83251

Appendix #3

1/24/96

State of Idaho
Department of Water Resources
900 N. Skyline Drive
Idaho Falls, Idaho 83402-1718

RE: Recharge for 1995

Dear Mr. Jones,

Enclosed you will find the water "Recharge" totals by diversions from Water Dist. #34 for the 1995 season.

Please contact me if you have any questions or need further information.

Thank you.

Sincerely,

Doug Rosenkrance
Watermaster
Water Dist. #34
Mackay, Idaho 83251

DR:jr

CC: BLRID
Charles Huggins
John Traughber
Dave Nelson
Mitch Sorensen

WATER DISTRICT 34

P.O. Box 53
Mackay, Idaho 83251

RECHARGE IN ACRE FEET BY DIVERSION HEADINGS FOR 1995:

ABOVE THE DAM

1.	Chilly	2,817
2.	Longhurst	1,408
3.	Neilsen	2,817
		(7,042)Acre Feet Total

BELOW THE DAM

4.	Antelope	2,737
5.	Alder Creek	928
6.	Pass Creek	1,238
		(4,903)Acre Feet Total
7.	Eastside Out	1,478
8.	Eastside to James Creek	222
9.	Darlington/Alder Creek	4,762
10.	Spring CK to Arco	1,010
11.	Spring CK to Walker	95
12.	Spring CK to Damiana	6,173
13.	Spring CK to Sowards	5,371
14.	Spring CK to Felton	603
15.	Spring CK to Boyac	162
16.	Spring CK to Jay Jensen	95
17.	Spring CK to Rafferty	101

18.	3&1 N/Antelope	417
19.	3&1 To River	1,424
20.	3&1 S/Antelope	964
21.	Blaine Diversion By-Pass	912
22.	River To Arco Div.	16,530
23.	Moore To River	190
24.	B&J To River	647
25.	S/Antelope To UC	13,885
26.	Sutter	56
27.	Pass CK To Burnett	242
28.	Vaught	194
29.	Past McLaughlin	825
30.	West Side East To River	155

(56,513) Acre Feet Total

SINKS

31.	Felton Sinks	361
32.	Leslie LDS	42
33.	Moore Pit	42
34.	Powers	278
35.	Pehrson	42
36.	Burnett/Stub	736
37.	McGowan	292
38.	McKnight	97
39.	Streeter	328
40.	Chris Lord	208
41.	Eli Sayer	347
42.	Neitzer	67
43.	Burgess	111

(2,951) Acre Feet Total

SUMMARY FOR THE YEAR

1.	ABOVE THE DAM	7,042 Acre Feet	
2.	ANTELOPE, ALDER CREEK & PASS CREEK	4,903 Acre Feet	
3.	BELOW THE DAM INCLUDING THE SINKS	59,464 Acre Feet	
4.	Total FOR BASIN 34	71,409 Acre Feet	Total
5.	TOTAL WATER TO SPRING CREEK (INCLUDING FELTON SINKS)	13,971 Acre Feet	

I feel that the "Recharge" effort was very successful. Rising water has returned in many areas of the valley and most well water levels have raised back to normal.

Respectfully submitted,

Doug Rosenkrance

Doug Rosenkrance
Watermaster
Water Dist. #34
Mackay, Idaho

APPENDIX #4

Appendix #4

Joint Finance Appropriation Committee

Senator Atwell Parry, Chairman
Senator Dean Cameron, Vice-chair

Representative Robert Geddes, Chairman
Representative Maxine Bell, Vice-chair

March 11, 1997

RECEIVED

Department of Water Resources

Clarence Parr
Chairman, Idaho Water Resource Board
Karl J. Dreher
Director, Department of Water Resources

Re: Expenditures Authorized Under Section 1, Chapter 200, Laws of 1995

Dear Chairman Parr and Director Dreher:

You have requested direction as to whether expenditures authorized under Section 1, Chapter 200, Laws of 1995 may include an amount reasonably necessary to plan, facilitate and coordinate the water recharge effort. Section 1, Chapter 200 of the Laws of 1995 appropriated one million dollars ($1,000,000) of which nine hundred forty-five thousand dollars ($945,000) was provided to the Idaho Water Resource Board for purchasing water for the artificial recharge of the Snake River Plain Aquifer. We understand that the Water Resource Board has fully disbursed the appropriated funds for water conveyance fees and for the purchase of water for recharge purposes utilizing the Upper Snake River Basin Rental Pool.

The intent of the original appropriation was to facilitate recharge of the Snake Plain Aquifer, and toward that end, conveyance costs are clearly within the scope of that purpose. In addition, the use of those funds to "plan, facilitate and coordinate" the recharge effort likewise appear consistent with the intent of the bill, and would seem to enhance the probability of a successful recharge effort. We would suggest however, that a reasonable limit be placed upon expenditures for planning and coordination, and would recommend that no more than fifteen percent of the funds appropriated be used for that purpose. We would further request that an expenditure report be provided to the Joint Finance Appropriations Committee next session indicating the expenditures to date for water purchase, water conveyance, and planning and coordination.

Sincerely,

ATWELL J. PARRY, Chairman
Senate Finance Committee

ROBERT C. GEDDES, Chairman
House Appropriations Committee

cc: Senator Laird Noh
Rep. Golden Linford

IN THE SENATE

SENATE BILL NO. 1260

BY FINANCE COMMITTEE

AN ACT

APPROPRIATING GENERAL FUND MONEYS FOR DEPOSIT IN THE WATER MANAGEMENT FUND; EXPRESSING LEGISLATIVE INTENT WITH RESPECT TO CERTAIN EXPENDITURES; EXPRESSING LEGISLATIVE INTENT WITH RESPECT TO UNSPENT BALANCES; EXPRESSING LEGISLATIVE INTENT WITH REGARD TO WATER PURCHASES; AND DECLARING AN EMERGENCY.

Be It Enacted by the Legislature of the State of Idaho:

SECTION 1. There is hereby appropriated from the General Fund, to be transferred to the Water Management Fund, the sum of one million dollars ($1,000,000) to be used by the Idaho Water Resources Board for purchasing water for the purpose of providing an artificial recharge of the Snake River Plain Aquifer.

SECTION 2. Of the amount appropriated to the Water Management Fund in Section 1 of this act, an amount not to exceed fifty-five thousand dollars ($55,000) shall be provided by the Idaho Water Resources Board for a grant to update the study on the Soda Springs Dam site on the Bear River.

SECTION 3. Any unspent and unencumbered balances of the amount appropriated in this act remaining on June 30, 1995, shall be transferred back to the General Fund by the State Controller.

SECTION 4. Water purchases in this act would be made final after agricultural needs are established. Existing uses of water that contribute to aquifer recharge are to be supported and encouraged.

SECTION 5. An emergency existing therefor, which emergency is hereby declared to exist, this act shall be in full force and effect on and after its passage and approval.

APPENDIX #5

WR1

WATER DISTRICT 34

P.O. Box 53
Mackay, Idaho 83251

11/18/1996

Appendix #5

State of Idaho
Department of Water Resources
900 N. Skyline Drive
Idaho Falls, Idaho 83402-1718

Re: Recharge for 1996

Dear Mr. Jones,

Enclosed you will find the water "Recharge" totals by diversions from Water District #34 for the 1996 season.

I feel that the "Recharge" effort was very successfull again this year. Rising water continued to increase in many areas of the valley. Water table levels continue to increase and most are at normal levels.

Please contact me if you have any questions or need further information.

Thank you.

Sincerely,

Doug Rosenkrance

Doug Rosenkrance
Watermaster
Water Dist. #34
Mackay, Idaho 83251

DR:jr
CC: BLRID (C' 11-21-96
Charles Huggins " 11-21-96
John Traughber "
Dave Nelson
Mitch Sorensen "

WATER DISTRICT 34

P.O. Box 53
Mackay, Idaho 83251

RECHARGE FOR THE YEAR 1996 IN ACRE FEET

1. ABOVE THE DAM

Howell	122 AF
Kent	156 AF
Bartlett Bitton	76 AF
Anderson	144 AF
Thalman Hunter	250 AF
Bradshaw	230 AF
Nielsen	1,190 AF
Chilly	1,422 AF
Longhurst	322 AF
Parsons Creek	870 AF
Skelton Slew	218 AF
Ingram	120 AF
	5,120 AF

2. BELOW THE DAM

Antelope	352 AF
Alder Creek	536 AF
Pass Creek	368 AF
	1,256 AF

Spring CK to Damiana	8,031 AF
Spring CK to Sowards	3,173 AF
Spring CK to Hendricks	975 AF
Spring CK to Felton	230 AF
	12,409 AF

Burnett	2,740 AF
Beck	231 AF
Darlington	609 AF
Sharp	263 AF
Swager	431 AF
Vaught	1,746 AF
3 & 1	70 AF
Moore	1,259 AF
Arco	629 AF
Eastside	1,033 AF
UC	5,512 AF
	14,523 AF

SUMMARY

ABOVE THE DAM	5,120 AF	33,308 AF Total For Year
BELOW THE DAM	28,188 AF	

RECHARGE FOR THE YEAR 1996 IN ACRE FEET

The following is an account of water diverted into all canals and delivered with no shrink. All values are weekly totals in acre feet.

The total from this list can be added to the totals on page -1- of the 1996 "Recharge" report.

Week Ending	Acre Feet
5-25	4,365
6-01	5,355
6-08	7,696
6-15	11,297
6-22	11,987
6-29	11,632
7-06	11,386
9-28	3,417
10-05	3,604
10-12	3,681
10-19	1,531
	75,951
It is estimated that 30 % of this total would be shrinkage that helped to fill the "Recharge" effort.	x 30 %
	22,785

Grand total for the 1996 season = 33,308 From page -1-
Total amount of shrinkage est. = 22,785 From page -2-
56,093 Total For 1996

APPENDIX #6

Appendix #6

State of Idaho
Department of Water Resources

Permit To Appropriate Water

NO. 34-07571

Proposed Priority: February 3, 1995 Maximum Diversion Rate: 270.00 CFS

This is to certify, that WATER DISTRICT NO. 34
PO BOX 53
MACKAY ID 83251-0053

has applied for a permit to appropriate water from:

ANTELOPE CREEK, NORTH FORK	tributary of	**BIG LOST RIVER**
ANTELOPE CREEK, SOUTH FORK	tributary of	**BIG LOST RIVER**
BIG LOST RIVER	tributary of	**SINKS**

and a permit is APPROVED for development of water as follows:

BENEFICIAL USE	PERIOD OF USE	RATE OF DIVERSION
GROUNDWATER RECHARGE	01/01 to 12/31	270.00 CFS

LOCATION OF POINT(S) OF DIVERSION:

Lot 3(SESE , Sec. 4, Township 05N, Range 26E
NENW), Sec. 6, Township 05N, Range 26E
NWSE , Sec. 14, Township 06N, Range 25E
NENW , Sec. 36, Township 06N, Range 25E
CUSTER County

PLACE OF USE: GROUNDWATER RECHARGE

TWN	RGE	SEC	SEC	SEC	SEC	SEC	SEC	SEC	SEC	SEC	SEC	SEC	SEC
04N	26E	2	3	4	5	6	7	8	9	10	11	14	15
		16	17	18	19	20	21	22	23	26	27	28	29
		30	31	32	33	34	35	36					
05N	26E	3	4	5	6	7	8	9	10	14	15	16	17
		18	20	21	22	23	27	28	29	32	33	34	35

CONDITIONS OF APPROVAL AND REMARKS

1. Proof of construction of works and application of water to beneficial use shall be submitted on or before June 1, 2003.
2. Subject to all prior water rights.
3. Use of water under this water right will be regulated by the watermaster of State Water District No. 34.
4. Prior to diversion of water under this right, the right holder shall install and maintain a measuring device or other measurement method acceptable to the department and controlling works of a type acceptable to the Director as part of the diverting works.

State of Idaho
Department of Water Resources

Permit To Appropriate Water

NO. 34-07571

CONDITIONS OF APPROVAL AND REMARKS

5. Diversion and use of water for recharge under this right shall be non-consumptive.
6. Approval of this right is subject to the Plan of Operation and other terms and conditions as set forth in the Settlement Agreement and Stipulation dated April 21, 1997.
7. Any holder of a water right diverted from the Big Lost River and tributaries may petition the Director seeking review of water distribution actions of the Watermaster or the Water District Advisory Committee if it is alleged that delivery of water under this right is causing interference with delivery of an earlier priority water right.
8. During all times that Water District No. 34 holds this water right, it shall maintain liability insurance coverage in an amount not less than one million dollars ($1,000,000) to cover claims for bodily injury, death and property damage that may arise as a result of the use of this right.
9. Prior to the licensing of this right, the Director shall make, or otherwise obtain, an appropriate determination of whether a water district established under the provisions of chapter 6, title 42, Idaho Code, is authorized to hold a water right for ground water recharge purposes.
10. The right holder shall report to the department recharge rates, volumes, and locations. The right holder shall continue to report groundwater levels from the wells monitored in 1997, or as otherwise agreed by the right holder and Director.

This permit is issued pursuant to the provisions of Section 42-204, Idaho Code. Witness the signature of the Director, affixed at Boise, this

15TH day of MAY, 1998.

Karl J. Dreher, Director

State of Idaho
Department of Water Resources

Permit To Appropriate Water

NO. 34-07573

Proposed Priority: April 11, 1995 Maximum Diversion Rate: 530.00 CFS

This is to certify, that WATER DISTRICT NO. 34
PO BOX 53
MACKAY ID 83251-0053

has applied for a permit to appropriate water from:

BIG LOST RIVER	tributary of	**SINKS**
ALDER CREEK	tributary of	**BIG LOST RIVER**
PARSONS CREEK	tributary of	**BIG LOST RIVER**
WARM SPRINGS CREEK	tributary of	**BIG LOST RIVER**
ANTELOPE CREEK	tributary of	**BIG LOST RIVER**
PASS CREEK	tributary of	**BIG LOST RIVER**

and a permit is APPROVED for development of water as follows:

BENEFICIAL USE	PERIOD OF USE	RATE OF DIVERSION
GROUNDWATER RECHARGE	01/01 to 12/31	530.00 CFS

LOCATION OF POINT(S) OF DIVERSION:

		NESW	Sec. 1	Township 03N, Range 26E
		NWSE	Sec. 12	Township 03N, Range 26E
		SESW	Sec. 14	Township 04N, Range 23E
		NWNE	Sec. 24	Township 04N, Range 23E
Lot 3	(	NENW)	Sec. 1	Township 04N, Range 24E
		SWNE	Sec. 2	Township 04N, Range 24E
		NWSE	Sec. 2	Township 04N, Range 24E
		SESW	Sec. 3	Township 04N, Range 24E
		SESE	Sec. 8	Township 04N, Range 24E
		NWSW	Sec. 10	Township 04N, Range 24E
		NWSW	Sec. 30	Township 05N, Range 24E
		NWNE	Sec. 2	Township 05N, Range 25E
		SWNE	Sec. 2	Township 05N, Range 25E
		SENW	Sec. 11	Township 05N, Range 25E
		SENE	Sec. 21	Township 05N, Range 25E
		NWNE	Sec. 31	Township 05N, Range 25E
		SESE	Sec. 4	Township 05N, Range 26E
Lot 18	(	NESE)	Sec. 14	Township 06N, Range 24E
		NESE	Sec. 6	Township 06N, Range 25E
Lot 3	(	NWSW)	Sec. 7	Township 06N, Range 25E
		NESW	Sec. 10	Township 06N, Range 25E
		SESW	Sec. 11	Township 06N, Range 25E
		NWSE	Sec. 14	Township 06N, Range 25E
		NWNE	Sec. 24	Township 06N, Range 25E
		SENW	Sec. 32	Township 06N, Range 26E

State of Idaho
Department of Water Resources

Permit To Appropriate Water

NO. 34-07573

LOCATION OF POINT(S) OF DIVERSION:

SESW , Sec. 25, Township 08N, Range 20E
NWSE , Sec. 12, Township 07N, Range 23E
SWNE , Sec. 18, Township 07N, Range 24E
NESW , Sec. 20, Township 07N, Range 24E
SWNE , Sec. 33, Township 07N, Range 24E
NWNW , Sec. 34, Township 07N, Range 24E
NWNW , Sec. 12, Township 08N, Range 21E
SWNW , Sec. 15, Township 08N, Range 21E
SENE , Sec. 19, Township 08N, Range 21E
SWNW , Sec. 20, Township 08N, Range 21E
NWNE , Sec. 30, Township 08N, Range 21E
SESE , Sec. 3, Township 08N, Range 22E
SWSW , Sec. 12, Township 08N, Range 22E
SENE , Sec. 25, Township 08N, Range 22E
SENE , Sec. 25, Township 08N, Range 22E
NESE , Sec. 25, Township 08N, Range 22E
NWSW , Sec. 26, Township 08N, Range 22E
SWSE , Sec. 31, Township 08N, Range 23E
SWSE , Sec. 32, Township 09N, Range 22E
BUTTE County

PLACE OF USE: GROUNDWATER RECHARGE

TWN	RGE	SEC	SEC	SEC	SEC	SEC	SEC	SEC	SEC	SEC	SEC	SEC	SEC
03N	26E	1	2	12	13								
	27E	5	6	7	8	17	18	19					
04N	24E	1	2	3	4	5	6	7	8	9	10	11	14
		15	16	17	18	19	20	21	26	27	28	29	32
		33	35										
	26E	2	3	4	5	6	7	8	9	10	11	14	15
		16	17	18	19	20	21	22	23	25	26	27	35
		36											
	27E	31											
05N	25E	1	2	11	12	14	15	16	20	21	22	28	29
		30	31	32									
	26E	3	4	5	6	7	8	9	10	14	15	16	17
		20	21	22	23	26	27	28	29	32	33	34	35
06N	24E	1	2	3	11	12	13	14	22	23			
	25E	1	2	3	4	5	6	7	8	9	10	11	12
		13	14	15	16	17	18	21	22	23	24	25	26
		27	28	33	34	35	36						
	26E	5	6	7	8	17	18	19	20	21	28	29	30
		31	32	33									
07N	22E	1	2										
	23E	4	5	6									
	24E	7	17	18	20	21	22	25	26	27	28	29	32
		33	34	35	36								

State of Idaho
Department of Water Resources

Permit To Appropriate Water

NO. 34-07573

PLACE OF USE: GROUNDWATER RECHARGE

TWN	RGE	SEC	SEC	SEC	SEC	SEC	SEC	SEC	SEC	SEC	SEC	SEC	SEC
07N	25E	23	24	25	26	27	28	29	30	31	32	33	34
		35	36										
	26E	31											
08N	21E	1	2	3	8	9	10	11	12	13	14	15	16
		17	18	19	20	21							
	22E	2	3	4	5	6	7	8	9	10	11	12	13
		14	15	16	17	21	22	23	24	25	26	27	28
		34	35	36									
	23E	19	29	30	31	32	33						
09N	21E	12	13	24									
	22E	18	19	20	21	27	28	29	30	31	32	33	34

CONDITIONS OF APPROVAL AND REMARKS

1. Proof of construction of works and application of water to beneficial use shall be submitted on or before June 1, 2003.
2. Subject to all prior water rights.
3. Use of water under this water right will be regulated by the watermaster of State Water District No. 34.
4. Prior to diversion of water under this right, the right holder shall install and maintain a measuring device or other measuring method acceptable to the department and controlling works of a type acceptable to the Director as part of the diverting works.
5. Diversion and use of water for recharge under this right shall be non-consumptive.
6. Approval of this right is subject to the Plan of Operation and other terms and conditions as set forth in the Settlement Agreement and Stipulation dated April 21, 1997.
7. Any holder of a water right diverted from the Big Lost River and tributaries may petition the Director seeking review of water distribution actions of the Watermaster or the Water District Advisory Committee if it is alleged that delivery of water under this right is causing interference with delivery of an earlier priority water right.
8. During all times that Water District No. 34 holds this water right, it shall maintain liability insurance coverage in an amount not less than one million dollars ($1,000,000) to cover claims for bodily injury, death and property damage that may arise as a result of the use of this right.

State of Idaho
Department of Water Resources

Permit To Appropriate Water

NO. 34-07573

CONDITIONS OF APPROVAL AND REMARKS

9. Prior to the licensing of this right, the Director shall make, or otherwise obtain, an appropriate determination of whether a water district established under the provisions of chapter 6, title 42, Idaho Code, is authorized to hold a water right for ground water recharge purposes.
10. The right holder shall report to the department recharge rates, volumes, and locations. The right holder shall continue to report groundwater levels from the wells monitored in 1997, or as otherwise agreed by the right holder and Director.

This permit is issued pursuant to the provisions of Section 42-204, Idaho Code. Witness the signature of the Director, affixed at Boise, this

15TH day of MAY, 1998.

Karl J. Dreher, Director

APPENDIX #7

Appendix #7

5/7/98

IDWR
900 North Skyline
Idaho Falls, Idaho 83402

5.7.98 rec'd
5.14.98 Ron Carlson

Attention: Ron Carlson
Re: Recharge

Dear Ron,

I have enclosed a copy of the "Recharge" report for the 1997 season. I understand that there is some money available for the Recharge Project. I am requesting any funds available for our use at this time.

Thank you,

Sincerely,

Doug Rosenkrance
Watermaster

jr

WATER DIST. #34
P.O. BOX 53
MACKAY, IDAHO 83251

RECHARGE FOR THE YEAR 1997 IN ACRE FEET
ALL FIGURES ARE ESTIMATES

1. ABOVE THE RESERVOIR

CHILLY	3,194	AF
NIELSEN	4,354	AF
LONGHURST	1,117	AF
WARM SPRINGS	738	AF
	9,403	AF

2. BELOW THE RESERVOIR

ANTELOPE	1,095	AF
ALDER CREEK	512	AF
PASS CREEK	1,414	AF
	3,021	AF
EASTSIDE TO SPRING CK	24,345	AF
BURNETT & VAUGHT	3,115	AF
SWAUGER	1,200	AF
SHARP	458	AF
DARLINGTON	206	AF
BUCK	270	AF
MOORE	3,277	AF
CONGDON SPRINGS	4,522	AF
ARCO	754	AF
MUNSEY	111	AF
SUTTER	174	AF
OTHERS	6,928	AF
	45,360	AF

SUMMARY:

ABOVE THE RESERVOIR	9,403	AF	
BELOW THE RESERVOIR	48,381	AF	
TOTAL FOR THE YEAR	57,784	AF	
PLUS 30% SHRINK (5/3/97 - 7/22/97)	55,899	AF	(SEE FOLLOWING PAGE)
GRAND TOTAL FOR THE YEAR	113,683	AF	

RECHARGE FOR THE YEAR 1997 IN ACRE FEET
The following is an account of water diverted into canals within the Big Lost River Irrigation District. It was delivered with no shrink. All values are weekly totals in acre feet.

1. BELOW THE RESERVOIR

Week Ending	Acre Feet
5/10	1,416 AF
5/17	5,350 AF
5/24	8,716 AF
5/31	9,163 AF
6/07	10,067 AF
6/14	9,221 AF
6/21	9,170 AF
6/28	9,205 AF
7/05	10,038 AF
7/12	9,607 AF
7/19	9,690 AF
7/22	4,339 AF
It is estimted that 30% of this total would be shrinkage that helped to fill the "RECHARGE "effort.	95,982 AF X 30% 28,795 AF

2. OUT OF BIG LOST RIVER IRRIGATION DISTRICT
FROM 5/3/97 THROUGH 7/22/97 30 % OF TOTAL

ANTELOPE	13,811	AF
ALDER CREEK	695	AF
PASS CREEK	652	AF
	15,158	AF

3. TIMBERDOME 30% OF FLOOD WATER 952 AF

4. ABOVE THE RESERVOIR
FROM 5/3/97 THROUGH 7/22/97 30% OF TOTAL

CHILLY & OTHERS	5,719	AF
NIELSEN & PRIVATE	3,459	AF
WARM SPRINGS	1,816	AF
	10,994	AF

SUMMARY:

BELOW THE RESERVOIR	44,905	AF
ABOVE THE RESERVOIR	10,994	AF
TOTAL OF 30% SHRINK FOR YR.	55,899	AF

APPENDIX #8

mr 7-6-98 fr JPark w/ mtrial Holliday Agrn 90 d 7

Appendix #8

AQUIFER RECHARGE PLAN

EASTERN SNAKE PLAIN AQUIFER

1. NAME AND ADDRESS OF THE PARTICIPATING ORGANIZATION:

NAME Water District #34

ADDRESS P.O. Box 53 Mackay, Idaho 83251

CONTACT PERSON Doug Rosenkrance (Watermaster)

PHONE Work 208-588-3137 Home 208-588-2551

ADDRESS P.O. Box 53 Mackay, Idaho

2. PROPOSED BEGINNING AND ENDING DATES OF RECHARGE:

ANTICIPATED STARTING DATE: 1/1/98

ANTICIPATED ENDING DATE: 12/31/98

3. AMOUNT OF WATER REQUESTED: 115,000 Acre-feet. More or Less

4. MAP OF RECHARGE AREA SEE ATTACHED MAPS

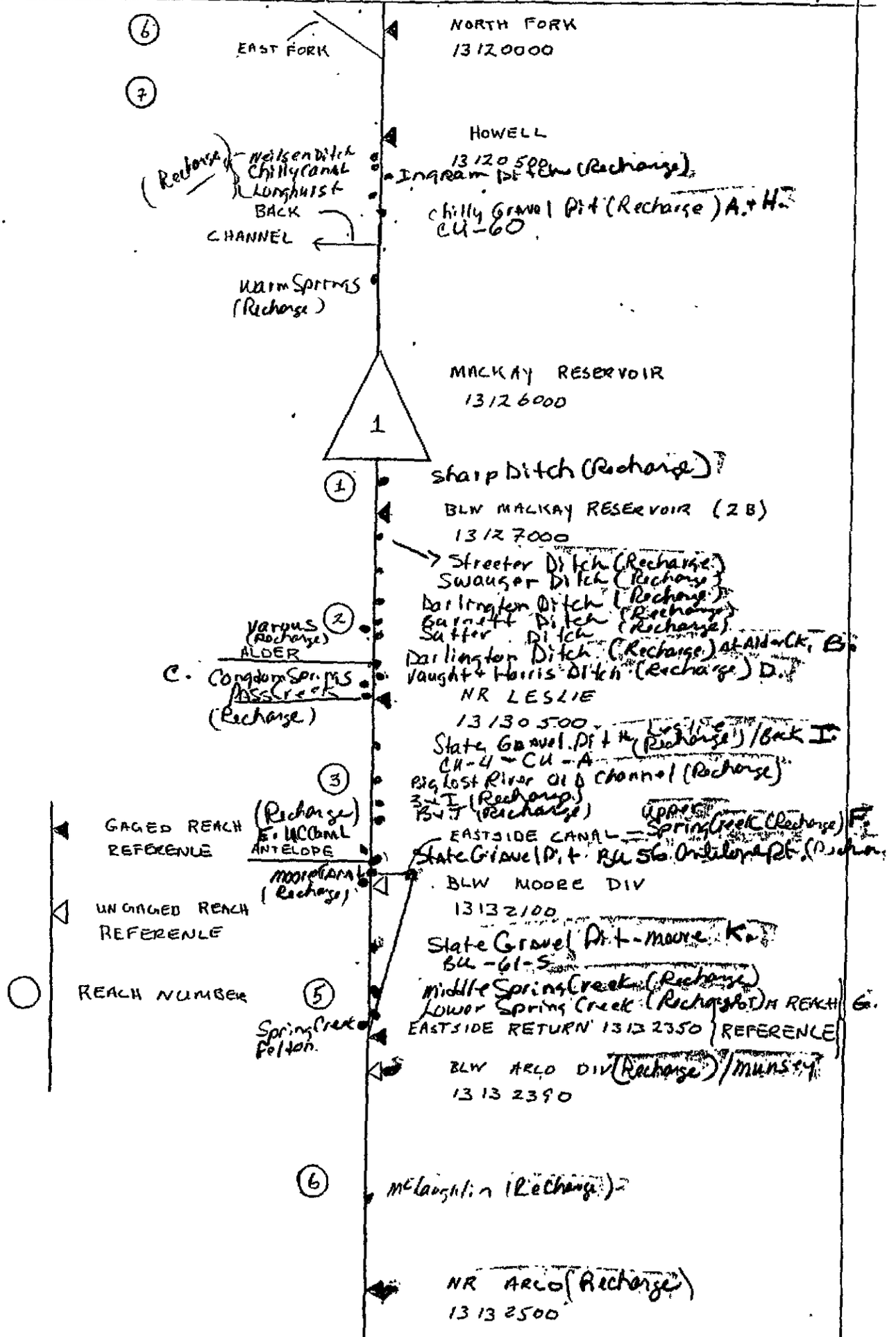
Attach a map of the recharge area paying specific attention to location of features directly related to the recharge effort. This would include such things as measuring devices, seepage pits, injection wells etc. These features should be indicated on the map and then identified and described below.

A. Chilly Gravel Pit
B. Darlington Ditch at Alder Creek
C. Congdon Springs
D. Vaught & Harris
E. U C Canal
F. Upper Spring Creek Recharge Site
G. Lower Spring Creek Recharge Site
H. Chilly Gravel Pit
I. Leslie Gravel Pit
J. Antelope Road Gravel Pit
K. Moore Gravel Pit
L.

Note: A through F are locations with NO measuring devices, and H.through K. are State Transportation Gravel Pits used for Recharge.

BIG LOST RIVER
REACH DIAGRAM

IDWR GEM



5. MEASUREMENT FREQUENCY FOR EACH MEASURING DEVICE IDENTIFIED IN 4.

All locations are measured dailey that have measuring devices. Those locations with no measurement devices are estimated two times per week.

A. _____ B. _____

C. _____ D. _____

E. _____ F. _____

G. _____ H. _____

I. _____ J. _____

K. _____ L. _____

6. WRITTEN SUMMARY OF PROPOSED RECHARGE PLAN

This summary should include such things as time limited elements of the plan, the measuring devices and procedures that will be used to identify water that is diverted but not recharged.

~~SEE ATTACHED PAPER. Diagram of Big Lost River Recharge Areas~~

No Map showing the "Recharge Sites" is currently available to Water Dist. #34, but the Idaho Department of Water Resources at Boise has informed us that there is a good possibility that one will be made this summer by Cheryl Howe which will show each individual channel, ditch, headgate, etc. for the Water Basin #34.

6.

The proposed recharge plan would begin on Jan. 1st, 1998 and go through Dec. 31st, 1998. It would include water available for use as recharge as long as a minimum of 60 CFS is available in the Big Lost River at the Arco Gaging Station. This is per our "Recharge Permit" issued through IDWR .(Permits #34-07571/34-07573)

All recharge sites have measuring devices which are measured dailey with the exception of those listed as A through F on #4. Estimates for those sites with no measuring devices are taken two to three times per week.

Special arrangements have been made with the Idaho State Transportation Department, for use of their gravel pits as recharge sites.

Water in canals used for shrink is also considered recharge, as long as all water rights are being delivered.

After the irrigation season on 10/15/98, if there is still enough flow at the Arco Gaging Station, we will continue to recharge at the sites which have water available.

A new culvert has been installed using "Recharge" funds from 1997 at the Big Lost River Old Channel out of the 3&1 Ditch. Also at the Antelope Pt. from the UC Canal, and one at the Randy Pehrson property out of the Swauger Ditch.

Other sites for future culverts paid for out of "Recharge" funding would include 1. Burnett Ditch in the Stub, 2. Chilly Canal at the Longhurst Ditch, 3. Darlington Ditch at Alder Creek, & 4. at Congdon Springs.

Sites for future Weirs paid for out of "Recharge" funding include the following: 1. Vaught & Harris Ditch, 2. UC Canal, 3. Upper Spring Creek and 4. Middle Spring Creek.

Sites for future Headgates out of "Recharge " funding would be at 1. Pass Creek, 2. Stub Ditch. 3. Longhurst Ditch, 4. Darlington Ditch at Alder Creek. 5. Congdon Springs.

6. CONTINUED

SUBMITTED BY Doug Rosenkrance, Watermaster DATE 7/6/98
Water District #34 Big Lost River

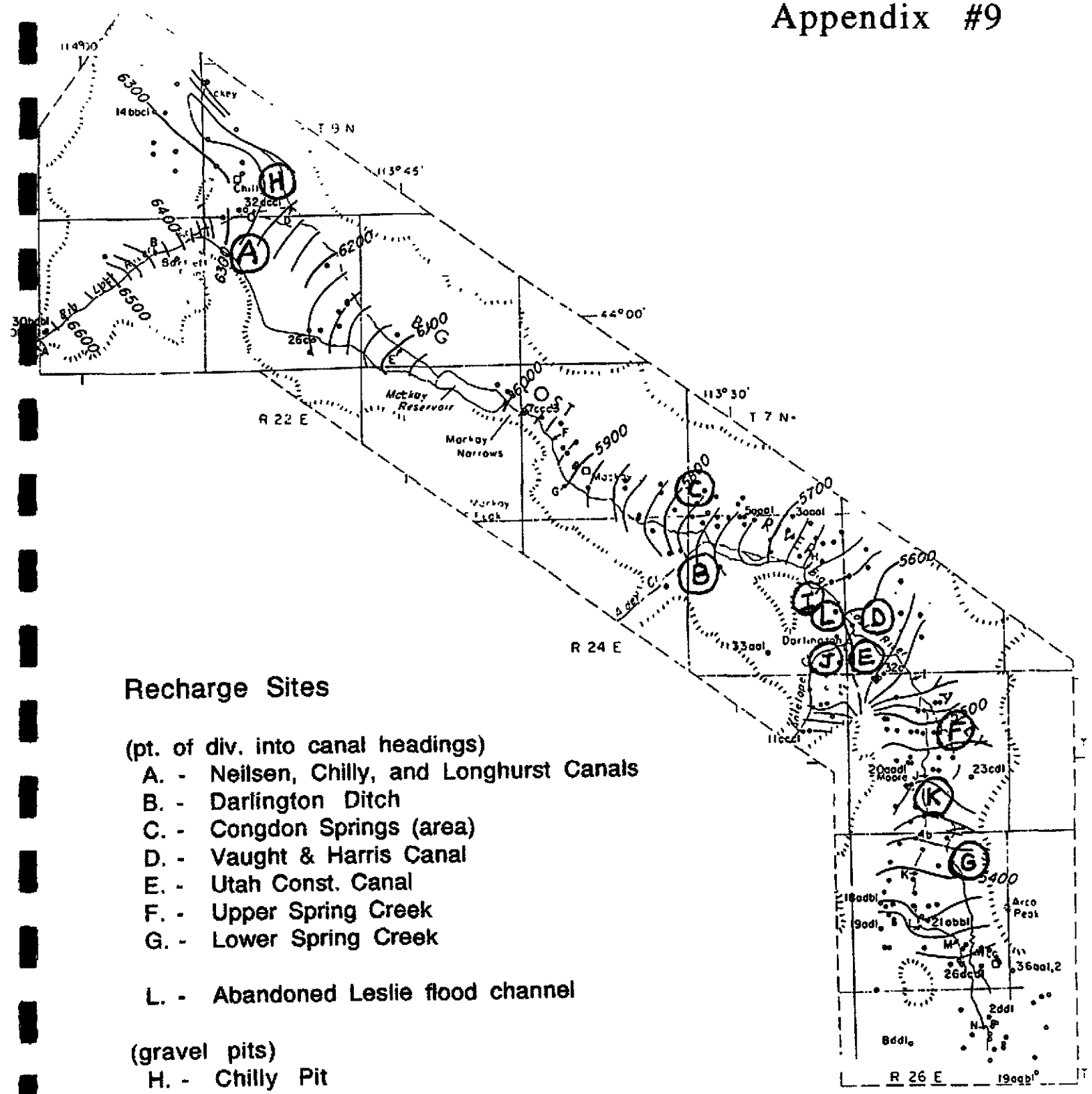
WATERMASTER REVIEW _____ DATE _____

DIRECTOR'S REVIEW _____ DATE _____

WATERBOARD APPROVAL _____ DATE _____

APPENDIX #9

Appendix #9



Recharge Sites

(pt. of div. into canal headings)

- A. - Neilsen, Chilly, and Longhurst Canals
- B. - Darlington Ditch
- C. - Congdon Springs (area)
- D. - Vaught & Harris Canal
- E. - Utah Const. Canal
- F. - Upper Spring Creek
- G. - Lower Spring Creek

- L. - Abandoned Leslie flood channel

(gravel pits)

- H. - Chilly Pit
- I. - Leslie Pit
- J. - Antelope Rd. Pit
- K. - Moore Pit

APPENDIX #10

Price List 1997

[illegible]

164.11 Culvert [illegible] Ext.

1219.20 24" [illegible] Culvert to [illegible]

2021.55 36" [illegible] culvert to 24 I

2938.SC ERC Resource Corp.

Appendix #10

R A COLLINS INC
1510 W SUNNYSIDE
PO BOX 51805
IDAHO FALLS, ID 83405-1805

Voice: (208) 522-1713
Fax: (208) 522-1713

Statement

Statement Date.
May 29, 1998

Customer Account ID:
DIS34

Account Of. DISTRICT 34 RECHARGE
BOX 53
MACKAY, ID 83274

Amount Enclosed
$

Date	Date Due	Reference	Paid	Description	Amount	Balance
5-22-98	6-21-98	4036			2,021.55	2,021.55
				FREIGHT-		
				PRICE FOR CAKE	#1984.00 + 105.00	
				LAST PRICE FOR 36" CMP - $# - 28.17 FT		
					Total	2,021.55

0 - 30	31 - 60	61 - 90	Over 90 days
2,021.55	0.00	0.00	0.00

Thanks for your business.

Robert A. Collins Co.

1510 West Sunnyside
P.O. Box 51805
Idaho Falls, Idaho 83405

522-1713

4116

INVOICE

SALES NUMBER	SALES DATE	BUYER'S NUMBER	BUYER'S DATE	SHIP FROM	WANTED DATE
	6/26/98				

SOLD TO: DISTRICT 34 TECHNICIAN

SHIP TO:

ROUTE

TERMS 30 DAYS NET

A FINANCE CHARGE of 1½% per month which is an ANNUAL PERCENTAGE RATE of 18% will be charged to past due accounts. Accounts due and payable 30 days following date of service

INVOICE DATE

INVOICE NUMBER

DATE OF SHIPMENT 6/26/98

B/L NUMBER

F.O.B.

SALES TAX ☐ YES, IF NOT EXEMPTION

NUMBER OR REASON: ID CONT UNIT

DESCRIPTION

ESTIMATED SHIP DATE

PLANT ORDER NO.

Item	PCS.	GAGE	SIZE	UNIT		CODE	QUANTITY	PRICE	AMOUNT
1	1		24"	TRUN	O VALVE 101-C HEMPCRANE	100400	1 EA	793.90	793.90
2	2	16	24"	20'	CMP LOCKSEAM HC - GALV		40'	10.25/FT	410.00
3	1	16	24"		CALVT BAND (HUGGER		1 EA	15.38 EA	15.3
							TOTAL		$1219.2

I certify that the property which I have here purchased will be used by me and primarily in the process of producing tangible personal property by mining, manufacturing, processing, recating or farming or as a repair part for equipment used primarily as described above.

This tax exemption statement qualifies if this statement is signed by the purchaser and the name, address, and nature of business of the purchaser is shown on the invoice.

Any person who signs this certification with the intention of evading payment of tax is guilty of a misdemeanor

NATURE OF BUSINESS

BUYER'S SIGNATURE

OMER:

MAIL PAYMENT OF INVOICE TO:

Robert A. Collins Co.
1510 West Sunnyside
P.O. Box 51805 — 522-1713
Idaho Falls, Idaho 83405

Robert A. Collins Co.

1510 West Sunnyside
P.O. Box 51805
Idaho Falls, Idaho 83405

522-1713

PD 7-2-98

4117

INVOICE

SALES NUMBER	SALES DATE	BUYER'S NUMBER	BUYER'S DATE	SHIP FROM	WANTED DATE
	6/26/98				

SOLD TO: RANDY PEHRSON

SHIP TO:

ROUTE

F.O.B.

SALES TAX ☐ YES, IF NOT EXEMPTION

TERMS

A FINANCE CHARGE of 1½% per month which is an ANNUAL PERCENTAGE RATE of 18% will be charged to past due accounts. Accounts due and payable 30 days following date of service.

INVOICE DATE	INVOICE NUMBER
DATE OF SHIPMENT 6/26/98	B/L NUMBER
ESTIMATED SHIP DATE	PLANT ORDER NO

NUMBER _____ OR REASON IRRIGATION

DESCRIPTION

18" DIA CORRUGATED METAL PIPE

Item	PCS.	GAGE	SIZE	UNIT		CODE	QUANTITY	PRICE	AMOUNT
1	1	16	18"	20'	CORRUGATED METAL PIPE-LOCKSEAM - MILCOR-GALV-16GA (.064)		20'	7.80 LF	156.00
2	1	16	18"		CMP BAND		1 EA	11.70 EA	11.70
							TOTAL		167.70

I certify that the property which I have here purchased will be used by me and primarily in the process of producing tangible personal property by mining, manufacturing, processing, fabricating or farming or as a repair part for equipment used primarily as described above

This tax exemption statement qualifies if this statement is signed by the purchaser and the name, address, and nature of business of the purchaser is shown on the invoice

Any person who signs this certification with the intention of evading payment of tax is guilty of a misdemeanor.

NATURE OF BUSINESS

BUYER'S SIGNATURE

CUSTOMER:

MAIL PAYMENT OF INVOICE TO:

Robert A. Collins Co.
1510 West Sunnyside
P.O. Box 51805 — 522-1713
Idaho Falls, Idaho 83405

ERO Resources Corp
1842 Clarkson Street
Denver, CO 80218
(303) 830-1188
Fax 830-1199
erocorp@aol.com

Denver • Boise

INVOICE

Date : 05/09/97
No. : 3180

Sorensen & Nelson
Mitchell Sorensen
Route 1, Box 63C-1
Moore, ID 83255

Big Lost River Recharge

Description		Total
FOR SERVICES FROM 3/1 THROUGH 4/30		
Meetings/Coordination Shaw - Engineer	8.00 @ $85.00/hr	$ 680.00
Technical Review/Reporting Shaw - Engineer	9.50 @ $85.00/hr	807.50
Dispute Resolution Shaw - Engineer	17.00 @ $85.00/hr	1,445.00
Postage, Shipping & Courier		6.00
	Total Due:	$2,938.50

WATER DISTRICT 34

P.O. Box 53
Mackay, Idaho 83251

BIG LOST RIVER
YEAR 1997-98

	97-98 ACTUAL	1997 ADOPTED	1998 PROPOSED
WATERMASTER	$20,000.00	$20,000.00	$20,000.00 ~~2,222.~~
CLERICAL	6,101.25	7,000.00	7,000.00
DITCH RIDER SALARY	6,635.05	10,500.00	10,500.00
MILEAGE	4,689.90	6,500.00	6,500.00
GUAGES	5,529.00	5,500.00	5,800.00
RETIREMENT	2,199.32	2,800.00	2,500.00
SOC.SEC.& MEDICARE	2,523.87	2,800.00	3,000.00
RENT	1,200.00	1,800.00	1,800.00
PHONE	736.43	1,000.00	1,000.00
SUPPLIES & POSTAGE	752.79	1,000.00	1,000.00
WORK. COMP. INSURANCE	1,223.36	2,600.00	2,400.00
REPAIRS & CALIBRATION	791.70	1,000.00	1,000.00
RECHARGE REIMBURSEMENT	6,130.00	6,000.00	-0-
	$58,512.67	$68,500.00	$62,500.00

UNDERBUDGET $9,987.33
COST FACTOR FOR 1997=.49¢
COST FACTOR FOR 1998= .58¢ (PROPOSED)

+ 3,000.00 WM
- 65,500.00

COLLECTIONS:

$14,950.04	BEG. BAL. (3/1/97)	$ 1,903.93	CHECK BOOK BAL.
71,235.02	WATER TAXES COLLECTED	+ 6,500.00	CONTINGENCY FUND
1,087.71	SAVINGS INTEREST (THRU JAN.98)	+21,056.17	SAVINGS ACCT.
548.00	STATE INSURANCE FUND DIVIDEND		
$87,820.77		$29,460.10	
		- 152.00	ACCT. PAYABLE (State Withholding)
$87,820.77	COLLECTIONS	$29,308.10	
-58,512.67	EXPENSES	- 6,500.00	CONTINGENCY FUND
- 6,500.00	CONTINGENCY FUND		
$22,808.10	BALANCE AVAILABLE	$22,808.10	BALANCE AVAILABLE

rollect
-12,011.10

RECHARGE ACCOUNT:

$7,495.75	PAYMENT FROM STATE
-2,938.50	EXPENSES TO SHAW STUDY
$4,557.25	AVAILABLE (IN SAVINGS ACCT.)

MOTION IS REQUESTED AS FOLLOWS:

1. The Water Tax date for payment of water taxes shall be April 15, 1998. All taxes not paid on that date shall be assessed 8% interest on the total amount due.
2. Per Idaho Code 42-608, the Watermaster's term of service may, by Resolution, provide that the Watermaster shall serve throughout the year.
3. No water shall be delivered until all water taxes due are paid.

/

Env EB
FLEENOR
DE

RECEIVED
MAY 15 1998
Department of Water Resources

OFFICE OF THE GOVERNOR
P O BOX 83720
BOISE 83720-0034

PHILIP E. BATT
GOVERNOR

(208) 334-2100

MAY 14, 1998
FOR IMMEDIATE RELEASE

FOR MORE INFORMATION:
LARRY KOENIG 373-0502
LINDSAY NOTHERN 334-2100

IDAHO WATER QUALITY, TESTING PROCEDURES ARE IMPROVING

(BOISE) Improved water quality testing procedures being implemented by the State of Idaho have resulted in an improved picture regarding water quality in Idaho.

Governor Phil Batt and Larry Koenig of the Idaho Division of Environmental Quality today released a draft list of Idaho streams where water quality could be impaired. The list called the Draft 1998 303(d) List is required under the Federal Clean Water Act.

"There's no question the process to develop this Draft List has increased the accuracy in confirming the health of Idaho's waters," said Governor Batt. Koenig, who heads DEQ's Water Quality & Remediation office said, "The process to develop the list is scientifically based and is a great improvement over previous assessment processes."

The State relies heavily on data collected in the field using what's called the Beneficial Use Reconnaissance Project (BURP). BURP monitoring focuses on the biology (insects and fish) occurring in these waters as the best indicator of water quality, as opposed to mere chemical characteristics.

The total number of water miles in Idaho is approximately 101,000. In 1994, 10,646 water miles were listed as impaired according to the 303(d) list developed by the Environmental Protection Agency.

The Draft 1998 303(d) List removes 3,583 miles of streams. or 34% of the total listed in 1994. However, the improved testing methods in Idaho have added 1,017 miles of previously unlisted water miles in Idaho, or 1% of total miles in the State.

The 8,080 miles now listed as impaired under the Draft 1998 303(d) List represents 8% of the total miles in the State.

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In terms of "stream segments," the Draft 1998 303(d) List is also about a third smaller than the 1994 List. 962 stream segments were listed in 1994. 335 segments were removed for the Draft 1998 List and 122 new segments were added, bringing the total on this year's list to 728 stream segments.

The public can now comment on the Draft 1998 303(d) List by contacting the Division of Environmental Quality, Attention: Larry Koenig, 1410 N. Hilton, Boise, Idaho, 83706-1225. The comment period ends June 15th, 1998.

-30-

Idaho "Draft" 1998 303(d) List Package

Contents

1. Assumptions
2. Hydrologic Unit Map
3. "Draft" 1998 303(d) List
4. "Draft" De-listings from 1996 303(d) List
5. "Draft" List of 1998 Boundary Changes
6. Idaho Division of Environmental Quality Stream Assessment Process Paper

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Idaho Division of Environmental Quality Working Rules and Assumptions for Compiling Idaho's 1998 303(d) list.

These are the assumptions the Division of Environmental Quality (DEQ) used in producing the Draft 1998 303(d) list. The assumptions are separate from the various assessment data sources and processes referenced below, such as, Beneficial Use Reconnaissance Project and 1996 Water Body Assessment Guidance. These assumptions were used to help standardize and provide consistency in developing the list.

1. DEQ relied heavily on Beneficial Use Reconnaissance Project (BURP) data and assessments of this data using the 1996 Water Body Assessment Guidance process and all errata, additions, and supplements to the 1996 Guidance. Assessment calls for Not Full Support (NFS), Full Support (FS) and Needs Verification (NV) were evaluated for listing and de-listing purposes. Not Assessed (NA) means the water body or a particular beneficial use could not be evaluated even after visiting the site (i.e. dry, beaver complex, water too deep and swift, no fish data etc.), and was not evaluated for listing or de-listing purposes.

2. Water bodies from the 1996 303(d) list with Not Full Support assessment calls remain on the list for 1998.

3. Water bodies on the 1996 303(d) list with Needs Verification assessment calls, stay on list for 1998.

4. DEQ proposes to add "new" water bodies to the 1998 list. These are water bodies not previously on the 1996 303(d) list. They have been determined to not fully support existing or designated beneficial uses. However, DEQ has not identified the specific pollutants causing the impairment. While DEQ is able to distinguish impaired from not-impaired conditions using BURP data, it is unable to establish clear causative relationships between impaired conditions and specific pollutants with BURP alone.

   Further, a water body need not be included on the list if the application of existing required pollution controls would achieve water quality standards and restore full support status. However, at this time, DEQ is uncertain of the adequacy of any such existing pollutant controls for these "new" water bodies.

   DEQ invites the public to provide information and comments relating to the addition of these water bodies to the 1998 303(d) list, including, but not limited to, information relating to the following: (a) the identification of significant sources of pollution affecting these water bodies by past and present activities; and (b) whether the application of required or cost-effective pollution control strategies or controls would restore the water body to full support within a reasonable period of time.

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Should these "new" water bodies remain on the list, after review of public comments, for final submittal to the U.S. Environmental Protection Agency, they will be scheduled for Total Maximum Daily Loads (TMDL) starting in 2006, since Idaho has a an existing, court approved TMDL schedule. These are as they suggest "new" TMDLs and new work that will have to come after the work currently in progress.

5. Under the Clean Water Act §303(d) and U.S. Environmental Protection Agency regulation (40 CFR 130.2(J), 130.7) states are given authority to determine which waters do not meet water quality standards or have impaired beneficial uses. Furthermore, Idaho water quality standards (IDAPA 16.01.02.054 01., 02) allow DEQ to evaluate whether required control technologies, if applied, would restore beneficial use to full support. Hence DEQ has elected, for purposes of Idaho's 1998 303(d) list, not to list "new" streams falling in the Needs Verification category, according to the 1996 Water Body Assessment Guidance. In some cases DEQ is unable to read the "biological signal" after monitoring and interpreting the data. In these situations, the Division is not sure if the signal represents an impairment or merely a mediocre or misclassified stream, hence DEQ will not classify these streams as water quality limited until further monitoring and analysis can be performed as referenced above.

6. Although related to water quality, flow and habitat are not pollutants in the sense of something which is discharged into a water body. Flow and habitat do not lend themselves to calculation of a Total Maximum Daily Load as provided by section 303(d) of the Clean Water Act and as defined in 40 CFR Part 130, for which quantified loads, loading capacity, and allocations must be made.

   Therefore "flow alteration" and "habitat modification" will not be identified as pollutants on Idaho's 1998 303(d) list. This is not to say that the DEQ believes flow and physical habitat are not legitimate water quality concerns, merely that they need to be dealt with in a different process than currently provided by section 303(d).

7. For purposes of the 1998 303(d) list, DEQ applied the federal Bull Trout temperature criteria (10° C seven day average daily maximum) if seven consecutive days of daily maximum temperature data existed. If the data did not exist and thus could not be evaluated, Idaho's Bull Trout standard (12° daily average) was applied where sufficient data existed.

8. Some water bodies from the 1996 303(d) list were "dry" at the time of monitoring. This presents a unique problem for DEQ, since there are no pollutants to identify or allocate, and no uses to protect. Under these conditions a TMDL could not be done in the traditional sense of a load in mass per unit time. In cases where the 1996 303(d) listed water body was dry, DEQ has elected to keep it on the list for 1998. It is the intent of DEQ to collect more information such that a sound analysis can be made regarding the appropriate beneficial use of such waters. This type of analysis and rational are envisioned as part of a subbasin assessment.

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9. Some of the waters listed on Idaho's 1998 303(d) list may be wholly or in part within Indian Reservations and/or on lands held by Tribal members subject to a restriction on alienation or held by the United States in trust for Indian Tribes. Including these waters on the 1998 303(d) list does not constitute a determination, waiver, admission or a statement on the part of the State of Idaho with respect to jurisdiction over such waters.

10. "Threatened" waters and potential declining waters are those waters where a downward trend or significant statistical decline (IDAPA 16.01.02.003.55) in water quality can be demonstrated through data.

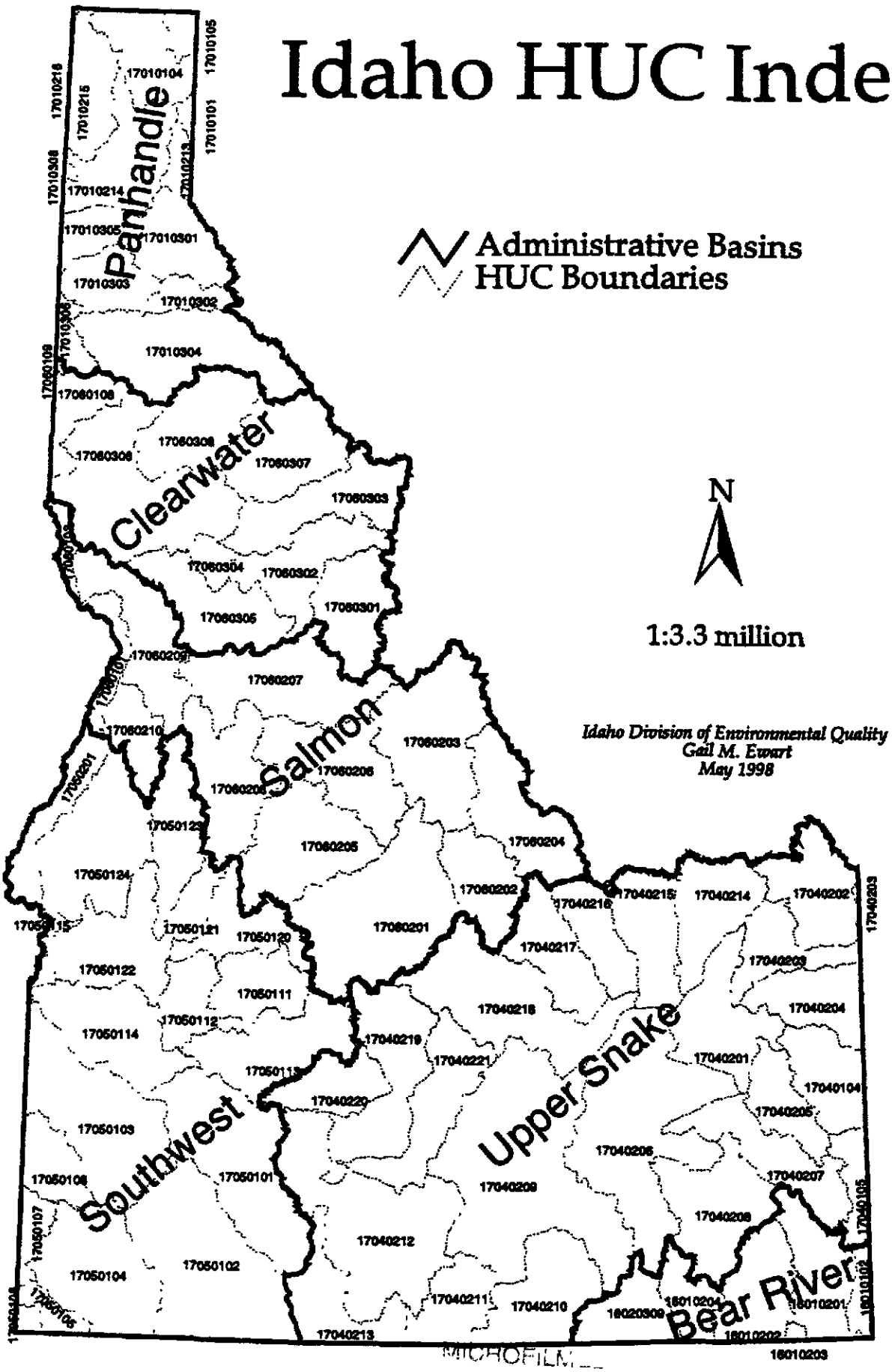
11. Any exceptions to these assumptions will be referenced in the list itself or associated appendices.

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Idaho HUC Index



MICROFILM

FEB 1 1 2003

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HUC #	HUC NAME
16010102	CENTRAL BEAR
16010202	MIDDLE BEAR
16010203	LITTLE BEAR-LOGAN
16010204	LOWER BEAR-MALAD
16010210	BEAR LAKE
16020309	CURLEW VALLEY
17010101	UPPER KOOTENAI
17010104	LOWER KOOTENAI
17010105	MOYIE
17010213	LOWER CLARK FORK
17010214	PEND OREILLE LAKE
17010215	PRIEST
17010216	PEND OREILLE
17010301	UPPER COEURDALENE
17010302	SOUTH FORK COEURDALENE
17010303	COEURDALENE LAKE
17010304	ST. JOE
17010305	UPPER SPOKANE
17010306	HANGMAN
17010308	LITTLE SPOKANE
17040104	PALISADES
17040105	SALT
17040201	IDAHO FALLS
17040202	UPPER HENRYS
17040203	LOWER HENRYS
17040204	TETON
17040205	WILLOW
17040206	AMERICAN FALLS
17040207	BLACKFOOT
17040208	PORTNEUF
17040209	LAKE WALCOTT
17040210	RAFT
17040211	GOOSE
17040212	UPPER SNAKE-ROCK
17040213	SALMON FALLS
17040214	BEAVER-CAMAS
17040215	MEDICINE LODGE
17040216	BIRCH
17040217	LITTLE LOST
17040218	BIG LOST
17040219	BIG WOOD
17040220	CAMAS
17040221	LITTLE WOOD
17050101	C. J. STRIKE RESERVOIR
17050102	BRUNEAU
17050103	MIDDLE SNAKE-SUCCOR
17050104	UPPER OWYHEE
17050105	SOUTH FORK OWYHEE
17050106	EAST LITTLE OWYHEE
17050107	MIDDLE OWYHEE
17050108	JORDAN
17050111	NORTH AND MIDDLE FORK BOISE
17050112	BOISE-MORES
17050113	SOUTH FORK BOISE
17050114	LOWER BOISE
17050115	MIDDLE SNAKE-PAYETTE
17050120	SOUTH FORK PAYETTE
17050121	MIDDLE FORK PAYETTE
17050122	PAYETTE
17050123	NORTH FORK PAYETTE
17050124	WEISER
17050201	BROWNLEE RESERVOIR
17060101	HELLS CANYON
17060103	LOWER SNAKE-ASOTIN
17060108	PALOUSE
17060109	ROCK
17060201	UPPER SALMON
17060202	PAHSIMEROI
17060203	MIDDLE SALMON-PANTHER
17060204	LEMHI
17060205	UPPER MIDDLE FORK SALMON
17060206	LOWER MIDDLE FORK SALMON
17060207	MIDDLE SALMON - CHAMBERLAIN
17060208	SOUTH FORK SALMON
17060209	LOWER SALMON
17060210	LITTLE SALMON
17060301	UPPER SELWAY
17060302	LOWER SELWAY
17060303	LOCHSA
17060304	MIDDLE FORK CLEARWATER
17060305	SOUTH FORK CLEARWATER
17060306	CLEARWATER
17060307	UPPER NORTH FORK CLEARWATER
17060308	LOWER NORTH FORK CLEARWATER

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FEB 1 1 2000

Key to Headings on the DRAFT 1998 303(d) List

HUC:	Hydrologic Unit Code, a unique number describing a series of nested watersheds.
WQLSEG:	Water Quality Limited Segment Number; a unique number for each segment
WATERERBODY:	*Idaho Geographic Society Name for the water body*
ADDS:	A segment being added to the DRAFT 1998 303(d) List. Note: these segments will be scheduled for TMDLs after the Court mandated TMDL schedule is completed.
BOUNDARIES:	Extent of segment
POLLUTANTS:	Various: below

BA = Bacteria	CHS = Channel Stability	DO = Dissolved Oxygen	QALT = Flow Alteration
HALT = Habitat Alteration	MTH = Metals (Hg)	MTU = Metals (unknown)	NH3 = (ammonia)
NUT = Nutrients	O/G = Oil/Gas	ORG = Organic	PST = Pesticides
pH = [H+ ions]	SAL = Salinity	SED = sediment	TDG = Total Dissolved Gas
TEMP = Temperature	UNKN = Unknown.		

STREAM MILES: Length, in miles, of the listed segment.

Organization of the DRAFT 1998 303(d) List:

The DRAFT list is organized by HUC. A map of all the HUCs in the state of Idaho is included in this packet along with the names commonly used to identify the HUCs. Within each HUC the segments are listed in the order of their WQLSEG number and not alphabetically at this time. The WQLSEG number can be used to cross reference the large format 1998 DRAFT 303(d) List maps available for viewing at all locations referenced in the 1998 DRAFT 303(d) information packet.

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FEB 11 2000

HUC	WQLSEG	WATERBODY	BOUNDRIES	ADDS	POLLUTANTS BAC	CHS	DO	QALT	HALT	MTH	MTU	NH3	NUT	O/G	ORG	PST	pH	SAL	SED	TDG	TEMP	UNKN	STREAM MILES
16010102	2273	Bear River	Wyoming Line to Wardboro					QALT					NUT						SED				31.10
16010102	2274	Thomas Fork	Wyoming Line to Bear River										NUT						SED				27.54
16010102	2275	Preuss Creek	Forest Service boundary to Thomas Fork						HALT										SED				3.67
16010102	2276	Dry Creek	Headwaters to Thomas Fork										NUT						SED				8.68
NUMER OF LISTED SEGMENTS IN HUC#			16010102	4	0.00 NEW MILES			TOTAL MILES OF LISTED STREAM IN HUC#													16010102		70.99
16010201	2252	Alexander Reservoir																	SED				.00
16010201	2253	Bear River	Wardboro to Alexander Reservoir										NUT						SED				69.86
16010201	2257	Pearl Creek	N Fk Pearl Cr to Bear River										NUT						SED				2.24
16010201	2259	Co-Op Creek	USFS boundary to Stauffer Creek										NUT						SED				3.41
16010201	2261	Ovid Creek	Confluence of North & Mill Creeks to Bear River																SED				14.47
16010201	2265	Snowslide Canyon	Headwaters to Montpelier Creek																SED				1.95
16010201	2268	Saint Charles Creek	Lower IDL boundary to Refuge										NUT						SED				6.64
16010201	5121	Meadow Creek	Headwaters to North Creek								MTU								SED				3.14
16010201	5251	North Creek	Unnamed trib 3.2 km below Mill Hollow to Ovid Cr	*ADD*																		UNKN	8.05
NUMER OF LISTED SEGMENTS IN HUC#			16010201	9	8.05 NEW MILES			TOTAL MILES OF LISTED STREAM IN HUC#													16010201		109.76
16010202	2231	Bear River	Highway 91 to Utah Line					QALT											SED				15.49
16010202	2232	Bear River	Mink Creek to Highway 91					QALT					NUT						SED				11.50
16010202	2233	Bear River	Oneida Dam to Mink Creek										NUT						SED				6.83
16010202	2234	Oneida Narrows Reservoir																	SED				.00
16010202	2235	Bear River	Cove Power Plant to Oneida					QALT					NUT						SED				24.04

MAY 11 2000

HUC	WQLSEG	WATERBODY	BOUNDRIES	ADDS	POLLUTANTS BAC	CHS	DO	OALT	HALT	MTH	MTU	NH3	NUT	O/G	ORG	PST	pH	SAL	SED	TDG	TEMP	UNKN	STREAM MILES
16010202	2236	Bear River	Alexander Dam to Cove Power					OALT															12.17
16010202	2237	Cub Creek	Sugar Creek to Utah line					OALT					NUT						SED				9.06
16010202	2238	Weston Creek	Headwaters to Bear River					OALT					NUT						SED				19.60
16010202	2240	Battle Creek	Headwaters to Bear River										NUT						SED				17.16
16010202	2245	Cottonwood Creek	Trib 6.4 km upstream to Bear River																SED				4.00
16010202	2246	Williams Creek	Right Fk Williams Cr to Bear River										NUT						SED				4.96
16010202	2248	Whiskey Creek	Headwaters to Bear River										NUT						SED				3.16
16010202	2249	Densmore Creek	Headwaters to Bear River										NUT						SED				9.01
16010202	5252	Deep Creek	Oxford Slough to Bear River	*ADD*																		UNKN	10.20
16010202	5253	Fivemile Creek	Headwaters to Bear River	*ADD*																		UNKN	10.96
16010202	5254	Worm Creek	Glendale Reservoir to Utah line	*ADD*																		UNKN	12.85
16010202	5255	Maple Creek	Left Fork to Cub River	*ADD*	BAC																	UNKN	8.14
16010202	5256	Strawberry Creek	Forest Service boundary to Mink Creek	*ADD*																		UNKN	5.31
NUMER OF LISTED SEGMENTS IN HUC#			16010202	18	47.46 NEW MILES			TOTAL MILES OF LISTED STREAM IN HUC#													16010202		184.44
16010204	2285	Malad River	Headwaters to Pleasant View																SED				30 62
16010204	2289	Samaria Creek	Headwaters to Malad River										NUT						SED				9.21
16010204	2290	Devil Creek	Devil Creek Reservoir to Malad River										NUT						SED				18.46
16010204	2292	Little Malad River	Headwaters to Malad River																SED				24.23
16010204	2294	Wright Creek	Headwaters to Daniels Reservoir																SED				11.10
16010204	5257	Deep Creek	Headwaters to mouth	*ADD*																		UNKN	13.95
16010204	5258	Elkhorn Creek	Forest Service bnd to Little Malad River	*ADD*																		UNKN	2.27

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HUC	WQLSEG	WATERBODY	BOUNDRIES	ADDs	POLLUTANTS	STREAM MILES
16010204	5259	Dairy Creek	Headwaters to Wright Creek	*ADD*	UNKN	12.03
NUMER OF LISTED SEGMENTS IN HUC#	16010204	8	28.25 NEW MILES	TOTAL MILES OF LISTED STREAM IN HUC#	16010204	121.87
17010104	3365	Boulder Creek	Headwaters to Kootenai River		SED	16.60
17010104	3368	Deep Creek	McArthur Lake to Kootenai River		SED	19.53
17010104	3371	Caribou Creek	Headwaters to Snow Creek		SED	9.92
17010104	3391	Blue Joe Creek	Headwaters to Canadian border	MTU pH	SED	6.38
17010104	5051	Cow Creek	Headwaters to Smith Creek		SED	7.97
NUMER OF LISTED SEGMENTS IN HUC#	17010104	5	0.00 NEW MILES	TOTAL MILES OF LISTED STREAM IN HUC#	17010104	60.40
17010105	3395	Moyie River	Moyie Falls dam to Kootenai River		SED	1.64
NUMER OF LISTED SEGMENTS IN HUC#	17010105	1	0.00 NEW MILES	TOTAL MILES OF LISTED STREAM IN HUC#	17010105	1.64
17010213	3471	Clark Fork	Montana line to Pend Oreille Lake	QALT HALT MTU	TDG	11.56
17010213	3472	Johnson Creek	Headwaters to Clark Fork	QALT HALT	SED	5.95
17010213	3476	Wellington Creek	Falls to Lightning Creek	QALT	SED	2.41
17010213	7473	East Fork Creek	Headwaters to Lightning Creek	QALT HALT	SED TEMP	3.58
NUMER OF LISTED SEGMENTS IN HUC#	17010213	4	0.00 NEW MILES	TOTAL MILES OF LISTED STREAM IN HUC#	17010213	23.50
17010214	3436	Pend Oreille River	Pend Oreille Lake to HUC boundary	QALT	SED TDG TEMP	21.81
17010214	3438	Spirit Lake		DO NUT	SED	.00
17010214	3440	Hoodoo Creek	Hoodoo Lake to Pend Orielle R		SED TEMP	9.80
17010214	3441	Hoodoo Creek	Headwaters to Hoodoo Lake		SED TEMP	7.20

HUC	WQLSEG	WATERBODY	BOUNDRIES	ADDS	POLLUTANTS															STREAM MILES
					BAC	CHS	DO	OALT	HALT	MTH	MTU	NH3	NUT	O/G	ORG	PST	pH	SAL	SED	TDG	TEMP	UNKN	
17010214	3442	Cocolalla Creek	Cocolalla Lake to Pend Oreille Rive																SED		TEMP		8.21
17010214	3443	Cocolalla Creek	Headwaters to Cocolalla Lake																SED		TEMP		15.01
17010214	3458	Caribou Creek	Headwaters to Pack River																SED				6 73
17010214	3465	Granite Creek	Headwaters to Pend Oreille Lake																SED				9.69
17010214	5135	North Fork Grouse Creek	BRC Creek to Grouse Creek																SED				2.25
17010214	7442	Cocolalla Lake					DO						NUT										.00
17010214	7443	Fish Creek	Headwaters to Cocolalla Creek		BAC														SED		TEMP		5.09
17010214	7471	Pend Oreille Lake																		TDG		UNKN	00
NUMER OF LISTED SEGMENTS IN HUC#			17010214	12	0.00 NEW MILES					TOTAL MILES OF LISTED STREAM IN HUC#										17010214			85.79
17010215	3407	Priest River	Upper West Branch to Pend Oreille R																SED				34.89
17010215	3411	Lower West Branch Priest River	WA line to Priest River																			UNKN	15.49
17010215	3415	East River	North Fk East River to Priest River				DO	OALT											SED		TEMP		2.43
17010215	3418	Binarch Creek	Headwaters to Priest River																SED				7.36
17010215	3421	Kalispell Creek	WA line to Priest Lake																SED		TEMP		8.14
17010215	3424	Reeder Creek	Headwaters to Priest Lake																SED		TEMP		7.63
17010215	3427	Two Mouth Creek	Headwaters to Priest Lake						HALT										SED		TEMP		9.72
17010215	5615	Lion Creek	Headwaters to Priest Lake	*ADD*																	TEMP		11.29
17010215	5616	Granite Creek	Blacktail Creek to Priest Lake	*ADD*																	TEMP		7 19
17010215	5621	Soldier Creek	Headwaters to Priest Lake	*ADD*																	TEMP		10.24
17010215	5622	Gold Creek	Headwaters to Hughes Fork	*ADD*																	TEMP		7 84
NUMER OF LISTED SEGMENTS IN HUC#			17010215	11	36.56 NEW MILES					TOTAL MILES OF LISTED STREAM IN HUC#										17010215			122.22

HUC	WQLSEG	WATERBODY	BOUNDRIES	ADDS	POLLUTANTS															STREAM MILES
					BAC	CHS	DO	OALT	HALT	MTH	MTU	NH3	NUT	O/G	ORG	PST	pH	SALSED	TDG	TEMP	UNKN	
17010216	3436	Pend Oreille River	Pend Oreille Lake to HUC boundary					OALT										SED	TDG	TEMP		1.64
17010216	5657	Pend Oreille River	HUC boundary to Washington line					OALT										SED	TDG	TEMP		3.03
NUMER OF LISTED SEGMENTS IN HUC#			17010216 2	0.00 NEW MILES				TOTAL MILES OF LISTED STREAM IN HUC#												17010216		4.67
17010301	3481	North Fork Coeur d'Alene River	Yellowdog Creek to S Fk CdA River					OALT	HALT									SED				39.31
17010301	3482	North Fork Coeur d'Alene River	Tepee Creek to Yellowdog Creek					OALT	HALT									SED				11.82
17010301	3485	Little North Fork Coeur d'Alene	Headwaters to Laverne Creek					OALT	HALT									SED				21.63
17010301	3487	Copper Creek	Headwaters to N Fk CdA River															SED				5.56
17010301	3495	Steamboat Creek	Confluence of Barrymore & Steamboat to CdA River					OALT	HALT									SED				2.60
17010301	3499	Beaver Creek	Headwaters to N Fk CdA River															SED				11.52
17010301	3500	Prichard Creek	Barton Gulch to CdA River		BAC		DO		HALT				NUT	O/G				SED		TEMP		10.20
17010301	3504	Shoshone Creek	Sentinel Creek to CdA River																		UNKN	13.53
17010301	3506	Yellow Dog Creek	Headwaters to CdA River															SED				5.12
17010301	3508	Tepee Creek	Headwaters to Big Elk Creek						HALT									SED				4.88
17010301	3511	Big Elk Creek	Headwaters to Tepee Creek															SED				5.63
17010301	5032	Burnt Cabin Creek	Headwaters to N Fk CdA River															SED				5.88
17010301	5034	Calamity Creek	Headwaters to Jordan Creek															SED				2.35
17010301	5054	Cub Creek	Headwaters to Lost Fork															SED				1.47
17010301	5617	West Fork Eagle Creek	Headwaters to Eagle Creek	*ADD*					HALT		MTU						pH	SED				9.28
17010301	5643	Lost Creek	Headwaters to North Fk CdA River	*ADD*																	UNKN	8.35
17010301	7501	Cougar Gulch	Headwaters to Prichard Creek						HALT									SED				2.25
17010301	7504	Falls Creek	Headwaters to Shoshone Creek															SED				4.27

HUC	WQLSEG	WATERBODY	BOUNDRIES	ADDS	POLLUTANTS												STREAM MILES
					BAC	CHS	DO	OALT	HALT	MTH	MTU	NH3	NUT	O/G	ORG	PST	pH	SALSED	TDG	TEMP	UNKN	
NUMER OF LISTED SEGMENTS IN HUC#		17010301	18	17.63 NEW MILES	TOTAL MILES OF LISTED STREAM IN HUC#																17010301	165.65
17010302	3513	South Fork Coeur d'Alene River	Big Creek to Pine Creek								MTU							SED				8.99
17010302	3514	South Fork Coeur d'Alene River	Pine Creek to Bear Creek								MTU							SED				1.79
17010302	3515	South Fork Coeur d'Alene River	Bear Creek to Coeur d'Alene River								MTU							SED				.44
17010302	3516	South Fork Coeur d'Alene River	Canyon Creek to Ninemile Creek								MTU							SED				.55
17010302	3517	South Fork Coeur d'Alene River	Ninemile Creek to Placer Creek								MTU							SED				.33
17010302	3518	South Fork Coeur d'Alene River	Placer Creek to Big Creek								MTU							SED				7.56
17010302	3519	Pine Creek	E Fk Pine Creek to S Fk CdA River								MTU							SED				5.28
17010302	3520	East Fork Pine Creek	Headwaters to Hunter Creek								MTU							SED				5.19
17010302	3521	East Fork Pine Creek	Hunter Creek to Pine Creek								MTU							SED				1.57
17010302	3524	Ninemile Creek	Headwaters to S Fk Coeur d'Alene R								MTU							SED				4.91
17010302	3525	Canyon Creek	Gorge Gulch to South Fk CdA River						HALT		MTU							SED				6.90
17010302	5084	Government Gulch	Headwaters to S Fk of CdA River								MTU							SED				3.53
17010302	5127	Moon Creek	Headwaters to S Fk CdA River								MTU							SED				4.07
17010302	5618	East Fork Ninemile Creek	Headwaters to Ninemile Creek	*ADD*																	UNKN	4.38
NUMER OF LISTED SEGMENTS IN HUC#		17010302	14	4.38 NEW MILES	TOTAL MILES OF LISTED STREAM IN HUC#																17010302	55.49
17010303	2001	Coeur d'Alene Lake									MTU											.00
17010303	3529	Coeur d'Alene River	Black Lake to Thompson Lake						HALT		MTU						pH	SED				4.21
17010303	3530	Thompson Creek	Headwaters to Cda River						HALT									SED				4.64
17010303	3531	Willow Creek	Headwaters to Coeur d'Alene River															SED				4.25

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HUC	WQLSEG	WATERBODY	BOUNDRIES	ADDS	POLLUTANTS BAC	CHS	DO	QALT	HALT	MTH	MTU	NH3	NUT	O/G	ORG	PST	pH	SALSED	TDG	TEMP	UNKN	STREAM MILES
17010303	3534	Fourth of July Creek	Headwaters to CdA River						HALT									SED				7.15
17010303	3535	Latour Creek	Headwaters to CdA River		BAC				HALT									SED		TEMP		16.31
17010303	3541	Wolf Lodge Creek	Headwaters to CdA Lake		BAC				HALT				NUT					SED				10.30
17010303	3542	Cedar Creek	Headwaters to Wolf Lodge Creek						HALT					O/G				SED				6.29
17010303	3543	Fernan Creek	Fernan Lake to CdA Lake		BAC		DO		HALT				NUT					SED				.68
17010303	3545	Cougar Creek	North Fk Cougar Creek to CdA Lake						HALT				NUT					SED				4.04
17010303	3546	Kid Creek	Headwaters to CdA Lake						HALT				NUT					SED				4.06
17010303	3547	North Fork Mica Creek	Headwaters to CdA Lake		BAC		DO		HALT				NUT					SED				7.74
17010303	3549	Lake Creek	House Creek to Cda Lake															SED				6.32
17010303	4015	Coeur d'Alene River	Cave Lake to Black Lake						HALT		MTU						pH	SED				4.00
17010303	4016	Coeur d'Alene River	Fortier Creek to Robinson Creek						HALT		MTU						pH	SED				.80
17010303	4017	Coeur d'Alene River	Fourth of July Creek to Fortier Cr						HALT		MTU						pH	SED				10.50
17010303	4018	Coeur d'Alene River	French Gulch to Skeel Gulch						HALT		MTU						pH	SED				4.21
17010303	4019	Coeur d'Alene River	Latour Creek to Fourth of July Cr						HALT		MTU						pH	SED				4.09
17010303	4020	Coeur d'Alene River	Robinson Creek to Cave Lake						HALT		MTU						pH	SED				1.57
17010303	4021	Coeur d'Alene River	S Fk CdA River to French Gulch						HALT		MTU						pH	SED				2.13
17010303	4022	Coeur d'Alene River	Skeel Gulch to Latour Creek						HALT		MTU						pH	SED				1.16
17010303	4023	Coeur d'Alene River	Thompson Lake to CdA Lake				DO		HALT		MTU						pH	SED		TEMP		4.19
17010303	7529	Black Lake											NUT									.00
17010303	7535	Baldy Creek	Headwaters to Latour Creek		BAC				HALT									SED		TEMP		5.17
17010303	7536	Larch Creek	Headwaters to Latour Creek		BAC				HALT									SED		TEMP		1.44
17010303	7541	Marie Creek	Searchlight Creek to Wolf Lodge Creek						HALT													1.04

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HUC	WQLSEG	WATERBODY	BOUNDRIES	ADDS	POLLUTANTS													STREAM MILES
					BAC	CHS	DO	OALT	HALT	MTH	MTU	NH3	NUT	O/G	ORG	PST	pH	SAL	SED	TDG	TEMP	UNKN	
17010303	7543	Fernan Lake					DO						NUT						SED				.00
NUMER OF LISTED SEGMENTS IN HUC#			17010303	27	0.00 NEW MILES															TOTAL MILES OF LISTED STREAM IN HUC#			17010303	116.29
17010304	3579	Saint Maries River	Mashburn (town) to St. Joe River						HALT				NUT						SED				23.74
17010304	3580	Saint Maries River	Clarkia to Mashburn (town)																			UNKN	19.75
17010304	3581	West Fork Saint Maries River	Headwaters to St. Maries River																SED		TEMP		9 61
17010304	3582	Thorn Creek	Headwaters to St. Maries River										NUT						SED				10.62
17010304	3583	Alder Creek	Headwaters to St. Maries River	*ADD*									NUT						SED				11.98
17010304	3584	John Creek	Unnamed trib 7.5 km upstream to St. Maries River																SED				4.60
17010304	3585	Santa Creek	Headwaters to St. Maries River				DO		HALT				NUT						SED				15.86
17010304	3587	Charlie Creek	Headwaters to Santa Creek						HALT										SED				6.76
17010304	3588	Renfro Creek	Headwaters to Davis Creek																SED				6.17
17010304	3589	Tyson Creek	North Fk Tyson Creek to St. Maries River						HALT										SED				1.99
17010304	3590	Crystal Creek	Headwaters to St. Maries River																SED				6.54
17010304	3591	Carpenter Creek	Headwaters to St. Maries River						HALT										SED				8.69
17010304	3593	Emerald Creek	Conflu of E & W Fks to St. Maries R						HALT										SED		TEMP		3.40
17010304	3594	Middle Fork Saint Maries River	Headwaters to St. Maries River						HALT										SED				14.22
17010304	3595	Merry Creek	Headwaters to Middle Fk St. Maries River																SED		TEMP		7.44
17010304	3596	Gold Center Creek	Windy Creek to Middle Fk St. Maries River						HALT										SED		TEMP		2.12
17010304	3601	Mica Creek	Headwaters to St. Joe River																SED				13.60
17010304	3608	Fishhook Creek	Lick Creek to St. Joe River																SED				5 21
17010304	3614	Bird Creek	Headwaters to St. Joe River																SED				6.26

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HUC	WQLSEG	WATERBODY	BOUNDRIES	ADDS	POLLUTANTS BAC	CHS	DO	OALT	HALT	MTH	MTU	NH3	NUT	O/G	ORG	PST	pH	SALSED	SED	TDG	TEMP	UNKN	MILES
17010304	3622	Gold Creek	East Fk Gold Creek to St. Joe River						HALT				NUT						SED		TEMP		1.59
17010304	5022	East Fork Bluff Creek	Headwaters to St. Joe River	ADD															SED				17.28
17010304	5619	Beaver Creek	Headwaters to St. Joe River	ADD																	TEMP		6.56
17010304	5620	Loop Creek	Headwaters to North Fk St. Joe River	ADD															SED			UNKN	12.11
17010304	7575	Tank Creek	Headwaters to St. Joe River		BAC		DO												SED		TEMP		2.14
17010304	7576	Harvey Creek	Headwaters to St. Joe River		BAC		DO												SED		TEMP		3.44
17010304	7577	Blackjack Creek	Headwaters to St. Joe River		BAC		DO												SED		TEMP		1.96
17010304	7596	Flowsie Creek	Headwaters to M Fk St. Maries River																SED		TEMP		4.34
17010304	7598	Gramp Creek	Headwaters to Gold Center Creek		BAC														SED		TEMP		4.60
17010304	7606	Bear Creek	Headwaters to Marble Creek		BAC														SED		TEMP		2.47
17010304	7607	Little Bear Creek	Headwaters to Big Bear Creek		BAC														SED		TEMP		2.00
NUMER OF LISTED SEGMENTS IN HUC#			17010304	30	41.21 NEW MILES													TOTAL MILES OF LISTED STREAM IN HUC#			17010304		237.05
17010305	3552	Spokane River	CdA Lake to Huetter								MTU										TEMP		3.45
17010305	3553	Spokane River	Huetter to Post Falls Bridge								MTU										TEMP		4.89
17010305	3554	Spokane River	Post Falls Bridge to WA border								MTU										TEMP		6.18
17010305	3560	Rathdrum Creek	Twin Lakes outlet to E Greenacres Diversion										NUT						SED				3.42
17010305	3561	Fish Creek	Washington line to Twin Lakes										NUT						SED				6.02
17010305	3562	Hauser Lake					DO						NUT										.00
17010305	7555	Hayden Lake											NUT						SED				.00
17010305	7561	Twin Lakes			BAC								NUT						SED				.00
NUMER OF LISTED SEGMENTS IN HUC#			17010305	8	0.00 NEW MILES													TOTAL MILES OF LISTED STREAM IN HUC#			17010305		23.96

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HUC	WQLSEG	WATERBODY	BOUNDRIES	ADDS	POLLUTANTS BAC	CHS	DO	OALT	HALT	MTH	MTU	NH3	NUT	O/G	ORG	PST	pH	SALSED	TDG	TEMP	UNKN	STREAM MILES
17010306	3565	Hangman Creek	IR Boundary to ID/WA line		BAC								NUT					SED				17.47
17010306	3566	Hangman Creek	Headwaters to IR Boundary						HALT				NUT					SED				4.21
17010306	3567	Little Hangman Creek	Headwaters to Washington Line										NUT									8.34
NUMER OF LISTED SEGMENTS IN HUC#			17010306	3	0.00 NEW MILES			TOTAL MILES OF LISTED STREAM IN HUC#												17010306		30.02
17040104	2004	Snake River	Palisades Dam to Irwin					OALT														7.28
17040104	2006	Antelope Creek	State land bnd to S Fk Snake River															SED				11.49
17040104	5241	Camp Creek	Headwaters to Fall Creek	ADD																	UNKN	4.57
17040104	5242	Little Elk Creek	Headwaters to Palisades Reservoir	ADD																	UNKN	4.52
17040104	5243	South Fork Indian Creek	Wyoming line to Indian Creek	ADD																	UNKN	1.33
17040104	5244	North Fork Indian Creek	Wyoming line to Indian Creek	ADD																	UNKN	1 08
17040104	5245	Bear Creek	Headwaters to North Fk Bear Creek	ADD																	UNKN	12 02
17040104	5246	Elk Creek	Headwaters to West Fk Elk Creek	ADD																	UNKN	3.28
17040104	5247	Fall Creek	Headwaters to S Fk Fall Creek	ADD																	UNKN	12.18
17040104	5248	Russell Creek	Headwaters to S Fk Snake River	ADD																	UNKN	3.74
17040104	5249	Tag Alder Creek	Headwaters to S Fk Snake River	ADD																	UNKN	4.02
17040104	5645	Snake River	Irwin to HUC boundary					OALT														32 41
17040104	5653	Sheep Creek	Headwaters to S Fk Snake River	ADD																	UNKN	5.37
NUMER OF LISTED SEGMENTS IN HUC#			17040104	13	52.11 NEW MILES			TOTAL MILES OF LISTED STREAM IN HUC#												17040104		103.29
17040105	5266	Boulder Creek	Headwaters to Stump Creek	ADD																	UNKN	6 54
NUMER OF LISTED SEGMENTS IN HUC#			17040105	1	6.54 NEW MILES			TOTAL MILES OF LISTED STREAM IN HUC#												17040105		6.54

HUC	WQLSEG	WATERBODY	BOUNDRIES	ADDS	BAC	CHS	DO	OALT	HALT	MTH	MTU	NH3	NUT	O/G	ORG	PST	pH	SALSED	TDG	TEMP	UNKN	MILES
17040201	2003	Snake River	HUC boundary to Heise					OALT														3.62
17040201	5250	Birch Creek	Unnamed trib in T2N, R41E, Section 2 to smk	*ADD*																	UNKN	10.61
17040201	5655	South Fork Willow Creek	HUC boundary to Snake River															SED				29.00
NUMER OF LISTED SEGMENTS IN HUC#			17040201	3	10.61 NEW MILES			TOTAL MILES OF LISTED STREAM IN HUC#												17040201		43.23
17040202	2078	Henrys Fork	Buffalo River to Riverside Reach															SED				15.37
17040202	2106	Henrys Lake					DO															.00
17040202	5260	Tygee Creek	Forest Service bnd to Henrys Fork	*ADD*																	UNKN	2.64
17040202	5261	Garner Canyon	Headwaters to mouth	*ADD*																	UNKN	1.58
17040202	5262	Meadow Creek	Headwaters to Henrys Fork	*ADD*																	UNKN	2.28
NUMER OF LISTED SEGMENTS IN HUC#			17040202	5	6.50 NEW MILES			TOTAL MILES OF LISTED STREAM IN HUC#												17040202		21.87
17040204	2113	North Fork Teton River	Forks to Henrys Fk, Snake R										NUT					SED				14.64
17040204	2116	Teton River	Highway 33 to Bitch Creek						HALT				NUT					SED				10.10
17040204	2117	Teton River	Trail Creek to Highway 33						HALT									SED				20.00
17040204	2118	Teton River	Headwaters to Trail Creek						HALT													2.65
17040204	2119	Moody Creek	Forest Boundary to Teton River										NUT									25.38
17040204	2125	Badger Creek	Highway 32 to Teton River															SED				8.51
17040204	2127	Spring Creek	Wyoming line to Teton River					OALT										SED		TEMP		12.60
17040204	2128	South Leigh Creek	Wyoming line to Teton River															SED				11.30
17040204	2129	Packsaddle Creek	Headwaters to Teton River					OALT										SED				9.88
17040204	2130	Horseshoe Creek	Confluence of N & S Fks to Teton River					OALT														7.03

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HUC	WQLSEG	WATERBODY	BOUNDRIES	ADDS	POLLUTANTS														STREAM MILES
					BAC	CHS	DO	OALT	HALT	MTH	MTU	NH3	NUT	O/G	ORG	PST	pH	SAL	SED	TDG	TEMP	UNKN	
17040204	2134	Darby Creek	Highway 33 to Teton River					OALT											SED				3.48
17040204	2136	Fox Creek	Wyoming line to Teton River					OALT											SED		TEMP		9.18
17040204	5230	North Leigh Creek	Wyoming line to Spring Creek	*ADD*																		UNKN	4.90
17040204	5231	Dry Creek	Wyoming line to Bitch Creek	*ADD*																		UNKN	7.57
NUMER OF LISTED SEGMENTS IN HUC#			17040204	14	14.18 NEW MILES			TOTAL MILES OF LISTED STREAM IN HUC#											17040204				147.22
17040205	2035	Willow Creek	Ririe Dam to HUC boundary																SED				5 38
17040205	2036	Ririe Lake																	SED				.00
17040205	2037	Willow Creek	Grays Lake Outlet to Ririe Reservoi																SED				16.79
17040205	2039	Willow Creek	Headwaters to Sellars Creek																SED				19.09
17040205	2040	Meadow Creek	Headwaters to Ririe Reservoir																SED				10.58
17040205	2041	Tex Creek	Headwaters to Indian Fork																SED				8 34
17040205	2042	Birch Creek	Headwaters to Willow Creek																SED				7.04
17040205	2044	Grays Lake Outlet	Grays Lake to Above Falls										NUT						SED				5.97
17040205	2045	Hell Creek	Headwaters to Grays Lake Outlet										NUT						SED				13.92
17040205	2047	Brockman Creek	Headwaters to Grays Lake Outlet										NUT						SED				12.68
17040205	2048	Corral Creek	Headwaters to Brockman Creek																SED		TEMP		4.29
17040205	2049	Sawmill Creek	Headwaters to Brockman Creek																SED		TEMP		3.07
17040205	2050	Homer Creek	Headwaters to Grays Lake Outlet																SED				19.76
17040205	2053	Long Valley Creek	Headwaters to Willow Creek																SED		TEMP		6.59
17040205	2054	Mill Creek	Headwaters to Willow Creek																SED		TEMP		6.39
17040205	2056	Crane Creek	Headwaters to Willow Creek																SED				15.22

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HUC	WQLSEG	WATERBODY	BOUNDRIES	ADDS	POLLUTANTS															STREAM MILES
					BAC	CHS	DO	OALT	HALT	MTH	MTU	NH3	NUT	O/G	ORG	PST	pH	SALSED	TDG	TEMP	UNKN	
17040205	2057	Seventy Creek	Headwaters to Willow Creek					OALT										SED		TEMP		3.06
17040205	5232	Buck Creek	Headwaters to Mill Creek	*ADD*																	UNKN	2.60
NUMER OF LISTED SEGMENTS IN HUC#			17040205	18	2.60 NEW MILES			TOTAL MILES OF LISTED STREAM IN HUC#												17040205		160.77
17040206	2346	American Falls Reservoir					DO						NUT					SED				.00
17040206	2347	Snake River	Ferry Butte to American Falls Reser															SED				14.94
17040206	2348	Snake River	Bonneville County line to Ferry But				DO	OALT					NUT					SED				40.44
17040206	2349	Bannock Creek	Headwaters to IR Boundary		BAC								NUT					SED				21.12
17040206	2350	Rattlesnake Creek	Headwaters to IR Boundary															SED				14.53
17040206	2356	McTucker Creek	Headwaters to Snake River															SED				2.19
17040206	5263	Knox Creek	Headwaters to Bannock Creek	*ADD*																	UNKN	11.31
17040206	6349	Moonshine Creek	Headwaters to IR Boundary															SED				1.35
17040206	6350	West Fork Bannock Creek	Headwaters to IR Boundary															SED				3.64
17040206	6351	Bannock Creek	IR Boundary to American Falls		BAC								NUT					SED				30.31
NUMER OF LISTED SEGMENTS IN HUC#			17040206	10	11.31 NEW MILES			TOTAL MILES OF LISTED STREAM IN HUC#												17040206		139.83
17040207	2303	Blackfoot River	Blackfoot Dam to Wolverine Creek					OALT					NUT					SED				40.35
17040207	2305	Blackfoot River	Headwaters to Blackfoot Reservoir												ORG			SED				41.16
17040207	2306	Wolverine Creek	Wolverine to Blackfoot River										NUT					SED				6.36
17040207	2309	Corral Creek	Headwaters to Blackfoot River															SED				18.50
17040207	2310	Meadow Creek	Headwaters to Blackfoot Reservoir															SED				30.93
17040207	2311	Trail Creek	Headwaters to Blackfoot River															SED				8.04

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HUC	WQLSEG	WATERBODY	BOUNDRIES	ADDS	POLLUTANTS															STREAM MILES
					BAC	CHS	DO	OALT	HALT	MTH	MTU	NH3	NUT	O/G	ORG	PST	pH	SAL	SED	TDG	TEMP	UNKN	
17040207	2312	Slug Creek	Headwaters to Blackfoot River																SED				23.57
17040207	2313	Angus Creek	Headwaters to Blackfoot River																SED				8.04
17040207	2314	Dry Valley Creek	Headwaters to Blackfoot River																SED				11.14
17040207	2315	Diamond Creek	Headwaters to Blackfoot River																SED				20.03
17040207	2316	Bacon Creek	Forest Service boundary to Lanes Creek																SED				2.97
17040207	2320	Lanes Creek	Headwaters to Blackfoot River																SED				10.44
17040207	2321	Sheep Creek	Headwaters to Lanes Creek																SED				7.89
17040207	5267	Brush Creek	Headwaters to Blackfoot River																			UNKN	15 34
17040207	5268	Grizzly Creek	Headwaters to Corral Creek	*ADD*																		UNKN	7.44
17040207	5269	Maybe Creek	Maybe Canyon waste dump to Dry Valley Creek	*ADD*																		UNKN	2.85
17040207	6302	Blackfoot River	Wolverine Creek to Main Canal										NUT						SED				23.85
NUMER OF LISTED SEGMENTS IN HUC#			17040207	17	24.89 NEW MILES								TOTAL MILES OF LISTED STREAM IN HUC#								17040207		278.90
17040208	2324	Portneuf River	Interstate 86 to IR Boundary		BAC								NUT						SED				1.74
17040208	2325	Portneuf River	Diversion, T9SR37ES22 to Marsh Cree		BAC								NUT						SED				18.45
17040208	2326	Portneuf River	Lava Hot Springs to PVC diversion		BAC								NUT						SED				8.01
17040208	2327	Portneuf River	Downey Canal return to Lava Hot Springs		BAC			OALT					NUT						SED				18.19
17040208	2328	Portneuf River	Chesterfield Reservoir to Downey Canal return		BAC			OALT					NUT						SED				13.38
17040208	2330	Portneuf River	Headwaters to Chesterfield Res																SED				18.25
17040208	2331	Pocatello Creek	Headwaters to Portneuf River																SED				4.93
17040208	2334	Rapid Creek	Headwaters to Portneuf River																SED				6.25
17040208	2335	Marsh Creek	Calvin Road to Portneur River										NUT						SED				48.40

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HUC	WQLSEG	WATERBODY	BOUNDRIES	ADDS	POLLUTANTS: BAC	CHS	DO	OALT	HALT	MTH	MTU	NH3	NUT	O/G	ORG	PST	pH	SAL	SED	TDG	TEMP	UNKN	STREAM MILES
17040208	2336	Garden Creek	Garden Creek Gap to Marsh Creek										NUT						SED				7.52
17040208	2337	Hawkins Creek	Headwaters to Marsh Creek										NUT						SED				15.05
17040208	2338	Birch Creek	Birch Creek Road to Marsh Creek										NUT						SED				6.47
17040208	2339	Cherry Creek	Forest Service boundary to Birch Creek										NUT						SED				7.41
17040208	2342	Twentyfourmile Creek	Headwaters to Portneuf River																SED				12.93
17040208	5150	Portneuf River	IR Boundary to American Falls Reser		BAC								NUT						SED				4.33
17040208	5270	Indian Creek	Forest Service bnd to Portneuf River	ADD																		UNKN	3.47
17040208	5271	Arkansas Creek	Headwaters to Marsh Creek	ADD																		UNKN	5.40
17040208	6324	Portneuf River	Johnny Creek to Interstate 86		BAC								NUT	O/G					SED				9.82
17040208	6325	Portneuf River	Marsh Creek to Johnny Creek		BAC								NUT						SED				12.90
17040208	6[illegible]	Hawkins Reservoir					DO						NUT										.00
NUMER OF LISTED SEGMENTS IN HUC#			17040208	20	8.87 NEW MILES								TOTAL MILES OF LISTED STREAM IN HUC#								17040208		222.90
17040209	2359	Milner Lake					DO	OALT					NUT	O/G					SED				.00
17040209	2362	Snake River	Massacre Rocks to Lake Walcott				DO									PST			SED				20 51
17040209	2363	Snake River	Eagle Rock to Massacre Rock																SED				2.49
17040209	2365	Rock Creek	Headwaters to Snake River																SED				13.02
17040209	2366	East Fork Rock Creek	Bench Ditch to Rock Creek																SED				5.33
17040209	5272	Marsh Creek	Land Creek to mouth	ADD																		UNKN	19.98
17040209	5273	South Fork Rock Creek	Headwaters to Rock Creek	ADD																		UNKN	31.55
17040209	6363	Snake River	American Falls Dam to Eagle Rock																SED				8.99
NUMER OF LISTED SEGMENTS IN HUC#			17040209	8	51.53 NEW MILES								TOTAL MILES OF LISTED STREAM IN HUC#								17040209		101.87

HUC	WQLSEG	WATERBODY	BOUNDRIES	ADDS	POLLUTANTS															STREAM MILES
					BAC	CHS	DO	OALT	HALT	MTH	MTU	NH3	NUT	O/G	ORG	PST	pH	SALSED	TDG	TEMP	UNKN	
17040210	2430	Raft River	Malta to Snake River		BAC		DO	OALT				NH3	NUT					SED				33.93
17040210	2431	Raft River	Utah Line to Malta		BAC		DO	OALT										SALSED		TEMP		42.19
17040210	2432	Sublett Creek	Sublett Res to lower boundaries	*ADD*	BAC		DO	OALT					NUT					SED				8 24
17040210	2434	Sublett Reservoir					DO	OALT					NUT					SED				.00
17040210	2438	Cassia Creek	Connor Creek to Raft River						HALT									SED				12 74

NUMER OF LISTED SEGMENTS IN HUC# 17040210 5 2.23 NEW MILES TOTAL MILES OF LISTED STREAM IN HUC# 17040210 97.10

17040211	2446	Lower Goose Creek Reservoir					DO	OALT					NUT					SED				00
17040211	2447	Goose Creek	State line to Lower Goose Creek Reservoir		BAC		DO	OALT					NUT					SED		TEMP		15.42
17040211	2448	Birch Creek	Headwaters to Oakley (town)		BAC		DO											SED				14 97
17040211	2449	Trapper Creek	Ibex Hollow to Lower Goose Creek Reservoir		BAC		DO	OALT										SED				7.62
17040211	5274	Mill Creek	Headwaters to Forest Service boundary	*ADD*																	UNKN	3.09
17040211	5275	Cold Creek	Headwaters to Goose Creek	*ADD*																	UNKN	8.27
17040211	5276	Emery Creek	Headwaters to Goose Creek	*ADD*																	UNKN	4.58
17040211	5277	Blue Hill Creek	Headwaters to Goose Creek	*ADD*																	UNKN	5.71
17040211	5278	Beaverdam Creek	Right Hand Fork Beaverdam Creek to Goose Creek	*ADD*																	UNKN	5.38
17040211	5279	Little Cottonwood Creek	Headwaters to Dry Fork Creek	*ADD*																	UNKN	6 05
17040211	5280	Big Cottonwood Creek	Billys Hole to mouth	*ADD*																	UNKN	13.12
17040211	5281	Summit Creek	Headwaters to East Canal	*ADD*																	UNKN	9.65

NUMER OF LISTED SEGMENTS IN HUC# 17040211 12 55.85 NEW MILES TOTAL MILES OF LISTED STREAM IN HUC# 17040211 93.86

17040212	2369	Snake River	Bliss Bridge to King Hill Diversion															SED				5,78

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HUC	WQLSEG	WATERBODY	BOUNDRIES	ADDS	POLLUTANTS																MILES
					BAC	CHS	DO	OALT	HALT	MTH	MTU	NH3	NUT	O/G	ORG	PST	pH	SALSED	TDG	TEMP	UNKN	
17040212	2370	Bliss Reservoir			BAC		DO	OALT				NH3						SED				.00
17040212	2372	Lower Salmon Falls Reservoir					DO	OALT										SED				.00
17040212	2373	Upper Salmon Falls Reservoir					DO	OALT										SED				.00
17040212	2374	Snake River	Cedar Draw to Rock Creek															SED		TEMP		7.27
17040212	2375	Shoshone Falls Reservoir					DO	OALT										SED				.00
17040212	2377	Snake River	Murtaugh to Twin Falls Reservoir		BAC		DO					NH3						SED				11.65
17040212	2378	Snake River	Milner Dam to Murtaugh		BAC		DO	OALT										SED		TEMP		8.53
17040212	2379	Clover Creek	Pioneer Res. to Snake River															SED				10 05
17040212	2380	Pioneer Reservoir			BAC		DO	OALT				NH3	NUT					SED		TEMP		.00
17040212	2384	Billingsley Creek	Headwaters to Snake River				DO	OALT				NH3						SED				7.57
17040212	2385	Riley Creek	Headwaters to Snake River		BAC		DO					NH3	NUT					SED				2.47
17040212	2386	Sand Springs Creek	Headwaters to Snake River					OALT					NUT					SED				.23
17040212	2389	Blind Canyon	Headwaters to Snake River		BAC		DO	OALT				NH3	NUT					SED				.72
17040212	2395	Clear Springs	Headwaters to Snake River				DO					NH3	NUT					SED				1.00
17040212	2398	Crystal Springs	Headwaters to Snake River				DO	OALT				NH3	NUT					SED				.20
17040212	2400	Rock Creek	Rock Creek (town) to Snake		BAC		DO	OALT				NH3	NUT	O/G				SED				26.07
17040212	2403	Cottonwood Creek	Headwaters to Rock Creek		BAC			OALT				NH3	NUT			PST		SED				6.57
17040212	2404	McMullen Creek	Headwaters to Cottonwood Creek		BAC		DO	OALT					NUT					SED		TEMP		15.70
17040212	2405	Alpheus Creek	Headwaters to Snake River				DO						NUT					SED				.35
17040212	2408	Dry Creek	West Fk Dry Creek to Murtaugh Lake		BAC			OALT										SED		TEMP		10 19
17040212	2411	West Fork Dry Creek	Headwaters to Dry Creek		BAC		DO	OALT					NUT					SED				6.22
17040212	5173	Snake River	Cassia Gulch to Big Pilgrim Gulch										NUT					SED		TEMP		3.47

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HUC	WQLSEG	WATERBODY	BOUNDRIES	ADDS	POLLUTANTS															STREAM MILES
					BAC	CHS	DO	OALT	HALT	MTH	MTU	NH3	NUT	O/G	ORG	PST	pH	SAL	SED	TDG	TEMP	UNKN	
17040212	5174	Snake River	Clear Lakes Bridge to Cedar Draw																SED		TEMP		6 10
17040212	5175	Snake River	Deep Creek to Mud Creek																SED		TEMP		.11
17040212	5176	Snake River	King Hill to Big Pilgrim Gulch																SED		TEMP		9.31
17040212	5177	Snake River	Mud Creek to Clear Lakes Bridge																SED		TEMP		1.33
17040212	5286	Deep Creek	High Line Canal to Snake River	*ADD*	BAC																	UNKN	19 43
17040212	5287	Toolbox Creek	Headwaters to Fifth Fk Rock Creek	*ADD*																		UNKN	.46
17040212	5646	Cedar Draw	Headwaters to Snake River	*ADD*	BAC																	UNKN	15.72
17040212	5647	Mud Creek	Low Line Canal to Snake River	*ADD*	BAC																	UNKN	11.80
17040212	6374	Snake River	Shoshone Falls to Rock Creek																SED		TEMP		8 25
NUMER OF LISTED SEGMENTS IN HUC#			17040212	32	47.41 NEW MILES														TOTAL MILES OF LISTED STREAM IN HUC#			17040212	196.55
17040213	2459	Salmon Falls Creek	Bluegill Lake to Snake River		BAC		DO						NUT						SED				8.81
17040213	2462	Cedar Creek	Cedar Creek Res to Salmon Falls Cr		BAC		DO	OALT					NUT						SED				19.55
17040213	2463	Cedar Creek Reservoir			BAC		DO	OALT				NH3	NUT						SED				.00
17040213	2466	Shoshone Creek	Magic Hot Springs to Nevada		BAC		DO												SED		TEMP		4.71
17040213	2468	Shoshone Creek	Cottonwood Creek to Big Creek		BAC		DO	OALT					NUT						SED		TEMP		6 44
17040213	2471	Cottonwood Creek	Headwaters to Shoshone Creek				DO						NUT						SED				11.19
17040213	5282	Horse Creek	Headwaters to Shoshone Creek	*ADD*																		UNKN	8.44
17040213	5283	Pole Camp Creek	Headwaters to Shoshone Creek	*ADD*																		UNKN	3.95
17040213	5285	Hopper Gulch	Headwaters to Shoshone Creek	*ADD*																		UNKN	2.54
NUMER OF LISTED SEGMENTS IN HUC#			17040213	9	14.93 NEW MILES														TOTAL MILES OF LISTED STREAM IN HUC#			17040213	65.63

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HUC	WQLSEG	WATERBODY	BOUNDRIES	ADDS	POLLUTANTS														STREAM MILES
					BAC	CHS	DO	OALT	HALT	MTH	MTU	NH3	NUT	O/G	ORG	PST	pH	SAL	SED	TDG	TEMP	UNKN	
17040214	2190	Camas Creek	Highway 91 to Mud Lake										NUT						SED				15.58
17040214	2191	Camas Creek	Spring Creek to Highway 91					OALT	HALT				NUT						SED		TEMP		37.21
17040214	2193	Beaver Creek	Dubois to Camas Creek					OALT	HALT				NUT						SED		TEMP		15.44
17040214	2194	Beaver Creek	Spencer to Dubois					OALT	HALT				NUT						SED		TEMP		16.90
17040214	5233	Cow Creek	Headwaters to Thunder Gulch	*ADD*																		UNKN	4.85
NUMER OF LISTED SEGMENTS IN HUC#			17040214	5	4.85 NEW MILES			TOTAL MILES OF LISTED STREAM IN HUC#													17040214		89.98
17040215	2206	Medicine Lodge Creek	Middle Creek to Small Creek					OALT											SED		TEMP		5.47
17040215	2210	Edie Creek	Headwaters to Medicine Lodge Creek						HALT				NUT						SED				7.72
17040215	2211	Irving Creek	Headwaters to Medicine Lodge Creek						HALT				NUT						SED				6.93
17040215	2212	Fritz Creek	Forks to Medicine Lodge Creek										NUT								TEMP		2 88
17040215	2215	Warm Springs Creek	Headwaters to Sinks										NUT						SED				19.42
NUMER OF LISTED SEGMENTS IN HUC#			17040215	5	0.00 NEW MILES			TOTAL MILES OF LISTED STREAM IN HUC#													17040215		42.42
17040216	2154	Birch Creek	Reno Ditch to Sinks					OALT	HALT				NUT						SED				16.84
NUMER OF LISTED SEGMENTS IN HUC#			17040216	1	0.00 NEW MILES			TOTAL MILES OF LISTED STREAM IN HUC#													17040216		16.84
17040217	2145	Wet Creek	Coal Creek to Little Lost River					OALT											SED		TEMP		15.89
17040217	2148	Sawmill Creek	Mill Creek to Little Lost River																SED		TEMP		12 31
17040217	5654	Summit Creek	Headwaters to Little Lost River	*ADD*																	TEMP		14.23
17040217	5656	Little Lost River	Headwaters to flood control diversions	*ADD*																	TEMP		31.89
NUMER OF LISTED SEGMENTS IN HUC#			17040217	4	46.12 NEW MILES			TOTAL MILES OF LISTED STREAM IN HUC#													17040217		74.32
17040218	2161	Big Lost River	Moore Diversion to US 26				DO	OALT					NUT						SED		TEMP		19.20

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HUC	WQLSEG	WATERBODY	BOUNDRIES	ADDS	POLLUTANTS															STREAM MILES
					BAC	CHS	DO	OALT	HALT	MTH	MTU	NH3	NUT	O/G	ORG	PST	pH	SALSED	TDG	TEMP	UNKN	
17040218	2164	Big Lost River	Chilly Buttes to Mackay Reservoir										NUT					SED				14.61
17040218	2167	Spring Creek	Springs to Big Lost River				DO	OALT					NUT					SED		TEMP		17.11
17040218	2168	Antelope Creek	Spring Creek to Big Lost River					OALT										SED		TEMP		16.19
17040218	2176	Twin Bridges Creek	Headwaters to Big Lost River										NUT					SED				9.09
17040218	2179	East Fork Big Lost River	Starhope Creek to Forks						HALT													15.64
17040218	2180	East Fork Big Lost River	Headwaters to Starhope Creek															SED		TEMP		13 04
17040218	5236	Little Boone Creek	Headwaters to E Fk Little Lost R	ADD																	UNKN	2.38
17040218	5237	Warm Springs Creek	Spring to Mackay Reservoir	ADD																	UNKN	8.65
NUMER OF LISTED SEGMENTS IN HUC# 17040218 9				11.03 NEW MILES																TOTAL MILES OF LISTED STREAM IN HUC# 17040218		115.91
17040219	2476	Big Wood River	Little Wood River to Interstate		BAC		DO	OALT				NH3	NUT					SED				9.29
17040219	2477	Big Wood River	Highway 75 to Little Wood River		BAC		DO	OALT				NH3	NUT					SED				32 65
17040219	2478	Big Wood River	Magic Reservoir to Highway 75	ADD				OALT					NUT					SED				28.39
17040219	2482	Big Wood River	Glendale Diversion to T1NR18ES35					OALT														5.45
17040219	2483	Big Wood River	Trail Creek to Glendale Diversion					OALT														20.84
17040219	2487	Rock Creek	Headwaters to Magic Reservoir		BAC				HALT									SED		TEMP		12 02
17040219	2491	Croy Creek	Elk Creek to Big Wood River					OALT					NUT					SED				5.77
17040219	5290	Owl Creek	Headwaters to Big Wood River	ADD																	UNKN	4.86
17040219	5291	Eagle Creek	Headwaters to Big Wood River	ADD																	UNKN	6.34
17040219	5292	Baker Creek	Headwaters to Norton Creek	ADD																	UNKN	4.45
17040219	5293	Placer Creek	Headwaters to Warm Springs Creek	ADD																	UNKN	4 31
17040219	5294	Greenhorn Creek	Headwaters to Big Wood River	ADD																	UNKN	7 75

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HUC	WQLSEG	WATERBODY	BOUNDRIES	ADDS	POLLUTANTS	STREAM MILES
17040219	5295	East Fork Wood River	Headwaters to Blind Canyon	ADD	UNKN	3.79
17040219	5296	Cove Creek	Headwaters to East Fk Wood River	ADD	UNKN	6.91
17040219	5297	Quigley Creek	Headwaters to mouth	ADD	UNKN	7.25
17040219	5298	Seamans Creek	Headwaters to Big Wood River	ADD	UNKN	12.31
17040219	5299	East Fork Rock Creek	Headwaters to Rock Creek	ADD	UNKN	3.06
17040219	5302	Thorn Creek	Thorn Reservoir to Schooler Creek	ADD	UNKN	7.59
NUMER OF LISTED SEGMENTS IN HUC#		17040219	18	71.29 NEW MILES	TOTAL MILES OF LISTED STREAM IN HUC#	17040219	183.03
17040220	2532	*Camas Creek*	*Headwaters to Macon Flat Bridge*		SED		51.32
17040220	2537	Soldier Creek	Baseline to Camas Creek		BAC DO OALT NUT SED		6.70
17040220	2539	Mormon Reservoir			BAC DO OALT NUT SED		.00
17040220	5301	Little Beaver Creek	Headwaters to Beaver Creek	ADD	UNKN		4.34
17040220	5302	Camp Creek	Headwaters to Camas Creek	ADD	UNKN		12.65
17040220	5303	Willow Creek	Beaver Creek to Camas Creek	ADD	UNKN		9.04
17040220	5304	Elk Creek	Base Line Road to Camas Creek	ADD	UNKN		2.46
17040220	5305	McKinney Creek	Headwaters to Mormon Reservoir	ADD	UNKN		10 11
17040220	5306	Corral Creek	Highway 20 to Camas Creek	ADD	UNKN		3.98
17040220	5307	Cow Creek	Headwaters to Cow Creek Reservoir	ADD	UNKN		2.91
17040220	5308	Wild Horse Creek	Highway 20 to Camas Creek	ADD	UNKN		2.71
17040220	5309	Beaver Creek	Headwaters to Willow Creek	ADD	UNKN		5.98
NUMER OF LISTED SEGMENTS IN HUC#		17040220	12	54.18 NEW MILES	TOTAL MILES OF LISTED STREAM IN HUC#	17040220	112.20

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HUC	WQLSEG	WATERBODY	BOUNDRIES	ADDS	POLLUTANTS															STREAM MILES
					BAC	CHS	DO	OALT	HALT	MTH	MTU	NH3	NUT	O/G	ORG	PST	pH	SAL	SED	TDG	TEMP	UNKN	
17040221	2511	Little Wood River	Richfield (town) to Big Wood River		BAC		DO	OALT					NUT						SED				50.76
17040221	2512	Little Wood River	Silver Creek to Richfield (town)										NUT						SED				19.17
17040221	2513	Little Wood River	East Canal Diversion to Silver Cr										NUT						SED				19.42
17040221	2515	Little Wood River Reservoir			BAC		DO	OALT					NUT						SED				.00
17040221	2521	Dry Creek	Headwaters to Little Wood River		BAC		DO	OALT					NUT						SED				13.87
17040221	2522	Fish Creek	Fish Creek Reservoir to Carey Lake		BAC		DO	OALT					NUT						SED				12.73
17040221	2523	Fish Creek Reservoir			BAC		DO	OALT					NUT						SED				.00
17040221	5288	Muldoon Creek	South Fk Muldoon Creek to Little Wood River	*ADD*																		UNKN	3.56
17040221	5289	Loving Creek	Headwaters to Silver Creek	*ADD*																		UNKN	4 05
17040221	5650	Fish Creek	Headwaters to Fish Creek Reservoir	*ADD*	BAC		DO	OALT					NUT						SED				12.95

NUMER OF LISTED SEGMENTS IN HUC# 17040221 10 20.56 NEW MILES TOTAL MILES OF LISTED STREAM IN HUC# 17040221 136.51

17050101	2414	C J Strike Reservoir											NUT			PST							.00
17050101	2415	Snake River	King Hill to HWY 51 Bridge																SED				33.45
17050101	2418	Browns Creek	Headwaters to Snake River																SED				17.18
17050101	2420	Sailor Creek	Headwaters to Snake River																SED				64.06
17050101	2422	Ryegrass Creek	Headwaters to Cold Springs Creek																SED				15.68
17050101	2423	Alkali Creek	Headwaters to Snake River																SED				16.36
17050101	2424	Little Canyon Creek	Headwaters to Snake River					OALT											SED				28.77
17050101	2425	Deadman Creek	Headwaters to Snake River																SED				38.92
17050101	5641	Bennett Creek	Headwaters to Snake River	*ADD*																		UNKN	32.41
17050101	5642	Cold Springs Creek	Ryegrass Creek to Snake River	*ADD*																		UNKN	7.03

NUMER OF LISTED SEGMENTS IN HUC# 17050101 10 39.44 NEW MILES TOTAL MILES OF LISTED STREAM IN HUC# 17050101 253.86

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HUC	WQLSEG	WATERBODY	BOUNDRIES	ADDS	BAC	CHS	DO	OALT	HALT	MTH	MTU	NH3	NUT	O/G	ORG	PST	pH	SAL	SED	TDG	TEMP	UNKN	STREAM MILES
17050102	2414	C J Strike Reservoir											NUT			PST							.00
17050102	2549	Bruneau River	Hot Creek to CJ Strike Reservoir					OALT					NUT						SED		TEMP		14.44
17050102	2551	Jacks Creek	Little Jacks Cr to CJ Strike Res				DO	OALT					NUT						SED		TEMP		12.31
17050102	2552	Sugar Creek	Headwaters to Jacks Creek																SED				36.34
17050102	2555	Wickahoney Creek	Headwaters to Big Jacks Creek					OALT											SED				18.08
17050102	2557	Hot Creek	Headwaters to Bruneau River		BAC			OALT											SED				21.79
17050102	2558	Clover Creek	71 Draw to Bruneau River																SED				52.61
7050102	2561	Three Creek	Headwaters to E Fk Bruneau River																SED				14.29
7050102	2567	Cougar Creek	Headwaters to Jarbidge River																SED				23.07
7050102	2568	Poison Creek	Headwaters to Jarbidge River																SED				32.33
UMER OF LISTED SEGMENTS IN HUC#			17050102	10	0.00 NEW MILES					TOTAL MILES OF LISTED STREAM IN HUC#											17050102		225.26
7050103	2668	Snake River	Swan Falls to Boise River		BAC		DO	OALT					NUT				pH		SED				54.70
7050103	2669	Snake River	Castle Creek to Swan Falls																SED				13.27
7050103	2670	Snake River	CJ Strike Res to Castle Creek																SED				23.46
7050103	2671	Succor Creek	Oregon line to Snake River																SED				5.38
7050103	2673	Jump Creek	Headwaters to Snake River						HALT														20.54
7050103	2674	Squaw Creek	Unnamed trib 3.9 km upstream to Snake River																SED				2.40
7050103	2675	Hardtrigger Creek	Headwaters to Snake River																SED				12.55
17050103	2676	Reynolds Creek	Diversion to Snake River																SED				4.06
7050103	2677	Rabbit Creek	Headwaters to Snake River																SED				11.87

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HUC	WQLSEG	WATERBODY	BOUNDRIES	ADDS	POLLUTANTS														STREAM MILES
					BAC	CHS	DO	OALT	HALT	MTH	MTU	NH3	NUT	O/G	ORO	PST	pH	SAL	SED	TDG	TEMP	UNKN	
17050103	2679	Sinker Creek	Diamond Creek to Snake River	*ADD*				OALT											SED		TEMP		10.77
17050103	2680	Castle Creek	T5SR1ES28 to Snake River					OALT											SED		TEMP		12.78
17050103	2681	Pickett Creek	T5SR1WS32 to Catherine Creek																SED				4.85
17050103	2682	Brown Creek	Headwaters to Catherine Creek																SED				16.99
17050103	2684	Birch Creek	Headwaters to Snake River																SED				27.24
17050103	2685	Corder Creek	Headwaters to Snake River																SED				17.50
17050103	2687	Poison Creek	Headwaters to Shoofly Creek																SED				17.45
17050103	6671	Succor Creek	Headwaters to Oregon Line					OALT											SED		TEMP		22.19
17050103	6681	Pickett Creek	Headwaters to T5SR1W32					OALT											SED		TEMP		11.52
NUMER OF LISTED SEGMENTS IN HUC#			17050103	18	8.51 NEW MILES			TOTAL MILES OF LISTED STREAM IN HUC#											17050103				289.52
17050104	2613	Red Canyon	Headwaters to Owyhee River					OALT											SED		TEMP		5.22
17050104	2614	Hurry Back Creek	Headwaters to Owyhee River	*ADD*															SED		TEMP		46.06
17050104	2616	Castle Creek	Headwaters to Deep Creek																SED		TEMP		11.15
17050104	2625	Juniper Basin Reservoir																	SED				.00
17050104	2627	Blue Creek Reservoir																	SED				.00
17050104	6618	Nickel Creek	Headwaters to Mud Flat Road																SED				2.79
NUMER OF LISTED SEGMENTS IN HUC#			17050104	6	11.06 NEW MILES			TOTAL MILES OF LISTED STREAM IN HUC#											17050104				65.22
17050105	2632	South Fork Owyhee River	Nevada Line to Owyhee River					OALT											SED		TEMP		32.33
NUMER OF LISTED SEGMENTS IN HUC#			17050105	1	0.00 NEW MILES			TOTAL MILES OF LISTED STREAM IN HUC#											17050105				32.33
17050107	2640	Middle Fork Owyhee River	Headwaters to Oregon Line					OALT											SED		TEMP		8.64

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HUC	WQLSEG	WATERBODY	BOUNDRIES	ADDS	POLLUTANTS BAC	CHS	DO	OALT	HALT	MTH	MTU	NH3	NUT	O/G	ORG	PST	pH	SAL	SED	TDG	TEMP	UNKN	STREAM MILES
17050107	2642	Squaw Creek	Headwaters to Oregon Line					OALT											SED		TEMP		13.05
17050107	2644	Juniper Creek	Headwaters to N Fk Owyhee River					OALT											SED		TEMP		11.72
17050107	2645	Pleasant Valley Creek	Headwaters to N Fk Owyhee River					OALT											SED		TEMP		10.79
NUMER OF LISTED SEGMENTS IN HUC#			17050107	4	0.00 NEW MILES			TOTAL MILES OF LISTED STREAM IN HUC#														17050107	44.20
17050108	2648	Jordan Creek	Williams Creek to Oregon Line		BAC									O/G		PST			SED				9.49
17050108	2656	Rock Creek	Headwaters to Triangle Reservoir					OALT											SED		TEMP		17.28
17050108	2660	Louse Creek	Headwaters to Jordan Creek					OALT			MTU						pH		SED				9.79
17050108	2662	Soda Creek	Headwaters to Cow Creek																SED				7.51
17050108	6656	Louisa Creek	Headwaters to Triangle Reservoir					OALT											SED		TEMP		8.16
17050108	6661	Cow Creek	Headwaters to Oregon Line					OALT											SED		TEMP		12.28
NUMER OF LISTED SEGMENTS IN HUC#			17050108	6	0.00 NEW MILES			TOTAL MILES OF LISTED STREAM IN HUC#														17050108	64.51
17050111	5026	Browns Creek	Headwaters to M Fk Boise River																SED				6.45
17050111	5028	Buck Creek	Headwaters to M Fk Boise River																SED				7.18
NUMER OF LISTED SEGMENTS IN HUC#			17050111	2	0.00 NEW MILES			TOTAL MILES OF LISTED STREAM IN HUC#														17050111	13.63
17050112	5117	Macks Creek	Headwaters to Grimes Creek																SED				6.42
17050112	5126	South Fork Minneha Creek	Headwaters to Mores Creek	*ADD*															SED				8.75
NUMER OF LISTED SEGMENTS IN HUC#			17050112	2	3.37 NEW MILES			TOTAL MILES OF LISTED STREAM IN HUC#														17050112	15.17
17050113	2572	South Fork Boise River	Anderson Ranch Res to Arrowrock Res																SED				28.73
17050113	2575	Willow Creek	Headwaters to Arrowrock Reservoir																SED				14.95

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HUC	WQLSEG	WATERBODY	BOUNDRIES	ADDS	POLLUTANTS															STREAM MILES
					BAC	CHS	DO	OALT	HALT	MTH	MTU	NH3	NUT	O/G	ORG	PST	pH	SAL	SED	TDG	TEMP	UNKN	
17050113	2577	Rattlesnake Creek	Headwaters to S Fk Boise River																SED				15.91
17050113	2578	Smith Creek	Tiger Creek to South Fk Boise River																SED				14.51
17050113	5038	Cayuse Creek	Headwaters to S Fk Boise River																SED				3.23
17050113	5060	Deer Creek	Headwaters to Anderson Ranch Res																SED				1.33
17050113	5639	Little Smoky Creek	Headwaters to Carrie Creek	*ADD*																		UNKN	11.32
NUMER OF LISTED SEGMENTS IN HUC#			17050113	7	11.32 NEW MILES				TOTAL MILES OF LISTED STREAM IN HUC#											17050113			89.98
17050114	2726	Boise River	Notus (town) to Snake River				DO																15.83
17050114	2727	Boise River	Star (town) to Notus (town)				DO																21.49
17050114	2728	Boise River	Barber Diversion to Star				DO							O/G									25.27
17050114	2729	Boise River	Lucky Peak to Barber Diversion					OALT															5.26
17050114	2731	Indian Creek	New York Canal to Boise River				DO						NUT	O/G					SED				16.62
17050114	2732	Indian Creek	Headwaters to New York Canal										NUT						SED				39.06
17050114	2734	Fivemile Creek	Headwaters to Fifteenmile Creek				DO						NUT						SED				28.92
17050114	2736	Tenmile Creek	Headwaters to Fifteenmile Creek				DO						NUT						SED				27.15
17050114	2737	Blacks Creek	Headwaters to Blacks Creek Res.				DO						NUT						SED				13.22
17050114	5637	Willow Creek	Headwaters to Boise River	*ADD*																		UNKN	51.49
17050114	5638	Cottonwood Creek	Headwaters to Freestone Creek	*ADD*																		UNKN	6.82
NUMER OF LISTED SEGMENTS IN HUC#			17050114	11	58.31 NEW MILES				TOTAL MILES OF LISTED STREAM IN HUC#											17050114			251.13
17050115	2664	Snake River	Boise River to Weiser River			BAC							NUT				pH		SED				42.00
NUMER OF LISTED SEGMENTS IN HUC#			17050115	1	0.00 NEW MILES				TOTAL MILES OF LISTED STREAM IN HUC#											17050115			42.00

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HUC	WQLSEG	WATERBODY	BOUNDRIES	ADDS	POLLUTANTS	STREAM MILES
17050120	5186	South Fork Payette River	Headwaters to Payette River		SED	78.18
NUMER OF LISTED SEGMENTS IN HUC#	17050120	1	0.00 NEW MILES	TOTAL MILES OF LISTED STREAM IN HUC#	17050120	78.18
17050121	2703	Middle Fork Payette River	Bull Creek to South Fk Payette River		SED	34.90
NUMER OF LISTED SEGMENTS IN HUC#	17050121	1	0.00 NEW MILES	TOTAL MILES OF LISTED STREAM IN HUC#	17050121	34.90
17050122	2689	Payette River	Black Canyon Dam to Snake River	BAC NUT	TEMP	39.22
17050122	2690	Black Canyon Reservoir		NUT O/G	SED	.00
17050122	2695	Bissel Creek	Headwaters to Payette River		SED	16.99
17050122	2697	Soldier Creek	Headwaters to Squaw Creek	DO		8.96
17050122	5635	Big Willow Creek	Rock Creek to Payette River	ADD	UNKN	23.46
17050122	5640	Lake Lowell		ADD DO NUT		.00
NUMER OF LISTED SEGMENTS IN HUC#	17050122	6	29.90 NEW MILES	TOTAL MILES OF LISTED STREAM IN HUC#	17050122	88.63
17050123	2884	Cascade Reservoir		DO NUT pH		.00
17050123	2889	Round Valley Creek	Headwaters to N Fk Payette River		SED	5.66
17050123	2891	Big Creek	Horsethief Creek to North Fk Payette River		SED	6 50
17050123	2895	Boulder Creek	Headwaters to Cascade Reservoir	DO QALT NUT	SED TEMP	20.46
17050123	2898	Mud Creek	Headwaters to Cascade Reservoir	BAC DO NH3 NUT	SED	12.04
17050123	5626	Landing Creek	Headwaters to Deadhorse Creek	ADD	UNKN	2.42
17050123	5628	Lake Fork	Headwaters to Cascade Reservoir	ADD	UNKN	25.93
17050123	5629	Willow Creek	Headwaters to Cascade Reservoir	ADD	UNKN	8.18
17050123	5631	Duck Creek	Headwaters to Cascade Reservoir	ADD	UNKN	2 07

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HUC	WQLSEG	WATERBODY	BOUNDRIES	ADDS	POLLUTANTS														STREAM MILES
					BAC	CHS	DO	OALT	HALT	MTH	MTU	NH3	NUT	O/G	ORG	PST	pH	SALSED	TDG	TEMP	UNKN	
17050123	5632	Van Wyck Creek	Headwaters to Cascade Reservoir	*ADD*																	UNKN	2.47
17050123	5633	Tripod Creek	Headwaters to North Fk Payette River	*ADD*																	UNKN	5.40
17050123	6882	North Fork Payette River	Clear Creek to Smiths Ferry					OALT	HALT				NUT					SED		TEMP		9.53
17050123	6897	Browns Pond							HALT													.00
NUMER OF LISTED SEGMENTS IN HUC#			17050123	13	46.47 NEW MILES			TOTAL MILES OF LISTED STREAM IN HUC#												17050123		100.66
17050124	2834	Weiser River	Galloway Dam to Snake River		BAC		DO						NUT					SED		TEMP		12.39
17050124	2835	Weiser River	Warm Spring Creek to Little Weiser River										NUT					SED				35.21
17050124	2837	Mann Creek	Mann Creek Res to Weiser River															SED				12.96
17050124	2839	Cove Creek	Headwaters to Weiser River										NUT					SED				13.99
17050124	2840	Crane Creek	Crane Creek Res to Weiser River		BAC								NUT					SED				12.60
17050124	2841	Crane Creek Reservoir											NUT					SED				.00
17050124	2842	North Crane Creek	Headwaters to Crane Creek Reservoir		BAC			OALT					NUT					SED		TEMP		24.65
17050124	2845	Little Weiser River	Indian Valley to Weiser River										NUT					SED				17.23
17050124	5623	South Crane Creek	Headwaters to Crane Creek Reservoir	*ADD*																	UNKN	9.17
17050124	5624	West Fork Weiser River	Headwaters to Weiser River	*ADD*																	UNKN	15.88
17050124	5636	Johnson Creek	Headwaters to Weiser River	*ADD*																TEMP		13.69
17050124	6834	Weiser River	Little Weiser River to Galloway Dam		BAC								NUT					SED				31.50
NUMER OF LISTED SEGMENTS IN HUC#			17050124	12	38.74 NEW MILES			TOTAL MILES OF LISTED STREAM IN HUC#												17050124		199.27
17050201	2817	Snake River	Brownlee Dam to Oxbow Dam										NUT			PST		SED				11.59
17050201	2818	Brownlee Reservoir					DO			MTH			NUT				pH	SED				.00
17050201	2819	Snake River	Weiser (town) to Brownlee Dam				DO						NUT				pH	SED				33.87

HUC	WQLSEG	WATERBODY	BOUNDRIES	ADDS	POLLUTANTS														STREAM MILES
					BAC	CHS	DO	OALT	HALT	MTH	MTU	NH3	NUT	O/G	ORG	PST	pH	SAL	SED	TDG	TEMP	UNKN	
17050201	2825	Dennett Creek	Headwaters to Snake River					OALT											SED		TEMP		6.46
17050201	2828	Warm Springs Creek	Headwaters to Snake River										NUT						SED				12.64
17050201	2829	Hog Creek	Headwaters to Snake River										NUT						SED				9.94
17050201	2830	Scott Creek	Headwaters to Snake River										NUT						SED				18.30
NUMER OF LISTED SEGMENTS IN HUC#			17050201	7	0.00 NEW MILES			TOTAL MILES OF LISTED STREAM IN HUC#													17050201		92.80
17060101	2905	Divide Creek	Headwaters to Snake River																SED				14.34
17060101	2906	Wolf Creek	Headwaters to Snake River																SED				14.29
17060101	2907	Getta Creek	Headwaters to Snake River																SED				9.21
NUMER OF LISTED SEGMENTS IN HUC#			17060101	3	0.00 NEW MILES			TOTAL MILES OF LISTED STREAM IN HUC#													17060101		37.84
17060103	3311	Tammany Creek	Headwaters to Snake River																SED				13.79
NUMER OF LISTED SEGMENTS IN HUC#			17060103	1	0.00 NEW MILES			TOTAL MILES OF LISTED STREAM IN HUC#													17060103		13.79
17060108	3122	Deep Creek	Headwaters to Palouse River		BAC			OALT	HALT				NUT						SED		TEMP		12.16
17060108	3123	Flannigan Creek	Headwaters to Palouse River		BAC			OALT	HALT				NUT						SED		TEMP		9.50
17060108	3124	West Fork Rock Creek	Headwaters to Palouse River		BAC			OALT	HALT				NUT						SED		TEMP		9.28
17060108	3125	Gold Creek	Waterhole Creek to Palouse River		BAC			OALT	HALT				NUT						SED		TEMP		4.45
17060108	3126	Hatter Creek	Headwaters to Palouse River		BAC			OALT	HALT				NUT						SED		TEMP		9.79
17060108	3128	Big Creek	Headwaters to Palouse River		BAC			OALT	HALT				NUT						SED		TEMP		8.44
17060108	3134	South Fork Palouse River	Headwaters to Washington Line		BAC			OALT	HALT				NUT						SED		TEMP		13.42
17060108	3136	Cow Creek	Headwaters to Washington line						HALT				NUT								TEMP		18.50
NUMER OF LISTED SEGMENTS IN HUC#			17060108	8	0.00 NEW MILES			TOTAL MILES OF LISTED STREAM IN HUC#													17060108		85.54

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HUC	WQLSEG	WATERBODY	BOUNDRIES	ADDS	POLLUTANTS BAC	CHS	DO	OALT	HALT	MTH	MTU	NH3	NUT	O/G	ORG	PST	pH	SALSED	TDG	TEMP	UNKN	STREAM MILES
17060201	3009	Salmon River	Redfish Lake Cr to E Fk Salmon R															SED		TEMP		44.45
17060201	3010	Salmon River	Hellroaring Cr to Redfish Lake Cr															SED				13.34
17060201	3013	Challis Creek	Forest Boundary to Salmon River					OALT					NUT					SED				9.35
17060201	3017	Garden Creek	Forest Boundary to Salmon River										NUT					SED				14.39
17060201	3019	Warm Spring Creek	Headwaters to Sink										NUT					SED				21.56
17060201	3030	Squaw Creek	Headwaters to Forest Boundary								MTU							SED				10.48
17060201	3035	Yankee Fork	Jordan Cr. to Salmon River						HALT									SED				9.00
17060201	5226	Lost Creek	Headwaters to sink	*ADD*																	UNKN	4.45
17060201	5227	Kinnikinic Creek	Sawmill Creek to Salmon River	*ADD*																	UNKN	2.99
17060201	5229	Trealor Creek	Headwaters to Squaw Creek	*ADD*																	UNKN	2.91
17060201	7009	Road Creek	Headwaters to E Fk Salmon River																		UNKN	15.77
NUMER OF LISTED SEGMENTS IN HUC#		17060201	11	10.35 NEW MILES					TOTAL MILES OF LISTED STREAM IN HUC#										17060201			148.69
17060202	3099	Pahsimeroi River	Dowton Lane to Salmon River										NUT					SED				9.19
17060202	3100	Pahsimeroi River	Mahogany Creek to Dowton Lane										NUT					SED				39.51
17060202	3102	Patterson Creek	Inyo Creek to Pahsimeroi River					OALT										SED				18.79
17060202	3106	Morse Creek	Forest Boundary to Pahsimeroi River					OALT					NUT					SED				5.80
17060202	3110	Big Creek	Forest Boundary to Pahsimeroi River										NUT					SED				11.99
NUMER OF LISTED SEGMENTS IN HUC#		17060202	5	0.00 NEW MILES					TOTAL MILES OF LISTED STREAM IN HUC#										17060202			85.28
17060203	2952	Bucktail Creek	Headwaters to S Fk Big Deer Creek								MTU											1.82
17060203	2964	Salmon River	Pahsimeroi River to Salmon River, N																		UNKN	67.59

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HUC	WQLSEG	WATERBODY	BOUNDRIES	ADDS	POLLUTANTS														STREAM MILES
					BAC	CHS	DO	OALT	HALT	MTH	MTU	NH3	NUT	O/G	ORG	PST	pH	SALSED	TDG	TEMP	UNKN	
17060203	2967	Panther Creek	Blackbird Creek to Salmon River								MTU										24.55
17060203	2972	Big Deer Creek	Big Deer Cr. S.Fk to Panther Cr.								MTU						pH	SED			2.98
17060203	2977	Blackbird Creek	Blackbird Creek Reservoir to Panther Creek								MTU						pH	SED			5.97
17060203	2989	Dump Creek	Headwaters to Salmon River															SED			6.48
17060203	5239	Williams Lake		*ADD*			DO						NUT								.00
17060203	5240	Diamond Creek	Headwaters to Salmon River	*ADD*																UNKN	4.70
NUMER OF LISTED SEGMENTS IN HUC#			17060203 8	5.91 NEW MILES						TOTAL MILES OF LISTED STREAM IN HUC#								17060203			114.09
17060204	3067	Wimpey Creek	BLM boundary to Lemhi River										NUT					SED			6.62
17060204	3077	McDevitt Creek	BLM boundary to Lemhi River															SED			2.83
17060204	3082	Mill Creek	Forest boundary to Lemhi River					OALT					NUT					SED			5.35
17060204	3095	Hawley Creek	First Diversion to Eighteenmile Creek										NUT					SED			6.09
17060204	5264	Short Creek	Headwaters to Bear Valley Creek	*ADD*																UNKN	1.83
17060204	5265	Crukshank Creek	Headwaters to Canyon Creek	*ADD*																UNKN	3.21
NUMER OF LISTED SEGMENTS IN HUC#			17060204 6	5.04 NEW MILES						TOTAL MILES OF LISTED STREAM IN HUC#								17060204			25.93
17060205	2805	Elkhorn Creek	Headwaters to Middle Fk Salmon Rive					OALT										SED	TEMP		7.41
17060205	2808	Bear Valley Creek	Headwaters to Wilderness Boundary															SED			29.23
17060205	5013	Bearskin Creek	Headwaters to Elk Creek															SED			8.44
17060205	5033	Cache Creek	Headwaters to Bear Valley Creek															SED			7.61
17060205	5046	Cook Creek	Headwaters to Elk Creek															SED			6.10
17060205	5053	Cub Creek	Headwaters to Bear Valley Creek															SED			2.62

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HUC	WQLSEG	WATERBODY	BOUNDRIES	ADDS	POLLUTANTS														STREAM MILES
					BAC	CHS	DO	OALT	HALT	MTH	MTU	NH3	NUT	O/G	ORG	PST	pH	SAL	SED	TDG	TEMP	UNKN	
17060205	5055	Dagger Creek	Headwaters to Bear Valley Creek																SED				7.72
17060205	5077	Fir Creek	Headwaters to Bear Valley Creek																SED				6.85
17060205	5149	Porter Creek	Headwaters to Elk Creek																SED				6.17
17060205	5164	Sheep Trail Creek	Headwaters to Bear Valley Creek																SED				2.25
17060205	6808	Bear Valley Creek	Wilderness boundary to M Fk Salmon																SED				1.52
NUMER OF LISTED SEGMENTS IN HUC#			17060205	11	0.00 NEW MILES					TOTAL MILES OF LISTED STREAM IN HUC#											17060205		85.92
17060206	2775	Monumental Creek	Headwaters to Big Creek																SED				25.26
NUMER OF LISTED SEGMENTS IN HUC#			17060206	1	0.00 NEW MILES					TOTAL MILES OF LISTED STREAM IN HUC#											17060206		25.26
17060207	3346	Salmon River	Corn Creek to Cherry Creek																			UNKN	76.90
17060207	3349	Crooked Creek	Headwaters to Salmon River																SED				21.25
17060207	3351	Big Creek	Headwaters to Crooked Creek																SED				12.25
17060207	3352	Warren Creek	Headwaters to Wilderness Bo.						HALT														16.15
17060207	5018	Big Mallard Creek	Headwaters to Salmon River																SED				18.77
17060207	5099	Jersey Creek	Headwaters to Salmon River																SED				7.65
17060207	5109	Little Mallard Creek	Headwaters to Salmon River																SED				8.78
17060207	5156	Rhett Creek	Headwaters to Salmon River																SED				8.39
NUMER OF LISTED SEGMENTS IN HUC#			17060207	8	0.00 NEW MILES					TOTAL MILES OF LISTED STREAM IN HUC#											17060207		170.14
17060208	2915	South Fork Salmon River	Station Creek to Salmon River																SED				2.38
17060208	2916	South Fork Salmon River	Wilderness to Station Creek																SED				8.77
17060208	2917	South Fork Salmon River	Secesh River to Wilderness Bnd																SED				24.98

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HUC	WQLSEG	WATERBODY	BOUNDRIES	ADDS	POLLUTANTS															STREAM MILES
					BAC	CHS	DO	OALT	HALT	MTH	MTU	NH3	NUT	O/G	ORG	PST	pH	SAL	SED	TDG	TEMP	UNKN	
17060208	2918	South Fork Salmon River	Buckhorn Creek to Secesh River																SED				9.93
17060208	2919	South Fork Salmon River	Rice Cr. to Buckhorn Cr.		BAC							NH3	NUT						SED				34.52
17060208	2920	South Fork Salmon River	Headwaters to Rice Creek																SED				9.24
17060208	2934	East Fork South Fork Salmon Ri	Johnson Creek to Salmon River								MTU								SED				14.47
17060208	2935	East Fork South Fork Salmon Ri	Sugar Creek to Johnson Creek								MTU								SED				10 96
17060208	2936	East Fork South Fork Salmon Ri	Headwaters to Sugar Creek								MTU								SED				7.04
17060208	2940	Johnson Creek	Ice Hole Campgrnd to S Fk Salmon R																SED				2.55
17060208	2941	Johnson Creek	Halfway Creek to Ice Hole Campgrnd																SED				12.70
17060208	2942	Johnson Creek	Headwaters to Halfway Creek																SED				23.13
17060208	2950	Sugar Creek	Headwaters to E Fk S Fk Salmon Rive																SED				7.14
17060208	2959	Rice Creek	Headwaters to Salmon River, S.F.																			UNKN	6.36
17060208	5066	Dollar Creek	Headwaters to S Fk Salmon River																SED				7.93
17060208	5195	Trail Creek	Headwaters to Curtis Creek																SED				4.49
17060208	5199	Trout Creek	Headwaters to Johnson Creek																SED				5.17
17060208	5203	Tyndall Creek	Headwaters to Johnson Creek																SED				1.06
NUMER OF LISTED SEGMENTS IN HUC#			17060208	18	0.00 NEW MILES														TOTAL MILES OF LISTED STREAM IN HUC#			17060208	191.72
17060209	3321	China Creek	Headwaters to Salmon River																SED				8.55
17060209	3323	Deer Creek	Headwaters to Salmon River																SED				23.36
7060209	3324	Cottonwood Creek	Headwaters to Salmon River																SED				10.31
7060209	3325	Maloney Creek	Headwaters to Salmon River		BAC			OALT					NUT						SED		TEMP		10.14
7060209	3326	Deep Creek	Headwaters to Salmon River		BAC			OALT	HALT				NUT						SED		TEMP		11.66

HUC	WQLSEG	WATERBODY	BOUNDRIES	ADDS	POLLUTANTS															STREAM MILES
					BAC	CHS	DO	OALT	HALT	MTH	MTU	NH3	NUT	O/G	ORG	PST	pH	SAL	SED	TDG	TEMP	UNKN	
17060209	3327	Rice Creek	Headwaters to Salmon River																SED				14.48
17060209	3328	Rock Creek	Conflu of Johns and Telcher Creeks to Salmon R																SED				9.28
17060209	3329	Grave Creek	Headwaters to Rock Creek																SED				10.54
17060209	3333	Slate Creek	Headwaters to Salmon River																SED				21.91
17060209	3334	Little Slate Creek	Headwaters to Slate Creek																SED				14.81
17060209	3336	Race Creek	Headwaters to Salmon River																SED				8.29
17060209	5003	Allison Creek	Headwaters to Salmon River																SED				8.27
17060209	5041	China Creek	Headwaters to Salmon River																SED				5.08
17060209	5050	Cow Creek	Headwaters to Salmon River																SED				5.12
17060209	5101	Jungle Creek	Headwaters to S Fk White Bird Creek																SED				2.16
17060209	5102	Kessler Creek	Headwaters to S Fk Race Creek																SED				4.44
17060209	5108	Little Boulder Creek	Headwaters to Big Boulder Creek																SED				4.30
17060209	5111	Little White Bird Creek	Headwaters to S Fk White Bird Creek																SED				5.75
17060209	5146	Pinnacle Creek	Headwaters to S Fk White Bird Creek																SED				5.86
17060209	5171	Skookumchuck Creek	Conflu of N & S Fks to Salmon River																SED				3.35
17060209	5201	Turnbull Creek	Headwaters to Little Slate Creek																SED				3.02
17060209	5204	Van Buren Creek	Headwaters to Little Slate Creek																SED				5.30
NUMER OF LISTED SEGMENTS IN HUC#			17060209	22	0.00 NEW MILES													TOTAL MILES OF LISTED STREAM IN HUC#			17060209	195.98
17060210	2863	Little Salmon River	Round Valley Creek to Salmon River																			UNKN	24.89
17060210	2865	Squaw Creek	Headwaters to Little Salmon																			UNKN	5.61
17060210	2869	Elk Creek	Headwaters to Little Salmon																SED				7.41

HUC	WQLSEG	WATERBODY	BOUNDRIES	ADDS	POLLUTANTS														STREAM MILES
					BAC	CHS	DO	OALT	HALT	MTH	MTU	NH3	NUT	O/G	ORG	PST	pH	SAL	SED	TDG	TEMP	UNKN	
17060210	2877	Big Creek	Headwaters to Little Salmon River										NUT						SED				15.12
17060210	5094	Indian Creek	Headwaters to Little Salmon																SED				2.46
17060210	5165	Shingle Creek	Headwaters to Rapid River																SED				5.45
17060210	6875	Brundage Reservoir																			TEMP		.00
NUMER OF LISTED SEGMENTS IN HUC#			17060210	7	0.00 NEW MILES					TOTAL MILES OF LISTED STREAM IN HUC#											17060210		60.94
17060302	3262	O'Hara Creek	Hamby Fork to Selway River																SED				4.42
17060302	5096	Island Creek	Headwaters to Selway River																SED				3.97
17060302	5172	Slide Creek	Headwaters to Selway River																SED				4.17
NUMER OF LISTED SEGMENTS IN HUC#			17060302	3	0.00 NEW MILES					TOTAL MILES OF LISTED STREAM IN HUC#											17060302		12.56
17060303	3236	Lochsa River	Crooked Fk/Walton to Selway/MF Clea																		TEMP		68.74
NUMER OF LISTED SEGMENTS IN HUC#			17060303	1	0.00 NEW MILES					TOTAL MILES OF LISTED STREAM IN HUC#											17060303		68.74
17060305	3288	Cottonwood Creek	Headwaters to SF Clearwater		BAC		DO		HALT			NH3	NUT						SED		TEMP		31.19
17060305	3289	Red Rock Creek	Headwaters to Cottonwood Creek																SED				11.04
17060305	3290	South Fork Cottonwood Creek	Headwaters to Cottonwood Creek		BAC				HALT				NUT								TEMP		6.96
17060305	3291	Threemile Creek	Headwaters to S Fk Clearwater River		BAC		DO	OALT	HALT			NH3	NUT						SED		TEMP		18.18
17060305	3292	Butcher Creek	Headwaters to S Fk Clearwater River		BAC		DO	OALT	HALT										SED		TEMP		12.37
17060305	3301	Newsome Creek	Beaver Creek to South Fk Clearwater River																SED				6.91
17060305	4002	Lucas Lake																	SED				.00
17060305	5015	Beaver Creek	Headwaters to Newsome Creek																SED				4.95
17060305	5030	Buffalo Gulch	Headwaters to American River																SED				6.49

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HUC	WQLSEG	WATERBODY	BOUNDRIES	ADDS	POLLUTANTS															STREAM MILES
					BAC	CHS	DO	OALT	HALT	MTH	MTU	NH3	NUT	O/G	ORG	PST	pH	SAL	SED	TDG	TEMP	UNKN	
17060305	5056	Dawson Creek	Headwaters to Red River																SED				2 29
17060305	5136	Nugget Creek	Headwaters to Newsome Creek																SED				2.72
17060305	5169	Sing Lee Creek	Headwaters to Newsome Creek																SED				3.09
17060305	5185	South Fork Clearwater River	Red River to Clearwater River						HALT										SED		TEMP		63.79
17060305	5217	Cougar Creek	Headwaters to SF Clearwater																SED				6.37
17060305	5221	Long Haul Creek	Headwaters to S Fk Cottonwood Creek	*ADD*																		UNKN	1.64
17060305	5644	Shebang Creek	Headwaters to Cottonwood Creek	*ADD*																		UNKN	14.56
17060305	7288	Stockney Creek	Headwaters to Cottonwood Creek		BAC														SED				11.95
NUMER OF LISTED SEGMENTS IN HUC#			17060305 17	16.20 NEW MILES															TOTAL MILES OF LISTED STREAM IN HUC#			17060305	204.50
17060306	3137	Long Hollow Creek	Headwaters to Little Canyon		BAC		DO	OALT	HALT				NUT						SED				16.03
17060306	3139	Clearwater River	Confluence of North Fork to Washington line																	TDG			40.03
17060306	3140	Holes Creek	Headwaters to Little Canyon		BAC		DO	OALT	HALT		MTU	NH3	NUT	O/G	ORG	PST			SED				9.08
17060306	3141	Lindsay Creek	Boundary to Clearwater River		BAC		DO	OALT	HALT				NUT						SED		TEMP		7.35
17060306	3142	Hatwai Creek	Headwaters to Clearwater River		BAC				HALT				NUT								TEMP		7.93
17060306	3143	Lapwai Creek	Unnamed trib 26.2 km upstream to Clearwater River		BAC		DO	OALT	HALT				NUT						SED		TEMP		16.32
17060306	3145	West Fork Sweetwater Creek	Headwaters to Boundary		BAC		DO	OALT	HALT				NUT		ORG	PST			SED		TEMP		19.53
17060306	3146	Webb Creek	Headwaters to IR Boundary		BAC		DO	OALT	HALT				NUT						SED		TEMP		5.58
17060306	3148	Catholic Creek	Headwaters to Clearwater River		BAC		DO	OALT	HALT			NH3	NUT		ORG				SED		TEMP		9.60
17060306	3149	Potlatch River	Bear Creek to Clearwater River		BAC		DO	OALT	HALT			NH3	NUT	O/G	ORG	PST			SED		TEMP		14.13
17060306	3150	Potlatch River	Headwaters to Bear Creek		BAC			OALT	HALT				NUT						SED		TEMP		40 47
17060306	3155	Pine Creek	Headwaters to Potlatch River		BAC			OALT	HALT				NUT						SED		TEMP		12.97

HUC	WQLSEG	WATERBODY	BOUNDRIES	ADDS	POLLUTANTS															STREAM MILES
17060306	3156	Cedar Creek	Leopold Creek to Potlatch River			CHS														5 17
17060306	3157	East Fork Potlatch River	Ruby Creek to Potlatch River		BAC			QALT	HALT			NUT					SED	TEMP		4.73
17060306	3158	Ruby Creek	Unnamed trib 3.4 km upstream to East Fk Potlatch R		BAC			QALT	HALT			NUT					SED	TEMP		2.14
17060306	3159	Moose Creek	Headwaters to Potlatch River		BAC			QALT	HALT			NUT			pH		SED	TEMP		5.76
17060306	3161	Pine Creek	Boundary to Clearwater River								NH3	NUT	O/G				SED			1.95
17060306	3162	Bedrock Creek	Headwaters to Boundary		BAC		DO	QALT	HALT		NH3	NUT	O/G				SED	TEMP		6.08
17060306	3164	Big Canyon Creek	Sixmile Canyon to Clearwater R.		BAC			QALT	HALT			NUT					SED	TEMP		13.77
17060306	3171	Jim Ford Creek	Headwaters to Clearwater River		BAC		DO	QALT	HALT		NH3	NUT	O/G				SED	TEMP		27.00
17060306	3172	Grasshopper Creek	Headwaters to Jim Ford Creek		BAC			QALT	HALT			NUT					SED	TEMP		8.25
17060306	3173	Lolo Creek	Eldorado Creek to Clearwater R.		BAC		DO	QALT	HALT			NUT	O/G				SED	TEMP		28.44
17060306	3176	Jim Brown Creek	Headwaters to Musselshell		BAC			QALT	HALT			NUT					SED	TEMP		13 33
17060306	3179	Sixmile Creek	Headwaters to Clearwater River		BAC		DO	QALT	HALT		NH3	NUT	O/G	ORG	PST		SED	TEMP		8.10
17060306	3180	Lawyer Creek	Headwaters to IR Boundary		BAC		DO	QALT	HALT		NH3	NUT	O/G				SED	TEMP		7.30
17060306	3181	Sevenmile Creek	Headwaters to Lawyer Creek						HALT								SED			7.25
17060306	4010	Pine Creek	Headwaters to Boundary		BAC		DO	QALT	HALT			NUT					SED	TEMP		10.01
17060306	5048	Corral Creek	Headwaters to Potlatch Creek														SED			9.94
17060306	5125	Middle Potlatch Creek	Headwaters to Potlatch River		BAC			QALT	HALT			NUT					SED	TEMP		16.42
17060306	5130	Mud Creek	Headwaters to Lolo Creek														SED			3.83
17060306	5211	West Fork Potlatch River	Cougar Creek to Potlatch River														SED			3.07
17060306	5216	Yakus Creek	Molly Creek to Lolo Creek														SED			2.94
17060306	5222	Texas Creek	Headwaters to Lolo Creek	*ADD*															UNKN	5,71
17060306	5223	Schmidt Creek	Headwaters to Lolo Creek	*ADD*															UNKN	4.48

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HUC	WQLSEG	WATERBODY	BOUNDRIES	ADDS	POLLUTANTS	STREAM MILES
17060306	5224	Boulder Creek	Pig Creek to Potlatch River	*ADD*	UNKN	2.83
17060306	5225	Big Bear Creek	W Fk Big Bear to Potlatch River	*ADD*	TEMP	18.06
17060306	7143	Winchester Lake			BAC DO OALT HALT NUT PST SED TEMP	.00
17060306	7162	Bedrock Creek	Boundary to Clearwater River		NUT SED	3.46
17060306	7164	Big Canyon Creek	Headwaters to Sixmile Canyon		BAC DO OALT HALT NH3 ORG PST TEMP	19 45
NUMER OF LISTED SEGMENTS IN HUC#		17060306	39	31.08 NEW MILES	TOTAL MILES OF LISTED STREAM IN HUC# 17060306	438.49
17060307	3215	Orogrande Creek	Headwaters to N Fk Clearwater River		SED	19.51
17060307	3225	Osier Creek	Headwaters to Moose Creek		OALT HALT SED TEMP	8.09
17060307	3229	Gravey Creek	Headwaters to Cayuse Creek		SED	8.96
17060307	5040	China Creek	Headwaters to Osier Creek		SED	4.89
17060307	5045	Cold Springs Creek	Headwaters to N Fk Clearwater R		SED	4 84
17060307	5047	Cool Creek	Headwaters to Cold Springs Creek		SED	3.32
17060307	5049	Cougar Creek	Headwaters to Quartz Creek		SED	3 69
17060307	5059	Deception Gulch	Headwaters to N Fk Clearwater R		SED	4.74
17060307	5088	Grizzly Creek	Headwaters to Quartz Creek		SED	4.53
17060307	5093	Hem Creek	Headwaters to Sylvan Creek		SED	4.96
17060307	5104	Laundry Creek	Headwaters to Osier Creek		SED	4.39
17060307	5119	Marten Creek	Headwaters to Gravey Creek		SED	4.47
17060307	5123	Middle Creek	Headwaters to Weitas Creek		SED	13.32
17060307	5178	Sneak Creek	Headwaters to N Fk Clearwater		CHS	3.49
17060307	5189	Sugar Creek	Headwaters to Swamp Creek		SED	3.99

HUC	WQLSEG	WATERBODY	BOUNDRIES	ADDS	POLLUTANTS	STREAM MILES
17060307	5190	Swamp Creek	Headwaters to Osier Creek		SED	5.39
17060307	5192	Sylvan Creek	Headwaters to French Creek		SED	4.31
17060307	5193	Tamarack Creek	Headwaters to Orogrande Creek		SED	3.92
17060307	5200	Tumble Creek	Headwaters to Washington Creek		SED	4.60

NUMER OF LISTED SEGMENTS IN HUC# 17060307 19 0.00 NEW MILES TOTAL MILES OF LISTED STREAM IN HUC# 17060307 115.41

17060308	3184	North Fork Clearwater River	Dworshak Dam to confluence of Clear	TDG		1.91
17060308	3188	Long Meadow Creek	Headwaters to Dworshak Reservoir	BAC	QALT HALT NUT	SED TEMP 12.15
17060308	3189	Elk Creek	Headwaters to Dworshak Reservoir	BAC	QALT HALT NUT	SED TEMP 20.85
17060308	3190	Elk Creek Reservoir		BAC	DO QALT HALT NUT	SED TEMP .00
17060308	3191	Cranberry Creek	Headwaters to Dworshak Reservoir	BAC	QALT HALT NUT	SED TEMP 6.79
17060308	3192	Swamp Creek	Headwaters to Dworshak Reservoir	BAC	QALT HALT NUT	SED TEMP 7.36
17060308	3193	Reeds Creek	Headwaters to Dworshak Reservoir			SED 15.95
17060308	3197	Breakfast Creek	Headwaters to Clearwater R.		DO QALT HALT	SED 8.84
17060308	3198	Floodwood Creek	Headwaters to Breakfast Creek		DO QALT HALT	SED 13.59
17060308	3199	Stoney Creek	Headwaters to Breakfast Creek		DO QALT HALT	SED 12.23
17060308	5014	Beaver Creek	Headwaters to N Fk Clearwater R			SED 15.97
17060308	5016	Bertha Creek	Headwaters to Beaver Creek			SED 2.72
7060308	5020	Bingo Creek	Headwaters to Beaver Creek			SED 2.77
7060308	5063	Dog Creek	Headwaters to Isabella Creek			SED 3.88
7060308	5095	Isabella Creek	Headwaters to NF Clearwater			SED 8.54
7060308	5100	Johnson Creek	Tributary to Elk Creek			SED 3.27

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HUC	WQLSEG	WATERBODY	BOUNDRIES	ADDS	POLLUTANTS	STREAM MILES
17060308	5140	Partridge Creek	Headwaters to Elk Creek		SED	4.85
17060308	5181	Sourdough Creek	Headwaters to Beaver Creek		SED	3.12
17060308	5182	South Fork Beaver Creek	Headwaters to Beaver Creek		SED	4.75
17060308	5209	West Fork Elk Creek	Headwaters to Elk Creek		SED	3.50

NUMER OF LISTED SEGMENTS IN HUC# 17060308 20 0.00 NEW MILES TOTAL MILES OF LISTED STREAM IN HUC# 17060308 153.04

1998 303(d) LIST SUMMARY

TOTAL NUMBER OF NEW SEGMENTS: 122
TOTAL NUMBER OF SEGMENTS ON 1998 303(d) LIST: 728
TOTAL MILES NEW TO 1998 303(d) LIST: 1,017.00

TOTAL MILES OF STREAM NOT SUPPORTING BENEFICIAL USES: 8,079.62

Key to Headings of Segments De-Listed from 1996 303(d) List

HUC:	Hydrologic Unit Code, a unique number describing a series of nested watersheds.
WQLSEG:	Water Quality Limited Segment Number; a unique number for each segment
WATERERBODY:	Idaho Geographic Society Name for the water body
BOUNDARIES:	Extent of segment
STREAM MILES:	Length, in miles, of the listed segment.
	Note: The total stream miles delisted for those segments with boundary changes must be added to the total milage of stream segments delisted to get the total stream miles delisted from the 1996 303(d) List. (3089 miles of delisted segments + 494 more miles from segments with boundary changes = 3583 miles total)

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Organization of the Segments De-Listed from 1996 303(d) List:

The DRAFT list is organized by HUC. A map of all the HUCs in the state of Idaho is included in this packet along with the names commonly used to identify the HUCs. Within each HUC the segments are listed in the order of their WQLSEG number and not alphabetically at this time. The WQLSEG number can be used to cross reference the large format 1998 DRAFT 303(d) List maps available for viewing at all locations referenced in the 1998 DRAFT 303(d) information packet.

HUC	WQLSEG	WATERBODY	BOUNDRIES				MILES
16010102	2277	Giraffe Creek	Headwaters to Wyoming Border				3.52
NUMER OF DE-LISTED SEGMENTS IN HUC#		16010102	1	TOTAL MILES OF DE-LISTED STREAM IN HUC#		16010102	3.52
16010201	2255	Bailey Creek	Headwaters to Bear River				6.15
16010201	2256	Eightmile Creek	USFS boundary to Bear River				14.64
16010201	2258	Stauffer Creek	Headwaters to Bear River				8.97
16010201	2260	Georgetown Canyon	Headwaters to Bear River				14.76
16010201	2262	Montpelier Creek	Headwaters to Bear River				19.40
16010201	2266	Paris Creek	Headwaters to Bear River				11.62
16010201	2267	Bloomington Creek	Headwaters to refuge				12.89
16010201	2269	Little Creek	St. Charles Creek to Bear Lake				2.67
NUMER OF DE-LISTED SEGMENTS IN HUC#		16010201	8	TOTAL MILES OF DE-LISTED STREAM IN HUC#		16010201	91.10
16010202	2244	Mink Creek	Headwaters to Bear River				12.97
16010202	2247	Trout Creek	Headwaters to Bear River				11.34
NUMER OF DE-LISTED SEGMENTS IN HUC#		16010202	2	TOTAL MILES OF DE-LISTED STREAM IN HUC#		16010202	24.31
16010203	2281	Beaver Creek	Headwaters to Utah Line				8.46
NUMER OF DE-LISTED SEGMENTS IN HUC#		16010203	1	TOTAL MILES OF DE-LISTED STREAM IN HUC#		16010203	8.46
17010104	3370	Snow Creek	Headwaters to Deep Creek				12.09
17010104	3373	Twentymile Creek	Headwaters to Deep Creek				10.09
17010104	3389	Boundary Creek	Gaging station to Canadian border				.39
17010104	3390	Boundary Creek	Headwaters to Gaging station				7.10
NUMER OF DE-LISTED SEGMENTS IN HUC#		17010104	4	TOTAL MILES OF DE-LISTED STREAM IN HUC#		17010104	29.67

Segments De-listed from 1996 303(d) List

HUC	WQLSEG	WATERBODY	BOUNDRIES	STREAM MILES
17010105	2021	Canuck Creek	Canadian border to MT line	6.19
17010105	3398	Deer Creek	Headwaters to Moyie River	10.71
17010105	3399	Meadow Creek	Headwaters to Moyie River	12.27
17010105	5069	East Fork Meadow Creek	Headwaters to Meadow Creek	2.80
17010105	5206	Wall Creek	Headwaters to Meadow Creek	3.31
NUMER OF DE-LISTED SEGMENTS IN HUC#		17010105	5	TOTAL MILES OF DE-LISTED STREAM IN HUC# 17010105 35.28
17010213	3473	Lightning Creek	Quartz Creek to Clark Fork	18.42
17010213	3475	Spring Creek	Headwaters to Lightning Creek	6.85
17010213	3477	Wellington Creek	Headwaters to Falls	2.29
17010213	3478	Twin Creek	Headwaters to Clark Fork	4.84
17010213	5184	South Fork Clark Fork	Headwaters to Clark Fork	1.19
17010213	7474	Porcupine Creek	Headwaters to Lightning Creek	3.57
17010213	7475	Rattle Creek	Headwaters to Lightning Creek	4.91
NUMER OF DE-LISTED SEGMENTS IN HUC#		17010213	7	TOTAL MILES OF DE-LISTED STREAM IN HUC# 17010213 42.07
17010214	3437	Brickel Creek	Washington Line to Spirit Lake	5.56
17010214	3449	Pack River	HWY 95 to Pend Oreille Lake	19.37
17010214	3455	Grouse Creek	Headwaters to Pack River	20.35
17010214	3462	Trestle Creek	Headwaters to Pend Oreille Lake	8.94
17010214	3468	Gold Creek	Headwaters to Pend Oreille Lake	6.09
NUMER OF DE-LISTED SEGMENTS IN HUC#		17010214	5	TOTAL MILES OF DE-LISTED STREAM IN HUC# 17010214 60.31
17010215	3419	Lamb Creek	Washington line to Priest Lake	8.89

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HUC	WQLSEG	WATERBODY	BOUNDRIES	MILES
17010215	3428	Tango Creek	Headwaters to Priest Lake	3.22
17010215	3432	Trapper Creek	Headwaters to Upper Priest Lake	7.74

NUMER OF DE-LISTED SEGMENTS IN HUC# 17010215 3 TOTAL MILES OF DE-LISTED STREAM IN HUC# 17010215 19.85

17010301	3486	Bumblebee Creek	Headwaters to N Fk CdA River	4.34
17010301	3488	Laverne Creek	Headwaters to N Fk CdA River	4.44
17010301	3489	Leiberg Creek	Headwaters to N Fk CdA River	5.63
17010301	3490	Skookum Creek	Headwaters to N Fk CdA River	2.97
17010301	3501	East Fork Eagle Creek	Headwaters to Prichard Creek	10 29
17010301	3505	Downey Creek	Headwaters to CdA River	3.46
17010301	3507	Flat Creek	Headwaters to CdA River	6.65
17010301	3510	Trail Creek	Headwaters to Tepee Creek	6.12
17010301	5007	Barney Creek	Headwaters to N Fk CdA River	3.88
17010301	5008	Barton Gulch	Headwaters to Granite Gulch	1.67
17010301	5042	Cinnamon Creek	Headwaters to CdA River	2.86
17010301	5115	Lost Fork	Headwaters to Jordan Creek	3 76
17010301	7500	Tiger Gulch	Headwaters to Prichard Creek	1 69
17010301	7502	Wasp Gulch	Headwaters to Prichard Creek	1 90
17010301	7503	Ophir Gulch	Headwaters to Prichard Creek	1.12
17010301	7505	Idaho Gulch	Headwaters to Prichard Creek	1.99

NUMER OF DE-LISTED SEGMENTS IN HUC# 17010301 16 TOTAL MILES OF DE-LISTED STREAM IN HUC# 17010301 62.77

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17010302	4005	Terror Gulch	Headwaters to S Fk Coeur d'Alene R	2.94

NUMER OF DE-LISTED SEGMENTS IN HUC# 17010302 1 TOTAL MILES OF DE-LISTED STREAM IN HUC# 17010302 2.94

17010303	3538	Carlin Creek	Headwaters to CdA Lake	5.20

Segments De-listed from 1998 303(d) List

HUC	WQLSEG	WATERBODY	BOUNDRIES	STREAM MILES
17010303	3539	Turner Creek	Headwaters to CdA Lake	3.90
17010303	3544	Fernan Creek	Headwaters to Fernan Lake	7.42
17010303	3548	Rockford Creek	Headwaters to Coeur d'Alene Lake	5.65
NUMER OF DE-LISTED SEGMENTS IN HUC#		17010303	4	TOTAL MILES OF DE-LISTED STREAM IN HUC# 17010303 22.17
17010304	3578	Benewah Creek	Headwaters to Chatcolet Lake	13.49
17010304	3586	Beaver Creek	Headwaters to St. Maries River	5.98
17010304	3598	Bond Creek	Headwaters to St. Joe River	10.67
17010304	3600	Hugus Creek	Headwaters to St. Joe River	7.58
17010304	3602	Big Creek	Conf of M & W Fks Big Cr to St Joe	8.63
17010304	3604	Marble Creek	Hobo Creek to St. Joe River	14 28
17010304	3613	Sisters Creek	Headwaters to St. Joe River	13.46
17010304	3615	Prospector Creek	Headwaters to St. Joe River	4 32
17010304	3617	Eagle Creek	Headwaters to St. Joe River	6.62
17010304	3618	Quartz Creek	Headwaters to St. Joe River	8.32
17010304	3620	Bruin Creek	Headwaters to St. Joe River	4.65
17010304	3621	Mosquito Creek	Headwaters to St. Joe River	6.62
17010304	7604	Norton Creek	Headwaters to Bussel Creek	4.77
17010304	7605	Tolea Creek	Headwaters to Marble Creek	3.45
17010304	7609	Daveggio Creek	Headwaters to Marble Creek	6 88
NUMER OF DE-LISTED SEGMENTS IN HUC#		17010304	15	TOTAL MILES OF DE-LISTED STREAM IN HUC# 17010304 119.72
17010305	3557	Mokins Creek	Headwaters to Hayden Lake	4.61
NUMER OF DE-LISTED SEGMENTS IN HUC#		17010305	1	TOTAL MILES OF DE-LISTED STREAM IN HUC# 17010305 4.61

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HUC	WQLSEG	WATERBODY	BOUNDRIES				
17040104	2019	McCoy Creek	Iowa Creek to Palisades Reservoir				9 39
17040104	6019	McCoy Creek	Headwaters to Iowa Creek				8 78
NUMER OF DE-LISTED SEGMENTS IN HUC#			17040104	2	TOTAL MILES OF DE-LISTED STREAM IN HUC#	17040104	18.17
17040105	2227	Sage Creek	Headwaters to Crow Creek				9 14
NUMER OF DE-LISTED SEGMENTS IN HUC#			17040105	1	TOTAL MILES OF DE-LISTED STREAM IN HUC#	17040105	9.14
17040204	2114	South Fork Teton River	Forks to Henrys Fk, Snake R				22 53
17040204	2132	Teton Creek	Highway 33 to Teton River				5 03
NUMER OF DE-LISTED SEGMENTS IN HUC#			17040204	2	TOTAL MILES OF DE-LISTED STREAM IN HUC#	17040204	27.56
17040205	2038	Willow Creek	Sellars Creek to Grays Lake Outlet				11 11
17040205	2043	Grays Lake Outlet	Falls R42ET35S3 to Willow Creek				31.60
17040205	2046	Lava Creek	Headwaters to Grays Lake Outlet				7.07
17040205	2051	Sellars Creek	Headwaters to Willow Creek				7.03
17040205	2055	Hancock Creek	Headwaters to Willow Creek				5.31
NUMER OF DE-LISTED SEGMENTS IN HUC#			17040205	5	TOTAL MILES OF DE-LISTED STREAM IN HUC#	17040205	62.12
17040207	2307	Rawlins Creek	Headwaters to Brush Creek				7 91
17040207	2317	Timothy Creek	Headwaters to Diamond Creek				6.43
17040207	2318	Cabin Creek	Headwaters to Lanes Creek				3.27
17040207	2319	Kendall Creek	Headwaters to Diamond Creek				3 47
NUMER OF DE-LISTED SEGMENTS IN HUC#			17040207	4	TOTAL MILES OF DE-LISTED STREAM IN HUC#	17040207	21.08
17040208	2332	Gibson Jack Creek	Headwaters to Portneuf River				4.32
17040208	2333	Mink Creek	Headwaters to Portneuf River				11.01

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HUC	WQLSEG	WATERBODY	BOUNDRIES	STREAM MILES
17040208	2340	Dempsey Creek	Headwaters to Portneuf	12.60
17040208	2341	Pebble Creek	Headwaters to Portneuf	9 44
17040208	2343	Toponce Creek	Headwaters to Portneuf River	8.33
17040208	4007	Walker Creek	Headwaters to Marsh Creek	6.09
17040208	6335	Bell Marsh Creek	Headwaters to Marsh Creek	6.37
17040208	6336	Garden Creek	Headwaters to Garden Creek Gap	9.98
17040208	6338	Goodenough Creek	Headwaters to Marsh Creek	6 76
NUMER OF DE-LISTED SEGMENTS IN HUC#		17040208	9	TOTAL MILES OF DE-LISTED STREAM IN HUC# 17040208 74.90
17040212	2399	Ellison Creek	Headwaters to Snake River	.27
17040212	2407	Vinyard Creek	Headwaters to Snake River	.44
NUMER OF DE-LISTED SEGMENTS IN HUC#		17040212	2	TOTAL MILES OF DE-LISTED STREAM IN HUC# 17040212 .71
17040213	2458	Salmon Falls Creek	Nevada line to Salmon Falls	8 47
17040213	2465	House Creek	Headwaters to Cedar Creek Reservoir	20 68
17040213	2467	Shoshone Creek	Big Creek to Magic Hot Springs	6.89
NUMER OF DE-LISTED SEGMENTS IN HUC#		17040213	3	TOTAL MILES OF DE-LISTED STREAM IN HUC# 17040213 36.04
17040215	2213	Warm Creek	Headwaters to Divide Creek	4.77
NUMER OF DE-LISTED SEGMENTS IN HUC#		17040215	1	TOTAL MILES OF DE-LISTED STREAM IN HUC# 17040215 4.77
17040216	2155	Birch Creek	Blue Dome to Reno Ditch	7 96
NUMER OF DE-LISTED SEGMENTS IN HUC#		17040216	1	TOTAL MILES OF DE-LISTED STREAM IN HUC# 17040216 7.96
17040217	2143	Badger Creek	Headwaters to Little Lost River	10.48
17040217	2144	Deer Creek	Confluence of N & S Fks Deer Cr to Little Lost Riv	5.30

							MILES
17040217	2146	Dry Creek	Diversion to Wet Creek				17.78
17040217	2147	Dry Creek	Headwaters to Diversion				10.72
NUMER OF DE-LISTED SEGMENTS IN HUC#			17040217	4	TOTAL MILES OF DE-LISTED STREAM IN HUC#	17040217	44.28
17040218	2169	Cherry Creek	Headwaters to Antelope Creek				16.07
17040218	2181	Wild Horse Creek	Headwaters to Big Lost River				13 77
17040218	2183	Star Hope Creek	Headwaters to Big Lost River				16.36
17040218	2185	Muldoon Creek	Headwaters to Starhope Creek				9.27
NUMER OF DE-LISTED SEGMENTS IN HUC#			17040218	4	TOTAL MILES OF DE-LISTED STREAM IN HUC#	17040218	55.47
17050102	2550	Bruneau River	Nevada line to Hot Creek				68 51
17050102	2559	Big Flat Creek	Flat Creek to E Fk Bruneau River				11.05
17050102	2560	Cherry Creek	Nevada line to Three Creek				10.75
17050102	2562	Deadwood Creek	Headwaters to E Fk Bruneau River				18.15
17050102	2563	Sheep Creek	Marys Creek to Bruneau River				22 38
17050102	2564	Sheep Creek	Nevada Line to Marys Creek				36.21
17050102	2565	Marys Creek	IR boundary to Sheep Creek				28.46
NUMER OF DE-LISTED SEGMENTS IN HUC#			17050102	7	TOTAL MILES OF DE-LISTED STREAM IN HUC#	17050102	195.51
17050103	2672	McBride Creek	Headwaters to Oregon Line				11.81
17050103	2683	South Fork Castle Creek	Headwaters to Castle Creek				10.27
NUMER OF DE-LISTED SEGMENTS IN HUC#			17050103	2	TOTAL MILES OF DE-LISTED STREAM IN HUC#	17050103	22.08
17050104	2617	Pole Creek	Headwaters to Deep Creek				23.98
17050104	2621	Battle Creek	Headwaters to Owyhee River				62 33

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Segments De-listed from 1996 303(d) List

HUC	WQLSEG	WATERBODY	BOUNDRIES	STREAM MILES
17050104	2628	Blue Creek	Headwaters to Blue Creek Res	20 09
17050104	2630	Shoofly Creek	Headwaters to Blue Creek	22.85
NUMER OF DE-LISTED SEGMENTS IN HUC#	17050104	4	TOTAL MILES OF DE-LISTED STREAM IN HUC#	17050104	129.25
17050107	2641	North Fork Owyhee River	Headwaters to Oregon Line	22.51
17050107	2646	Noon Creek	Headwaters to N Fk Owyhee River	9.13
17050107	6641	Cabin Creek	Headwaters to Juniper Creek	9.47
17050107	6642	Corral Creek	Headwaters to Cabin Creek	8.33
NUMER OF DE-LISTED SEGMENTS IN HUC#	17050107	4	TOTAL MILES OF DE-LISTED STREAM IN HUC#	17050107	49.44
17050108	2649	Jordan Creek	Headwaters to Williams Creek	31.48
17050108	2650	Williams Creek	Headwaters to Jordan Creek	9.89
17050108	2654	Rock Creek	Triangle Res to N Fk Boulder Creek	10.65
17050108	2657	Meadow Creek	Headwaters to Rock Creek	11 93
17050108	2659	Flint Creek	Headwaters to Jordan Creek	6.61
NUMER OF DE-LISTED SEGMENTS IN HUC#	17050108	5	TOTAL MILES OF DE-LISTED STREAM IN HUC#	17050108	70.56
17050111	2761	Middle Fork Boise River	Wilderness boundary to Boise River	39.38
17050111	2762	Roaring River	Headwaters to M Fk Boise River	10.75
17050111	5097	James Creek	Headwaters to M Fk Boise River	4.03
17050111	5114	Lost Creek	Headwaters to N Fk Boise River	5.00
17050111	5116	Lost Man Creek	Headwaters to M Fk Boise River	9.10
17050111	5143	Phifer Creek	Headwaters to M Fk Boise River	4.86
17050111	5191	Swanholm Creek	Headwaters to M Fk Boise River	4.86
NUMER OF DE-LISTED SEGMENTS IN HUC#	17050111	7	TOTAL MILES OF DE-LISTED STREAM IN HUC#	17050111	77.98

HUC	WQLSEG	WATERBODY	BOUNDRIES	STREAM MILES
17050112	2696	Robie Creek	Headwaters to Mores Creek	7.38
17050112	2743	Mores Creek	Headwaters to Lucky Peak Reservoir	34.60
17050112	2746	Grimes Creek	Headwaters to Mores Creek	40.59
17050112	5006	Bannock Creek	Headwaters to Mores Creek	5.71
17050112	5043	Clear Creek #1	Headwaters to Grimes Creek	5.24
17050112	5044	Clear Creek #3	Headwaters to Grimes Creek	8.27
17050112	5085	Granite Creek	Headwaters to Mores Creek	5.88
NUMER OF DE-LISTED SEGMENTS IN HUC#		17050112	7	TOTAL MILES OF DE-LISTED STREAM IN HUC# 17050112 107.67
17050113	2576	Wood Creek	Headwaters to Willow Creek	6.77
17050113	2588	Lime Creek	Headwaters to Anderson Ranch Reserv	11.21
17050113	2590	Trinity Creek	Headwaters to S Fk Boise River	10.74
17050113	2593	Shake Creek	Headwaters to S Fk Boise River	6.46
17050113	5011	Bear Creek	Headwaters to Feather River	5.94
17050113	5064	Dog Creek	Headwaters to S Fk Boise River	5.42
17050113	5071	Elk Creek	Headwaters to Feather River	7.04
17050113	5076	Feather River	Pinto Creek to South Fk Boise River	7.64
17050113	5086	Green Creek	Headwaters to S Fk Boise River	5.89
17050113	5089	Grouse Creek	Headwaters to S Fk Boise River	6.99
17050113	5120	Meadow Creek	Headwaters to Fall Creek	4.67
17050113	5157	Rock Creek	Headwaters to S Fk Boise River	8.74
NUMER OF DE-LISTED SEGMENTS IN HUC#		17050113	12	TOTAL MILES OF DE-LISTED STREAM IN HUC# 17050113 87.51
17050114	2730	Sand Hollow Creek	Headwaters to Boise River	23.67
17050114	2733	Mason Creek	Headwaters to Boise River	17.75

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HUC	WQLSEG	WATERBODY	BOUNDRIES				STREAM MILES
NUMER OF DE-LISTED SEGMENTS IN HUC#			17050114	2	TOTAL MILES OF DE-LISTED STREAM IN HUC#	17050114	41.42
17050120	2715	Deadwood River	Headwaters to Deadwood Reservoir				19 30
17050120	2721	Eightmile Creek	Headwaters to S Fk Payette River				12 36
17050120	5002	Alder Creek	Headwaters to S Fk Payette River				7.79
17050120	5009	Basin Creek	Headwaters to Deadwood Reservoir				5.14
17050120	5019	Big Pine Creek	Headwaters to S Fk Payette River				2.08
17050120	5133	Ninemile Creek	Headwaters to Deadwood River				5.70
17050120	5161	Scott Creek	Headwaters to Deadwood River				7.47
17050120	5196	Trail Creek	Headwaters to Deadwood Reservoir				6 87
17050120	5214	Whitehawk Creek	Headwaters to Deadwood River				7.66
17050120	5215	Wilson Creek	Headwaters to Deadwood River				10.53
NUMER OF DE-LISTED SEGMENTS IN HUC#			17050120	10	TOTAL MILES OF DE-LISTED STREAM IN HUC#	17050120	84.90
17050121	2704	Anderson Creek	Headwaters to M Fk Payette River				15.37
17050121	2705	Lightning Creek	Headwaters to M Fk Payette River				13.66
17050121	2707	Silver Creek	Headwaters to M Fk Payette River				11.75
17050121	5031	Bulldog Creek	Headwaters to Big Bulldog Creek				4.98
17050121	5162	Scriver Creek	Headwaters to M Fk Payette River				9.83
NUMER OF DE-LISTED SEGMENTS IN HUC#			17050121	5	TOTAL MILES OF DE-LISTED STREAM IN HUC#	17050121	55.59
17050122	2698	Little Squaw Creek	Headwaters to Squaw Creek				19.72
17050122	2699	Shafer Creek	Headwaters to Payette River				14.78
17050122	2700	Harris Creek	Headwaters to Shafer Creek				9 56
17050122	5187	Squaw Creek	Headwaters to Boise NF Boundary				19.12

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		BOUNDRIES				
NUMER OF DE-LISTED SEGMENTS IN HUC#		17050122	4	TOTAL MILES OF DE-LISTED STREAM IN HUC#	17050122	61.18
17050123 2890	Clear Creek	Headwaters to N Fk Payette River				17.78
17050123 2892	Beaver Creek	Headwaters to N Fk Payette River				8.46
17050123 2893	Gold Fork River	Flat Creek to Cascade Reservoir				5.36
17050123 5035	Campbell Creek	Headwaters to Cascade Reservoir				2.89
17050123 5074	Fawn Creek	Headwaters to N Fk Payette River				6.85
17050123 5079	French Creek	Headwaters to Cascade Reservoir				3.58
17050123 5092	Hazard Creek	Headwaters to Cascade Reservoir				2.82
NUMER OF DE-LISTED SEGMENTS IN HUC#		17050123	7	TOTAL MILES OF DE-LISTED STREAM IN HUC#	17050123	47.74
17050124 2848	Pine Creek	Headwaters to Weiser River				16.13
17050124 2853	Middle Fork Weiser River	Headwaters to Cabin Creek				12.18
17050124 2854	Cottonwood Creek	Headwaters to Weiser River				11.58
NUMER OF DE-LISTED SEGMENTS IN HUC#		17050124	3	TOTAL MILES OF DE-LISTED STREAM IN HUC#	17050124	39.89
17050201 2831	Jenkins Creek	Headwaters to Snake River				13.02
NUMER OF DE-LISTED SEGMENTS IN HUC#		17050201	1	TOTAL MILES OF DE-LISTED STREAM IN HUC#	17050201	13.02
17060101 2912	Deep Creek	Wilderness Boundary to Snake River				6.74
17060101 6912	Deep Creek	Headwaters to Wilderness Boundary				3.56
NUMER OF DE-LISTED SEGMENTS IN HUC#		17060101	2	TOTAL MILES OF DE-LISTED STREAM IN HUC#	17060101	10.30
17060108 3120	Palouse River	Meadow Creek to Washington line				28.78
17060108 3121	Palouse River	Headwaters to Meadow Creek				12.93
17060108 3127	Flat Creek	Headwaters to Palouse River				7.87

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Segments De-listed from 1996 303(d) List

HUC	WQLSEG	WATERBODY	BOUNDRIES	STREAM MILES
17060108	3129	Meadow Creek	Headwaters to Palouse River	11.99
17060108	3130	Strychnine Creek	Headwaters to Palouse River	7 32
17060108	3131	Little Sand Creek	Headwaters to Palouse River	5.26
17060108	3132	Big Sand Creek	Headwaters to Palouse River	7 44
17060108	3133	North Fork Palouse River	Headwaters to Palouse River	6 45
17060108	3135	Paradise Creek	Headwaters to Palouse River (Washin	12.62
17060108	5021	Blakes Fork	Headwaters to Meadow Creek	2.79
17060108	5023	Bonami Creek	Headwaters to Little Sand Creek, Cr	2.18
17060108	5067	Dry Fork	Headwaters to Strychnine Creek	2.18
17060108	5098	Jerome Creek	Headwaters to Palouse River	4.24
17060108	5118	Mannering Creek	Headwaters to EF Meadow Creek	4 50
17060108	5208	Wepah Creek	Headwaters to EF Meadow Creek	3 91
17060108	5220	East Fork Meadow Creek	Headwaters to Meadow Creek	6 81
NUMER OF DE-LISTED SEGMENTS IN HUC#		17060108	16	TOTAL MILES OF DE-LISTED STREAM IN HUC# 17060108 127.27
17060201	3011	Salmon River	Headwaters to Hell Roaring Creek	21.19
17060201	3029	Squaw Creek	Forest boundary to Salmon River	5.52
17060201	3031	Thompson Creek	Headwaters to Salmon River	12.19
17060201	3036	Yankee Fork	Headwaters to Jordan Creek	20.08
17060201	3040	Valley Creek	Stanley Lake Creek to Salmon River	6.09
17060201	3042	Stanley Lake Creek	Headwaters to Valley Creek	11.21
NUMER OF DE-LISTED SEGMENTS IN HUC#		17060201	6	TOTAL MILES OF DE-LISTED STREAM IN HUC# 17060201 76.28
17060203	2995	Carmen Creek	Freeman Creek to Salmon River	5.27
NUMER OF DE-LISTED SEGMENTS IN HUC#		17060203	1	TOTAL MILES OF DE-LISTED STREAM IN HUC# 17060203 5.27

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	WQLSLD WATERBODY	BOUNDRIES	MILES
17060204 3061	Kirtley Creek	BLM boundary to Lemhi River	7.74
17060204 3063	Geertson Creek	BLM boundary to ditch	9.67
17060204 3065	Bohannon Creek	BLM boundary to Lemhi River	9.07
17060204 3070	Sandy Creek	BLM boundary to Lemhi River	5.40
17060204 3072	Kenney Creek	BLM boundary to Lemhi River	4.61
17060204 3078	McDevitt Creek	Headwaters to BLM boundary	7.55
17060204 3084	Little Eightmile Creek	Forest Boundary to Lemhi River	2.71
17060204 3086	Big Eightmile Creek	Forest Boundary to Lemhi River	7.24
17060204 3090	Big Timber Creek	Forest Boundary to Lemhi River	8.37
17060204 3093	Eighteenmile Creek	BLM boundary to Lemhi River	11.90
NUMER OF DE-LISTED SEGMENTS IN HUC#	17060204	10	TOTAL MILES OF DE-LISTED STREAM IN HUC# 17060204 74.26
17060208 2929	Secesh River	Lake Cr. to Loon Cr.	12.60
17060208 2958	Curtis Creek	Headwaters to S Fk Salmon River	7.60
NUMER OF DE-LISTED SEGMENTS IN HUC#	17060208	2	TOTAL MILES OF DE-LISTED STREAM IN HUC# 17060208 20.20
17060210 2864	Little Salmon River	Headwaters to Round Valley Creek	24.92
NUMER OF DE-LISTED SEGMENTS IN HUC#	17060210	1	TOTAL MILES OF DE-LISTED STREAM IN HUC# 17060210 24.92
17060302 5024	Boyd Creek	Headwaters to Selway River	5.00
17060302 5070	Elk City Creek	Headwaters to Selway River	3.57
17060302 5073	Falls Creek	Headwaters to Selway River	6.92
17060302 5081	Glover Creek	Headwaters to Selway River	5.71
17060302 5082	Goddard Creek	Headwaters to Selway River	8.29

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Segments De-listed from 1996 303(d) List

HUC	WQLSEG	WATERBODY	BOUNDRIES	STREAM MILES
17060302	5090	Hamby Fork	Headwaters to O'Hara Creek	8.05
17060302	5134	Nineteenmile Creek	Headwaters to Selway River	4 59
17060302	5152	Rackliff Creek	Headwaters to Selway River	6.01
17060302	5202	Twentythree Mile Creek	Headwaters to Selway River	3.70
17060302	5207	Wart Creek	Headwaters to O'Hara Creek	2.97
NUMER OF DE-LISTED SEGMENTS IN HUC#		17060302	10	TOTAL MILES OF DE-LISTED STREAM IN HUC# 17060302 54.81

17060303	3249	Walton Creek	Headwaters to Lochsa River	6 43
17060303	3255	Crooked Fork	Headwaters to Lochsa River	22.71
17060303	3256	Brushy Fork	Headwaters to Crooked Fork	19.34
17060303	3257	Boulder Creek	Headwaters to Crooked Fork	6.51
17060303	5004	Badger Creek	Headwaters to Lochsa River	4.07
17060303	5036	Canyon Creek	Headwaters to Mystery Creek	4 35
17060303	5037	Canyon Creek	Mystery Creek to Lochsa River	5.77
17060303	5057	Deadman Creek	Headwaters to Lochsa River	7.69
17060303	5062	Doe Creek	Headwaters to Squaw Creek	7.04
17060303	5068	East Fork Deadman Creek	Headwaters to Deadman	5.35
17060303	5080	Glade Creek	Headwaters to Lochsa River	6 32
17060303	5132	Mystery Creek	Headwaters to Canyon Creek	3.45
17060303	5137	Nut Creek	Headwaters to Pete King Creek	3.07
17060303	5138	Papoose Creek	Headwaters to Lochsa River	1.88
17060303	5139	Parachute Creek	Headwaters to Papoose Creek	5.45
17060303	5142	Pete King Creek	Headwaters to Lochsa River	9.42
17060303	5147	Placer Creek	Headwaters to Pete King Creek	3.46
17060303	5151	Postoffice Creek	Headwaters to Lochsa River	7.66

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WQLSEG	WATERBODY	BOUNDRIES	MILES
17060303 5166	Shoot Creek	Headwaters to Spruce Creek	3.57
17060303 5167	Shotgun Creek	Headwaters to Crooked Fork	4.70
17060303 5183	South Fork Canyon Creek	Headwaters to Canyon Creek	4.07
17060303 5188	Squaw Creek	Headwaters to Lochsa River	8.02
17060303 5205	Walde Creek	Headwaters to Pete King Creek	4.19
17060303 5210	West Fork Pete King Creek	Headwaters to Pete King Creek	3.05
17060303 7183	Spruce Creek	Headwaters to Brushy Creek	3.51

NUMER OF DE-LISTED SEGMENTS IN HUC# 17060303 25 TOTAL MILES OF DE-LISTED STREAM IN HUC# 17060303 161.08

17060304 3281	Clear Creek	Headwaters to M Fk Clearwater River	21.58
17060304 3282	Maggie Creek	Headwaters to M Fk Clearwater River	13.35
17060304 5027	Browns Spring Creek	Headwaters to Clear Creek	4.96
17060304 5110	Little Tinker Creek	Headwaters to M Fk Clearwater River	2 93
17060304 5113	Lodge Creek	Headwaters to M Fk Clearwater River	4.42
17060304 5145	Pine Knob Creek	Headwaters to Clear Creek	4.08
17060304 5180	Solo Creek	Headwaters to M Fk Clearwater	3 45

NUMER OF DE-LISTED SEGMENTS IN HUC# 17060304 7 TOTAL MILES OF DE-LISTED STREAM IN HUC# 17060304 54.77

17060305 3303	American River	Headwaters to S Fk Clearwater River	21.59
17060305 3304	Little Elk Creek	Headwaters to Big Elk Creek	9.23
17060305 3306	Red River	Seigel Creek to S Fk Red River	27.17
17060305 3307	South Fork Red River	Headwaters to Red River	11.67
17060305 5005	Baldy Creek	Headwaters to Newsome Creek	6.13
17060305 5010	Baston Creek	Headwaters to Red River	2.23
17060305 5012	Bear Creek	Headwaters to Newsome Creek	4.32

Segments De-listed from 1996 303(d) List

HUC	WQLSEG	WATERBODY	BOUNDRIES	STREAM MILES
17060305	5017	Big Elk Creek	Headwaters to Elk Creek	9.63
17060305	5025	Bridge Creek	Headwaters to Red River	4.00
17060305	5029	Buckhorn Creek	Headwaters to S Fk Clearwater River	2.73
17060305	5052	Crooked River	Headwaters to S Fk Clearwater River	11.66
17060305	5058	Deadwood Creek	Headwaters to Red River	3.63
17060305	5061	Ditch Creek	Headwaters to Red River	3.95
17060305	5072	Fall Creek	Headwaters to S Fk Clearwater River	4 81
17060305	5078	Flint Creek	Headwaters to E Fk American River	5.14
17060305	5087	Green Creek	Headwaters to S Fk Clearwater River	4.02
17060305	5091	Haysfork Creek	Headwaters to Newsome Creek	4.95
17060305	5103	Kirks Fork	Headwaters to American River	6.78
17060305	5105	Leggett Creek	Headwaters to S Fk Clearwater River	6.08
17060305	5106	Lick Creek	Headwaters to American River	3.71
17060305	5107	Lightning Creek	Headwaters to S Fk Clearwater River	4.86
17060305	5122	Meadow Creek	Headwaters to S Fk Clearwater River	15.22
17060305	5124	Middle Fork Red River	Headwaters to W Fk Red River	3.78
17060305	5128	Moose Butte Creek	Headwaters to Red River	6.75
17060305	5129	Moose Creek	Headwaters to SF Clearwater	3.53
17060305	5131	Mule Creek	Headwaters to Newsome Creek	5.26
17060305	5141	Peasley Creek	Headwaters to S Fk Clearwater River	9.03
17060305	5144	Pilot Creek	Headwaters to Newsome Creek	5.94
17060305	5153	Red Horse Creek	Headwaters to Red River	8.22
17060305	5155	Relief Creek	Headwaters to Crooked River	6 29
17060305	5159	Santiam Creek	Headwaters to S Fk Clearwater River	4.25

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		BOUNDARIES	MILES
17060305 5160	Schooner Creek	Headwaters to S Fk Red River	2.27
17060305 5163	Sears Creek	Headwaters to S Fk Clearwater River	4.32
17060305 5168	Siegel Creek	Headwaters to Red River	5.70
17060305 5170	Sixmile Creek	Headwaters to Tenmile Creek	4.66
17060305 5179	Soda Creek	Headwaters to Red River	4.34
17060305 5197	Trail Creek	Headwaters to Red River	5.26
17060305 5198	Trapper Creek	Headwaters to Red River	6.57
17060305 5212	West Fork Red River	Headwaters to South Fork Red River	4.28
17060305 5213	Whiskey Creek	Headwaters to S Fk Clearwater River	4.20

NUMER OF DE-LISTED SEGMENTS IN HUC# 17060305 40 TOTAL MILES OF DE-LISTED STREAM IN HUC# 17060305 269.16

17060306 3138	Fivemile Creek	Headwaters to Clearwater R.	6.93
17060306 3144	Sweetwater Creek	IR Boundary to Lapwai Creek	6.02
17060306 3147	Mission Creek	Headwaters to IR Boundary	4.64
17060306 3151	Little Potlatch Creek	Headwaters to IR Boundary	16.39
17060306 3154	Little Bear Creek	Headwaters to Big Bear Creek	9.48
17060306 3160	Cottonwood Creek	Headwaters to Clearwater River	19.87
17060306 3163	Jacks Creek	Headwaters to Clearwater	9.65
17060306 3165	Little Canyon Creek	Headwaters to Big Canyon Creek	18.57
17060306 3170	Whiskey Creek	Headwaters to Orofino Creek	13.00
17060306 3174	Lolo Creek	Headwaters to Eldorado Creek	16.91
17060306 3175	Eldorado Creek	Headwaters to Lolo Creek	14.27
17060306 3177	Musselshell Creek	Headwaters to Lolo Creek	12.49
17060306 3178	Yoosa Creek	Headwaters to Lolo Creek	8.65
17060306 5039	Chamook Creek	Headwaters to Yoosa Creek	2.28

Segments De-listed from 1996 303(d) List

HUC	WQLSEG	WATERBODY	BOUNDRIES	STREAM MILES
17060306	5065	Dollar Creek	Headwaters to El Dorado Cr	3.24
17060306	5075	Feather Creek	Headwaters to W Fk Potlatch River	5.25
17060306	5083	Gold Creek	Headwaters to Musselshell Creek	3.83
17060306	5148	Porcupine Creek	Headwaters to Potlatch River	2.54
17060306	5194	Tom Taha Creek	Headwaters to Clearwater R.	8.86
17060306	7180	Willow Creek	Headwaters to Lawyer Creek	7.90
17060306	7181	Lawyer Creek	IR Boundary to Clearwater River	34.65
17060306	7182	Camp Creek	Headwaters to Yoosa Creek	4.17
NUMER OF DE-LISTED SEGMENTS IN HUC#		17060306	22	TOTAL MILES OF DE-LISTED STREAM IN HUC# 17060306 229.59
17060308	5001	Adair Creek	Headwaters to Little NF Clearwater	4.22
17060308	5158	Rutledge Creek	Headwaters to Little NF Clearwater	4.42
NUMER OF DE-LISTED SEGMENTS IN HUC#		17060308	2	TOTAL MILES OF DE-LISTED STREAM IN HUC# 17060308 8.64

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SUMMARY OF DELISTED SEGMENTS

TOTAL NUMBER OF SEGMENTS ON 1998 303(d) LIST: 335

TOTAL MILES OF STREAM SUPPORTING BENEFICIAL USES REMOVED FROM 1996 303(d) LIST: 3,089.27

(NOTE: THIS DOES NOT INCLUDE MILAGE REMOVED DUE TO BOUNDARY CHANGE

Key to Headings of Segments with Boundary Changes from 1996 303(d) List

HUC:	Hydrologic Unit Code, a unique number describing a series of nested watersheds.
WQLSEG:	Water Quality Limited Segment Number; a unique number for each segment
WATERERBODY:	Idaho Geographic Society Name for the water body
OLD BOUNDARIES:	Extent of segment on 1996 303(d) List
NEW BOUNDARIES:	Extent of segment on 1998 303(d) List
STREAM MILES:	Length, in miles, of the listed segment.

Note: The total stream miles delisted for those segments with boundary changes must be added to the total milage of stream segments delisted to get the total stream miles delisted from the 1996 303(d) List. (3089 miles of delisted segments + 494 more miles from segments with boundary changes = 3583 miles total)

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Organization of the Segments with Boundary Changes from 1996 303(d) List:

The DRAFT list is organized by HUC. A map of all the HUCs in the state of Idaho is included in this packet along with the names commonly used to identify the HUCs. Within each HUC the segments are listed in the order of their WQLSEG number and not alphabetically at this time. The WQLSEG number can be used to cross reference the large format 1998 DRAFT 303(d) List maps available for viewing at all locations referenced in the 1998 DRAFT 303(d) information packet.

HUC	WQLSEG	WATERBODY	OLD BOUNDARIES	NEW BOUNDARIES	POLLUTANTS	STREAM MILES
16010102	2275	Preuss Creek	Headwaters to Thomas Fork	Forest Service boundary to Thomas Fork	POLLUTANTS REMAIN THE SAME	8.60
		NUMER OF SEGMENTS WITH BOUNDARY CHANGES IN	16010102	1	TOTAL MILES OF DE-LISTED STREAM SEGMENTS IN HUC# 16010102	8.60
16010201	2257	Pearl Creek	Headwaters to Bear River	N Fk Pearl Cr to Bear River	POLLUTANTS REMAIN THE SAME	3 10
16010201	2259	Co-Op Creek	Headwaters to Stauffer Creek	USFS boundary to Stauffer Creek	POLLUTANTS REMAIN THE SAME	3 67
16010201	2268	Saint Charles Creek	Headwaters to Refuge	Lower IDL boundary to Refuge	POLLUTANTS REMAIN THE SAME	10.42
		NUMER OF SEGMENTS WITH BOUNDARY CHANGES IN	16010201	3	TOTAL MILES OF DE-LISTED STREAM SEGMENTS IN HUC# 16010201	17.19
16010202	2237	Cub Creek	Headwaters to Utah Line	Sugar Creek to Utah line	POLLUTANTS REMAIN THE SAME	12 52
16010202	2245	Cottonwood Creek	Headwaters to Bear River	Trib 6.4 km upstream to Bear River	POLLUTANTS REMAIN THE SAME	19.54
16010202	2246	Williams Creek	Headwaters to Bear River	Right Fk Williams Cr to Bear River	POLLUTANTS REMAIN THE SAME	2.31
		NUMER OF SEGMENTS WITH BOUNDARY CHANGES IN	16010202	3	TOTAL MILES OF DE-LISTED STREAM SEGMENTS IN HUC# 16010202	34.37
16010204	2290	Devil Creek	Headwaters to Malad River	Devil Creek Reservoir to Malad River	POLLUTANTS REMAIN THE SAME	4 37
		NUMER OF SEGMENTS WITH BOUNDARY CHANGES IN	16010204	1	TOTAL MILES OF DE-LISTED STREAM SEGMENTS IN HUC# 16010204	4.37
17010214	5135	North Fork Grouse Creek	Headwaters to Grouse Creek	BRC Creek to Grouse Creek	POLLUTANTS REMAIN THE SAME	6 87
		NUMER OF SEGMENTS WITH BOUNDARY CHANGES IN	17010214	1	TOTAL MILES OF DE-LISTED STREAM SEGMENTS IN HUC# 17010214	6.87
17010215	3415	Middle Fork East River	Headwaters to Priest River	North Fk East River to Priest River	POLLUTANTS REMAIN THE SAME	9 52
		NUMER OF SEGMENTS WITH BOUNDARY CHANGES IN	17010215	1	TOTAL MILES OF DE-LISTED STREAM SEGMENTS IN HUC# 17010215	9.52
17010301	3495	Steamboat Creek	Headwaters to CdA River	Confluence of Barrymore & Steamboat to C	POLLUTANTS REMAIN THE SAME	2.45
17010301	3500	Prichard Creek	Headwaters to CdA River	Barton Gulch to CdA River	POLLUTANTS REMAIN THE SAME	5.32
17010301	3504	Shoshone Creek	Headwaters to CdA River	Sentinel Creek to CdA River	POLLUTANTS REMAIN THE SAME	4.89
17010301	3508	Tepee Creek	Headwaters to CdA River	Headwaters to Big Elk Creek	POLLUTANTS REMAIN THE SAME	12.29
		NUMER OF SEGMENTS WITH BOUNDARY CHANGES IN	17010301	4	TOTAL MILES OF DE-LISTED STREAM SEGMENTS IN HUC# 17010301	24.95
17010302	3525	Canyon Creek	Headwaters to S Fk CdA River	Gorge Gulch to South Fk CdA River	POLLUTANTS REMAIN THE SAME	5.30
		NUMER OF SEGMENTS WITH BOUNDARY CHANGES IN	17010302	1	TOTAL MILES OF DE-LISTED STREAM SEGMENTS IN HUC# 17010302	5.30

HUC	WQLSEG	WATERBODY	OLD BOUNDARIES	NEW BOUNDARIES	POLLUTANTS	STREAM MILES
17010303	3545	Cougar Creek	Headwaters to CdA Lake	North Fk Cougar Creek to CdA Lake	POLLUTANTS REMAIN THE SAME	4.99
17010303	3549	Lake Creek	Headwaters to Coeur d'Alene Lake	House Creek to Cda Lake	POLLUTANTS REMAIN THE SAME	3.72
17010303	7541	Marie Creek	Headwaters to Wolf Lodge Creek	Searchlight Creek to Wolf Lodge Creek	POLLUTANTS REMAIN THE SAME	7.69
		NUMER OF SEGMENTS WITH BOUNDARY CHANGES IN	17010303	3	TOTAL MILES OF DE-LISTED STREAM SEGMENTS IN HUC# 17010303	16.40
17010304	3584	John Creek	Headwaters to St. Maries River	Unnamed trib 7.5 km upstream to St. Maries	POLLUTANTS REMAIN THE SAME	5.31
17010304	3589	Tyson Creek	Headwaters to St. Maries River	North Fk Tyson Creek to St. Maries River	POLLUTANTS REMAIN THE SAME	3.70
17010304	3596	Gold Center Creek	Headwaters to St. Maries River	Windy Creek to Middle Fk St. Maries River	POLLUTANTS REMAIN THE SAME	3 93
17010304	3608	Fishhook Creek	Outlaw & W Fk Fishhook to St Joe R	Lick Creek to St. Joe River	POLLUTANTS REMAIN THE SAME	3 27
17010304	3622	Gold Creek	Headwaters to St. Joe River	East Fk Gold Creek to St. Joe River	POLLUTANTS REMAIN THE SAME	7 95
		NUMER OF SEGMENTS WITH BOUNDARY CHANGES IN	17010304	5	TOTAL MILES OF DE-LISTED STREAM SEGMENTS IN HUC# 17010304	24.16
17040104	2006	Antelope Creek	Headwaters to Snake River, South Fo	State land bnd to S Fk Snake River	POLLUTANTS REMAIN THE SAME	4 87
		NUMER OF SEGMENTS WITH BOUNDARY CHANGES IN	17040104	1	TOTAL MILES OF DE-LISTED STREAM SEGMENTS IN HUC# 17040104	4.87
17040204	2125	Badger Creek	R45ET6NS10 to First Trib.	Highway 32 to Teton River	POLLUTANTS REMAIN THE SAME	3 83
		NUMER OF SEGMENTS WITH BOUNDARY CHANGES IN	17040204	1	TOTAL MILES OF DE-LISTED STREAM SEGMENTS IN HUC# 17040204	3.83
17040205	2041	Tex Creek	Headwaters to Willow Creek	Headwaters to Indian Fork	POLLUTANTS REMAIN THE SAME	3.88
		NUMER OF SEGMENTS WITH BOUNDARY CHANGES IN	17040205	1	TOTAL MILES OF DE-LISTED STREAM SEGMENTS IN HUC# 17040205	3.88
17040207	2306	Wolverine Creek	Headwaters to Blackfoot River	Wolverine to Blackfoot River	POLLUTANTS REMAIN THE SAME	4 42
17040207	2316	Bacon Creek	Headwaters to Diamond Creek	Forest Service boundary to Lanes Creek	POLLUTANTS REMAIN THE SAME	3 99
		NUMER OF SEGMENTS WITH BOUNDARY CHANGES IN	17040207	2	TOTAL MILES OF DE-LISTED STREAM SEGMENTS IN HUC# 17040207	8.41
17040208	2335	Marsh Creek	Headwaters to Portneuf River	Calvin Road to Portneur River	POLLUTANTS REMAIN THE SAME	3.78
17040208	2338	Birch Creek	Headwaters to Marsh Creek	Birch Creek Road to Marsh Creek	POLLUTANTS REMAIN THE SAME	3.02
17040208	2339	Cherry Creek	Headwaters to Birch Creek	Forest Service boundary to Birch Creek	POLLUTANTS REMAIN THE SAME	2 41
		NUMER OF SEGMENTS WITH BOUNDARY CHANGES IN	17040208	3	TOTAL MILES OF DE-LISTED STREAM SEGMENTS IN HUC# 17040208	9.21

HUC	WQLSEG	WATERBODY	OLD BOUNDARIES	NEW BOUNDARIES	POLLUTANTS	STREAM MILES
17040209	2366	East Fork Rock Creek	Headwaters to Rock Creek	Bench Ditch to Rock Creek	POLLUTANTS REMAIN THE SAME	5.94
		NUMER OF SEGMENTS WITH BOUNDARY CHANGES IN	17040209	1	TOTAL MILES OF DE-LISTED STREAM SEGMENTS IN HUC# 17040209	5.94
17040210	2438	Cassia Creek	Headwaters to Raft River	Connor Creek to Raft River	POLLUTANTS REMAIN THE SAME	11.41
		NUMER OF SEGMENTS WITH BOUNDARY CHANGES IN	17040210	1	TOTAL MILES OF DE-LISTED STREAM SEGMENTS IN HUC# 17040210	11.41
17040211	2449	Trapper Creek	Headwaters to Oakley Reservoir	Ibex Hollow to Lower Goose Creek Reservoi	POLLUTANTS REMAIN THE SAME	8.31
		NUMER OF SEGMENTS WITH BOUNDARY CHANGES IN	17040211	1	TOTAL MILES OF DE-LISTED STREAM SEGMENTS IN HUC# 17040211	8.31
17040212	2408	Dry Creek	Medley Creek to Snake River	West Fk Dry Creek to Murtaugh Lake	POLLUTANTS REMAIN THE SAME	3.67
		NUMER OF SEGMENTS WITH BOUNDARY CHANGES IN	17040212	1	TOTAL MILES OF DE-LISTED STREAM SEGMENTS IN HUC# 17040212	3.67
17040213	2459	Salmon Falls Creek	Salmon Falls Dam to Snake River	Bluegill Lake to Snake River	POLLUTANTS REMAIN THE SAME	40.42
		NUMER OF SEGMENTS WITH BOUNDARY CHANGES IN	17040213	1	TOTAL MILES OF DE-LISTED STREAM SEGMENTS IN HUC# 17040213	40.42
17040215	2206	Medicine Lodge Creek	Warm Creek to Small	Middle Creek to Small Creek	POLLUTANTS REMAIN THE SAME	18.70
		NUMER OF SEGMENTS WITH BOUNDARY CHANGES IN	17040215	1	TOTAL MILES OF DE-LISTED STREAM SEGMENTS IN HUC# 17040215	18.70
17040217	2145	Wet Creek	Headwaters to Little Lost River	Coal Creek to Little Lost River	POLLUTANTS REMAIN THE SAME	6.62
17040217	2148	Sawmill Creek	Headwaters to Little Lost River	Mill Creek to Little Lost River	POLLUTANTS REMAIN THE SAME	8.39
		NUMER OF SEGMENTS WITH BOUNDARY CHANGES IN	17040217	2	TOTAL MILES OF DE-LISTED STREAM SEGMENTS IN HUC# 17040217	15.01
17040218	2168	Antelope Creek	Headwaters to Big Lost River	Spring Creek to Big Lost River	POLLUTANTS REMAIN THE SAME	16.60
		NUMER OF SEGMENTS WITH BOUNDARY CHANGES IN	17040218	1	TOTAL MILES OF DE-LISTED STREAM SEGMENTS IN HUC# 17040218	16.60
17040219	2483	Big Wood River	Headwaters to Glendale Diversion	Trail Creek to Glendale Diversion	POLLUTANTS REMAIN THE SAME	32.22
17040219	2491	Croy Creek	Headwaters to Big Wood River	Elk Creek to Big Wood River	POLLUTANTS REMAIN THE SAME	6.04
		NUMER OF SEGMENTS WITH BOUNDARY CHANGES IN	17040219	2	TOTAL MILES OF DE-LISTED STREAM SEGMENTS IN HUC# 17040219	38.26
17050102	2558	Clover Creek	Headwaters to Bruneau River	71 Draw to Bruneau River	POLLUTANTS REMAIN THE SAME	.93
		NUMER OF SEGMENTS WITH BOUNDARY CHANGES IN	17050102	1	TOTAL MILES OF DE-LISTED STREAM SEGMENTS IN HUC# 17050102	.93

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HUC	WQLSEG	WATERBODY	OLD BOUNDARIES	NEW BOUNDARIES	POLLUTANTS	STREAM MILES
17050103	2674	Squaw Creek	Headwaters to Snake River	Unnamed trib 3.9 km upstream to Snake Riv	POLLUTANTS REMAIN THE SAME	13 71
17050103	2679	Sinker Creek	Headwaters to Highway Bridge	Diamond Creek to Snake River	POLLUTANTS REMAIN THE SAME	8 25
		NUMER OF SEGMENTS WITH BOUNDARY CHANGES IN	17050103	2	TOTAL MILES OF DE-LISTED STREAM SEGMENTS IN HUC# 17050103	21.96
17050113	2578	Smith Creek	Headwaters to S Fk Boise River	Tiger Creek to South Fk Boise River	POLLUTANTS REMAIN THE SAME	6.76
		NUMER OF SEGMENTS WITH BOUNDARY CHANGES IN	17050113	1	TOTAL MILES OF DE-LISTED STREAM SEGMENTS IN HUC# 17050113	6.76
17050121	2703	Middle Fork Payette River	Headwaters to S Fk Payette River	Bull Creek to South Fk Payette River	POLLUTANTS REMAIN THE SAME	10.90
		NUMER OF SEGMENTS WITH BOUNDARY CHANGES IN	17050121	1	TOTAL MILES OF DE-LISTED STREAM SEGMENTS IN HUC# 17050121	10.90
17050123	2891	Big Creek	Headwaters to N Fk Payette River	Horsethief Creek to North Fk Payette River	POLLUTANTS REMAIN THE SAME	13 52
		NUMER OF SEGMENTS WITH BOUNDARY CHANGES IN	17050123	1	TOTAL MILES OF DE-LISTED STREAM SEGMENTS IN HUC# 17050123	13.52
17050124	2835	Weiser River	Headwaters to Little Weiser River	Warm Spring Creek to Little Weiser River	POLLUTANTS REMAIN THE SAME	27.73
		NUMER OF SEGMENTS WITH BOUNDARY CHANGES IN	17050124	1	TOTAL MILES OF DE-LISTED STREAM SEGMENTS IN HUC# 17050124	27.73
17060108	3125	Gold Creek	Headwaters to Palouse River	Waterhole Creek to Palouse River	POLLUTANTS REMAIN THE SAME	4.24
		NUMER OF SEGMENTS WITH BOUNDARY CHANGES IN	17060108	1	TOTAL MILES OF DE-LISTED STREAM SEGMENTS IN HUC# 17060108	4.24
17060202	3100	Pahsimeroi River	Headwaters to Dowton Lane	Mahogany Creek to Dowton Lane	POLLUTANTS REMAIN THE SAME	4.07
		NUMER OF SEGMENTS WITH BOUNDARY CHANGES IN	17060202	1	TOTAL MILES OF DE-LISTED STREAM SEGMENTS IN HUC# 17060202	4.07
17060203	2977	Blackbird Creek	Headwaters to Panther Creek	Blackbird Creek Reservoir to Panther Creek	POLLUTANTS REMAIN THE SAME	2.71
		NUMER OF SEGMENTS WITH BOUNDARY CHANGES IN	17060203	1	TOTAL MILES OF DE-LISTED STREAM SEGMENTS IN HUC# 17060203	2.71
17060204	3095	Hawley Creek	Forest Bnd to Eighteenmile Creek	First Diversion to Eighteenmile Creek	POLLUTANTS REMAIN THE SAME	1.21
		NUMER OF SEGMENTS WITH BOUNDARY CHANGES IN	17060204	1	TOTAL MILES OF DE-LISTED STREAM SEGMENTS IN HUC# 17060204	1.21
17060302	3262	O'Hara Creek	Headwaters to Selway River	Hamby Fork to Selway River	POLLUTANTS REMAIN THE SAME	3.30
		NUMER OF SEGMENTS WITH BOUNDARY CHANGES IN	17060302	1	TOTAL MILES OF DE-LISTED STREAM SEGMENTS IN HUC# 17060302	3.30
17060305	3301	Newsome Creek	Headwaters to S Fk Clearwater River	Beaver Creek to South Fk Clearwater River	POLLUTANTS REMAIN THE SAME	8.78
		NUMER OF SEGMENTS WITH BOUNDARY CHANGES IN	17060305	1	TOTAL MILES OF DE-LISTED STREAM SEGMENTS IN HUC# 17060305	8.78

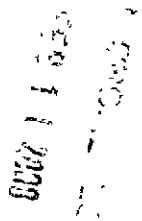
HUC	WQLSEG	WATERBODY	OLD BOUNDARIES	NEW BOUNDARIES	POLLUTANTS	STREAM MILES
17060306	3143	Lapwai Creek	Headwaters to Clearwater R.	Unnamed trib 26.2 km upstream to Clearwat	POLLUTANTS REMAIN THE SAME	15.34
17060306	3156	Cedar Creek	Headwaters to Potlatch River	Leopold Creek to Potlatch River	POLLUTANTS REMAIN THE SAME	4 50
17060306	3157	East Fork Potlatch River	Headwaters to Potlatch River	Ruby Creek to Potlatch River	POLLUTANTS REMAIN THE SAME	15 84
17060306	3158	Ruby Creek	Headwaters to Potlatch River	Unnamed trib 3.4 km upstream to East Fk Po	POLLUTANTS REMAIN THE SAME	4.31
17060306	5211	West Fork Potlatch River	Headwaters to Potlatch River	Cougar Creek to Potlatch River	POLLUTANTS REMAIN THE SAME	3.95
17060306	5216	Yakus Creek	Headwaters to Lolo Creek	Molly Creek to Lolo Creek	POLLUTANTS REMAIN THE SAME	3.59
		NUMER OF SEGMENTS WITH BOUNDARY CHANGES IN	17060306	6	TOTAL MILES OF DE-LISTED STREAM SEGMENTS IN HUC# 17060306	47.53

SUMMARY OF SEGMENTS WITH BOUNDARY CHANGES:

TOTAL NUMBER OF SEGMENTS WITH BOUNDARY CHANGES: 61

MILES OF STREAM SUPPORTING BENEFICIAL USES REMOVED FROM 1996 303(d) LIST DUE TO A BOUNDARY CHANGE: 493.89

(NOTE: THIS DOES NOT INCLUDE MILAGE REMOVED DUE TO ENTIRE SEGMENT FULLY SUPPORTING BENEFICIA



IDAHO DIVISION OF ENVIRONMENTAL QUALITY STREAM ASSESSMENT PROCESS-980513

History of Rapid Bioassessment

The use of biology as indicators of environmental change or condition has been with us for a long time. Aristotle, who is credited with dabbling in nearly every known area of modern science, placed freshwater fish in salt water to observe their reactions. Sesto Giulio Frontion, who was the chief engineer for water in ancient Rome, monitored the health of local residents near the city's water source as a way to insure the safety of the public at large.

Modern biomonitoring begins in Europe in the early 20th century. Here Koldwitz and Marsson codified the study of microbiota into a system that could be used to gauge the severity of organic pollution, termed the Saprobien system in 1908 (Hynes 1993). The use of microbiota was further expanded by Kolkwitz in 1950 by focusing in on individual species of animals and plants with numeric ratings. Thus, the early science of biomonitoring began to focus on "indicator" organisms as the key to mans influence and affects to the environment.

At the same time others in the biomonitoring arena were stressing the nature of the community over the individual as a better indicator of environmental impact or condition. Dr. Ruth Patrick was a leader in this idea though her work with algae. She introduced the idea that the structure of the community is more relevant than a mere list of species. Indices of pollution were developed by scientists in place of the indicator species. The work of Wright and Tidd (1933) is considered by some to be the first to apply the "index" concept.

Hilsenhoff (1977) combined the idea of the saprobic system with the notion of index into a biotic index that relied on fish communities and information about the individual species within the community as the indicator of water (organic) pollution. Hilsenhoff revised his original biotic index in 1982 and 1987. He then developed a popular family-level biotic index for screening water quality Hilsenhof (1988). This family-level index has since been modified by others around the U.S. and applied on a regional scale (Davis 1995). Here is an appropriate place to define biomonitoring as it is being used today; **"Biological monitoring can be defined as the systematic use of biological responses to evaluate changes in the environment with the intent to use this information in a quality control program."** (Rosenberg and Resh 1993).

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All of these biomonitoring measures attempt to quantify stress on the biotic community. Basic ecology has been brought to bear on the questions and solutions surrounding the use of biota (biology) to gauge environmental change (Plafkin et al. 1989, Hynes 1993). The ecological approach to the use and interpretation of biomonitoring data has shown the close connection and interrelatedness of biotic and abiotic components of ecosystems. Thus, well balanced biomonitoring programs involve physical habitat structure, chemical, and biological measurements.

Rapid biomonitoring assessment, also known as Rapid Bioassessment Protocols (RBP), was developed through the work of Plafkin et al. (1989). Rapid biomonitoring meaning **"to expend the minimum amount of effort to get reproducible, scientifically valid results"** (Lenat and Barbour 1995). Plafkin et al. (1989) and others developed the RBP methodology in response to several national initiatives on surface water monitoring (EPA 1987, EPA 1988, USGAO 1988) and the need for cost-effective biological techniques in view of reduced budgets and manpower at both the state and federal levels.

The RBPs as designed by Plafkin et al. (1989) were a blend of existing methods that were in use by other states at that time, notably Ohio EPA, Florida Department of Environmental Protection, Delaware Department of Natural Resources and Environmental Control, Massachusetts DEP, Kentucky DEP, and finally Montana DEQ. Protocols for three aquatic assemblages (macroinvertebrates, fish, and periphyton) protocols were described as possible assessment tools. Different levels of intensity existed, each one progressively requiring more resources to conduct, as well as more technical expertise to numerate and interpret (i.e. I, II and II). The objective of all three levels was to provide inexpensive screening tools for determining if a steam was supporting or not supporting a designated aquatic life use (EPA 1997).

Evolution of RBPs as water quality assessment tools has continued over the last 9 years since the originals. Today nearly three quarters of the states use bioassessment data to measure the attainment of their aquatic life uses, and all but three states use bioassessment in some manner in their water resource activities according to a report by Davis et al. (1996) for EPA. Most states are relying on marcoinvertebrates and fish, while a few also use algae or periphyton assemblages in their bioassessment programs.

In addition to states, federal agencies and other countries have adopted similar biomonitoring techniques as the RBPs (EPA 1991 EMAP, Bournaud et al. 1996, and Zamora-Munoz and Alba-Tercedor 1996). The U.S. Geological Survey has a national biomonitoring program known as the National Water Quality Assessment Program (NAWQA). The objective of this program is to describe the status of, and trends in, the quality of the Nations's surface and ground-water resources and to provide and understanding of the natural and human factors that affect the quality of these resources (Hirsch et al. 1988 and Leahy et al. 1990). Approximately 60 large watersheds across the country are being monitored and water quality evaluated based largely on bioassessment

(Maret 1995). The Upper Snake River Basin is one of the 60 large watersheds in this program.

Shift from Traditional Water Quality Monitoring to Biomonitoring

Why the emphasis on bioassessment and biomonitoring? As described above it is faster, cheaper and by and large results in better evaluation of human impacts to water quality. This comes about because water quality standards are set up to protect certain beneficial uses. Biomonitoring and assessment go right to the beneficial use, be they macroinvertebrates or fish, instead of relying on an array of individual parameters, such as pH or dissolved oxygen to describe the conditions believed needed to support those uses.

Traditional water quality monitoring focused on specific numeric water quality standards that centered on the chemistry of water. This is due to the fact that the first aspect of pollution control dealt with drinking water and human waste water. Engineers were generally in the drivers seat because they designed the control facilities and structures to deal with these two critical water quality elements. Engineers besides being well educated in engineering and design principals were also well disciplined in chemistry. Since engineers were designing control measures that dealt with specific elements being released or discharged into water, water quality standards, for instance pH, dissolved oxygen, biological oxygen demanding compounds, temperature, and nutrients went down the same road. This was quantitative chemistry for which engineers and science had a good understanding and techniques to monitor.

Great strides were made in controlling these discharges or releases into surface waters. In fact that is the success story of the Clean Water Act's first 25 years. However, there is a limitation to merely looking at chemical characteristics of water quality. What we have learned is discharges and releases are very episodic in nature, that is, they occur sporadically, especially outside of a waste water treatment or industrial plants, also known as point sources of pollution. Thus monitoring that looked solely at chemical characteristics very frequently missed the big event or pluse being discharged to surface waters (Livingston et al. 1997). If you don't sample during an event, your water column sample looks good and passes all the appropriate chemical standard tests, but what about the biota living in those waters?

While improvements have been made in controlling points source type pollution, the next biggest challenge is nonpoint source pollution control (NPS). Nonpoint source pollution is diffuse in both space and time, that is, it does not originate from a single place or time, such as a pipe. "Programs to control nonpoint sources of pollution remain largely unsuccessful because of the difficulties involved in applying point-source approaches to diffuse nonpoint source problems (Karr 1991)" As recent as 1995 EPA has identified nonpoint sources as the main culprit in declining water quality around the U.S., since point sources were the first types of pollution to receive serious control efforts (EPA 1995). In

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fact the U.S. has spent upwards of $473 billion dollars to build, operate and administer water pollution control facilities since 1970 and yet the nation's waters continue to decline (Water Pollution Control Federation 1991). Ohio found nearly 50% more impaired waters by looking at biology versus non biological methods (Yoder and Rankin 1995). Yoder and Rankin (1995) concluded that non biological methods of water quality assessment under estimated human impact in this study.

Biomonitoring and assessment is not the silver bullet for gauging human impacts to water quality, the state of the science is still evolving. However, Idaho and several adjoining states in the region have elected to use this type of tool for determining water quality impairment and beneficial use support. Oregon, Washington, and Montana are using very similar process as Idaho (Mulvey et al. 1992, Wisseman 1996, Plotnikof and Ehinger 1997, Bahls 1996).

Idaho Experience with Rapid Bioassessment

There are a number of studies that have occurred in Idaho, both by DEQ and others, that have employed Rapid Bioassessment (RBP) methods. Common themes amoung these studies were time saved, money saved, and the fact that biology was used in the form of one or multiple aquatic assemblages as an integrator of water quality. Within DEQ, biological monitoring of Idaho's waters has been conducted since the early 1970s. Bauer (1981a,b) looked at macroinvertebrates and algae to assess water quality for major river basins in the state. Over a ten year period during the 1980s, the Rock Creek Rural Clean Water Program (RCWP) resulted in the most intensive macroinvertebrate and fish data set collected by DEQ for the purposes of water quality assessment Maret (1991).

Idaho's Antidegradation Agreement in 1989 resulted in a Coordinated Monitoring Program for Idaho (Clark 1990) which stressed the importance of biological and physical habitat monitoring. This agreement was supported by the Governor's Office and the various state and federal agencies and environmental groups in Idaho. The agreement resulted in a series of eight monitoring protocols published by DEQ which were an attempt to standardize the collection and use of biological and physical habitat data. Clark and Litke (1991) looked at macroinvertebrates and fish in assessing water quality conditions in Cedar Draw in relation to agricultural nonpoint source pollution. McIntyre (1993a) looked at fish and macroinvertebrates in comparing differences between two streams subjected to different levels of management. Students of Dr. Brusven at the University of Idaho have used macroinvertebrates to assess the effects of sedimentation and a major gasoline spill (McClelland and Brusven 1980, Pontasch and Brusven 1988). Students of Dr. Minshall at Idaho State University have also looked at macroinvertebrates to gauge impacts from wildfire (Minshall et al. 1995) and flow regime (Robinson and Minshall 1993).

Other state and federal agencies, in Idaho, are using biomonitoring and assessment to gauge impacts from various land use practices, such as timber harvest (Burton 1993), grazing (Platts 1991), mining (Martin and Platts 1981), or agriculture (Bauer 1994). Two main points are demonstrated by the above; (1) biomonitoring and assessment have been around for a long time and (2) these methods have been used by a plethora of entities to better understand mans impacts on water quality.

Beneficial Use Reconnaissance Project

DEQ investigated the feasibility of implementing the ISU biomonitoring methodology in late 1992. By this time ISU had two years worth of sampling experience. Each year ISU adjusted or refined the process as more data was accumulated and analyzed. DEQ's critical review of the study determined which specific methods could be employed given laboratory cost, equipment availability, manpower, and training. DEQ elected to drop the chemical sampling portion due to holding time and quality control issues, otherwise the ISU study design was adopted in full (McIntyre 1993b). The initial pilot was run at three DEQ regional office; Boise, Twin Falls, and Pocatello. One three person crew was assigned to each regional office. A range of sites and water bodies were sampled, following the ISU strategy, to compare obvious impacted versus minimally impacted. Approximately 130 sites were inventoried in 1993.

In 1994, the project was expanded statewide due to its success with production and costs in 1993. In addition, this was a opportunity to standardize DEQ's water quality biomonitoring and tie results to in-stream beneficial uses. Up to this point monitoring was done according to regional office needs and priorities, some changes occurred in 1994 to the BURP process. These came about from input received from a Technical Review Group of senior DEQ water quality monitoring personnel. The biggest change for 1994 was a shift from the Plafkin et al. (1989) habitat assessment form to the one developed by the EPA Region 10 Bioassessment Work Group (Hayslip 1993). The Region 10 Work Group is made up of water quality specialists from Oregon, Washington, Idaho, and Alaska. They meet every year to discuss advancements in biomonitoring methods and assessments. The Hayslip habitat form was judged more relevant to Idaho since it was put together for and by regional experts. The second change for 1994 was the emphasis on training and quality assurance along with focusing on water bodies listed on the 1994 303(d) list.

Things changed very little in 1995 and 1996, though site selection continued to focus on 303(d) water bodies (DEQ 1995 and 1996). A pilot project looking at relationships between water temperature and various vegetation surrogates was investigated. In 1996, another pilot looked at the differences between the zig zag and wolman pebble count methods. In 1997, many regional offices had finished the wadable streams on the 1994 303(d) list and began looking at non 303(d) streams. In addition DEQ implemented a reservoir and large river monitoring project since approximately 39 water bodies and 100

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water bodies existed in these two categories respectively (DEQ 1997). Of the 2,151 sites monitored between 1993 and 1996 and then assessed for the 1998 303(d) list, 979 or 45%, were on "non listed" water bodies. Thus, the argument that DEQs MBI or habitat reference benchmarks may be biased because the data comes from sites listed on the 1994 303(d) list and hence suspect is not supported by the numbers.

The Development of DEQ's Macroinvertebrate Biotic Index

As noted above, the RBP document by Plafkin et al. (1989) really got the biomonitoring and bioassessment idea in front of everyone as a sensible approach to measuring human impacts on water quality. In response to this renaissance in biomonitoring/assessment, DEQ contracted with Idaho State University (ISU) to develop an Idaho specific biomonitoring/assessment methodology using the RBP as a model. They started with the basic RBP structure and modified it where the data or analysis suggested increased ability to discriminate human influence (Robinson and Minshall 1991, Robinson and Minshall 1992, Robinson and Minshall 1995). The most comprehensive review of this work was recently published in Great Basin Naturalist (Robinson and Minshall 1998).

As more and more streams were surveyed under this study, refinements in sampling and analysis evolved. A suite of physical habitat parameters along with some basic chemistry were measured at each stream along with macroinvertebrates and fish. A range of conditions were selected to capture variability across a continuum of conditions, for example, sites with little to no human influence to those with obvious impairment. From a suite of possible metrics ISU settled on seven different macroinvertebrate metrics that made up their composite biotic index. Metrics were selected for their power to distinguish impacted from non impacted waters. ISU used the same scoring scheme as the RBP for macroinvertebrates and habitat, with similar impairment categories (i.e. 5 for least impacted sites and 1 for impacted). They established ecoregional references for habitat, macroinvertebrates, and fish based on the data gathered through monitoring. These reference conditions are the backbone to the bioassessment process, they constitute the benchmarks for comparing streams. ISU worked in two ecoregions (Omernik and Gallant 1986) for the first two years of the study, the Snake River Basin (SRB) and Northern Basin and Range (NBR). Omernik and Gallant delineated 8 ecoregions in Idaho, though three of them comprise well over 75% of the state; Snake River Basin, Norther Basin, and Range and Northern Rockies.

In January of 1995, DEQ sat down to review and analyze the data collected in 1993 and 1994 through BURP. DEQ was unable to pick with confidence regional reference sites, sites that would form the basis for all comparisons in determining whether or not a water body was impaired. While this was not a problem for the SRB and NBR ecoregions, since ISU had set reference conditions there no reference conditions were set for the Northern Rockies ecoregion. Secondly, DEQ noted a high degree of variation in the habitat evaluation and scoring process. In many instances the overall habitat rating did not match

with "a priori" judgement of water body condition nor with the biotic index as calculated using the ISU procedure.

Changes in the Macroinvertebrate Biotic Index

In response to these two drawbacks, DEQ re-evaluated the ISU study, especially the metrics making up the biotic index and habitat evaluation/rating. Twelve metrics were considered including all those used in original ISU study and those found meaningful in other Pacific Northwest states (%EPT, HBI, %Scrapers, EPT Index, Taxa Richness, %Dominance, Shannon's Diversity Index, %Shredders, Total Abundance, %Filterers, Ratio of Scrapers to Filterers and EPT to Chrionomidae Ratio). Scatter plots of individual metric scores against total biotic score and habitat score were examined. Those that suggested a relationship were regressed against the total biotic score. Significance was set at an $r^2 \geq 0.30$. Out of this analysis, seven metrics emerged that were incorporated into DEQ's MBI (%EPT, HBI, %Scrapers, %Dominance, EPT Index, Taxa Richness and Shannon's Diversity Index). DEQ's MBI uses a multi-metric index (i.e. an index made up of several individual metrics looking at macroinvertebrate structure and function).

A method for discerning reference had to be chosen. To do this DEQ selected the highest ecoregion metric score for each individual metric. This ecoregional high was then set at one and all lower scores were normalized to this value. The data were then plotted in rank order. Slope breaks were noted at specific areas in the curves between 2.7 and 3.1 for component metrics and ecoregions. These breaks were more pronounced in small data sets ($n \leq 50$) and tended to smooth out as a data set increased. Hughes (1995) commented that curve inflection and curve breaks are sometimes used to determine acceptable or unacceptable index values. The range was arbitrarily widened to 2.5 and 3.5 as a more conservative assumption. It was deemed better to commit a type II error, not calling a BURP site "Not Impaired" when in fact it was, verses a type I error, calling a site "Not Impaired" when in fact it may not be. Three categories were thus created in this process; Not Impaired, Needs Verification and Impaired. Not Impaired indicated that the MBI score and hence macroinvertebrate community at that site was within ranges that would be expected in minimally impaired water bodies. Impaired means the MBI score was indicative of water bodies experiencing impairment, as set by the theoretical reference condition for that ecoregion. This would mean the kinds of macroinvertebrate organisms found at that site were more dis-similar that those that would be found in a minimally impaired site, again based on the constructed ecoregion reference condition. Needs Verification would mean the various aquatic assemblages (i.e. macroinvertebrates, fish) did not allow DEQ to make a definite statement on status. This area represents a gray zone, in which the water body may be impaired or merely mediocre.

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Water Body Assessment Guidance

In 1996 DEQ developed the Water Body Assessment Guidance to formalize its assessment of BURP data as well as water quality data from outside DEQ (DEQ 1996). This guidance was developed to provide a consistent method to assess water bodies in Idaho. It is a decision tree that takes water quality data and determines a water bodies existing beneficial uses, use support status, and whether state water quality standards are being met.

The strength of this process is its ecological underpinnings. It evaluates biological beneficial uses directly, such as salmonid spawning or cold water biota as well as numeric and narrative criteria designed to protect those beneficial uses. Ultimately, this guidance provides state wide consistency in process application and hence results. This guidance is a "dynamic" or living document, that describes an assessment process, one that is expected to change as DEQ collects better information and the science of bioassessment evolves.

When the guidance was in draft DEQ convened a Technical Review Committee (TRC) of scientists with disciplines in steam ecology, hydrology, fisheries, and statistics. Their job was to review the guidance in light of the mission statement; "process" (a series of steps, actions, or operations used to bring about a desired result) in which QA/QC controlled water quality data is used to make decisions on existing beneficial uses, beneficial use support status, and beneficial use attainability. They were expected to review the document in the context of the mission statement above, note critical technical issues, and suggest solutions based on supporting documentation or studies. Comments and recommendations were received and reviewed by DEQ. DEQ then finalized the Water Body Assessment Guidance and published it August 1996.

Changes in the Water Body Assessment Guidance

In October of 1996 DEQ began the actual process of assessing BURP data using the guidance. As with any new process "challenges" were experienced as DEQ moved into applying the guidance. In response to these challenges, DEQ published an errata and an addendum in December 1996 that clean up some errors and clarified what to do when "needs verification" occurred because of habitat (see section 2300 Ecological Indicators in WBAG). Instead of quitting at the needs verification point, it was suggested that we look to other measures or assemblages for status. This came about because of some inconsistencies that started to appear in the BURP data with habitat, notably, which habitat parameters were collected, how they were measured and rated.

Further, DEQ staff began to question how the habitat reference conditions were set as well as question giving habitat equal weight to biology. Again, due to the lack of reference conditions across the state, DEQ elected to use a trisection method to determine

habitat reference benchmarks by ecoregion (Fausch et al. 1986, Karr et al. 1986). In this methodology the habitat scores between the 5% and 95% were trisected, the upper 1/3 being considered minimally impaired, the middle third being needs verification and the bottom third being impaired water bodies, based on habitat. DeShon (1995) used a very similar method to quadrisect the range of biotic scores for the Ohio assessment process, "When it was decided if a direct, inverse, combination of both, or no relation existed, the appropriate 95% percentile line was estimated and the area beneath partitioned into four equal parts..."

Besides questioning equal *weight for biology* and habitat in the assessment process, DEQ became concerned with some inconsistencies and variability in how crews choose habitat parameters for ratings and the weighting of those parameters. Crews were unable to consistently pick pools, riffles, runs, and glides in the field. Repeatability in habitat measurement and rating is not unique to DEQ. Platts et al. (1983) noted the lack of repeatability in their paper on methods for evaluating stream riparian and biotic conditions, this despite the fact that the personnel used in the study had advanced degrees in natural resource fields and were well trained. They signaled out subjective habitat measures as being particularly problematic and subject to the largest decrease in precision. Hannaford and Resh (1995) came to the same conclusions in their study looking at variability in habitat assessments. Results of the habitat survey followed neither predicted site rankings nor benthic survey results. Considerable variability occurred among groups in the classification of individual habitat parameters. Hannaford and Resh (1995) finally concluded that habitat assessments in their study did not produce consistent results, attributed to observer error and natural intra-site variability. Lenz and Miller (1996) concluded, "The visual, qualitative watershed survey results showed that qualitative habitat and physical setting categorizations were not consistent among the agencies." They looked at the repeatability of habitat assessments between water quality agencies. Lenz and Miller determined the bias of the collectors affected their categorization of each stream. They further concluded that qualitative surveys were not sufficient to interpret the influences of physical setting or habitat on macroinvertebrate community measures.

A number of sources, inside DEQ and out, have pointed out that regressing individual metric scores against the total MBI score can lead to spurious results due to auto correlation. While this could happen, DEQ feels it is a weak argument for a number of reasons. First the seven metrics in the MBI are the same ones most frequently used in other studies and other state's bioassessment programs. Secondly in a preliminary investigation of assessment methods Tetra Tech, a contractor for EPA, found Idaho's classification scheme, and metric scoring system to be as good as any other tested for Idaho data.

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With these doubts about the precision of habitat parameters, DEQ wondered about the logic of giving habitat equal weight in the WBAG process with biology. Looking at what other states had done with habitat it became clear that habitat is a critical part of water quality, but lacks repeatability in application. Due to this most states were found to be using their habitat information in "a posteriori" analysis in most water quality assessment programs (Resh et al. 1995). In other words most states were using their habitat information to explain what was going on with their biology, be it macroinvertebrates or fish. One of the main functions of Ohio's habitat assessment is to explain causes and sources of impacts to the aquatic life in their waters (Rankin 1995). On closer inspection of RBP, Plafkin et al. (1989) admit the habitat evaluation carries considerable weight in the final assessment, because of the minimal effort expended on the collection of biological data. However, in RBP levels III and V, which are most similar to Idaho's BURP, the biological collections are more rigorous and appropriately take precedence in the final assessment. In other words biology takes precedence over habitat. Plafkin goes on to say in RBP levels III and V, habitat evaluation plays a supporting role and is used to identify obvious constraints and help interpret the biosurvey results.

Considering all of the above DEQ elected to develop a supplemental guidance to be used with the 1996 Water Body Assessment Guidance. The Supplemental Guidance alters the process described in Section 2300, Ecological Indicators, in the WBAG to give more weight to biology (see Attachment 1). This Supplemental Guidance merely changes the sequence of data consideration, placing habitat later in the sequence rather than earlier. Now exceedences are considered first and evaluated as either major or minor. Major exceedences override the biology in all cases. Minor exceedences defer to biology for the impairment and beneficial uses support status call.

Biology is the ultimate arbitrator for assessment calls in this Supplemental Guidance, since calls are generally made before getting to habitat. Only after considering macroinvertebrates, fish and where available algae, and getting a Needs Verification (NV), does the process proceed to habitat for a status call. If the habitat evaluation is still inconclusive then the water body status call is NV. At this point DEQ is not sure if water quality is affecting the biota or merely that the biota and water body in question are mediocre. DEQ feels the biology occurring in these waters is better at telling us what their habitat and water quality requirements are then we are at this time.

Defining major and minor criteria exceedence is critical in understanding the WBAG process and status determinations. The lack of clear definition was identified early on by the TRC in 1996. Several options were debated, but none were selected. This lack of definition was taken up again by the TRC in 1997. A member of the TRC was charged with looking into how other states handled the question of criteria exceedences. He found that the majority relied on best professional judgement, hence DEQ's approach was

acceptable (see TRC minutes 1/20/98). For purposes of consistency, best professional judgement of what constituted a major or minor criteria exceedence were made by regional water quality professionals at DEQ. They evaluated the magnitude and duration of the criteria exceedence and its impact on the biota in that water body. If they determined that the magnitude and duration affected the biota the exceedence was judged major. However, if the biota did not appear to respond to the exceedence and there was no other supporting information available then the exceedence was deemed minor. The regional staff were viewed to have the best on the ground knowledge of the conditions and factors affecting the water body in question.

Choosing to be conservative in our application of this new guidance, DEQ elected to use what was termed a "lowest common dominator" when multiple status calls were encountered on the same water body. For instance a call of Full Support at one site and a call of Not Full Support at another site on the same water body. If a reasonable explanation could not be determined (i.e. land use change, ownership change, geology etc.) then the lowest support call, i.e. Not Full Support or secondly Needs Verification, was used for characterizing the entire water body. If a reasonable explanation was evident then a boundary change was made to better focus where along the water body water quality impairments were occurring.

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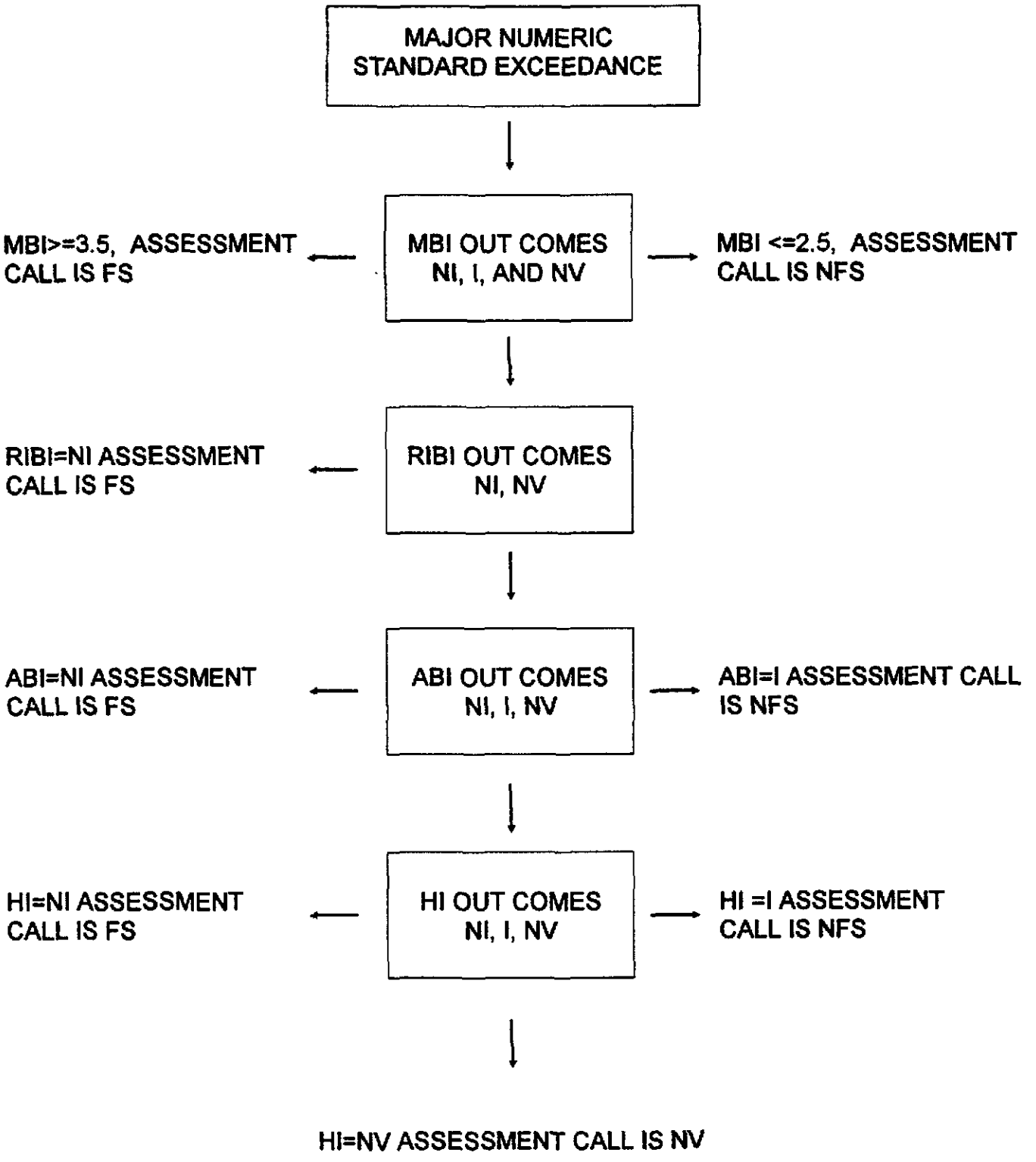
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Attachment 1. Bioassessment Process Flow Chart

1996 Water Body Assessment Supplemental Guidence
Section 2300: Ecological Indicators



EXCERPTS FROM Plan of Operations

Norm Young

BIG LOST RIVER IRRIGATION DISTRICT

The Big Lost River Irrigation District was first organized July 9th, 1920. At the original election held on that date, 730 votes were cast, with 642 "yes" 88 "no". The first Board of Directors, elected on that same date,

Sec. III consisted of Mr. Ed. M. Rowe, Mr. H. N. Mickelson, and Mr. Charles B. Lemon. From that date the Irrigation District has existed under and by virtue of the laws of the State of Idaho relating to Irrigation Districts, and embraces within its boundaries lands within Butte and Custer Counties.

Sec. IX On October 10, 1934, The Board of Directors filed with the Reconstruction Finance Corporation, Washington, D. C., an application for a loan in the sum of $250,000.00 for the purpose of acquiring supplemental water rights and irrigation works for said District. At a bond election held May 18th, 1935, 585 votes were cast, with 513 "yes" 72 "no". On February 28, 1936, the said application was approved in the amount of $238,500.00.

P.30 Purpose of the loan was to enable the District to acquire control of the properties and construction works owned by the Utah Construction Company, and also certain water rights appurtenant to privately owned lands within the said Carey Act Project of the Utah Construction Company, for the improvement of lands for agricultural purposes, but not intended to bring additional lands into production. All water

P.26 rights purchased with the proceeds of such loan would be transferred to or otherwise used for the benefit of lands now in the territory of the District.

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P.43 The proposed plan of operation was, briefly:

1. To retire from present production the lands then held by the Utah Construction Company, comprising approximately 6064.74 acres, and dispose of these lands as the Board of Directors determined.

2. To retire from present production, or dispose of, lands privately owned and lying within the Carey Act Project of the Utah Construction Company, comprising 1664.83 acres.

3. To abandon all canals and distributing systems then in use or heretofore in use by the Utah Construction Company below that point on the Blaine Canal known as the Bifurcation Works, and which were used to serve the lands described above, excepting such part of the Lower Blaine and the Arco Canal which would be necessary to use in serving water users within the District in the vicinity of Arco.

4. To hold the main Blaine Canal and Lower Blaine Canal in reserve for future service as might be required in times of high run-off, also to act as a supplementary carrier to the regular system as occasion may require. Also to use the said Blaine Canal as a collector of flood water issuing from the Antelope Creek Valley and to divert the same to the Moore West Side Canal system for more efficient application to lands adjacent to Moore.

5. To maintain and use the Blaine Diversion Dam in such a manner as requirements may demand for the proper control of all water passing that point.

6. To maintain and operate the Mackay Reservoir, the dam and control works in connection for storage of winter flow waters and excess flood waters beyond the requirements of the present decreed water users in the District below the dam, and to exercise the rights and privileges set forth in the description of rights and holdings being acquired from the Utah Construction Company.

7. To apply said stored water, flood water and natural flow rights on Big Lost River and its tributaries which would be acquired from the Utah Construction Company, and the private rights to be purchased, to such lands now owned by the landowners within the District in a manner and terms determined by the Board of Directors of the District.

P.44 Benefits which would be derived from this operation were expected to be;

1. Water stored in the Mackay Reservoir would be made available for equitable distribution among the land owners in the District. Stored waters delivered to the Utah Construction Company property in the Carey Act Project to the amount of 29,163 acre feet annually [ten year average prior to 1936] would be available to

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District lands. By abandonment of the lands in the Carey Act Project and applying the water to the land within the District, existing water rights would be substantially augmented and large quantities of water saved that would otherwise be lost in transmission.

2. Such application of stored water within the District above the section north and west of Leslie would be expected to do double duty to a large extent because a material amount of return flow would be collected and again made available for use below Leslie.

3. The operation of the Mackay Reservoir under control of the District would provide a definite control and regulation of the entire flow of the river at all times, making it possible to prevent excessive loss through uncontrolled dissipation of flood water below that point, and would provide for more efficient delivery and uniform control of delivery to the various canals supplying the lands within the District.

4. The use and control of the reservoir and other construction works would make possible an efficient system of rotation among the water users and increase the duty and conservation of water.

(It was further set forth that nothing in the application should be construed to prevent the storage in said reservoir, whenever the same may be lawfully done, of decreed water belonging to any individual landowner of the district and subsequent distribution to such landowner for his use, with such reasonable deduction for losses as may hereafter be fixed by the rules and regulations of the District.)

5. The operation and control of all irrigation works and rights being acquired from the Utah Construction Company and the private water rights to be purchased, when used in conjunction with the existing system now owned by landowners within the District, would provide for a concentrated application of all available water from Big Lost River and principal tributaries within the District, with an anticipated result that the underground water table would gradually be built up through such operation, accruing material benefits to decreed water users within the District.

An outline of the methods for determining benefits and assessments to be made for operation of the loan project under the District, as set forth in the Minutes of May 7, 1935, shows the following.

1. That a soil survey of 44,696 acres within the boundaries of the District was made in the fall of 1934. This survey was made for the purpose of ascertaining the various classes of land and segregating the good lands from the poor lands, this being necessary on account of the requirement of the Reconstruction Finance Corporation that the acreage of lands to be served by water must be in accordance with the water supply available therefor.

2. That in determining what lands should be served with water, the principle was adopted of serving only the good lands, those lands that would be economical to irrigate, and eliminating lands of poor quality, such as gravelly, timbered, and rough lands that will not pay to serve with water.

3. That of the lands covered by the soil survey, approximately 27,000 acres are good lands and should be served with water, and 17,000 acres should be eliminated from the set-up; and that part of said 27,000 acres have no water right, and water rights below 1905 have not been considered of any value.

4. That after all allowances and deductions have been made, there is a net of approximately 21,000 acres to share in the allocation of stored water in addition to lands served by the early 1884 water rights aggregating about 3800 inches and covering an area of approximately 3800 acres.

5. That for the past five years, exclusive of the year 1934, which was an exceedingly dry year and not fair to include in this set-up, there has been an average of 24,150 acre feet of stored water in the Mackay Dam each year and there has been, during the same period, an average of 37,954 acre feet of decreed water delivered to the water users in the valley proper.

6. That the charges for stored water to the above 21,000 acres of land are recommended as follows:-

(1) All early water rights up to and including May 1884 shall be assessed a basic charge of $5.00 per acre, and no further charge, it being deemed proper to make such basic charge on these lands for the reason that they will receive certain benefits by reason of [others] using water on the valley lands and thereby increasing sub-irrigation, and also [they] have the privilege of storing water in the Mackay Dam [for rotation] and using it at the convenience of the land owners.

(2) Water rights from June 1884 and including 1885 shall be assessed a basic charge of $4.00 per acre.

(3) Water rights beginning with 1886 to 1890 inclusive, shall be assessed a basic charge of $3.00 per acre.

(4) Water rights from 1891 to 1905 inclusive, shall be assessed a basic charge of $2.00 per acre.

(5) The cost or the charge per acre on the above 21,000 acres of land with the various dates of water rights, exclusive of any interest charges is as follows:

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(1) Up to and including May, 1884, basic charge of $5.00 per acre and no more.

(2) June 1884, $6.76 per acre; July 1884, $7.54 per acre; August 1884, $7.84 per acre; September 1884, $7.90 per acre, October 1884, $8.86 per acre, June 1885, $10.25 per acre, Balance of 1885, $11.03 per acre, 1886 $11.11 per acre; 1887 $12.07 per acre, 1888, $12.25 per acre, 1889, $12.55 per acre, 1890, $12.79 per acre, 1891, $11.79 per acre, 1892, $11.91 per acre, 1893, $11.91 per acre, 1894, $12.09 per acre, 1895, $12.39 per acre, 1896, $12.39 per acre, 1897, $12.57 per acre, 1898, $12.63 per acre, 1899, $12.63 per acre, 1900, $12.75 per acre, after 1900, $12.75 acre, said charges to include basic charges as stated in the above paragraphs.

From the foregoing it was determined that the average cost will be approximately $8.75 per acre, exclusive of any interest charges.

Storage benefits from the reservoir were set up on a scale to equalize as near as possible the water available to users of early and late decreed rights. This scale was:

Decreed Priority	Acre Feet Storage	Inches per Approved Acre
Before June, 1884	None	None
June, 1884	.46	11.5
July, 1884	.59	14.75
August, 1884	.64	16
Sept., 1884	.65	16.25
Oct., 1884	.81	20.25
June, 1885	1.04	26
Bal. 1885	1.17	29.25
1886	1.35	33.75
1887	1.51	37.75
1888	1.54	38.5
1889	1.59	39.75
1890	1.63	40.75
1891	1.63	40.75
1892	1.65	41.25
1893	1.65	41.25
1894	1.68	42
1895	1.73	43.25
1896	1.73	43.25
1897	1.76	44
1898	1.77	44.25
1899	1.77	44.25 — 1086
1900 and subsequent years	1.79	44.75 — 1391

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The firm of Irvine, Skeen, and Thurman, Attorneys at Law, Salt Lake City, acted as counsel to pass upon and approve all proceedings of the District for complying with the conditions of the loan.

After approval by the Reconstruction Finance Corporation, the District Court, on January 25, 1936, determined that the proceedings taken by the Big Lost River Irrigation District were"in all respects

Sec.XXVIII proper and legal, in accordance with the laws of the State of Idaho, and were legal, valid, and binding upon said District and upon all the lands included therein and affected thereby."

In 1952 a proposal for raising the dam for additional storage was brought up by some of the water users in the district. A bond election was held on July 2, 1952, with a total of 524 votes, 294"yes" 230"no". This was less than the required two-thirds majority.

Another election was held on May 12, 1953; this time 780 votes were cast, with 312 "no", 468 "yes", and the proposal was again defeated.

On April 13, 1954, a third election was held. This time, 817 votes were cast, with 269 "no". 548 "yes" Bonds were purchased by the Idaho First National Bank at Boise, and work of raising the dam was completed. However, due to complications in the condemnation for right-of-way, and a suit for damages filed by Leland Zollinger, an injunction was issued by the court to prohibit the use of this raise in the dam until this suit is settled.

43-304 - General Powers of Board - By-Laws - Right of Entry - Acquisition of Property

Said board shall have the power to manage and conduct the business and affairs of the district, make and execute all necessary contracts, employ and appoint such agents, officers and employees as may be required and prescribe their duties, to establish equitable by-laws, rules and regulations for the distribution and use of water among the owners of such land, as may be necessary and just to secure the just and proper distribution of the same, which said by-laws, among other things, shall establish a fiscal year, and in case the by-laws do not provide for the establishment of a fiscal year, the fiscal year shall commence the first day of November and end the thirty-first day of October of each and every year. Said by-laws, rules and regulations must be printed in convenient form for distribution throughout the district.

The board and its agents and employees shall have the right to enter upon any land and to make surveys, and may locate the necessary irrigation works and the line of any canal or canals, and the necessary branches for the same on any lands which may be deemed best for such location.

Said board shall also have the right to acquire, either by purchase, condemnation or other legal means, all lands and water rights, and other property necessary for the construction, use and supply, maintenance, repair and improvement of said canal or canals and works, including canals and works constructed and being constructed by private owners, lands for reservoirs for the storage of needful waters, and all necessary appurtenances. In case of purchase, the bonds of the district hereinafter provided for may be used to their par value in

payment. Said board may also construct the necessary dams, reservoirs and works for the collection of water for said district, and do any and every lawful act necessary to be done that sufficient water may be furnished to each landowner in said district for irrigation purposes. The use of all water required for the irrigation of the lands of any district formed under the provisions of this title, together with the rights of way for canals and ditches, sites for reservoirs, and all other property required in fully carrying out the provisions of this title, is hereby declared to be a public use, subject to the regulation and control of the state, in the manner prescribed by law.

The board of directors of an irrigation district organized under the laws of the state of Idaho may enter into contracts for a water supply to be delivered to the canals and works of the district, and do any and every lawful act necessary to be done that sufficient water may be furnished to the lands in the district for irrigation purposes.

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Wayne
Norm
Keith

MEMORANDUM

To: Big Lost River Basin File
Thru: Steve Baker Alan Robertson
From: Bill Schaefer
Date: September 17, 1991

Subject: Comparative analysis of surface water / ground water relationships in the Big Lost River Basin

A study was conducted to evaluate the relationship between the Big Lost River and the local ground-water system during mean and extreme conditions. Spring mass water-level measurements in the Big Lost River Basin for 1991, 1985, and 1968 (Figures 1, 2, and 3 respectively) were used in the analysis. Water-levels for 1968 and 1985 are thought to represent near mean conditions, whereas, 1991 measurements were obtained following a four-year period of drought. All data used were collected by the USGS. Maps and profiles used in the analysis were constructed using IDWR's Surfer/Grapher software by Golden Software, Inc.

The study area is bounded by: Mackay Reservoir; the White Knob Mountains; the Lost River Range; and the Snake River Plain. The aquifer studied is confined to the Quaternary alluvium and colluvium sediments of the valley fill. Not all data points were valid due to measurement errors or recording errors. Some measurements were from deeper wells where the direction of ground water flow was not near horizontal and not part of the shallow, unconfined aquifer. These data were excluded from the contouring data base. The locations of the wells where a "static" water-level measurement was obtained are shown on each of the maps. In addition to the three water-level elevation maps, two profiles of the water-level maps along the Big Lost River were prepared. The first profile (Figure 4) shows the position of each water-level relative to the river with a mean sea level datum and the second profile (Figure 5) with the Big Lost River as the datum.

Spring 1985 and 1968 water-level maps indicate the surface of the aquifer under near mean conditions. During both time periods, there was significant flow in the Big Lost River as far south as Arco. The last recorded flow at the Arco gaging station was in the 1988 water year. Figures 4 and 5 show the dramatic decline of water-levels throughout the Big Lost River below the Mackay Reservoir for spring 1991. The decline is the result of a storage imbalance in the aquifer. This imbalance is because there is less water available for natural recharge of the aquifer due to the prolonged drought and the increased withdrawals from pumping wells.

Note that the greatest change in water-levels has occurred south of the Moore Diversion for all three time periods studied. There

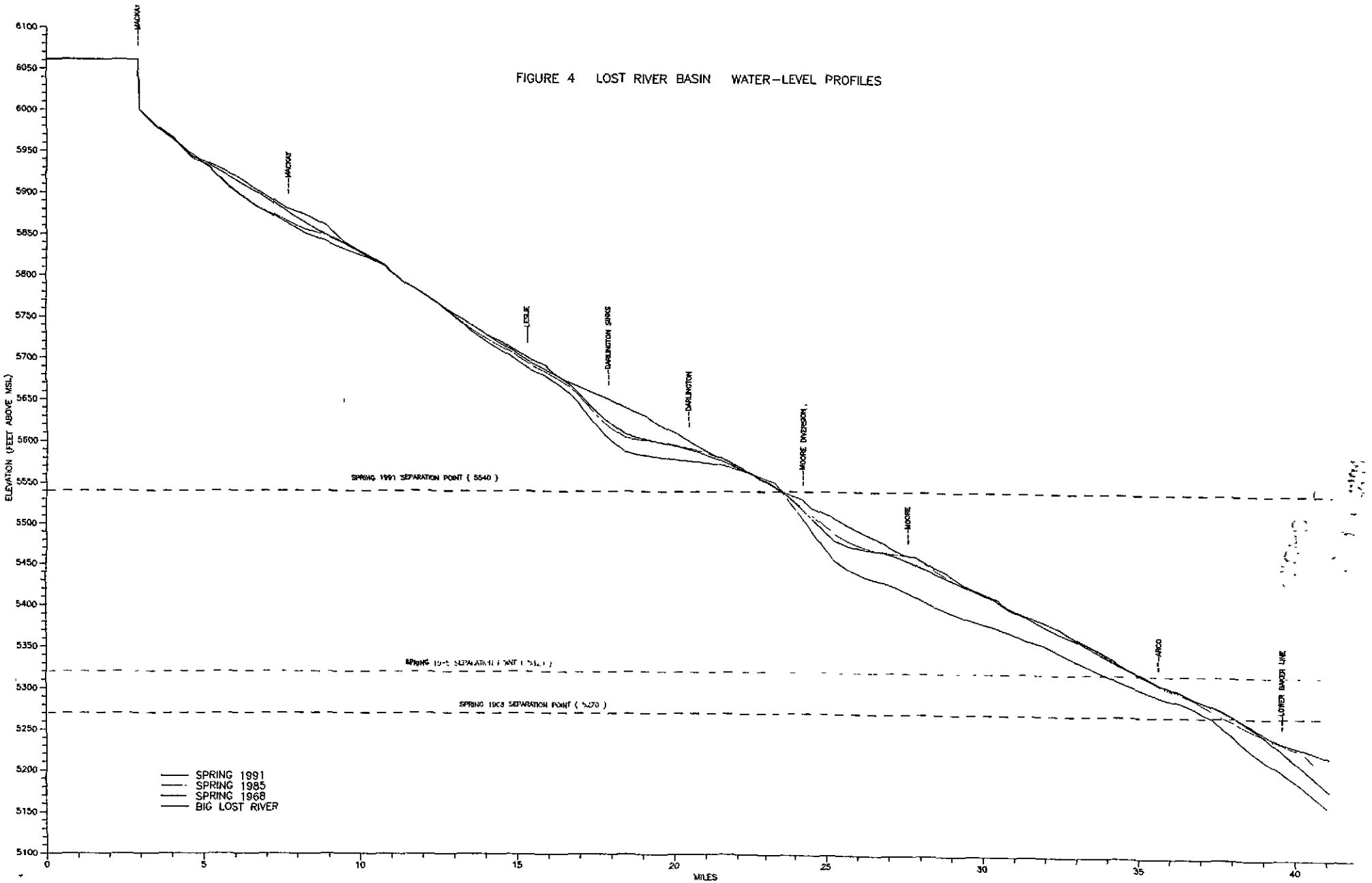
are three factors responsible for this. The first is that above the diversion, the valley floor is wider and would have more storage capacity due to an increase in volume of the aquifer. The second factor is the greater withdrawals as indicated by water rights filed. There were 105 claims filed with a total potential withdrawal of 356 cfs north of the diversion compared to 132 claims with a total potential withdrawal of 598 cfs south of the it. This suggests that total potential use south of the diversion is about 68% greater than the amount claimed to the north. The third reason is that at the Moore Diversion, water is diverted to both sides of the valley for irrigation. This reduces the water available for recharge beneath the river.

The procedure used by Steve Baker (IDWR Memorandum, 1989) was used to determine which wells could impact the surface water in the Big Lost River. For spring 1991, the point of final hydraulic separation of the Big Lost River and the aquifer is marked by the 5540 ft. water-level contour (Figure 1). This location is immediately north of the Moore Diversion. The location of this 1991 separation occurs at approximately the same position on the 1968 and 1985 maps. However, during these years this location does not represent the point of final separation since the river and ground water do become reconnected below Moore. The apparent stability of this "spill-point" may be due to a change in the transmissivity of the aquifer and a diverting of a majority of flow in the Big Lost River to a system of canals along both flanks of the valley during the irrigation season.

From this point of hydraulic separation, flow lines were delineated along both sides of the river. Because of the change in hydraulic characteristics at this locale, the aquifer is assumed to be anisotropic and flow lines need not be perpendicular to the equipotential lines. Since the water-level data used to delineate the flow lines represents a period of static or "non-pumping" conditions in the aquifer, a buffer zone was needed to be added down-gradient from them to account for the effects of local pumping. Based on computations by Crosthwaite et al (1970, pg. 81), a mile-wide zone seemed adequate to inhibit any adverse effects of pumping. This zone of hydraulic separation is shown on the 1991 water-level elevation map. This procedure was repeated for spring 1985 and 1968 maps (Figures 2 and 3).

As the aquifer system returns to normal, it can be expected that this point of separation will shift "downstream" towards the near mean location in 1985. It is not known what effects a prolonged drought would have on the boundary location. If the current drought conditions prevail, less water would be available for recharge, consumptive use would continue to increase, and the Big Lost River would continue to be diverted at the Moore Diversion into the irrigation canals flanking the valley. It is assumed that the 1991 point of hydraulic separation is stabilized near its present location primarily because of the Moore Diversion. However, below the Moore Diversion, ground water-levels would continue to decline beneath the river.

FIGURE 4 LOST RIVER BASIN WATER-LEVEL PROFILES



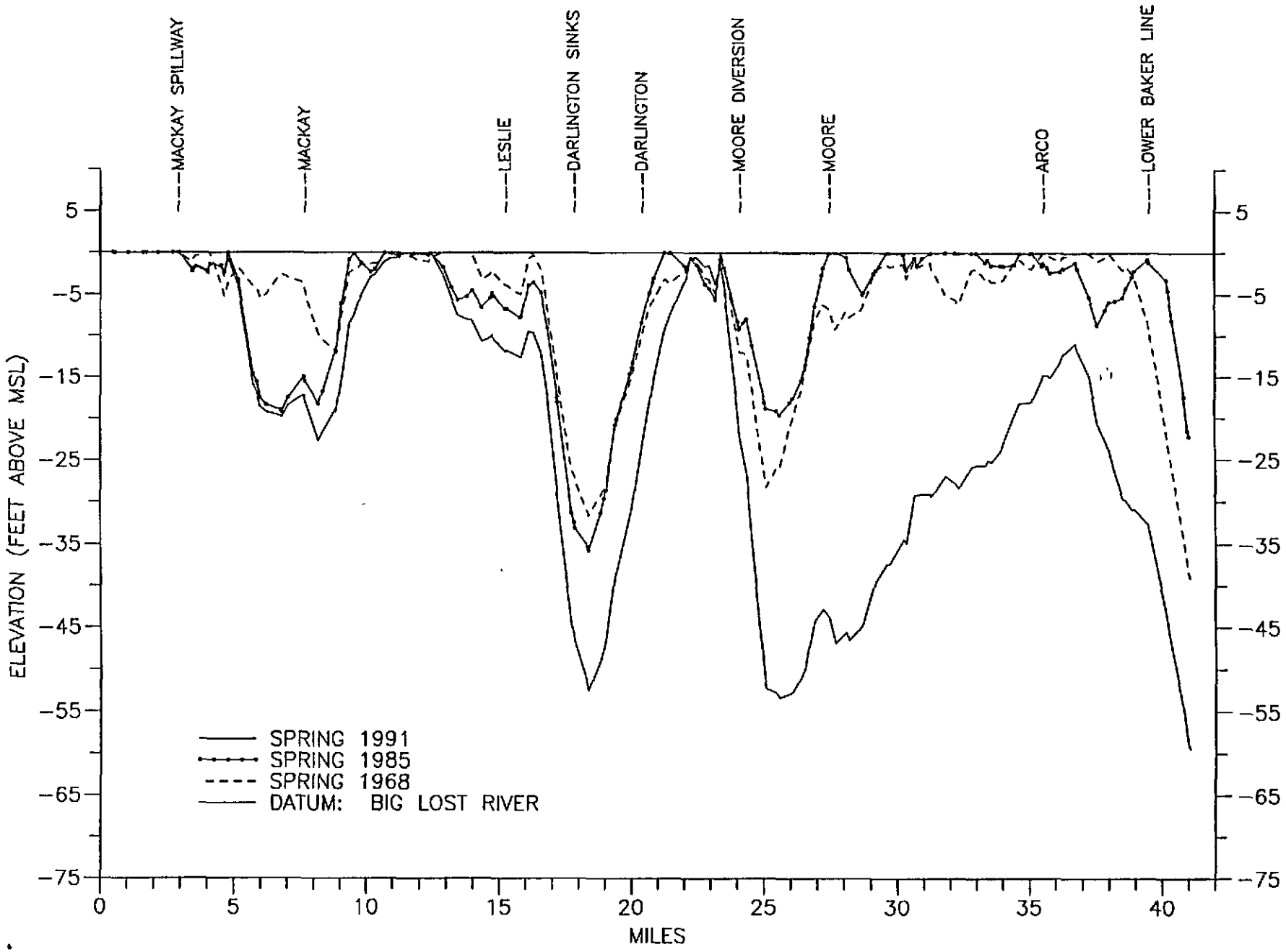


Figure 5. Profile of Water–Level Elevation Maps

BEFORE THE DEPARMENT OF WATER RESOURCES

OF THE

STATE OF IDAHO

IN THE MATTER OF APPLICATIONS FOR PERMITS FOR THE DIVERSION AND USE OF SURFACE AND GROUND WATER WITHIN THE EASTERN SNAKE RIVER PLAIN AREA AND THE BOISE RIVER DRAINAGE AREA	AMENDED MORATORIUM ORDER

The Director of the Department of Water Resources, having responsibility for the administration of the appropriation of the water of the state of Idaho, the protection of rights to the use of water within the state, the protection of the public interest in the waters of the state, and the conservation of the water resources of the state, enters the following Findings of Fact, Conclusions of Law and Order:

FINDINGS OF FACT

1. On May 15, 1992, the Director of the department issued a moratorium order against the approval of certain new applications in the Snake River Basin upstream from the USGS gaging station at Weiser, Idaho. On January 6, 1993, the Director amended the moratorium order to eliminate the non-trust water area from the scope of the May 15, 1992 moratorium order. Conditions have since changed making further amendment of the May 15, 1992 order appropriate.

2. The Snake River Basin in Idaho has experienced six consecutive years of drought, and while the snowpack and precipitation are now near or above average across much of southern Idaho, residual effects of the drought are still evident in ground water levels, spring flows and anticipated stream flows.

3. Ground water aquifers have become stressed by the reduction in natural recharge due to changes in diversion and use of surface waters throughout the basin and by the increased volume of pumping occurring to augment scarce surface water supplies during the drought period. The lowered water levels in the

aquifers across much of the Snake River Basin in southern Idaho have resulted in numerous wells, often those used for domestic and municipal water supply purposes becoming unusable. Lowered ground water levels also reduce spring and base flow discharge needed to maintain stream and river flows.

4. The need to supplement or replace inadequate surface supplies has prompted many waterusers to pursue ground water as an alternative source of supply.

5. Many wells throughout the Snake River Basin, including domestic wells in the Boise River Area, have either been replaced or drilled deeper during the duration of the drought.

6. The 1993 Idaho legislature authorized a three year study to determine the relationship between the Snake Plain Aquifer and the flow of the Snake River.

7. Even though the water supplies in the state are approaching normal for the 1993 irrigation season, ground water levels which have been declining will not fully recover in 1993.

8. The term "non-trust water area" means that area depicted as such on Exhibit "A" attached hereto and by this reference incorporated herein.

9. The term "Eastern Snake River Plain Area" means the trust water area of the Snake Plain Aquifer upstream from the USGS gaging station on the Snake River at King Hill. To further define the western boundary of this area, department designated hydrologic basin nos. 37 and 47, among other basins, are included in the area and hydrologic basin nos. 51 and 61, among other basins, are not included in the area.

10. The term "Boise River Drainage Area" means hydrologic basin no. 63 as designated in department records.

11. This Amended Moratorium Order does not pertain to the non-trust water area.

12. The Snake River Basin Moratorium Order issued by the department on May 15, 1992 and amended on January 6, 1993, includes and overlaps both the Big Lost River drainage for which the department has previously issued a moratorium order on August 7,

1990 and the Mud Lake and Vicinity Area for which the department issued a moratorium order on December 1, 1989.

CONCLUSIONS OF LAW

1. The Director of the Department of Water Resources is responsible for administration of the appropriation and use of the water of the state of Idaho. Section 42-202, Idaho Code, reads in pertinent part:

> For the purpose of regulating the use of the public waters and of establishing by direct means the priority right to such use, any person, association or corporation hereafter intending to acquire the right to the beneficial use of the waters of any natural streams, springs or seepage waters, lakes or ground water, or other public waters in the state of Idaho, shall, before commencing of the construction, enlargement or extension of the ditch, canal, well, or other distributing works, or performing any work in connection with said construction or proposed appropriation or the diversion of any waters into a natural channel, make an application to the department of water resources for a permit to make such appropriation.

2. The Director of the Department of Water Resources is responsible for supervision of water distribution in the state of Idaho. Section 42-602, Idaho Code, reads, in pertinent part,

> It shall be the duty of the department of water resources to have immediate direction and control of the distribution of water from all of the streams to the canals and ditches diverting therefrom. The department must execute the laws relative to the distribution of water in accordance with rights of prior appropriation.

3. The Director of the Department of Water Resources is authorized under the provisions of Section 42-1805(7), Idaho Code, as follows:

> After notice, to suspend the issuance or further action on permits or applications as necessary to protect existing vested water rights or to ensure compliance with the provisions of chapter 2, title 42, Idaho Code, or to prevent violation of the minimum flow provisions of the state water plan.

4. Rule 7,1. of the Department of Water Resources Rules and Regulations for Water Appropriation provides that a moratorium on processing of applications for permit shall be entered by issuance of an order of the Director of the Department of Water Resources.

Notice of the order shall be by certified mail to affected applicants and permit holders and by publishing a legal notice in newspapers of general circulation in the area.

5. A moratorium on issuance of permits to divert and use surface and ground water from the Eastern Snake River Plain Area and tributary drainages and the Boise River Drainage Area should be established to protect existing water rights.

6. The department should rescind the moratorium order issued on August 7, 1990 for the Big Lost River drainage and the moratorium order issued on December 1, 1989 for the Mud Lake and Vicinity Area to remove the duplicate effect associated with this Amended Moratorium Order.

7. This amended moratorium order is not intended to affect the provisions of the moratorium order issued by the department on January 6, 1993 in the non-trust water area.

ORDER

IT IS, THEREFORE HEREBY ORDERED that prior order of the department dated May 15, 1992 and amended January 6, 1993 in connection with the Snake River Basin upstream from the USGS gaging station at Weiser, Idaho is superceded by this Amended Moratorium Order.

IT IS, FURTHER HEREBY ORDERED that a moratorium is established on the processing and approval of presently pending and new applications for permits to appropriate water from all surface and ground water sources within the Eastern Snake River Plain Area and all tributaries thereto and within the Boise River Drainage Area. The following provisions apply to the administration of the moratorium:

1. The moratorium shall be in effect on and after its entry and shall remain in effect until withdrawn or modified by order of the Director.

2. The moratorium includes applications filed on all public water sources within the Eastern Snake River Plain Area and all tributaries thereto and within the Boise River Drainage Area.

3. The moratorium applies to all applications proposing a

consumptive use of water filed after the date of the order and to all applications filed prior to the entry of the order for which approval has not been given, except as herein provided.

4. The moratorium does not affect the authorization to continue development of any existing approved application (permit).

5. The moratorium does not apply to any application for domestic purposes as such term is defined in Section 42-111, Idaho Code. For the purposes of this exception, applications for ground water permits seeking water for multiple ownership subdivisions or mobile home parks will be considered provided each unit satisfies the definition for the exception of requirement to file an application for permit as described in said section.

6. The moratorium does not apply to any application proposing a non-consumptive use of water as the term is used in Section 42-605A, Idaho Code.

7. The moratorium does not apply to applications for drilling permits to replace or deepen existing wells having valid existing water rights nor to applications for transfer of existing water rights.

8. This moratorium does not change or affect the administration of any area that has been previously designated as a critical ground water area, pursuant to Section 42-233a, Idaho Code, or a ground water management area pursuant to Section 42-233b, Idaho Code.

9. The moratorium does not prevent the Director from reviewing for approval on a case-by-case basis an application which otherwise would not be approved under terms of this moratorium if,

a) Protection and furtherance of the public interest as determined by the Director, requires consideration and approval of the application irrespective of the general drought related moratorium; or

b) The Director determines that the development and use of the water pursuant to an application will have no effect on prior surface and ground water rights because of its location, insignificant consumption of water or mitigation provided by the applicant to offset injury to other rights.

10. This moratorium does not change or supercede any of the

provisions of the moratorium order issued by the department on January 6, 1993 in the non-trust water area of the Snake River Basin and shall not be interpreted as declaring an end to the drought emergency as referenced in provision 8(b) of the moratorium order for the non-trust water area.

11. This moratorium supercedes and rescinds the Moratorium Order issued on December 1, 1989 for the Mud Lake and Vicinity Area. Pending applications for permit or applications for transfer will be treated under the terms of this amended moratorium order.

12. This moratorium supercedes and rescinds the Final Order of the department issued on August 7, 1990 which established a moratorium on the issuance of new permits within the Big Lost River drainage. Pending applications for permit or applications for transfer will be treated under terms of this amended moratorium order and may be considered for approval by the department in connection with proposed mitigation or compensation for prior water rights.

Dated this 30TH day of April, 1993.

R. KEITH HIGGINSON
Director

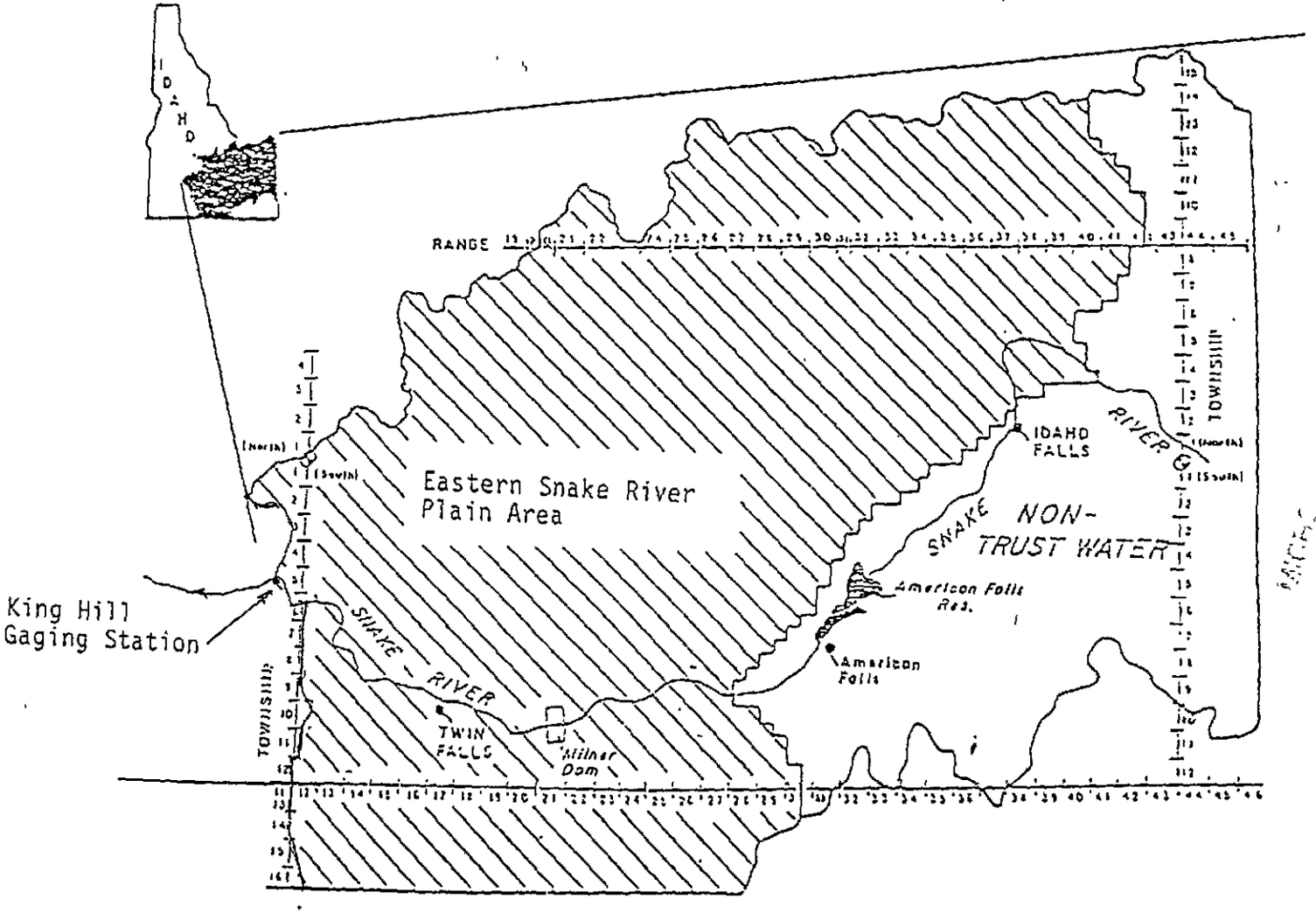

IDAHO
RANGE
Eastern Snake River
Plain Area
King Hill
Gaging Station
SNAKE - RIVER
TWIN
FALLS
Milner
Dam
IDAHO
FALLS
SNAKE RIVER
NON-
TRUST WATER
American Falls
Res.
American
Falls
TOWNSHIP
TOWNSHIP

Exhibit A

BEFORE THE DIRECTOR OF THE
IDAHO DEPARTMENT OF WATER RESOURCES

In the Matter of the Administration of the Use of the Surface and Ground Waters of the Big Lost River Basin, Water District 34	)	FINAL ORDER

On May 7, 1990 the Director of the Department of Water Resources issued a Notice and Proposed Order in the matter of the administration of the use of the surface and ground waters of the Big Lost River Basin. A hearing concerning the Proposed Order was held at Mackay, Idaho, May 30, 1990. Some 106 persons signed the hearing register and of these five made oral statements. Subsequently, written statements were received from six persons.

The Director now finds and determines as follows:

FINDINGS AND CONCLUSIONS

1) The Big Lost River basin is located in central Idaho in parts of Butte and Custer Counties. The principal communities within the basin are Arco at the southern end of the basin and Mackay located near the basin center. The Big Lost River is the principal stream. Major tributary streams include Antelope Creek, Lower Cedar Creek, Pass Creek and Alder Creek although water from some of these does not reach the Big Lost River at all times each year.

2) The name, "Big Lost River" properly describes this unusual water system. During the course of its travel from the mountain watershed to the place of discharge onto the Snake Plain the water of the river sinks then rises again at several locations. The result is a closely interconnected surface and ground water system within the basin. These surface and ground waters are, for the most part, one single water source. Diversion and consumptive use of water, whether from a surface diversion or from a well, decreases the total water supply available and can have an effect on other uses of the resource.

3 1 1990

3) Where water was available in the surface streams, it was used early in the settlement of the basin. As a result water rights were established to the use of surface water for the irrigation of some 23,000 acres of land with priorities generally from 1880 to 1900. In low streamflow periods, the holders of these rights divert and use the entire available water supply of the river. However, during most years, only the very earliest priority surface water rights are able to receive water throughout the entire irrigation season.

4) The Mackay dam and reservoir was originally constructed in 1917-1918. It currently has an active storage capacity of 44,370 acre feet and is operated by the Big Lost River Irrigation District under water right priorities of 1905 and 1916.

5) Rights to the use of water pumped from wells within the basin have been established with priorities generally subsequent in time and inferior to the early direct flow and storage surface water rights. Several hundred wells have been drilled within the basin and the water from these is used for domestic, municipal and agricultural purposes, including irrigation and livestock watering. These wells intercept part of the total water supply of the basin and, except as hereafter noted, have an impact on the quantity of water available to those diverting surface water from the Big Lost River and its tributaries. There is only a finite quantity of water within the system and any increase in consumptive use of surface or ground water at one location results in a decrease in the water supply available for use at another location either inside or outside the basin at some later time. Some of these wells have operated for as long as 30 years without objection from surface right holders.

6) The flow of the Big Lost River fluctuates widely from year to year. As measured at the USGS gaging station near Arco it has annually totalled as much as 395,900 acre feet in water year 1984 and as little as only 4,900 acre feet in 1988. The gaging station reported zero flow for the entire water year of 1989.

7) A number of studies and estimates have been made of the ground water resources of the basin. An estimate by the U.S. Geological Survey based on data collected in 1968 indicated that the underflow of ground water past Arco in a southerly direction toward the Snake Plain ground water system was in the range of 300,000 acre feet per year

(425 cfs). This indicates that there was then a substantial resource which had been partially developed and was being used to supplement and augment the widely fluctuating surface water supplies of the basin. There has been considerable development of the ground water since that time and the present quantity of unused ground water exiting from the basin is unknown.

8) Idaho water law provides that "first in time is first in right" (Section 42-106, Idaho Code). The surface water rights in the Big Lost River basin generally have the senior priorities as against those using ground water. Strict adherence to the priority of right system could require that whenever any of the prior surface water rights is unable to receive its full entitlement, all subsequent priority uses, including uses of the interconnected ground water, be curtailed. Such priority system, if strictly enforced would protect the use of the limited surface water supplies of the basin while large quantities of ground water would flow unused out of the basin.

9) Section 42-237a, Idaho Code provides, in part, as follows:

> In connection with his supervision and control of the exercise of ground water rights the director of the department of water resources shall also have the power to determine what areas of the state have a common ground water supply and whenever it is determined that any area has a ground water supply which affects the flow of water in any stream or streams in an organized water district, to incorporate such area in said water district ... The administration of water rights within water districts created or enlarged pursuant to this act shall be carried out in accordance with the provisions of title 42, Idaho Code, as the same have been or may hereafter be amended, except that in the administration of ground water rights either the director of the department of water resources or the watermaster in a water district ... shall, upon determining that there is not sufficient water in a well to fill a particular ground water right therein by order, limit or prohibit further withdrawals of water under such right as hereinabove provided....

10) Under the provisions cited in paragraph 9 it is possible for the Director to include the rights to the use of ground water which have an effect upon the flow of the Big Lost River within the jurisdiction of the watermaster of Water District 34 (Big Lost River). Before doing so however, the water rights must first be adjudicated as provided in Section 42-604, Idaho Code which reads, in part, as follows:

> The department of water resources shall divide the state into water districts in such manner that each public stream and tributaries, or independent source of water supply, shall constitute a water district: ... provided, that this section shall not apply to streams or water supplies whose priorities of appropriation have not been adjudicated by the courts having jurisdiction thereof.

11) The necessity for adjudication of water rights within a proposed combined water district was further emphasized by the Idaho Supreme Court in the case of Nettleton v. Higginson, 98 Idaho 87, 558 P.2d 1048 (1977). Since the ground water rights within the Big Lost River drainage have not been quantified it is necessary to complete an adjudication covering the basin before the rights can be combined within a single district for the purpose of administration by the department or a watermaster.

12) The Big Lost River basin water rights (both surface and ground water) are subject to adjudication in the Snake River Basin General Adjudication of Water Rights currently pending in the District Court of the Fifth Judicial District of Idaho. The Director has determined that the report which is required to be filed with the court under the provisions of Section 42-1411, Idaho Code, covering rights within the Big Lost River sub-basin of the Snake River basin will be the first such report submitted to the court in this matter due to the concerns and conflicts within the area. The Director plans to file this report with the court in 1991. Through this adjudication the water users, the Department and the court can address the legal relationships and priorities of surface and ground water rights within the Big Lost River basin.

13) Section 42-1409(9), Idaho Code, provides that the holders of permits or licenses from the water system within which rights are being adjudicated, and who submit proof of appropriation of water after the date of the commencement of the adjudication may be given notice of the requirement to file an adjudication claim covering such rights. Such notice is required to be furnished at least 120 days prior to the filing of the Director's Report.

14) Section 42-1417, Idaho Code provides for interim administration of water rights at any time after the filing of the Director's report in a water rights adjudication proceeding upon order of the court. An order allowing such administration may be entered

by the court only upon a) a motion by the director or a claimant in such adjudication, b) notice to all claimants who could be adversely affected by the order, and c) a determination by the court that interim administration of water rights is reasonably necessary to protect senior water rights.

15) The 1990 session of the Idaho Centennial Legislature appropriated $50,000 to the Department "for the purpose of conducting a water management study for the (Big) Lost River Basin for the period July 1, 1990, to June 30, 1991." The results of studies conducted using such funding will not be available until some time in 1991. It is not possible at this time to determine whether the studies to be conducted using this funding will provide information needed to resolve all conflicts over use of Big Lost River basin water.

16) As of the date of this order, the Big Lost River drainage basin is in its fourth consecutive season with below-average water supplies. As a result, ground water levels have declined throughout the basin and streamflow has decreased. Information is not currently available to determine the extent to which the operation of specific wells has had an effect upon streamflow and upon ground water levels.

17) There are currently pending before the Department some sixty (60) applications for new permits to divert and use 600 cfs of surface and ground water within the Big Lost River basin for irrigation of approximately 26,000 acres of land. In addition there are 10 outstanding permits for the diversion of 42 cfs of surface and ground water for irrigation of 2,200 acres and for which proof of appropriation of water has not been submitted to the Department. Some of these permits are subject to and are currently undergoing the review provisions of Section 42-203D, Idaho Code.

18) Petitions have been filed seeking a moratorium on the issuance of additional permits and prohibiting further development under existing permits for the diversion and use of ground water within the Big Lost River basin under the provisions of Section 42-

1805(7), Idaho Code, which includes among the powers and duties of the Director the following:

> (7) After notice, to suspend the issuance or further action on permits or applications as necessary to protect existing vested water rights or to ensure compliance with the provisions of chapter 2, title 42, Idaho Code ....

19) Petitions have been filed opposing the imposition of a moratorium on the consideration of the pending applications and further development under permits to divert ground water within the basin. Said petitions recommend a cooperative effort among the entire Big Lost River community to formulate a method for utilizing the ground water supplies of the basin while still protecting vested rights.

20) Unless some action is taken at this time, Big Lost River water users may not be able to respond in a timely manner to water administration requirements which may result from the ongoing adjudication and to information obtained through proposed studies.

IT IS THEREFORE, HEREBY ORDERED AS FOLLOWS:

1) The rights to the use of ground water within the Big Lost River drainage basin will be incorporated into Water District 34 and shall become subject to the administrative supervision of the Water District 34 watermaster, upon satisfaction of the following conditions:

a. The Director has filed with the court his report in the Snake River Basin Adjudication pursuant to Section 42-1411, Idaho Code covering all water rights within Water District 34.

b. The court has issued either (1) an order pursuant to Section 42-1417, Idaho Code, permitting interim administration or (2) its final decree of the water rights of the Big Lost River drainage pursuant to Section 42-1412, Idaho Code.

c. The Director's report shall have identified each well the operation and/or use of which, in the opinion of the Director, has an effect upon the flow of the Big Lost River upstream from the USGS gaging station near Arco and also identifies each well

which, in the opinion of the Director, has no such effect.

d. The Director's report shall include findings and recommendations, as appropriate, concerning the relationship between the early priority surface water rights and subsequent ground water rights as to whether certain legal principles apply including, but not limited to adverse possession, equitable estoppel, estoppel by laches, forfeiture, and abandonment.

e. Those ground water rights which the Director's report finds and recommends and the court determines have an effect upon the flow of the Big Lost River and which are subject to the prior rights of the surface water users after consideration of the legal principles affecting the relationship of surface and ground water rights will become part of the Water District 34.

f. The Director's report shall include findings and recommendations concerning all previously adjudicated water rights in the Big Lost River basin which are rebuttably presumed to have been applied to beneficial use under the provisions of Section 42-1416(1), Idaho Code.

g. The Director's report shall include findings and recommendations concerning the validity of rights claimed to have been created as an expansion of a valid (previously) unadjudicated water right under the provisions of Section 42-1416(2), Idaho Code.

h. The Director's report shall include findings and recommendations concerning rights (surface and ground water) claimed to have been changed without having first obtained approval of a required application for change pursuant to Section 42-222, Idaho Code as necessary to satisfy the substantive criteria of said code section for approval of such changes as provided in Section 42-1416A, Idaho Code.

i. The Director shall give notice to the holders of all permits and licenses to appropriate water within the Big Lost River basin and in connection with which proof of appropriation was submitted after the date of the commencement of the Snake River Basin Adjudication of the requirement to file a claim to such permitted or licensed right in the

adjudication, and such claimed rights shall be evaluated along with all other claimed rights being adjudicated.

2. A moratorium on the consideration and issuance of new permits to appropriate surface and ground water within the Big Lost River drainage is imposed pursuant to the provisions of Section 42-1805(7), Idaho Code. This moratorium shall remain in place until revoked by the Director after the Director's report for the basin is filed with the court in the Snake River Basin Adjudication. This moratorium shall not apply to applications for drilling permits to replace or deepen existing wells nor to applications to transfer existing rights.

3. This order providing for the future combining of ground water rights into Water District 34 and establishing a moratorium on the consideration and issuance of new ground water permits shall not apply to any well used solely for "domestic" purposes as such term is defined by Section 42-111, Idaho Code, as amended by the 1990 Idaho Legislature. An exception will also be considered for any well proposed to be used for municipal purposes.

4. No moratorium is imposed on development under outstanding permits to appropriate water, provided, however, that such permits remain subject to all water law provisions including the requirement for reprocessing under Section 42-203D, Idaho Code. Any risks associated with development under such permits prior to the completion of the reprocessing is borne by the permittees.

5. In lieu of strict administration of affected ground water rights according to water right priority the holders of such rights may propose, either individually or with others similarly situated, a program of compensation or water replacement to assure that the senior water rights in the basin are not affected by the operation of wells which are found in the Director's report to have an effect upon the flow of the Big Lost River upstream from the USGS gaging station near Arco. Such program may include consideration of artificial ground water recharge to mitigate the effects of ground water pumping and to make use of

the waters which otherwise escape from the basin during periods of high runoff.

ISSUED THIS 7TH DAY OF August, 1990

R. KEITH HIGGINSON
Director

IN THE SUPREME COURT OF THE STATE OF IDAHO
Docket Nos. 23814 and 23815

IN RE: SRBA CASE NO. 39576, BASIN-WIDE ISSUE #5B (GENERAL PROVISION #2 AND #4 - BASIN 34) ENTERED FEBRUARY 12, 1997.

STATE OF IDAHO and BIG LOST RIVER IRRIGATION DISTRICT,

Appellants,

v.

G. DAVID NELSON; SAN FELIPE RANCH; MITCHELL D. SORENSEN; FRANCIS L. SMITH; WYLIE F. SMITH; and THE UNITED STATES OF AMERICA,

Respondents.

Boise, September 1997 Term

1998 Opinion No. 1

Filed: January 6, 1998

Frederick C. Lyon, Clerk

Appeal from the SRBA District Court of the Fifth Judicial District of the State of Idaho, Twin Falls County. Hon. Daniel C. Hurlbutt, Jr., District Judge.

Appeal from a decision excluding General Provisions 2 and 4 from the partial decree. Remanded.

Hon. Alan G. Lance, Attorney General; Cheri C. Copsey, Deputy Attorney General, Boise, for appellant State of Idaho. Cheri C. Copsey argued.

Ling, Nielsen, & Robinson, Rupert, for appellant Big Lost River Irrigation District. Roger D. Ling argued.

Hepworth, Lezamiz & Hohnhorst, Twin Falls, for respondents G. David Nelson and San Felipe Ranch. Patrick Brown argued.

SILAK, Justice

This is an appeal from the Snake River Basin Adjudication (SRBA), regarding whether General Provisions concerning Basin 34 should be included in the SRBA court's partial decree. On January 16, 1996, the SRBA court designated basin-wide issue 5B as "[w]hether General Provisions 2 and 4 in the Amended Director's Report for Reporting Area 1 (Basin 34) are necessary for the definition of the rights or for the efficient administration of the water rights." The SRBA court affirmed the Special Master's decision that General Provisions 2 and 4 from the Amended Director's Report for Reporting Area 1 (Basin 34) (Director's Report) would not be decreed. We remand the case to the SRBA court to make a further factual inquiry as to whether the provisions are necessary for the definition of a water right or the efficient administration of a water right.

I.

FACTS AND PROCEDURAL BACKGROUND

A. Underlying Facts.

Basin 34, also known as the Big Lost River Basin (the Big Lost), is located in Butte and Custer Counties in central Idaho, and is approximately 1,400 square miles in area. A unique feature of the Big Lost is that surface flows never actually reach the Snake River, but instead sink into the ground within the Big Lost River Basin, or the Eastern Snake Plain Aquifer, thus giving rise to the Basin's name.

This area was subject to an earlier decree in the case of Utah Construction Co. v. Abbott, Equity No. 222 (D.E. 1923) (U.C. Decree). That decree provided that the upper and lower parts of the Big Lost River (with the Mackay Dam as the dividing line) would be administered as separate sources under certain conditions. The decree also set forth the manner of administration for the "Back Channel" and provided for a minimum flow beneath the dam.

The Utah Construction Company conveyed its rights to the newly-formed Big Lost River Irrigation District (BLRID), which then purchased the Mackay Dam and Reservoir from the Utah Construction Company. The BLRID devised a plan of operation, adopted by the district court in the BLRID Decree of 1936, which provided for a "rotation for credit" plan. Under this plan, water stored in the Mackay Reservoir was allocated to users in a manner that is basically the opposite of "first in time, first in right." Junior natural flow water right holders are allocated the most storage water, with senior right holders being allocated the least. This plan of operation allowed all of the users in the Big Lost to have an adequate water supply through the irrigation season. Water rights in the Big Lost have been administered per the U.C. Decree and the BLRID Decree since they were issued.

Since there were other water rights within the Big Lost which had not been adjudicated, they were not subject to administration by a watermaster. Thus, in 1992, the district court issued an order for interim administration of water rights within the Big Lost in accordance with the Director's Report. That order was extended in 1993, 1994, and 1995, and those orders required the Director to promulgate rules covering the areas addressed by the General Provisions.

General Provision 2 [1] sets forth the manner in which surface water within the Big Lost is to be administered. Section 2.a (single system provision) provides that the water is administered as a single system during the irrigation season when the flow at the Howell gage reaches 750 cfs, and until it recedes to 300 cfs. However, at all other times the natural flow rights with a point of diversion above Mackay Reservoir are administered separately from those below.

Section 2.b (separate streams provision) provides that the surface water from some streams (named in the provision) are to be administered separately from the Big Lost River surface water. Section 2.c (back channel provision) provides that water from the "Back Channel," which separates from the main channel, is to be administered as part of the natural channel of the Big Lost River. Section 2.c further sets forth the levels at which the flow in the Back Channel should be kept, based upon flows at the Howell gage on the Big Lost River.

General Provision 4 [2] sets forth a practice called "rotation for credit," which apparently has been the custom in the Big Lost for some time. Section 4.a states that Mackay Dam and Reservoir must have a minimum flow of 50 cfs at the 2-B gage. That amount is

[1] General Provision 2 is attached to this opinion at Appendix A.

, END FOOTNOTE 1

2
General Provision 4 is attached to this opinion at Appendix B.

:D FOOTNOTE 2

deemed unavailable for delivery to surface water rights outside of the irrigation season.

Section 4.b states that although water rights which do not have storage as the purpose of use cannot be stored, such rights may be rotated into storage with the approval of the Director and BLRID, "when such practice improves the efficiency of water use as contemplated by the Irrigation District's plan of operation." If rotation water is not used in the same season in which it is stored, it reverts to BLRID storage water. Rotation cannot occur prior to the irrigation season, and can only be used on the land to which it is appurtenant. Finally, section 4.b provides that

> if the reservoir fills after rotation has begun in any year and 1905 priority natural flow water rights are able to receive water, all rotation credits are lost and all water in the reservoir at the time it fills reverts to storage water of the Big Lost River Irrigation District.

B. Procedural Background.

On March 14, 1996, the Special Master ruled that General Provisions 2 and 4 should not be decreed because they did not apply to all water rights in the SRBA as required by Idaho Code section 42-1411(3). Additionally, the Special Master held that the Provisions did not have to be included in the decree under principles of res judicata or collateral estoppel and were not necessary to administer or define a water right. After a hearing, the SRBA district court adopted the Special Master's findings of fact, conclusions of law, and recommendations as its own.

II.
ISSUES ON APPEAL

The issues on appeal are:

1. Whether a General Provision in a court decree which orders certain water rights to be distributed as though from separate sources further defines the source element of an affected individual water right.

2. Whether the "rotation for credit" practice approved in the Big Lost River Irrigation District operation plan modifies or further defines the priority element of an affected individual water right.

3. Whether the Idaho Department of Water Resources (IDWR) can change decreed elements of a water right through the adoption of administrative rules.

4. Whether the SRBA District Court erred in refusing to include in its decree a General Provision 4 dealing with the "rotation for credit" plan, where the practice is not addressed by any express legislative regulation or the general rules adopted by the courts of this state in the administration of water rights.

III.
STANDARD OF REVIEW

When this Court reviews whether certain General Provisions from the Director's Report should be included in the SRBA decree,

it is presented with a mixed question of law and fact. A & B Irrigation Dist. V. Idaho Conservation. League, 97.20 ISCR 971, 972 (Oct. 3, 1997). 3 The factual question involves defining the proposed General Provision and the circumstances under which it is applied. The legal question involves whether the provision will facilitate the efficient administration of water rights in a decree. Id . Mixed questions of law and fact are reviewed as questions of law de novo. Doolittle v. Meridian Joint Sch. Dst., 128 Idaho 805, 811, 919 P.2d 334, 340 (1996).

IV.
ANALYSIS

A. The SRBA Court Erred In Holding That General Provision 2 Not Be Decreed Because It Did Not Define An Element Of A Water Right.

The district court relied on I.C. Section 42-1411(3) which states "[t]he director may include such general provisions in the director's report, as the director deems appropriate and proper, to define and to administer all water rights." I.C. Section 42-1411(3) (1997). Consequently, the SRBA court did not include the provisions in the decree because the provisions did not apply to all water rights. At the time of its decision, the district court did not have the benefit of this Court's statement in A & B Irrigation Dist. v. Idaho Conservation League that, "a general

3 The portion of A & B Irrigation Dist. that we rely on in this opinion is not affected by the granting of the petition for rehearing (Dec. 12, 1997).

END FOOTNOTE 3

provision is an administrative provision that generally applies to water rights but it need not apply to every water right." A & B Irrigation Dist., 97.20 ISCR at 972.

A General Provision is to be included in a decree if it is necessary to define or efficiently administer water rights. Idaho Code section 42-1412(6) describes which provisions should be included in the SRBA court's decree. The Code states that

> [t]he decree shall also contain an express statement that the partial decree is subject to such general provisions necessary for the definition of the rights or for the efficient administration of the water rights.

I.C. Section 42-1412(6) (1997) (Emphasis added).

Idaho Code section 42-1411(2) describes the basic elements of a water right: the claimant's name and address; the source of water; the quantity of water; the priority date; the legal description of the point of diversion or the beginning of the place of use; the annual volume of consumptive use; any conditions placed on the use; and "such remarks and other matters as are necessary for definition of the right, for clarification of any element of a right, or for administration of the right by the director." I.C. Section 42-1411 (1997). A General Provision that defines one of the basic elements listed in I.C. Section 42-1411(2) should be included in the SRBA decree pursuant to I.C. Section 42-1412(6).

The SRBA court determined that the General Provisions were not necessary by using the test of whether the absence of any of the General Provisions would prevent the IDWR from administering water rights. In A & B Irrigation Dist. v. Idaho Conservation League, this Court held that a "general provision is 'necessary' if it is required to define the water right being decreed or to efficiently administer water rights in a water right decree." A & B Irrigation

Dist., 97.20 ISCR at 972. Since these General Provisions regulated whether water is administered from a single or separate water source, it is possible that these provisions define the source element or are necessary for the efficient administration of a water right. Considering this test was not employed by the SRBA Court, we remand this case for further factual findings as to whether these provisions are necessary for the efficient administration of a water right or to define a water right.

B. The District Court's Holding That The Rotation For Credit Practice Should Not Be Included In The Decree Was Erroneous. The Rotation For Credit Provision Should Be Included In The Decree If It Is Necessary For The Efficient Administration Of A Water Right.

The district found that without General Provision 4.b., the administration of these water rights might be nearly impossible, yet the provision should not be included because I.C. Section 42-1411(3) precluded the inclusion of the provision because the provision did not apply to all water rights. As noted above, a provision is to be included in a decree if it is necessary to define or for the efficient administration of a water right, and it is not necessary that the provision apply to all water rights. A & B Irrigation Dist., 97.20 ISCR at 972. Therefore, if the provision is necessary for the efficient administration of a water right, we hold that the provision should be included in the decree, and remand for further factual findings as to the necessity of this provision either to the definition or the administration of these water rights.

C. The District Court's Finding That The General Provisions Need Not Be Decreed Because The Provisions Were Already Included In The Idaho Department Of Water Resources' Promulgated Rules Was Erroneous.

The IDWR has the power to issue "rules and regulations as may be necessary for the conduct of its business." I.C. Section 42-1734(19) (1996). These rules and regulations are subject to amendment or repeal by the IDWR. I.C. Section 67-5201(20) (1997). Additionally, the IDWR's Director is in charge of distributing water from all natural water resources or supervising the distribution. I.C. Section 42-602 (1996). Including these General Provisions in a decree will provide finality to water rights, and avoid the possibility that the rules and regulations could be changed at the sole discretion of the Director of the IDWR.

Finality in water rights is essential. "A water right is tantamount to a real property right, and is legally protected as such." Crow v. Carlson, 107 Idaho 461, 465, 690 P.2d 916, 920 (1984). An agreement to change any of the definitional factors of a water right would be comparable to a change in the description of property. Olson v. Idaho Dept. of Water Resource, 105 Idaho 98, 101, 666 P.2d 188, 191 (1983). Additionally, pursuant to Idaho Code section 42-220, all rights that are decreed pass with conveyance of the land and therefore the land could be sold with the certainty that the water would be distributed as decreed. Further, these General Provisions describe common practices in the Big Lost which are unique and sometimes contrary to general water distribution rules.

A decree is important to the continued efficient administration of a water right. The watermaster must look to the decree for instructions as to the source of the water. Stethem v. Skinner, 11 Idaho 374, 379, 82 P. 451, 452 (1905). If the provisions define a water right, it is essential that the provisions are in the decree, since the watermaster is to distribute water according to the adjudication or decree. I.C.

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Section 42-607 (1997).

Additionally, we conclude that the General Provisions provided by I.C. Section 42-1412(6) should be included in a decree if they are deemed necessary for the efficient administration or to define a water right. Provisions necessary for the efficient administration of water rights should be preserved in the SRBA decree, not merely in the Administrative rules and regulations.

V.

CONCLUSION

We remand for further factual findings as to whether General Provisions 2 and 4 pertaining to Basin 34 are necessary for the efficient administration of a water right or are necessary to define a water right. No costs are awarded on appeal.

Chief Justice TROUT, Justices JOHNSON, SCHROEDER and WALTERS, CONCUR.

APPENDIX A

2. General Provision 2: Administration of Surface Sources Within Basin 34. All surface waters of the Big Lost River and its tributaries shall be administered as a single water system, except as provided in this general provision 2.a. through 2.e.

a. During the irrigation season, from the time the flow at the Howell gage increases to 750 CFS, until the time when the flow recedes to 300 CFS, all surface waters of the Big Lost River and its tributaries, except as cited in paragraph b. Below, shall be administered as a single water source. At all other times natural flow water rights (other than water rights for storage purposes) with a point of diversion above Mackay Reservoir shall be administered separately from the natural flow water rights with a point of diversion downstream from Mackay Reservoir. This provision is made under conditions existing as of the commencement of the SRBA (including diversions above the Howell gage); if diversions are made from the Big Lost River or its tributaries above the Howell gage pursuant to rights not existing as of the commencement of the SRBA, then the amounts diverted will be added to the amount of the flow at the Howell gage for purposes of applying this provision.

b. The surface waters of the following streams shall be administered as separate from the surface waters of the Big Lost River: Rock Springs Creek, Rock Creek, Beda Creek, Corral Creek, Sage Creek, Upper Cedar Creek, Lower Cedar Creek, Dry Creek (also known as Cedar Creek), Pete Creek, Willow Creek, Pinto Creek, Lehman Creek, Vance Creek, Grant Creek and Hamilton Creek.

c. The Back Channel, which separates from the main channel of the Big Lost River in the NE1/4NE1/4, Section 5, Township 8 North, Range 22 East, B.M., shall be administered as part of the natural channel of the Big Lost River.

i. When the flow at the Howell gage is less than 1400 CFS, the flow in the Back Channel shall be kept as near as practicable to 150 CFS, but shall not exceed that amount.

ii. When the flow of the Howell gage is at or exceeds 1400 CFS, the flow in the Back Channel shall be kept as near as practicable to 200 CFS. The flow shall not exceed that amount unless all surface water rights existing at the time of administration (including water rights with a junior priority), and that are within their period of use, are satisfied.

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iii. These provisions shall not be considered to enlarge the amount of water to which appropriators diverting from the Back Channel are entitled.

APPENDIX B

4. General Provision 4: Special Provisions as to Storage.

a. Mackay Dam and Reservoir shall be operated to maintain a minimum flow of 50 CFS at the 2-B gage. This 50 CFS shall be deemed unavailable for delivery to surface water rights below Mackay Dam outside the irrigation season.

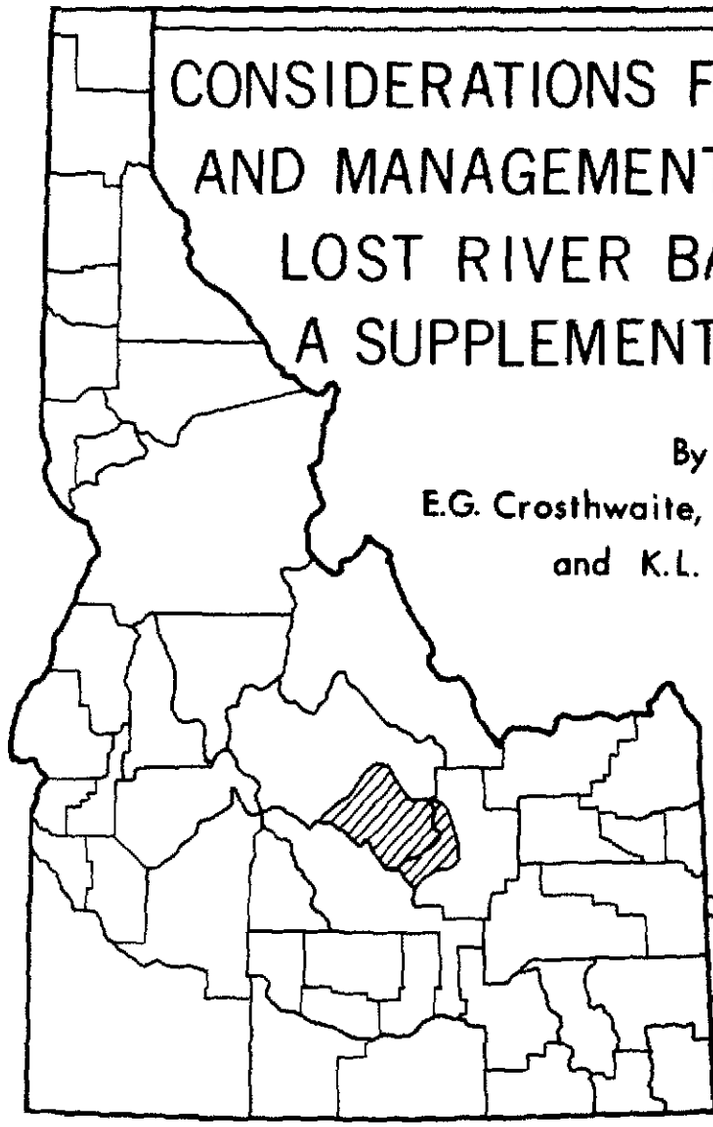
b. Water rights that do not include storage as a purpose of use may not be stored. Surface water rights may, however, be rotated into storage, with the approval of the Director of the Idaho Department of Water Resources and the Big Lost River Irrigation District, when such practice improves the efficiency of water use as contemplated by the Irrigation District's plan of operation. Any water stored under such a rotation, if not used in the same irrigation season in which it is stored, shall revert to storage water of the Bgi Lost River Irrigation District at the end of the irrigation season. Rotation into storage cannot occur prior to the need for irrigation water on the land in any year; water rotated into storage may only be used on the land to which the water right being rotated is appurtenant; if the reservoir fills after rotation has begun in any year and 1905 priority natural flow water rights are able to receive water, all rotation credits are lost and all water in the reservoir at the time it fills reverts to storage water of the Big Lost River Irrigation District.

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CONSIDERATIONS FOR WATER USE AND MANAGEMENT IN THE BIG LOST RIVER BASIN, IDAHO; A SUPPLEMENTAL REPORT

By
E.G. Crosthwaite, C.A. Thomas,
and K.L. Dyer



OPEN-FILE REPORT

UNITED STATES DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
WATER RESOURCES DIVISION

Prepared in cooperation with the
IDAHO DEPARTMENT OF RECLAMATION

Boise, Idaho
1970

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June 1970

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CONSIDERATIONS FOR WATER USE AND MANAGEMENT IN THE BIG LOST RIVER BASIN, IDAHO; A SUPPLEMENTAL REPORT

By E. G. Crosthwaite, C. A. Thomas, and K. L. Dyer

INTRODUCTION

The water resources of the Big Lost River basin were studied in detail by the U.S. Geological Survey in cooperation with the Idaho Department of Reclamation during the period July 1966 to June 1969. An open-file report entitled "Water resources in the Big Lost River basin, Idaho" by E. G. Crosthwaite, C. A. Thomas, and K. L. Dyer, which describes the results of this study, was released to the public by the U.S. Geological Survey in March 1970. It was originally planned that this report would contain a section discussing various management practices that have been suggested to provide for more efficient utilization of the basin's water resources. Because the section on management practices was not fully completed at the time the report was released, and because the data in the report were needed as soon as possible by persons concerned with the basin's water resources, the section on management was not included in the initial release.

The purpose of this supplemental report is, therefore, to present a discussion on various management practices that may be considered in utilizing the water resources of the Big Lost River basin. It is intended that this supplemental report should be used in conjunction with the open-file report noted above.

The results of the study by Crosthwaite and others (1970) of the water resources in the Big Lost River basin showed that, on the average, about 23 percent of the 650 cfs (cubic feet per second) total water yield of the basin is used consumptively; about 12 percent leaves as surface flow, and 65 percent leaves as ground-water flow. The water leaving the valley is of good quality. If captured, it could be used within the basin to irrigate both the many arable acres that are not yet irrigated, and much of the presently irrigated land that does not receive a full supply in years of low runoff.

An increased supplemental water supply for presently irrigated land and a supply for nonirrigated land can be achieved by making optimum use of all the water resources of the Big Lost River basin. This will, however, require a modification of existing water management practices. Additional quantities of water to meet irrigation requirements during extended periods of low streamflow could be obtained by constructing reservoirs in upstream areas. These reservoirs could be multipurpose reservoirs that would be used to control floods in addition to supplying irrigation needs. Irrigation requirements could also be met by using existing canals and ditches to distribute additional quantities of water pumped from wells. These additional quantities of ground water could be made available by using artifical recharge techniques to raise the water table and thus increase the amount of ground water retained in the aquifers.

Conjunctive use of both surface and ground water provides the most efficient use of the resource. The ground-water reservoir between Mackay Narrows and Arco contains an estimated 2.6 million acre-feet of water in its upper 200 feet plus an unknown amount below this depth (Crosthwaite and others, 1970, p. 84). This ground-water reservoir can be utilized at any time to supplement surface-water supplies, as is now being done by about three-fourths of the existing irrigation wells in the basin. However, increased ground-water withdrawals may interfere with streamflow, thus raising questions concerning water rights. Ideally, conjunctive use of surface and ground water would provide a system that could draw heavily on the ground-water reservoir during dry years when streamflow is deficient, thus providing a full supply. During wet years, the draft on ground water should be minimized and excess streamflow artificially recharged to the ground-water reservoir. Only through this kind of exchange can use of all the water resources of the basin be optimized.

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POSSIBILITIES FOR ADDITIONAL MANAGEMENT OF SURFACE WATER

Additional management of the surface-water resources in the Big Lost River basin is needed to (1) supply irrigation requirements during drought years, (2) provide increased flood control, and (3) insure more efficient use of the water supply available in normal years. An indication of the amount of water that could be salvaged from unused outflow by additional management practices is provided by the measurements of flow in the Big Lost River at the gage near Arco (table 1). Annual flow at this gage ranged from 0 to 195,500 acre-feet during the period 1944, 1947-68. Also, although an average of only about 7,000 acre-feet per year (10 cfs) passed the gage during the dry period 1960-64, the annual flow exceeded 100,000 acre-feet (138 cfs) in 5 years of the 23-year period 1944, 1947-68. However, despite these variations, an average annual flow of 55,900 acre-feet (77 cfs) did pass this gage and leave the basin during the 1944, 1947-68 period. Assuming that, on the average, this annual quantity of water continues to be available in future years, much of it could be made available for use by prolonging the use of the storage space available in Mackay Reservoir, by construction of additional reservoirs above Mackay Reservoir, by increased diversion of upstream flows onto the highly rechargeable gravel acres of the Chilly-Barton Flats and thereby increasing the amount of water temporarily retained in the underlying aquifers, and by increasing irrigation efficiencies as discussed in the following pages.

Mackay Reservoir did not fill during 24 of the 50 years of record. To make better use of the reservoir storage space during the low-runoff years, and to make more water available for diversion by way of the reservoir outlet works, some of the leakage past Mackay Dam could be intercepted and pumped back into the reservoir. Also, some winter flow, together with summer flood flows could be intercepted in Lower Cedar Creek and diverted into Mackay Reservoir through a lined channel that could be constructed to provide gravity flow. In addition, some of the surface water now lost to ground water could be salvaged by lining the channel extending from Upper Cedar Creek into Mackay Reservoir.

Surface reservoirs with sufficient storage to alleviate water shortages during long periods of low flow could be built in the upper part of the Big Lost River basin. Construction of such additional reservoirs above Mackay Reservoir would provide more water for irrigation by long-term

Table 1. Annual diversions from Big Lost River and annual mean streamflow in acre-feet (rounded).

Water year	Diversions above Mackay Reservoir	Flow at Mackay Narrows	Diversions below Mackay Reservoir	Flow at gage near Arco	Apparent loss or gain Mackay Narrows to Arco
1922	112,000	279,000	200,000	a7,290	-71,700
1923	203,000	235,000	241,000	-	-
1924	55,800	162,000	124,000	-	-
1925	85,500	232,000	222,000	-	-
1926	65,600	144,000	123,000	-	-
1927	71,900	212,000	175,000	-	-
1928	75,700	201,000	173,000	-	-
1929	63,600	143,000	97,600	-	-
1930	79,500	171,000	119,000	-	-
1931	52,600	125,000	69,800	a0	-55,200
1932	68,900	192,000	140,000	-	-
1933	53,400	156,000	82,900	-	-
1934	61,600	94,800	35,200	a0	-59,600
1935	77,700	172,900	103,000	b2,668	-67,200
1936	81,700	145,000	69,700	a0	-75,300
1937	61,900	120,000	52,400	-	-
1938	152,000	264,100	90,300	-	-
1939	29,500	180,200	129,000	-	-
1940	24,200	169,000	216,000	-	-
1941	49,000	176,300	117,000	-	-
1942	55,000	246,100	165,000	-	-
1943	54,100	309,700	204,000	-	-
1944	56,400	290,100	206,000	a119,100	+35,000
1945	57,000	220,400	203,000	-	-
1946	65,400	222,600	212,000	-	-
1947	63,300	232,300	208,000	60,260	+36,000
1948	73,400	228,600	219,000	26,870	+17,300
1949	55,300	195,400	189,000	23,620	+17,200
1950	46,200	185,200	175,000	18,130	+7,930
1951	59,000	243,500	224,000	28,650	+9,150
1952	67,700	310,400	240,000	124,300	+53,900
1953	84,000	244,300	242,000	58,470	+56,200
1954	66,600	208,200	218,000	28,530	+38,300
1955	40,000	175,300	148,000	12,250	-15,000
1956	63,200	282,900	239,000	61,750	+17,800

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Table 1. Annual diversions from Big Lost River and annual mean streamflow in acre-feet (rounded)--Continued.

Water year	Diversions above Mackay Reservoir	Flow at Mackay Narrows	Diversions below Mackay Reservoir	Flow at gage near Arco	Apparent loss or gain Mackay Narrows to Arco
1957	61,600	245,500	220,000	66,520	+41,000
1958	57,600	304,900	275,000	131,200	+101,000
1959	32,200	170,800	140,000	47,640	+16,800
1960	36,800	154,000	106,000	5,520	-42,500
1961	29,900	130,600	65,700	0	-64,900
1962	60,700	184,300	128,000	a0	-56,300
1963	52,900	229,500	200,000	c7,960	-21,500
1964	48,100	246,400	256,000	a22,400	+32,000
1965	55,300	405,800	282,000	195,500	+71,700
1966	40,500	194,600	177,000	c44,900	+27,300
1967	66,000	353,200	235,000	138,700	+20,500
1968	52,700	207,000	187,000	64,280	+44,300
47 year average	62,000	212,700	169,000	-	-

a From the annual report of the watermaster, Water District 27, Big Lost River.
b River flow below Arco Canal heading, which is probably greater than flow at gage below Arco.
c Estimated from partial records of U.S. Geological Survey and the watermaster, Water District 27.

holdover storage, water for fishing and boating, and control of floodflows. The reservoirs could store some of the water that now passes the gage near Arco in high-flow years for release and use during low-flow years, and at the same time materially reduce floodflows. Streamflow records indicate that planned release of storage from such reservoirs could also be used to increase recharge to the aquifers underlying the Chilly-Barton Flats area (Chilly Sinks). The bulk of this recharge would gradually seep back into the river channel above Mackay Reservoir and thus would provide a more even rate of flow into the reservoir. Also, recharge to the Chilly Sinks could be timed so that increased amounts of water would be available in Mackay Reservoir when needed for irrigation and recreation uses.

Six possible surface-water storage sites have been identified above Mackay Reservoir (U.S. Bureau of Reclamation, 1961), but storage capacity at the sites is not known nor have benefit-cost ratios of reservoir construction and operation been determined. In addition to these sites, the feasibility of a storage site on Antelope Creek (below Mackay Reservoir), in the narrows below Grouse, was investigated in 1961. Investigation of this site showed a benefit to cost ratio of considerably less than 1 to 1, however (U.S. Bureau of Reclamation, 1961).

Additional Supply During Drought Years

Surface-water reservoirs upstream from Mackay Reservoir would alleviate water shortages occurring during drought years. To estimate the amount of upstream storage needed to provide a full supply during dry years, past records of streamflow, yields from the subbasins contributing water to the river, diversions for irrigation, and the hydrologic characteristics of the river from Mackay Narrows to Arco were considered.

The annual diversions listed in table 1 show that droughts have occurred in the Big Lost River basin. A drought is considered to have occurred in years when diversions were average or below average and all surface flow in the basin was utilized, with little or no flow at the gage below Arco during the irrigation season. A severe drought is considered to have occurred when diversions averaged less than 50 percent of the average annual diversion below Mackay Reservoir of approximately 170,000 acre-feet. A moderately severe drought

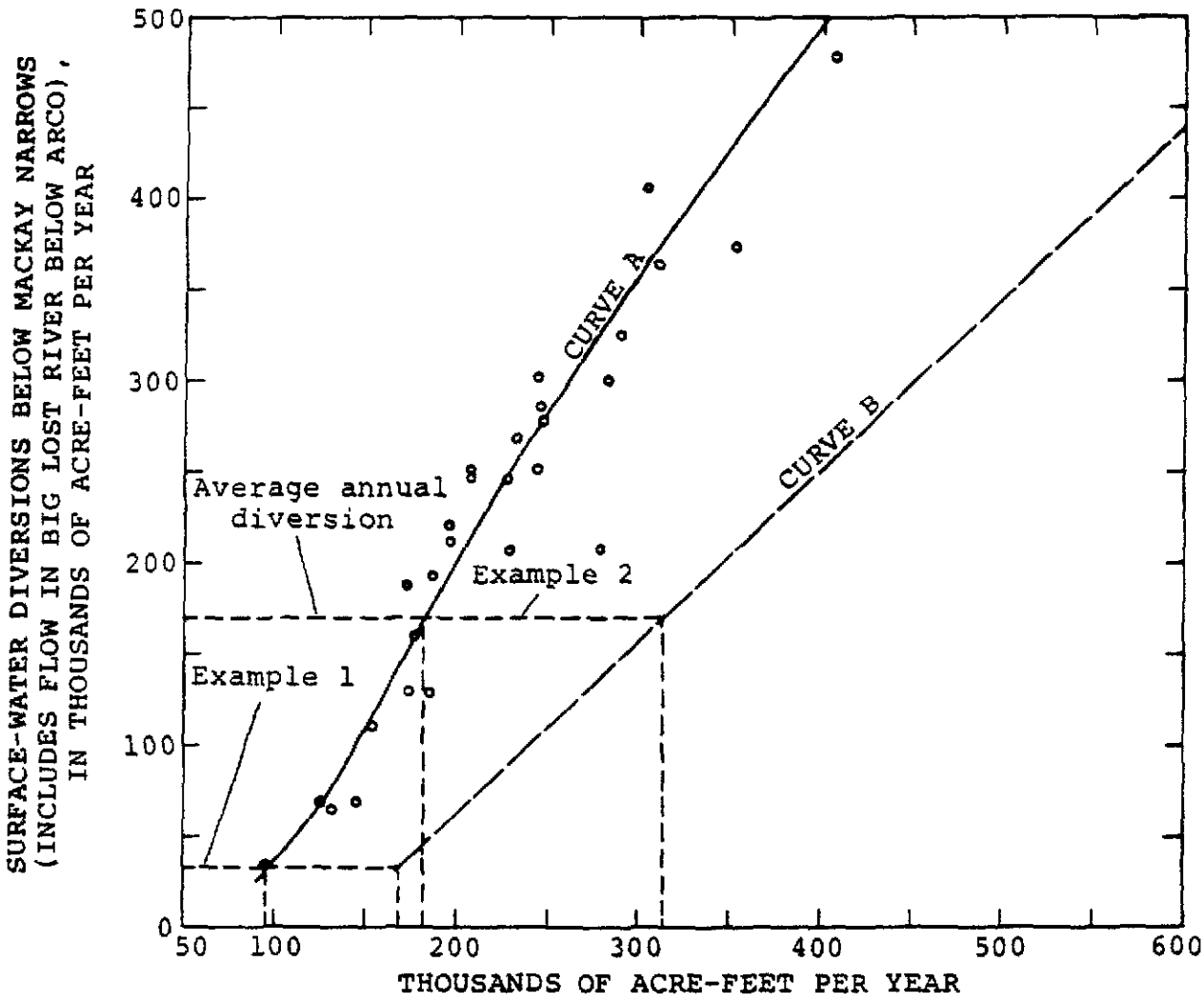
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would have occurred when diversions were between 50 and 80 percent of normal. Diversions below the reservoir during the 47-year period of record were less than 50 percent of average in 6 years and less than 80 percent of average in 16 years. Of these 16 years, 10 years were in the period 1929-41.

All of the surface water available for diversion between Mackay Narrows and Arco is derived from the flow passing Mackay Narrows and the yield of subbasins tributary to the Big Lost River below the Narrows. In many years, the combined yield from these sources is not sufficient to satisfy an average annual diversion of approximately 170,000 acre-feet, mainly because much of the water from these sources enters the underlying ground-water aquifer.

Figure 1 was constructed to allow estimation of (1) the amount of surface water lost to the underlying ground-water aquifers in the reach between Mackay Narrows and Arco and (2) the amount of surface water that must be stored above Mackay Narrows to allow an annual diversion of 170,000 acre-feet. As shown in figure 1, annual surface-water diversions below Mackay Narrows plus the flow in the Big Lost River at Arco are related, by curve A, to the annual flow at Mackay Narrows and, by curve B, to the annual flow at the Narrows plus the net annual contribution to surface- and ground-water flow from the subbasins within the reach Mackay Narrows to Arco. In constructing figure 1, the flow at Arco was added to the diversions because it was considered that practically all this flow could have been diverted for use. Within the subbasins below Mackay Narrows, a large part of the yield generated is consumed by irrigated crops and, therefore, this quantity of water was not included in the values used to define curve B. Also, the quantity of subsurface flow passing around Mackay Dam was not considered because this flow is relatively constant from year to year and its inclusion merely shifts both curves some distance to the right.

From example 1 in the figure it can be seen that during a drought year such as 1934, when no water flowed past the gage below Arco (table 1), diversions totaled only about 35,200 acre-feet, the surface flow at Mackay Narrows was about 95,000 acre-feet, and the total contribution to the system (including the net contribution from subbasins downstream) was about 170,000 acre-feet. From this, it is evident that although an amount equivalent to the average annual diversion of approximately 170,000 acre-feet entered the system, about 135,000 acre-feet (170,000 minus 35,200) leaked



CURVE A - SURFACE-WATER FLOW AT MACKAY NARROWS
CURVE B - SURFACE-WATER FLOW AT MACKAY NARROWS PLUS NET CONTRIBUTIONS FROM SUBBASINS DOWNSTREAM

FIGURE 1.--Correlations between annual diversions and (A) the surface-water supply at Mackay Narrows and (B) contributions to the system below Mackay Narrows.

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into the underlying ground-water aquifer and was not available for diversion from surface flow. However, to have diverted 170,000 acre-feet in 1934 (fig. 1, example 2), would have required that at least 320,000 acre-feet be contributed to the system. Also, about 150,000 acre-feet (320,000 acre-feet, the quantity necessary to supply the diversion; minus 170,000 acre-feet, the quantity entering the system in 1934) of additional storage would have been needed above Mackay Reservoir. By contrast, Mackay Reservoir has a storage capacity of only 44,370 acre-feet. Similar approximations indicate that to have supplied 170,000 acre-feet each year for diversion during a drought equal to that of 1929-38 would have required about 900,000 acre-feet of storage upstream from Mackay Reservoir. An alternative to upstream storage in such large amounts would be pumpage of stored ground water to supplement streamflow available for diversion. Pumping 900,000 acre-feet over the drought period would have lowered ground-water levels and thereby increased the infiltration of surface flows. This would further reduce the amount of surface flow available for diversion and require additional pumping. Nevertheless, there is such a large quantity stored as ground water, and the ground-water body is so completely recharged during periods of above-normal runoff, that ground-water pumping at carefully-selected locations could adequately meet diversion deficiencies.

Flood Control

Generally, Mackay Reservoir is too small to adequately store prolonged floodflows even though large amounts of water seep into the aquifers underlying the river channel and canals in the Chilly Sinks area. For example, the peak flow observed at Howell Ranch in 1967 was reduced more than 2,000 cfs at Mackay Narrows by leakage into the Chilly Sinks area and by storage in the reservoir. However, because the high flows persisted for a long period, infiltration rates into the Chilly Sinks area reached the maximum attainable with the existing diversion system and all available storage space in Mackay Reservoir filled. As a result, riverflow below the reservoir could not be controlled and considerable damage was done to roads, irrigation structures, farmland, and other improvements. Reservoirs in the upper basins would provide not only additional storage, but also could be operated to control floodflows. More extensive and carefully planned artificial recharge to ground water in the Chilly-Barton Flats area during

high river stages could also help control floods by delaying inflow to Mackay Reservoir. An additional measure to control floods below Darlington would be to use the old Utah Construction Co. canal to divert flood water from the river. To accomplish this, the canal would have to be extended so as to discharge the diverted water to the basalt lava plain south of Arco beyond the flood area.

Additional Supply During Normal Years

A significant part of the water diverted from the Big Lost River in normal years for irrigation could be made available for use to irrigate additional land by improving existing irrigation efficiencies. Diversions from Big Lost River into canals have averaged 5.7 acre-feet per irrigated acre per year for the period 1922-68, while net consumptive use is estimated to have been only about 1.2 acre-feet per acre when a full supply is applied to the land. It appears, therefore, that considerably more water is being applied to the crops than is needed and that, if irrigation efficiencies could be improved, significant quantities of water would be saved. The use of sprinklers, lining of canals, land leveling, better control of the length of time water is applied, and control of length of furrows are examples of techniques that would improve irrigation efficiencies by reducing both percolation losses from canals, ditches, and irrigated lands and the consumptive use of water by nonbeneficial vegetation growing along ditches and canals.

Such decrease in percolation losses would, however, result in a similar but lesser decrease in ground-water recharge, and a very small decrease in return flow to the river. Because the ground-water storage capacity is very large, the recharge from percolation loss is small compared to total annual recharge, and, as the ground-water return to the river represents the overflow of the ground-water reservoir, there would be little effect on ground-water return flow. Any effect that might develop would tend to be removed by the excessive recharge during normal and above-normal years of runoff.

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POSSIBILITIES FOR INCREASED USE OF GROUND WATER

About 435 cfs or 65 percent of the total water yield of the basin leaves as underground flow past Arco (Crosthwaite and others, 1970, p. 98). Therefore, use of surface water alone will not permit full development of all the basin's water resources. Interception of ground-water flow seems to offer the best means for optimum development of the water resources and is the only means by which some of the water can be captured. Pumping from wells anywhere in the Big Lost River valley above Arco, in addition to those already in use, would serve to decrease the quantity of water leaving the basin. Large quantities of water suitable for irrigation can be obtained from additional wells screened in the unconsolidated alluvial deposits that occur throughout most of the valley. Commonly, wells open to these deposits have yields of several thousand gallons per minute. In stretches where river levels are contiguous with or below the water table, however, wells located near the stream will have some affect upon streamflow. Where stream levels are above the water table, as in the Chilly Sinks and Darlington Sinks areas, pumping will not affect nearby streams.

Wells yielding supplies of water in amounts adequate for irrigation probably are not obtainable in areas underlain by the older cemented alluvial deposits. Examination of their surface outcrops and results of test drilling in Mackay Narrows imply that these deposits are well consolidated and have a low permeability. Low yields obtained from wells located high on alluvial fans, such as those of Alder and Antelope Creeks, indicate that poorly-sorted material deposited at the heads of fans such as these also has a low permeability.

South of Arco the wells that have the best yields are about 100 feet deep and produce from gravel near Big Lost River. These wells are in secs. 11, 12, and 13, T. 3 N., R. 26 E., and are several miles downstream from the major irrigation diversions on the river. Because several of the wells are closely spaced, pumping from one well lowers the water level in others, but no significant overall depletion of the ground-water supply is apparent. Experience in test well 4N-26E-21abb1 northwest of Arco suggests that a basalt layer at this location will yield at least moderate quantities of irrigation water.

The best undeveloped land in the basin lies west, southwest, and south of Arco in the Era Flats. Development of this land has been only partly accomplished because no dependable surface-water supply is available and few large-capacity irrigation wells have been successful. About 10,000 acres in this area is presently dry-farmed or used for grazing. Assuming that this 10,000 acres is suitable for irrigation, about 3 acre-feet of water per acre of land irrigated would provide an adequate water supply under the most efficient conditions of water use (pipe lines and sprinkler irrigation). Thus, 30,000 acre-feet of water or about 40 cfs would be the minimum annual requirement. If this water were obtained from wells located between Arco and Moore, a part of the ground-water outflow now moving unused from the basin would be intercepted.

Ground-water pumped from the alluvial deposits between Arco and Moore could provide not only a dependable irrigation supply for the Era Flats but also could supply other nearby arable land. In this area, heavy pumping from about the upper 400 feet of saturated alluvial deposits would reduce flow in the river. To alleviate this effect, provision could be made to augment the surface-water supply with additional ground water pumped from these deposits when streamflow is inadequate. Pumping from a deep basalt and alluvial deposits underlying the basalt northwest of Arco would have a lesser effect on river flow than pumping from about the upper 400 feet of deposits. Little is known, however, about the water-yielding capacity of these deeper zones, and pumping lifts would be considerably higher than in the shallower zone. Regardless of the complications resulting from the effects on streamflow, this is the farthest downstream place in the basin at which ground water can be intercepted and used before it enters and is lost to the Snake River Plain.

There are available large tracts of unirrigated arable land upstream from Arco, particularly on the alluvial fans along the east side of the basin from Arco to north of Leslie and in the Chilly-Barton Flats area above Mackay Reservoir. Most of these areas are underlain by coarse-textured alluvial fans or gravelly alluvial deposits having soils of low moisture-holding capacity. Even though these soils would require large amounts of water for irrigation, net depletion of the water resource would be only that used by crops (1.2 acre-feet per acre) plus that lost by evaporation from free-water surfaces such as canals and laterals. The remainder of the water applied for irrigation would return to the river

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or aquifer and thus be available for reuse. Each acre irrigated would deplete the average water supply by slightly less than 0.0017 cfs, plus that lost by evaporation from canals and ditches. Development of 30,000 new acres would deplete the average supply by a little more than 50 cfs or about 10 percent of the estimated average surface and underground outflow from the basin at Arco.

In the Chilly-Barton Flats area, the large seepage losses occurring in canals and in some of the upstream reaches of the river indicate that if, by using artificial recharge techniques, additional amounts of water were temporarily stored underground so as to raise the underlying water table, return flow to downstream reaches of the river would be increased. The depth to water below land surface at the old Chilly Store ranged between 24 and 65 feet during 1967 and 1968 and, farther downstream at Barton School, the depth to water ranged between 4 and 16 feet. The part of the Chilly-Barton Flats area southwest of the Big Lost River averages about 3 miles wide and 6 miles long and covers about 11,500 acres. Thus, if it is assumed the rechargeable unsaturated alluvial deposits average 20 feet in thickness and have a specific yield of 20 percent (Crosthwaite and others, 1970, p. 84), about 46,000 acre-feet of water could, theoretically, be recharged. Practically, a somewhat smaller amount would be recharged into these deposits, because it would not be either feasible or desirable to raise the water table everywhere to the land surface. However, several consecutive dry years would allow more water to enter these deposits because the water table would be somewhat lower than during the 1967-68 period. Any water artificially recharged in the Chilly-Barton Flats area would discharge, after a delay in transit through the alluvial materials, to the river and reservoir and thus be available for storage in reservoirs or for immediate use. Hydrographs of the flow at Howell Ranch, water levels in well 9N-22E-32dcc1, and inflow to Mackay Reservoir (Crosthwaite and others, 1970, figs. 19 and 26) indicate that the increase of inflow to the reservoir would occur within 3 months after recharge began and the effect would persist for about 18 months after recharge ends.

Water for recharge in the Chilly-Barton Flats could be obtained by diverting the river through a series of canals into large ponds. Some of the diverted water would be lost by evaporation during the recharge period. Estimated evaporation, based on Rowher's equation (Crosthwaite and others, 1970, p. 19), would be about 10 inches for the

3-month period April to June, the principal period when water would be available for recharge. However, another possibly more important factor to consider is that raising the water table beneath and upgradient from the bottom lands in the lower reaches of Warm Springs Creek, and other creeks that are 2 or 3 miles upstream from the reservoir, would impede or delay the harvest of crops. This factor should be weighed against the advantages of an improved irrigation supply downstream during dry years.

Geophysical data imply that the alluvial fill of the valley from Chilly Buttes to the upper end of Mackay Reservoir ranges in thickness from a few hundred to more than 2,000 feet. Assuming that the specific yield of these deposits is 20 percent, the upper hundred feet of saturated valley fill in an area of 40 square miles would contain about 500,000 acre-feet of ground water. This is almost enough water to supply the irrigation demand below Mackay Reservoir for three irrigation seasons, assuming that 181,000 acre-feet (see fig. 1, example 2) at Mackay Narrows provides an adequate annual supply (170,000 acre-feet) for presently irrigated lands. Also, the water in storage in the upper 100 feet of the aquifer is equivalent to more than half the amount of supplemental water that was needed for irrigation during the drought that lasted from 1929 through 1939. To provide 181,000 acre-feet to Mackay Reservoir during a year similar to the driest year of record, 1934, would require about 86,200 acre-feet of supplemental ground water, which is equivalent to 65 wells pumping 3,000 gpm (gallons per minute) each during a 100-day irrigation season. This assumes that the water would be conveyed to the reservoir in pipelines or lined ditches so that none would be lost by seepage.

Pumping at these rates in the Chilly-Barton Flats area for several consecutive irrigation seasons would lower the water table and reduce the natural ground-water discharge to Mackay Reservoir. Lowered water levels would reduce the size of the swamp area in Thousand Springs valley and in the area just upstream from Mackay Reservoir, but crop production in these areas could be maintained by ground-water pumping and by using water from Warm Springs Creek.

The estimated average surface-water yield of the basin upstream from Mackay Narrows is about 235,000 acre-feet (Crosthwaite and others, 1970, p. 90). This is about 38 percent larger than the present water needs (170,000 acre-feet) downstream from the Narrows. Artificial recharge in the Chilly-Barton Flats area during wet years and pumping

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from the valley fill during dry years could provide a more balanced water supply for irrigation, but to recharge all the streamflow in very wet years would require very extensive facilities.

Downstream from Mackay Reservoir, artificial recharge would have to be accomplished almost entirely by seepage from canals and small ponds along the margins of the valley and high up on the alluvial fans where relatively thick sections of unsaturated deposits occur. This is necessary because along the axis of the valley the water table is near the surface and, therefore, the aquifers are virtually full. The old Utah Construction Co. canal along the west side of the valley from Darlington to Era Flats could be repaired and the bottom cleaned of silt and clay so that a maximum amount of water would seep into the ground. A similar canal on the east side of the valley would be twice as long and would, therefore, probably have at least double the recharge potential of the existing canal.

The disadvantages of artificial recharge in these areas are that the recharge water would have a relatively short distance to move underground before it would reappear as streamflow, and, therefore, a short transit time. For these reasons, a considerable amount of the recharged water might not be available at the time it is needed. Also, the recharge water might raise water levels in the lowlands to the extent that the production of crops in the lowlands would be adversely affected.

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GROUND-WATER PUMPING IMPACTS ON SURFACE WATER IRRIGATION DIVERSIONS FROM BIG LOST RIVER

by

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ABSTRACT

The water table in the Big Lost River valley is declining due to increased irrigation pumpage and decreased recharge from surface-water irrigation, resulting from the use of more efficient application methods and an accompanying expansion to about twice the irrigated acreage of two decades ago. The lower water table reduces the already deficient river flows, and impacts the senior water rights of many surface water irrigators.

Recorded irrigation diversions have decreased in relation to river flow in the last two decades. Diversions are estimated to be depleted by about 30,000 acre-feet per year in dry periods, such as 1987 through 1990. Depletion of diversions is estimated by a linear relationship to river flow, based on data from below normal water years. Extrapolating that relationship to all years, the depletion in a normal water year is estimated to be 13,000 acre-feet. A negative relationship between ground-water pumpage and river flow was extrapolated to estimate pumpage as 47,000 acre-feet during a normal water year.

Senior surface-water irrigators are due mitigation from those depleting river flows. The mitigation may take any of several forms, but should be supported by a self-funding group of ground-water, or combined surface and ground-water irrigators in the valley.

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STATEMENT OF THE PROBLEM

Many irrigation wells have been constructed in Big Lost River valley since 1960. The ground-water resource over much of the valley is hydraulically interconnected with the Big Lost River; consequently, ground-water pumpers often are accused of depleting the already deficient supplies of surface water irrigators. The water right priorities of surface water irrigators generally are far senior to ground-water users, suggesting that the liability for stream depletion rests with the ground-water pumpers.

The stream depletion issue is clouded by several factors. The complicating conditions include:

1) River depletion by ground-water pumping is neither instantaneous nor equal in magnitude to the amount of water pumped. The attenuation of pumping effects are influenced by the location of the well with respect to hydraulically connected reaches of the river, the physical properties of the aquifer formation, and the depth from which the well extracts water.

2) The river reaches that are hydraulically connected to the ground water and the degree of hydraulic interconnection vary from year to year, and even from season to season, depending upon the depth of the water table. During droughts, the water table in the lower parts of the valley drops well below the river bottom, and the effects of further decline in water table are probably minimal.

3) Surface water often is conveyed through the canals rather than the river channel to reduce seepage losses. Therefore, pumping impacts on surface water also are related to canal seepage in the lower valley.

4) Ground-water pumping is only one component of a combination of factors that are impacting ground-water levels and the depletion of surface water supplies. The greatest impact results from variation in precipitation. In addition to climatic variability, the widespread conversion from flood irrigation to sprinklers, and the associated expansion of irrigated acreage, have diminished ground-water recharge and increased discharge.

Ground-water pumping undoubtedly is one of several developments which affects flows in the surface channels in Big Lost River valley. Water supply conditions of earlier years, however, can only be restored fully by returning to the practices and irrigated acreage of those years. The economic consequences of such drastic measures would certainly be severe and undesirable. Resolution of the conflict for the water resources should therefore focus on an efficient and equitable use of the resource, based on the appropriate legal considerations and the best available hydrologic knowledge.

OBJECTIVES

The general objective of this report is to assess the impact of ground-water pumping on surface-water flows and evaluate the alternatives for resolution of the conflict. Specific objectives include:

1) to develop an understanding of the operation of the irrigation system in Big Lost River valley, and the historic changes that have occurred in that system,

2) to collect, assemble, and summarize the available and pertinent information on the water supply and irrigation diversions in the valley,

3) to relate changes in available water to changes in irrigation practices in the valley, especially the expansion of ground-water pumping,

4) as far as possible, to quantify the impact of ground-water pumping on surface water supply, and describe the limitations and assumptions associated with that determination, and

5) to recommend a procedure or procedures for compensating surface water users for flows lost as a result of ground-water pumping.

METHODS OF ANALYSIS AND DATA DESCRIPTION

In this study, the effects of pumping on surface-water supplies are evaluated by examination of historic changes in water supply and delivery that have occurred since the expansion of ground-water pumping, beginning about 1960. This method requires long-term records of precipitation, river discharge, and irrigation diversions.

Climatic variations have had a significant impact on water availability in the basin. However, the effects of climate variation on the results of this study were minimized by comparison of similar water years and the use of long periods of record.

Big Lost River discharge is available from U.S. Geological Survey Records for extended periods at three stations: 1) at Howell Ranch (13120500) in the upper part of the valley, 2) below Mackay Dam (13127000), and 3) below Arco (13132500). The locations of these stations are shown in figure 1. Data on summer flows at Howell Ranch are available for all years as early as 1920. Year-round data is available since 1949. There are about 3,000 acres of irrigated land above the Howell gage (U.S. Geological Survey, 1991). The station below Mackay Dam includes all water released from Mackay Reservoir except that diverted in the Sharp ditch. The discharge of the Sharp ditch has been recorded in watermaster records for Water District 34. A

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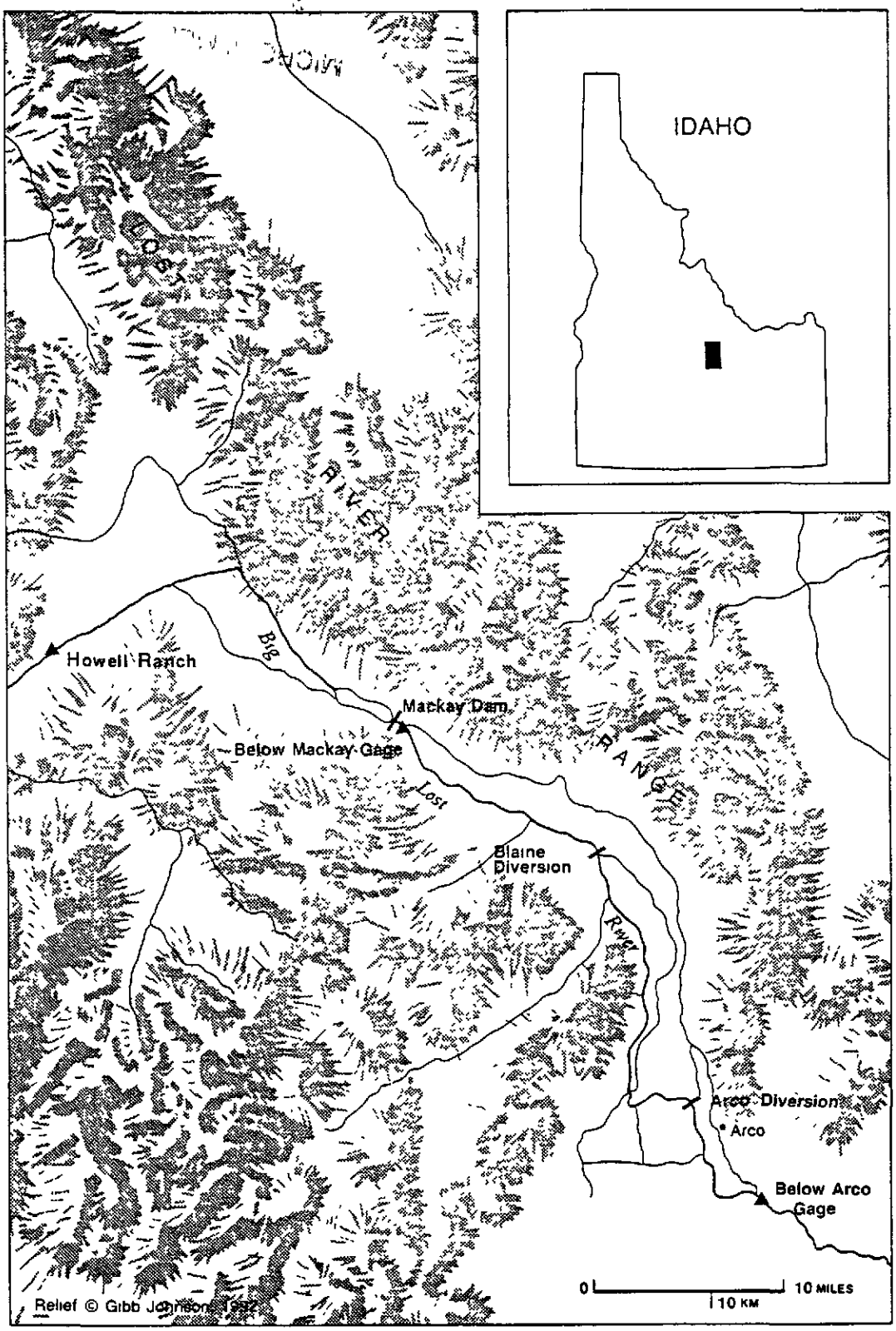


Figure 1. Map of Big Lost River Valley.

continuous record is available from the station since 1919. The station below Arco is below all major irrigation diversions in the Big Lost River valley. Discharge at the Arco station is available from 1946 through 1961, 1966 through 1980, and from 1982 through 1990. Storage in Mackay Reservoir also is available continuously since 1919. Monthly values of river flows and reservoir storage are listed in Appendix A.

Irrigation diversion records for the Big Lost River Water District dating back to 1923 were collected from the Idaho Department of Water Resources for this study. Annual summaries, prepared by the watermaster of Water District 34, were the source of information on the monthly volume of irrigation diversions for four reaches of Big Lost River (shown in figure 1): 1) Above Mackay Dam, 2) Mackay Dam to Blaine Diversion, 3) Blaine Diversion to Arco, and 4) below Arco. In the early records, the diversions were only distributed into two reaches: Above and below Mackay Dam. Annual summaries could not be obtained for 1938, 1939, 1941, 1955, and 1971 water years. Monthly diversion data from 1922 through 1990 are presented in Appendix B.

The validity of diversion records is uncertain. Changes in watermasters and measuring devices may have caused differences in diversion records over the years. Although the results of this study are sensitive to the

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accuracy of the records, methods of analysis are employed that minimize that sensitivity.

Monthly values of river discharge, reservoir storage, precipitation at Mackay and Arco, and irrigation diversions were compiled and stored in a DBASE III+ format. These records were analyzed graphically and statistically using several commercially available software packages.

The water year used by the Big Lost River Water District 34, extending from November 1 to October 31 of the following year, was used as the base for all annual values presented in this report. Flow and storage volumes are consistently presented in acre-feet.

WATER SUPPLY AND IRRIGATION IN BIG LOST RIVER VALLEY

The Big Lost River basin is a mostly mountainous area of 1,400 square miles in south-central Idaho (figure 1). The area is drained by the Big Lost River and tributaries. All surface-water and ground-water discharge from the basin is tributary to the Snake Plain aquifer. The estimated average annual water yield of the basin is 470,000 acre-feet (Crosthwaite and others, 1970). In 1970, Crosthwaite and others estimated that an average of 54,000 acre-feet were lost as surface water discharge to the Snake River plain, 308,000 acre-feet were discharged as subsurface flow, and 109,000 acre-feet were lost by evapotranspiration, annually. Mackay Reservoir, on the Big Lost River near Mackay, has a current storage capacity of about 44,000 acre-feet, and is principally used to store snowmelt runoff for irrigation.

Irrigated agriculture is concentrated on the coarse alluvial deposits of the Big Lost River valley. In 1970, Crosthwaite and others estimated the acreage irrigated by flow from Big Lost River above Mackay Reservoir to be 12,680 acres, and 36,540 acres irrigated below the reservoir. They determined that an additional 8,500 acres were irrigated from ground-water, at that time. Prior to 1960, stream flow supplied nearly all the irrigation water. However, since 1960, many wells have been constructed to supplement the surface water supplies and irrigate new lands.

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Concurrently, there has been a partial conversion from flood irrigation to sprinkler application methods and an expansion of the irrigated acreage.

The Big Lost River basin is divided into two principal parts for this analysis, above and below Mackay Dam. These areas represent distinct and somewhat independent units from water supply and irrigation management perspectives. This report focuses on lands below the dam, where most of the recent irrigation development has occurred. Irrigation below Mackay Dam is regulated separately from that above the dam except in periods of high flow, when the river is considered to be a single water body throughout its entire length. Irrigation supplies below the dam are supplemented by reservoir storage. Big Lost River flow below Mackay Dam is measured by a gaging station near Mackay and a station on the Sharp irrigation ditch. A relatively small amount of underflow, 15 cfs (Crosthwaite and others, 1970), is estimated to occur in the alluvium at the gaging station near Mackay. Several small tributaries to Big Lost River also contribute to water supply below the dam.

HISTORIC WATER SUPPLY PATTERNS

Annual and seasonal variations in precipitation on the Lost River watershed result in variations in streamflow and in the amount of water available for irrigation and for ground-water recharge. The total annual, and winter precipitation at Mackay for the period of 1925 through 1989 are shown in figure 2. Annual values are expressed on a water year basis, extending from November 1 through October 31 of the following year, matching the water year normally used by the water district. Low elevation annual precipitation records, such as at Mackay, do not show a high degree of correlation to annual stream flow. Only the general wet and dry periods of precipitation at Mackay are reflected in flow of the Big Lost River at the three primary gaging stations. Bar graphs illustrating discharge in each water year (November through October) at Howell Ranch (station 13120500) and at the gaging station below Mackay Dam (station 13127000) are shown in figures 3 and 4. Flow in the Big Lost River below Arco (station 13132500) is more variable (figure 5) and includes several years with zero discharge. The monthly discharge at each of the gaging stations and the volume of water stored in Mackay Reservoir are listed in Appendix A. The median flow at Howell Ranch (1925 - 1990) is 238,000 acre-feet, below Mackay Dam (1925 - 1990) is 214,000 acre-feet, and median flow below Arco (1947

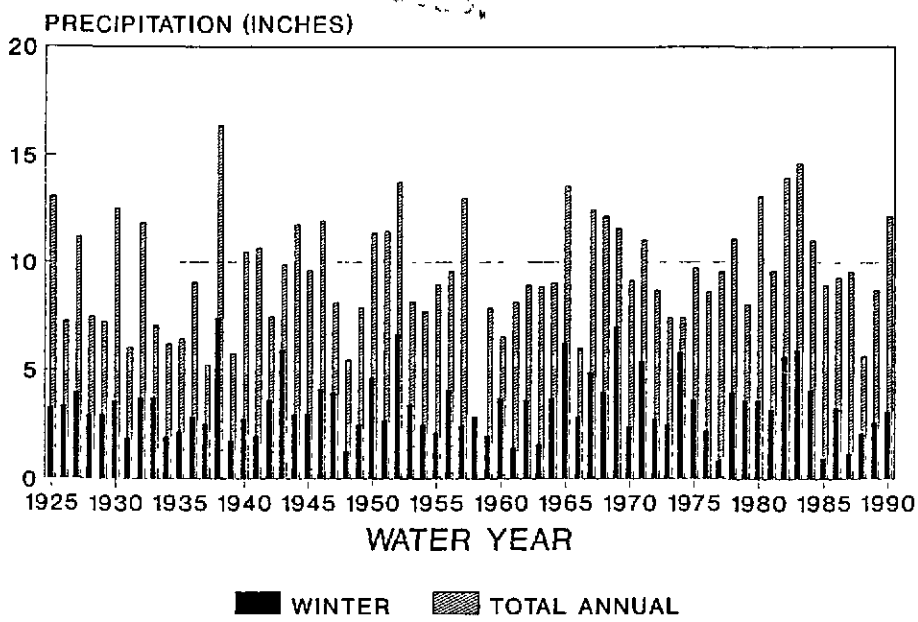


Figure 2. Precipitation at Mackay

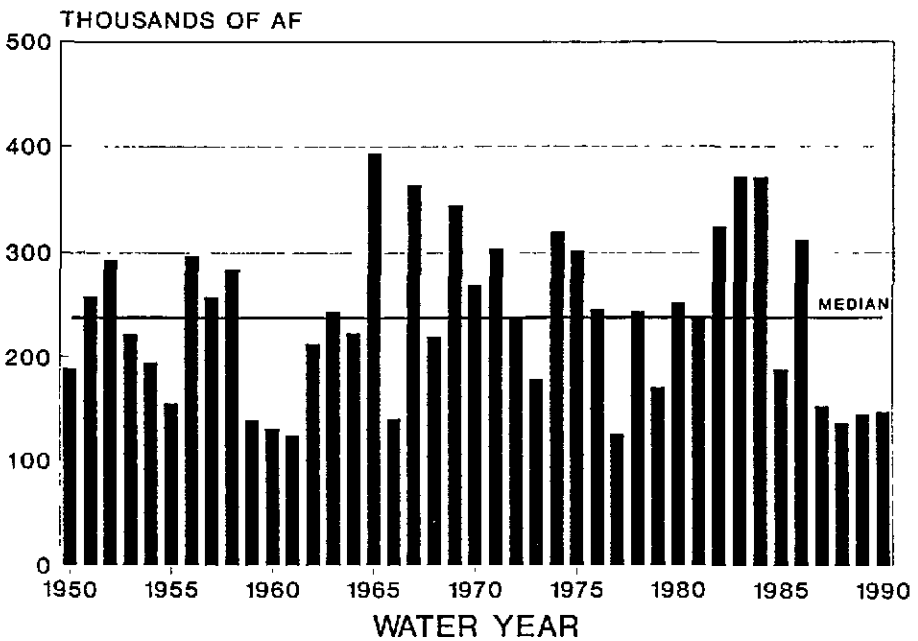


Figure 3. Big Lost River Discharge at Howell Ranch.

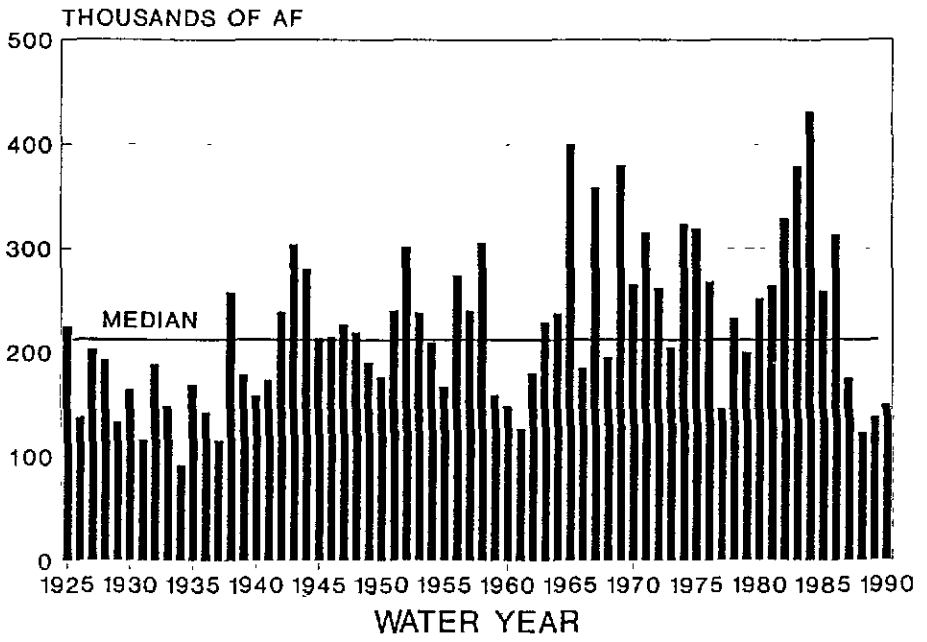


Figure 4. Big Lost River Discharge Below Mackay Dam.

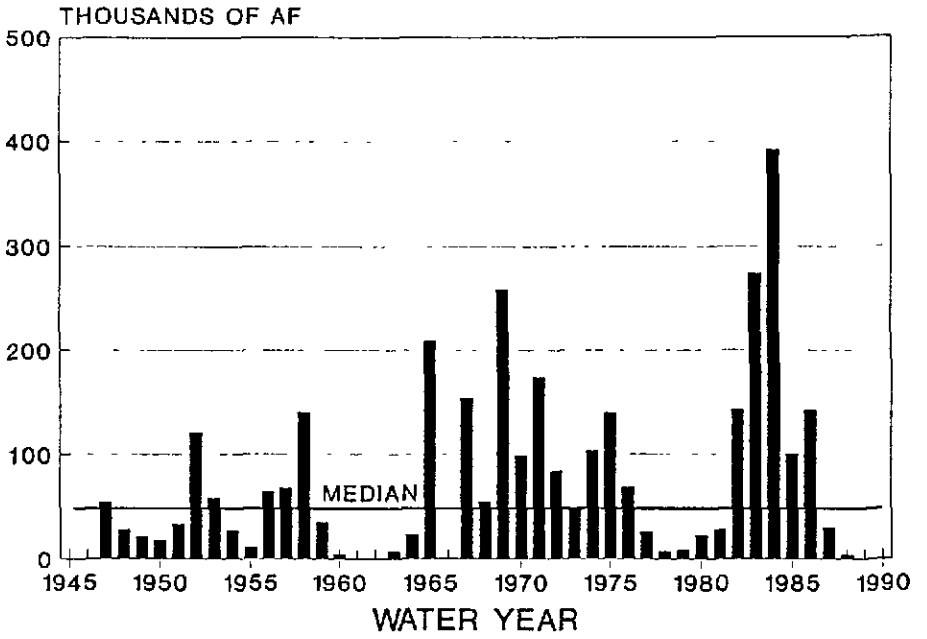


Figure 5. Big Lost River Discharge Below Arco.

- 1990) is 47,000 acre-feet. Annual and monthly flows below Mackay and below Arco are not adjusted for changes in storage in Mackay Reservoir.

Droughts, sometimes extending for several years, have been experienced several times during the history of irrigation in Big Lost River valley. Recent competition for water supply has been accentuated by the drought conditions experienced since 1986. River flow below Mackay Dam during the drought of 1987 through 1990 is similar to flow during the 1959 to 1962 period. The drought of the early 1930's is similar, but of longer duration than the current drought (through 1990). Mean river flows and irrigation diversions below Mackay Dam for the 1959 to 1962, and 1987 to 1990, periods are presented in table 1. River flows at the three gaging stations during the 1987 to 1990 period are slightly less than the flows during the 1959 to 1962 period. Diversions show a greater relative difference between the two periods than river flows. Average flow below Mackay dam varied only 4 percent between the two periods; but irrigation diversions below Mackay dam averaged 30 percent less in the later period.

Table 1. Mean River Flow and Diversion Comparison, 1959 to 1962 and 1987 to 1990.

Period	Howell	Mackay	Arco	Diversions Below Mackay
	Acre-Feet/Year			
1959-1962	152,200	154,000	6,600	110,900
1987-1990	136,491	147,900	5,800	77,600
Ratio[1]	0.90	0.96	0.88	0.70

[1] Ratio = (mean for 1987 to 1990) / (mean for 1959 to 1962)

HISTORIC PATTERNS IN IRRIGATION DIVERSIONS

Surface Water Diversions

Monthly diversion data are available from the District 34 Watermaster Annual Summaries for each canal, and sometimes by river reach. The temporal comparability of these records, however, is compromised by the changes that have taken place in the irrigation system over the decades. Some canals have changed names or service areas. Water transfers and exchanges have also occurred, changing the point of diversion from the river. The most valid year-to-year comparisons probably can be made on the total diversions for the two river segments, above and below Mackay Dam. Comparisons of diversions may also be possible within the smaller river reaches frequently reported in the Annual Summaries:

1) Above Mackay Dam,
2) Mackay Dam to Blaine Diversion,
3) Blaine Diversion to Arco Diversion, and
4) below Arco Diversion.

However, the reach diversions may have changed because of changes within the irrigation system. This report concentrates on the diversions below Mackay Dam, since this part of the valley has experienced the most extensive ground-water development.

Diversion data reported in the Watermaster Annual Summaries represent the measured or estimated flows at the point of diversion of each canal from Big Lost River. The magnitude of the diversions are affected by:

1) the water supply in the river,
2) the demand for water, and
3) river gains and losses.

The third factor, river gains and losses, is the component which is impacted by ground-water pumping. The means of measuring or estimating diversions has changed with time and the reliability of the reported values has also changed. Apparently, less emphasis was placed on water measurement and record keeping from 1973 through 1985, and consequently the records may be less reliable during this period.

At times during most years, the demand for water exceeds the available supply, and diversions are strongly related to the flow in the river below Mackay Dam. This relationship is shown by the nearly parallel distributions of annual diversions and river flows presented in figure 6. Several years are absent from the graph of figure 6, where data are missing or incomplete. A notable feature of figure 6 is the increased difference between river flow below Mackay Dam and irrigation diversions after 1965. In years of below normal river flow below Mackay, the mean ratios of annual diversions to river flow below Mackay (including

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[illegible] 1989

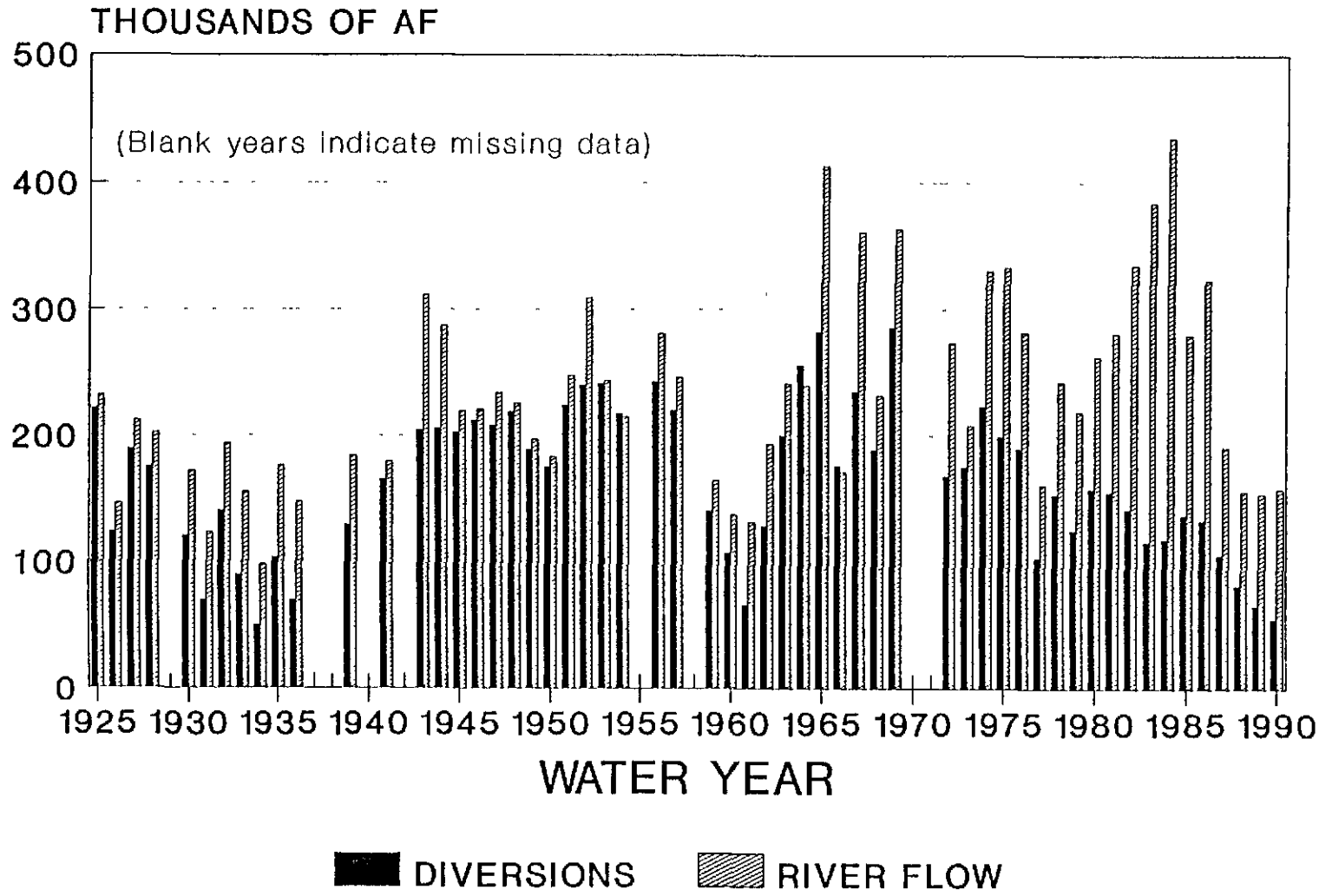


Figure 6. Annual Diversions and River Flow Below Mackay Dam.

Sharp ditch and pumpage additions) is 0.80 for the period before 1965, and 0.59 for 1965 and after.

Diversions in high water years are generally limited by demand rather than water supply. In some high water years in the early 1980's, the recorded diversions were substantially less than in many previous years of lower water supply. In 1984, the watermaster report indicated that all rights were filled all season, with only 50 percent of the water diverted during the growing season as in previous high water years, like 1965. This difference suggests that either the watermaster records are in error, or the demand for surface water has declined during the 1980's. The former seems to be the more likely possibility.

Ground-Water Diversions

The amount of ground-water pumpage for irrigation changes from year to year in response to variations in irrigation demand and the changing degree of irrigation development in the valley. Prior to 1960, only a few irrigation wells were present in the valley. The drought of the early 1960's combined with other development incentives, however, resulted in a boom in ground-water development in the early 1960's, and again in the early to middle 1970's. The quantity of ground water pumped during these years is unknown, except for the 1984 through 1990 period which is addressed in a following chapter, "Estimation of Irrigation

Pumpage." Historic changes in ground-water development are reflected by the amount of ground-water claimed in water rights filings with the Idaho Department of Water Resources. Figure 7 illustrates changes in the cumulative total of ground-water rights claims in Big Lost River valley. The extensive claims with priorities dating to the early 1960's and 1970's indicate the rapid rate of growth of ground-water development during these periods. The amount of ground-water claims provide an approximate indicator of the potential for ground-water pumping. It does not imply the amount of actual pumping due to the effects of weather and other factors.

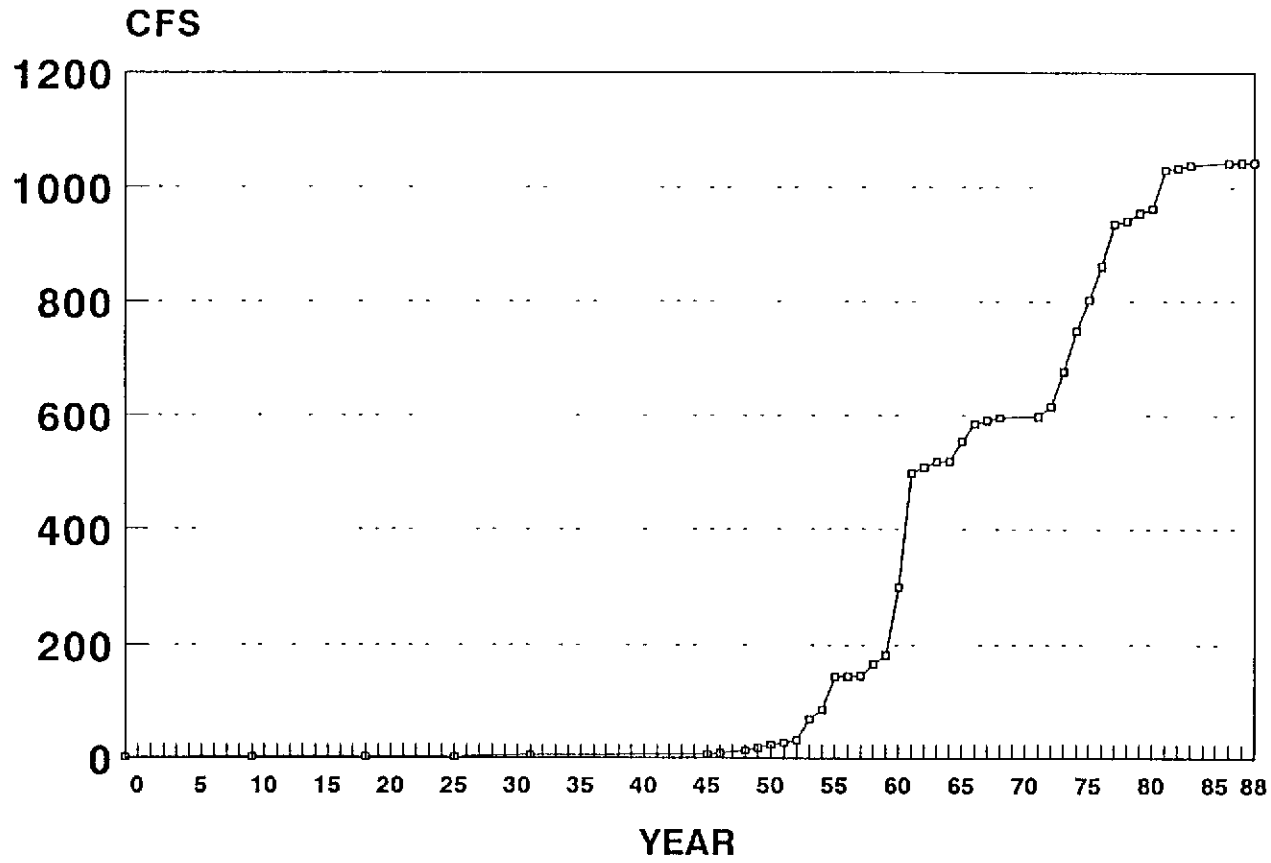


Figure 7. Historic Changes In Ground-Water Claims In Big Lost River Valley (from the Idaho Department of Water Resources).

COMPARISON OF DIVERSIONS TO RIVER FLOW

In most years, surface water diversions for irrigation are limited by the available supply. During these years a strong relationship exists between flow in the Big Lost River below Mackay Dam and irrigation diversions below the dam. A scatter plot of annual river flow against diversion data for all years with complete record, from 1923 through 1990, is presented in figure 8. The water year associated with each point is given by the two digit number at the appropriate grid point. An approximately linear relationship is apparent during years where river discharge is less than about 250,000 acre-feet. In years with high flow, however, little or no relationship is apparent. The low ratio of diversions to river flow in the 1980's does not appear to be due to intense, short duration runoff. Diversions in high water years in the 1980's are substantially less than in earlier high water years, as was also apparent from figure 6. Scatter plots based on flow during the growing season appear similar, and consequently, are not presented.

The impacts of development on hydrologic observations, or systematic changes in the method of measurement, are often apparent in a double-mass balance graph. A double-mass balance plots the cumulative volume of one station

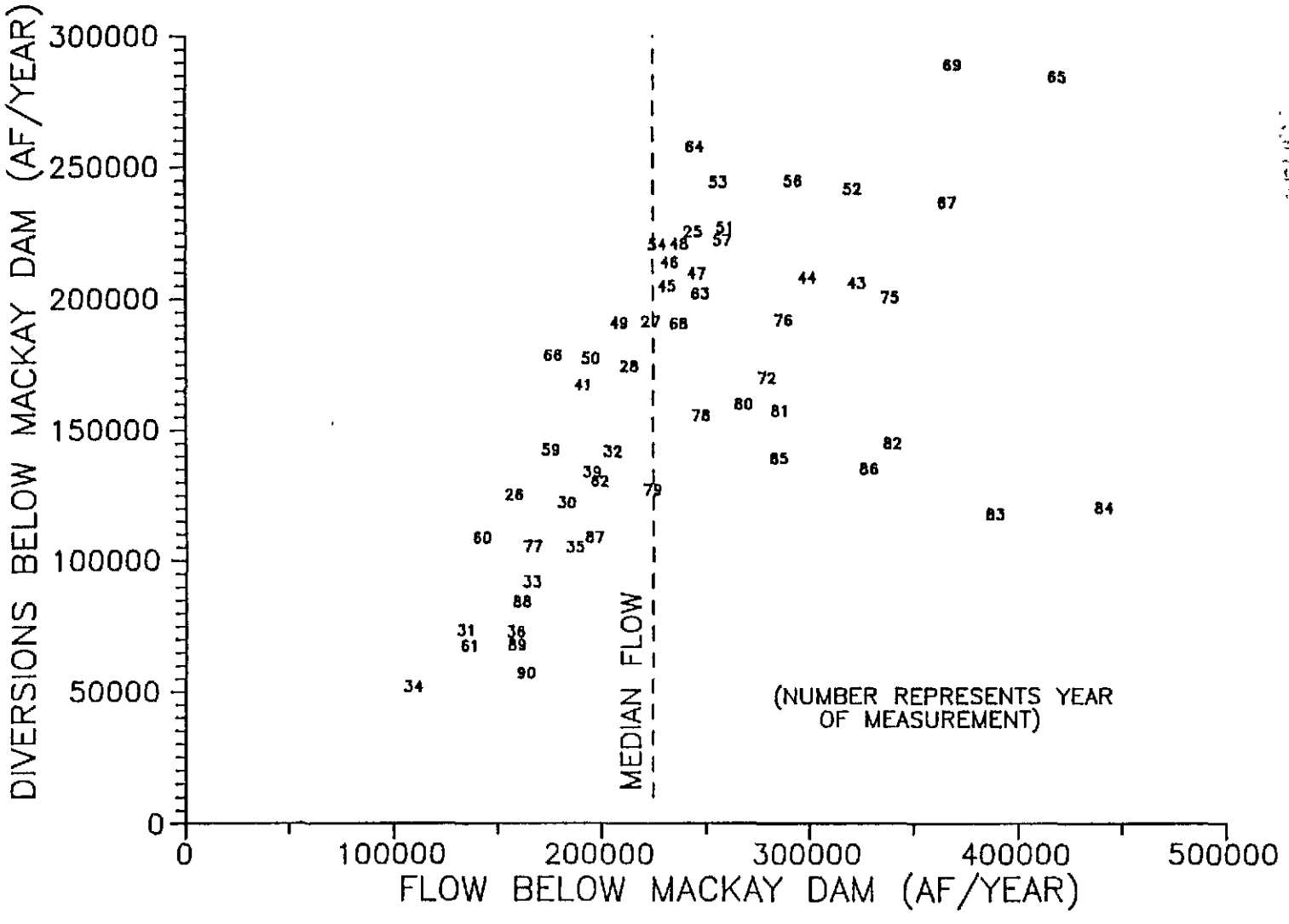


Figure 8. Scatter Plot of Diversions Against River Flow Below Mackay Dam.

against the cumulative volume at a second station, or set of stations. Figure 9 shows application of the double-mass balance to display changes in the relationship between river flow below Mackay Dam and irrigation diversions above and below the dam.

Long-term changes in slope of a double-mass balance would indicate that the relationship between diversions and river flow has changed. Changes in slope are most apparent in the line representing diversions below Mackay Dam. Some of the curvature is due to differences in the relationship between diversions and river flow at high and low flows. In addition to this, however, there appears to be a general flattening of the slope (below Mackay Dam) beginning about 1960, and more noticeably, after about 1970. This indicates that either the proportion of river flow diverted for irrigation has been reduced, or that a new watermaster made significant changes in measurement methods and record keeping.

A straight line plot on the double-mass balance indicates that no change has occurred in the relationship between river flow and diversions, nor in the validity of the measurements. The diversions above Mackay Dam, in contrast to those below the dam, plot as a relatively straight line in figure 9. However, a slight change in slope is apparent before 1940, and after 1983. The relative linearity of the plot representing diversions above the dam,

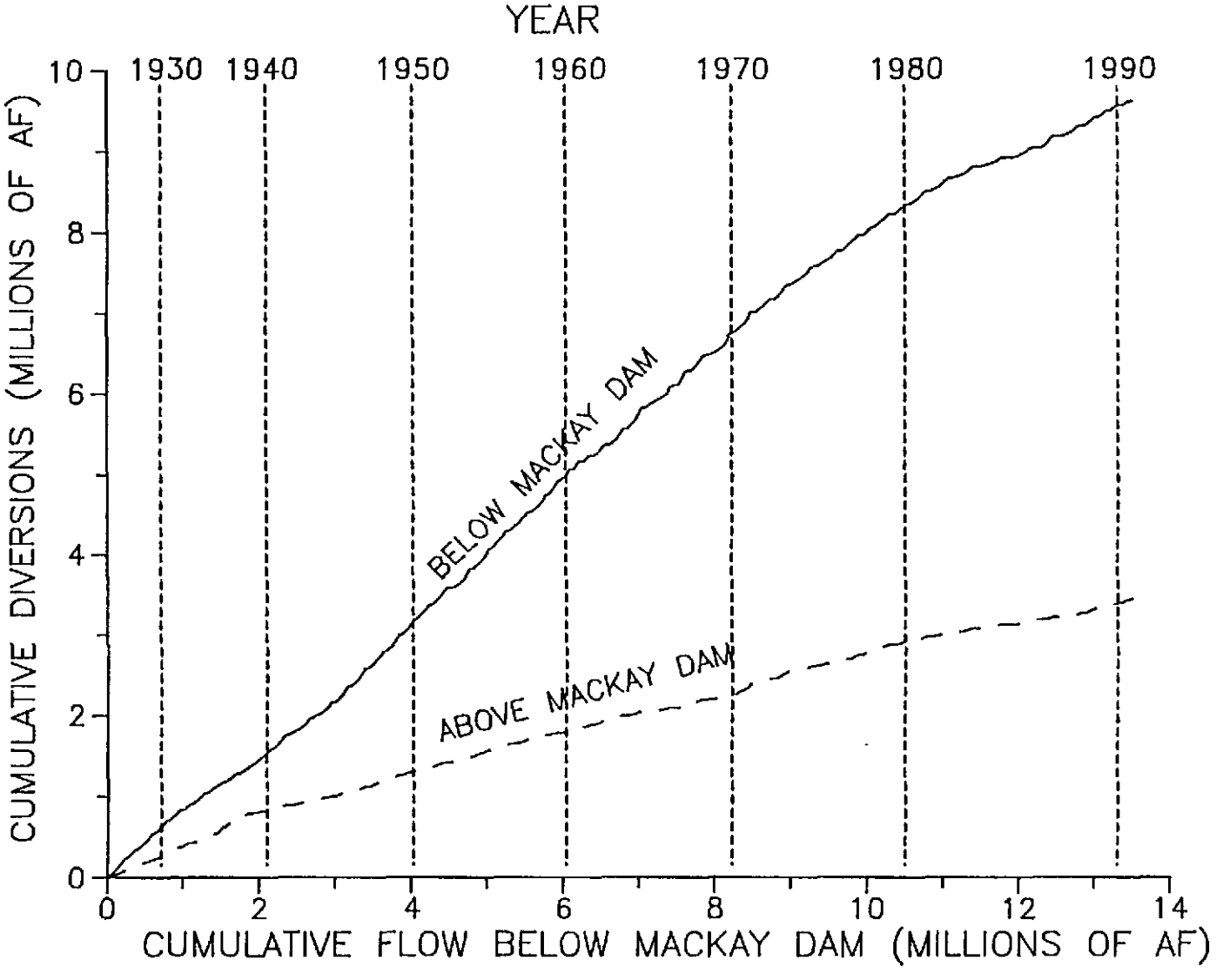


Figure 9. Double Mass Balance of Diversions Above and Below Mackay Dam Against River Flow Below Mackay Dam.

coupled with the relatively unchanging irrigation practices in that area, lends credibility to the double-mass balance as a method of observing the impacts of development.

ESTIMATION OF DIVERSION DEPLETION

Irrigation of new lands in, and near Big Lost River valley, has been made possible by the conversion to more efficient sprinkler irrigation, and by the construction of irrigation wells. The expanded irrigated areas transpire more water than the smaller, and partially irrigated, areas of earlier years. Ground-water withdrawals for irrigation, and diminished recharge from sprinkler irrigated lands has caused a general decline in the water table in the valley. The lower water table results in increased seepage losses from the river and reduced ground-water inflow. The increase in river losses results in less water being available for diversion into the canal systems of the valley. The objective of this section of the report is to estimate the amount of depletion of diversions that has occurred from the combined effects of expanded irrigation, conversion to sprinklers, and ground-water pumpage.

Two methods are applied to estimate diversion depletion from the diversion and river flow data. The methods rely on different periods of record to minimize the effects that different record keeping and measurement procedures may have on conclusions.

Method 1: Comparison of Periods of Similar Water Supply

Depletion of diversions is estimated by comparison of periods of relatively similar water years, before and after the extensive development of the 1960's and 1970's. The periods from 1959 through 1962, and 1987 through 1990, are suitable for this type of comparison (table 1). The ratio of irrigation diversions to river flow below Mackay Dam is 0.72 for the pre-development period of 1959 through 1962. During the 1987 through 1990 period, the respective ratio is 0.52. The difference between these ratios (0.20), multiplied by the average annual river flow during the periods of estimation of 147,000 acre-feet, yields an estimate of average diversion depletion for that period equal to 29,600 acre-feet per year.

Flow during the periods of analysis was below normal, and the estimated depletion is, therefore, representative of below normal flow conditions in the river. This method provides no information on how depletion changes in times of different water supply.

Method 2: Differences in Regression Lines

The competition for water supply in Big Lost River valley is most intense in low water years. Low water years are also those which display a relatively strong linear relationship between annual irrigation diversions and river

flow below Mackay Dam. Figure 10 shows the relationships between diversions and river flow for two periods during years in which flow below Mackay Dam was less than normal (220,000 AF). The period before 1960 represents the era prior to extensive irrigation expansion and ground-water development. The second period presented in figure 10, from 1960 through 1990, represents the era of transition to sprinklers, expanding acreage, and increasing ground-water development. The solid line in figure 10 is a regression line based on below normal flows prior to 1960. The dashed line is based on below normal flows from 1960 through 1990. The mathematical expressions of the two lines are as follows:

Before 1960,

$$\text{DIVERSIONS} = -86799 + 1.300 \times \text{FLOW}$$
$$r^2 = 0.77 \text{ , and}$$

1960 and after,

$$\text{DIVERSIONS} = -123{,}104 + 1.405 \times \text{FLOW}$$
$$r^2 = 0.73 \text{ ,}$$

where:

DIVERSIONS = Annual irrigation diversions below Mackay Dam in acre-feet, and

FLOW = Annual discharge of Big Lost River below Mackay Dam, including Sharp ditch, in acre-feet.

The difference between the two regression lines of figure 10 indicates that changes in irrigation practices and ground-water pumpage probably have impacted the available

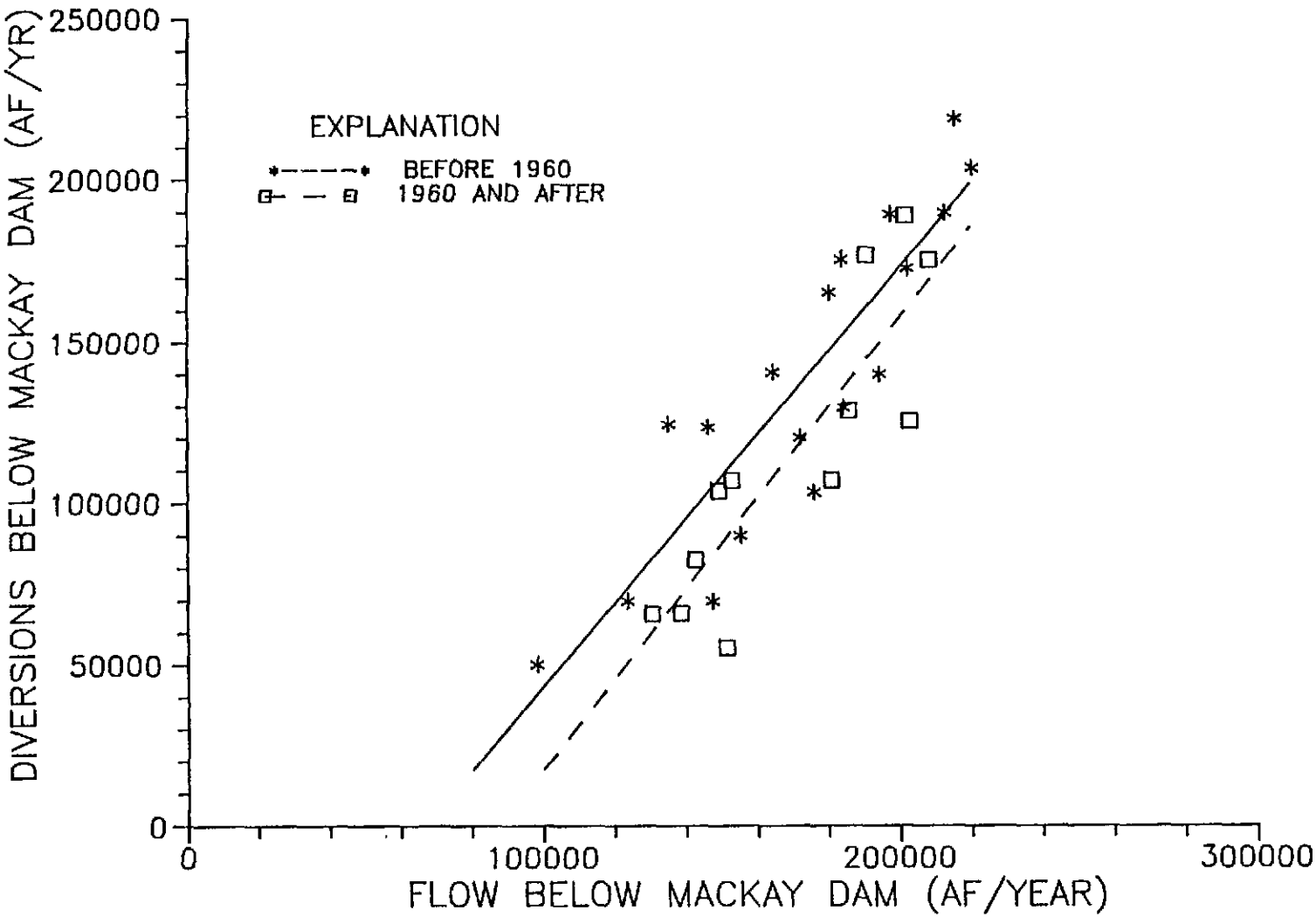


Figure 10. Irrigation Diversions and River Flow Regression For Below Normal Flow Years, Before and after 1960.

surface-water supply. That impact has been the result of a lower water table that induces more river losses and decreases gains. In below normal flow years, the average impact can be estimated as the difference between the two regression lines. Subtracting the second equation (1960 - 1990) from the first (before 1960), yields the following equation for difference, as a function of river flow:

DEPLETION = 36,300 - 0.1055 x FLOW

where

DEPLETION = estimated annual diversion depletion in acre-feet, and

FLOW = annual river flow below Mackay Dam, including Sharp ditch, in acre-feet.

Diversion depletion estimated by the above equation decreases as annual river flow increases. This may be related to the increased ground-water pumpage needed to supplement surface water supplies during dry years. For the 1987 to 1990 period used in derivation of Method 1, the river flow below Mackay averaged 147,000 acre-feet. The estimated depletion of diversions is 20,800 acre-feet for that period. In the normal year the river flow below Mackay Dam is about 220,000 acre-feet, and the estimated depletion of diversions is 13,100 acre-feet.

This method "averages out" differences in diversions for two periods of 18 years (before 1960), and 12 years (1960 and after) of record. The effects of development,

however, are certainly not fully apparent by the 1960's and therefore, this method may tend to underestimate the impacts on diversions. The post-development period was not represented with more recent data in order to contrast the first method of estimation, and because of lack of confidence in regression based on only a few data points. The regression equations also only describe the general relationship between diversions and river flow. A little more than 70 percent of the variation in diversions can be accounted for by variation in river flow. The remainder is attributed to other factors such as residual effects from the previous year. The post-development period was not limited to more recent years in order to contrast the first method of estimation, and because of the lack of confidence in regression based on only a few data points. It is acknowledged that different regressions can be developed by the selection of different periods of record.

Comparison of Methods for Estimating Depletion

The most valid period for comparison of Methods 1 and 2 is for those years used in derivation of Method 1, from 1987 through 1990. In this period, depletion estimated by the first method is about 30,000 acre-feet per year. The second method, based on the difference between regression equations, estimates the diversion depletion to be about 21,000 acre-feet per year, for the same river flow

conditions. The smaller value of the second estimate may be due to the use of a longer period of post-development record, which included the transitional years in which irrigation development was taking place, and impacts were not fully evolved.

The first estimation method, based on comparison of two periods of similar river flow, provides a depletion estimate for specific low river flow periods. The second method is somewhat more versatile, estimating depletion as a function of flow based on below normal water years. Neither method specifically addresses estimation of depletion during periods of above normal river flow.

In above normal water years, a surplus of water often exists during spring and early summer. By late summer, however, surface water supplies may be inadequate to meet crop demands. The deficiencies during this time are probably amplified by increased seepage and decreased river inflow, induced by irrigation expansion and ground-water pumpage.

Extrapolation of the second, regression-based method, to years of above normal river flow provides reasonable estimates of diversion depletion; even though the method is based on below normal water years. It is recognized that extrapolation of this method to above normal flow years can not be supported conceptually; but this procedure may be the best available means of estimation. Depletion, calculated

by this method, decreases in years of increasing river flow. The estimated depletion ultimately becomes zero when the annual discharge of Big Lost River below Mackay Dam (including Sharp Ditch) exceeds 344,000 acre-feet.

The frequency of occurrence of depletion volumes can be predicted by applying the depletion equation of Method 2 to historic river flow records. A depletion duration curve, produced in this manner, is presented in figure 11. According to figure 11, no depletion occurs in about 4 percent of the years, and, in contrast, 18 percent of the time depletion estimated by this method would be in excess of 20,000 acre-feet per year.

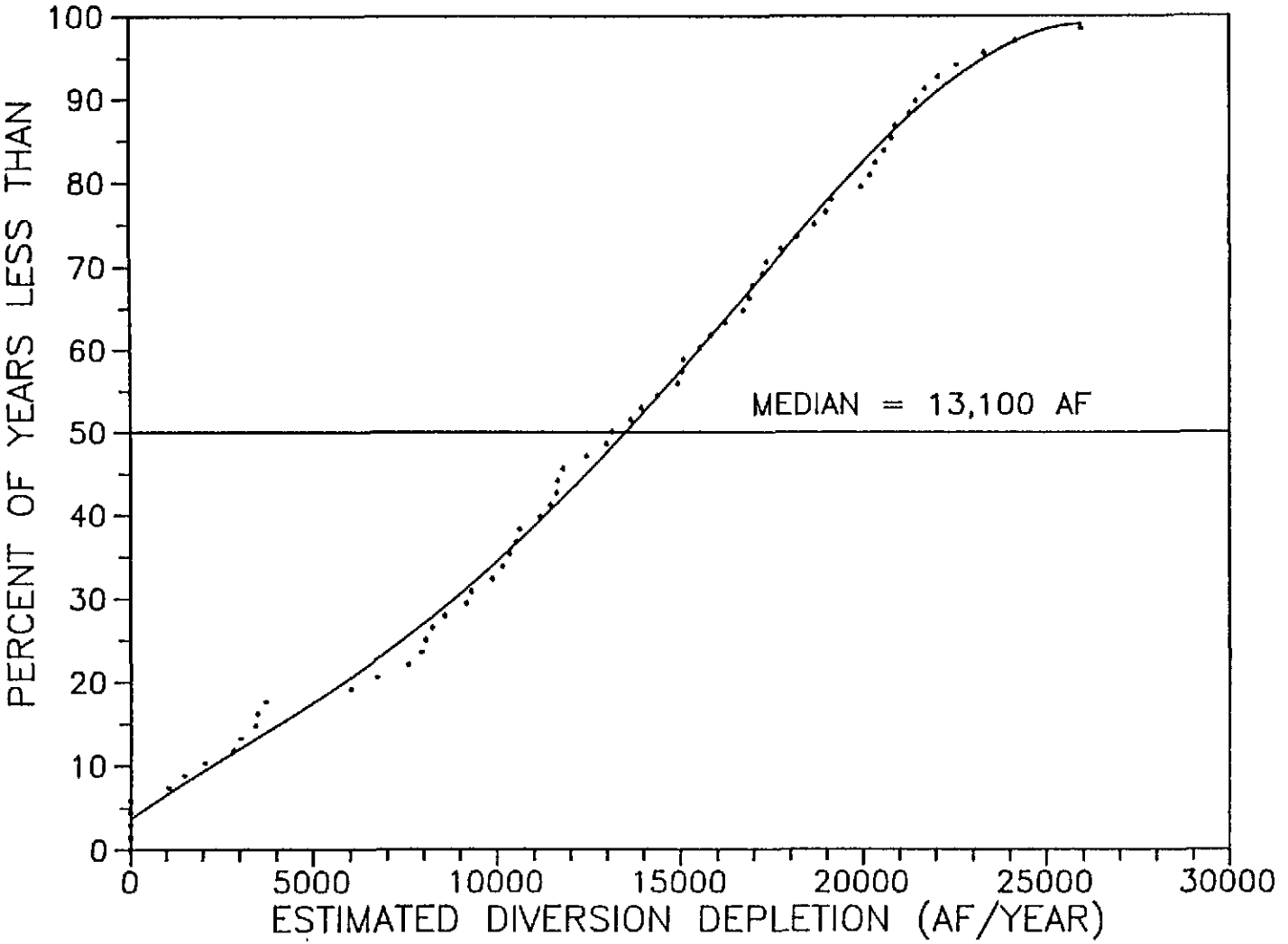


Figure 11. Duration Curve of Estimated Annual Diversion Depletion.

ESTIMATION OF IRRIGATION PUMPAGE

Annual ground-water pumpage from the Big Lost River Valley below Antelope Creek has been estimated for the period of 1984 through 1990 (table 2). The annual pumpage fluctuates in response to variations in annual surface-water supplies and crop demands. A scatter plot and linear regression line of annual ground-water pumpage below Antelope Creek against river flow below Mackay (including Sharp Ditch) is presented in figure 12. The corresponding regression equation is:

$$PUMPAGE = 61{,}200 - 0.1284 \times FLOW \qquad (r^2 = 0.88)$$

where

PUMPAGE = annual pumpage in acre-feet, and

FLOW = annual discharge below Mackay Dam, including Sharp Ditch in acre-feet.

Table 2. Annual Pumpage Below Antelope Creek.

Calendar Year	Pumpage (af)
1984	8,300
1985	27,500
1986	17,300
1987	28,700
1988	44,500
1989	48,600
1990	43,800

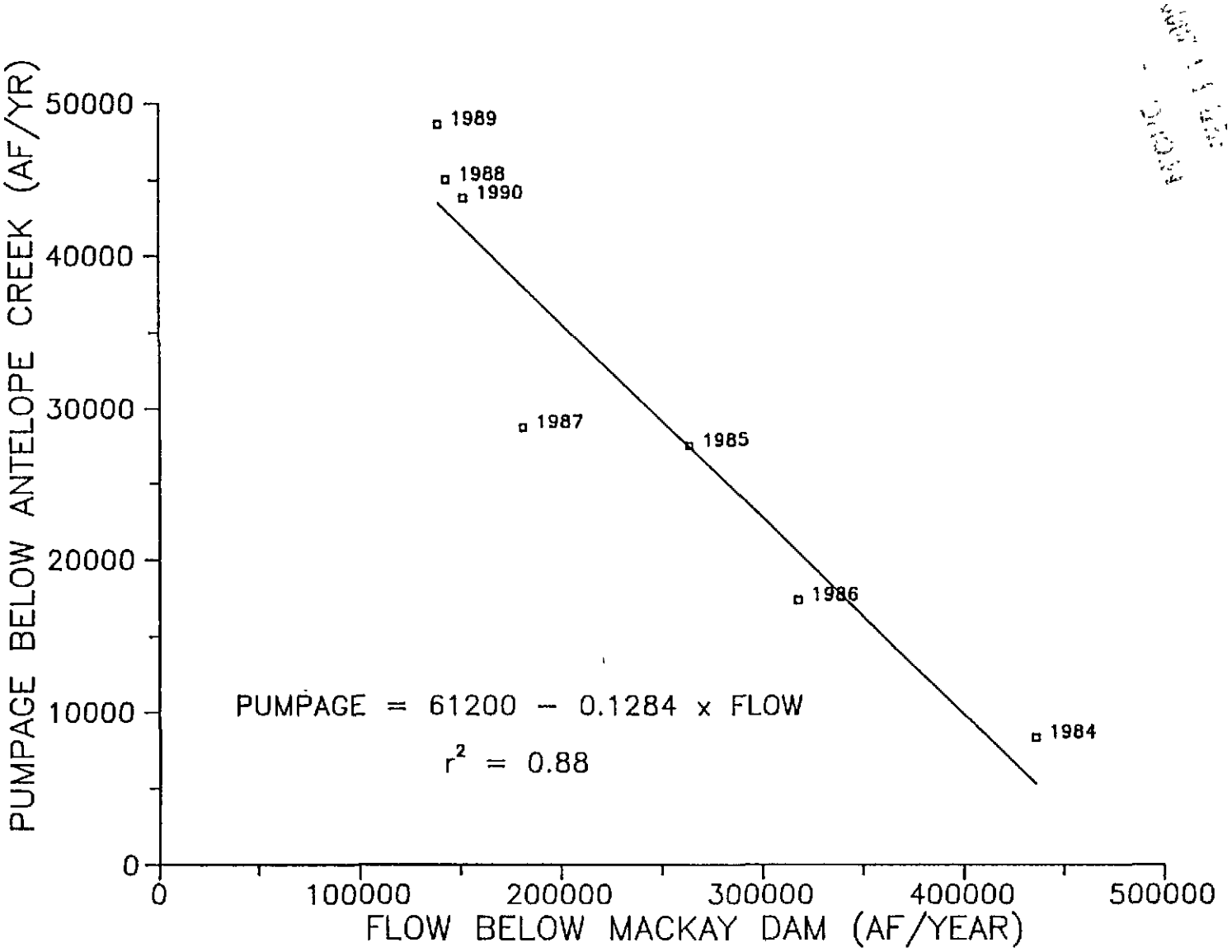


Figure 12. Linear Regression of Annual Pumpage Below Antelope Creek to Flow Below Mackay Dam.

Many irrigation wells in Big Lost River valley are located above the point where Antelope Creek is tributary to Big Lost River and therefore, are not included in the values of table 2. Approximately 700 out of a total of 1000 cfs of claimed ground-water rights in the valley are located below the junction of the two streams (Idaho Department of Water Resources, unpublished map). Total annual pumpage in the valley was estimated by assuming that the relative pumpage in an area is proportional to the claimed ground-water rights. Pumpage below Antelope Creek was, therefore multiplied by 1.428 (1000 cfs divided by 700 cfs) to estimate total pumpage. The multiplier was applied to the developed regression equation expressing the relationship between annual pumpage and flow below Mackay Dam to generate the following expression:

TOTAL PUMPAGE = 87400 - 0.1834 x FLOW

where

TOTAL PUMPAGE = Annual pumpage from the entire Big Lost River valley, in acre-feet, and

FLOW = annual discharge below Mackay Dam, including Sharp Ditch in acre-feet.

Pumpage estimates presented in table 2 span a period of only 7 years, and probably do not represent the long-term normal pumpage that would occur in the absence of further ground-water development. Long-term pumping estimates, at the current stage of well development, were determined by application of the regression equation relating total valley

pumpage to river flows below Mackay Dam. Annual discharges below Mackay Dam, for the 1923 through 1990 period, were substituted into the equation to estimate the long-term variability of pumpage. The resulting estimates were used to develop the pumpage-duration curve shown in figure 13. Normal annual pumpage in the Big Lost River valley, as estimated by this procedure, is 47,000 acre-feet. The estimated valley pumpage experienced in 1989 of 69,400 acre-feet would occur only a few times every 100 years.

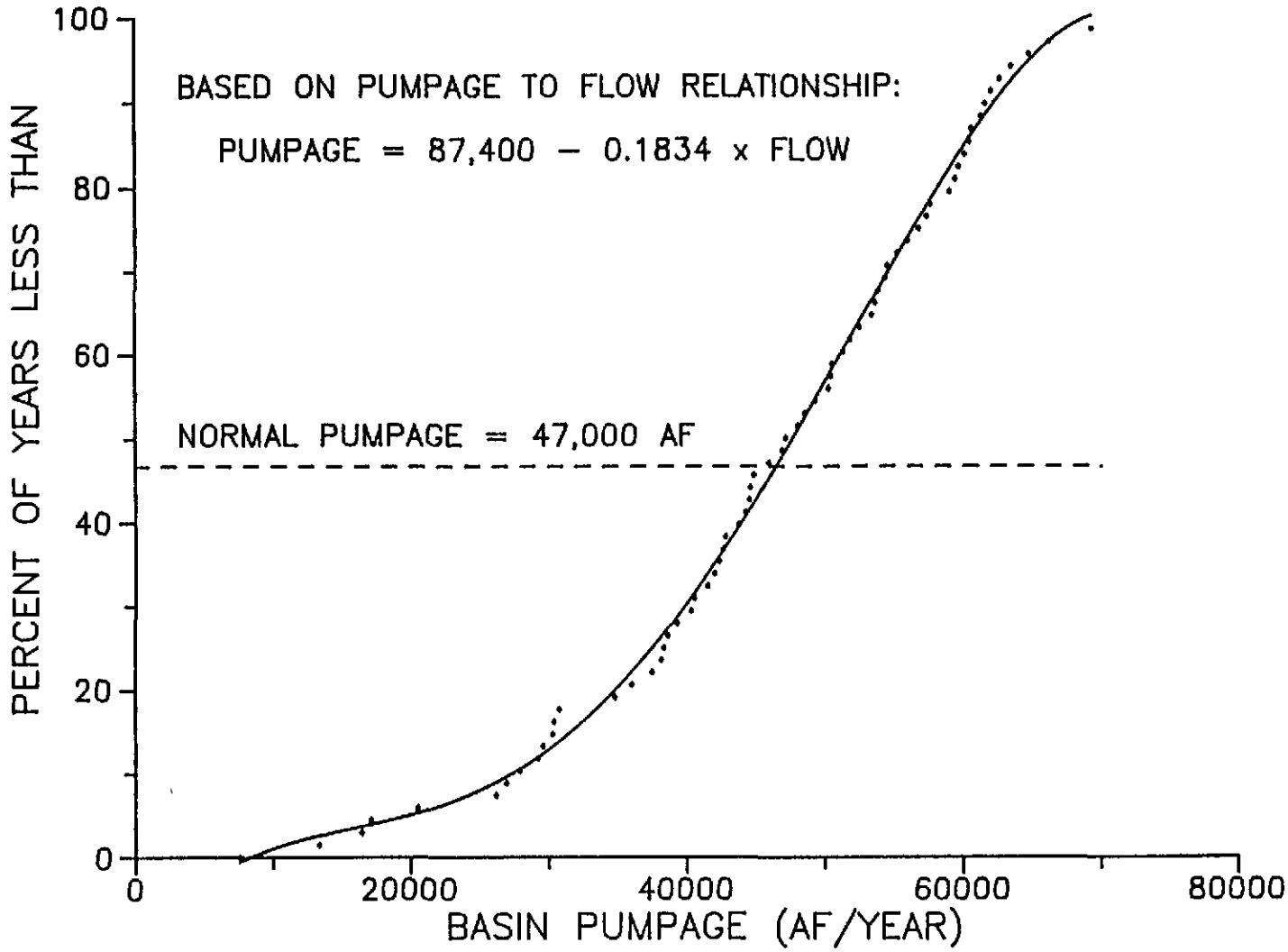


Figure 13. Duration Curve of Estimated Annual Pumpage.

DISTRIBUTION AND EXPANSION OF IRRIGATED LAND

Water is lost from Big Lost River valley by four mechanisms: 1) river discharge to the plain, 2) ground-water underflow to the plain, 3) irrigation conveyance outside of the basin, and 4) by evaporation and transpiration. Ground-water pumping, and the accompanying conversion to sprinkler irrigation, has contributed to an expansion of irrigated lands and resulted in a sizable increase in the fourth component listed above, relating to crop consumptive use. About 80 percent of the water applied by sprinklers is lost through crop consumptive use, the remaining 20 percent returns to the ground-water as deep percolation (C.E. Brockway, personal communication). Transporting water out of the basin for irrigation on the Snake River plain results in loss of the entire application, as the deep percolation from the irrigated areas will not return to the ground-water system of the Big Lost River valley.

The land area irrigated by the water resources of Big Lost River basin has significantly expanded since about 1970. The change in irrigated acreage in Butte County is shown in figure 14. The majority of irrigated land in Butte County is in, or receives water from, the Big Lost River basin. The graph shows that irrigated acreage in Butte County, and probably Big Lost River valley, nearly doubled

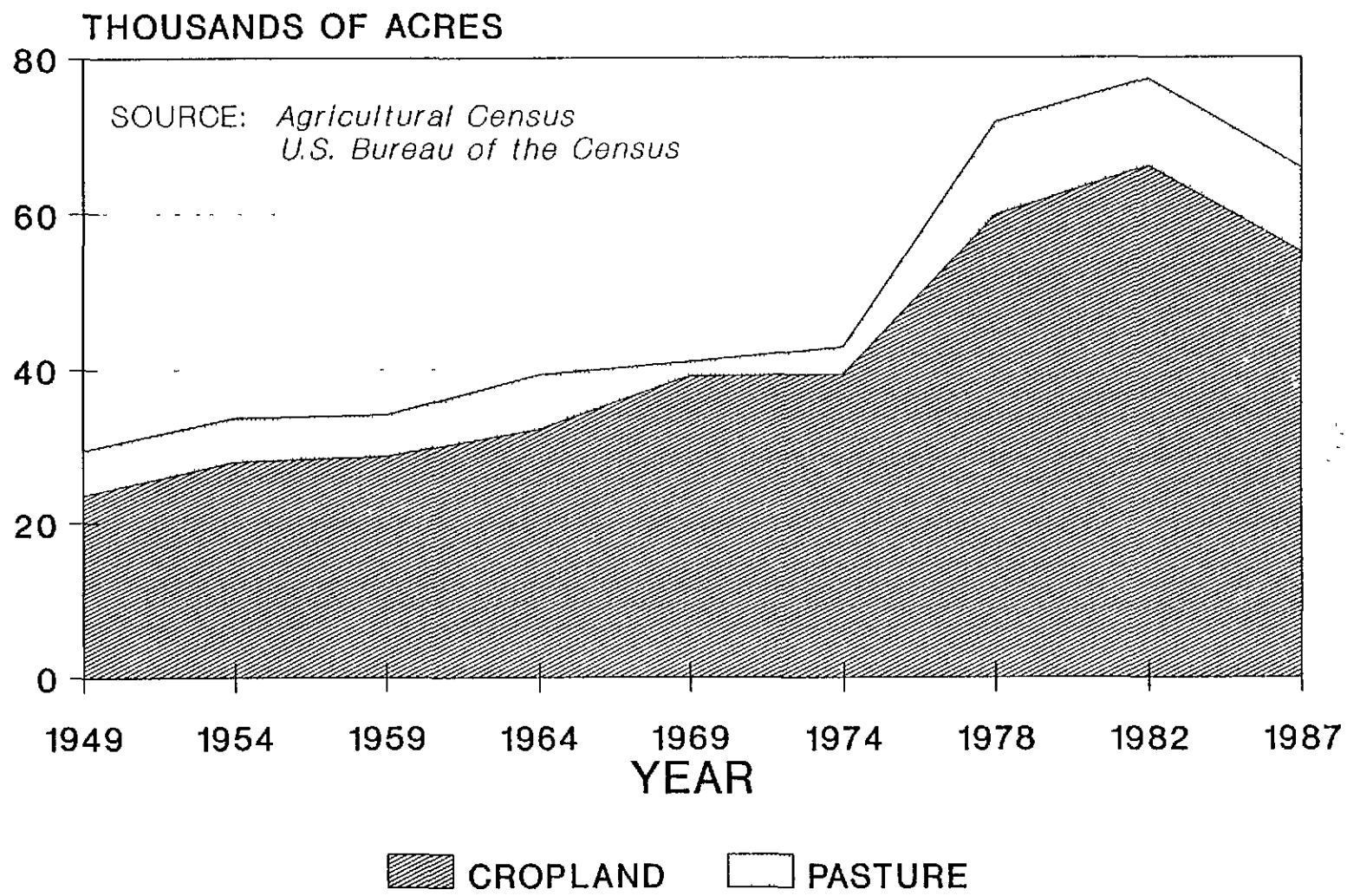


Figure 14. Historic Changes in Butte County Irrigated Acreage.

between 1974 and 1982. The acreage expanded from about 43,000 acres to about 77,000 acres in 1982. Much of this expansion is thought to have occurred with surface and ground water from the Big Lost River valley. An expansion of 34,000 acres in Butte County results in additional water consumption of about 41,000 acre-feet, assuming an irrigation requirement of 1.2 feet per year (Crosthwaite and others, 1970). Irrigation requirements calculated from the methods of Allen and Brockway (1983) are about 2.0 feet per year, implying that the additional water consumption may be as large as 68,000 acre-feet per year. Figure 14 is based on past records of the U.S. Census Bureau, Agricultural Census which determines irrigated acreage every four or five years.

PUMPAGE IN PERSPECTIVE

Ground-water pumping depletes the ground-water resource of the valley by an amount equal to the crop consumptive use on the irrigated lands, unless the pumped water is applied outside of the valley. Water applied in excess of the crop consumptive use returns to the ground-water reservoir as deep percolation. Approximately 20 percent of the water applied by sprinkler irrigation returns to the aquifer as deep percolation (C.E. Brockway, personal communication). The total consumptive use resulting from the normal year pumpage of 47,000 acre-feet is, therefore, estimated to be about 40,000 acre-feet, depending upon the amount of pumpage exported out of the basin.

Consumptive use losses associated with ground-water pumping are relatively small compared with basin underflow in a normal year. Estimated losses resulting from irrigation pumping of 40,000 acre-feet per year represent about 13 percent of the basin underflow estimated by Crosthwaite and others (1970) for the period before 1970. On a long-term basis, more water is lost by surface discharge onto the Snake River Plain than is consumptively used by irrigation pumpers.

The estimated pumpage in a normal year compares reasonably well with increased crop demands resulting from expanded acreage shown in figure 14. The estimated normal

pumpage of 47,000 acre-feet is sufficient to irrigate between 19,000 and 31,000 acres, assuming 80 percent application efficiency and 1.2 to 2.0 feet of irrigation demand. Conveyance losses decrease that acreage somewhat more. The recent increase in irrigated acreage in Butte county is about 34,000 acres according to Agricultural Census statistics.

Depletions of surface water diversions estimated in the section on "Relationships Between Diversions and River Flow" are less than estimates of basin pumpage, as expected. Diversion depletion for the 1987 through 1990 water years averaged 29,600 acre-feet per year, according to the first method of depletion estimation. The pumpage during that period averaged 41,400 acre-feet per year, or about 1.4 times the estimated depletion.

A relationship between estimated diversion depletion and pumpage can also be developed by combining the depletion equation of Method 2:

DEPLETION = 36,300 - 0.1055 x FLOW,

with the adjusted pumpage regression equation representing pumpage in the entire valley:

PUMPAGE = 87,400 - 0.1834 x FLOW.

Depletion, expressed as a function of pumpage, is therefore:

DEPLETION = 0.575 x PUMPAGE - 14,000,

where

DEPLETION = annual depletion of diversions below Mackay Dam in acre-feet,

FLOW = annual flow of Big Lost River below Mackay Dam, including Sharp Ditch, in acre-feet, and

PUMPAGE = annual pumpage within the entire basin, in acre-feet.

According to the above equation, the ratio of diversion depletion to pumpage decreases in years of low pumpage. When surface water supplies are such that less than 14,000 acre-feet of ground-water are pumped, then depletion is estimated to be zero. As pumpage volumes increase the ratio of estimated depletion to pumpage increases. In the normal year, pumpage is 47,000 acre-feet, and estimated depletion (by Method 2) is 13,100 acre-feet, resulting in a ratio of depletion to pumpage of 0.28.

Ground-water pumping is only partially responsible for the depletion of river flow and irrigation diversions. Expansion of surface water irrigation rights to larger land areas also contributes to the problem by increasing crop consumptive use and generating less ground-water recharge. The actual expansion of acres irrigated from surface and ground-water of Big Lost River basin is presently unknown, making it impossible to proportion additional water use between surface and ground-water sources.

ALTERNATIVE MANAGEMENT OPTIONS

Increased consumptive water use in Big Lost River valley has impacted the availability of water for senior surface water right holders. We believe that the increased consumptive water use has resulted from expanded acreage irrigated with both surface and ground-water. Possible alternatives for regulation and mitigation or compensation are described in this section; however, responsibility for recommendation of a specific alternative rests with the Idaho Department of Water Resources.

Steps associated with the development and implementation of possible alternative management strategies are illustrated in the flow chart presented in figure 15. A number of steps, and/or decisions are shown on the flow chart. The first two steps of this process are: 1) The Department must determine the extent of areas in which ground-water pumping and increased consumptive water use by surface water expansions have impacted flows of the Big Lost River, and 2) a means of proportioning impacts between ground-water pumping and expansion of surface water acreage needs to be developed.

We recommend that the impacting area include the entire alluvial deposits of the valley (single basin concept). The southern boundary of the impact area should coincide with the location of the steep water table decline into the Snake Plain aquifer, based on long-term average water levels. The

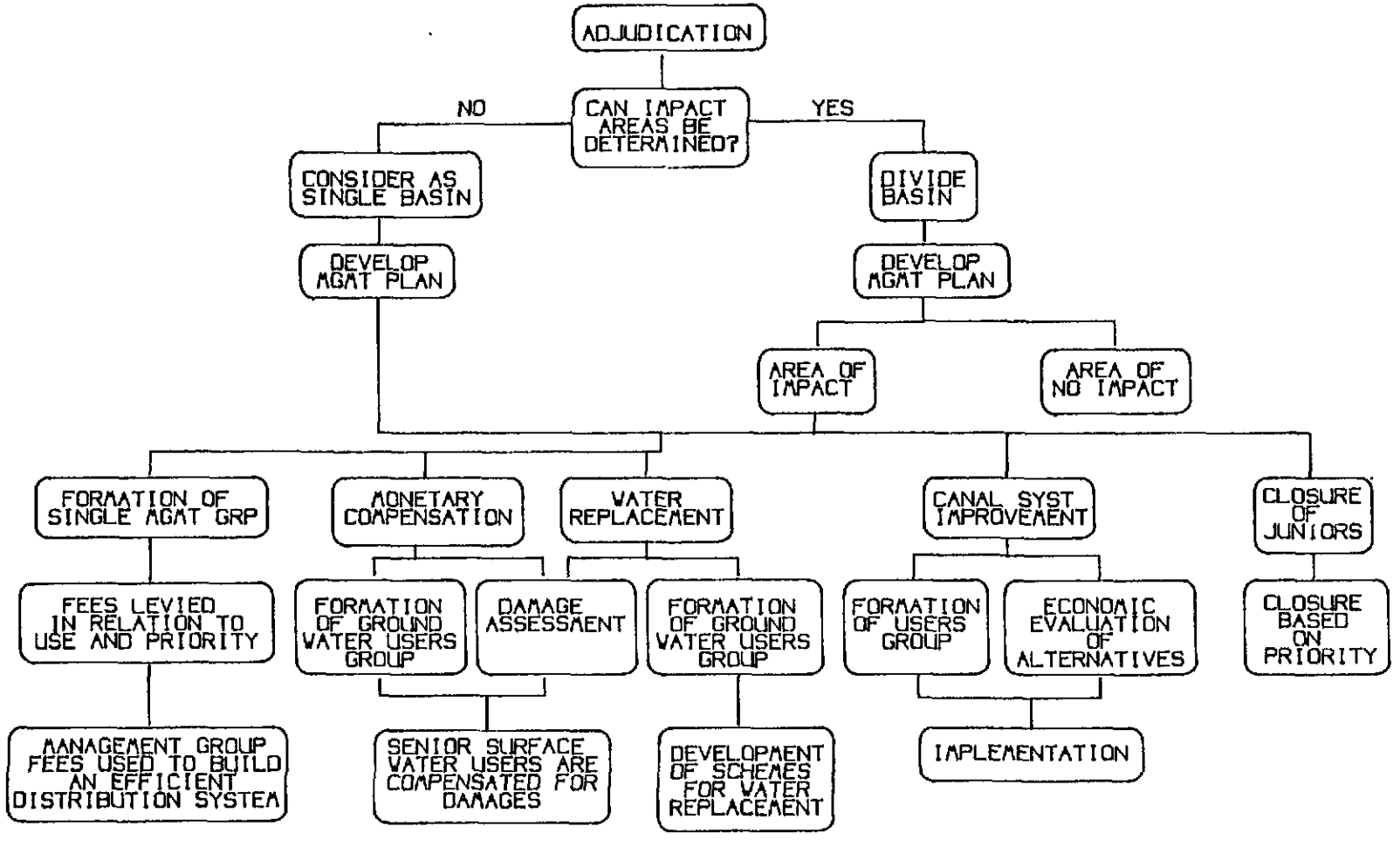


Figure 15. Diagram Illustrating Alternative Management Options.

basin may be further subdivided if the single basin concept is unacceptable to those involved. Subdivision into multiple units should be based on a detailed hydrologic analysis of the hydraulic connection of the river and the propagation of pumping and recharge effects.

A detailed management plan must be developed, regardless of whether the basin is considered as a single unit or multiple units. The plan should address whether compensation or mitigation are due to senior surface water irrigators, the type and degree of mitigation or compensation, and the structure of the organizational group responsible. The plan should be cooperatively prepared or reviewed by all parties involved.

If compensation or mitigation are to be awarded, then criteria must be established to determine liability. We believe that depletion is most directly associated with additional consumptive water use in recent decades, from both surface and ground water sources. Thus, the logical, although not necessarily legal, basis for assessing responsibility is in proportion to the amount of expanded irrigated acreage.

Five alternative courses of action are outlined on the flow chart (figure 15). They include: 1) Conjunctive management of surface and ground-water resources by a single management entity, 2) monetary compensation of impacted senior surface-water users by the liable parties, 3) water

replacement for impacted senior surface water users by pumping into surface channels with financial support based on liability, 4) improvement of the surface irrigation system to improve conveyance efficiency, and 5) closure of junior users in proportion to the estimated impacts. We believe that the effectiveness and efficiency of the first four alternatives is dependent on the degree of cooperation that is achieved among the water users of the basin.

We conclude that cooperative water management by surface and ground-water users is the best solution and would result in the most efficient use of the water resources of the basin. Development of a cooperative management unit requires that surface and ground-water users generally agree on the impacts of pumping and acreage expansions, and the remedial measures needed. In such a situation, those deemed responsible would be assessed fees in proportion to their perceived impact, and generated revenues would be spent according to the consensus of the managing unit. This alternative implies that the water users of the Big Lost River would be responsible for managing their own resource in a fair and equitable manner.

Monetary compensation by an organization of surface and ground water users deemed liable for depleted surface flows may be the most achievable of the alternatives. Those implicated as impacting surface flows would need to form a self-funding unit with the purpose of compensating senior

surface water users for damages. We recommend that the degree of compensation or mitigation be consistent with the diversion depletion estimated in this report.

Water replacement, funded by a similar organization, would rely on new wells to supplement the river flows, to a degree determined by depletion estimation procedures outlined in this report. These wells would be constructed and operated with funding provided by the liable parties, in proportion to their ground-water pumpage and surface water acreage expansion.

Several methods are available to improve the water supply of surface water users without additional pumping. These primarily deal with canal modification and lining, and the construction of additional surface water reservoirs. The economic feasibility of these measures should be evaluated relative to monetary compensation and water replacement schemes. Effective canal lining could improve the separation of the surface and ground-water resources, and reduce the question of interference. Both surface and ground-water users should share in the costs of system improvements.

We believe that the most economically unacceptable of the alternatives is the regulation of all rights in the valley on the basis of the priority. This alternative would result in closure of many or all of the irrigation wells, and drastically reduce agricultural production of the

valley. Although this may be a legal alternative, it would be highly undesirable to nearly all parties, and is not recommended.

In summary, we recommend that the highest possible degree of cooperation be developed among the involved parties. In this way, the resource largely will be managed by its users. All ground-water pumpers (irrigation wells) and those with expanded surface water irrigated acreage should assume responsibility for depleted flows of senior surface water irrigators, in an amount consistent with the depletion estimates of this report. The management plan should involve all interested parties.

CONCLUSIONS AND RECOMMENDATIONS

Several conclusions are apparent from this investigation. They include:

1. Flow of the Big Lost river is affected by weather and by long-term changes in the amount of consumptive water use in the valley.

2. The consumptive water use has increased substantially in the last few decades due to an extension to full season irrigation and an expansion of the irrigated acreage.

3. Ground-water pumping has made the expansion of irrigated acreage possible, and provides a sizable proportion of the water applied on the expanded acreage.

4. Ground-water pumping is largely used to supplement surface-water diversions, and ground-water pumping increases in years of low surface water supply.

5. Ground-water recharge from surface water irrigation has diminished due to application over larger acreage and conversion to more efficient sprinkler application methods.

6. Diminished recharge from surface water irrigation and increased ground-water withdrawals, together have caused a reduction in flow of Big Lost River and consequently have depleted the supplies of surface water irrigators.

7. Diversion records indicate that surface water diversions for irrigation have decreased in recent years. The magnitude of the depletion varies with the water year.

8. The reliability of the diversion records, and consequently of the depletion estimates, is uncertain. Diversion depletion estimation procedures of this report, however, are probably the best available. With the available information it was not possible to proportion the amount of diversion depletion into components resulting from ground-water pumping and that caused by expansion of surface-water irrigated acreage.

9. The impact attributable to ground-water pumping or expansion of surface water irrigated area varies with the year and the proportion of the total irrigation water derived from pumping. Pumping is reduced in years of plentiful surface water supply, however the recharge from surface water is probably diminished in those years (relative to pre-1960), due to application over larger cropped areas.

Recommendations for managing the water resources of the basin, and for future investigation include:

1. A cohesive organization of all water users in the basin could greatly contribute to development of water management strategies, and improve the effectiveness and efficiency of implementation of the selected strategies.

2. Relationships developed in this report provide a method that may be used for determining the magnitude of mitigation to damaged surface water users.

3. Further investigation into changes in the irrigation practices and areas of the basin should be initiated. This research would help refine estimates of depletion and would further the understanding of the individual impacts of ground-water pumping and expansion of areas irrigated with surface water.

4. Irrigation pumpage and diversions should be closely monitored in future years to refine the understanding of pumping impacts on diversions.

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APPENDIX A

BIG LOST RIVER

MONTHLY DISCHARGE AND STORAGE VOLUMES

APPENDIX B

MONTHLY IRRIGATION DIVERSIONS

APPENDIX A

BIG LOST RIVER

MONTHLY DISHCARGE AND STORAGE VOLUMES

APPENDIX A: BIG LOST RIVER MONTHLY DISCHARGE AND STORAGE IN ACRE-FEET.
(-1 Indicates Missing Data)

YEAR	CALENDAR MONTH	HOWELL RANCH (13120500)	BELOW MACKAY DAM (13127000)	BELOW ARCO (13132500)	RESERVOIR STORAGE (13126000)
1922	1	-1	7037	-1	-1
1922	2	-1	7252	-1	-1
1922	3	-1	8319	-1	-1
1922	4	5438	8160	-1	-1
1922	5	51074	28209	-1	-1
1922	6	117572	93601	-1	-1
1922	7	32932	42676	-1	-1
1922	8	16691	29187	-1	-1
1922	9	8156	14763	-1	-1
1922	10	6964	6472	-1	-1
1922	11	-1	7240	-1	-1
1922	12	-1	6920	-1	-1
1923	1	-1	7303	-1	-1
1923	2	-1	7375	-1	-1
1923	3	-1	9190	-1	-1
1923	4	6605	8749	-1	-1
1923	5	41210	25479	-1	-1
1923	6	63057	49622	-1	-1
1923	7	52917	52971	-1	-1
1923	8	15697	31540	-1	-1
1923	9	9067	14370	-1	-1
1923	10	9047	29964	-1	-1
1923	11	-1	7930	-1	-1
1923	12	-1	5043	-1	-1
1924	1	-1	6168	-1	-1
1924	2	-1	6385	-1	-1
1924	3	-1	7448	-1	-1
1924	4	8972	7154	-1	-1
1924	5	31292	25445	-1	-1
1924	6	17009	21082	-1	-1
1924	7	8934	20233	-1	-1
1924	8	4266	9035	-1	-1
1924	9	4254	8630	-1	-1
1924	10	5109	10493	-1	-1
1924	11	-1	3315	-1	-1
1924	12	-1	4712	-1	-1
1925	1	-1	5766	-1	-1
1925	2	-1	5853	-1	-1
1925	3	-1	6847	-1	-1
1925	4	12831	6327	-1	-1
1925	5	69505	39896	-1	-1
1925	6	68220	52935	-1	-1
1925	7	39988	41781	-1	-1
1925	8	14465	28066	-1	-1
1925	9	9245	19548	-1	-1
1925	10	8329	8993	-1	-1

APPENDIX A: BIG LOST RIVER MONTHLY DISCHARGE AND STORAGE IN ACRE-FEET.
(-1 Indicates Missing Data)

YEAR	CALENDAR MONTH	HOWELL RANCH (13120500)	BELOW MACKAY DAM (13127000)	BELOW ARCO (13132500)	RESERVOIR STORAGE (13126000)
1925	11	-1	3855	-1	-1
1925	12	-1	5496	-1	-1
1926	1	-1	6656	-1	-1
1926	2	-1	6545	-1	-1
1926	3	-1	8156	-1	-1
1926	4	-1	7365	-1	-1
1926	5	30597	25774	-1	-1
1926	6	19384	25332	-1	-1
1926	7	9793	19318	-1	-1
1926	8	5012	9610	-1	-1
1926	9	3744	9087	-1	-1
1926	10	4216	10305	-1	0
1926	11	-1	3016	-1	6800
1926	12	-1	3901	-1	11900
1927	1	-1	5143	-1	15700
1927	2	-1	5369	-1	18300
1927	3	-1	6704	-1	20400
1927	4	5335	6414	-1	20800
1927	5	33905	15791	-1	18000
1927	6	97768	69751	-1	19100
1927	7	39613	46939	-1	5100
1927	8	13809	17576	-1	200
1927	9	9609	11053	-1	100
1927	10	9364	11065	-1	1600
1927	11	-1	4291	-1	9300
1927	12	-1	5176	-1	15600
1928	1	-1	6385	-1	19900
1928	2	-1	6898	-1	22900
1928	3	-1	7851	-1	25100
1928	4	9904	6916	-1	26000
1928	5	70511	47402	-1	26300
1928	6	36121	45890	-1	12000
1928	7	21181	28447	-1	1200
1928	8	9105	11656	-1	400
1928	9	5676	10061	-1	0
1928	10	5744	11785	-1	100
1928	11	-1	3232	-1	7700
1928	12	-1	4476	-1	13500
1929	1	-1	6063	-1	17300
1929	2	-1	6242	-1	19700
1929	3	-1	7478	-1	22100
1929	4	-1	6877	-1	22900
1929	5	25225	11686	-1	18700
1929	6	41823	38355	-1	7600
1929	7	17306	19985	-1	1000
1929	8	7269	9436	-1	200

APPENDIX A: BIG LOST RIVER MONTHLY DISCHARGE AND STORAGE IN ACRE-FEET.
(-1 Indicates Missing Data)

YEAR	CALENDAR MONTH	HOWELL RANCH (13120500)	BELOW MACKAY DAM (13127000)	BELOW ARCO (13132500)	RESERVOIR STORAGE (13126000)
1929	9	5410	9281	-1	0
1929	10	4581	9978	-1	0
1929	11	-1	2891	-1	6600
1929	12	-1	4168	-1	12000
1930	1	-1	5605	-1	15700
1930	2	-1	5516	-1	18000
1930	3	-1	6789	-1	20000
1930	4	17608	6202	-1	19900
1930	5	41674	19749	-1	18000
1930	6	56996	55935	-1	6300
1930	7	20848	23473	-1	900
1930	8	12747	12325	-1	300
1930	9	7853	10043	-1	100
1930	10	10148	11454	-1	1700
1930	11	-1	3978	-1	9100
1930	12	-1	5250	-1	14700
1931	1	-1	6430	-1	18600
1931	2	-1	6448	-1	21100
1931	3	-1	7365	-1	23400
1931	4	-1	6654	-1	23900
1931	5	27256	12049	-1	19400
1931	6	23316	25121	-1	7900
1931	7	6392	13864	-1	2500
1931	8	4395	10930	-1	100
1931	9	3210	8670	-1	0
1931	10	3897	9182	-1	0
1931	11	-1	3506	-1	5200
1931	12	-1	4166	-1	9800
1932	1	-1	5022	-1	13000
1932	2	-1	5315	-1	15600
1932	3	-1	6265	-1	17000
1932	4	5355	6091	-1	17900
1932	5	46336	24594	-1	12700
1932	6	84588	52935	-1	22000
1932	7	34952	40097	-1	11100
1932	8	10206	18636	-1	3100
1932	9	6698	10212	-1	2700
1932	10	6662	11186	-1	2800
1932	11	4885	3730	-1	10000
1932	12	-1	4946	-1	14800
1933	1	-1	5758	-1	18800
1933	2	-1	6057	-1	21000
1933	3	-1	7396	-1	22800
1933	4	5164	6881	-1	23500
1933	5	18314	7160	-1	23100
1933	6	69031	62657	-1	5500

APPENDIX A: BIG LOST RIVER MONTHLY DISCHARGE AND STORAGE IN ACRE-FEET.
(-1 Indicates Missing Data)

YEAR	CALENDAR MONTH	HOWELL RANCH (13120500)	BELOW MACKAY DAM (13127000)	BELOW ARCO (13132500)	RESERVOIR STORAGE (13126000)
1933	7	14989	16644	-1	900
1933	8	5990	9662	-1	0
1933	9	3730	8404	-1	0
1933	10	3569	9142	-1	0
1933	11	-1	7055	-1	3500
1933	12	-1	3666	-1	9500
1934	1	-1	4827	-1	13500
1934	2	-1	5125	-1	16100
1934	3	-1	5956	-1	17200
1934	4	12870	6105	-1	17100
1934	5	22461	16922	-1	6100
1934	6	13132	12069	-1	800
1934	7	5748	7789	-1	0
1934	8	3331	6936	-1	0
1934	9	2837	7335	-1	0
1934	10	3799	8204	-1	0
1934	11	3704	3434	-1	4800
1934	12	-1	3722	-1	9400
1935	1	-1	4835	-1	12700
1935	2	-1	5029	-1	14700
1935	3	-1	6150	-1	16600
1935	4	6277	6190	-1	17300
1935	5	34867	8866	-1	16500
1935	6	89046	48658	-1	28600
1935	7	32869	39575	-1	13500
1935	8	8884	21580	-1	1800
1935	9	4895	9777	-1	1200
1935	10	5077	11005	-1	700
1935	11	4902	4526	-1	6600
1935	12	-1	5950	-1	10900
1936	1	-1	5617	-1	15000
1936	2	-1	5773	-1	17400
1936	3	-1	6769	-1	19400
1936	4	15695	6547	-1	19900
1936	5	44166	20808	-1	15500
1936	6	40521	26963	-1	17200
1936	7	11656	26635	-1	1800
1936	8	8771	10587	-1	2000
1936	9	5091	9507	-1	2700
1936	10	4303	12803	-1	300
1936	11	-1	3906	-1	7000
1936	12	-1	4194	-1	12800
1937	1	-1	5470	-1	16500
1937	2	-1	5537	-1	19000
1937	3	-1	6621	-1	21200
1937	4	3708	6329	-1	22000

APPENDIX A: BIG LOST RIVER MONTHLY DISCHARGE AND STORAGE IN ACRE-FEET.
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YEAR	CALENDAR MONTH	HOWELL RANCH (13120500)	BELOW MACKAY DAM (13127000)	BELOW ARCO (13132500)	RESERVOIR STORAGE (13126000)
1937	5	33887	13140	-1	18400
1937	6	24546	25189	-1	10300
1937	7	12114	18937	-1	1000
1937	8	4119	8984	-1	100
1937	9	3462	8303	-1	200
1937	10	3807	8654	-1	200
1937	11	-1	5351	-1	3700
1937	12	-1	3686	-1	8900
1938	1	-1	4619	-1	12600
1938	2	-1	4569	-1	15200
1938	3	-1	5791	-1	17500
1938	4	15239	6176	-1	19700
1938	5	72216	20148	-1	41000
1938	6	124635	101779	-1	38700
1938	7	63551	60937	-1	36900
1938	8	18368	26044	-1	27900
1938	9	9904	8918	-1	30000
1938	10	13406	9335	-1	34900
1938	11	-1	14511	-1	34000
1938	12	-1	8952	-1	36500
1939	1	-1	9297	-1	38400
1939	2	-1	9454	-1	38700
1939	3	-1	11184	-1	38800
1939	4	-1	9603	-1	39100
1939	5	37408	20130	-1	38800
1939	6	24362	26625	-1	30000
1939	7	14446	26338	-1	16100
1939	8	5853	19005	-1	7800
1939	9	4770	10420	-1	8000
1939	10	5271	13055	-1	6700
1939	11	-1	4121	-1	13100
1939	12	-1	4369	-1	18500
1940	1	-1	5619	-1	22100
1940	2	-1	6365	-1	24600
1940	3	-1	7252	-1	26200
1940	4	-1	6833	-1	26800
1940	5	56641	25381	-1	25600
1940	6	49755	42315	-1	21100
1940	7	13773	28105	-1	6500
1940	8	5051	15237	-1	1300
1940	9	9605	5938	-1	6800
1940	10	10230	6613	-1	11200
1940	11	-1	3901	-1	17500
1940	12	-1	5202	-1	22500
1941	1	-1	6646	-1	25900
1941	2	-1	6698	-1	28200

APPENDIX A: BIG LOST RIVER MONTHLY DISCHARGE AND STORAGE IN ACRE-FEET.
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YEAR	CALENDAR MONTH	HOWELL RANCH (13120500)	BELOW MACKAY DAM (13127000)	BELOW ARCO (13132500)	RESERVOIR STORAGE (13126000)
1941	3	-1	7853	-1	29900
1941	4	-1	7327	-1	31000
1941	5	51894	20007	-1	37400
1941	6	56276	42721	-1	37500
1941	7	25371	31704	-1	28700
1941	8	14061	21259	-1	22700
1941	9	8414	11277	-1	23800
1941	10	7964	9029	-1	27700
1941	11	6492	6767	-1	32200
1941	12	-1	7946	-1	36000
1942	1	-1	11892	-1	35600
1942	2	-1	10866	-1	35000
1942	3	-1	10628	-1	35000
1942	4	23498	16058	-1	38200
1942	5	35758	26298	-1	37600
1942	6	69101	57195	-1	37700
1942	7	45273	47011	-1	28500
1942	8	11372	27310	-1	14200
1942	9	6379	8839	-1	16600
1942	10	6426	7517	-1	21400
1942	11	6158	5244	-1	27500
1942	12	-1	7928	-1	31000
1943	1	-1	9874	-1	32400
1943	2	-1	9561	-1	32800
1943	3	-1	10819	-1	32800
1943	4	28853	11727	-1	38200
1943	5	66641	46523	-1	39200
1943	6	88451	79554	-1	38200
1943	7	71906	65851	-1	38400
1943	8	20451	32766	-1	27000
1943	9	9432	15124	-1	25800
1943	10	8876	8587	-1	30600
1943	11	7275	8023	-1	35900
1943	12	-1	12715	-1	35400
1944	1	-1	11041	-1	36300
1944	2	-1	8468	-1	38600
1944	3	-1	11136	-1	38400
1944	4	5756	10241	-1	38400
1944	5	46352	24675	-1	39500
1944	6	82213	72997	-1	39700
1944	7	61641	63327	-1	37900
1944	8	16781	36508	-1	20900
1944	9	9442	15164	-1	20200
1944	10	8184	6091	-1	28000
1944	11	6954	7077	-1	34800
1944	12	-1	12815	-1	35300

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YEAR	CALENDAR MONTH	HOWELL RANCH (13120500)	BELOW MACKAY DAM (13127000)	BELOW ARCO (13132500)	RESERVOIR STORAGE (13126000)
1945	1	-1	10835	-1	36200
1945	2	-1	9765	-1	36400
1945	3	-1	9791	-1	37300
1945	4	6492	9642	-1	37400
1945	5	32680	16801	-1	38800
1945	6	53973	40813	-1	39000
1945	7	38559	42073	-1	31300
1945	8	12993	34684	-1	13000
1945	9	8351	14326	-1	12100
1945	10	7408	4775	-1	19500
1945	11	6091	5843	-1	25600
1945	12	-1	6351	-1	30800
1946	1	-1	7396	-1	34400
1946	2	-1	7226	-1	36700
1946	3	-1	8970	-1	38400
1946	4	23877	12757	-1	40000
1946	5	52715	36881	-1	39500
1946	6	57762	49259	-1	37700
1946	7	25542	41515	-1	22000
1946	8	10884	27107	-1	8800
1946	9	8815	7285	3420	14800
1946	10	11124	4180	4472	24500
1946	11	6813	5416	4428	32100
1946	12	-1	7041	4494	37100
1947	1	-1	10351	3383	37700
1947	2	-1	10069	5482	37800
1947	3	-1	11676	9247	37400
1947	4	13493	11348	6724	35500
1947	5	66456	42247	6670	39100
1947	6	49142	43039	8791	36600
1947	7	28772	42303	2065	19500
1947	8	10597	21766	2180	9800
1947	9	6807	15283	2353	6300
1947	10	7849	6184	2786	13800
1947	11	5369	3750	2470	21800
1947	12	-1	5271	1807	27800
1948	1	-1	6291	1563	32000
1948	2	-1	6188	1577	35200
1948	3	-1	7257	1631	38000
1948	4	10474	8708	1178	37300
1948	5	46977	24290	621	38200
1948	6	85631	70894	5271	38700
1948	7	31085	41604	2262	25400
1948	8	10160	28752	2165	9100
1948	9	7009	12033	3555	8400
1948	10	7575	3942	3893	17600

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YEAR	CALENDAR MONTH	HOWELL RANCH (13120500)	BELOW MACKAY DAM (13127000)	BELOW ARCO (13132500)	RESERVOIR STORAGE (13126000)
1948	11	6107	4694	2103	24800
1948	12	5565	5841	1869	30400
1949	1	4900	7107	1599	34200
1949	2	4079	7255	1500	36600
1949	3	4345	9113	2256	38200
1949	4	14467	8878	1815	37100
1949	5	55159	29218	1623	40200
1949	6	42940	42753	3131	31900
1949	7	16751	35672	1171	13000
1949	8	7345	22399	1486	1700
1949	9	5204	12194	1177	500
1949	10	5748	5607	1557	7600
1949	11	4809	3958	1917	15200
1949	12	3623	5022	1375	20900
1950	1	3494	5992	1230	24900
1950	2	2827	6123	1000	27500
1950	3	4166	7009	1234	29800
1950	4	10011	6761	2797	31100
1950	5	35252	22016	798	21100
1950	6	61062	33867	1165	31900
1950	7	36946	46197	1696	16400
1950	8	11668	27601	1922	1900
1950	9	8374	8414	1444	5400
1950	10	7117	3660	1379	14000
1950	11	6688	4898	1347	20800
1950	12	7063	5758	1337	27100
1951	1	6150	6718	909	31400
1951	2	5297	6575	704	34400
1951	3	4345	7676	788	37000
1951	4	20396	11860	1226	38800
1951	5	64379	42031	2869	41200
1951	6	63381	55250	3543	39300
1951	7	42545	44430	1893	33800
1951	8	20794	31573	7277	29600
1951	9	8656	15654	5375	27700
1951	10	8777	7597	6339	32900
1951	11	6426	6904	6496	38000
1951	12	6061	11122	5637	38900
1952	1	5228	12301	5387	38700
1952	2	4454	11950	5992	36900
1952	3	4791	12654	7569	34600
1952	4	17921	14245	13100	34500
1952	5	83715	62917	27512	37500
1952	6	89232	74344	25453	39900
1952	7	42739	46090	11936	31900
1952	8	17771	35232	4149	18000

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YEAR	CALENDAR MONTH	HOWELL RANCH (13120500)	BELOW MACKAY DAM (13127000)	BELOW ARCO (13132500)	RESERVOIR STORAGE (13126000)
1952	9	7793	7700	4764	22700
1952	10	6559	6448	3032	28200
1952	11	5303	6851	4855	33600
1952	12	5396	7757	6299	37800
1953	1	5625	11785	7694	37100
1953	2	4563	9285	8946	37400
1953	3	4936	9317	7847	38300
1953	4	10206	8807	5873	38100
1953	5	26730	21308	2101	27600
1953	6	80656	51884	5168	38100
1953	7	53066	57391	3101	28800
1953	8	12549	32718	1762	11300
1953	9	6958	13817	1825	9300
1953	10	6377	6547	2716	15000
1953	11	5603	4496	3141	21800
1953	12	4387	5625	4434	27700
1954	1	4093	6377	4732	32200
1954	2	3980	6323	3214	35000
1954	3	4418	7674	2821	37300
1954	4	12188	8902	1730	36500
1954	5	58941	36059	782	34400
1954	6	48314	31762	1167	40000
1954	7	33002	46255	1532	24700
1954	8	9476	26048	1050	10100
1954	9	5430	16485	1220	3800
1954	10	5016	13051	1682	2800
1954	11	4303	2684	2000	11200
1954	12	3492	4291	1934	17500
1955	1	3258	5567	1349	22000
1955	2	2885	5819	1085	24600
1955	3	3278	6799	1075	26800
1955	4	3795	6331	760	28100
1955	5	22979	10975	450	24700
1955	6	62339	42682	337	23600
1955	7	29877	31633	669	19800
1955	8	9636	27032	357	3100
1955	9	5004	12767	552	400
1955	10	4768	10547	641	600
1955	11	3873	3194	766	8200
1955	12	5601	3875	3014	14800
1956	1	3948	5039	1147	19500
1956	2	3178	5371	770	22700
1956	3	4389	6388	7763	26100
1956	4	18497	6680	5093	30800
1956	5	86411	48517	7103	41700
1956	6	106184	93530	28841	42300

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(-1 Indicates Missing Data)

YEAR	CALENDAR MONTH	HOWELL RANCH (13120500)	BELOW MACKAY DAM (13127000)	BELOW ARCO (13132500)	RESERVOIR STORAGE (13126000)
1956	7	38775	50898	2282	25400
1956	8	12831	29905	2107	11300
1956	9	6797	12412	2240	10100
1956	10	6589	7555	2903	15700
1956	11	5299	4476	3972	22200
1956	12	4341	5375	3313	27500
1957	1	3859	6343	2159	31300
1957	2	3621	6260	2149	34000
1957	3	4404	7452	2633	36400
1957	4	5333	7357	2155	37800
1957	5	53856	24631	13019	40600
1957	6	107261	78545	23245	44300
1957	7	42497	50977	5389	30300
1957	8	11642	33843	1798	10800
1957	9	7380	7111	3801	15400
1957	10	8267	7371	4454	20400
1957	11	6021	7027	5220	25500
1957	12	5091	7672	6194	29500
1958	1	4898	8307	5682	32200
1958	2	4349	8053	5760	34200
1958	3	4863	9249	6871	35700
1958	4	6833	9843	7121	36200
1958	5	104561	73350	30714	38300
1958	6	84122	75309	40204	38300
1958	7	34311	43981	7224	23700
1958	8	14559	29679	4325	12100
1958	9	8152	18578	7426	7000
1958	10	6750	14850	13563	6400
1958	11	5660	3291	6466	15700
1958	12	4579	5109	6807	22700
1959	1	4103	6416	6067	27700
1959	2	3615	6379	5238	31300
1959	3	3998	7676	5466	34200
1959	4	7271	8638	1444	34200
1959	5	17136	21846	843	20800
1959	6	53147	39170	841	17000
1959	7	16116	26240	526	4200
1959	8	7047	14618	155	400
1959	9	9114	11273	226	400
1959	10	7619	8317	925	5600
1959	11	5351	3289	1061	14000
1959	12	4307	4978	897	20500
1960	1	4506	6166	673	24900
1960	2	4164	6400	679	28200
1960	3	5027	7134	708	31100
1960	4	10557	7136	500	31900

APPENDIX A: BIG LOST RIVER MONTHLY DISCHARGE AND STORAGE IN ACRE-FEET.
(-1 Indicates Missing Data)

YEAR	CALENDAR MONTH	HOWELL RANCH (13120500)	BELOW MACKAY DAM (13127000)	BELOW ARCO (13132500)	RESERVOIR STORAGE (13126000)
1960	5	25060	17062	58	26000
1960	6	45809	41601	0	17200
1960	7	12092	25802	16	2000
1960	8	6017	12126	0	600
1960	9	4281	9940	0	600
1960	10	4135	7031	0	4900
1960	11	3857	4041	0	11100
1960	12	3589	5268	4	15800
1961	1	3141	6295	0	19000
1961	2	2718	6121	0	21000
1961	3	2895	6930	6	22900
1961	4	4416	6561	0	23300
1961	5	26242	14553	0	17600
1961	6	48179	32252	0	11800
1961	7	9734	19449	0	1200
1961	8	6069	10460	0	400
1961	9	7803	8462	0	2100
1961	10	6061	6444	-1	5700
1961	11	4831	3782	-1	11800
1961	12	3535	4839	-1	16700
1962	1	3339	5718	-1	20300
1962	2	4220	5472	-1	22900
1962	3	4718	6275	-1	25100
1962	4	18495	8232	-1	24400
1962	5	32801	19860	-1	21300
1962	6	81574	46473	-1	29400
1962	7	31526	33881	-1	22900
1962	8	14277	26681	-1	11100
1962	9	6244	11483	-1	9900
1962	10	7718	7670	-1	14000
1962	11	5787	4244	-1	20700
1962	12	4799	5299	-1	26300
1963	1	4037	5990	-1	30500
1963	2	4533	5793	-1	33600
1963	3	3942	7025	-1	36200
1963	4	5504	7400	-1	37800
1963	5	54947	21102	-1	44300
1963	6	88572	73785	-1	44400
1963	7	39799	49874	-1	28100
1963	8	14061	24988	-1	19000
1963	9	10358	10862	-1	21300
1963	10	7998	12402	-1	22500
1963	11	7079	5666	-1	29100
1963	12	5843	6849	-1	34400
1964	1	5535	7535	-1	38300
1964	2	4603	7720	-1	40800

APPENDIX A: BIG LOST RIVER MONTHLY DISCHARGE AND STORAGE IN ACRE-FEET.
(-1 Indicates Missing Data)

YEAR	CALENDAR MONTH	HOWELL RANCH (13120500)	BELOW MACKAY DAM (13127000)	BELOW ARCO (13132500)	RESERVOIR STORAGE (13126000)
1964	3	4305	12910	-1	38700
1964	4	8359	9061	-1	40300
1964	5	43592	29034	-1	38200
1964	6	75957	55260	-1	44000
1964	7	42910	50527	-1	30800
1964	8	11908	30889	-1	13900
1964	9	7236	12118	-1	14200
1964	10	6061	8962	-1	18500
1964	11	5018	5107	-1	25400
1964	12	5766	6583	-1	31200
1965	1	6777	7696	-1	35300
1965	2	4908	9735	-1	35300
1965	3	5174	15519	-1	30200
1965	4	13757	11376	-1	29700
1965	5	60974	40537	-1	33000
1965	6	139753	119695	-1	42900
1965	7	90488	90084	-1	43000
1965	8	36049	44880	-1	35200
1965	9	14642	37803	-1	20000
1965	10	10440	11416	-1	27600
1965	11	7974	6079	-1	36900
1965	12	6408	13354	-1	37000
1966	1	6303	11735	-1	37600
1966	2	5531	7255	-1	40600
1966	3	5740	7998	-1	43400
1966	4	10987	8581	-1	44200
1966	5	38920	36666	278	32300
1966	6	29337	31308	1022	27300
1966	7	13055	26353	327	11900
1966	8	6718	18122	230	4400
1966	9	5283	10114	190	4800
1966	10	4930	7192	347	8500
1966	11	4418	3835	583	15500
1966	12	4262	5027	855	21300
1967	1	4428	6047	722	25300
1967	2	5022	6248	631	27800
1967	3	4764	8553	415	29300
1967	4	4595	9817	226	28800
1967	5	74763	52266	5444	23300
1967	6	138007	96254	51286	44500
1967	7	80671	84173	56469	39100
1967	8	19265	43634	8791	15100
1967	9	10854	23358	12952	4800
1967	10	12352	19036	15816	4300
1967	11	7652	3514	9291	15300
1967	12	5740	5202	6333	23600

APPENDIX A: BIG LOST RIVER MONTHLY DISCHARGE AND STORAGE IN ACRE-FEET.
(-1 Indicates Missing Data)

YEAR	CALENDAR MONTH	HOWELL RANCH (13120500)	BELOW MACKAY DAM (13127000)	BELOW ARCO (13132500)	RESERVOIR STORAGE (13126000)
1968	1	5264	6607	3881	28700
1968	2	4363	7077	4597	32200
1968	3	5375	7876	7549	35200
1968	4	8926	7303	5271	37600
1968	5	33706	19790	752	35700
1968	6	79900	58393	2480	41500
1968	7	28314	38059	1440	28400
1968	8	18094	16848	3234	28700
1968	9	12477	11555	3647	32700
1968	10	9978	12942	6019	34700
1968	11	7408	14763	11110	34900
1968	12	6281	14473	14396	33300
1969	1	6226	12102	11051	33800
1969	2	4912	14807	11497	29200
1969	3	6107	33440	23439	10100
1969	4	26647	30464	38851	8500
1969	5	115631	72759	44670	28000
1969	6	90000	66024	45789	43200
1969	7	47981	54631	28651	31900
1969	8	15660	41589	7275	7400
1969	9	9426	19513	12969	2000
1969	10	8410	5037	8815	11000
1969	11	6470	3964	7234	20400
1969	12	5849	5793	7853	26500
1970	1	5406	6557	7127	31100
1970	2	6156	6500	7095	34300
1970	3	5595	7454	5303	37300
1970	4	5988	7355	3623	39900
1970	5	52195	31016	2770	40200
1970	6	104343	81235	17675	44800
1970	7	46108	54616	21022	35900
1970	8	13416	37047	3315	15000
1970	9	9658	12612	8424	15300
1970	10	7986	10886	6996	18400
1970	11	6341	5424	7553	26800
1970	12	5591	6964	6664	32800
1971	1	6170	7710	7539	36800
1971	2	4680	7327	7119	39500
1971	3	4867	8599	7807	41600
1971	4	7184	25407	20046	27100
1971	5	60540	48501	20050	21400
1971	6	109926	72908	25568	44300
1971	7	57782	57893	26911	40800
1971	8	19836	45297	11327	17400
1971	9	10253	14699	15824	17900
1971	10	10716	14985	17400	20300

APPENDIX A: BIG LOST RIVER MONTHLY DISCHARGE AND STORAGE IN ACRE-FEET.
(-1 Indicates Missing Data)

YEAR	CALENDAR MONTH	HOWELL RANCH (13120500)	BELOW MACKAY DAM (13127000)	BELOW ARCO (13132500)	RESERVOIR STORAGE (13126000)
1971	11	8734	11188	15848	23500
1971	12	6162	10335	10003	26500
1972	1	6273	11287	6654	27600
1972	2	4430	10972	9247	28000
1972	3	6428	11245	10295	30200
1972	4	9271	11285	7204	31500
1972	5	44372	36906	1694	22400
1972	6	94835	60254	4057	43200
1972	7	26734	42241	2855	25800
1972	8	12368	30964	2224	10300
1972	9	8910	15733	6712	9500
1972	10	9493	9099	6811	16300
1972	11	6692	5194	6113	25200
1972	12	5539	6843	6158	30700
1973	1	4567	7813	5708	34400
1973	2	4268	7496	6262	36900
1973	3	4954	8866	6724	39100
1973	4	6656	8601	7855	40500
1973	5	47519	35276	1581	32400
1973	6	53270	43198	1536	30400
1973	7	21755	28470	1282	20400
1973	8	9974	31089	859	2400
1973	9	8081	13414	1510	900
1973	10	6097	8384	1633	4700
1973	11	6877	3706	2706	13500
1973	12	5158	5692	2040	19600
1974	1	7799	6569	3458	23900
1974	2	4504	6950	3627	26700
1974	3	6037	7986	11914	31400
1974	4	20903	8361	8634	41600
1974	5	68468	63246	10515	33800
1974	6	125190	103783	34325	42900
1974	7	44184	49289	12757	33300
1974	8	15568	38517	3291	13300
1974	9	8107	17487	3188	8600
1974	10	6801	12255	6950	10200
1974	11	5960	7123	7827	16800
1974	12	5956	6137	7730	22300
1975	1	6144	7668	7545	25800
1975	2	5008	7900	6341	27900
1975	3	3899	10085	6710	29900
1975	4	4117	11733	6972	32000
1975	5	29314	27211	17279	27000
1975	6	111402	73753	17144	40500
1975	7	89466	82530	35662	40100
1975	8	20148	48039	5936	12000

APPENDIX A: BIG LOST RIVER MONTHLY DISCHARGE AND STORAGE IN ACRE-FEET.
(-1 Indicates Missing Data)

YEAR	CALENDAR MONTH	HOWELL RANCH (13120500)	BELOW MACKAY DAM (13127000)	BELOW ARCO (13132500)	RESERVOIR STORAGE (13126000)
1975	9	10230	22778	10327	3200
1975	10	9698	14321	10559	5400
1975	11	7509	7079	11841	12000
1975	12	6472	6021	7797	19100
1976	1	5355	6867	6220	24200
1976	2	4518	6791	6436	27700
1976	3	5160	7500	7275	30700
1976	4	13164	7880	4438	39900
1976	5	69208	52086	4276	41400
1976	6	60978	59536	3480	31500
1976	7	29845	43706	1438	12400
1976	8	17376	30714	1774	600
1976	9	16525	21183	3688	600
1976	10	10134	18538	10309	3300
1976	11	6896	10222	11225	4800
1976	12	5188	3625	4035	15500
1977	1	4531	4910	2569	21700
1977	2	3785	5289	3006	25800
1977	3	3573	6246	3041	29400
1977	4	6956	6293	708	30700
1977	5	12271	11287	720	28900
1977	6	47197	31119	585	29400
1977	7	16340	31929	230	11700
1977	8	8313	20316	91	900
1977	9	5518	10565	161	500
1977	10	5478	4210	264	5800
1977	11	3613	3137	373	14000
1977	12	4506	4629	306	20500
1978	1	5105	5627	198	25300
1978	2	3752	5712	153	28600
1978	3	5023	6962	183	31800
1978	4	8775	7067	252	34400
1978	5	34789	18828	73	32800
1978	6	83487	57258	762	41100
1978	7	50709	59536	1091	27100
1978	8	14263	41460	782	2900
1978	9	19719	11513	1968	14300
1978	10	10267	10239	754	20600
1978	11	7896	6019	458	28400
1978	12	6470	6071	722	34100
1979	1	5454	6914	512	38400
1979	2	5099	6976	579	41500
1979	3	6109	8839	1714	43600
1979	4	8527	9047	1458	44000
1979	5	51618	36692	1234	44300
1979	6	40587	51169	758	24500

APPENDIX A: BIG LOST RIVER MONTHLY DISCHARGE AND STORAGE IN ACRE-FEET.
(-1 Indicates Missing Data)

YEAR	CALENDAR MONTH	HOWELL RANCH (13120500)	BELOW MACKAY DAM (13127000)	BELOW ARCO (13132500)	RESERVOIR STORAGE (13126000)
1979	7	15174	32825	448	5300
1979	8	11714	16366	581	1800
1979	9	6565	11303	268	1100
1979	10	5474	7250	196	4600
1979	11	4863	4504	276	11600
1979	12	4317	4533	240	18300
1980	1	4333	5686	228	23300
1980	2	3797	5910	232	26900
1980	3	3740	7097	248	29900
1980	4	12313	6724	220	34200
1980	5	59568	39553	1922	43500
1980	6	69329	59292	7585	44600
1980	7	52179	64605	5712	27400
1980	8	15436	34424	3478	8500
1980	9	13217	9958	1589	15800
1980	10	9013	9126	1341	21500
1980	11	7535	5047	-1	30400
1980	12	6547	6609	-1	36300
1981	1	5430	7176	-1	40500
1981	2	4432	6734	-1	43700
1981	3	5135	10900	643	44000
1981	4	17402	16354	5204	44800
1981	5	56151	42894	9565	44900
1981	6	79388	69390	10349	43500
1981	7	30450	50812	690	17000
1981	8	11392	28161	472	1300
1981	9	7283	11755	679	1000
1981	10	7656	7750	-1	6500
1981	11	6329	4172	-1	14400
1981	12	6087	5148	-1	21400
1982	1	5186	6250	-1	25900
1982	2	4145	6299	-1	30600
1982	3	5014	7478	-1	34600
1982	4	11196	16380	-1	34200
1982	5	63841	51370	28383	35800
1982	6	102880	82802	29663	44900
1982	7	72543	71916	38291	43800
1982	8	23881	49663	7252	18700
1982	9	12142	19529	11154	15300
1982	10	11932	7688	12331	28500
1982	11	8299	5976	8232	37900
1982	12	6867	13079	10634	37700
1983	1	5268	13102	11081	36900
1983	2	3569	7563	6984	39900
1983	3	3734	23810	18812	31300
1983	4	6684	22112	20064	25000

APPENDIX A: BIG LOST RIVER MONTHLY DISCHARGE AND STORAGE IN ACRE-FEET.
(-1 Indicates Missing Data)

YEAR	CALENDAR MONTH	HOWELL RANCH (13120500)	BELOW MACKAY DAM (13127000)	BELOW ARCO (13132500)	RESERVOIR STORAGE (13126000)
1983	5	64409	40805	27526	31000
1983	6	131619	104596	66518	41800
1983	7	81638	71390	56290	42300
1983	8	32488	38873	17513	32000
1983	9	13398	21481	17312	27800
1983	10	13743	15977	21477	34900
1983	11	22213	39307	45386	32800
1983	12	17126	29476	37385	30600
1984	1	15727	18221	-1	33300
1984	2	13126	17519	-1	36100
1984	3	12711	14120	-1	36800
1984	4	15023	0	-1	37200
1984	5	70019	48979	41331	42900
1984	6	94347	90417	59197	44900
1984	7	63450	66700	29030	44400
1984	8	28457	55076	30913	28100
1984	9	7013	29538	21850	23600
1984	10	11820	22120	22820	25300
1984	11	9980	15080	21610	30900
1984	12	9030	15420	18000	29800
1985	1	6760	12130	12830	31200
1985	2	5550	5870	5160	38500
1985	3	7540	14440	9970	39300
1985	4	16590	18990	18700	43200
1985	5	40100	30970	8120	43800
1985	6	36060	42800	911	32500
1985	7	15780	31090	216	16500
1985	8	8950	25290	453	3700
1985	9	22470	27990	13630	1300
1985	10	9810	19370	12340	500
1985	11	7540	3770	3200	13700
1985	12	7820	5690	1890	21300
1986	1	7120	6450	1190	26900
1986	2	6360	6620	2850	31100
1986	3	8830	7640	5950	38400
1986	4	22520	17910	13810	44000
1986	5	67490	51840	21560	44600
1986	6	114800	101600	54570	44300
1986	7	34000	43190	4840	30900
1986	8	15470	35320	3510	11900
1986	9	10790	27130	19510	200
1986	10	9830	6580	9160	13600
1986	11	7520	5610	5360	22200
1986	12	4880	7280	6040	27900
1987	1	4390	7380	4080	32600
1987	2	3800	6650	4230	35800

APPENDIX A: BIG LOST RIVER MONTHLY DISCHARGE AND STORAGE IN ACRE-FEET.
(-1 Indicates Missing Data)

YEAR	CALENDAR MONTH	HOWELL RANCH (13120500)	BELOW MACKAY DAM (13127000)	BELOW ARCO (13132500)	RESERVOIR STORAGE (13126000)
1987	3	4880	7690	5210	38900
1987	4	14460	7140	2310	40800
1987	5	42540	26690	516	44500
1987	6	28950	30430	527	37100
1987	7	15480	28510	799	23600
1987	8	9820	29700	415	6400
1987	9	7980	12860	243	4800
1987	10	5870	8280	717	8500
1987	11	4590	4850	1310	15300
1987	12	4240	5650	791	20600
1988	1	4180	6390	622	24200
1988	2	3800	6660	566	26600
1988	3	4550	7940	385	28600
1988	4	9740	5870	283	31800
1988	5	31520	17740	250	27700
1988	6	35340	33760	6	15700
1988	7	9430	24640	0	1500
1988	8	5130	10470	0	600
1988	9	4010	9010	0	700
1988	10	4050	6674	0	3920
1988	11	4030	3560	0	10400
1988	12	4030	3870	0	16100
1989	1	4100	5070	0	20800
1989	2	3420	5460	0	23900
1989	3	4050	6100	0	26700
1989	4	11520	5550	0	28000
1989	5	30640	14000	0	25800
1989	6	43410	29370	0	22400
1989	7	18570	28520	0	6750
1989	8	7850	16900	0	500
1989	9	6600	10410	0	500
1989	10	7300	8600	0	3800
1989	11	5700	3700	0	9610
1989	12	4400	3600	0	15700
1990	1	3800	4600	0	20700
1990	2	2900	4900	0	24400
1990	3	4900	6000	0	27600
1990	4	13900	5800	0	29700
1990	5	21200	16600	0	22200
1990	6	47800	19800	0	35100
1990	7	21200	35300	0	16400
1990	8	9600	24900	0	2930
1990	9	6300	12700	0	626
1990	10	-1	11316	0	830
1990	11	-1	-1	0	-1
1990	12	-1	-1	0	-1

APPENDIX B

MONTHLY IRRIGATION DIVERSIONS

APPENDIX B: MONTHLY IRRIGATION DIVERSIONS
IN ACRE-FEET
(-1 Indicates Missing Data)

YEAR	CLNDR MO.	ABOVE MACKAY RESERVR	SHARP DITCH	MACKAY DAM TO BLAINE DIVRSN	BLAINE DIVRSN TO ARCO DIVRSN	BELOW ARCO DIVRSN	TOTAL DIVRSN BELOW DAM	PUMPAGE INTO RIVER
1922	1	-1	-1	-1	-1	-1	-1	0
1922	2	-1	-1	-1	-1	-1	-1	0
1922	3	-1	-1	-1	-1	-1	-1	0
1922	4	-1	-1	-1	-1	-1	-1	0
1922	5	-1	-1	-1	-1	-1	-1	0
1922	6	-1	-1	-1	-1	-1	-1	0
1922	7	-1	-1	-1	-1	-1	-1	0
1922	8	-1	-1	-1	-1	-1	-1	0
1922	9	-1	-1	-1	-1	-1	-1	0
1922	10	-1	-1	-1	-1	-1	-1	0
1922	11	0	-1	-1	-1	-1	7137	0
1922	12	0	-1	-1	-1	-1	1865	0
1923	1	0	-1	-1	-1	-1	583	0
1923	2	0	-1	-1	-1	-1	542	0
1923	3	0	-1	-1	-1	-1	644	0
1923	4	2400	-1	-1	-1	-1	4608	0
1923	5	15992	-1	-1	-1	-1	22255	0
1923	6	28861	-1	-1	-1	-1	49454	0
1923	7	25775	-1	-1	-1	-1	65764	0
1923	8	15592	-1	-1	-1	-1	47058	0
1923	9	9446	-1	-1	-1	-1	24311	0
1923	10	4820	-1	-1	-1	-1	16339	0
1923	11	2400	-1	-1	-1	-1	7139	0
1923	12	0	-1	-1	-1	-1	3312	0
1924	1	0	-1	-1	-1	-1	1138	0
1924	2	0	-1	-1	-1	-1	1321	0
1924	3	0	-1	-1	-1	-1	2187	0
1924	4	3500	-1	-1	-1	-1	5612	0
1924	5	11971	-1	-1	-1	-1	25672	0
1924	6	14408	-1	-1	-1	-1	26070	0
1924	7	9828	-1	-1	-1	-1	21986	0
1924	8	5293	-1	-1	-1	-1	10120	0
1924	9	4556	-1	-1	-1	-1	8758	0
1924	10	3813	-1	-1	-1	-1	10925	0
1924	11	1800	89	-1	-1	-1	5424	0
1924	12	700	0	-1	-1	-1	2991	0
1925	1	0	0	-1	-1	-1	1177	0
1925	2	0	0	-1	-1	-1	1076	0
1925	3	0	0	-1	-1	-1	1257	0
1925	4	2000	440	-1	-1	-1	6388	0
1925	5	15472	1455	-1	-1	-1	29006	0
1925	6	22106	1630	-1	-1	-1	51375	0
1925	7	16190	1635	-1	-1	-1	48655	0
1925	8	13867	1400	-1	-1	-1	37345	0
1925	9	8194	1075	-1	-1	-1	23418	0
1925	10	5178	624	-1	-1	-1	14179	0

APPENDIX B: MONTHLY IRRIGATION DIVERSIONS IN ACRE-FEET
(-1 Indicates Missing Data)

YEAR	CLNDR MO.	ABOVE MACKAY RESERVR	SHARP DITCH	MACKAY DAM TO BLAINE DIVRSN	BLAINE DIVRSN TO ARCO DIVRSN	BELOW ARCO DIVRSN	TOTAL DIVRSN BELOW DAM	PUMPAGE INTO RIVER
1925	11	1900	240	-1	-1	-1	6535	0
1925	12	900	250	-1	-1	-1	4705	0
1926	1	700	89	-1	-1	-1	1733	0
1926	2	0	0	-1	-1	-1	1290	0
1926	3	400	0	-1	-1	-1	2000	0
1926	4	2900	756	-1	-1	-1	9725	0
1926	5	18553	1390	-1	-1	-1	25363	0
1926	6	16053	1320	-1	-1	-1	26205	0
1926	7	9808	1300	-1	-1	-1	18495	0
1926	8	5587	1240	-1	-1	-1	9163	0
1926	9	4984	1120	-1	-1	-1	8790	0
1926	10	3777	974	-1	-1	-1	9272	0
1926	11	1200	446	-1	-1	-1	5230	0
1926	12	500	325	-1	-1	-1	3105	0
1927	1	0	0	-1	-1	-1	528	0
1927	2	0	0	-1	-1	-1	380	0
1927	3	0	8	-1	-1	-1	842	0
1927	4	1560	524	-1	-1	-1	4553	0
1927	5	7754	1375	-1	-1	-1	13277	0
1927	6	24403	1820	-1	-1	-1	58442	0
1927	7	13639	1675	-1	-1	-1	49800	0
1927	8	10747	1345	-1	-1	-1	23291	0
1927	9	7273	1270	-1	-1	-1	16513	0
1927	10	4856	721	-1	-1	-1	13584	0
1927	11	1800	238	-1	-1	-1	6337	0
1927	12	700	30	-1	-1	-1	2938	0
1928	1	0	0	-1	-1	-1	1430	0
1928	2	0	0	-1	-1	-1	1423	0
1928	3	1200	139	-1	-1	-1	4943	0
1928	4	2700	832	-1	-1	-1	6937	0
1928	5	21184	1600	-1	-1	-1	34539	0
1928	6	13700	1670	-1	-1	-1	45514	0
1928	7	11560	1415	-1	-1	-1	31168	0
1928	8	10559	1143	-1	-1	-1	14036	0
1928	9	6830	1080	-1	-1	-1	10907	0
1928	10	5468	761	-1	-1	-1	12354	0
1928	11	-1	65	-1	-1	-1	-1	0
1928	12	-1	0	-1	-1	-1	-1	0
1929	1	-1	0	-1	-1	-1	-1	0
1929	2	-1	0	-1	-1	-1	-1	0
1929	3	-1	196	-1	-1	-1	-1	0
1929	4	-1	692	-1	-1	-1	-1	0
1929	5	-1	1365	-1	-1	-1	-1	0
1929	6	-1	1330	-1	-1	-1	-1	0
1929	7	-1	1245	-1	-1	-1	-1	0
1929	8	-1	1040	-1	-1	-1	-1	0

APPENDIX B: MONTHLY IRRIGATION DIVERSIONS IN ACRE-FEET
(-1 Indicates Missing Data)

YEAR	CLNDR MO.	ABOVE MACKAY RESERVR	SHARP DITCH	MACKAY DAM TO BLAINE DIVRSN	BLAINE DIVRSN TO ARCO DIVRSN	BELOW ARCO DIVRSN	TOTAL DIVRSN BELOW DAM	PUMPAGE INTO RIVER
1929	9	-1	927	-1	-1	-1	-1	0
1929	10	-1	847	-1	-1	-1	-1	0
1929	11	2000	147	-1	-1	-1	2750	0
1929	12	700	149	-1	-1	-1	1450	0
1930	1	100	0	-1	-1	-1	495	0
1930	2	100	0	-1	-1	-1	447	0
1930	3	400	0	-1	-1	-1	915	0
1930	4	1688	619	-1	-1	-1	4882	0
1930	5	19467	1140	-1	-1	-1	13201	0
1930	6	19481	1450	-1	-1	-1	40432	0
1930	7	12627	1280	-1	-1	-1	21365	0
1930	8	13634	1220	-1	-1	-1	13043	0
1930	9	6534	1060	-1	-1	-1	11262	0
1930	10	2817	490	-1	-1	-1	9854	0
1930	11	0	60	-1	-1	-1	2032	0
1930	12	0	0	-1	-1	-1	123	0
1931	1	0	0	-1	-1	-1	137	0
1931	2	0	79	-1	-1	-1	412	0
1931	3	0	560	-1	-1	-1	1683	0
1931	4	3100	969	-1	-1	-1	5043	0
1931	5	13928	1049	-1	-1	-1	7536	0
1931	6	16715	947	-1	-1	-1	20293	0
1931	7	8668	890	-1	-1	-1	10126	0
1931	8	4625	927	-1	-1	-1	8258	0
1931	9	3378	990	-1	-1	-1	6912	0
1931	10	2230	914	-1	-1	-1	7196	0
1931	11	0	42	-1	-1	-1	2371	0
1931	12	0	0	-1	-1	-1	147	0
1932	1	0	0	-1	-1	-1	123	0
1932	2	0	0	-1	-1	-1	115	0
1932	3	0	31	-1	-1	-1	735	0
1932	4	2385	399	-1	-1	-1	3537	0
1932	5	11598	836	-1	-1	-1	12173	0
1932	6	19570	1310	-1	-1	-1	41518	0
1932	7	14462	1210	-1	-1	-1	37537	0
1932	8	9289	855	-1	-1	-1	20741	0
1932	9	6405	833	-1	-1	-1	11414	0
1932	10	5191	590	-1	-1	-1	9581	0
1932	11	0	83	-1	-1	-1	3991	0
1932	12	0	0	-1	-1	-1	1504	0
1933	1	0	0	-1	-1	-1	123	0
1933	2	0	0	-1	-1	-1	111	0
1933	3	0	92	-1	-1	-1	656	0
1933	4	1431	464	-1	-1	-1	3718	0
1933	5	9731	953	-1	-1	-1	4396	0
1933	6	16334	1410	-1	-1	-1	38926	0

APPENDIX B: MONTHLY IRRIGATION DIVERSIONS
IN ACRE-FEET
(-1 Indicates Missing Data)

YEAR	CLNDR MO.	ABOVE MACKAY RESERVR	SHARP DITCH	MACKAY DAM TO BLAINE DIVRSN	BLAINE DIVRSN TO ARCO DIVRSN	BELOW ARCO DIVRSN	TOTAL DIVRSN BELOW DAM	PUMPAGE INTO RIVER
1933	7	13193	1090	-1	-1	-1	15336	0
1933	8	8097	855	-1	-1	-1	7794	0
1933	9	3760	839	-1	-1	-1	6397	0
1933	10	2287	810	-1	-1	-1	7022	0
1933	11	0	188	-1	-1	-1	3853	0
1933	12	0	149	-1	-1	-1	2318	0
1934	1	0	123	-1	-1	-1	1345	0
1934	2	0	119	-1	-1	-1	1312	0
1934	3	0	227	-1	-1	-1	2930	0
1934	4	13065	553	-1	-1	-1	3095	0
1934	5	20069	924	-1	-1	-1	12134	0
1934	6	15746	904	-1	-1	-1	8371	0
1934	7	10467	950	-1	-1	-1	4247	0
1934	8	8388	781	-1	-1	-1	2980	0
1934	9	4022	728	-1	-1	-1	3312	0
1934	10	2867	495	-1	-1	-1	4048	0
1934	11	0	173	-1	-1	-1	1643	0
1934	12	0	101	-1	-1	-1	766	0
1935	1	0	0	-1	-1	-1	512	0
1935	2	0	16	-1	-1	-1	460	0
1935	3	0	186	-1	-1	-1	1425	0
1935	4	7986	204	-1	-1	-1	1973	0
1935	5	13724	827	-1	-1	-1	4516	0
1935	6	21632	1270	-1	-1	-1	33903	0
1935	7	12165	1480	-1	-1	-1	28362	0
1935	8	10544	1220	-1	-1	-1	15776	0
1935	9	6401	926	-1	-1	-1	6513	0
1935	10	5211	595	-1	-1	-1	7365	0
1935	11	0	114	-1	-1	-1	852	0
1935	12	0	0	-1	-1	-1	433	0
1936	1	0	0	-1	-1	-1	371	0
1936	2	0	0	-1	-1	-1	349	0
1936	3	0	0	-1	-1	-1	556	0
1936	4	8049	280	-1	-1	-1	1779	0
1936	5	17562	700	-1	-1	-1	12162	0
1936	6	15984	990	-1	-1	-1	16336	0
1936	7	17109	966	-1	-1	-1	16913	0
1936	8	12875	748	-1	-1	-1	7004	0
1936	9	5810	490	-1	-1	-1	4860	0
1936	10	4295	359	-1	-1	-1	8070	0
1936	11	-1	-1	-1	-1	-1	-1	0
1936	12	-1	-1	-1	-1	-1	-1	0
1937	1	-1	-1	-1	-1	-1	-1	0
1937	2	-1	-1	-1	-1	-1	-1	0
1937	3	-1	-1	-1	-1	-1	-1	0
1937	4	-1	-1	-1	-1	-1	-1	0

APPENDIX B: MONTHLY IRRIGATION DIVERSIONS
IN ACRE-FEET
(-1 Indicates Missing Data)

YEAR	CLNDR MO.	ABOVE MACKAY RESERVR	SHARP DITCH	MACKAY DAM TO BLAINE DIVRSN	BLAINE DIVRSN TO ARCO DIVRSN	BELOW ARCO DIVRSN	TOTAL DIVRSN BELOW DAM	PUMPAGE INTO RIVER
1937	5	-1	-1	-1	-1	-1	-1	0
1937	6	-1	-1	-1	-1	-1	-1	0
1937	7	-1	-1	-1	-1	-1	-1	0
1937	8	-1	-1	-1	-1	-1	-1	0
1937	9	-1	-1	-1	-1	-1	-1	0
1937	10	-1	-1	-1	-1	-1	-1	0
1937	11	-1	-1	-1	-1	-1	-1	0
1937	12	-1	-1	-1	-1	-1	-1	0
1938	1	-1	-1	-1	-1	-1	-1	0
1938	2	-1	-1	-1	-1	-1	-1	0
1938	3	-1	-1	-1	-1	-1	-1	0
1938	4	-1	-1	-1	-1	-1	-1	0
1938	5	-1	-1	-1	-1	-1	-1	0
1938	6	-1	-1	-1	-1	-1	-1	0
1938	7	-1	-1	-1	-1	-1	-1	0
1938	8	-1	-1	-1	-1	-1	-1	0
1938	9	-1	-1	-1	-1	-1	-1	0
1938	10	-1	-1	-1	-1	-1	-1	0
1938	11	0	417	3491	1987	2380	7858	0
1938	12	0	369	1803	3603	1864	7270	0
1939	1	0	21	887	3003	1269	5159	0
1939	2	0	20	920	1973	1924	4817	0
1939	3	0	184	1930	1616	2162	5708	0
1939	4	6867	476	3832	1908	1997	7737	0
1939	5	6870	565	4836	6302	2622	13760	0
1939	6	1309	1110	10376	8653	2773	21802	0
1939	7	5356	1040	9360	8763	3080	21203	0
1939	8	3917	756	7014	6663	2061	15738	0
1939	9	2995	461	2910	3612	1277	7799	0
1939	10	2222	179	5556	3543	1535	10634	0
1939	11	-1	78	-1	-1	-1	-1	0
1939	12	-1	208	-1	-1	-1	-1	0
1940	1	-1	126	-1	-1	-1	-1	0
1940	2	-1	26	-1	-1	-1	-1	0
1940	3	-1	38	-1	-1	-1	-1	0
1940	4	-1	55	-1	-1	-1	-1	0
1940	5	3815	830	5571	12412	1643	19626	0
1940	6	3613	1070	11150	23686	4408	39244	0
1940	7	3202	946	8736	14595	1768	25099	0
1940	8	1576	727	5752	7936	1006	14694	0
1940	9	487	186	278	4428	272	4978	0
1940	10	0	242	726	4497	103	5326	0
1940	11	0	342	1216	1714	100	3030	0
1940	12	0	158	269	1699	90	2058	0
1941	1	0	49	252	2424	28	2704	0
1941	2	0	33	179	2119	0	2297	0

APPENDIX B: MONTHLY IRRIGATION DIVERSIONS
IN ACRE-FEET
(-1 Indicates Missing Data)

YEAR	CLNDR MO.	ABOVE MACKAY RESERVR	SHARP DITCH	MACKAY DAM TO BLAINE DIVRSN	BLAINE DIVRSN TO ARCO DIVRSN	BELOW ARCO DIVRSN	TOTAL DIVRSN BELOW DAM	PUMPAGE INTO RIVER
1941	3	0	25	171	2250	0	2420	0
1941	4	5347	113	1163	2984	0	4147	0
1941	5	6545	548	3877	7996	69	11942	0
1941	6	15884	1520	14029	20405	599	35033	0
1941	7	16733	1850	17471	26145	2290	45906	0
1941	8	6527	925	10265	20481	2899	33645	0
1941	9	2381	443	3139	6006	1502	10646	0
1941	10	1577	150	2545	3694	224	6464	0
1941	11	-1	-1	-1	-1	-1	-1	0
1941	12	-1	-1	-1	-1	-1	-1	0
1942	1	-1	-1	-1	-1	-1	-1	0
1942	2	-1	-1	-1	-1	-1	-1	0
1942	3	-1	-1	-1	-1	-1	-1	0
1942	4	-1	-1	-1	-1	-1	-1	0
1942	5	-1	-1	-1	-1	-1	-1	0
1942	6	-1	-1	-1	-1	-1	-1	0
1942	7	-1	-1	-1	-1	-1	-1	0
1942	8	-1	-1	-1	-1	-1	-1	0
1942	9	-1	-1	-1	-1	-1	-1	0
1942	10	-1	-1	-1	-1	-1	-1	0
1942	11	0	154	1111	1190	0	2301	0
1942	12	0	50	746	2238	0	2984	0
1943	1	0	12	349	2768	0	3117	0
1943	2	0	12	139	2500	0	2639	0
1943	3	0	12	147	2768	0	2914	0
1943	4	1359	142	1085	3202	0	4287	0
1943	5	6006	1110	9325	12239	2167	23731	0
1943	6	17441	1610	13749	23157	4089	40995	0
1943	7	16912	1750	17344	24758	4851	46953	0
1943	8	8519	1430	16084	21628	5488	43200	0
1943	9	4777	790	6299	12747	2450	21497	0
1943	10	1087	710	2674	6519	181	9374	0
1943	11	0	329	1163	4811	1990	7964	0
1943	12	0	127	530	5801	556	6886	0
1944	1	0	18	202	0	0	202	0
1944	2	0	18	190	0	0	190	0
1944	3	0	24	351	0	0	351	0
1944	4	0	24	911	7990	0	8900	0
1944	5	9329	780	6390	12047	476	18913	0
1944	6	17146	1430	11712	18844	2903	33458	0
1944	7	17723	1708	19632	22669	5809	48110	0
1944	8	8595	1506	18084	21679	6811	46574	0
1944	9	2732	593	7240	14096	3016	24352	0
1944	10	952	409	3218	6424	665	10307	0
1944	11	0	36	274	0	0	274	0
1944	12	0	31	214	0	0	214	0

APPENDIX B: MONTHLY IRRIGATION DIVERSIONS
IN ACRE-FEET
(-1 Indicates Missing Data)

YEAR	CLNDR MO.	ABOVE MACKAY RESERVR	SHARP DITCH	MACKAY DAM TO BLAINE DIVRSN	BLAINE DIVRSN TO ARCO DIVRSN	BELOW ARCO DIVRSN	TOTAL DIVRSN BELOW DAM	PUMPAGE INTO RIVER
1945	1	0	55	56	0	0	56	0
1945	2	0	39	40	0	0	40	0
1945	3	0	37	38	0	0	38	0
1945	4	1260	18	1206	4135	0	5341	0
1945	5	9247	8	7261	9577	1480	18318	0
1945	6	17136	1900	17789	13934	4242	35964	0
1945	7	11706	1340	17967	29526	4900	52393	0
1945	8	9394	1030	29816	24264	4026	58105	0
1945	9	6238	803	9521	8904	2117	20542	0
1945	10	2000	1120	5498	4831	1413	11741	0
1945	11	0	199	198	0	0	198	0
1945	12	0	12	12	0	0	12	0
1946	1	0	0	0	0	0	0	0
1946	2	0	0	0	0	0	0	0
1946	3	0	31	30	0	0	30	0
1946	4	0	155	784	4535	0	5319	0
1946	5	14321	1610	12063	17838	4599	34500	0
1946	6	15066	1620	18880	26907	6039	51826	0
1946	7	14894	1270	19471	30167	7902	57540	0
1946	8	13013	1030	12811	19431	7555	39797	0
1946	9	6722	141	3438	8142	3851	15432	0
1946	10	1434	362	2286	4658	369	7313	0
1946	11	0	131	1381	1994	0	3375	0
1946	12	0	161	478	2458	0	2936	0
1947	1	0	43	44	0	0	44	0
1947	2	0	39	40	0	0	40	0
1947	3	0	40	40	0	0	40	0
1947	4	3284	36	1107	3799	0	4906	0
1947	5	16527	1690	13475	16634	6083	36192	0
1947	6	15469	1490	18652	18947	7025	44624	0
1947	7	12846	1530	21907	22169	6664	50741	0
1947	8	8626	1100	11723	14215	6033	31972	0
1947	9	5333	968	7299	10872	5730	23901	0
1947	10	1210	157	2623	4716	1641	8980	0
1947	11	0	66	65	2581	0	2647	0
1947	12	0	18	18	3412	0	3430	0
1948	1	0	0	0	0	0	0	0
1948	2	0	0	0	0	0	0	0
1948	3	0	0	0	0	0	0	0
1948	4	7845	648	3184	2299	0	5484	0
1948	5	15928	643	5813	8928	2145	16886	0
1948	6	15836	1990	22772	27236	9749	59758	0
1948	7	15213	1750	21217	23520	6682	51419	0
1948	8	12620	1320	16140	20215	4861	41216	0
1948	9	6012	773	6625	17364	5133	29121	0
1948	10	0	210	3776	4202	942	8920	0

APPENDIX B: MONTHLY IRRIGATION DIVERSIONS IN ACRE-FEET
(-1 Indicates Missing Data)

YEAR	CLNDR MO.	ABOVE MACKAY RESERVR	SHARP DITCH	MACKAY DAM TO BLAINE DIVRSN	BLAINE DIVRSN TO ARCO DIVRSN	BELOW ARCO DIVRSN	TOTAL DIVRSN BELOW DAM	PUMPAGE INTO RIVER
1948	11	0	71	964	2032	0	2996	0
1948	12	0	0	186	0	0	186	0
1949	1	0	0	0	0	0	0	0
1949	2	0	0	0	0	0	0	0
1949	3	0	4	4	0	0	4	0
1949	4	3811	891	3438	2950	0	6388	0
1949	5	13434	690	5861	14384	4645	24889	0
1949	6	15961	1370	22149	20074	5873	48096	0
1949	7	10323	1430	20848	18667	5428	44944	0
1949	8	6815	1050	15862	13350	4754	33966	0
1949	9	4101	678	6525	9656	2167	18348	0
1949	10	881	1	3629	4837	708	9174	0
1949	11	0	0	1754	2063	0	3817	0
1949	12	0	0	444	1667	0	2111	0
1950	1	0	0	0	0	0	0	0
1950	2	0	0	0	0	0	0	0
1950	3	0	0	0	0	0	0	0
1950	4	1516	153	361	3293	0	3655	0
1950	5	8513	1210	7267	7373	2676	17316	0
1950	6	12257	1310	16957	15594	6424	38976	0
1950	7	11710	1640	19076	23977	7214	50267	0
1950	8	7027	1520	15789	14164	5444	35397	0
1950	9	3801	794	6146	5567	3657	15370	0
1950	10	1391	83	1909	4371	2103	8382	0
1950	11	0	107	107	3813	0	3920	0
1950	12	0	0	0	0	0	0	0
1951	1	0	0	0	0	0	0	0
1951	2	0	0	0	0	0	0	0
1951	3	0	0	0	0	0	0	0
1951	4	3444	408	2956	4498	0	7454	0
1951	5	10448	1090	10581	16785	4867	32232	0
1951	6	18223	1610	23913	23778	7025	54717	0
1951	7	14356	1960	24371	23157	7464	54993	0
1951	8	9198	1350	17517	15807	4611	37934	0
1951	9	3313	881	7400	9392	4305	21098	0
1951	10	0	558	3194	5754	3063	12011	0
1951	11	0	86	85	0	0	85	0
1951	12	0	31	30	0	0	30	0
1952	1	0	0	0	0	0	0	0
1952	2	0	15	14	0	0	14	0
1952	3	0	42	42	0	0	42	0
1952	4	2321	48	48	3222	0	3270	0
1952	5	15747	530	6678	12890	4710	24278	0
1952	6	18614	1850	24354	29667	8740	62760	0
1952	7	16586	1850	24102	26788	7466	58355	0
1952	8	10478	1820	25855	22463	10122	58441	0

APPENDIX B: MONTHLY IRRIGATION DIVERSIONS
IN ACRE-FEET
(-1 Indicates Missing Data)

YEAR	CLNDR MO.	ABOVE MACKAY RESERVR	SHARP DITCH	MACKAY DAM TO BLAINE DIVRSN	BLAINE DIVRSN TO ARCO DIVRSN	BELOW ARCO DIVRSN	TOTAL DIVRSN BELOW DAM	PUMPAGE INTO RIVER
1952	9	3972	558	7333	8154	4815	20302	0
1952	10	0	488	5254	4508	2353	12114	0
1952	11	0	212	1548	2178	940	4666	0
1952	12	0	15	14	0	0	14	0
1953	1	0	4	4	0	0	4	0
1953	2	0	0	0	0	0	0	0
1953	3	0	0	0	0	0	0	0
1953	4	4962	284	1913	1833	476	4222	0
1953	5	16170	565	8865	10319	3119	22302	0
1953	6	21213	1190	17461	22346	7470	47277	0
1953	7	17144	2040	31190	29522	9577	70289	0
1953	8	13402	1320	24191	19290	6966	50447	0
1953	9	7273	879	11700	10505	6339	28544	0
1953	10	3835	459	4857	6908	2700	14465	0
1953	11	0	250	1617	2607	0	4224	0
1953	12	0	36	36	1516	0	1551	0
1954	1	0	0	0	0	0	0	0
1954	2	0	0	0	0	0	0	0
1954	3	0	5	4	0	0	4	0
1954	4	4861	328	3901	2297	0	6198	0
1954	5	12795	712	13763	17900	4664	36327	0
1954	6	18457	1090	14850	15838	5000	35688	0
1954	7	15890	1340	22143	23330	7301	52774	0
1954	8	7986	896	14406	16723	5498	36627	0
1954	9	5212	600	9527	11114	5480	26121	0
1954	10	1421	632	8902	7218	2913	19033	0
1954	11	-1	-1	-1	-1	-1	-1	0
1954	12	-1	-1	-1	-1	-1	-1	0
1955	1	-1	-1	-1	-1	-1	-1	0
1955	2	-1	-1	-1	-1	-1	-1	0
1955	3	-1	-1	-1	-1	-1	-1	0
1955	4	-1	-1	-1	-1	-1	-1	0
1955	5	-1	-1	-1	-1	-1	-1	0
1955	6	-1	-1	-1	-1	-1	-1	0
1955	7	-1	-1	-1	-1	-1	-1	0
1955	8	-1	-1	-1	-1	-1	-1	0
1955	9	-1	-1	-1	-1	-1	-1	0
1955	10	-1	-1	-1	-1	-1	-1	0
1955	11	0	45	1633	1542	506	3680	0
1955	12	0	31	438	1032	0	1470	0
1956	1	0	37	0	0	0	0	0
1956	2	0	42	0	0	0	0	0
1956	3	0	41	0	0	0	0	0
1956	4	2837	283	1730	1286	24	3039	0
1956	5	9361	730	9134	17517	4172	30823	0
1956	6	13414	1660	24179	38551	7476	70206	0

APPENDIX B: MONTHLY IRRIGATION DIVERSIONS
IN ACRE-FEET
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YEAR	CLNDR MO.	ABOVE MACKAY RESERVR	SHARP DITCH	MACKAY DAM TO BLAINE DIVRSN	BLAINE DIVRSN TO ARCO DIVRSN	BELOW ARCO DIVRSN	TOTAL DIVRSN BELOW DAM	PUMPAGE INTO RIVER
1956	7	12934	1800	23711	26669	8232	58611	0
1956	8	10797	1030	18868	16489	6813	42170	0
1956	9	8416	598	8567	8101	3282	19949	0
1956	10	1538	958	4994	6012	1849	12854	0
1956	11	0	67	1125	2081	12	3218	0
1956	12	0	24	728	1805	0	2534	0
1957	1	0	10	8	1722	0	1730	0
1957	2	0	2	2	1555	0	1557	0
1957	3	0	0	0	1476	0	1476	0
1957	4	0	15	341	1222	0	1563	0
1957	5	11120	26	1954	6472	333	8759	0
1957	6	21036	1460	24840	26754	5123	56717	0
1957	7	13368	1610	25233	25980	8138	59351	0
1957	8	8914	1280	21320	21354	9186	51860	0
1957	9	5617	987	6367	8378	2966	17711	0
1957	10	1518	958	4577	7924	1196	13698	0
1957	11	0	203	2026	3363	278	5666	0
1957	12	0	3	363	1917	0	2280	0
1958	1	0	0	0	1790	0	1790	0
1958	2	0	0	0	2083	0	2083	0
1958	3	0	0	0	2411	0	2411	0
1958	4	0	67	1415	2401	0	3815	0
1958	5	9206	273	8696	-1	3426	-1	0
1958	6	19596	1830	26443	-1	6208	-1	0
1958	7	17820	1570	26473	26538	8617	61627	0
1958	8	8283	1360	23512	20181	7732	51425	0
1958	9	2248	407	9858	13459	4700	28018	0
1958	10	1667	274	5593	13237	1903	20733	0
1958	11	0	12	12	1101	0	1113	0
1958	12	0	8	8	766	0	774	0
1959	1	0	0	0	923	0	923	0
1959	2	0	0	0	833	0	833	0
1959	3	0	0	0	1821	0	1821	0
1959	4	0	609	609	1821	0	2430	0
1959	5	6863	565	8049	8618	2813	19481	0
1959	6	7898	1230	15430	21977	6037	43444	0
1959	7	9289	1150	11033	14771	3738	29542	0
1959	8	6283	1030	7708	8301	2879	18888	0
1959	9	1924	420	6174	6166	2131	14471	0
1959	10	0	105	1805	3787	1143	6736	0
1959	11	0	74	1266	833	119	2218	0
1959	12	0	31	817	655	0	1472	0
1960	1	0	31	0	436	0	436	-1
1960	2	0	15	0	357	0	357	-1
1960	3	0	0	893	476	60	1428	-1
1960	4	0	203	823	1298	536	2657	-1

APPENDIX B: MONTHLY IRRIGATION DIVERSIONS
IN ACRE-FEET
(-1 Indicates Missing Data)

YEAR	CLNDR MO.	ABOVE MACKAY RESERVR	SHARP DITCH	MACKAY DAM TO BLAINE DIVRSN	BLAINE DIVRSN TO ARCO DIVRSN	BELOW ARCO DIVRSN	TOTAL DIVRSN BELOW DAM	PUMPAGE INTO RIVER
1960	5	8839	360	4994	6138	1585	12717	-1
1960	6	10029	1050	14340	19689	5260	39289	-1
1960	7	10186	884	9511	13182	3315	26008	-1
1960	8	4952	673	2869	4738	1272	8878	-1
1960	9	2067	541	3601	3303	746	7650	-1
1960	10	0	192	1756	1623	208	3587	-1
1960	11	0	149	833	238	0	1071	-1
1960	12	0	96	0	0	0	0	-1
1961	1	0	0	0	0	0	0	-1
1961	2	0	0	0	0	0	0	-1
1961	3	0	9	377	258	0	635	-1
1961	4	0	290	724	960	0	1684	-1
1961	5	6502	130	3252	3357	157	6765	-1
1961	6	10251	887	10686	15360	3708	29754	-1
1961	7	8119	755	7220	7311	982	15513	-1
1961	8	4220	356	3192	1815	171	5178	-1
1961	9	813	320	1502	1440	101	3043	-1
1961	10	0	564	1585	387	83	2055	-1
1961	11	0	169	1230	714	0	1944	-1
1961	12	0	55	833	556	0	1389	-1
1962	1	0	0	0	0	0	0	-1
1962	2	0	0	0	0	0	0	-1
1962	3	0	0	913	214	62	1188	-1
1962	4	0	218	972	1349	60	2381	-1
1962	5	12295	176	5379	8311	1960	15650	-1
1962	6	13862	1220	13541	20890	2335	36766	-1
1962	7	18818	1290	14243	16902	776	31921	-1
1962	8	13660	999	11731	11821	175	23727	-1
1962	9	1641	473	4309	4518	99	8926	-1
1962	10	409	716	2478	2113	0	4591	-1
1962	11	0	184	2276	1210	0	3486	-1
1962	12	0	26	552	107	0	659	-1
1963	1	0	20	20	0	0	20	-1
1963	2	0	18	18	0	0	18	-1
1963	3	0	18	593	0	0	593	-1
1963	4	962	24	1750	2833	0	4583	-1
1963	5	10936	652	6573	8464	0	15037	-1
1963	6	15164	1034	19898	26820	1212	47929	-1
1963	7	13577	1372	24875	34512	960	60347	-1
1963	8	8414	1042	12908	20163	972	34043	-1
1963	9	3518	450	5305	8999	938	15243	-1
1963	10	393	166	9299	8309	540	18148	-1
1963	11	0	185	3262	2520	0	5781	-1
1963	12	0	21	468	95	0	563	-1
1964	1	0	0	0	0	0	0	-1
1964	2	0	0	0	0	0	0	-1

APPENDIX B: MONTHLY IRRIGATION DIVERSIONS
IN ACRE-FEET
(-1 Indicates Missing Data)

YEAR	CLNDR MO.	ABOVE MACKAY RESERVR	SHARP DITCH	MACKAY DAM TO BLAINE DIVRSN	BLAINE DIVRSN TO ARCO DIVRSN	BELOW ARCO DIVRSN	TOTAL DIVRSN BELOW DAM	PUMPAGE INTO RIVER
1964	3	0	0	0	280	0	280	-1
1964	4	0	104	3377	9164	0	12541	-1
1964	5	8545	665	15382	15346	71	30800	-1
1964	6	16233	1470	26153	25613	5877	57643	-1
1964	7	14967	1830	32440	25401	5454	63296	-1
1964	8	6297	1610	23671	18981	5922	48574	-1
1964	9	1726	458	10410	8303	3706	22419	-1
1964	10	0	712	6339	7382	0	13721	-1
1964	11	0	234	3135	2758	0	5892	-1
1964	12	0	15	69	0	0	69	-1
1965	1	0	0	0	0	0	0	-1
1965	2	0	0	0	0	0	0	-1
1965	3	0	0	436	0	0	436	-1
1965	4	0	78	5486	6543	476	12505	-1
1965	5	11277	271	10523	17241	1222	28986	-1
1965	6	16564	1058	28476	32980	7801	69257	-1
1965	7	17130	868	23102	33365	8240	64706	-1
1965	8	9890	874	23276	32238	8045	63559	-1
1965	9	0	224	8488	11783	5077	25348	-1
1965	10	0	133	2482	5059	3809	11350	-1
1965	11	0	229	3688	2418	0	6107	-1
1965	12	0	8	0	0	0	0	-1
1966	1	0	0	0	0	0	0	-1
1966	2	0	0	0	0	0	0	-1
1966	3	0	0	952	1270	635	2857	-1
1966	4	0	431	4226	4226	1825	10277	-1
1966	5	11854	1030	16412	15684	1617	33712	-1
1966	6	9359	1090	21195	18513	5339	45047	-1
1966	7	12817	1230	14237	16908	3589	34734	-1
1966	8	6017	973	10337	9180	3700	23217	-1
1966	9	0	432	5006	6049	1976	13031	-1
1966	10	0	263	4206	3381	48	7634	-1
1966	11	-1	84	-1	-1	-1	3958	-1
1966	12	-1	0	-1	-1	-1	698	-1
1967	1	-1	0	-1	-1	-1	0	-1
1967	2	-1	0	-1	-1	-1	0	-1
1967	3	-1	4	-1	-1	-1	1359	-1
1967	4	-1	60	-1	-1	-1	5593	-1
1967	5	-1	561	-1	-1	-1	34603	-1
1967	6	-1	1290	-1	-1	-1	49993	-1
1967	7	-1	1540	-1	-1	-1	50211	-1
1967	8	-1	2150	-1	-1	-1	50219	-1
1967	9	-1	809	-1	-1	-1	25854	-1
1967	10	-1	373	-1	-1	-1	12148	-1
1967	11	0	242	1468	1032	0	2500	-1
1967	12	0	1	0	0	0	0	-1

APPENDIX B: MONTHLY IRRIGATION DIVERSIONS IN ACRE-FEET

(-1 Indicates Missing Data)

YEAR	CLNDR MO.	ABOVE MACKAY RESERVR	SHARP DITCH	MACKAY DAM TO BLAINE DIVRSN	BLAINE DIVRSN TO ARCO DIVRSN	BELOW ARCO DIVRSN	TOTAL DIVRSN BELOW DAM	PUMPAGE INTO RIVER
1968	1	0	0	0	0	0	0	-1
1968	2	0	0	0	0	0	0	-1
1968	3	0	0	532	1426	0	1958	-1
1968	4	0	235	1930	3234	60	5224	-1
1968	5	14549	598	7585	11620	3928	23133	-1
1968	6	19622	1750	27554	22024	6886	56465	-1
1968	7	14203	1400	19907	19175	7240	46322	-1
1968	8	7333	621	12757	9817	5700	28274	-1
1968	9	1807	589	7317	5827	3760	16904	-1
1968	10	0	729	3014	3718	1161	7892	-1
1968	11	0	514	1212	2258	0	3470	-1
1968	12	0	0	0	1171	0	1171	-1
1969	1	0	0	0	1206	0	1206	-1
1969	2	0	0	0	1111	0	1111	-1
1969	3	0	0	113	1718	0	1831	-1
1969	4	2262	16	1208	3881	0	5089	-1
1969	5	10981	1350	18336	22826	4855	46017	-1
1969	6	14882	1700	29149	25855	5672	60677	-1
1969	7	14005	1330	22199	27798	7912	57909	-1
1969	8	7117	1930	29220	27018	6269	62508	-1
1969	9	5341	564	10091	16023	2799	28913	-1
1969	10	2222	220	3978	10624	2470	17072	-1
1969	11	0	0	0	2698	0	2698	-1
1969	12	0	0	0	1845	0	1845	-1
1970	1	0	0	0	1845	0	1845	-1
1970	2	0	0	0	1667	0	1667	-1
1970	3	0	0	139	2214	0	2353	-1
1970	4	3397	0	1256	3484	0	4740	-1
1970	5	25812	239	10273	24086	222	34581	-1
1970	6	31244	660	21806	40087	536	62429	-1
1970	7	33411	473	27407	30919	587	58913	-1
1970	8	22641	736	28968	24899	788	54655	-1
1970	9	13590	345	12198	12533	337	25068	-1
1970	10	-1	470	-1	-1	-1	-1	-1
1970	11	-1	-1	-1	-1	-1	-1	-1
1970	12	-1	-1	-1	-1	-1	-1	-1
1971	1	-1	-1	-1	-1	-1	-1	-1
1971	2	-1	-1	-1	-1	-1	-1	-1
1971	3	-1	-1	-1	-1	-1	-1	-1
1971	4	-1	-1	-1	-1	-1	-1	-1
1971	5	-1	-1	-1	-1	-1	-1	-1
1971	6	-1	-1	-1	-1	-1	-1	-1
1971	7	-1	-1	-1	-1	-1	-1	-1
1971	8	-1	-1	-1	-1	-1	-1	-1
1971	9	-1	-1	-1	-1	-1	-1	-1
1971	10	-1	-1	-1	-1	-1	-1	-1

APPENDIX B: MONTHLY IRRIGATION DIVERSIONS IN ACRE-FEET
(-1 Indicates Missing Data)

YEAR	CLNDR MO.	ABOVE MACKAY RESERVR	SHARP DITCH	MACKAY DAM TO BLAINE DIVRSN	BLAINE DIVRSN TO ARCO DIVRSN	BELOW ARCO DIVRSN	TOTAL DIVRSN BELOW DAM	PUMPAGE INTO RIVER
1971	11	0	0	0	0	0	0	-1
1971	12	0	0	0	0	0	0	-1
1972	1	0	0	0	0	0	0	0
1972	2	0	0	0	0	0	0	0
1972	3	0	0	0	0	0	0	0
1972	4	0	0	0	0	0	0	0
1972	5	13077	790	13582	15729	2815	32127	412
1972	6	20001	1482	24135	21596	4291	50023	286
1972	7	19237	1220	19636	18921	3821	42378	410
1972	8	12338	1118	14842	11969	2462	29274	373
1972	9	12285	80	6634	3472	317	10424	21
1972	10	0	104	2639	1173	0	3811	0
1972	11	0	0	0	0	0	0	-1
1972	12	0	0	0	0	0	0	-1
1973	1	0	0	0	0	0	0	-1
1973	2	0	0	0	0	0	0	-1
1973	3	0	0	0	0	0	0	-1
1973	4	0	0	0	0	0	0	-1
1973	5	10906	815	13263	10638	5059	28960	-1
1973	6	20146	938	20239	15987	12005	48231	-1
1973	7	17066	388	13606	14303	8789	36698	-1
1973	8	15642	642	15727	14920	9480	40126	-1
1973	9	13892	364	5734	4535	4285	14555	-1
1973	10	0	214	3438	2353	708	6500	-1
1973	11	0	0	0	0	0	0	-1
1973	12	0	0	0	0	0	0	-1
1974	1	0	0	0	0	0	0	-1
1974	2	0	0	0	0	0	0	-1
1974	3	0	0	0	0	0	0	-1
1974	4	0	0	0	0	0	0	-1
1974	5	11025	1242	20100	16261	4621	40982	-1
1974	6	16808	1646	25830	25475	7601	58905	-1
1974	7	16406	1524	23782	20513	5996	50290	-1
1974	8	11259	1118	21497	19090	6492	47078	-1
1974	9	9730	392	8886	7464	2284	18634	-1
1974	10	0	326	4938	1792	837	7567	-1
1974	11	0	0	0	0	0	0	0
1974	12	0	0	0	0	0	0	0
1975	1	0	0	0	0	0	0	0
1975	2	0	0	0	0	0	0	0
1975	3	0	0	0	0	0	0	0
1975	4	0	0	0	0	0	0	0
1975	5	0	150	2000	2450	109	4559	22
1975	6	20380	1548	27982	19400	6634	54016	307
1975	7	22040	1114	23364	17824	6490	47678	7175
1975	8	15852	1462	26639	24163	8878	59681	983

APPENDIX B: MONTHLY IRRIGATION DIVERSIONS
IN ACRE-FEET
(-1 Indicates Missing Data)

YEAR	CLNDR MO.	ABOVE MACKAY RESERVR	SHARP DITCH	MACKAY DAM TO BLAINE DIVRSN	BLAINE DIVRSN TO ARCO DIVRSN	BELOW ARCO DIVRSN	TOTAL DIVRSN BELOW DAM	PUMPAGE INTO RIVER
1975	9	13803	802	14315	6297	3176	23788	153
1975	10	0	502	5710	2992	234	8936	0
1975	11	0	0	0	0	0	0	0
1975	12	0	0	0	0	0	0	0
1976	1	0	0	0	0	0	0	0
1976	2	0	0	0	0	0	0	0
1976	3	0	0	0	0	0	0	0
1976	4	0	0	0	0	0	0	0
1976	5	8418	848	14898	11045	3137	29079	520
1976	6	17324	1308	29579	27728	10009	67317	2340
1976	7	17898	990	17473	17497	7438	42408	3640
1976	8	15814	788	16739	11146	6160	34045	2568
1976	9	11126	610	8063	3978	1673	13713	366
1976	10	0	180	1823	1551	42	3416	0
1976	11	0	0	0	0	0	0	0
1976	12	0	0	0	0	0	0	0
1977	1	0	0	0	0	0	0	0
1977	2	0	0	0	0	0	0	0
1977	3	0	0	0	0	0	0	0
1977	4	1815	0	0	0	0	0	0
1977	5	10618	270	2740	2274	1454	6468	1358
1977	6	17215	622	9355	10894	5049	25298	2649
1977	7	17168	746	13404	14428	5420	33252	3329
1977	8	17753	722	12585	9495	4732	26812	3561
1977	9	10884	352	4450	2577	1593	8620	1439
1977	10	0	276	1165	1591	282	3038	34
1977	11	0	0	0	0	0	0	0
1977	12	0	0	0	0	0	0	0
1978	1	0	0	0	0	0	0	0
1978	2	0	0	0	0	0	0	0
1978	3	0	0	0	0	0	0	0
1978	4	0	0	0	0	0	0	0
1978	5	6428	362	3172	4212	54	7438	32
1978	6	16219	846	19735	23522	7474	50731	1930
1978	7	17973	794	19778	20179	8017	47975	2153
1978	8	13108	868	16344	15610	7073	39027	2194
1978	9	1173	602	3282	2119	984	6385	551
1978	10	0	238	883	1240	101	2224	47
1978	11	0	0	0	0	0	0	0
1978	12	0	0	0	0	0	0	0
1979	1	0	0	0	0	0	0	0
1979	2	0	0	0	0	0	0	0
1979	3	0	0	0	0	0	0	0
1979	4	0	0	0	0	0	0	600
1979	5	5198	626	6988	6809	1202	14999	660
1979	6	17019	938	19215	17332	8200	44747	3237

APPENDIX B: MONTHLY IRRIGATION DIVERSIONS IN ACRE-FEET

(-1 Indicates Missing Data)

YEAR	CLNDR MO.	ABOVE MACKAY RESERVR	SHARP DITCH	MACKAY DAM TO BLAINE DIVRSN	BLAINE DIVRSN TO ARCO DIVRSN	BELOW ARCO DIVRSN	TOTAL DIVRSN BELOW DAM	PUMPAGE INTO RIVER
1979	7	12579	516	12096	16285	6728	35109	5384
1979	8	9575	432	7121	5738	5041	17900	4717
1979	9	6206	604	4543	2823	2430	9797	1504
1979	10	0	176	1516	1173	0	2688	189
1979	11	0	0	0	0	0	0	0
1979	12	0	0	0	0	0	0	0
1980	1	0	0	0	0	0	0	0
1980	2	0	0	0	0	0	0	0
1980	3	0	0	0	0	0	0	0
1980	4	0	0	0	0	0	0	0
1980	5	0	626	7789	7450	1480	16719	130
1980	6	17039	1348	18548	19517	5359	43424	1370
1980	7	17675	1264	22257	25131	7537	54925	1700
1980	8	9597	944	15140	14291	5801	35232	2924
1980	9	4426	102	1319	2008	958	4285	805
1980	10	0	400	1762	1482	188	3432	157
1980	11	0	0	0	0	0	0	0
1980	12	0	0	0	0	0	0	0
1981	1	0	0	0	0	0	0	0
1981	2	0	0	0	0	0	0	0
1981	3	0	0	0	0	0	0	0
1981	4	0	0	0	0	0	0	0
1981	5	0	1134	7172	7565	1968	16705	108
1981	6	17515	1852	20937	21199	5260	47396	775
1981	7	17636	1034	17556	21078	7375	46009	3581
1981	8	9644	884	12045	11712	6956	30712	4525
1981	9	4424	366	3799	5043	3293	12136	2645
1981	10	0	168	1073	1210	272	2555	309
1981	11	0	0	0	0	0	0	0
1981	12	0	0	0	0	0	0	0
1982	1	0	0	0	0	0	0	0
1982	2	0	0	0	0	0	0	0
1982	3	0	0	0	0	0	0	0
1982	4	0	0	0	0	0	0	0
1982	5	0	198	4065	4988	758	9811	0
1982	6	15850	1224	14699	16961	5857	37517	0
1982	7	16392	1244	14279	17318	6069	37666	0
1982	8	15850	1278	17753	16057	6051	39861	452
1982	9	4750	1174	8337	5387	2343	16066	206
1982	10	0	322	1617	389	28	2034	112
1982	11	0	0	0	0	0	0	0
1982	12	0	0	0	0	0	0	0
1983	1	0	0	0	0	0	0	0
1983	2	0	0	0	0	0	0	0
1983	3	0	0	0	0	0	0	0
1983	4	0	0	0	0	0	0	0

APPENDIX B: MONTHLY IRRIGATION DIVERSIONS IN ACRE-FEET

(-1 Indicates Missing Data)

YEAR	CLNDR MO.	ABOVE MACKAY RESERVR	SHARP DITCH	MACKAY DAM TO BLAINE DIVRSN	BLAINE DIVRSN TO ARCO DIVRSN	BELOW ARCO DIVRSN	TOTAL DIVRSN BELOW DAM	PUMPAGE INTO RIVER
1983	5	0	752	3676	3105	694	7476	25
1983	6	15850	1223	16437	13858	4686	34982	110
1983	7	16392	831	13797	10692	5769	30258	138
1983	8	15850	1216	13055	15021	3637	31712	68
1983	9	4750	739	5416	3732	1448	10597	0
1983	10	0	28	113	552	0	665	0
1983	11	0	0	0	0	0	0	0
1983	12	0	0	0	0	0	0	0
1984	1	0	0	0	0	0	0	0
1984	2	0	0	0	0	0	0	0
1984	3	0	0	0	0	0	0	0
1984	4	0	0	0	0	0	0	0
1984	5	0	174	3853	4893	673	9418	0
1984	6	15850	1336	17352	13457	2694	33504	0
1984	7	16392	1302	18840	18693	4301	41835	60
1984	8	15850	760	12501	8430	3204	24135	42
1984	9	4750	360	4305	2292	956	7553	0
1984	10	0	60	1353	311	95	1760	0
1984	11	0	0	0	0	0	0	0
1984	12	0	0	0	0	0	0	0
1985	1	0	0	0	0	0	0	0
1985	2	0	0	0	0	0	0	0
1985	3	0	0	0	0	0	0	0
1985	4	0	0	0	0	0	0	0
1985	5	0	868	7424	10212	2734	20370	1900
1985	6	9845	820	14239	22245	7874	44358	4975
1985	7	10025	710	11797	18860	8466	39122	5985
1985	8	10025	958	14789	9307	5777	29873	3660
1985	9	3508	156	1653	962	1020	3635	581
1985	10	0	0	0	0	0	0	0
1985	11	0	0	0	0	0	0	0
1985	12	0	0	0	0	0	0	0
1986	1	0	0	0	0	0	0	0
1986	2	0	0	0	0	0	0	0
1986	3	0	0	0	0	0	0	0
1986	4	0	0	0	0	0	0	0
1986	5	4843	234	4700	6236	2295	13231	27
1986	6	15729	1642	18029	18995	7377	44400	474
1986	7	13416	804	15124	19659	7002	41785	2987
1986	8	11077	716	13211	10942	4885	29038	2291
1986	9	3787	452	2379	1270	1123	4772	0
1986	10	0	0	0	0	0	0	0
1986	11	0	0	0	0	0	0	0
1986	12	0	0	0	0	0	0	0
1987	1	0	0	0	0	0	0	0
1987	2	0	0	0	0	0	0	0

APPENDIX B: MONTHLY IRRIGATION DIVERSIONS IN ACRE-FEET

(-1 Indicates Missing Data)

YEAR	CLNDR MO.	ABOVE MACKAY RESERVR	SHARP DITCH	MACKAY DAM TO BLAINE DIVRSN	BLAINE DIVRSN TO ARCO DIVRSN	BELOW ARCO DIVRSN	TOTAL DIVRSN BELOW DAM	PUMPAGE INTO RIVER
1987	3	0	0	0	0	0	0	0
1987	4	0	0	0	0	0	0	0
1987	5	12888	276	7079	3488	7902	18469	1299
1987	6	15828	612	11202	4375	12523	28099	2715
1987	7	14688	312	7605	4900	10003	22508	2872
1987	8	8317	746	9755	4726	8680	23161	2057
1987	9	6307	462	4331	1674	4402	10408	1220
1987	10	0	90	1260	480	2472	4212	452
1987	11	0	0	0	0	0	0	0
1987	12	0	0	0	0	0	0	0
1988	1	0	0	0	0	0	0	0
1988	2	0	0	0	0	0	0	0
1988	3	0	0	0	0	0	0	0
1988	4	0	0	0	0	0	0	0
1988	5	1819	242	2726	2867	1504	7097	1347
1988	6	13362	788	9654	13059	5803	28516	3935
1988	7	8833	576	8285	11354	9696	29335	4742
1988	8	3242	562	4603	2875	3916	11394	2489
1988	9	4198	434	1950	1345	1367	4662	1216
1988	10	0	192	589	623	216	1428	242
1988	11	0	0	0	0	0	0	0
1988	12	0	0	0	0	0	0	0
1989	1	0	0	0	0	0	0	0
1989	2	0	0	0	0	0	0	0
1989	3	0	0	0	0	0	0	0
1989	4	0	0	0	0	0	0	0
1989	5	6325	102	2857	3162	1932	7952	1387
1989	6	12271	265	8617	10081	5559	24256	3449
1989	7	11410	386	7674	9940	3474	21088	7486
1989	8	7795	213	4688	4563	2545	11797	3128
1989	9	0	70	879	36	0	915	0
1989	10	0	0	0	0	0	0	0
1989	11	0	0	0	0	0	0	0
1989	12	0	0	0	0	0	0	0
1990	1	0	0	0	0	0	0	0
1990	2	0	0	0	0	0	0	0
1990	3	0	0	0	0	0	0	0
1990	4	0	0	0	0	0	0	0
1990	5	7273	110	1813	2782	484	5079	772
1990	6	15727	176	3184	4387	1107	8678	878
1990	7	14914	966	7970	10944	3361	22274	2632
1990	8	9249	688	5894	7928	3254	17076	2709
1990	9	4906	166	1073	365	665	2103	60
1990	10	0	0	0	0	0	0	0
1990	11	0	0	0	0	0	0	0
1990	12	0	0	0	0	0	0	0

BIG LOST RIVER RECHARGE
SETTLEMENT AGREEMENT AND STIPULATION

WHEREAS, applications have been submitted to the Idaho Department of Water Resources to appropriate waters from the Big Lost River and tributaries for purposes of aquifer recharge, in the names of Mitchell Sorensen et al. (No. 34-07571) and Dave Nelson et al. (No. 34-07573) (hereafter, "Applicants"); and

WHEREAS, protests have been filed to said applications under I.C. § 42-203A et seq., by protestants U.S. Dept of Energy, Idaho Rivers United, Big Lost River Waterusers Association, Reva Walker, Charles Huggins, Dennis and Trudy Braswell, and Lester Braswell (hereafter, "Protestants"); and

WHEREAS, Applicants and Protestants all desire to see recharge occur in the Big Lost River valley in a manner which is both effective hydrologically and broadly benefiting all residents and interests in the valley; and

WHEREAS, Water District 34 has already agreed to accept assignment of and hold the recharge permits issued by the Idaho Department of Water Resources (IDWR), and to conduct recharge efforts pursuant to such permits; and

WHEREAS, Applicants and Protestants desire to facilitate successful recharge in 1997 and future years, and to resolve the pending protests amicably and without the need for hearing under the terms of this agreement; and

WHEREAS, Applicants and Protestants agree and stipulate that recharge efforts in the Big Lost River basin, if conducted according to the terms and conditions set forth herein, will serve the local public interest, conserve the water resources of the State of

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Idaho, will not injure existing water rights, and otherwise satisfy the criteria of I.C. § 42-203A;

NOW THEREFORE, in consideration of the mutual promises and covenants contained herein, the undersigned parties do hereby AGREE AND STIPULATE as follows:

1. Upon execution and approval of this Settlement Agreement and Stipulation by all parties hereto, the Protestants agree that all pending protests to the recharge applications shall be, and are hereby, WITHDRAWN by Protestants.

2. Upon execution and approval of this Settlement Agreement and Stipulation by all parties hereto, all Applicants and Protestants agree that IDWR may issue permits based upon the above referenced applications pursuant to the provisions of I.C. § 42-203A and other applicable law, for the appropriation of water for recharge purposes in the Big Lost River basin, said permits to be expressly conditioned and limited by the Plan of Operation and other terms and conditions set forth herein.

3. Upon execution and approval of this Settlement Agreement and Stipulation by all parties hereto, Applicants agree that their above-referenced permits shall be, and are hereby, ASSIGNED AND TRANSFERRED to Water District 34 pursuant to Resolution No. 3-3-1997 of the water users of Water District 34 dated March 3, 1997. Executed ASSIGNMENT OF PERMIT documents and filing fees, payable to IDWR, accompany this Agreement and Stipulation to be filed with IDWR at the time of submitting this Agreement and Stipulation to IDWR. The intent of the Applicants being that the permits be assigned to Water District 34 upon their issuance.

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4. Water District 34 shall, at its next regular or special meeting, confirm its acceptance of said recharge permits under the terms and conditions set forth herein Failure to do so or rejection of any terms and conditions as set forth herein shall render this Settlement Agreement and Stipulation null and void, shall require IDWR to cancel the recharge permits, and shall reinstate the pending applications to the Applicants (without loss of priority date from the applications' filing), and shall reinstate the pending protests by the Protestants.

5. Upon issuance of said recharge permits by IDWR, those permits shall be held and implemented by Water District 34 strictly in accordance with Resolution No. 3-3-1997 of the water users of Water District 34 dated March 3, 1997, and the Plan of Operation, attached hereto and incorporated herein by reference as an integral part of this Settlement Agreement and Stipulation.

6 Following issuance of the recharge permits by IDWR and their acceptance by Water District 34, the terms and conditions of this Stipulation and Settlement Agreement shall be deemed fully satisfied. In the event of violation or failure to adhere to the terms and conditions of the Plan of Operation, the parties to this agreement may invoke or seek any available remedy or relief as provided by law. Any such violation or failure to adhere to the terms and conditions of the Plan of Operation may also be raised by any party and considered by IDWR as grounds for denial of a license.

7. All parties shall bear their own costs and attorneys fees associated with the applications, protests, and administrative proceedings relating thereto. However, upon approval by Water District 34, Applicants are entitled to reimbursement of their

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application fees and other reasonable expenses as provided by Resolution No. 3-3-1997 of the water users of Water District 34 dated March 3, 1997.

8 In executing this Settlement Agreement and Stipulation, the undersigned parties represent and warrant that they are authorized to make all stipulations, agreements, concessions, promises, and warranties contained herein.

9. This Settlement Agreement and Stipulation shall be construed and enforced under the laws of Idaho.

AGREED AND ACCEPTED effective this 21st day of April 1997:

Applicants Mitchell Sorensen, et al.

Applicants Dave Nelson, et al

Protestant Idaho Rivers United

Protestant Big Lost River Water Users Ass'n

Protestant Reva Walker

Protestant Charles & Karen Huggins

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Protestant Dennis & Trudy Braswell

Protestant Lester Braswell

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Department of Water Resources

Protestant Dennis & Trudy Braswell

Protestant Lester Braswell

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PLAN OF OPERATION
BASIN 34 RECHARGE
April, 1997

Introduction

This Plan of Operation is intended to implement the recharge effort in Basin 34 to accomplish the objectives of the water users of Water District 34 and the parties to the Settlement Agreement and Stipulation executed herewith. Recharge efforts utilizing water rights nos. 34-07571 and 34-07573 (recharge water rights hereinafter) shall be conducted in accordance with this Plan of Operation. Under this Plan of Operation the recharge water rights are to be used without regard for the relative priority between the two water right filings in a manner to fully and efficiently use the available water supplies and provide benefit throughout the basin.

The objectives of this Plan of Operation are to benefit all lands in the basin from flood water supplies that would otherwise exit the basin by maintaining reasonable river flows from the head of the valley to the Arco gaging station and the controlled diversion of otherwise unappropriated water into selected recharge sites. The expected basin wide project benefits are anticipated to be the following:

1) greater usage of flood water supplies.
2) flood control/stream bank protection.
3) recharge to natural springs and aquifer levels.
4) enhancement to fish and wildlife habitat and aesthetic values.
5) reduce damage caused by sub-water adjacent to river.
6) extended periods of river flows.
7) improved conveyance of diverted water supplies.
8) aquifer replacement of ground water supplies.
9) mitigation for senior surface water rights.
10) demonstration of community cooperation.
11) reduce or eliminate the need to curtail existing ground water rights.
12) maintain ground water levels for domestic wells.
13) develop greater understanding of ground and surface water hydrology in the basin.

Permit Terms and Conditions

The following terms and conditions relate to elements of the recharge water rights and are sought to be incorporated into the permits issued by IDWR for the recharge water rights. These terms and conditions remain integral parts of this Plan of Operation whether or not incorporated into the permits by IDWR.

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Recharge During the Non-Irrigation Season

For purposes of this Plan of Operation, the non-irrigation season is the period of the year when surface water is not being diverted for irrigation purposes from the source of water sought to be used for recharge. The non-irrigation season, for purposes of this plan, may differ from one portion of the basin to another in any year as well as differing from year to year.

The diversion of water for recharge may begin from tributaries to the Big Lost River during the non-irrigation season at any time that water is available for recharge and diversion facilities are available and capable of diverting and recharging the diverted water. Care must be taken to avoid ice damage to diversion facilities and to avoid flood threats that could result from icing conditions.

No diversion of water from the Big Lost River upstream from Mackay Reservoir can occur which would interfere with filling the storage rights for the reservoir. Diversions for recharge upstream from Mackay Reservoir should only be made after consultation and concurrence by the Directors of the Big Lost River Irrigation District and when diversion facilities are available.

Diversion of water from the Big Lost River downstream from Mackay Reservoir may occur when the conditions of stream flow described herein have been satisfied and diversion facilities are available. During the non-irrigation season water diverted into the irrigation canals and "lost" from seepage from those canals is a viable form of ground water recharge. This recharge benefits both ground water users by raising the level of the aquifer and surface water users by reducing the losses that will occur from the canals when irrigation deliveries begin.

Recharge During the Irrigation Season

For the purpose of this Plan of Operation the irrigation season is the period during each year when surface water is being diverted for irrigation purposes from the source of water sought to be used for recharge. The irrigation season, for purposes of this plan, may differ from one portion of the basin to another in any year as well as differing from year to year.

Recharge during the irrigation season will generally follow the same procedures as recharge during the non-irrigation season. All senior rights being called for must be filled prior to the use of water for recharge. Water rights for purposes other than recharge will not be diverted or delivered solely for purposes of recharge.

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Requirements and Guidelines for Recharge

Diversions of water for recharge shall be limited so as to not de-water (dry up) stream channels or increase the extent of de-watered stream channels at the time of the recharge diversion. Many tributaries to the Big Lost River and the Big Lost River itself do not have wetted channels for the entire length of the stream channel during portions of the year and during periods of drought. Among the purposes of this recharge plan is to retain water within the basin that would otherwise leave the basin downstream from the Arco gage as "flood flows." While retaining the water as high in the basin as possible may produce some benefit by extending the time the water may remain in the basin that added benefit does not off-set the value of recharging in the immediate vicinity of the stream channel itself to help maintain the integrity of the stream channel. The water supply required for maintaining wetted stream channels is self limiting since, as the ground water is recharged in the vicinity of the stream channel, smaller amounts of water will be required to maintain the stream and larger amounts of water will be available for diversion for other purposes. Additionally, the diversion of water for recharge from tributaries to the Big Lost River should not increase the amount of dry channel that exists for that tributary.

For the Big Lost River itself downstream from Mackay Dam, diversion for recharge downstream from Mackay Dam will not occur unless the flow at the Arco gage is 60 cfs or more, measured as a three consecutive day average. The 60 cfs at the Arco gage is for purposes of this Plan of Operation only and is not and cannot be construed as a minimum flow or minimum flow water right under any theory of law.

In the event of a brief but intense weather event which is anticipated to produce flood flows for a period of three days or less, the Recharge Committee may call for and the Watermaster may deliver water for recharge purposes even if the flows at the Arco gage are below 60 cfs so long as the flow at the 2-B Gage is 300 cfs, or more, in excess of the non-recharge water deliveries occurring from the Big Lost River downstream from Mackay Dam.

Delivery of Water for Recharge

Delivery of water pursuant to the recharge water rights under this Plan of Operation is limited to the use of water for recharge purposes only and is subject to all prior water rights including, but not limited to, irrigation, stock water and storage. The Watermaster may, however, deliver water for recharge prior to the filling of all storage rights when the owner(s) of the stored water concurs that the reasonably anticipated runoff is sufficient to fill all storage rights and provide water for recharge.

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Recharge Locations

The place of use for recharge under this Plan of Operation shall be within the following described area:

Twp 04N Rge 23E, 24E & 26E B.M.
Twp 05N Rge 24E, 25E & 26E B.M.
Twp 06N Rge 24E, 25E & 26E B.M.
Twp 07N Rge 23E, 24E, 25E & 26E B.M.
Twp 08N Rge 21E, 22E & 23E B.M.
Twp 09N Rge 21E & 22E B.M.

Recharge locations within the above described places of use shall include all locations at which recharge has been undertaken in 1995-96, including, but not limited to, Antelope Creek through the UC Canal, and Alder and Pass Creeks through private ditches, Parsons Creek, Spring Creek, Skelton Slew, and the Nielsen, Chilly, Longhurst, Ingram, Howell, Kent, Bartlett Bitton, Anderson, Thalman Hunter, Bradshaw, Burnett, Beck, Darlington, Sharp, Swager, McGowan, Vaught & Harris, 3 & 1, Moore, B&J, Sutter, Arco, Eastside and UC canals and ditches and turnouts from those canals and ditches into a number of private ditches, gravel pits and sinks. As permits, the recharge water rights shall also show, but are not limited to, places of use for potential recharge locations including the Darlington bypass, the Lower Burnett Ditch, Congden Springs area, and the Leslie gravel pit. In addition, the Recharge Committee may identify other sites and facilities which can be used for recharge of ground water within the Big Lost River basin.

Excess Ground Water

In the event ground water levels become too high while recharge is occurring, the Recharge Committee will consult with the Director of the Department of Water Resources to determine if or where recharge can continue at that time in Basin 34. This consultation will occur within 24 hours of any notification that ground water levels are too high as a result of recharge. The Recharge Committee may, in its own discretion, request the Watermaster to alter recharge diversions to avoid adding additional recharge water to areas where the ground water has become too high. The Director of the Department of Water Resources may, in his sole discretion, instruct the Watermaster to alter recharge diversions to avoid adding additional recharge water to areas where the ground water has become too high. If the Watermaster or the Director of the Department of Water Resources becomes aware of any imminent flood danger caused by recharge diversions the Watermaster may take such action as is reasonable and necessary to avoid or reduce any flooding caused by recharge diversions.

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Other Terms and Conditions

The following terms and conditions are not anticipated to be included by IDWR in the recharge water permits themselves, but nevertheless are integral parts of this Plan of Operation and the recharge effort undertaken pursuant to the Plan of Operation.

Control of recharge water rights

The recharge water rights shall be held and exercised by Water District 34 and are subject to the control of the Watermaster of Water District 34 (Watermaster hereinafter) for water distribution purposes pursuant to the Water Distribution Rules for Water District 34, the terms and conditions of this Plan of Operation, and all applicable laws and regulations. The Watermaster shall be guided and informed by the Recharge Committee, as set forth herein, regarding the control of the recharge water rights.

Delivery of recharge water shall be made to benefit the Big Lost River basin as a whole. As weather and water conditions change in the Big Lost River basin and as new recharge sites are developed, the Recharge Committee shall be guided by the goal to fully and efficiently use the available water supplies to provide benefit throughout the basin in the spirit of community cooperation and consensus.

Recharge Committee

Calls for delivery of recharge water will be made only by the Recharge Committee under the conditions and guidelines set forth herein. Calls for and delivery of recharge water will be according to this Plan of Operation and other applicable laws and regulations. Calls for delivery of recharge water by the Recharge Committee will be consistent with the intent of the water users of Water District 34 to provide benefits throughout the basin.

The Recharge Committee will have principal responsibility for selecting recharge sites and locations, dates for recharge efforts in any particular year, and for working with other entities (BLRID, BLM, land owners, etc.) to obtain the necessary permits and authorizations for use of recharge sites. The Recharge Committee may make recommendations to Water District 34 and the Watermaster about appropriate arrangements for obtaining authorization for use of recharge sites. The Recharge Committee is urged to seek technical assistance, as required, from local, state, or federal natural resource agencies.

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Since current irrigation diversion and delivery facilities may not have enough capacity to meet irrigation demands and divert water for recharge the Recharge Committee should begin immediately to identify recharge sites and provide facilities that can be used for recharge during the irrigation season. Possible recharge sites, in addition to existing irrigation canals, are abandoned irrigation canals, gravel pits and other as yet unidentified sites. Sites and facilities that can be used to divert and recharge "flood flows" that normally occur after the beginning of the irrigation season are essential to a successful recharge effort. The Recharge Committee should have identified additional recharge sites and have in place facilities at sites in addition to those identified above prior to submittal of proof of beneficial use to IDWR.

Members of the Recharge Committee will be appointed, and may be removed for good cause established by any interested party, by the Water District 34 Advisory Committee, with the input of the parties to the Settlement Agreement and Stipulation and the Watermaster. The Recharge Committee shall consist of twelve (12) members as follows:

(a) five (5) members who are surface water users of Water District 34, one (1) of whom shall be selected from each of the following areas:

(i) above Mackay Reservoir,

(ii) Big Lost River from Mackay Reservoir to above the Moore Diversion,

(iii) Big Lost River from Moore Diversion to above the Arco Diversion,

(iv) Big Lost River from Arco Diversion and downstream, and

(v) from the Antelope Creek drainage.

(b) four (4) members who are ground water users of Water District 34, one (1) of whom shall be selected from each geographic area generally described by items (a)(i) through (a)(iv) above.

(c) a member position available to be selected from a list of names provided by the Cities of Butte City, Arco, Moore and Mackay in a manner agreed to by the cities.

(d) a member who is a resident of two (2) years or more or a land owner in the Big Lost River basin, but not a water user of Water District 34, to be selected from a list of names suggested by others having an interest in the basin who are not water users of Water District 34.

(e) the Watermaster.

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The Advisory Committee shall act promptly upon a complaint by any interested party that one or more members of the Recharge Committee should be removed for good cause. Good cause for removal of a committee member includes, but is not limited to, failure to diligently attend to the duties of the Recharge Committee, and failure to act in accordance with the goals or terms and conditions of this Plan of Operation.

Monitoring, Evaluation, and Accounting for Recharge

Recharge diversions will be accounted for by the Watermaster on an annual basis in a report to be submitted to the Recharge Committee and the Director of the Department of Water Resources. Only those flows diverted under the authority of the recharge water rights are to be accounted for as recharge. Canal seepage that occurs during the normal delivery of water pursuant to non-recharge water rights will not be counted as recharge.

Monitoring and study of the effects of recharge is a desirable part of this Plan or Operation. The Recharge Committee is encouraged to undertake a study, including monitoring and evaluation, to evaluate the effect of ground water recharge in the basin. The Recharge Committee is encouraged to seek the assistance and cooperation of local, state and federal agencies to complete the study.

Recharge and Mitigation

It is beyond the scope of this Plan of Operation to propose a specific mitigation plan that utilizes the recharge that will occur under this plan. Nothing in this plan, however, prevents any ground water user from proposing a mitigation plan to the Director of the Idaho Department of Water Resources, pursuant to Rule 50.04.c.iii or Rule 50.04.e of the Water Distribution Rules - Water District 34, IDAPA 37 Title 03 Chapter 12.

Costs

Water District 34 will be responsible for all costs associated with the recharge effort pursuant to this Plan of Operation including reimbursement of the application fees and other reasonable costs as provided by Resolution No. 3-3-1997 of the water users of Water District 34 dated March 3, 1997, and recharge facilities development and maintenance. Water District 34 may seek to defray these costs by seeking contributions from the beneficiaries of the recharge effort or by other means.

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BEFORE THE DIRECTOR OF THE DEPARTMENT

OF WATER RESOURCES OF THE

STATE OF IDAHO

IN THE MATTER OF APPLICATION FOR PERMIT NO. 34-7247 IN THE NAME OF MITCHELL SORENSEN	ORDER ISSUING PROPOSED MEMORANDUM DECISION

R. Keith Higginson, Director of the Department of Water Resources, having reviewed the attached proposed decision prepared by this appointee, Bobby D. Fleenor, who conducted the hearing or who has read the record in this case, hereby approves the same as a proposed decision pursuant to Idaho Code, Sec. 67-5211.

Each party to these proceedings who appeared at the hearing is given the opportunity, pursuant to Idaho Code, Sec. 42-1701A and 67-5211, to file exceptions to the proposed decision and to present briefs and oral arguments. If no timely and proper exceptions are received, an order by the Director will be entered adopting the proposed decision as his final decision.

I.
EXCEPTIONS

A. To be considered by the Director, exceptions must:

1. be received by the Director on or before the 15th day following the day of service of this Order and the proposed decision,

2. specifically identify the portions of the proposed decision to which exceptions are made and specifically state the grounds for those exceptions, and

3. be sent to each of the parties who appeared or their attorneys.

II.
BRIEFS

A. Any briefs in support of exceptions to the proposed decision shall be filed with the Director at the same time that party's exceptions are filed with the Director.

B. All response briefs to the exceptions must be filed with the Director within 15 days after the exceptions were served upon the responding party.

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III.

A. No oral arguments before the Director on the proposed decision will be held unless specifically requested by a party filing exceptions to the proposed decision and unless that request is filed with the Director concurrently with the filing of that party's exception.

B. If oral arguments have been properly requested by a party filing exceptions, any other party, upon reasonable notice to the Director, shall have the right to present oral argument in response to the exceptions filed.

C. Oral arguments before the Director on exceptions to the proposed decision shall be heard at the discretion of the Director, pursuant to Idaho Code, Sec. 42-1701A. If oral agruments are to be heard, the Director will, within a reasonable time, notify each party of the place, date and hour the oral arguments will take place and of the period of time allocated for the arguments of this case. Unless the Director orders otherwise, all oral arguments shall be heard in Boise, Idaho.

IV.
CERTIFICATE OF SERVICE

All exceptions, briefs, requests for oral argument and other matters filed with the Director in connection with the proposed decision shall be served on all other parties to these proceedings in accordance with Rule 7.2.

V.
FINAL DECISION

Following the submission of all exceptions, briefs and oral arguments, if they are heard, the Director shall issue a final decision adopting, modifying or rejecting and replacing the proposed decision. Copies of the decision and order shall be served on all parties.

Dated this 3rd day of August, 19 89.

R. KEITH HIGGINSON
Director

MICROFILMED

BEFORE THE DEPARTMENT OF WATER RESOURCES

OF THE

STATE OF IDAHO

In the Matter of Application for Permit No. 34-7247 in the Name of Mitchell Sorensen	PROPOSED MEMORANDUM DECISION AND ORDER

On May 30, 1980, Mitchell Sorensen (applicant) filed with the Idaho Department of Water Resources (IDWR) Application for Permit No. 34-7247 proposing to appropriate 8.34 cubic feet per second (cfs) of water from a ground water source. The diversion of water is to be from a well located in the SE1/4NE1/4 Section 5, Township 4 North, Range 26 East, B.M., Butte County. The water is to be conveyed by an open ditch for a distance of about 7 miles and used to irrigate 200 acres located in the NW1/4, SE1/4SW1/4 Section 35, Township 4 North, Range 25 East, B.M.

Notice of the application was published in the Arco Advertiser on June 19 and June 26, 1980 and protests against approval of the application were received within the protest period from Richard Taylor, David Bleak, Lois M. Bleak, Chris Bleak, Larman Andersen, Bill Haralson, Jay F. Pearson, Gerald Stewart, Virgil Hail, Lewis Rothwell, Joe Smith, Mrs. Jesse W. Jensen, Ned R. Walker and Reuben Babcock. The protests cited the following reasons for objecting to approval of the application:

1. There would be injury to existing surface and ground water rights caused by the lowering of the water table as a result of the pumping.

2. The capacity of existing ditches to carry the water to the proposed place of use is insufficient.

3. There would be injury to existing water rights since licensed right No. 34-2428 which is sought to be transferred to a new place of use would be expanded.

A conference to consider the matter was conducted in Arco, Idaho, on December 16, 1981. The applicant was present and represented himself. Protestants Richard Taylor, Bill Haralson, Lewis Rothwell, Joe Smith and Mrs. Jesse W. Jensen were not present at the conference. The other protestants were present and represented themselves.

The applicant described the location and construction of the well which had been completed prior to the conference.

A decision on this and other applications in the basin has been delayed because of the general moratorium on development in the Snake River Basin in locations where the water is tributary to the Snake River upstream from Swan Falls Dam. Several studies have been completed of the water resources of the Big Lost River Basin and other information has been collected since the

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conference was held on Application No. 34-7247.

On February 21, 1984, the applicant submitted an amended application which proposed to change the place of use to 200 acres within the NW1/4, NESW1/4, SE1/4SW1/4 Section 35, Township 4 North, Range 25 East, B.M.

Based upon the agreement signed at the conference and the information available to IDWR as herein listed, IDWR makes the following findings of fact, conclusions of law, and order.

INFORMATION CONSIDERED

- IDWR water right records of applications, permits and licenses for surface and ground water in the Big Lost River Basin;
- U. S. District Court Decree in the case of Utah Construction Company v. John F. Abbott et al. dated October 21, 1925;
- IDWR open file report "Review of Ground-Water Conditions in the Big Lost River Valley", dated December 1982;
- Driller's well construction reports filed with IDWR;
- IDWR staff analysis memorandum from Steven J. Baker to L. Glen Saxton dated June 23, 1989;
- IDWR staff analysis memorandum from Steven J. Baker to Norm Young dated July 14, 1989;
- The agreement and contract to resolve the Swan Falls controversy signed by the state of Idaho and Idaho Power Company on October 25, 1984;
- "Policy and Implementation Plan for Processing Water Right Filings in the Swan Falls Area", dated November 3, 1988;
- IDWR "Water Appropriation Rules and Regulations", adopted October 1986;
- The Fifth Notice of Dismissal of Certain Defendants from Ada County Case No. 81375.

FINDINGS OF FACT

1. The water sought to be appropriated is located in the Snake River Basin where the water is presumed to be tributary to the Snake River in the reach between Milner Dam and Swan Falls Dam (Trust Water Area).

2. Application No. 34-7247 has been released by Idaho Power Co. from Ada County Case No. 81375.

3. Hydrologic information indicates that the surface and ground water within the Big Lost River basin are closely connected from the headwaters of the stream to a point near Arco. South of this point the ground water drops steeply to join the deeper Snake Plain Aquifer which then exits to the Snake River at Thousand Springs and other locations. Wells drilled south of the location where

the ground water loses connection with the Big Lost River will have no effect on the flow of the river. There is a "transition zone" within which wells can be operated without interference with other rights if cased and sealed through the shallow ground water zone. Upgradient from this transition zone, any well will intercept water tributary to the Big Lost River and thus, at times, will injure prior surface water rights unless a mitigation or compensation plan is implemented to protect holders of rights to surface water.

4. Each year, during the peak period of irrigation water demand, the surface water flows are not adequate to satisfy all prior rights to the surface sources. Water depleted from surface sources by diversion of ground water that would have been available to holders of surface water users during times of scarcity causes injury to the surface rights. This injury is not restricted to the rights in the reach depleted, since it has an effect in other reaches as water is allocated under the priority system.

5. The location (SE1/4NE1/4, Section 5, Township 4 North, Range 26 East) for the well requested by Application No. 34-7247 is in the transition zone described in Finding No. 3. A well at this location can be constructed to prevent depletion of surface flows and lowering of water levels in shallow wells.

6. The capacity of the canal system to convey the proposed appropriation to the place of use is a matter properly before the owner of the conveyance works, not IDWR.

7. The place of use associated with Application for Transfer of Licensed right No. 34-2428 is different than the land associated with this application for permit. Hence the disposition of the application for transfer will be treated in a separate memorandum decision and order.

8. Estimates of the rate of ground water discharge from the Big Lost River Basin to the Snake Plain Aquifer range from 227 cfs to 425 cfs. Development and use of some of this outflow is permitted by the Swan Falls Agreement provided there is no injury to other water rights in the local area.

CONCLUSIONS OF LAW

1. Paragraph 7(C) of the Swan Falls Agreement subordinated the use of water under Idaho Power Co.'s prior water rights for hydropower generation purposes in the Milner Dam to Swan Falls reach of Snake River to use of water under Application No. 34-7247.

2. Application No. 34-7247 is not subject to review under the public interest requirement of the Swan Falls Agreement but is to be evaluated under the criteria of Section 42-203A(5), Idaho Code, and Water Appropriation Rule 5,1. These criteria require an evaluation of:

a. Whether the proposed use will reduce the quantity of water under existing rights.

b. Whether the water supply is sufficient for the purposes intended.

c. Whether the application is filed for speculation or delay.

d. Whether the applicant has the financial resources to complete the project.

e. Whether the project will conflict with the local public interest.

3. Prior water rights from surface sources will be injured by diversion of ground water as proposed by Application No. 34-7247 unless the well is constructed to prevent depletion of surface water flows.

4. Water Appropriation Rule 5,1,1,4. provides that:

> "An application that would otherwise be denied because of injury to another water right may be approved upon conditions which will mitigate losses of water to the holder of an existing water right, as determined by the director."

4. There is unappropriated ground water available for appropriation under Application No. 34-7247.

5. The well proposed under Application No. 34-7247 has been drilled. Therefore, the application was not filed for purposes of speculation or delay, and the applicant has the financial resources to construct the project.

6. Appropriation of ground water for irrigation purposes under Application No. 34-7247 is in the local public interest as long as prior water rights of other users are not injured.

7. The applicants are entitled to a permit to appropriate water under Application No. 34-7247.

ORDER

It is therefore hereby ordered that the protests against approval of amended Application No. 34-7247 be set aside and that amended Application No. 34-7247 be and the same is APPROVED subject to the following conditions:

1. Diversion of water from the well requested in Application No. 34-7247 shall be stopped immediately upon issuance of a Final Memorandum Decision and Order on this matter and shall not recommence until the requirements of Condition No. 2 of this order are fully met and a written verification of compliance is issued by IDWR.

2. The well authorized by this permit in the SE1/4NE1/4 Section 5, Township 4 North, Range 26 East, which is already constructed, shall be reconstructed to prevent water from any depth less than 300 feet from entering the well. The well shall be reconstructed with unperforated casing sealed into a clay layer of at least 20 feet thickness, as determined by IDWR, which is encountered at least 300 feet below land surface. The reconstruction work shall be approved prior to diverting water from the well under this permit. The permit holder shall notify IDWR prior to installing and sealing the casing to allow IDWR personnel to observe the remedial work.

3. Use of water under this permit is subject to all prior surface and ground water rights.

4. Use of water under this permit is subject to the control of the watermaster of Water District No. 34, Big Lost River. Water shall only be diverted under this permit in accordance with requirements of Condition No. 2 of this order as determined by the director of IDWR.

5. Proof of application of the water to beneficial use shall be submitted on or before the date indicated in the Final Memorandum Decision and Order entered by the Director in this matter.

6. An access port or other device as specified by IDWR shall be installed by the permit holder prior to diversion of water under this permit to provide for the installation of flow measuring equipment. Jurisdiction is reserved to require the permit holder to install permanent measuring equipment for use by the watermaster.

7. A locking device approved by IDWR shall be installed by the permit holder prior to diversion of water under this permit to allow authorized officials to prevent diversion of water from the well.

8. Issuance of this permit does not grant a right of way or easement across the lands of another.

9. The permit holder shall comply with the provisions of Section 42-235, Idaho Code, prior to commencing reconstruction of the well.

Dated this 1ST day of AUGUST, 1989.

for Norman C. Young
BOBBY D. FLEENOR
Hearing Officer

RECEIVED
MAY 17 1978
Department of Water Resources
Eastern District Office

State of Idaho
Department of Water Administration

LICENSE OF WATER RIGHT

License of Water Right No. 29837/34-2428 Priority June 25, 1961 (late proof) Amount 3.85 cfs

THIS IS TO CERTIFY, that WILLARD H. SORENSEN & SONS of Moore, Idaho, has complied with the terms and conditions of Permit No. 29837/34-2428 issued pursuant to Application for Permit dated June 19, 1961, and has submitted proof to the Department of Water Administration on June 27, 1966, that he has applied water to a beneficial use; an examination by the Department indicates that the works have a capacity of 8.34 cfs, and that the water has in fact been applied to a beneficial use: a right to the use of water from a ground water source tributary of _____, is hereby confirmed in the following amounts:

Amount 3.85 cfs for Irrigation from April 1 to Nov. 1 (both dates inclusive)
Amount _____ for _____ from _____ to _____ (both dates inclusive)
Amount _____ for _____ from _____ to _____ (both dates inclusive)

Subject, however, to the condition that no more than 3.85 cfs of water be diverted at any one time, said waters to be diverted within the SE¼NE¼ Sec. 5, Twp. 4 N, Rge. 26 E, B.M. in the county of Butte; and that the amount of water so diverted and to which such right is entitled and confirmed is for the purposes aforesaid and is limited to the amount which can actually be beneficially used and shall not exceed 577.5 acre feet per year or 3.0 acre feet per acre.

Description and location of place of use:

TWP	RANGE	SEC	NE¼				NW¼				SW¼				SE¼				TOTALS
			NE¼	NW¼	SW¼	SE¼	NE¼	NW¼	SW¼	SE¼	NE¼	NW¼	SW¼	SE¼	NE¼	NW¼	SW¼	SE¼	
4 N	26 E	5				39									39			39	117.0
		9					37.5	38											75.5

Total number of acres irrigated 192.5

The right to the use of the water hereby confirmed is restricted and appurtenant to the lands or place of use herein described, as provided by the laws of Idaho.

Witness the seal and signature of the Director, affixed at Boise, Idaho, this 4 day of October, 19 72.

Director

31 2428

RIGHT NUMBER	NAME & ADDRESS	PRIORITY DATE	PURPOSE OF USE	PERIOD OF USE FROM	TO	MAXIMUM QUANTITY		BASIS OF CLAIM
	SOURCE: GROUNDWATER							
34-07096	MITCHELL D. SORENSEN RT 1, BOX 63-A MOORE ID 83255	01/31/1975	IRRIGATION	04-15	10-15	3.26	CFS	PERMIT
				TOTAL QUANTITY:		3.26	CFS	

POINT OF DIVERSION:
T04N R26E S05 NWSENE
S17 NWSENW

PLACE OF USE: IRRIGATION

T03N R25E S02	Lot 3 (NENW)39.0	Lot 4 (NWNW)39.0	SWNW 40.0	SENW 40.0
S03	Lot 1 (NENE)39.0	Lot 2 (NWNE)39.0		
T04N R25E S34	NENE 39.0	NWNE 38.0	SWNE 40.0	SENE 40.0
	NESE 40.0	NWSE 40.0	SWSE 40.0	SESE 40.0
S35	NENW 38.0	NWNW 38.0	SWNW 40.0	SENW 40.0
	NESW 20.0	NWSW 40.0	SWSW 39.0	SESW 20.0

828.0 ACRES TOTAL

REMARKS: THIS RIGHT IS CONDITIONED UPON COMPLETION OF THE APPROPRIATION IN ACCORDANCE WITH THE STATUTORY PROCEDURE FOR APPROPRIATION OF WATER RIGHTS. THIS RIGHT REMAINS SUBJECT TO ALL CONDITIONS SET FORTH IN THE PERMIT UPON WHICH THIS RIGHT IS BASED, AND WILL BE SUBJECT TO ALL CONDITIONS SET FORTH IN THE LICENSE ISSUED BY IDWR UPON COMPLETION OF THE STATUTORY APPROPRIATION PROCESS.
RIGHT INCLUDES ACCOMPLISHED CHANGE IN POINT OF DIVERSION PURSUANT TO IDAHO CODE 42-1416A.
RIGHT INCLUDES ACCOMPLISHED CHANGE IN PLACE OF USE PURSUANT TO IDAHO CODE 42-1416A.
USE OF THIS RIGHT WITH RIGHTS LISTED BELOW IS LIMITED TO A TOTAL COMBINED ANNUAL CONSUMPTIVE USE VOLUME OF 2362.5 AF, AND TO THE IRRIGATION OF A COMBINED TOTAL OF 945 ACRES WITHIN THE PLACE OF DESCRIBED ABOVE IN A SINGLE IRRIGATION SEASON. COMBINED RIGHT NOS.: 34-02428, 34-07097, 34-07223, 34-00496A, 34-00692D AND 34-12416.
USE OF THIS RIGHT WITH RIGHTS LISTED BELOW IS LIMITED TO A TOTAL COMBINED ANNUAL DIVERSION VOLUME OF 4134.4 AF IN A SINGLE IRRIGATION SEASON. COMBINED RIGHT NOS.: 34-02428, 34-07097, 34-07223 AND 34-12416.
THIS RIGHT IS LIMITED TO THE IRRIGATION OF 164 ACRES WITHIN THE PLACE OF USE DESCRIBED ABOVE IN A SINGLE IRRIGATION SEASON.
RIGHT NO. 34-12416 IS AN EXPANSION OF THIS RIGHT PURSUANT IDAHO CODE 42-1416(2).
RIGHT NOS. 34-02428, 34-07097 AND 34-12416 ARE ALSO DIVERTED THROUGH POINT OF DIVERSION DESCRIBED ABOVE, AND THE TOTAL

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RIGHT NUMBER	NAME & ADDRESS	PRIORITY DATE	PURPOSE OF USE	PERIOD OF USE FROM	PERIOD OF USE TO	MAXIMUM QUANTITY	BASIS OF CLAIM
	SOURCE: GROUNDWATER						
34-07096 CONTINUED							

COMBINED RATE OF DIVERSION OF THESE RIGHTS IS LIMITED TO 9.97 CFS.

WATER DIVERTED UNDER THIS RIGHT FROM THE WELL LOCATED IN SECTION 17 IS EXCHANGED WITH WATER DIVERTED FROM THE BIG LOST RIVER UNDER RIGHT NO. 34-00032A. WATER DIVERTED UNDER THIS RIGHT FROM THE WELL IN SECTION 17 IS USED FOR THE PURPOSES AND AT THE PLACES OF USE DESCRIBED IN RIGHT NO. 34-00032A AND WATER DIVERTED FROM THE BIG LOST RIVER IS USED FOR THE PURPOSES AND AT THE PLACES OF USE DESCRIBED ABOVE.

THE AMOUNT OF WATER DIVERTED PURSUANT TO THIS EXCHANGE SHALL BE REDUCED WHEN NECESSARY TO PREVENT INJURY TO OTHER RIGHTS.

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RIGHT NUMBER	NAME & ADDRESS	PRIORITY DATE	PURPOSE OF USE	PERIOD OF USE FROM	TO	MAXIMUM QUANTITY		BASIS OF CLAIM
	SOURCE: GROUNDWATER							
34-07097	MITCHELL D. SORENSEN RT 1, BOX 63-A MOORE ID 83255	01/31/1975	IRRIGATION	04-15	10-15	2.86	CFS	PERMIT
				TOTAL QUANTITY:		2.86	CFS	

POINT OF DIVERSION:
T04N R26E S05 NWSENE
S17 NWSENW

PLACE OF USE: IRRIGATION

T03N R25E S02	Lot 3 (NENW)39.0	Lot 4 (NWNW)39.0		SWNW 40.0		SENW 40.0	
S03	Lot 1 (NENE)39.0	Lot 2 (NWNE)39.0					
T04N R25E S34	NENE 39.0	NWNE 38.0		SWNE 40.0		SENE 40.0	
	NESE 40.0	NWSE 40.0		SWSE 40.0		SESE 40.0	
S35	NENW 38.0	NWNW 38.0		SWNW 40.0		SENW 40.0	
	NESW 20.0	NWSW 40.0		SWSW 39.0		SESW 20.0	

828.0 ACRES TOTAL

REMARKS: THIS RIGHT IS CONDITIONED UPON COMPLETION OF THE APPROPRIATION IN ACCORDANCE WITH THE STATUTORY PROCEDURE FOR APPROPRIATION OF WATER RIGHTS. THIS RIGHT REMAINS SUBJECT TO ALL CONDITIONS SET FORTH IN THE PERMIT UPON WHICH THIS RIGHT IS BASED, AND WILL BE SUBJECT TO ALL CONDITIONS SET FORTH IN THE LICENSE ISSUED BY IDWR UPON COMPLETION OF THE STATUTORY APPROPRIATION PROCESS.
RIGHT INCLUDES ACCOMPLISHED CHANGE IN POINT OF DIVERSION PURSUANT TO IDAHO CODE 42-1416A.
RIGHT INCLUDES ACCOMPLISHED CHANGE IN PLACE OF USE PURSUANT TO IDAHO CODE 42-1416A.
USE OF THIS RIGHT WITH RIGHTS LISTED BELOW IS LIMITED TO A TOTAL COMBINED ANNUAL CONSUMPTIVE USE VOLUME OF 2362.5 AF, AND TO THE IRRIGATION OF A COMBINED TOTAL OF 945 ACRES WITHIN THE PLACE OF DESCRIBED ABOVE IN A SINGLE IRRIGATION SEASON. COMBINED RIGHT NOS.: 34-07096, 34-02428, 34-07223, 34-00496A, 34-00692D AND 34-12416.
USE OF THIS RIGHT WITH RIGHTS LISTED BELOW IS LIMITED TO A TOTAL COMBINED ANNUAL DIVERSION VOLUME OF 4134.4 AF IN A SINGLE IRRIGATION SEASON. COMBINED RIGHT NOS.: 34-07096, 34-02428, 34-07223 AND 34-12416.
THIS RIGHT IS LIMITED TO THE IRRIGATION OF 143 ACRES WITHIN THE PLACE OF USE DESCRIBED ABOVE IN A SINGLE IRRIGATION SEASON.
RIGHT NO. 34-12416 IS AN EXPANSION OF THIS RIGHT PURSUANT IDAHO CODE 42-1416(2).
RIGHT NOS. 34-07096, 34-02428 AND 34-12416 ARE ALSO DIVERTED THROUGH POINT OF DIVERSION DESCRIBED ABOVE, AND THE TOTAL

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RIGHT NUMBER	NAME & ADDRESS	PRIORITY DATE	PURPOSE OF USE	PERIOD OF USE FROM	PERIOD OF USE TO	MAXIMUM QUANTITY	BASIS OF CLAIM
	SOURCE: GROUNDWATER						
34-07097 CONTINUED							

COMBINED RATE OF DIVERSION OF THESE RIGHTS IS LIMITED TO 9.97 CFS.

WATER DIVERTED UNDER THIS RIGHT FROM THE WELL LOCATED IN SECTION 17 IS EXCHANGED WITH WATER DIVERTED FROM THE BIG LOST RIVER UNDER RIGHT NO. 34-00032A. WATER DIVERTED UNDER THIS RIGHT FROM THE WELL IN SECTION 17 IS USED FOR THE PURPOSES AND AT THE PLACES OF USE DESCRIBED IN RIGHT NO. 34-00032A AND WATER DIVERTED FROM THE BIG LOST RIVER IS USED FOR THE PURPOSES AND AT THE PLACES OF USE DESCRIBED ABOVE.

THE AMOUNT OF WATER DIVERTED PURSUANT TO THIS EXCHANGE SHALL BE REDUCED WHEN NECESSARY TO PREVENT INJURY TO OTHER RIGHTS.

MICROFILMED

RIGHT NUMBER	NAME & ADDRESS	PRIORITY DATE	PURPOSE OF USE	PERIOD OF USE FROM	TO	MAXIMUM QUANTITY		BASIS OF CLAIM
	SOURCE: GROUNDWATER							
34-07098A	SHIRLEY K. PURSER LAVELL R. PURSER RT. 1 BOX 120A MOORE ID 83255	02/03/1975	IRRIGATION	04-15	10-15	3.67	CFS	LICENSE
				TOTAL QUANTITY:		3.67	CFS	

POINT OF DIVERSION:
T05N R26E S06 LOT 1 (NENENE)
LOT 1,(NWNENE)
LOT 1 (SWNENE)

PLACE OF USE: IRRIGATION

T05N R26E S05 Lot 4 (NENW)43.0 Lot 3 (NWNW)43.0 SWNW 40.0 SENW 40.0
NESW 40.0 NWSW 40.0 SWSW 25.0 SESW 40.0
S06 Lot 1 (NENE)42.0 SENE 25.0 NESE 4.0
382.0 ACRES TOTAL

REMARKS: RIGHT INCLUDES ACCOMPLISHED CHANGE IN POINT OF DIVERSION PURSUANT TO IDAHO CODE 42-1416A.
USE OF THIS RIGHT WITH RIGHT NO. 34-02347 AND THE OTHER RIGHTS LISTED THEREIN IS LIMITED TO A TOTAL COMBINED DIVERSION RATE OF 7.64 CFS, A TOTAL COMBINED ANNUAL DIVERSION VOLUME OF 1337 AF, A TOTAL COMBINED ANNUAL CONSUMPTIVE USE VOLUME OF 955 AF, AND TO THE IRRIGATION OF A COMBINED TOTAL OF 382 ACRES IN A SINGLE IRRIGATION SEASON.

Water Right Number - R34-07097B Prefix Translation: RESEARCH Old (D) Number -

*** A - ATTORNEY ***
FOSTER KENT W
1 - PO BOX 50130
2 -
3 -
City- IDAHO FALLS State- ID Zip- 83405
Phone - 208-000-0000

*** C - CURRENT OWNER ***
SORENSEN MITCHELL D
1 - RT 1 BOX 63-A
2 -
3 -
City- MOORE State- ID Zip- 83255
Phone - 208-527-3271

Priority Date: 01/31/1975
Region: 15 EASTERN
Stage: P - PERMIT
Status:

Source: GROUNDWATER
Tributary:

Point of Diversion

Twn	Rng	Sec	Tract	Lot	RFlg	County	Diversion Name
04N	26E	5	NW SE NE			(23) BUTTE	WELL 40

Water Use

Code	Description	Period From	Period To	Diversion Rate	Diversion Volume
01	IRRIGATION	04/15	10/15	1.290	

Total Div. Rate	Total Div. Volume	Total Div. Capacity	Total Consumptive Use	KW Usage
1.290			0.0	

Place of Use

Twn	Rng	Sec	Tract	Lot	Acres	Code	Description	County
03N	25E	2	NE NW	3	39.0	01	IRRIGATION	(23) BUTTE
03N	25E	2	NW NW	4	39.0	01	IRRIGATION	(23) BUTTE
03N	25E	2	SW NW		40.0	01	IRRIGATION	(23) BUTTE
03N	25E	2	SE NW		40.0	01	IRRIGATION	(23) BUTTE
03N	25E	3	NE NE	1	39.0	01	IRRIGATION	(23) BUTTE
03N	25E	3	NW NE	2	39.0	01	IRRIGATION	(23) BUTTE
04N	25E	34	NE NE		39.0	01	IRRIGATION	(23) BUTTE
04N	25E	34	NW NE		38.0	01	IRRIGATION	(23) BUTTE
04N	25E	34	SW NE		40.0	01	IRRIGATION	(23) BUTTE
04N	25E	34	SE NE		40.0	01	IRRIGATION	(23) BUTTE
04N	25E	34	NE SE		40.0	01	IRRIGATION	(23) BUTTE
04N	25E	34	NW SE		40.0	01	IRRIGATION	(23) BUTTE
04N	25E	34	SW SE		40.0	01	IRRIGATION	(23) BUTTE
04N	25E	34	SE SE		40.0	01	IRRIGATION	(23) BUTTE
04N	25E	35	NE NW		38.0	01	IRRIGATION	(23) BUTTE
04N	25E	35	NW NW		38.0	01	IRRIGATION	(23) BUTTE
04N	25E	35	SW NW		40.0	01	IRRIGATION	(23) BUTTE
04N	25E	35	SE NW		40.0	01	IRRIGATION	(23) BUTTE

Water right number - R34-07097B Prefix Translation: RESEARCH

Place of Use

Twn	Rng	Sec	Tract	Lot	Acres	Code	Description	County
04N	25E	35	NE SW		20.0	01	IRRIGATION	(23) BUTTE
04N	25E	35	NW SW		40.0	01	IRRIGATION	(23) BUTTE
04N	25E	35	SW SW		39.0	01	IRRIGATION	(23) BUTTE
04N	25E	35	SE SW		20.0	01	IRRIGATION	(23) BUTTE

Total Acres: 828.0

Diversion Means - WELL AND PUMP

Non-Irrigation Use -

Other Rights for Same Use - 34-00692D,34-02428,34-07096,34-07223,34-00496A,34-12416

Remarks

QNT USE OF THIS RIGHT WITH RIGHT NOS. 34-02428, 34-07096B AND 34-12416 IS LIMITED TO A TOTAL COMBINED DIVERSION RATE OF 6.57 CFS.
USE OF THIS RIGHT WITH RIGHTS LISTED BELOW IS LIMITED TO A TOTAL COMBINED DIVERSION RATE OF 11.55 CFS AND TO A TOTAL COMBINED ANNUAL DIVERSION VOLUME OF 4134.4 AF.
COMBINED RIGHT NOS.: 34-02428, 34-07096A, 34-07096B, 34-07097A, 34-07223 AND 34-12416.

POU1 USE OF THIS RIGHT WITH RIGHTS LISTED BELOW IS LIMITED TO THE IRRIGATION OF A COMBINED TOTAL OF 945 ACRES WITHIN THE PLACE OF DESCRIBED ABOVE IN A SINGLE IRRIGATION SEASON.
COMBINED RIGHT NOS.: 34-00496A, 34-00692D, 34-02428, 34-07096A, 34-07096B, 34-07097A, 34-07223 AND 34-12416.
THIS RIGHT IS LIMITED TO THE IRRIGATION OF 64 ACRES WITHIN THE PLACE OF USE DESCRIBED ABOVE IN A SINGLE IRRIGATION SEASON.

EXP RIGHT NO. 34-12416 IS AN ENLARGEMENT OF THIS RIGHT PURSUANT TO SECTION 42-1426, IDAHO CODE.
RIGHT NOS. 34-07096B, 34-02428 AND 34-12416 ARE ALSO DIVERTED THROUGH POINT OF DIVERSION DESCRIBED ABOVE.
WATER DELIVERED THROUGH THE TIMBER DOME CANAL.

Old Water Right Numbers

No Old Water Right Numbers found.

Conditions of Approval

A01 - THIS RIGHT IS CONDITIONED UPON COMPLETION OF THE APPROPRIATION - IN ACCORDANCE WITH THE STATUTORY PROCEDURE FOR APPROPRIATION - OF WATER RIGHTS. THIS RIGHT REMAINS SUBJECT TO ALL CONDITIONS - SET FORTH IN THE PERMIT UPON WHICH THIS RIGHT IS BASED, AND WILL - BE SUBJECT TO ALL CONDITIONS SET FORTH IN THE LICENSE ISSUED BY - IDWR UPON COMPLETION OF THE STATUTORY APPROPRIATION PROCESS.

C03 - RIGHT INCLUDES ACCOMPLISHED CHANGE IN POINT OF DIVERSION - PURSUANT TO SECTION 42-1425, IDAHO CODE.

C05 - RIGHT INCLUDES ACCOMPLISHED CHANGE IN PLACE OF USE PURSUANT TO

Water right number - R34-07097B Prefix Translation: RESEARCH

Conditions of Approval

(Condition continued from previous page)
- SECTION 42-1425, IDAHO CODE.

Decree Plaintiff

Decree Defendant

Decree Date
00/00/0000

Audit Fields - 01/21/98 CFRITSCH 01/23/98 CFRITSCH

Comments

Date: 10/08/1991 User Id: CARLSEN Subject: ADDED REMARK
ADDED REMARK F05 FOR 34-07096.
Date: 05/15/1992 User Id: VERNER Subject: NOTICE OF ERROR-SEE R34-02428
Date: 05/22/1992 User Id: BAUMHOFF Subject: ADDITIONAL REMARKS ADDED
PER LK-H TWO EXCHANGE WATER REMARKS HAVE BEEN ADDED. ALB
Date: 03/11/1994 User Id: FRAZEE Subject: NOTICE OF APPEARANCE (NOA)
NOA REC'D 1/24/94 FROM KENT W FOSTER

Adjudication Rights Dates and Flags Area

Court Report Filing	- 00/00/0000	Field Inspection Made	- 00/00/0000	Civil Case Number	- 39576
Objection Filed Date	- 00/00/0000	Field Inspection Flag	-	Old Case Number	-
Response Filed Date	- 00/00/0000	Verified Date	- 00/00/0000	Old Judicial District	-
Claim Received Date	- 11/06/1989	Last Amended Date	- 00/00/0000	Temporary Right	- P
Proof Due Date	- 00/00/0000	Proof Made Date	- 00/00/0000	Water District	- 34
Licensed Date	- 00/00/0000	Receipt Number	- E011112	Federal/State Indicator	- S
		POU Ownership Flag	- Y	Presumption Flag	- C
		Name Connector	-	Notice of Error Flag	- C

Water Right Number - R34-070968 Prefix Translation: RESEARCH Old (D) Number -

*** A - ATTORNEY ***
FOSTER KENT W
1 - PO BOX 50130
2 -
3 -
City- IDAHO FALLS State- ID Zip- 83405
Phone - 208-000-0000

*** C - CURRENT OWNER ***
SORENSEN MITCHELL D
1 - RT 1 BOX 63-A
2 -
3 -
City- MOORE State- ID Zip- 83255
Phone - 208-527-3271

Priority Date: 01/31/1975
Region: 15 EASTERN
Stage: P - PERMIT
Status:

Source: GROUNDWATER
Tributary:

Point of Diversion

Twn	Rng	Sec	Tract	Lot	RFlg	County	Diversion Name
04N	26E	5	NW SE NE		(23)	BUTTE	WELL 40

Water Use

Code	Description	Period From	Period To	Diversion Rate	Diversion Volume
01	IRRIGATION	04/15	10/15	1.430	

Total Div. Rate	Total Div. Volume	Total Div. Capacity	Total Consumptive Use	KW Usage
1.430			0.0	

Place of Use

Twn	Rng	Sec	Tract	Lot	Acres	Code	Description	County
03N	25E	2	NE NW	3	39.0	01	IRRIGATION	(23) BUTTE
03N	25E	2	NW NW	4	39.0	01	IRRIGATION	(23) BUTTE
03N	25E	2	SW NW		40.0	01	IRRIGATION	(23) BUTTE
03N	25E	2	SE NW		40.0	01	IRRIGATION	(23) BUTTE
03N	25E	3	NE NE	1	39.0	01	IRRIGATION	(23) BUTTE
03N	25E	3	NW NE	2	39.0	01	IRRIGATION	(23) BUTTE
04N	25E	34	NE NE		39.0	01	IRRIGATION	(23) BUTTE
04N	25E	34	NW NE		38.0	01	IRRIGATION	(23) BUTTE
04N	25E	34	SW NE		40.0	01	IRRIGATION	(23) BUTTE
04N	25E	34	SE NE		40.0	01	IRRIGATION	(23) BUTTE
04N	25E	34	NE SE		40.0	01	IRRIGATION	(23) BUTTE
04N	25E	34	NW SE		40.0	01	IRRIGATION	(23) BUTTE
04N	25E	34	SW SE		40.0	01	IRRIGATION	(23) BUTTE
04N	25E	34	SE SE		40.0	01	IRRIGATION	(23) BUTTE
04N	25E	35	NE NW		38.0	01	IRRIGATION	(23) BUTTE
04N	25E	35	NW NW		38.0	01	IRRIGATION	(23) BUTTE
04N	25E	35	SW NW		40.0	01	IRRIGATION	(23) BUTTE
04N	25E	35	SE NW		40.0	01	IRRIGATION	(23) BUTTE

Water right number - R34-07096B Prefix Translation: RESEARCH

Place of Use

Twn	Rng	Sec	Tract	Lot	Acres	Code	Description	County
04N	25E	35	NE SW		20.0	01	IRRIGATION	(23) BUTTE
04N	25E	35	NW SW		40.0	01	IRRIGATION	(23) BUTTE
04N	25E	35	SW SW		39.0	01	IRRIGATION	(23) BUTTE
04N	25E	35	SE SW		20.0	01	IRRIGATION	(23) BUTTE

Total Acres: 828.0

Diversion Means - 1 WELL AND PUMP INTO CANAL. RELIFT PUMPS, SPRINKLERS

Non-Irrigation Use -

Other Rights for Same Use - 34-00496A, 34-00692D, 34-07097, 34-02428, 34-07223, 34-12416

Remarks

QNT USE OF THIS RIGHT WITH RIGHT NOS. 34-02428, 34-07097B AND 34-12416 IS LIMITED TO A TOTAL COMBINED DIVERSION RATE OF 6.57 CFS.
USE OF THIS RIGHT WITH RIGHTS LISTED BELOW IS LIMITED TO A TOTAL COMBINED DIVERSION RATE OF 11.55 CFS AND TO A TOTAL COMBINED ANNUAL DIVERSION VOLUME OF 4134.4 AF.
COMBINED RIGHT NOS.: 34-02428, 34-07096A, 34-07097A, 34-07097B, 34-07223 AND 34-12416.

POU1 USE OF THIS RIGHT WITH RIGHTS LISTED BELOW IS LIMITED TO THE IRRIGATION OF A COMBINED TOTAL OF 945 ACRES WITHIN THE PLACE OF DESCRIBED ABOVE IN A SINGLE IRRIGATION SEASON.
COMBINED RIGHT NOS.: 34-00496A, 34-00692D, 23-02428, 34-07096A, 34-07097A, 34-07097B, 34-07223 AND 34-12416.
THIS RIGHT IS LIMITED TO THE IRRIGATION OF 72 ACRES WITHIN THE PLACE OF USE DESCRIBED ABOVE IN A SINGLE IRRIGATION SEASON.

EXP RIGHT NO. 34-12416 IS AN ENLARGEMENT OF THIS RIGHT PURSUANT TO SECTION 42-1426, IDAHO CODE.
RIGHT NOS. 34-02428, 34-07097B AND 34-12416 ARE ALSO DIVERTED THROUGH POINT OF DIVERSION DESCRIBED ABOVE.
WATER DELIVERED THROUGH THE TIMBER DOME CANAL.

Old Water Right Numbers

No Old Water Right Numbers found.

Conditions of Approval

A01 - THIS RIGHT IS CONDITIONED UPON COMPLETION OF THE APPROPRIATION - IN ACCORDANCE WITH THE STATUTORY PROCEDURE FOR APPROPRIATION - OF WATER RIGHTS. THIS RIGHT REMAINS SUBJECT TO ALL CONDITIONS - SET FORTH IN THE PERMIT UPON WHICH THIS RIGHT IS BASED, AND WILL - BE SUBJECT TO ALL CONDITIONS SET FORTH IN THE LICENSE ISSUED BY - IDWR UPON COMPLETION OF THE STATUTORY APPROPRIATION PROCESS.
C03 - RIGHT INCLUDES ACCOMPLISHED CHANGE IN POINT OF DIVERSION - PURSUANT TO SECTION 42-1425, IDAHO CODE.
C05 - RIGHT INCLUDES ACCOMPLISHED CHANGE IN PLACE OF USE PURSUANT TO

Water right number - R34-07096B   Prefix Translation: RESEARCH

+ - Conditions of Approval - +
(Condition continued from previous page)
- SECTION 42-1425, IDAHO CODE.

+ - - - - Decree Plaintiff - - - +   + - - - - Decree Defendant - - - +   + - Decree Date - +
00/00/0000

+ - - Audit Fields - 01/21/98 CFRITSCH 01/23/98 CFRITSCH

+ -Comments- +
Date: 09/11/1991 User Id: VERNER   Subject: COPIED FROM REMARKS
THIS RIGHT IS LIMITED TO IRRIGATING A TOTAL OF 164 ACRES WITHIN THE CLAIMED PLACE OF USE.
THIS RIGHT AND 34-7097 ARE THE SUBJECTS OF AN APPROVED EXCHANGE, NO. 3026, WITH WATER RIGHT NO. 34-0032A. WATER DIVERTED UNDER THIS RIGHT IS ACTUALLY USED ON THE LAND OF KIRBY A. JENSEN AND WATER DIVERTED FORM THE BIG LOST RIVER UNDER RIGHT NO. 34-0032A IS CONVEYED THROUGH THE MOORE CANAL, THE CROSSOVER DITCH, THE BLAINE CANAL, AND THE TIMBERDOME CANAL SYSTEM TO THE PLACE OF USE.
Date: 10/08/1991 User Id: CARLSEN Subject: ADD REMARK
ADDED REMARK F05 FOR 34-07097.
Date: 05/15/1992 User Id: VERNER   Subject: NOTICE OF ERROR-SEE R34-02428
Date: 05/22/1992 User Id: BAUMHOFF Subject: ADDITIONAL REMARKS ADDED PER LK-H
TWO REMARKS COVERING EXCHANGE WATER HAVE BEEN ADDED. ALB
Date: 03/11/1994 User Id: FRAZEE   Subject: NOTICE OF APPEARANCE (NOA)
NOA REC'D FROM KENT W FOSTER 1/24/94

+ - Adjudication Rights Dates and Flags Area - +

Court Report Filing	- 00/00/0000	Field Inspection Made	- 00/00/0000	Civil Case Number	- 39576
Objection Filed Date	- 00/00/0000	Field Inspection Flag	-	Old Case Number	-
Response Filed Date	- 00/00/0000	Verified Date	- 00/00/0000	Old Judicial District	-
Claim Received Date	- 11/06/1989	Last Amended Date	- 00/00/0000	Temporary Right	- P
Proof Due Date	- 00/00/0000	Proof Made Date	- 00/00/0000	Water District	- 34
Licensed Date	- 00/00/0000	Receipt Number	- E011112	Federal/State Indicator	- S
		POU Ownership Flag	- Y	Presumption Flag	- C
		Name Connector	-	Notice of Error Flag	- C

Water Right Number - R34-07097A Prefix Translation: RESEARCH Old (D) Number -

Last Name	First Name	Address
*** A - ATTORNEY ***		
FOSTER	KENT W	1 - PO BOX 50130 2 - 3 - City- IDAHO FALLS State- ID Zip- 83405 Phone - 208-000-0000
*** C - CURRENT OWNER ***		
SORENSEN	MITCHELL D	1 - RT 1 BOX 63-A 2 - 3 - City- MOORE State- ID Zip- 83255 Phone - 208-527-3271

Priority Date	Region	Stage	Status
01/31/1975	15 EASTERN	P - PERMIT	

Source	Tributary
GROUNDWATER	

Point of Diversion

Twn	Rng	Sec	Tract	Lot	RFlg	County	Diversion Name
04N	26E	17	NW SE NW		(23)	BUTTE	WELL 66

Water Use

Code	Description	Period From	Period To	Diversion Rate	Diversion Volume
01	IRRIGATION	04/15	10/15	1.570	

Total Div. Rate	Total Div. Volume	Total Div. Capacity	Total Consumptive Use	KW Usage
1.570			0.0	

Place of Use

Twn	Rng	Sec	Tract	Lot	Acres	Code	Description	County
03N	25E	2	NE NW	3	39.0	01	IRRIGATION	(23) BUTTE
03N	25E	2	NW NW	4	39.0	01	IRRIGATION	(23) BUTTE
03N	25E	2	SW NW		40.0	01	IRRIGATION	(23) BUTTE
03N	25E	2	SE NW		40.0	01	IRRIGATION	(23) BUTTE
03N	25E	3	NE NE	1	39.0	01	IRRIGATION	(23) BUTTE
03N	25E	3	NW NE	2	39.0	01	IRRIGATION	(23) BUTTE
04N	25E	34	NE NE		39.0	01	IRRIGATION	(23) BUTTE
04N	25E	34	NW NE		38.0	01	IRRIGATION	(23) BUTTE
04N	25E	34	SW NE		40.0	01	IRRIGATION	(23) BUTTE
04N	25E	34	SE NE		40.0	01	IRRIGATION	(23) BUTTE
04N	25E	34	NE SE		40.0	01	IRRIGATION	(23) BUTTE
04N	25E	34	NW SE		40.0	01	IRRIGATION	(23) BUTTE
04N	25E	34	SW SE		40.0	01	IRRIGATION	(23) BUTTE
04N	25E	34	SE SE		40.0	01	IRRIGATION	(23) BUTTE
04N	25E	35	NE NW		38.0	01	IRRIGATION	(23) BUTTE
04N	25E	35	NW NW		38.0	01	IRRIGATION	(23) BUTTE
04N	25E	35	SW NW		40.0	01	IRRIGATION	(23) BUTTE
04N	25E	35	SE NW		40.0	01	IRRIGATION	(23) BUTTE

Water right number - R34-07097A Prefix Translation: RESEARCH

Place of Use

Twn	Rng	Sec	Tract	Lot	Acres	Code	Description	County
04N	25E	35	NE SW		20.0	01	IRRIGATION	(23) BUTTE
04N	25E	35	NW SW		40.0	01	IRRIGATION	(23) BUTTE
04N	25E	35	SW SW		39.0	01	IRRIGATION	(23) BUTTE
04N	25E	35	SE SW		20.0	01	IRRIGATION	(23) BUTTE

Total Acres: 828.0

+ - - Diversion Means - WELL AND PUMP

+ - - Non-Irrigation Use -

+ - - Other Rights for Same Use - 34-00692D,34-02428,34-07096,34-07223,34-00496A,34-12416

Remarks

QNT USE OF THIS RIGHT WITH RIGHTS LISTED BELOW IS LIMITED TO A TOTAL COMBINED DIVERSION RATE OF 11.55 CFS AND TO A TOTAL COMBINED ANNUAL DIVERSION VOLUME OF 4134.4 AF.
COMBINED RIGHT NOS.: 34-02428, 34-07096A, 34-07096B, 34-07097B, 34-07223 AND 34-12416.

POD WATER DIVERTED UNDER THIS RIGHT IS EXCHANGED WITH WATER DIVERTED FROM THE BIG LOST RIVER UNDER RIGHT NO. 34-10037. WATER DIVERTED UNDER THIS RIGHT IS USED FOR THE PURPOSES AND AT THE PLACES OF USE DESCRIBED IN RIGHT NO. 34-10037, AND WATER DIVERTED FROM THE BIG LOST RIVER IS USED FOR THE PURPOSES AND AT THE PLACES OF USE DESCRIBED IN THIS RIGHT.

POU1 USE OF THIS RIGHT WITH RIGHTS LISTED BELOW IS LIMITED TO THE IRRIGATION OF A COMBINED TOTAL OF 945 ACRES WITHIN THE PLACE OF DESCRIBED ABOVE IN A SINGLE IRRIGATION SEASON.
COMBINED RIGHT NOS.: 34-00496A, 34-00692D, 34-02428, 34-07096A, 34-07096B, 34-07097B, 34-07223 AND 34-12416.
THIS RIGHT IS LIMITED TO THE IRRIGATION OF 79 ACRES WITHIN THE PLACE OF USE DESCRIBED ABOVE IN A SINGLE IRRIGATION SEASON.

EXP RIGHT NO. 34-07096A IS ALSO DIVERTED THROUGH POINT OF DIVERSION DESCRIBED ABOVE.

Old Water Right Numbers

No Old Water Right Numbers found.

Conditions of Approval

A01 - THIS RIGHT IS CONDITIONED UPON COMPLETION OF THE APPROPRIATION - IN ACCORDANCE WITH THE STATUTORY PROCEDURE FOR APPROPRIATION - OF WATER RIGHTS. THIS RIGHT REMAINS SUBJECT TO ALL CONDITIONS - SET FORTH IN THE PERMIT UPON WHICH THIS RIGHT IS BASED, AND WILL - BE SUBJECT TO ALL CONDITIONS SET FORTH IN THE LICENSE ISSUED BY - IDWR UPON COMPLETION OF THE STATUTORY APPROPRIATION PROCESS.

C05 - RIGHT INCLUDES ACCOMPLISHED CHANGE IN PLACE OF USE PURSUANT TO - SECTION 42-1425, IDAHO CODE.

Water right number - R34-07097A   Prefix Translation: RESEARCH

+ - - - - Decree Plaintiff - - - +   + - - - - Decree Defendant - - - +   + - Decree Date - +
00/00/0000

+ - - Audit Fields - 01/21/98 CFRITSCH 01/23/98 CFRITSCH

+ -Comments- +

Date: 10/08/1991 User Id: CARLSEN Subject: ADDED REMARK
ADDED REMARK F05 FOR 34-07096.
Date: 05/15/1992 User Id: VERNER Subject: NOTICE OF ERROR-SEE R34-02428
Date: 05/22/1992 User Id: BAUMHOFF Subject: ADDTITIONAL REMARKS ADDED
PER LK-H TWO EXCHANGE WATER REMARKS HAVE BEEN ADDED. ALB
Date: 03/11/1994 User Id: FRAZEE Subject: NOTICE OF APPEARANCE (NOA)
NOA REC'D 1/24/94 FROM KENT W FOSTER

+ - Adjudication Rights Dates and Flags Area - +

Court Report Filing	- 00/00/0000	Field Inspection Made	- 00/00/0000	Civil Case Number	- 39576
Objection Filed Date	- 00/00/0000	Field Inspection Flag	-	Old Case Number	-
Response Filed Date	- 00/00/0000	Verified Date	- 00/00/0000	Old Judicial District	-
Claim Received Date	- 11/06/1989	Last Amended Date	- 00/00/0000	Temporary Right	- P
Proof Due Date	- 00/00/0000	Proof Made Date	- 00/00/0000	Water District	- 34
Licensed Date	- 00/00/0000	Receipt Number	- E011112	Federal/State Indicator	- S
		POU Ownership Flag	- Y	Presumption Flag	- C
		Name Connector	-	Notice of Error Flag	- C

Water Right Number - R34-07223 Prefix Translation: RESEARCH Old (D) Number -

Last Name	First Name	Address
*** A - ATTORNEY ***		
FOSTER	KENT W	1 - PO BOX 50130 2 - 3 - City- IDAHO FALLS State- ID Zip- 83405 Phone - 208-000-0000
*** C - CURRENT OWNER ***		
SORENSEN	MITCHELL D	1 - RT 1 BOX 63-A 2 - 3 - City- MOORE State- ID Zip- 83255 Phone - 208-527-3271

Priority Date	Region	Stage	Status
04/16/1979	15 EASTERN	L - LICENSE	

Source: GROUNDWATER

Tributary:

Point of Diversion

Twn	Rng	Sec	Tract	Lot	RFlg	County	Diversion Name
04N	26E	8	NE SW SE		(23)	BUTTE	WELL 49

Water Use

Code	Description	Period From	Period To	Diversion Rate	Diversion Volume
01	IRRIGATION	04/15	10/15	1.580	

Total Div. Rate	Total Div. Volume	Total Div. Capacity	Total Consumptive Use	KW Usage
1.580			0.0	

Place of Use

Twn	Rng	Sec	Tract	Lot	Acres	Code	Description	County
03N	25E	2	NE NW	3	39.0	01	IRRIGATION	(23) BUTTE
03N	25E	2	NW NW	4	39.0	01	IRRIGATION	(23) BUTTE
03N	25E	2	SW NW		40.0	01	IRRIGATION	(23) BUTTE
03N	25E	2	SE NW		40.0	01	IRRIGATION	(23) BUTTE
03N	25E	3	NE NE	1	39.0	01	IRRIGATION	(23) BUTTE
03N	25E	3	NW NE	2	39.0	01	IRRIGATION	(23) BUTTE
04N	25E	34	NE NE		39.0	01	IRRIGATION	(23) BUTTE
04N	25E	34	NW NE		38.0	01	IRRIGATION	(23) BUTTE
04N	25E	34	SW NE		40.0	01	IRRIGATION	(23) BUTTE
04N	25E	34	SE NE		40.0	01	IRRIGATION	(23) BUTTE
04N	25E	34	NE SE		40.0	01	IRRIGATION	(23) BUTTE
04N	25E	34	NW SE		40.0	01	IRRIGATION	(23) BUTTE
04N	25E	34	SW SE		40.0	01	IRRIGATION	(23) BUTTE
04N	25E	34	SE SE		40.0	01	IRRIGATION	(23) BUTTE
04N	25E	35	NE NW		38.0	01	IRRIGATION	(23) BUTTE
04N	25E	35	NW NW		38.0	01	IRRIGATION	(23) BUTTE
04N	25E	35	SW NW		40.0	01	IRRIGATION	(23) BUTTE
04N	25E	35	SE NW		40.0	01	IRRIGATION	(23) BUTTE

Water right number - R34-07223 Prefix Translation: RESEARCH

Place of Use

Twn	Rng	Sec	Tract	Lot	Acres	Code	Description	County
04N	25E	35	NE SW		20.0	01	IRRIGATION	(23) BUTTE
04N	25E	35	NW SW		40.0	01	IRRIGATION	(23) BUTTE
04N	25E	35	SW SW		39.0	01	IRRIGATION	(23) BUTTE
04N	25E	35	SE SW		20.0	01	IRRIGATION	(23) BUTTE

Total Acres: 828.0

Diversion Means - WELL AND PUMP

Non-Irrigation Use -

Other Rights for Same Use - 34-00692D, 34-02428, 34-07096, 34-07097, 34-00496A, 34-12416

Remarks

QNT USE OF THIS RIGHT WITH RIGHTS LISTED BELOW IS LIMITED TO A TOTAL COMBINED DIVERSION RATE OF 11.55 CFS AND TO A TOTAL COMBINED ANNUAL DIVERSION VOLUME OF 4134.4 AF.
COMBINED RIGHT NOS.: 34-02428, 34-07096A, 34-07096B, 34-07097A, 34-07097B AND 34-12416.

POD WATER DIVERTED UNDER THIS RIGHT IS EXCHANGED WITH WATER DIVERTED FROM THE BIG LOST RIVER UNDER RIGHT NO. 34-00093. WATER DIVERTED UNDER THIS RIGHT IS USED FOR THE PURPOSES AND AT THE PLACES OF USE DESCRIBED IN RIGHT NO. 34-00093, AND WATER DIVERTED FROM THE BIG LOST RIVER IS USED FOR THE PURPOSES AND AT THE PLACES OF USE DESCRIBED IN THIS RIGHT.

POU1 USE OF THIS RIGHT WITH RIGHTS LISTED BELOW IS LIMITED TO THE IRRIGATION OF A COMBINED TOTAL OF 945 ACRES WITHIN THE PLACE OF DESCRIBED ABOVE IN A SINGLE IRRIGATION SEASON.
COMBINED RIGHT NOS.: 34-00496A, 34-00692D 34-02428, 34-07096A, 34-07096B, 34-07097A, 34-07097B AND 34-12416.
THIS RIGHT IS LIMITED TO THE IRRIGATION OF 80 ACRES WITHIN THE PLACE OF USE DESCRIBED ABOVE IN A SINGLE IRRIGATION SEASON.

Old Water Right Numbers

No Old Water Right Numbers found.

Conditions of Approval

C05 - RIGHT INCLUDES ACCOMPLISHED CHANGE IN PLACE OF USE PURSUANT TO SECTION 42-1425, IDAHO CODE.

Decree Plaintiff

Decree Defendant

Decree Date
00/00/0000

Audit Fields - 08/22/97 CFRITSCH 01/21/98 CFRITSCH

Water right number - R34-07223 Prefix Translation: RESEARCH

Comments

Date: 04/27/1992 User Id: VERNER Subject: NOTICE OF ERROR
NOTICE OF ERROR SUBMITTED REGARDING SEVERAL ITEMS:
1) RATE OF DIVERSION RECOMMENDED UNDER 34-07223 DOES NOT AGREE WITH LICENSED DIVERSION RATE.
I REVIEWED MY RECOMMENDATIONS AND FOUND THAT A TYPOGRAPHICAL ERROR WAS MADE IN RECOMMENDING THE DIVERSION RATE. I CHANGED THE RATE TO 1.58 CFS AS LICENSED.
2) TOTAL ACRES DOES NOT AGREE WITH CLAIMANTS UNDERSTANDING OF THE LAND IRRIGATED.
I REVIEWED THE PLACE OF USE MAP WITH MITCH AT THE ARCO OFFICE AND DISCOVERED THAT I HAD NOT RECOMMENDED THE CORRECT ACRES IN THE W1/2 SE1/4 SEC. 34 T3N R25E. I HAD DELETED 14 ACRES THAT WAS IN THE CORNERS OF A PIVOT SYSTEM. MITCH SAID THAT THIS LAND HAS BEEN IRRIGATED VIA PORTABLE MAINLINE, BUT FOR THE PAST 3 YRS THESE ACRES HAVE BEEN IN A GOVT. SET ASIDE PROGRAM. I AGREED TO ADD 14 ACRES TO THE PLACE OF USE SINCE MY FIELD EXAM DID INDICATE THAT THE LAND APPEARED TO HAVE BEEN CULTIVATED AT ONE TIME. THE REMAINING PLACE OF USE WAS FOUND TO BE CORRECT. TOTAL ACRES IRRIGATED WERE CHANGED TO 828 FOR NOS. 34-07096, 34-07097, 34-00496A AND 34-00692D AND FOR 34-02428 THEY WERE CHANGED TO 945.
*** SEE MORE DISCUSSION IN R34-02428 *** ESV 5/15/92
Date: 05/22/1992 User Id: KEEN Subject: ADDED REMARKS DESCRIBING AND LIMITING THE EXHANGE WITH RIGHT NO. 34-00093.
Date: 03/11/1994 User Id: FRAZEE Subject: NOTICE OF APPEARANCE (NOA)
NOA REC'D 1/24/94 FROM KENT W FOSTER

Adjudication Rights Dates and Flags Area

Court Report Filing	- 00/00/0000	Field Inspection Made	- 00/00/0000	Civil Case Number	- 39576
Objection Filed Date	- 00/00/0000	Field Inspection Flag	-	Old Case Number	-
Response Filed Date	- 00/00/0000	Verified Date	- 00/00/0000	Old Judicial District	-
Claim Received Date	- 11/06/1989	Last Amended Date	- 00/00/0000	Temporary Right	- P
Proof Due Date	- 00/00/0000	Proof Made Date	- 00/00/0000	Water District	- 34
Licensed Date	- 00/00/0000	Receipt Number	- E011112	Federal/State Indicator	- S
		POU Ownership Flag	- Y	Presumption Flag	- C
		Name Connector	-	Notice of Error Flag	- C

Water Right Number - R34-07096A Prefix Translation: RESEARCH Old (D) Number -

Last Name	First Name	Address
*** A - ATTORNEY ***		
FOSTER	KENT W	1 - PO BOX 50130 2 - 3 - City- IDAHO FALLS State- ID Zip- 83405 Phone - 208-000-0000
*** C - CURRENT OWNER ***		
SORENSEN	MITCHELL D	1 - RT 1 BOX 63-A 2 - 3 - City- MOORE State- ID Zip- 83255 Phone - 208-527-3271

Priority Date	Region	Stage	Status
01/31/1975	15 EASTERN	P - PERMIT	

Source	Tributary
GROUNDWATER	

Point of Diversion

Twn	Rng	Sec	Tract	Lot	RFlg	County	Diversion Name
04N	26E	17	NW SE NW		(23)	BUTTE	WELL 66

Water Use

Code	Description	Period From	Period To	Diversion Rate	Diversion Volume
01	IRRIGATION	04/15	10/15	1.830	

Total Div. Rate	Total Div. Volume	Total Div. Capacity	Total Consumptive Use	KW Usage
1.830			0.0	

Place of Use

Twn	Rng	Sec	Tract	Lot	Acres	Code	Description	County
03N	25E	2	NE NW	3	39.0	01	IRRIGATION	(23) BUTTE
03N	25E	2	NW NW	4	39.0	01	IRRIGATION	(23) BUTTE
03N	25E	2	SW NW		40.0	01	IRRIGATION	(23) BUTTE
03N	25E	2	SE NW		40.0	01	IRRIGATION	(23) BUTTE
03N	25E	3	NE NE	1	39.0	01	IRRIGATION	(23) BUTTE
03N	25E	3	NW NE	2	39.0	01	IRRIGATION	(23) BUTTE
04N	25E	34	NE NE		39.0	01	IRRIGATION	(23) BUTTE
04N	25E	34	NW NE		38.0	01	IRRIGATION	(23) BUTTE
04N	25E	34	SW NE		40.0	01	IRRIGATION	(23) BUTTE
04N	25E	34	SE NE		40.0	01	IRRIGATION	(23) BUTTE
04N	25E	34	NE SE		40.0	01	IRRIGATION	(23) BUTTE
04N	25E	34	NW SE		40.0	01	IRRIGATION	(23) BUTTE
04N	25E	34	SW SE		40.0	01	IRRIGATION	(23) BUTTE
04N	25E	34	SE SE		40.0	01	IRRIGATION	(23) BUTTE
04N	25E	35	NE NW		38.0	01	IRRIGATION	(23) BUTTE
04N	25E	35	NW NW		38.0	01	IRRIGATION	(23) BUTTE
04N	25E	35	SW NW		40.0	01	IRRIGATION	(23) BUTTE
04N	25E	35	SE NW		40.0	01	IRRIGATION	(23) BUTTE

Water right number - R34-07096A Prefix Translation: RESEARCH

Place of Use

Twn	Rng	Sec	Tract	Lot	Acres	Code	Description	County
04N	25E	35	NE SW		20.0	01	IRRIGATION	(23) BUTTE
04N	25E	35	NW SW		40.0	01	IRRIGATION	(23) BUTTE
04N	25E	35	SW SW		39.0	01	IRRIGATION	(23) BUTTE
04N	25E	35	SE SW		20.0	01	IRRIGATION	(23) BUTTE

Total Acres: 828.0

- Diversion Means - 2 WELLS AND PUMPS INTO CANAL. RELIFT PUMPS, SPRINKLERS

- Non-Irrigation Use -

- Other Rights for Same Use - 34-00496A, 34-00692D, 34-07097, 34-02428, 34-07223, 34-12416

Remarks

QNT USE OF THIS RIGHT WITH RIGHTS LISTED BELOW IS LIMITED TO A TOTAL COMBINED DIVERSION RATE OF 11.55 CFS AND TO A TOTAL COMBINED ANNUAL DIVERSION VOLUME OF 4134.4 AF.
COMBINED RIGHT NOS.: 34-02428, 34-07096B, 34-07097A, 34-07097B, 34-07223 AND 34-12416.

POD WATER DIVERTED UNDER THIS RIGHT IS EXCHANGED WITH WATER DIVERTED FROM THE BIG LOST RIVER UNDER RIGHT NO. 34-10037. WATER DIVERTED UNDER THIS RIGHT IS USED FOR THE PURPOSES AND AT THE PLACES OF USE DESCRIBED IN RIGHT NO. 34-10037, AND WATER DIVERTED FROM THE BIG LOST RIVER IS USED FOR THE PURPOSES AND AT THE PLACES OF USE DESCRIBED IN THIS RIGHT.

POU1 USE OF THIS RIGHT WITH RIGHTS LISTED BELOW IS LIMITED TO THE IRRIGATION OF A COMBINED TOTAL OF 945 ACRES WITHIN THE PLACE OF DESCRIBED ABOVE IN A SINGLE IRRIGATION SEASON.
COMBINED RIGHT NOS.: 34-00496A, 34-00692D, 34-02428, 34-07096B, 34-07097A, 34-07097B, 34-07223 AND 34-12416.
THIS RIGHT IS LIMITED TO THE IRRIGATION OF 92 ACRES WITHIN THE PLACE OF USE DESCRIBED ABOVE IN A SINGLE IRRIGATION SEASON.

EXP RIGHT NO. 34-07097A IS ALSO DIVERTED THROUGH POINT OF DIVERSION DESCRIBED ABOVE.

Old Water Right Numbers

No Old Water Right Numbers found.

Conditions of Approval

A01 - THIS RIGHT IS CONDITIONED UPON COMPLETION OF THE APPROPRIATION - IN ACCORDANCE WITH THE STATUTORY PROCEDURE FOR APPROPRIATION - OF WATER RIGHTS. THIS RIGHT REMAINS SUBJECT TO ALL CONDITIONS - SET FORTH IN THE PERMIT UPON WHICH THIS RIGHT IS BASED, AND WILL - BE SUBJECT TO ALL CONDITIONS SET FORTH IN THE LICENSE ISSUED BY - IDWR UPON COMPLETION OF THE STATUTORY APPROPRIATION PROCESS.

C05 - RIGHT INCLUDES ACCOMPLISHED CHANGE IN PLACE OF USE PURSUANT TO - SECTION 42-1425, IDAHO CODE.

Water right number - R34-07096A   Prefix Translation: RESEARCH

+ - - - - Decree Plaintiff - - - +   + - - - - Decree Defendant - - - +   + - Decree Date - +
00/00/0000

+ - - Audit Fields - 01/21/98 CFRITSCH 01/23/98 CFRITSCH

+ -Comments- +

Date: 09/11/1991 User Id: VERNER   Subject: COPIED FROM REMARKS
THIS RIGHT IS LIMITED TO IRRIGATING A TOTAL OF 164 ACRES WITHIN   THE CLAIMED PLACE OF USE.
THIS RIGHT AND 34-7097 ARE THE SUBJECTS OF AN APPROVED EXCHANGE,   NO. 3026, WITH WATER RIGHT NO. 34-0032A. WATER DIVERTED UNDER
THIS RIGHT IS ACTUALLY USED ON THE LAND OF KIRBY A. JENSEN AND   WATER DIVERTED FORM THE BIG LOST RIVER UNDER RIGHT NO. 34-0032A
IS CONVEYED THROUGH THE MOORE CANAL, THE CROSSOVER DITCH, THE   BLAINE CANAL, AND THE TIMBERDOME CANAL SYSTEM TO THE PLACE OF
USE.

Date: 10/08/1991 User Id: CARLSEN   Subject: ADD REMARK
ADDED REMARK F05 FOR 34-07097.

Date: 05/15/1992 User Id: VERNER   Subject: NOTICE OF ERROR-SEE R34-02428

Date: 05/22/1992 User Id: BAUMHOFF Subject: ADDITIONAL REMARKS ADDED PER LK-H
TWO REMARKS COVERING EXCHANGE WATER HAVE BEEN ADDED. ALB

Date: 03/11/1994 User Id: FRAZEE   Subject: NOTICE OF APPEARANCE (NOA)
NOA REC'D FROM KENT W FOSTER 1/24/94

+ - Adjudication Rights Dates and Flags Area - +

Court Report Filing	- 00/00/0000	Field Inspection Made	- 00/00/0000	Civil Case Number	- 39576
Objection Filed Date	- 00/00/0000	Field Inspection Flag	-	Old Case Number	-
Response Filed Date	- 00/00/0000	Verified Date	- 00/00/0000	Old Judicial District	-
Claim Received Date	- 11/06/1989	Last Amended Date	- 00/00/0000	Temporary Right	- P
Proof Due Date	- 00/00/0000	Proof Made Date	- 00/00/0000	Water District	- 34
Licensed Date	- 00/00/0000	Receipt Number	- E011112	Federal/State Indicator	- S
		POU Ownership Flag	- Y	Presumption Flag	- C
		Name Connector	-	Notice of Error Flag	- C

Water Right Number - R34-02428 Prefix Translation: RESEARCH Old (D) Number -

Last Name	First Name	Address
*** A - ATTORNEY ***		
FOSTER	KENT W	1 - PO BOX 50130 2 - 3 - City- IDAHO FALLS State- ID Zip- 83405 Phone - 208-000-0000
*** C - CURRENT OWNER ***		
SORENSEN	MITCHELL D	1 - RT 1 BOX 63-A 2 - 3 - City- MOORE State- ID Zip- 83255 Phone - 208-527-3271

Priority Date	Region	Stage	Status
04/01/1979	15 EASTERN	L - LICENSE	

Source: GROUNDWATER

Tributary:

Point of Diversion

Twn	Rng	Sec	Tract	Lot	RFlg	County	Diversion Name
04N	26E	5	NW SE NE		(23)	BUTTE	WELL 40

Water Use

Code	Description	Period From	Period To	Diversion Rate	Diversion Volume
01	IRRIGATION	04/15	10/15	3.850	

Total Div. Rate	Total Div. Volume	Total Div. Capacity	Total Consumptive Use	KW Usage
3.850			0.0	

Place of Use

Twn	Rng	Sec	Tract	Lot	Acres	Code	Description	County
03N	25E	2	NE NW	3	39.0	01	IRRIGATION	(23) BUTTE
03N	25E	2	NW NW	4	39.0	01	IRRIGATION	(23) BUTTE
03N	25E	2	SW NW		40.0	01	IRRIGATION	(23) BUTTE
03N	25E	2	SE NW		40.0	01	IRRIGATION	(23) BUTTE
03N	25E	3	NE NE	1	39.0	01	IRRIGATION	(23) BUTTE
03N	25E	3	NW NE	2	39.0	01	IRRIGATION	(23) BUTTE
04N	25E	34	NE NE		39.0	01	IRRIGATION	(23) BUTTE
04N	25E	34	NW NE		38.0	01	IRRIGATION	(23) BUTTE
04N	25E	34	SW NE		40.0	01	IRRIGATION	(23) BUTTE
04N	25E	34	SE NE		40.0	01	IRRIGATION	(23) BUTTE
04N	25E	34	NE SE		40.0	01	IRRIGATION	(23) BUTTE
04N	25E	34	NW SE		40.0	01	IRRIGATION	(23) BUTTE
04N	25E	34	SW SE		40.0	01	IRRIGATION	(23) BUTTE
04N	25E	34	SE SE		40.0	01	IRRIGATION	(23) BUTTE
04N	25E	35	NE NW		38.0	01	IRRIGATION	(23) BUTTE
04N	25E	35	NW NW		38.0	01	IRRIGATION	(23) BUTTE
04N	25E	35	SW NW		40.0	01	IRRIGATION	(23) BUTTE
04N	25E	35	SE NW		40.0	01	IRRIGATION	(23) BUTTE

Water right number - R34-02428 Prefix Translation: RESEARCH

Place of Use

Twn	Rng	Sec	Tract	Lot	Acres	Code	Description	County
04N	25E	35	NE SW		20.0	01	IRRIGATION	(23) BUTTE
04N	25E	35	NW SW		40.0	01	IRRIGATION	(23) BUTTE
04N	25E	35	SW SW		39.0	01	IRRIGATION	(23) BUTTE
04N	25E	35	SE SW		20.0	01	IRRIGATION	(23) BUTTE
04N	26E	5	SE NE		39.0	01	IRRIGATION	(23) BUTTE
04N	26E	5	NE SE		39.0	01	IRRIGATION	(23) BUTTE
04N	26E	5	SE SE		39.0	01	IRRIGATION	(23) BUTTE

Total Acres: 945.0

Diversion Means - WELL AND PUMP

Non-Irrigation Use -

Other Rights for Same Use - 34-00496A, 34-00692D, 34-07096, 34-07097 AND 34-07223

Remarks

QNT USE OF THIS RIGHT WITH RIGHT NOS. 34-07096B, 34-07097B AND 34-12416 IS LIMITED TO A TOTAL COMBINED DIVERSION RATE OF 6.55 CFS.
USE OF THIS RIGHT WITH RIGHTS LISTED BELOW IS LIMITED TO A TOTAL COMBINED DIVERSION RATE OF 11.55 CFS AND TO A TOTAL COMBINED ANNUAL DIVERSION VOLUME OF 4134.4 AF.
COMBINED RIGHT NOS.: 34-07096A, 34-07096B, 34-07097A, 34-07097B, 34-07223 AND 34-12416.

POU1 *USE OF THIS RIGHT WITH RIGHTS* LISTED BELOW IS LIMITED TO THE IRRIGATION OF A COMBINED TOTAL OF 945 ACRES WITHIN THE PLACE OF DESCRIBED ABOVE IN A SINGLE IRRIGATION SEASON.
COMBINED RIGHT NOS.: 34-00496A, 34-00692D, 34-07096A, 34-07096B, 34-07097A, 34-07097B, 34-07223 AND 34-12416.
THIS RIGHT IS LIMITED TO THE IRRIGATION OF 193 ACRES WITHIN THE PLACE OF USE DESCRIBED ABOVE IN A SINGLE IRRIGATION SEASON.

EXP RIGHT NO. 34-12416 IS AN ENLARGEMENT OF THIS RIGHT PURSUANT TO SECTION 42-1426, IDAHO CODE.
RIGHT NOS. 34-07096B, 34-07097B AND 34-12416 ARE ALSO DIVERTED THROUGH POINT OF DIVERSION DESCRIBED ABOVE.
WATER DELIVERED THROUGH THE TIMBER DOME CANAL.

Old Water Right Numbers

No Old Water Right Numbers found.

Conditions of Approval

C05 - RIGHT INCLUDES ACCOMPLISHED CHANGE IN PLACE OF USE PURSUANT TO SECTION 42-1425, IDAHO CODE.
C06 - PRIORITY DATE CHANGED TO PREVENT INJURY FROM CHANGE IN USE.

Water right number - R34-02428 Prefix Translation: RESEARCH

+ - - - - Decree Plaintiff - - - - +

+ - - - - Decree Defendant - - - - +

+ - Decree Date - +
00/00/0000

+ - - Audit Fields - 08/22/97 CFRITSCH 10/09/97 CFRITSCH 01/21/98 CFRITSCH

-Comments-

Date: 09/11/1991 User Id: VERNER Subject: COPIED FROM REMARKS
THIS RIGHT IS LIMITED TO IRRIGATING A TOTAL OF 193 ACRES WITHIN THE CLAIMED PLACE OF USE.
THE PLACE OF USE FOR A PORTION OF RIGHT NO. 34-2428 WAS CHANGED FROM THAT SHOWN IN THE RECORDS OF THE DEPARTMENT OF WATER
RESOURCES TO INCLUDE THE 860 ACRES IN SECTIONS 34, 35, 2 AND 3 OF TOWNSHIPS 4N, 25E AND 3N, 25E (1.51 CFS) COMMENCING WITH THE
IRRIGATION SEASON OF 1978. THE 117 ACRES IN SEC. 5 OF 4N, 26E HAVE CONTINUOUSLY BEEN IRRIGATED WITH 2.34 CFS OF THIS RIGHT
SINCE 1961. CLAIMANT'S MOTHER, NORMA K. SORENSEN, OWNS THE 117 ACRES IN SEC. 5, AND THE CLAIMANT OWNS THE OTHER 860. HOWEVER,
THE CLAIMANT OWNS ALL OF THE WATER RIGHT NO. 34-2428.
Date: 05/15/1992 User Id: VERNER Subject: NOTICE OF ERROR
CLAIMANT SUBMITTED NOTICE OF ERROR REGARDING COMBINED DIVERSION RATE, PLACE OF USE AND CHANGE OF PRIORITY DATE.
1) COMBINED DIVERSION RATE: THIS WAS VERY LIMITING PRIMARILY DUE TO THE LICENSING RECOMMENDATION FOR PERMITS 34-07096 AND
34-07097. AFTER MEETINGS WITH CLAIMANT AND HIS ATTORNEY AND SUBSEQUENT MEETINGS WITH DAVE SHAW THE RECOMMENDATIONS FOR THESE
PERMITS WAS CHANGED TO RECOGNIZE AN ACCOMPLISHED TRANSFER OF POINT OF DIVERSION SO THAT THESE RIGHTS ARE ALSO DIVERTED THROUGH
THE SAME WELL AS UNDER LICENSE 34-02428. BY DOING SO THE COMBINED DIVERSION RATE WAS INCREASED TO 13.95 CFS.
2) PLACE OF USE: I REVIEWED THE PLACE OF USE WITH THE CLAIMANT AND DETERMINED THAT I COULD ADD 14 ACRES TO THE RECOMMENDED PLACE
OF USE. CHANGE WAS MADE. 3) ADVANCED PRIORITY DATE: I DISCUSSED THE DEPARTMENT'S
POLICY REGARDING SEPERATION OF SUPPLEMENTAL RIGHTS VIA AN ACCOMPLISHED TRANSFER. CLAIMANT DID NOT AGREE WITH THIS.
THE RECOMMENDATION WAS NOT CHANGED.
Date: 03/11/1994 User Id: FRAZEE Subject: NOTICE OF APPEARANCE (NOA)
NOA REC'D 1/24/94 FROM KENT W FOSTER

+ - Adjudication Rights Dates and Flags Area - +

Court Report Filing	- 00/00/0000	Field Inspection Made	- 00/00/0000	Civil Case Number	- 39576
Objection Filed Date	- 00/00/0000	Field Inspection Flag	-	Old Case Number	-
Response Filed Date	- 00/00/0000	Verified Date	- 00/00/0000	Old Judicial District	-
Claim Received Date	- 11/06/1989	Last Amended Date	- 00/00/0000	Temporary Right	- P
Proof Due Date	- 00/00/0000	Proof Made Date	- 00/00/0000	Water District	- 34
Licensed Date	- 00/00/0000	Receipt Number	- E011112	Federal/State Indicator	- S
		POU Ownership Flag	- N	Presumption Flag	- C
		Name Connector	-	Notice of Error Flag	- C

U.S. DEPARTMENT OF THE INTERIOR
U.S. GEOLOGICAL SURVEY

AQUIFER-TEST RESULTS, DIRECTION OF GROUND-WATER FLOW, AND 1984-90 ANNUAL GROUND-WATER PUMPAGE FOR IRRIGATION, LOWER BIG LOST RIVER VALLEY, IDAHO

By
M.D. Bassick and M.L. Jones

U.S. GEOLOGICAL SURVEY
WATER-RESOURCES INVESTIGATIONS REPORT 92-4006



Boise, Idaho
1992

Prepared in cooperation with the
IDAHO DEPARTMENT OF WATER RESOURCES

U.S. GOVERNMENT PRINTING OFFICE 1992—693-379

Mitch Sorensen Hearing 9-23-98

NAME	Representing	Address
David Shaw	Sorensen	2309 N MtnView, Ste 174, Boise
KENT FOSTER	APPLICANTS	PO BOX 50130 IDAHO FALLS 83405
Mitchell Sorensen	self	3871W 2000N rMoore ID 83255
Peter Anpe	IDF&G	statehouse Boise ID
Robert Martin	IDFG	1515 Lincoln Rd. Idaho Falls, 83401
Johnny I Ring	Self	Moore Idaho 83255
Merle King	Self	4343 Antelope Rd
Roy Boyack	Self	3085 Ring Mt Rd, Moore ID
Clint Wheeler	Self	Moore Idaho 83255
Dale Smith	Joe SMITH	RT 1 Box 22 Moore Idaho
David Black	Self	RT 1 Box 345 Arco, Id
Lois Black	self	RT 1 Box 345 Arco, Id
Reva Walker	Self	P.O. Box 32 Arco Ida -
Raymond Anderson	Self	Po Box 52 Moore, Id.
SETH BEAL	SELF	Box 463 Moore Id.
Mateo McCray	Self	3470 Cobblestone, Idaho Falls. 83404
Charles Huggins	Self	P.O. Box 216 RR1 Arco, Idaho
Norman M. Semanko	Idaho Power Co. Kirby Jensen	P.O. Box 1906 Twin Falls 83303-1906
Marti L. Bridges	Idaho Rivers United	PO Box 633 Boise 83702
Harvey Walker	Self	Rt 1 Box 200 Arco Id 83213

MICF... FEB 1...

Mitch Sorenson Hearing 9-23-1998

(1)

Tape #	Witness	Atty		
43 - 397	Opening Remarks			
400-1606	Mitch Sorensen	Kent Foster	Dr. Testimony	
1609-2206	" "	" "	" "	- Timberlane canal graphic.
2219-2349	Remarks			
2360-3062	Mitch Sorenson	Cross X		
3080-3937		" "	Mark Bridges	
3980 - end of Tape	Mitch Sorenson	" "	Norm Semanko	

(21)

0-300	"	"	"	"	"
300-635	"	"	"	"	Mr. Empey (Fish+Game)
636-1986	"	"	"	"	Laurence Babcock
1996-2527	"	"	"	"	Ches Hussins
2530-3230	Remarks				
3231-3379	Mitch S.	Redirect			Kent Foster
3388-3468	"				Mr. Empey
3470-3492	"				L. Babcock
3498-3539	"				N. Semanko
3540-3580	"				R. Foster
3598-4219	Matea McCrea	Statement			
4260-4619	"	"	Cross X		R. Foster
4650-4690	"	"	"	"	N. Semanko
	"	"	"		Empey
4795-4897	"	"	"		N. Young
4900-4915	"	"	"		R. Foster

MICROFILMED FEB 11 2000

Mitch Severson Hearing 9-23-1998

Tape #	Witness	Atty	
4952-5877	Johnny King	L. Babcock	Dir. Testimony
5884-6576	"	K. Foster	Cross X
6580-6625	"	P. Empey	" "
End of Tape 2	"	L. Babcock	

Tape # 3	"	"	"
0000-0073			
0073-0129	"	N. Young	"
0180-505	Alvin Wheeler	L. Babcock	Dir. Testimony
510-561	"	K. Foster	Cross X
565-627	"	L. Babcock	Redirect
630-643	"	N. Young	
690-854	Dale Smith	L. Babcock	Dir. Testimony
860-945	"	K. Foster	Cross X
947-972	"	P. Empey	" "
975-1227	"	L. Babcock	
1252-1720	Seth Beal	Statement	
1730-1900	"	Marti Bridges	
1910-2081	"	L. Babcock	
2086-2180	"	Chas Huggins	
2181-2189	"	L. Babcock	
2215-2278	Lois Bleak	Statement	
2280-2324	"	L. Babcock	Cross X
2326-2351	"	K. Foster	" "

2367-2400	Norms Remarks		
2406-4480	Dave Shaw	K. Foster	
4660-5571	" "	Cross X	Marti Bridges

MICROFILMED
FEB 11 2000

Mitch Sorensen Hearing 9-24-1998

Tape #4 (cont.)	Witness	Atty	
5578-1857	Dave Shaw	N. Semanko	Cross X
1901-2103	" "	P. Empey	" "
2107-3452	" "	L. Babcock	" "
3460-4032	" "	C. Huggins	" "
4038-4248	" "	N. Semanko	
4251-4379	" "	L. Babcock	
4381-4440	" "	C. Huggins	
4444-4603	" "	M. Bridges	
4615-4730	" "	K. Foster	
4734-5054	" "	N. Young	
5140-5288	Chas. Huggins	Statement	
5296-5337	" "	P. Empey	
5342-5380	" "	M. Bridges	
5394-5524	" "	L. Babcock	
5553-6616	Marti Bridges	Statement	
Tape #5			
0000-0174	"	"	
0178-0420	"	K. Foster	Cross X
0423-488	"	N. Semanko	"
0494-616	"	L. Babcock	"
0634-963	David Bleak	L. Babcock	Testimony
975-1028	"	N. Young	
1046-1608	Rena Walker	L. Babcock	Testimony
1620-1640	" "	K. Foster	Cross X
1643-1799	" "	P. Empey	Cross X
1812-2285	Gerald Stewart	L. Babcock	Testimony
2300-	Larman Andrews	" "	"
3580-3747	" "	P. Empey	

MICROFILMED
FEB 11 2000

Mitch Sorenson hearing

Tape #	witness	atty	
3802-4509	Ray Borak	L. Babcock	Testimony
4530-4568		P. Empey	Cross X
4603-~~4608~~	Bob Martin	P. Empey	Testimony
6164-6568	" "	M. Sorenson	Cross X
End of Tape			
Tape #6			
0000-534	" "	" "	" "
537-575	" "	P. Empey	Redirect
600-665	Ray Borak	L. Babcock	
670-	M. Sorenson	Comments	

MICROFILMED
FEB 11 2000

Exhibit Log

Applicant	offered	accepted
	1,2	

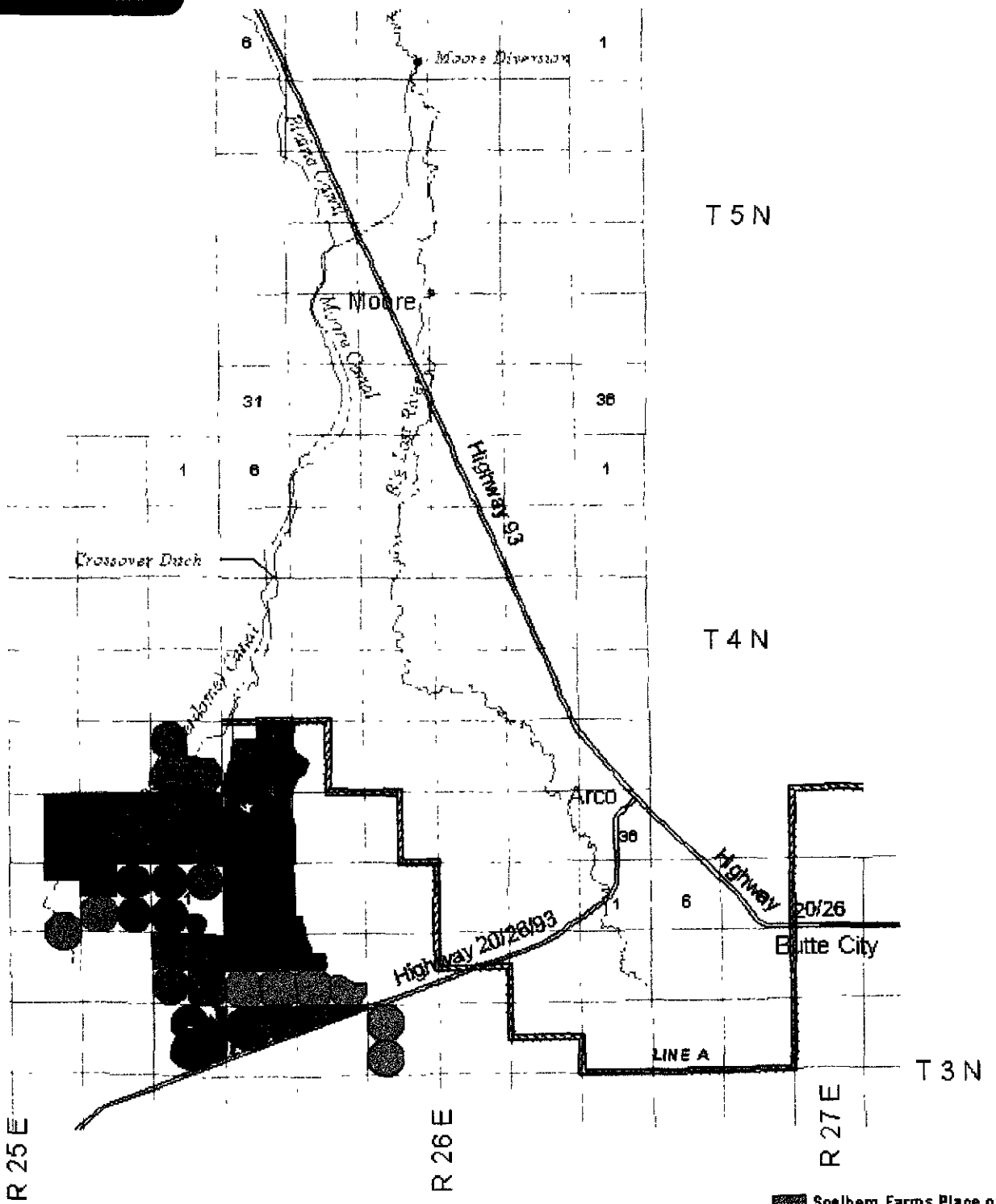
Exhibits

	Protestant	offered	accepted	object
	Marta McCrea	C, D	✓	
MAP	Norm Svetanko	A	✓	
Agreemnt	Laurence Babcock	B	✓	
Transf. 808	Laurence Babcock	E		✓
Water Rt List	" "	F	✓	

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FEB 11 2000

[redacted]

AREA MAP



Soelberg Farms Place of Use
Kurt & Everett Acor Place of Use
Steven Aikele Place of Use
Perkes Place of Use
P U Ranch Place of Use
Mitchell Sorensen Place of Use
Herman Aikele Place of Use
Juel Aikele Place of Use
Marc Hansen Place of Use

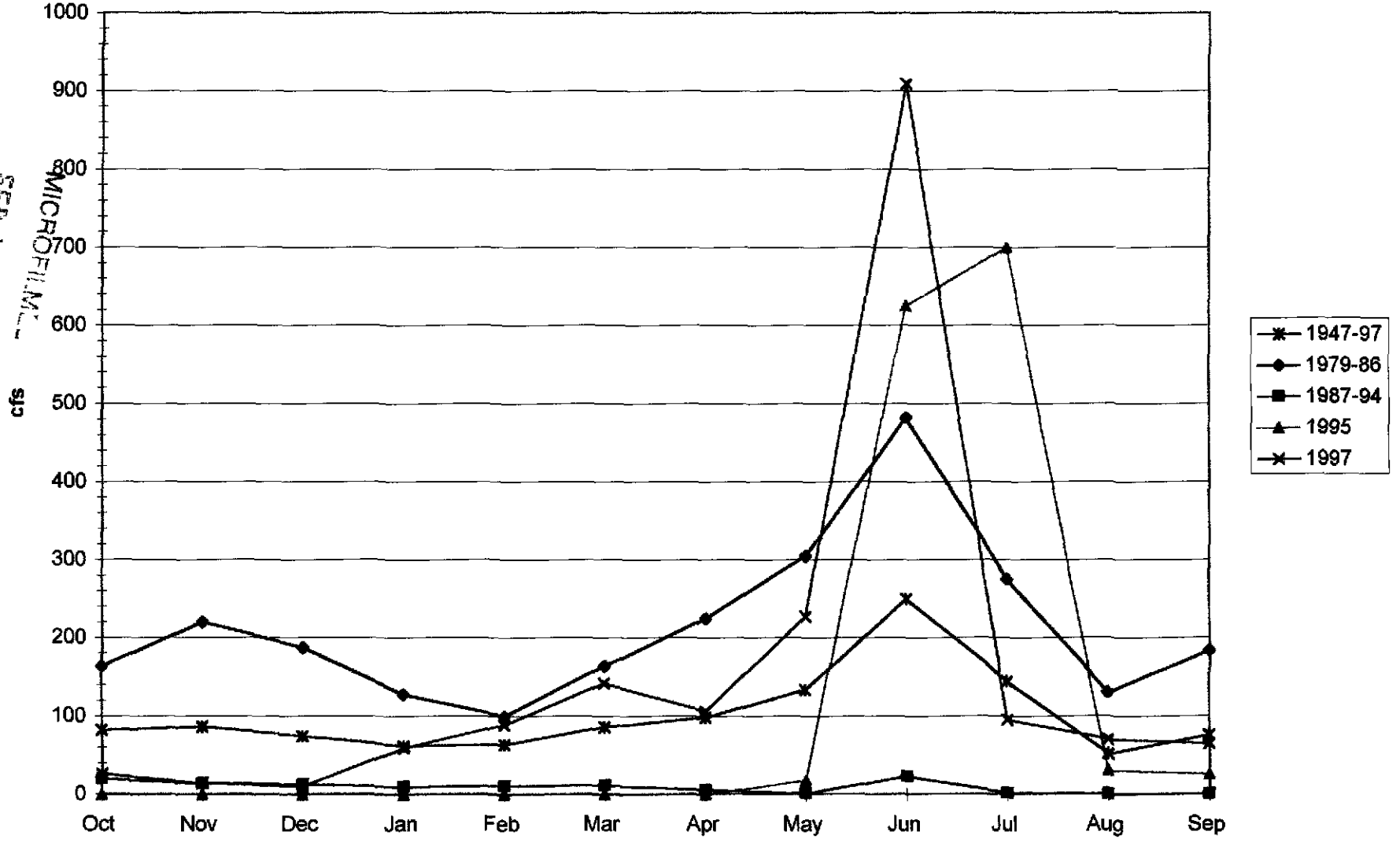
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1 0 1 2 3 Miles

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[redacted]

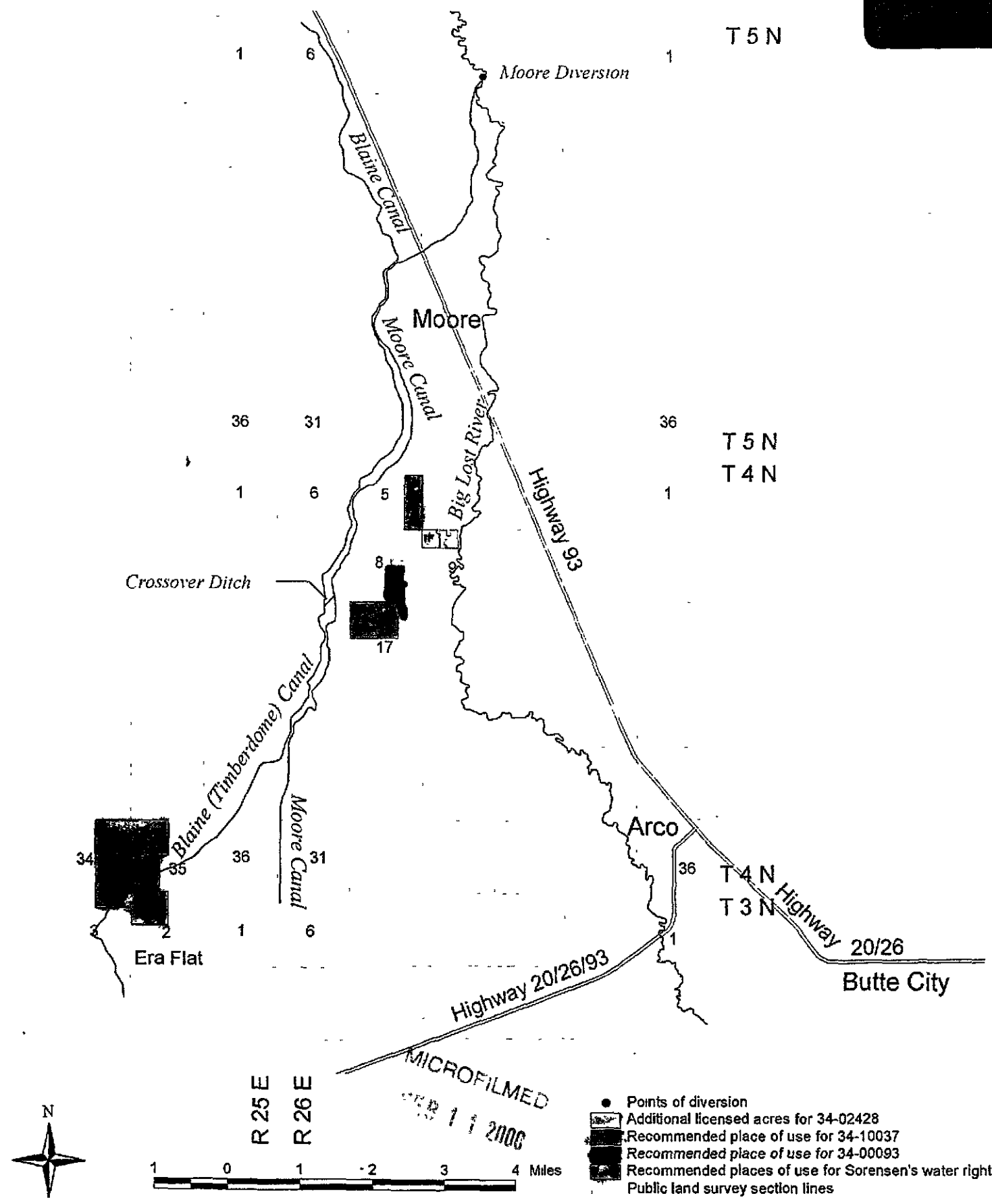
BIG LOST RIVER AT ARCO



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ERO Boise

SORENSEN AND JENSEN WATER RIGHTS: PLACES OF USE AND POINTS OF DIVERSIO



AGREEMENT

THIS AGREEMENT, made and entered into this 27 day of May, 1978, by and between NORMA K. SORENSEN, a widow, and RONALD W. SORENSEN, a single man, both of Butte County, Idaho, hereinafter referred to as "First Parties" and MITCHELL D. SORENSEN and ELAINE R. SORENSEN, his wife, of Butte County, Idaho, hereinafter referred to as "Second Parties",

WITNESSETH:

WHEREAS, First Parties are the owners of certain real property located in Butte County, Idaho, described as follows:

> The East Half of the Southeast Quarter (E½SE¼), the Southeast Quarter of the Northeast Quarter (SE¼NE¼) in Section 5, and the North Half of the Northwest Quarter (N½NW¼) in Section 9, all in Township 4 North, Range 26, E.B.M; and

WHEREAS, Second Parties are the owners of certain real property located in Butte County, Idaho, described as follows:

> The Northwest Quarter (NW¼) and the West Half of the Southwest Quarter (W½SW¼) of Section 35, Township 4 North, Range 25 E.B.M. and

WHEREAS, the above described real property of First Parties is located within the boundaries of the Big Lost River Irrigation District and is entitled to receive water for irrigation through the delivery system of said district; and

WHEREAS, First Parties' predecessor in interest, Weldon J. Sorensen, caused a well to be drilled in the Northwest Corner of the Southeast Quarter of the Northeast Quarter of Section 5, Township 4 North, Range 26 E.B.M., approximately 1955 to 1958, which well has a pump and motor installed and is capable of producing up to 420 miner's inches of water (8.4 cfs), and which has been used to produce supplemental water for the more efficient irrigation of the land of First Parties; and

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FEB 11 2009

WHEREAS, the above described real property of Second Parties has no water right appurtenant thereto; and

WHEREAS, the parties hereto have contemplated the development of Second Parties' land and the irrigation thereof through the possible use of a portion of First Parties' water rights which are adequate in amount for the full irrigation of all of the above described real property of both parties;

NOW, THEREFORE, in consideration of the sum of TEN DOLLARS ($10.00) and other good and valuable consideration including the mutual covenants and agreements hereinafter set forth, the parties mutually agree as follows:

1. First Parties agree to convey to Second Parties, either temporarily or permanently, as may be determined to be necessary, and by the appropriate instrument or instruments of conveyance, a right to the use of 200 miner's inches (4.0 cfs) of one or the other or a combination of the water rights presently appurtenant to First Parties' lands, and to permit Second Parties to use said water for the irrigation of Second Parties' lands commencing with the 1978 irrigation season.

2. It is understood that before a final determination can be made as to the most practical method for irrigation of Second Parties' land, additional legal and practicable problems may require solution. First Parties agree to cooperate in every way with Second Parties in making such determinations, and in making any necessary applications for transfer or exchange, or to appropriate or adjudicate any of the water rights herein mentioned.

3. Second Parties agree to pay to First Parties the proportionate share of all costs, charges, or assessments related to said water rights, as well as power, replacement, repair or

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FEB 11 2009

maintenance costs, on the basis of the amount of First Parties' water rights actually used by Second Parties during any irrigation season, or which are ultimately conveyed to Second Parties. Second Parties further agree to indemnify and hold First Parties harmless of and from any and all expenses, charges, claims, actions or suits which may result from the use of First Parties' water rights, or the acquisition, appropriation, transfer or exchange of water rights in connection with the development and irrigation of Second Parties real property described above.

IN WITNESS WHEREOF, the parties hereto have hereunto set their hands and seals the day and year first above written.

Norma K. Sorensen

Ronald W. Sorensen

FIRST PARTIES

Mitchell D. Sorensen

Elaine R. Sorensen

SECOND PARTIES

STATE OF IDAHO)
County of Bonneville) ss.

On this 14 day of ~~May~~ June, 1978, before me, the undersigned, a Notary Public in and for said state, personally appeared NORMA K. SORENSEN, a widow, known to me to be the person whose name is subscribed to the within instrument, and acknowledged to me that she executed the same.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed my official seal the day and year in this certificate first above written.

Notary Public for ~~Idaho~~ Utah
Residing at Murray, Utah
My Commission Expires: 9-26-79

(seal)

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SEP 11 2000

IN THE DISTRICT COURT OF THE FIFTH JUDICIAL DISTRICT OF THE STATE OF IDAHO, IN AND FOR THE COUNTY OF TWIN FALLS

****

In Re SRBA [redacted]	REPORTER'S TRANSCRIPT
Case No. 39576 [redacted]	Subcase Nos. 34-00600,
[redacted]	34-00606

****

D-a-t-e: Wednesday, November 12, 1997

T-i-m-e: 10:30 A.M.

P-l-a-c-e: SRBA Courthouse, Twin Falls, Idaho

B-e-f-o-r-e: BRIGETTE BILYEU, Special Master

H-e-a-r-i-n-g: Trial on the Merits

****

A-p-p-e-a-r-a-n-c-e-s:

ROGER LING, Ling, Nielsen & Robinson, Attorneys at Law, P. O. Box 396, Rupert, Idaho, appearing for Claimants McCray.

PATRICK BROWN, Hepworth, Lezamiz & Hohnhorst, Attorneys at Law, P. O. Box 389, Twin Falls, Idaho, appearing for Objectors Rosenkrance and Lambert.

MICRO: [illegible]

FEB 1 1 2009

Further Recross (Mr. Brown) 573

Palmer, Thomas George
Direct Exam (Mr. Brown) 658
Cross Exam (Mr. Ling) 670
Redirect Exam (Mr. Brown) 681
Recross Exam (Mr. Ling) 683

Pehrson, Randy
Direct Exam (Mr. Brown) 439
Cross Exam (Mr. Ling) 459
Redirect Exam (Mr. Brown) 484

Reynolds, Richard
Direct Exam (Mr. Ling) 30
Cross Exam (Mr. Brown) 57
Redirect Exam (Mr. Ling) 69
Recross Exam (Mr. Brown) 71

Rosenkrance, Doug
Direct Exam (Rule) (Mr. Ling) 110
Cross Exam (Mr. Brown) 174
Redirect Exam (Rule) (Mr. Ling) 185
Recross Exam (Mr. Brown) 189
Direct Exam (Mr. Brown) 868
Cross Exam (Mr. Ling) 882

Rosenkrance, Shane
Direct Exam (Rule) (Mr. Ling) 270
Cross Exam (Mr. Brown) 322
Redirect Exam (Rule) (Mr. Ling) 334
Direct Exam (Mr. Brown) 685
Cross Exam (Mr. Ling) 740
Redirect Exam (Mr. Brown) 785

Smith, Dale
Direct Exam (Mr. Ling) 71
Cross Exam (Mr. Brown) 88
Redirect Exam (Mr. Ling) 108
Direct Exam (Rebuttal) (Mr. Ling) 918
Cross Exam (Mr. Brown) 932
Redirect Exam (Mr. Ling) 941
Recross Exam (Mr. Brown) 942
Further Redirect Exam (Mr. Ling) 945

Storer, Gerald
Direct Exam (Mr. Brown) 786
Cross Exam (Mr. Ling) 833
Redirect Exam (Mr. Brown) 864
Recross Exam (Mr. Ling) 867

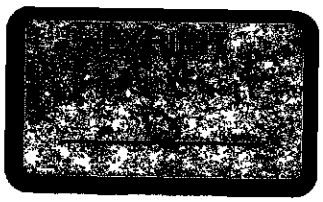
that?
MR. BROWN: I object. I don't -- it's ambiguous.
A. I don't think so.
Q. (BY MR. LING) Are you telling me that that --
MR. BROWN: Your Honor, if I could ask when I make a --
THE COURT: I'll overrule the objection. I'm sorry. Mr. Brown.
MR. BROWN: Your Honor, his question was have you ever done that. That's ambiguous and unintelligible. We don't know what -- his question before was not something that he had done. It wasn't even about somebody doing something. The question before was had the ditch rider, how had the ditch rider done things. And then he's asked Mr. Rosenkrance have you ever done that.
MR. LING: You seem to understand it, and so did the witness, Your Honor, in the answer.
THE COURT: Well, I'm going to allow it. It went through. I'll overrule the objection. Mr. Ling, you may continue.
Q. (BY MR. LING) Mr. Rosenkrance, how does the ditch rider know whether or not the Alder Creek water

should go to a user out of Big Lost River versus a user out of the Darlington Ditch?
A. Well, the only time that that water would go to the, to the Big Lost River was when there was enough water there that all the water rights were on in the Valley. And that means if there were 5,000 inches of water there and it was going right through the bypass and down the Alder Creek channel. And at that time, why, all the water rights are on.
Q. So you're telling me that a 1928 Alder Creek water right is better than a 1905 water right on Big Lost River unless every right on Big Lost River is on?
A. It could be, yes.
Q. And where did you ever come up with that analysis of distribution of water on Big Lost River?
A. Well, what it amounts to, when you get down to the small amount of water, the water won't reach the river; and there's no way to measure it out of the Darlington Ditch; and there's no way to measure it on down the system. You got another ditch down there called the Vanous. It has to go into there. There's no way to measure it there. There's no way to measure it out of the Vanous ditch into the river. It's a process that won't work.

And it's always been done this other way. And I've continued to do it that way for the last 12 years. And that's the way it's done.
Q. And one of the reasons is you can't measure it?
A. That is the big reason.
Q. That's what you're saying. Do you know --
A. Well, and the other reason it won't -- the other reason is it won't reach.
Q. Okay. Let's talk about "don't reach" later. You can't measure it.
Don't you as a watermaster have a statutory obligation to ensure the water is measured?
A. Where it can be measured, yes.
Q. You don't know of the statutory right of a watermaster to demand somebody to put in a measuring device; and if they don't, you can do it and charge them?
A. Not me. The department can do that. But I really can't.
Q. Well, you understand the department can do it then. You probably don't know how to do it maybe. But the department can do it.
MR. BROWN: Your Honor, I'm going to object. First of all --

THE COURT. Well --
MR. BROWN: -- we're way beyond the scope. And, second of all, this is entirely either argumentative -- it's not even a question. It's commentary.
THE COURT: Well, I'll instruct counsel not to make comment on the evidence.
MR. LING: I was not being facetious; and I'll take that back when I said you can't do it because you got other jobs to do. I mean he can't be out there building --
THE COURT: Well, right. And I think we just need to get beyond commenting on the evidence. And go ahead and direct your next question, Mr. Ling.
MR. LING: Thank you.
Q. (BY MR. LING) So you are aware that if measuring is a problem, you can remedy that or cause it to be remedied through the department?
A. Through the department, yes.
Q. But they have to get it through you, don't they?
A. Not necessarily.
Q. I will address that -- if it's in the law, it's in the law. If it isn't, it isn't. Right? That's what you follow.

State of Idaho
DEPARTMENT OF WATER RESOURCES
1301 North Orchard Street, P.O. Box 83720, Boise, Idaho 83720-0098
Phone: (208) 327-7900 FAX: (208) 327-7866



PHILIP E. BATT
GOVERNOR

KARL J. DREHER
DIRECTOR

August 18, 1998

Basin Wide Issue 5 & 5B Participants

Re: Basin Wide Issues 5 & 5B, Conjunctive Management General Provision

Dear Parties:

I am faxing to you a draft stipulation for resolving the general provisions regarding conjunctive management. These provisions reflect our discussions over the summer. Please review this draft for purposes of discussion at the status conference on Thursday, Aug. 20, 1998.

We hope that this stipulation will form the framework for resolution of the conjunctive management issue in the Snake River Basin Adjudication. I look forward to seeing you on Thursday

Sincerely,

David R. Tuthill, Jr., P.E.
Chief, Adjudication Bureau

DRAFT

IN THE DISTRICT COURT OF THE FIFTH JUDICIAL DISTRICT OF THE STATE OF IDAHO, IN AND FOR THE COUNTY OF TWIN FALLS

In Re SRBA	**Subcase No.:** 91-00005 91-00005B
Case No 39576	**STIPULATED GENERAL PROVISIONS RELATING TO INTERCONNECTION OF WATER SOURCES IN IDWR BASINS 34, 57 AND 36**

Snake River Dairyman Co. Nayrsir Gerrard.

The undersigned parties, or their attorneys, agree that the Snake River Basin Adjudication Court has jurisdiction of the parties and subject matter to decree the attached general provisions, that they have been served with sufficient process, according to the law; and that they have appeared, prosecuted, and defended their positions with regard to these provisions

The parties and IDWR agree and stipulate that the general provisions set forth on Exhibit 1, relating to general provisions 2.a - c (excluding sub-parts 2.c.i – iii), 3, 7 and 8 in the *Amended Director's Report for Reporting Area 1 (Basin 34)*; set forth on Exhibit 2, relating to general provisions 4 in the *Amended Director's Report for Reporting Area 2 (Basin 57)*; and set forth on Exhibit 3, relating to general provisions 1 and 4 in the *Amended Director's Report for Reporting Area 3 (Basin 36)*, are necessary for the definition of the rights and for the efficient administration of the water rights in IDWR Basins 34, 57 and 36, and, as such, should be decreed by the Snake River Basin Adjudication Court. The parties and IDWR agree and stipulate that these provisions should be decreed in lieu of, and replace in whole, the referenced general provisions from the Director's Reports for these Reporting Areas.

Date _____ Date _____

DRAFT

Seth Beal Josephine Beeman

MICRO

Basin 34

The following surface water rights from the following sources of water in Basin 34 shall be administered separately from all other surface water rights in Basin 34:

Water Right No.	Source

SEE ATTACHMENT A

The following Big Lost River water rights in Basin 34 shall be administered separately from all other non-storage, surface water rights in Basin 34 from the Big Lost River downstream of the Mackay Reservoir during the irrigation season before the time on the rising stage of the River when the flow at the Howell gage reaches 750 CFS, and after the time on the falling stage of the River when the flow recedes to 300 CFS: Spring late summer.

Water Right No.	Source

SEE ATTACHMENT B

The following water rights from the following sources of water in Basin 34 shall be administered separately from all other water rights in the Snake River Basin:

Water Right No.	Source
None	None

All other water rights within Basin 34 are from connected sources of water in the Snake River Basin and shall be administered conjunctively.

MICRO...

ATTACHMENT A

29.

WATER SOURCE BADY CREEK

34-00002
34-02508
34-13565

WATER SOURCE CEDAR CREEK

34-00834
34-00835
34-00839
34-02303

WATER SOURCE: ELKHORN CREEK

34-00766

WATER SOURCE GRANT CREEK

34-00769
34-02245

WATER SOURCE LEHMAN CREEK

34-00472
34-04068

WATER SOURCE LOWER CEDAR CREEK

34-00146
34-00153
34-00175
34-00543
34-00582
34-00585
34-00586
34-00808
34-00884
4-00885
34-00886
34-10434
34-10435

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WATER SOURCE PINTO CREEK

34-00341

WATER SOURCE ROCK CREEK

34-00057
34-00058
34-00836
34-04039
34-10585

WATER SOURCE ROCK SPRINGS CREEK

34-00352

WATER SOURCE SAGE CREEK

34-00334
34-00335
34-00336

WATER SOURCE UPPER CEDAR CREEK

34-10538
34-12399

WATER SOURCE WILLOW CREEK

34-00057
34-00058

ATTACHMENT B

Big Lost River and Tributaries
Above Mackay Dam

146 WR
How many Above reservoir.
How many below reservoir?
Total CFS?

WATER SOURCE: BARTLETT CREEK

34-00056

WATER SOURCE: BIG LOST RIVER

34-00004
34-00024
34-00025
34-00026
34-00030
34-00048
34-00054
34-00055A
34-00055B
34-00084A
34-00084B
34-00097
34-00099
34-00103
34-00125A
34-00125B
34-00139
34-00145
34-00147B
34-00147C
34-00147D
34-00148B
34-00148C
34-00148D
34-00151
34-00152
34-00154
34-00155
34-00156
34-00158
34-00161A
34-00162A
34-00162B
34-00208A
34-00208B
34-00211
34-00220
34-00221
34-00222
34-00252
34-00269B
34-00269D
34-00290A
34-00290B
34-00291A
34-00291B
34-00292A
34-00292B
34-00293A
34-00293B
34-00294A
34-00294B
34-00297A
34-00297B
34-00298A
34-00324A
34-00324B
34-00325A
34-00338
34-00339
34-00340
34-00344
34-00346
34-00347
34-00348
34-00349
34-00351
34-00363
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34-00421
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34-00567
34-00568
34-00573A
34-00573B
34-00583B
34-00583C
34-00584D
34-00584F
34-00626B
34-00627B
34-00628B
34-00629B
34-00630B
34-00693
34-00694
34-00699A
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34-00699C
34-00700A
34-00700C
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34-00702B
34-00702C
34-00734
34-00735
34-00742
34-00743
34-00755
34-00757
34-00758
34-00760
34-00764
34-00767
34-00768A
34-00768B
34-00770
34-00771
34-00772
34-00774
34-00775
34-00805
34-00859A
34-00860A
34-00867
34-00868
34-10164
34-10165
34-10166
34-10227
34-10228
34-10229
34-10250
34-10282
34-10557
34-10558
34-10563
34-10567
34-10568
34-10587
34-10619
34-10688
34-10920
34-13566

WATER SOURCE. BIG LOST RIVER, EAST FORK

97 Rights.

34-00625
34-00662

WATER SOURCE BIG LOST RIVER, NORTH FORK

34-00053A
34-00053B
34-00053C
34-00053D
34-00053E
34-13550

WATER SOURCE BIG LOST RIVER AND PARSONS CREEK

34-00142
34-00564
34-00565
34-00611B
34-00612B
34-00613B
34-00626A
34-00627A
34-00628A
34-00629A
34-00630A
34-00773
34-10553

WATER SOURCE BIG LOST RIVER, PARSONS CREEK AND POLE STACKYARD CREEK

34-00812
34-00813
34-00815
34-00816
34-00867

WATER SOURCE BOONE CREEK AND FOX CREEK

34-00529

WATER SOURCE: BRADSHAW SPRINGS

34-00128A
34-10620

WATER SOURCE. DEER CREEK

34-00624

WATER SOURCE. GARDEN CREEK

34-07010

WATER SOURCE HAMILTON SPRINGS

34-00398
34-00399
34-07034

WATER SOURCE. HOWELL SPRING

34-00337

WATER SOURCE· LONE CEDAR CREEK

34-02144

WATER SOURCE NAVARRE CREEK

34-00081
34-00820
34-00821

WATER SOURCE: NEWTON CREEK

34-07005

WATER SOURCE PARSONS CREEK

34-00443
34-00444
34-00445
34-00611A
34-00612A
34-00613A
34-00801
34-00802

WATER SOURCE. PARSONS CREEK AND POLE STACKYARD CREEK

34-10801

WATER SOURCE POISON SPRING

34-07124

WATER SOURCE RIDER CREEK

34-04001

WATER SOURCE SPRING

34-00337
34-04019
34-04137
34-07124
34-10168
34-10251

WATER SOURCE SPRINGS

34-10635

WATER SOURCE THOUSAND SPRINGS CREEK

34-04127
34-10167

WATER SOURCE UNNAMED STREAM

34-04005A
34-04005B

WATER SOURCE WARM SPRINGS CREEK

34-00123A
34-00123B
34-00124A
34-00124B
34-00236
34-00237
34-00251
34-00353
34-00420
34-00457
34-00458
34-00467
34-00468
34-00469
34-00470A
34-00471
34-00483A
34-00483B
34-00527
34-00528
34-00703A
34-00703B
34-00703C
34-00704A
34-00704B
34-00704C
34-00803
34-00861A
34-00861B
34-00869
34-00870
34-00871
34-00963
34-10919
34-13564

MICHC

Basin 36

The following water rights from the following sources of water in Basin 36 shall be administered separately from all other water rights in Basin 36:

Water Right No.	Source
None	None

The following water rights from the following sources of water in Basin 36 shall be administered separately from all other water rights in the Snake River Basin:

Water Right No.	Source
None	None

All other water rights within Basin 36 are from connected sources of water in the Snake River Basin and shall be administered conjunctively.

Basin 57

The following water rights from the following sources of water in Basin 57 shall be administered separately from all other water rights in Basin 57:

Water Right No.	Source
None	None

The following water rights from the following sources of water in Basin 57 shall be administered separately from all other water rights in the Snake River Basin:

Water Right No.	Source
None	None

All other water rights within Basin 57 are from connected sources of water in the Snake River Basin and shall be administered conjunctively.

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COPY

STATE OF IDAHO

DEPARTMENT OF RECLAMATION

In the Matter of the Application of

Big Lost River Irrigation District of Mackay, Idaho.

For a Transfer of Water Right, in Water District No. 27, Custer County, Idaho.

ORDER GRANTING TRANSFER

No. 808

WHEREAS, On the 29th day of May, 1952, at the Department of Reclamation of the State of Idaho, at Boise, Idaho, this matter of an application of the Big Lost River Irrigation District of Mackay, Idaho, for a transfer of water right, came on regularly for hearing, pursuant to the published notice in due and statutory form; and,

WHEREAS, A protest was filed against the application by I. W. Boyer of Arco, Idaho; and,

WHEREAS, After an investigation by the Department of Reclamation, a decision was rendered by the State Reclamation Engineer dismissing the protest.

NOW, THEREFORE, IT IS HEREBY ORDERED That the said application be, and the same is HEREBY GRANTED, and that a Certificate of Transfer be issued to the applicant herein, as provided by the laws of the State of Idaho.

IN WITNESS WHEREOF, I have hereunto set my hand and caused the official seal of the Department of Reclamation of the State of Idaho to be hereunto affixed at Boise, Idaho, this 14th day of May, A.D. 1953.

Mark R. Kulp

MARK R. KULP
State Reclamation Engineer

That said water is to be limited at any given time to an amount actually needed and beneficially used for such purposes, and shall not exceed the following amount, to-wit:

From Big Lost River

1,000 cubic feet per second with priority of May 23, 1905
200 cubic feet per second with priority of October 2, 1905
1,000 cubic feet per second with priority of February 7, 1916

From Antelope Creek

100 cubic feet per second with priority of July 31, 1905.

That the water right hereby transferred has heretofore been delivered to the first above described lands through the channel of Big Lost River as follows:

2200 cubic feet per second of the waters of Big Lost River, to be stored in the Mackay Reservoir or be released through the gates of the Mackay Reservoir Dam, down the natural channel of Big Lost River to the following points of diversion, to-wit: NW¼ NE¼ Section 14, Township 6 North, Range 25 East, B.M., at the head of what is known as the Blaine Canal; NW¼ NW¼ of Section 26, Township 4 North, Range 26 East, B.M., at the head of what is known as the Arco Canal.

100 cubic feet per second of the waters of Antelope Creek to be diverted at the two following points of diversion: South 59° East 1643 feet from the corner common to Sections 25, 26, 35 and 36, Township 6 North, Range 25 East, B.M., and South 73° 35' East 1770 feet from the Northwest corner of Section 6, Township 5 North, Range 26 East, B.M., and delivered through the Blaine Canal.

That the water right hereby transferred will hereafter be stored in the Mackay Reservoir, all or in part, and released through the gates at the Mackay Dam down the natural channel of Big Lost River and diverted at the heads of the various ditches within the boundaries of the Big Lost River Irrigation District.

That the right to the use of the water aforesaid, hereby confirmed, is restricted to the lands or place of use last above described, as provided by the laws of the State of Idaho.

IN WITNESS WHEREOF, I have hereunto set my hand and caused the official seal of the Department of Reclamation of the State of Idaho, to be hereunto affixed at Boise, Idaho, this 14th day of May, 1953.

Mark R. Kulp

MARK R. KULP
State Reclamation Engineer

MICRO

water right numbers issued to Antelope Creek + tributaries

34-0512
34-0111
34 0112
34-0113
34-0266
34-0657A .8 CFS
34-0658
34 10496
34-0413 B 2.0 CFS
34-0657B 1.4
34-0661 D 1.04
34-0413 D 1.2
34-0116 A 1.8
34-0013
34-0116 B 1.0
34-0410 B 1.0
34-10220
34-0300
34-0442
34-0517
34-10763
34-10765
34-10767
34-0481
34-0482
34-849 B 1.4
34-0932

34-0413C .4
34-0932
34-0719 A .47
34-0720 A 1.42
34-021 A 1.4
34-02474 B 11.42
34-07035
34-02473
34-2474A 1.52
34-0575
34-0864
34-0574
34-0426
34-0427
34-0554
34-10124
34-4042
34-0929
34-0069
34-0070
34-0071
34-0661 C .56
34-0903
34-0184 B 1.04
34-0411
34-0412
34-0833
34-0838
34-0570 A 3.2

34-0719 B.5
34-0720 B 1.5
34-0721 B 1.75
34-07103
34-07013A 7.2
34-07013B 4.8
34-0135
34-0180
34-0591
34-0659
34-02474A 1.52
34-0177
34-0186
34-0212
34-0865B 1.6
34-0439B .85
34-0439A 7.15
34-10717
34-10777
34-0660 B 1.0
34-0665
34-0865A 1.76
34-10937
34-0661 B 1.6
34-0695
34-0526
34-0441
34-0516
34-0525

MICROFILMED
FEB 1 1 2006

over

34-0674
34-0707
34-0784
34-0785
34-0786
34-10157

Total of 285.3 = 14,765 inches

MICROFILMED
OCT 2003