

State of Idaho
Department of Water Resources

WATER RIGHT LICENSE

WATER RIGHT NO. 92-07175

Priority: November 13, 1984

Maximum Diversion Rate: 1.00 CFS

Maximum Diversion Volume: 120.0 AF

This is to certify, that JEFFREY P BAKER

C/O ST MARIES WILD RICE

11770 S ELDERBERRY WAY

SANDY UT 84092

has complied with the terms and conditions of the permit, issued pursuant to Application for Permit dated September 24, 1984; and has submitted Proof of Beneficial Use on October 17, 1985. An examination indicates that the works have a diversion capacity of 3.600 cfs of water from:

ST MARIES RIVER

tributary to ST JOE RIVER

source, and a water right has been established as follows:

<u>BENEFICIAL USE</u>	<u>PERIOD OF USE</u>	<u>RATE OF DIVERSION</u>	<u>ANNUAL VOLUME</u>
IRRIGATION	03/15 to 11/15	1.00 CFS	120.0 AF

LOCATION OF POINT(S) OF DIVERSION: Lot 8(SWSE), Sec. 3, Township 45N, Range 02W
BENEWAH County

PLACE OF USE: IRRIGATION

<u>TWN</u>	<u>RGE</u>	<u>SEC</u>	<u>ACRES</u>	<u>ACRES</u>	<u>ACRES</u>	<u>TOTAL</u>
45N	02W	3	SWSW 10	SESW 12	NWSE 4	
			SWSE 14			40

Total number of acres irrigated: 40

CONDITIONS/REMARKS:

1. The maximum diversion volume is defined as the maximum allowable volume of water that may be diverted annually from the source under this right. The use of water confirmed by this right is limited to the amount which can actually be beneficially used. The maximum diversion volume may be adjusted to more accurately describe the beneficial use or to implement accepted standards of diversion and use efficiency.
2. This water right is appurtenant to the described place of use.
3. This right is subject to all prior water rights and may be forfeited by five years of non-use.
4. Modifications to or variance from this license must be made within the limits of Section 42-222, Idaho Code, or the applicable Idaho law.
5. This right when combined with all other rights shall provide no more than 3.0 afa per acre for the lands above.

RECEIVED

JUL 08 1993

State of Idaho
Department of Water Resources

WATER RIGHT LICENSE

WATER RIGHT NO. 92-07175

CONDITIONS/REMARKS:

This license is issued pursuant to the provisions of Section 42-219, Idaho Code.
Witness the seal and signature of the Director, affixed at Boise, this 3rd
day of July, 1993.

Acting for R. Keith Higginson, Director

RECEIVED

JUL 08 1993

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES
PROOF OF BENEFICIAL USE

RECEIVED
OCT 17 1985
Department of Water Resources

The Idaho Department of Water Resources will consider this form as a statement that the permit holder(s) has completed development under this permit and that water has been applied according to the provisions of the permit for the beneficial use(s) described below:

Permit No. 92-7175

Name(s) of Permit Holder: Jeffrey P. Baker

Post Office Address: PO Box 793, St Maries, Idaho 83861

Telephone No. Menager 245-5835

Source of Water: St Maries River; Spring runoff and unnamed springs

Extent of Use:

Domestic _____ (number of households)

Stockwater _____ (number and type of stock)

Irrigation 40 (acres)

Other/Remarks Impractical if not impossible to install measuring device at this diversion - Request inspection and waiver of requirement

Indicate the date water was first diverted and beneficially used under this permit: July 1985

Measuring Device: Required? ☒ Yes ☐ No
Installed? ☐ Yes ☒ No

Flow Measurement Port: Required? ☐ Yes ☐ No
Installed? ☐ Yes ☒ No

Person to contact to accompany the Department representative during the field examination:

Al W Bruner
(Name)

Rt 1 Box 56, Harrison, Id 83833 689-3259
(Address) (Telephone Number)

The above information is a true statement of the extent to which the above numbered permit has been developed.

10/11/85
Date

Jeffrey P Baker by AWB
Signature of Permit Holder (and Title, if appropriate)

MICROFILMED

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES
APPLICATION FOR PERMIT

APPROVED

To appropriate the public waters of the State of Idaho

1. Name of applicant JEFFREY P. BAKER Phone 689-3259 message

Post office address c/o St Maries Wild Rice, Box 293, St Maries, Idaho 83861

2. Source of water supply St Maries River which is a tributary of SE Joe (JK-9/26/84)
(Govt. Lot 8)

3. Location of point of diversion is SW $\frac{1}{4}$ of SE $\frac{1}{4}$ of Section 3 Township 45N

Range 2W B.M. Benewah County, additional points of diversion if any: _____

4. Water will be used for the following purposes:

Amount 80 af for irrigation purposes from March 1 to Oct. 30 ^{-JK 9/26/84} (both dates inclusive)
(cfs or acre-feet per annum)

Amount 1.0 for irrigation purposes from March 1 to Oct. 30 (both dates inclusive)
(cfs or acre-feet per annum)

Amount _____ for _____ purposes from _____ to _____ (both dates inclusive)
(cfs or acre-feet per annum)

Amount _____ for _____ purposes from _____ to _____ (both dates inclusive)
(cfs or acre-feet per annum)

5. Total quantity to be appropriated:

a. 1.0 cubic feet per second and 80 ^{JK 9/26/84} acre-feet per annum.
(1.0 cfs required to maintain 80 af during summer growing season. Periodic usage.)

6. Proposed diverting works:

a. Description of ditches, flumes, pumps, headgates, etc. Old, badly deteriorated, culvert
through riverbank will be replaced with a 24" CMP with attached control gates
and pumping well. This structure will provide water to field for flood irrigation.

b. Height of storage dam 6' feet, active reservoir capacity 80 acre-feet; total reservoir
capacity 80 acre-feet, materials used in storage dam: earth fill

Period of year when water will be diverted to storage March 1 to Oct. 30 inclusive.
(Month/Day) (Month/Day)

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 1 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: _____ $\frac{1}{4}$ of _____ $\frac{1}{4}$ 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: _____

CONFIDENTIAL

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	
45N	2W	3											L.10 10	L.9 12		4	L.8 14		40

*Gov. Lots added 11/2/1984 - kw

Total number of acres to be irrigated 40

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 Applicant

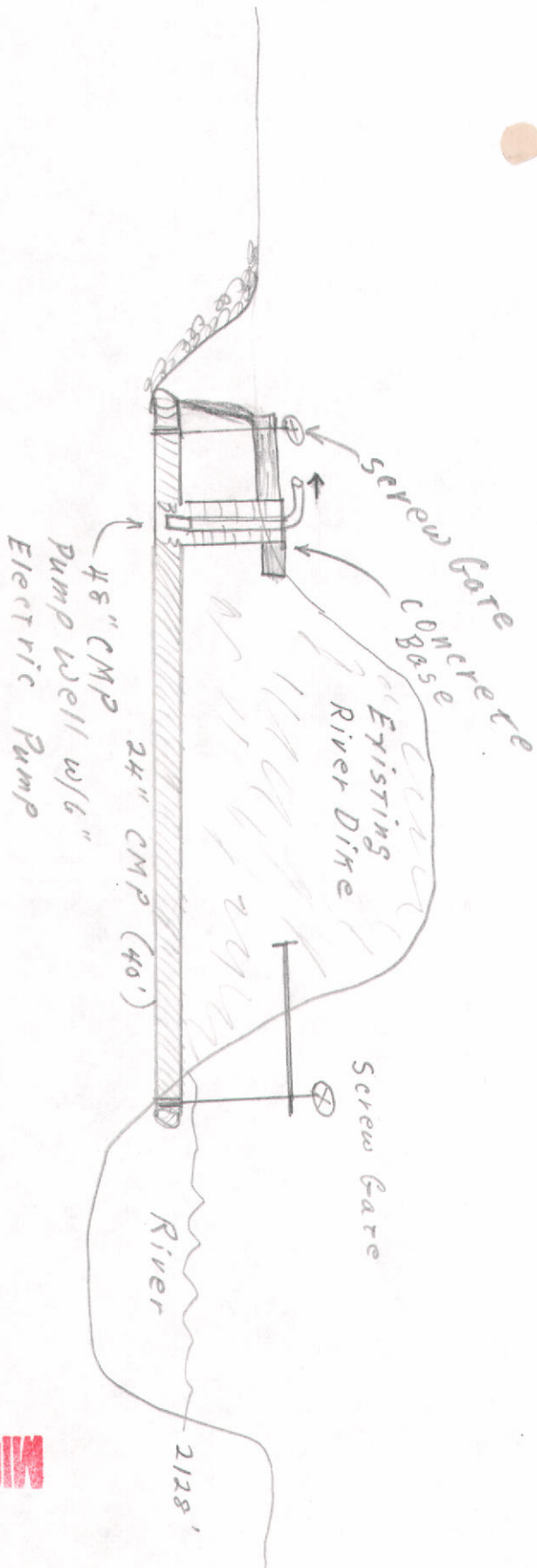
b. Who owns the land to be irrigated or place of use Applicant

c. If the property is owned by a person other than the applicant, describe the arrangement enabling the applicant to make this filing

10. Remarks Water will be utilized for flood irrigation of wild rice grown as a commercial farm crop. No actual storage reservoir will be used. Crop will be continuously flooded to a depth of about 18" during the growing season. Construction will be accomplished during low water period.

NOTE: Field to be irrigated is above 2128' elevation. Spring flood waters will be utilized for initial irrigation and supplimented by pumping thereafter.

Rock rip-rap provided
as needed



Field 2131+

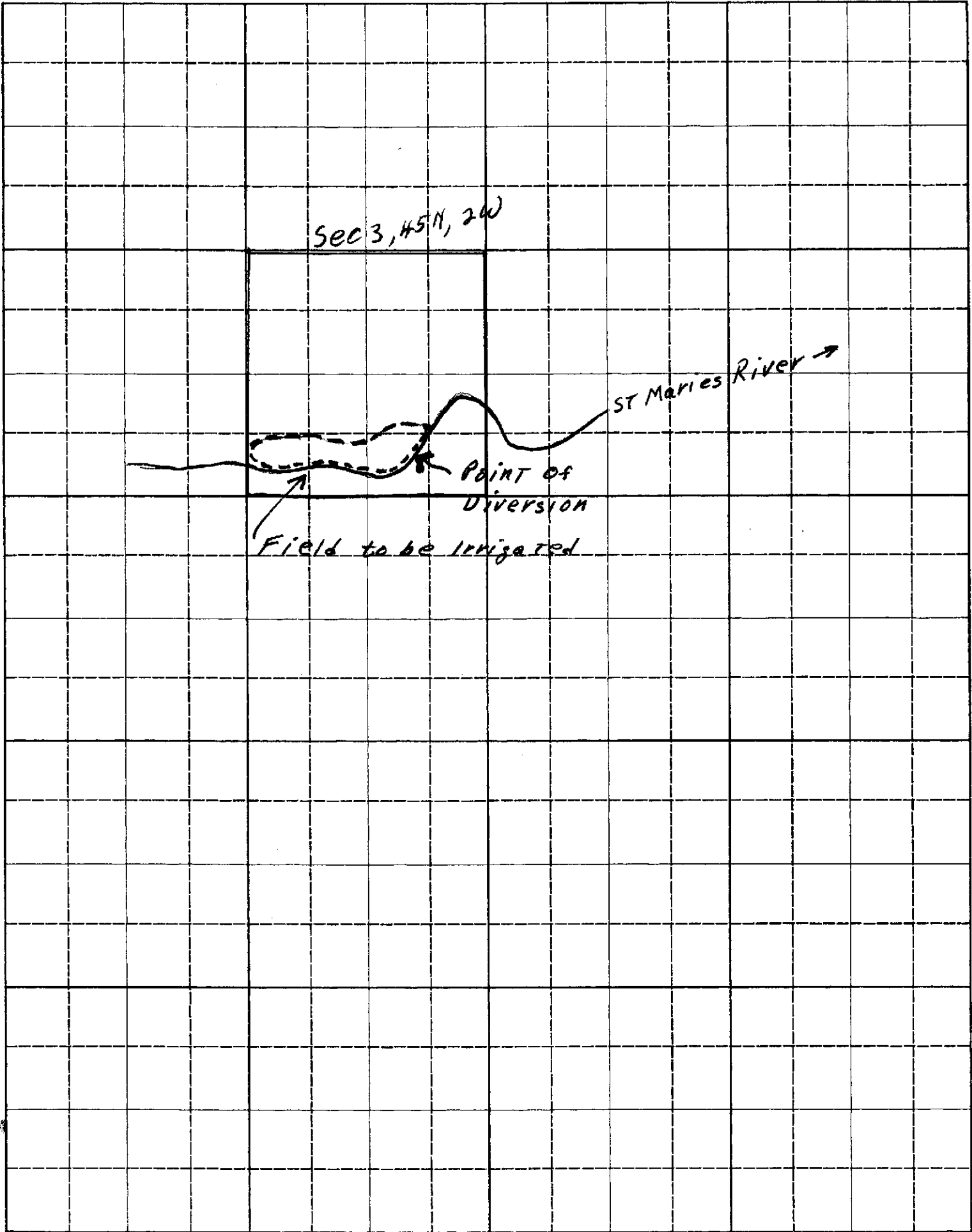


R2W 35'

R1W

MicroFILMED

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.

Jeffrey P. Baker
(Applicant)

MICROFILMED

Proposed Priority 9/24/84

Received by Mr. Date 9/24/84 Time 1:00 PM

Preliminary check by JH Fee \$ 45.00

Receipted by Mr. Date 9/25/84 (31652)

Publication prepared by Mr. Date 9/27/84

Published in St. Thomas Gazette Record

Publication dates 10/3 & 10/84

Publication approved Mr. Date 10/29/84

Protests filed by: none

Copies of protests forwarded by _____

Hearing held by _____ Date _____

Recommended for approval denial by ASD kw

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. 92-7175, and said application is hereby APPROVED.

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 December 1, 19 85.

C. Other: A measuring device of a type approved by the Department shall be permanently installed and maintained as part of the diverting works. Diversion records shall be maintained and provided to this Department at the time of the field examination.

Witness my hand this 20th day of November, 1984.

L. Glen Saxton
Chief, Operations Bureau

WR0749NP
No. L92-07175

IDAHO DEPARTMENT OF WATER RESOURCES
WATER RIGHT PROFILE REPORT
(REGIONAL)

DATE: 06/28/93
PAGE: 1

OWNER CODE	NAME & ADDRESS	PRIORITY DATE	WATER USE	USE PERIOD FROM TO	DIVERSION RATE	DIVERSION VOLUME
C	JEFFREY P BAKER C/O ST MARIES WILD RICE 11770 S ELDERBERRY WAY SANDY UT 84092	11/13/1984	IRRIGATION	03-15 11-15	1.00 CFS	120.0 AFA
TOTAL DIVERSION:					1.00 CFS	120.0 AFA

Water Source: ST MARIES RIVER

Tributary to: ST JOE RIVER

Stage: LICENSE

Point(s) of Diversion Capacity: 3.60 CFS

Point(s) of Diversion: T45N R02W S03 Lot 08(SW SE)

Place of use Legal Description for: IRRIGATION

NE				NW				SW				SE												
T	R	S	:	NENE	NWNE	SWNE	SENE	:	NENW	NWNW	SWNW	SENW	:	NESW	NWSW	SWSW	SESW	:	NESE	NWSE	SWSE	SESE	:	SUM
---	---	---	:	Lt	Ac	Lt	Ac	:	Lt	Ac	Lt	Ac	:	Lt	Ac	Lt	Ac	:	Lt	Ac	Lt	Ac	:	---
45N	02W	3	:					:					:			10	12	:			04	14	:	40.0
TOTAL ACRES																							40.0	

Pou County: BENEWAH

Other Water Rights Listing Overlapping Place(s) of use:
92-07175

Conditions of Approval:

R24 - This right when combined with all other rights shall provide no
- more than 3.0 afa per acre for the lands above.

Dates: App. Received: 09/24/1984 Priority Date: 11/13/1984
Proof Due Date: 12/01/1985 Proof Made Date: 10/17/1985
Exam Made Date: 06/19/1991 Exam Sent to S.O.: 06/22/1991
Licensed Date:

Misc: Water District Number: Field Exam Fee: R (Received)

Audit: 06/28/93 CHAPMAN

MEMORANDUM

Date: June 22, 1993
From: Jim Johnson
To: File
Subject: Review of request for a rate greater than 0.02cfs/ac

=====

Mr. Jeff Baker has submitted information summarizing estimates of rates of flow required for wild rice crops gathered from various recognized experts in water resources.

Rate of flow needed for wild rice production is unique in that the rice plants are actually grown in standing water ponds that maintain certain levels rather than using the traditional irrigation application methods.

I believe Mr. Baker has submitted adequate information showing a diversion rate greater than 0.02 cfs/acre is needed.

The estimated rate of diversion listed on the field examiner's report showed approximately 3 cfs being diverted at the time of the exam. However, this estimate of the diversion capacity should not be used to limit the rate to 3.06 cfs due to the nature of uncertainty in estimating actual discharge capability of the diverting equipment. Since there is a fairly expensive energy cost (Tractor with PTO driven pump) associated to the diversion of water it is doubtful that water is unnecessarily being applied. The rate estimated diverted, however, is fairly consistent with the total amount applied for under the two water rights filed for this irrigation. Right 92-0709 was licensed for 2.60 cfs and this permit requested 1.00 cfs for a total diversion of 3.60 cfs.

Other considerations such as abundant availability of water supply and lack of adverse impact to existing water rights further lessen the need for strict adherence to the 0.02 cfs/acre requirement. Therefore, the license should be issued for 1.0 cfs as limited by the permit.

RECEIVED

JUL 08 1993

RECEIVED

MAY 28 1993

Department of Water Resources

May 25, 1993

Mr. Jim Johnson
Dept. of Water Resources
1301 N. Orchard
Boise, ID 83706

Dear Mr. Johnson,

It was nice talking to you on the phone today regarding the irrigation of my wild rice fields near St. Maries. As I mentioned on the phone, I am taking over the management of my own field as well as my mother-in-law's field this year. The current permit number on my field is 92-7175 and the number on my mother-in-law's field is 92-7090. The current rate of flow is inadequate and I would like to request a greater flow rate on each of these fields for more effective irrigation of the crop.

A problem in determining the irrigation requirements of wild rice in North Idaho is that there is very little information available from the usual sources because the industry is relatively new and quite small. There has been about ten years of observations on my own field (92-7175) which have given me a good idea of the total requirements. The variety of wild rice we grow does best with water depth about 18 inches throughout the growing season. The total pumping required for the season is about 42". Runoff into the field keeps the field water level at the proper level until about the first of July when pumping is then required. Flow rates of about .909 cfs 24 hours a day are adequate early in the irrigation season. However, as field temperatures and E.T. rates increase into late August water levels can drop about 3 inches per day requiring a flow rate of about 5.042 cfs. I would like to submit the following summary of my notes to support my request for an increased flow rate.

To get a better idea of evaporation, transpiration, and seepage rates, I called several experts around the Western United States. Included in those conversations were Jack Williams, University of California Cooperative Extension in Yuba City, California, Dr. Robert Hill, Irrigation Specialist at Utah State University in Logan, Utah, Dr. Jim Wright at the Agriculture Research Center in Twin Falls, Idaho, Dorrell Larsen, University of Idaho research station in Caldwell, Idaho and Chuck Huntley at the Bureau of Reclamation in Denver.

RECEIVED

1 JUL 08 1993

Summarizing those conversation, as well as from personal observation of the field, the best estimate for seasonal water requirements for wild rice production on my field in St. Maries is as follows:

Crop evaporation & transpiration (E.T.)	37"
Seepage/infiltration back into the soil	37"

Total irrigation required	74"
Minus rainfall & runoff into field	- 32"

Total pumping required	42"

The total pumping required is less than 1/2 the amount required in California where wild rice farmers must be prepared to pump about 8 feet of water over a growing season with the crop taking about 40 inches for evaporation and transpiration, according to Jack Williams.

Jack Williams gave the following rules of thumb for irrigating wild rice in the Sacramento valley:

1. Farmers must be prepared to pump 8 feet of water over a 130 day growing season for both crop E.T., seepage into the soil, and overflow out the end of the field.
2. Crop takes about 40". Studies have shown 36-42" for crop.
3. You need 3 times as much pumping flow to flood field as you do to maintain levels.

Dr. Robert Hill at USU in Logan suggested using the E.T. for alfalfa plus 10 to 20 percent to estimate the E.T. for wild rice in St. Maries. He gave a ball park figure for percolation through clay soil at 2" per day. A percolation test could be done with a 55 gal drum with the bottom cut out. Place on the dike, cover with plastic to prevent evaporation. Measure the rate at which water percolates through the soil over about a two day period. Keep water in the drum just a little higher than field so hydrostatic pressure outside of drum will not cause water to flow back into drum. Of course actual measurement of water level over the whole field is the most accurate way, which has been measured at up to 3" per day during the hottest part of the growing season and when the plant is large and growing fast.

An equation provided by Dr. Hill used in irrigation is: $Q \times T = A \times D$, where, Q = Cubic feet per Second, T = hours. A = acres, D = depth in inches.

Dr. Jim Wright at the Ag Research Center in Twin Falls, (208) 423-5582 ext. 21, mentioned an important factor from the study of seepage rates in irrigation canals. It has been found that seepage rates decrease over the season due to the formation of slime bacteria in the soil among other factors. As an example, a pond which lost 6 inches of water per day in the beginning of the season lost only 6/10 inch per day later in the season. The ability of a flooded field to seal itself over the season is an important reason why consistent water levels need to be maintained.

Dr. Wright thought Dr. Hill's estimate of 10 to 20 % above alfalfa's E.T. would be about right, although he thought 10% would be a little too conservative. To get an E.T. for alfalfa in St. Maries he referred to the University of Idaho Bulletin 516, July 1970 "Consumptive Irrigation for Crops in Idaho". Alfalfa in Moscow, Idaho uses a mean of 24.32 inches per season with a maximum of 30.72. Dr. Wright has found this figure to be about 30% low based on his experience at Twin Falls. He says the bulletin is pretty accurate for deep rooted crops but low for shallow rooted crops. He thinks one should multiply the mean by about 30% to get a more accurate figure. Therefore, $24.32 \times 1.30 = 31.616$, the water needed for alfalfa adjusted for the underestimation in Bulletin 516. 31.616×1.20 , the adjustment for wild rice given by Dr. Hill, = 37.939, the total water used for wild rice in North Idaho.

Chuck Huntley at the Bureau of Reclamation in Denver, (303) 236-3805 or 3810, estimated the average seepage rate of soil in the western U. S. to be about equal to the crop E.T. In other words, the average irrigation system has about a 50% efficiency in western soils. Using my field as an example, it is estimated that wild rice grown in St Maries has a seasonal E. T. of about 37". Another 37" of water is needed to compensate for seepage based on the average. The soil in the flood plain of Benewah County is likely to have a seepage or percolation rate much lower than the average for the western states.

Chuck thought the E.T. for wild rice would be closer to 25% more than that of alfalfa.

Pumping calculations to keep up with maximum E.T.:

43560 cubic feet = 1 acre foot

3 inch drop per day = 10890 cu. ft./ acre, i.e. $43560/4 = 10890$

10890×40 acres = 435,600 cu. ft.

$435,600 / 24$ hours = 18,150 cu. ft. per hr.

$18,150 / 3600$ seconds per hour = 5.042 cfs needed to keep

JUL 30 1981

up with maximum E.T., or, $5.042/40$ acres = .126 cfs per acre.

Pumping calculations to pump 42" over the season:

Assumptions: Runoff keeps the field filled until the end of June, pumping is from the beginning of July until September 15th. (77 days, 77days x 24 hours = 1848 hours = T)

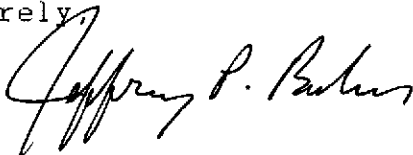
Equation: $Q = A \times D / T = \text{cu. ft. per sec.}$

$40 \text{ acres} \times 42 \text{ inches} / 1848 \text{ hours} = .909 \text{ cu. ft. per sec.}$

$.909 \times 3, \text{ rule of thumb in Calif.} = 2.727 \text{ cfs, or,}$
 $2.727/40 \text{ acres} = .068 \text{ cfs per acre.}$

In conclusion, I would like to request a flow rate of 5 cfs for my own 40 acre field(92-7175), or .126 cfs per acre and a flow rate of 8.19 cfs for my mother-in-law's 65 acre property(92-7090), also .126 cfs per acre. Of course, this flow rate will not be constant throughout the season but will cover the period of maximum E.T. Please help me with the proper paperwork for permits, licenses, etc. If you need any other information please let me know.

Sincerely,



Jeffrey P. Baker
11770 So. Elderberry Way
Sandy, UT 84092
(801) 571-84092

RECEIVED
JUL 28 1992

BENEFICIAL USE FIELD REPORT REVIEW

TO: FILE 92-7175
FROM: SHARLA CURTIS
RE: PRIORITY ADVANCE REVIEW
DATE: 30-JUL-1991

This review memo is prepared to show the process for determining what elements were involved in advancement of the priority.

	<u>DATE</u>	<u>JULIAN</u>
PERMIT		
Permit priority Date:	SEPTEMBER 24 1984	267
EXAM FEE NOTICE		
Exam Fee Notice Date:	APRIL 30 1986	120
Exam Fee/Info Sheet Received Date:	AUGUST 18 1986	230
Exam Fee or Info Due Date:	JUNE 29 1986	180
Days Late:		50 DAY(S)
NEW PRIORITY DATE		
Original Priority Date:	SEPTEMBER 24 1984	267
Total Days Late:		50 DAY(S)
New Priority Date:	NOVEMBER 13 1984	317

RECEIVED

JUL 08 1993



STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES

NORTHERN REGION

REMARKS / PHOTOS

PERMIT # 92-7175

DATE

INITIALS

6-30-87 Appt. made 7-8-87 (wed)

J.A.



Gate Valve



#1 Pump

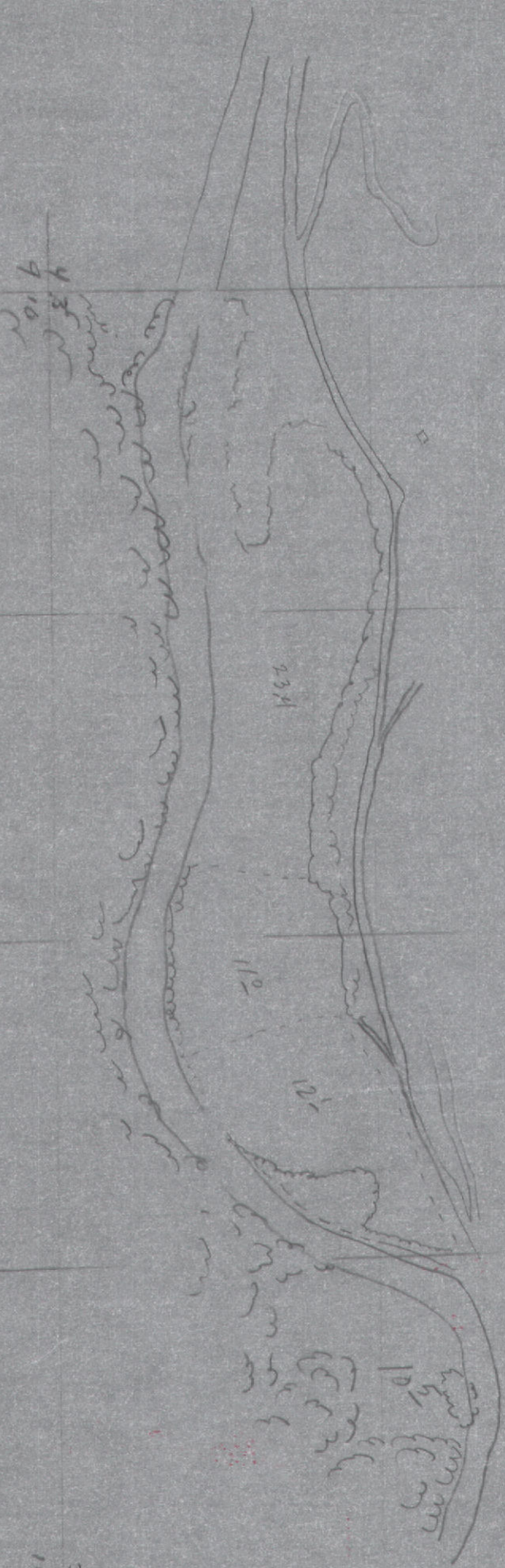


IMPROVED

JUL 08 1993



AERIAL NOT AVAILABLE
 TRACKING OF AERIAL BY JLC
 See Corr. BY comparison
 WITH A.I. PLAT

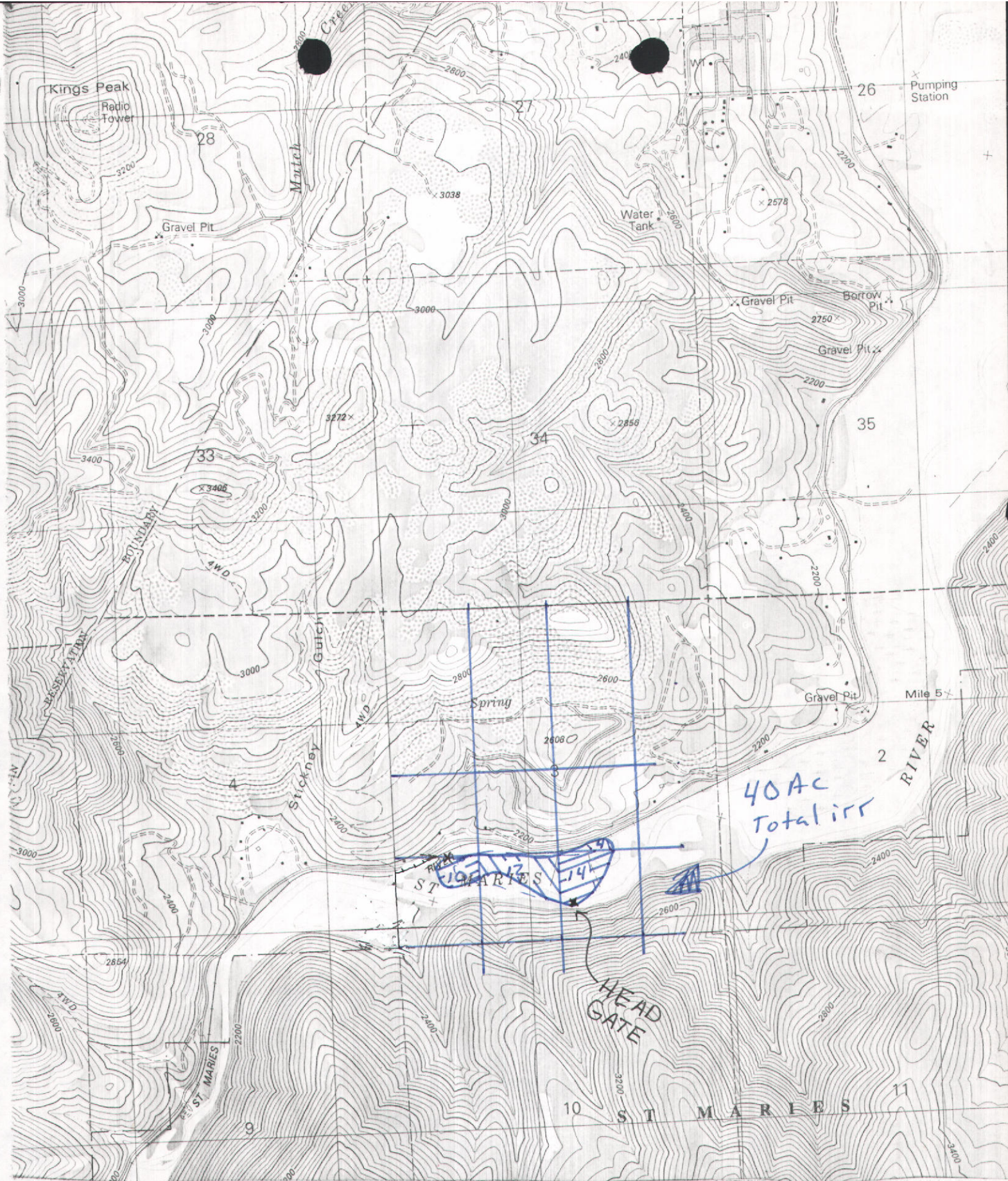


12
 11
 03
 46
 1

MICROFILMED

JUL 08 1993

92-7175



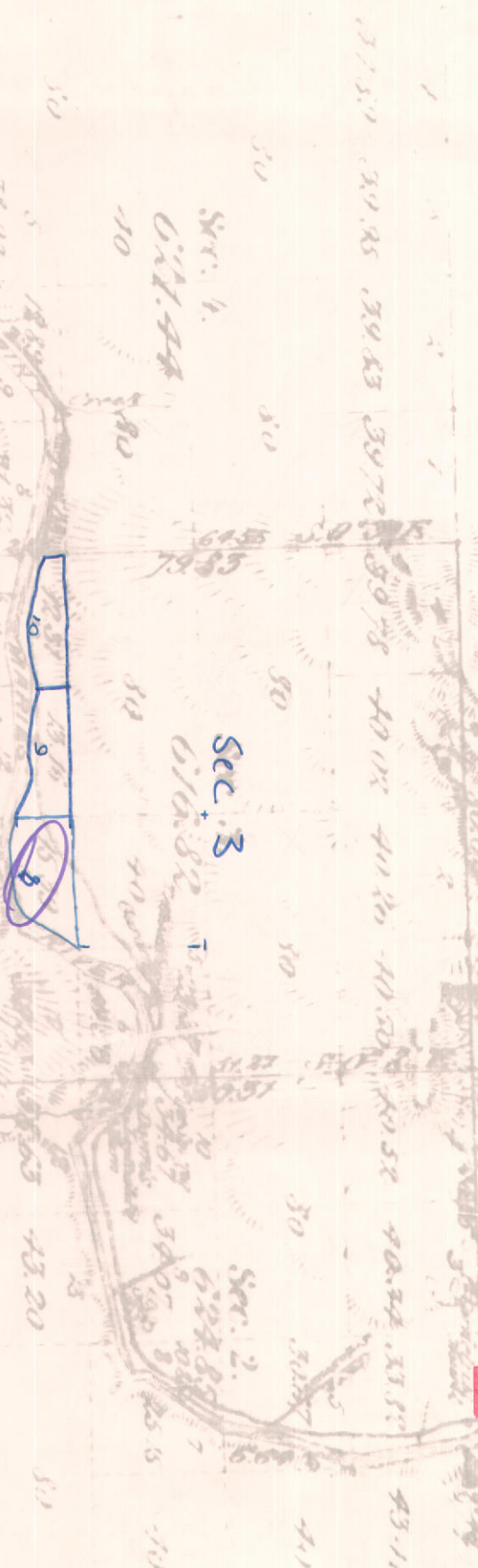
TWP. 45N RGE. 2W SEC. 3 MAP # G-56 MAP SCALE _____
 DATE OF EXAM 6-30-87 **MICROFILMED** PERMIT # 92-7175
7-8-87 JUL 08 1993

Range No 2 West

of the Boise

E d D

T45N R2W Sec 3 Gov't lots 8, 9, 10



MICROFILMED

JUL 08 1993

15 39
13 16
12 31
40 86

92-7175

745N R2W Sec 3 Gov't lots 8, 9, 10



Sec 3

RECEIVED

JUL 08 1993

15 39
13 16
12 31
40 86
←

92-7175

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES
BENEFICIAL USE FIELD REPORT

RECEIVED
JUN 24 1991

Department of Water Resources

A. GENERAL INFORMATION

Permit No. 92-7175

1. Owner: Jeffrey P. Baker Phone No. _____

Current Address: c/o St. Maries Wild Rye, Box 293, St. Maries, Idaho

2. Accompanied by: _____ EXAM. DATE: 6-30-87 7-8-87

Address: _____ Phone No. _____

Relationship to Permit Holder: _____

3. Source: St. Maries River and
~~Washed Creek~~ tributary to St. Joe River
~~Spring~~

B. OVERLAP REVIEW

1. Other water rights with same place of use: NONE

☐ Copies Attached

2. Other water rights with same point of diversion: NONE SEE REMARKS - TDK

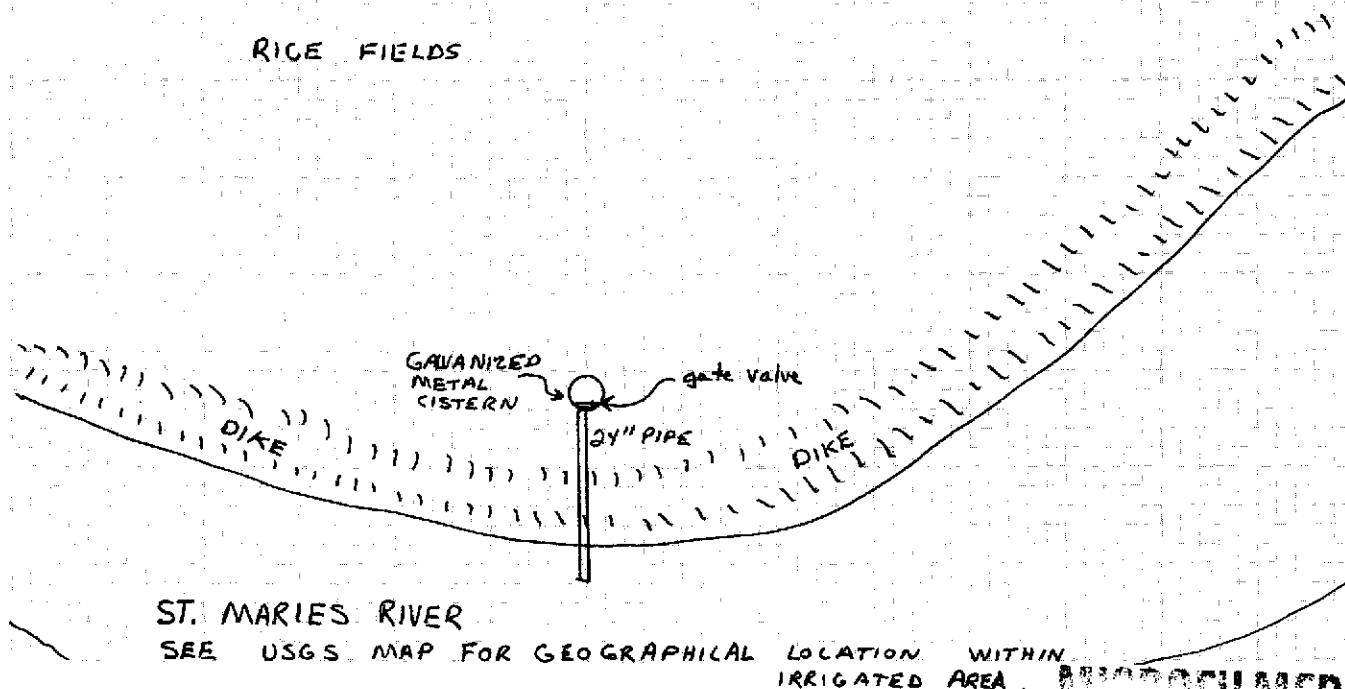
☐ Copies Attached

☐ Copies of Field Exam's Attached

C. SYSTEM DESCRIPTION

1. **Diversion System Diagram:** Indicate all major components and distances between components. Indicate weir size/ditch size/pipe i.d. as applicable. ☐ Alternative diagram attached

DRAWING BY JD 8/25/89 after being on site



Scale: 1" = _____

2. ☒ Copy of U.S.G.S. Quadrangle Attached
Showing location(s) of point(s) of diversion and
place(s) of use (required).

☐ Aerial Photo Attached
(required for irrigation of 10 acres or more)

☒ Photo of Diversion and System Attached
(required for all but single household domestic groundwater, and stockwater.)

RECEIVED
JUL 08 1993

System Description (continued)

3. **Narrative:** Description (As operating at time of measurement. Indicate pressure, number of sprinklers, etc.)

Springs and runoff fill field to be irr., #1 pump is used to pump water in when needed.

Gate, 24", is used to let water out when excess.

Flood irr. is used w/ Auger of 18" deep.

12" INTAKE TRACTOR PTO & PUMP, 6" OPEN DISCHARGE INTO FIELD FOR FLOOD IRR.

EXCESS WATER DISCHARGED INTO ST. MARIES RIVER WITHIN GLS(SW50) SEC. 3, T45N, R2W

☐ See Remarks on page 4 for continuation

- 4.

Well or Diversion Identification No.*	Motor Make	Hp	Motor Serial No.	Pump Make	Pump Serial No. or Discharge Size ^{TR}
Supplement	Crisa Full	65	—	—	~~10 to 8~~ " 12" ^{RED} + 06"

**Code to correspond with No. on map and aerial photo*

- 5. Point(s) of Diversion:**

[illegible]

- 6. Place(s) of Use:**

Indicate Method of Determination Map-permit

[illegible]

Total

Do not use this space

JUL 03 1993

Do not use this space

D. FLOW MEASUREMENTS

☐ Additional Data Sheets Attached

1.

Measurement Equipment	Type	Make	Model No.	Serial No.	Size	Calib. Date
PORTABLE METER						

2. Measurements:

~~NO measurement possible JPK~~
 $(7 \text{ RPM}) (0.001 \text{ AF/R}) (43500 \text{ R/AF}) = 5.08 \text{ cfs}$
 60 S/M
~~8.8 (75%) PUMP IS ON TRACTOR PTO & VARIES AS THROTTLE IS CHANGED.~~

E. FLOW CALCULATIONS

☐ Additional Computation Sheets Attached

1. Measured Method:

$$Q = 1.0 \text{ via permit}$$

2. Alternate Method for Checking Purposes:

$$Q_{\text{irr req.}} = .02(40) = .80 \text{ cfs} \quad \frac{(8.8)(1.75)(65)}{2 + 2.3(60)} = 3.06 \text{ cfs} \quad \text{Aprox. for irr.}$$

$Q_{\text{supplement from St. Maries River}}$

F. PUMP EFFICIENCY DATA (Optional)

Discharge Pressure: _____ psi x 2.31 = _____ ft (1); Dynamic pumping level: _____ ft (2)

Total Head: (1) + (2) = _____ (3) ; Flow rate: _____ cfs (4)

Water HP: (3) x (4) ÷ 8.8 = _____ (5)

Meter Input KW: 3.6 x _____ KH x _____ CTR or _____ MULT x _____ PTR x _____ N/ _____ T = _____ (6)

Meter Input HP: (6) x 1.34 = _____ (7)

Panel Input KW: _____ Ave PF x _____ Ave Volts x _____ Ave Amps x .001732 = _____ (6)

Panel Input HP: (6) x 1.34 = _____ (7) Efficiency: (5)/(7) x 100 = _____ %

G. VOLUME CALCULATIONS

1. Volume Calculations for Irrigation:

$$V_{\text{I.R.}} = (\text{Acres Irrigated}) \times (\text{Irrigation Requirement}) = \frac{40}{80} \times \frac{3.0}{245} = 120 \text{ AF}$$

$$V_{\text{D.R.}} = [\text{Diversion Rate (cfs)}] \times (\text{Days in Irrigation Season}) \times 1.9835 = 196$$

$$V = \text{Smaller of } V_{\text{I.R.}} \text{ and } V_{\text{D.R.}} = 120$$

2. Volume Calculations for Other Uses:

$$V_{\text{Storage for from irrigation}} = 18'' \times 40 \text{ AC} \times \frac{1 \text{ ft}}{12 \text{ in}} = 120 \text{ AF}$$

04/ JK
 60 AF
 JUL 08 1993

H. REMARKS AND OVERLAP REVIEW ANALYSIS

NONE

SAME SYSTEM AS #1 PUMP IS SAME AS #2 PUMP LISTED IN 91-07094
 92-07090

RETURN FLO SAME LEGAL AS P.D.

I. RECOMMENDATIONS

1. Recommended Amounts

Beneficial Use	Period of Use		Rate of Diversion	Annual Volume
	From	To	Q (cfs)	V (afa)
Irrigation	3-15	11-15	.80 cfs	120 - 60 AF TDK
STORAGE FOR IRR	3-15	11-15		60 AF TDK
IRR FM STORAGE	3-15	11-15		60 AF TDK
Totals:			.80 cfs	180 - 60 AF TDK

2. Recommended Amendments

- ☐ Change P.D. as reflected above
 ☐ Add P.D. as reflected above
 ☒ None
- ☐ Change P.U. as reflected above
 ☐ Add P.U. as reflected above
 ☐ Other

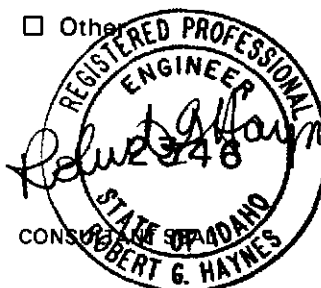
J. AUTHENTICATION

Field Examiner's Name Jennifer Argraves

Signature Jennifer Argraves

Certification Date _____

Field Report Preparation Date 7-8-87



K. Licensing recommendation shall be prepared by an Idaho Department of Water Resources employee on a computer printout attached hereto.

JUL 08 1987

4/8
RECEIVED
AUG 18 1986

STATE OF IDAHO

Department of Water Resources

DEPARTMENT OF WATER RESOURCES

EXAMINATION FEE INFORMATION

For Office Use Only
Fee Received \$100.00
Date 8-18-86
Receipt # 38926
Receipt by lg
Sent to S.O. 9/3/86

RECEIVED
SEP 5 1986

1. Permit No. 92-7175

ONE OF THE FOLLOWING BOXES SHOULD BE MARKED TO DESIGNATE YOUR CHOICE:

☒ I choose to have the department make the field examination of this permit; attached is the examination fee. (If this box is marked, complete items 1 thru 8.)

2. Permit Holder: Jeffrey P. Baker

3. Post Office Address: c/o Box 293, St. Maries, Id 83861

Telephone No. (208) 245-5835

4. Source of Water: St. Maries River and unnamed creek & spring

5. Extent of Use:

Domestic _____ (No. of households) Stockwater _____ (No. and type of stock)

Irrigation 40 (acres) Other/Remark _____

6. Total rate &/or volume for which proof is submitted 1.0 cfs 80 acre-feet

7. Show the date water was first diverted and beneficially used under this permit:

Spring 1985

8. Person to contact to accompany the department representative during the field examination:

Al W. Bruner (Name)

PO Box 293, St. Maries, Id 83861 (Address) (208) 245-5835 (Telephone Number)

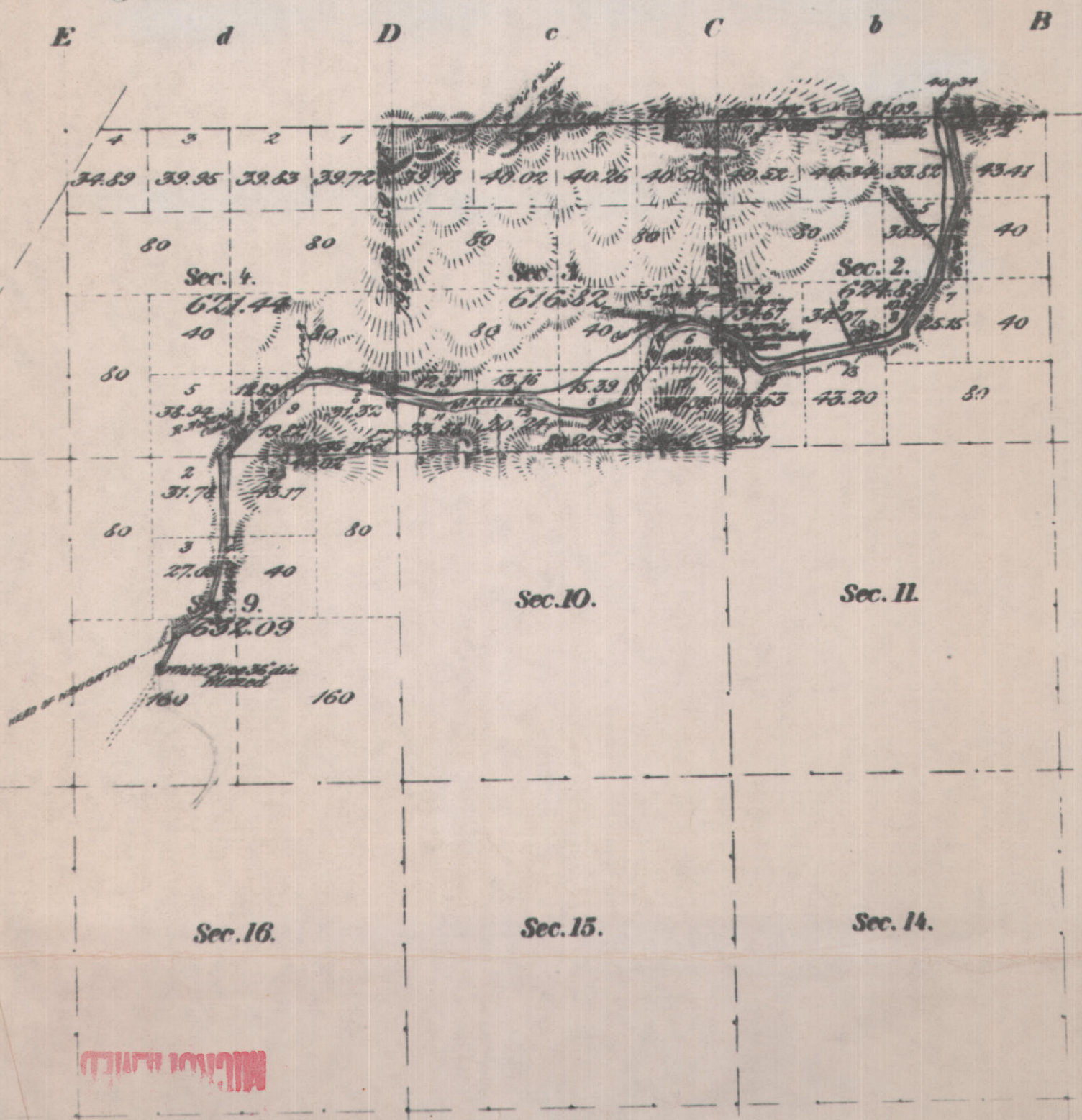
☐ I choose to have the field examination conducted by a certified water right examiner. Attached is a statement from the certified examiner I have selected verifying that he has been retained to conduct the examination. (If this box is marked, complete items 1 thru 7.)

Date _____

Jeffrey P. Baker signed in error
Signature of Permit Holder (and title, if appropriate)

JUL 08 1993

of the Boise Meric



MEMORANDUM

TO: File

FROM: Jim Johnson

DATE: November 2, 1984

RE: Excessive Flow Justification

A review has been made of the request for 1.0 cfs rate of diversion for 40 acres of irrigated rice.

Rice is an unusual crop and no known water requirement data is available. The excess amount over 0.02 cfs/ac is only 0.2 cfs. The area proposed is not located in a known water shortage area. Therefore, the rate, even though greater than 0.02 cfs/ac, may not have an adverse impact on other water rights.

The permit holder should be required to maintain water diversion records to show that the amount diverted has been used beneficially.

0000000000

RECEIVED

OCT 3 1984

Department of Water Resources
Northern District Office

Ident. No. 92-7175

FACT SHEET
for
Excessive Irrigation Flows

This information is to be submitted with any application for permit for which the irrigation rate of flow requested is more than 0.02 cfs per acre. One exception is the 0.03 cfs per acre is allowed for up to five (5) acres.

Soil Type and Soil Profile: Silt-loam with porous clay underlayment, some Plywell muck.

Soil Water Holding Capacity: .15-.21 inches per inch

Soil Intake Family (if known): Intake rate is .6" to 2" per hour

Field Slope: Essentially level but sloped slightly to inlet/outlet structure.

Anticipated Crops: Wild rice.

Method of Irrigation: Continuously flooded during growing season.

Remarks: Wild rice crop will be fall seeded. Surface water will be retained with

earliest spring runoff. Water level will be increased to the desired 18" to 24"

at time of heavy spring runoff. Water will be pumped from St Maries River as

needed to maintain above level during growing season. The 1.0 cfs is the minimum
anticipated periodic flow needed to maintain desired level.

NOTE: Please contact Al W. Bruner (consultant for the project) 689-3259 for any additional technical information which may be needed.

10/17/84