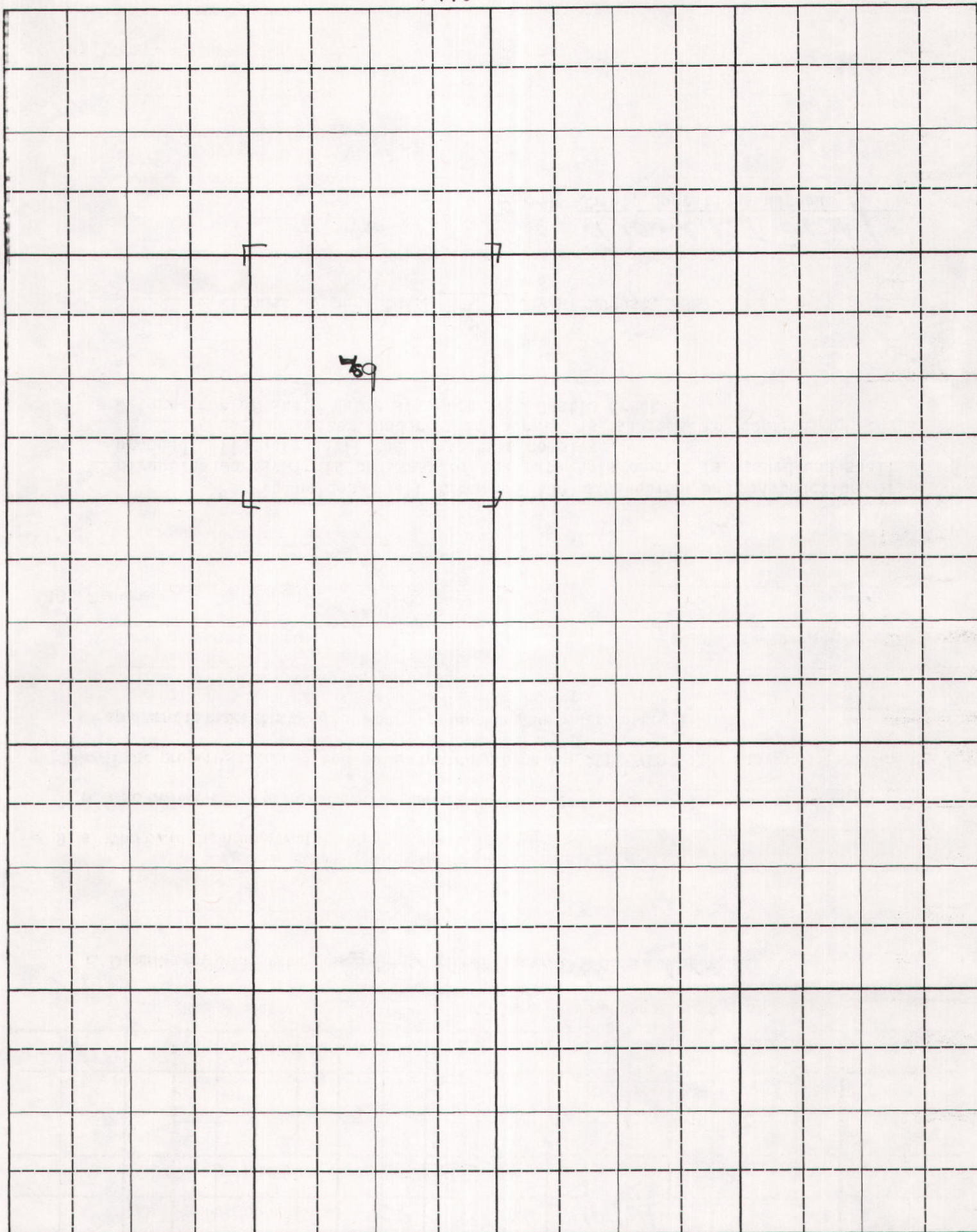


11. Map of proposed project: show clearly the proposed point of diversion, place of use, section number, township and range number.

R1W

T8S



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.

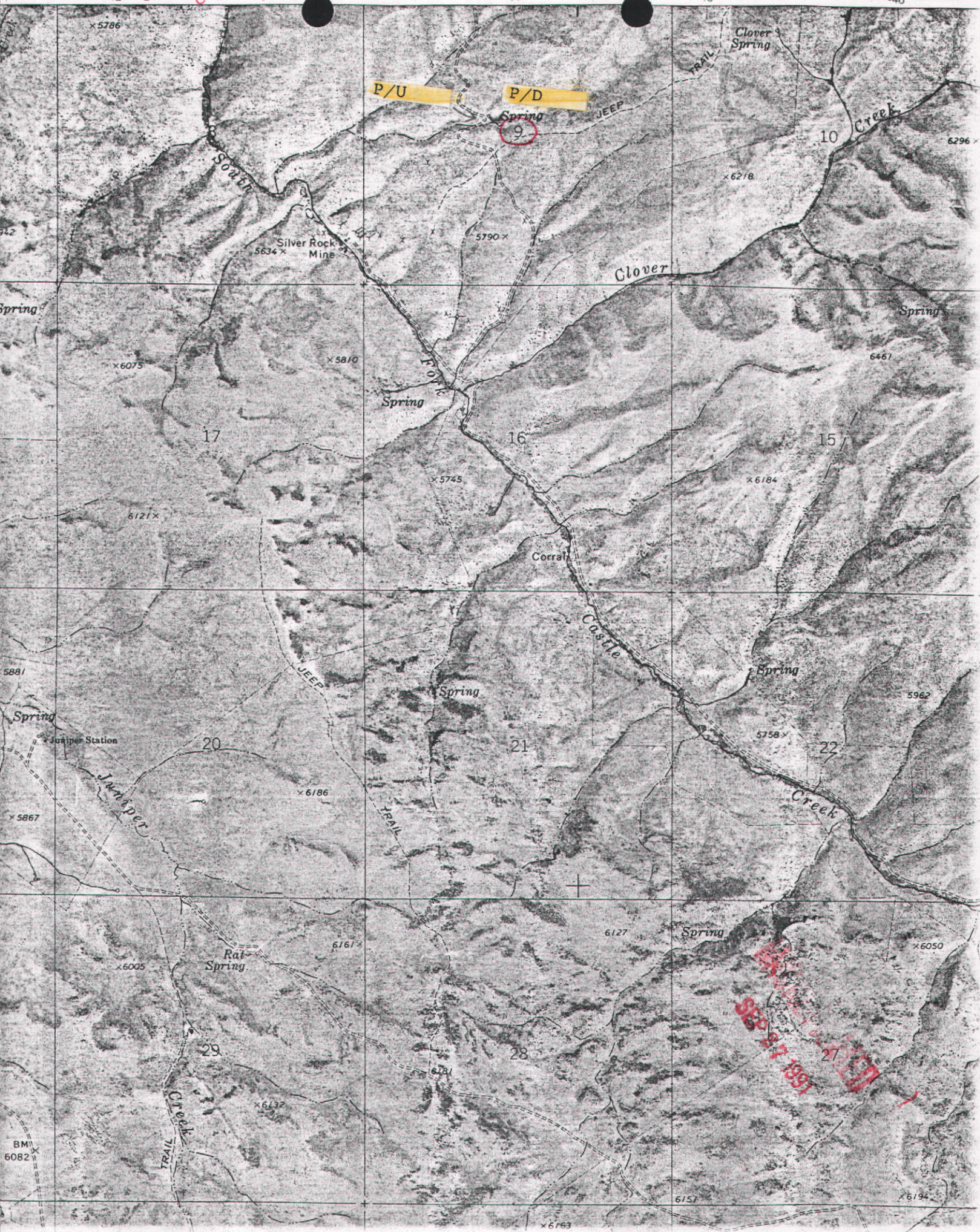
Bruneau Area Manager

Clemson Smith

(Applicant)

RECEIVED

Bruneau Area



THEORETICAL FLOW CALCULATIONS:

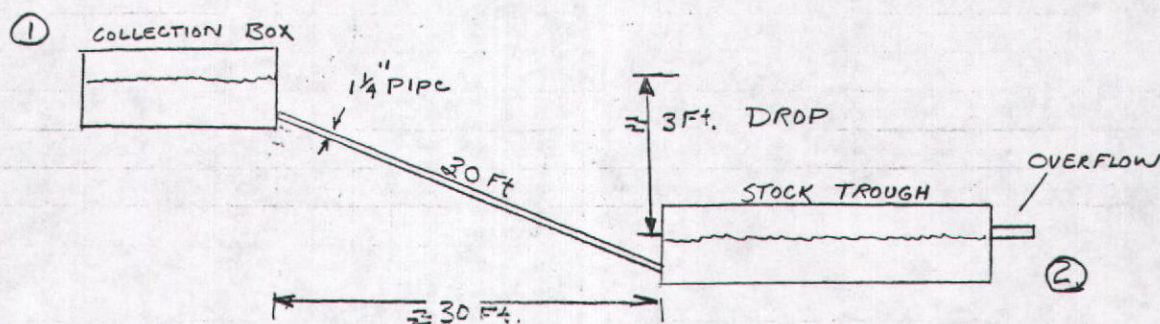
BLM SPRING COLLECTION BOX - STOCKWATER TROUGH SYSTEM

STANDARD SYSTEM : $1\frac{1}{4}$ in. galv. pipe

Distance from spring to trough - 10-30 Ft.

Pipe slope - 10% EST.

Spring will produce more than pipe will carry



$$\frac{V_1^2}{2g} + \frac{P_1}{\rho_1} + z_1 = \frac{V_2^2}{2g} + \frac{P_2}{\rho_2} + z_2 + h_L$$

Z = elevation

$V = \text{Velocity}$

$g =$ accel. of gravity

$$h_f = \text{Pipe friction loss}$$

$$Z_1 - Z_2 = \frac{V_2^2}{2g} + h_L$$

Darcey - Weisback Eq. $h_L = \frac{V^2}{2g} [f \frac{L}{D} + K_{loss}]$

$f =$ resistance coef.

$L =$ pipe length.

$D =$ Pipe dia

$K =$ loss coef

$$g = 32.2 \text{ ft/s}^2$$

$$h_L = \frac{V^2}{2g} [f(30\text{ Ft}/1.115\text{ Ft}) + K]$$

$$K = 2(5) + 1.0 + 1.0$$

ENTRANCE EXPANSION Misc Fittings
ELBOWS

$$K = 3$$

$$h_L = \frac{V^2}{2g} \quad [260.87 \text{ f} + 53]$$

EL BOWS
+ SEP 27 1991

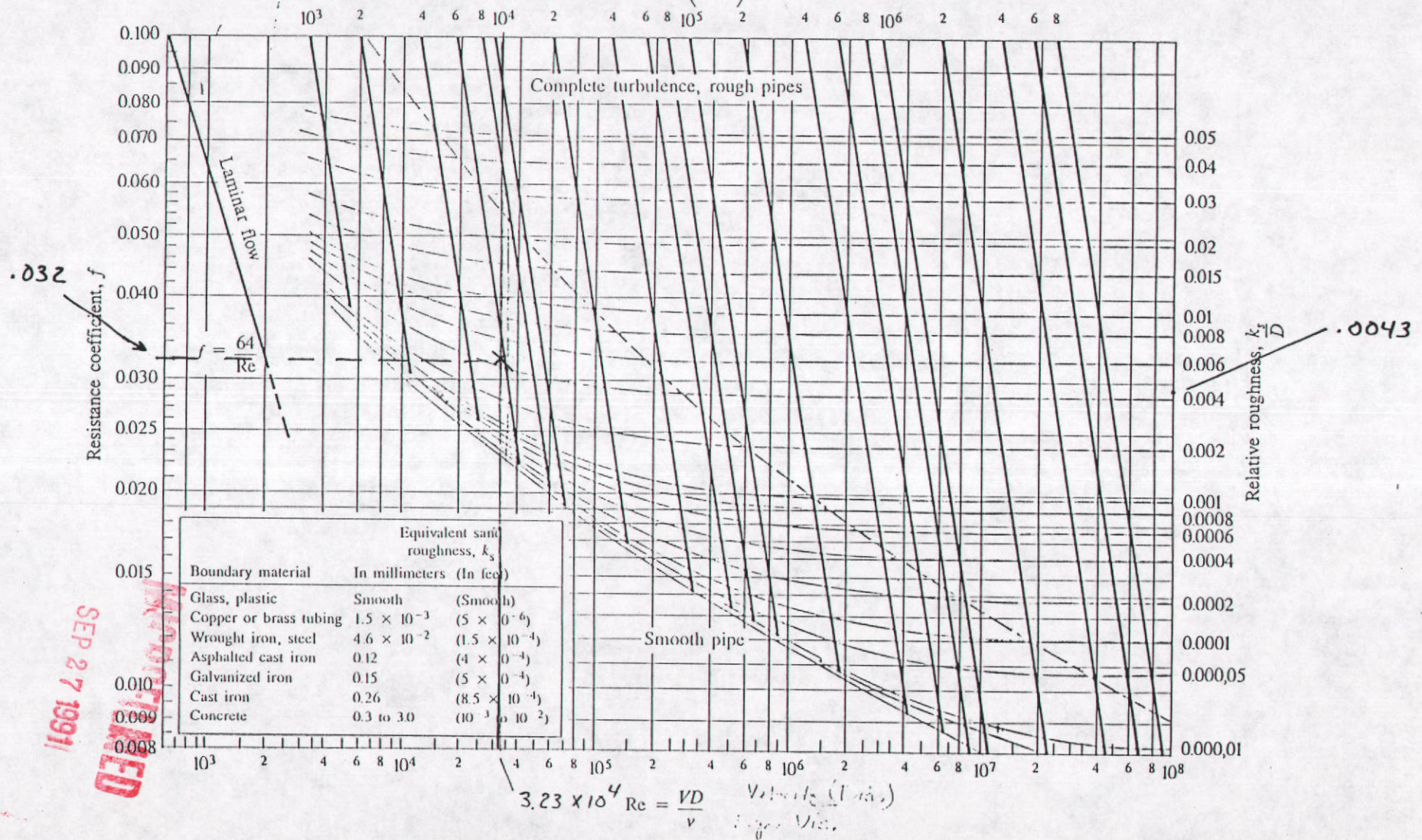
with permission from the
A.S.M.E.]

57-7413

BLM.

10.17

$$Re f^{1/2} = \frac{D^{3/2}}{v} \left(\frac{2gh_f}{L} \right)^{1/2}$$



MOODY DIAGRAM

State of Idaho
Department of Water Resources

WATER RIGHT LICENSE

WATER RIGHT NO. 57-07413

Priority: March 22, 1983

Maximum Diversion Rate:
Maximum Diversion Volume:¹

0.05 CFS
4.8 AF

This is to certify, that U.S. DEPT. OF INTERIOR
BUREAU OF LAND MANAGEMENT
IDAHO STATE OFFICE
3380 AMERICANA TERRACE
BOISE ID 83706

has complied with the terms and conditions
of the permit, issued pursuant to Application for Permit dated March 4, 1983; and
has submitted Proof of Beneficial Use on September 19, 1988. An examination indicates
that the works have a diversion capacity of .050 cfs of water from:

SPRING tributary to CASTLE CREEK, SOUTH FORK

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>
STOCKWATER	03/15 to 11/30	0.05 CFS	4.8 AF
WILDLIFE	01/01 to 12/31	0.05 CFS	4.8 AF
	Totals	0.05 CFS	4.8 AF

LOCATION OF POINT(S) OF DIVERSION:

SENW , Sec. 9, Township 08S, Range 01W
OWYHEE County

PLACE OF USE: STOCKWATER
TWN RGE SEC

08S 01W 9 SENW

PLACE OF USE: WILDLIFE, same as STOCKWATER use

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.

State of Idaho
Department of Water Resources

WATER RIGHT LICENSE

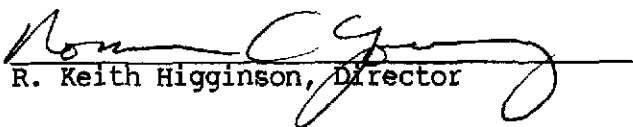
WATER RIGHT NO. 57-07413

CONDITIONS/REMARKS:

5. Use of water under this water right is subject to control by the watermaster of State Water District No. 57C.
6. Stockwater use is for 500 head.
7. Source known locally Gravel Girty Spring.

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 4TH day of SEPTEMBER, 1971.

Attest for


R. Keith Higginson, Director

BEFORE THE DEPARTMENT OF WATER RESOURCES
OF THE STATE OF IDAHO

IN THE MATTER OF PERMIT NO. 57-7413 IN THE
NAME OF BUREAU OF LAND MANAGEMENT

)
) ORDER OF REINSTATEMENT
)
)

WHEREAS, the Department issued the above-captioned permit with the condition that proof of construction of works and application of water to beneficial use (proof of beneficial use) be submitted on or before September 1, 1988; and,

WHEREAS, the Department notified the permit holder by certified mail that proof was due and instructed the permit holder of the steps to be taken to submit the proof of beneficial use; and,

WHEREAS, on September 1, 1988 the permit lapsed for failure of the permit holder to submit proof of beneficial use; and,

WHEREAS, Section 42-218a of the Idaho Code provides that a permit may be reinstated upon a showing of reasonable cause within sixty days of the date of lapsing; and,

WHEREAS, the permit holder has provided a reasonable showing why the permit should be reinstated by submitting proof of beneficial use on September 19, 1988;

IT IS, THEREFORE, HEREBY ORDERED that Permit No. 57-7413 be REINSTATED and the priority advanced to March 22, 1983.

Dated this 6th day of October, 1988.


L. GLEN SAXTON
Chief, Operations Bureau


DEC 08 1988

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES
APPLICATION FOR PERMIT

694

MAR 11 1983

APPROVED

To appropriate the public waters of the State of Idaho

U.S. Dept. of Interior (see remarks)

Bureau of Land Management

1. Name of applicant

Boise District Office

Phone 334-1582

Post office address

3948 Development Ave.

Boise, Idaho 83705

2. Source of water supply

Gravel Girty Spring

which is a tributary of

sinks

3. Location of point of diversion is

SE

$\frac{1}{4}$ of

NW

$\frac{1}{4}$ of Section

9

Township

8S

Range

1W

B.M.

Owyhee

County, additional points of diversion if any:

4. Water will be used for the following purposes:

Amount .12 for livestock purposes from 3/15 to 11/30 (both dates inclusive)
(cfs or acre-feet per annum)

Amount .1 for wildlife purposes from 1/1 to 12/31 (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. .22 cubic feet per second and/or b. _____ acre-feet per annum.

6. Proposed diverting works:

a. Description of ditches, flumes, pumps, headgates, etc.

Headbox and one trough
(500 gal.) installed

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 _____ to _____ 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

4 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: SE $\frac{1}{4}$ of NW $\frac{1}{4}$ of Section 9 Township 8S

Range 1W 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 500 range cattle

(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: wildlife

b. If water is for irrigation, indicate acreage in each subdivision in the tabulation below:

[illegible]

Total number of acres to be irrigated

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

U. S. Govt

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

U. S. Court

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

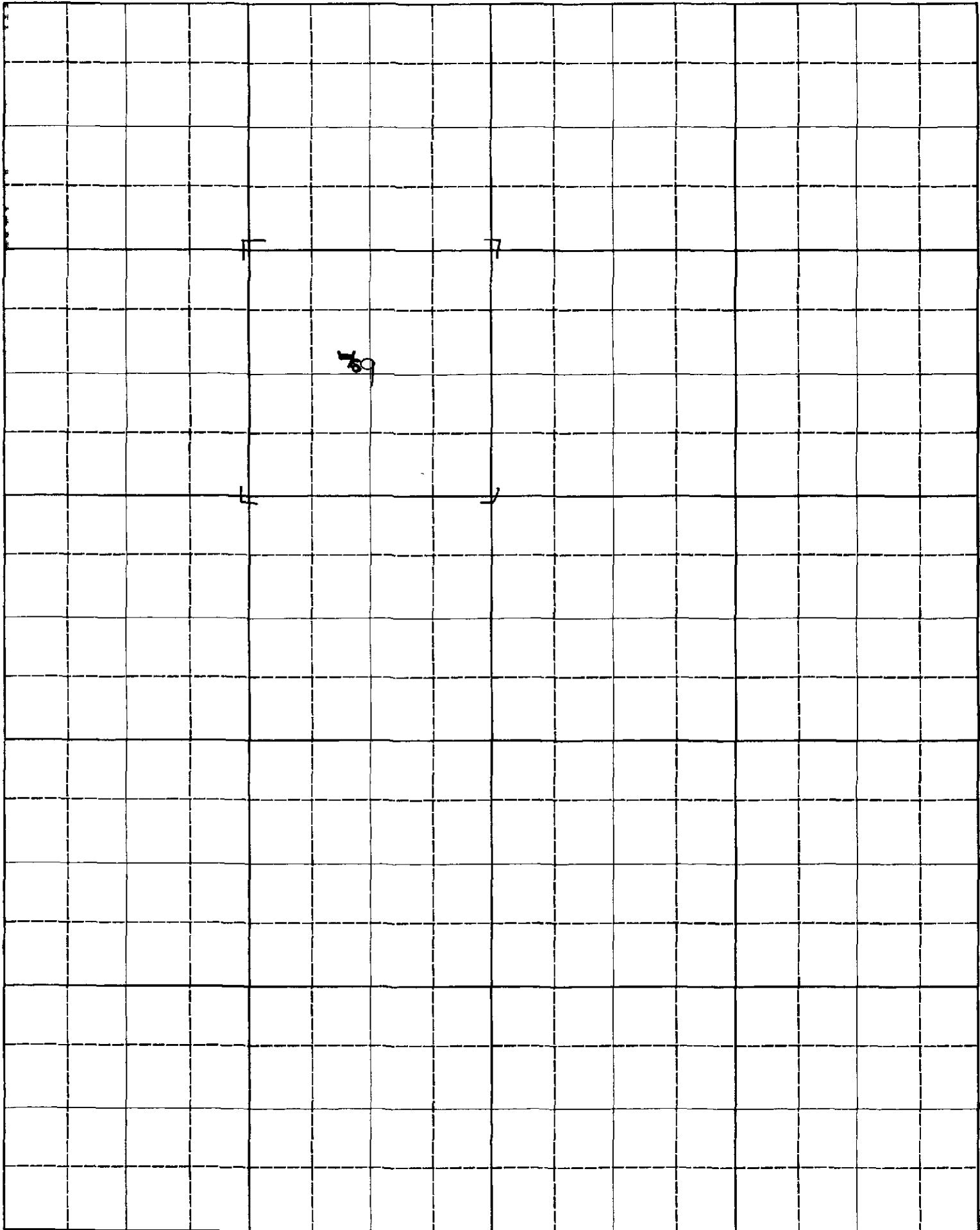
10. Remarks Gravel Girty Spring - BLM Project No is 6531

Applicants include BLM and the Castle Creek Grazing Association, Orona Id in the Castle Creek allotment 0801

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

R1W

T8S



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.

Bruneau Area Manager

Cherron Smith
(Applicant)

Proposed Priority 3/4/83

Received by SRE Date 3-9-83 Time 2:30
Preliminary check by GHS Fee \$ 45.00 ID-910-BP3-0003
Receipted by JP Date 8-9-83 # 30178
Publication prepared by JP Date 6/28/84
Published in Quarterly Report
Publication dates 7/1 & 7/11/84
Publication approved JP Date 7/18/84
Protests filed by: none

Copies of protests forwarded by _____
Hearing held by _____ Date _____
Recommended for approval denial by DBS tw

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. 57-7413, 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 September 1, 1988.
- 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: Permit holder shall commence the excavation or construction of diverting works within one year of the date this permit is issued and shall proceed diligently until the project is complete.
Use of water under this permit is subject to control by the watermaster of State Water District 57C, Castle Creek.

Witness my hand this 2 day of August, 1984.

David R. Tutbill
Acting Chief, Operations Bureau

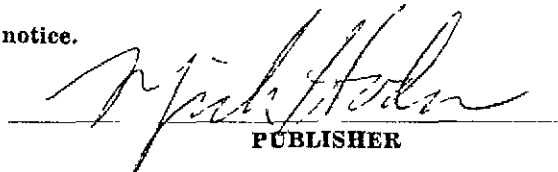
PROOF OF PUBLICATION

STATE OF IDAHO, County of Owyhee, s.s.

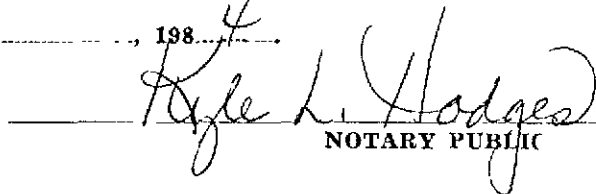
I, MICK HODGES, being first duly sworn, on oath says that he is the Publisher of the OWYHEE NUGGET, a newspaper of general circulation, published weekly by MICK HODGES, publisher and printer thereof, at Marsing, County of Owyhee, State of Idaho;

That the annexed notice was published in said newspaper once a week and every week for 2 consecutive weeks, the first publication being on the 4 day of July, 1984, and the last publication being on the 11 day of July, 1984;

That the said newspaper has been published continuously and uninterruptedly in said county during a period of more than seventy - eight consecutive weeks prior to the first publication of the attached notice.


PUBLISHER

Subscribed and sworn to before me this 11 day of

July, 1984.

NOTARY PUBLIC

My commission expires 3-86

(SEAL)

RECEIVED
JUL 12 1984

Department of Water Resources
Western Regional Office

NOTICE OF APPLICATION FOR WATER RIGHTS

The following applications have been filed to appropriate the public waters of the State of Idaho:

57-7412

U.S. DEPT. OF INTERIOR
BUREAU OF LAND MGMT.,
IDAHO STATE OFFICE, 3380
AMERICANA TERRACE,
BOISE, ID 83706

Source: RIM SPRING NUMBER
TWO trib to SINKS

Date Filed: 03/04/1983

Diversion Pt: SWNW Sec 21 T 08S
R 01W

Use: STOCKWATER (0.12 CFS)
WILDLIFE (0.10 CFS)

In: SWNW Sec 21 T 08S R 01W

57-7413

U.S. DEPT. OF INTERIOR
BUREAU OF LAND MGMT.,
IDAHO STATE OFFICE, 3380
AMERICANA TERRACE,
BOISE, ID 83706

✓ Source: GRAVEL GIRTY
SPRING trib. to SINKS

✓ Date Filed: 03/04/1983

✓ Diversion Pt: SENW Sec 09 T 08S
R 01W

✓ Use: STOCKWATER (0.12 CFS)
WILDLIFE (0.10 CFS)

✓ In: SENW Sec 09 T 08S R 01W

57-7414

U.S. DEPT. OF INTERIOR
BUREAU OF LAND MGMT.,
IDAHO STATE OFFICE, 3380
AMERICANA TERRACE,
BOISE, ID 83706

Source: BLACK BUTTE SPRING
trib to SINKS

Date Filed: 01/03/1983

Diversion Pt: NWSW Sec 28 T 07S
R 01W

Use: STOCKWATER (0.10 CFS)
WILDLIFE (0.10 CFS)

In: NWSW Sec 28 T 07S R 01W

57-7415

U.S. DEPT. OF INTERIOR
BUREAU OF LAND MGMT.,
IDAHO STATE OFFICE, 3380
AMERICANA TERRACE,
BOISE, ID 83706

Source: CASTLE CREEK,
NORTH FORK trib. to SNAKE
RIVER

Date Filed: 02/25/1983

Diversion Pt: NWSW Sec 14 T 06S
R 02W

Use: STOCKWATER (0.03 CFS)
WILDLIFE (0.03 CFS)

In: NWSW Sec 14 T 06S R 02W

✓ The permits will be subject to all
prior water rights. Protests must be
filed with the Director, Dept of
Water Resources, Western Region,
Statehouse, Boise, Idaho 83720 on
or before JULY 23, 1984.

Ken Dunn, Dir.

Published in the Owyhee Nugget,
Marsing and Homedale, Owyhee
County, Idaho 7/4 & 7/11/1984.

September 9, 1991

U.S. DEPT. OF INTERIOR
BUREAU OF LAND MANAGEMENT
IDAHO STATE OFFICE
3380 AMERICANA TERRACE
BOISE ID 83706

RE: WATER RIGHT NO. 57-07413

Dear Water Right Holder(s):

Enclosed herewith is a copy of the Water Right License issued on the above referenced permit.

Sincerely,

SHARLA CURTIS
Technical Records Specialist

SC:blm

Enclosure

SEP 27 1991

August 19, 1991

U.S. DEPT. OF INTERIOR
BUREAU OF LAND MANAGEMENT
IDAHO STATE OFFICE
3380 AMERICANA TERRACE
BOISE, ID 83706

RE: WATER RIGHT NO. 57-07413

Dear Water Right Holder(s):

Enclosed is a draft copy of the license proposed to be issued on the above referenced water right.

This right is currently being reviewed by this office for licensing. The enclosed preliminary copy is subject to change upon further administrative review.

We ask that you review the proposed license and if you do not concur with the information, please let us know within 10 days.

Sincerely,

SHARLA CURTIS
Technical Records Specialist

SC:blm

Enclosure

LICENSE REVIEW CHECKLIST

Permit No. 57-7413

Name/Address change? ok ✓

Priority date Advance? yes no ✓
 Memo to advance n/a
 Order to reinstate needed? yes no ✓
 Total cfs Limited by fee ✓
 Limited by capacity ✓
 Total volume Limited by flow ✓
 Chart checked for AF rate/ac n/a
 Capacity Actual measurement checked n/a
 Theoretical checked ✓
 If greater than permit, check for other rts

Source Changed? yes no ok
 If so, is memo needed to clarify?

P/D Verify with map ✓ permit ✓
 More than one per 44? Remember remark n/a
 Check p/d overlap n/a

Uses Check irrigation period of use w/ chart n/a

P/U Verify with map ✓ permit ✓
 > 5 acres irrigated, run overlap n/a

Remarks More than one p/d in 44 n/a
 Description of non-irrig uses ✓
 Special overlap condition n/a

Conditions -	Dates/Misc. -
Measuring device <u> </u>	Water Dist <u>✓</u>
W.Master control <u>not</u>	App Rec'd <u>✓</u>
Overlap <u> </u>	Proof Rec'd <u>✓</u>
Water quality <u> </u>	
Other <u> </u>	

CHECK FOR ADJ. CLAIM Needed according to proof filed
 Filed - needs amended
 Add'l fee required
 Not filed -
 Not needed

Comments/Changes to Examiner's Recommendations:

License 10-day ✓ 30-day

Back of field report signed?
 Reviewer Date 8/2/91 Review time min.

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES

57-7413
Permit No.

Staff Analysis Sheet
for
Beneficial Use Field Report

A. Prior to Conducting the Exam, the File Contains:

- ☒ Blank Field Report Form
☒ Copy of Permit
☒ Copies of any Amendments/Orders with conditions of approval
NO Well Inspection Form Needed
☒ Copy of U.S.G.S. Quad
None Check for Government Lots. If so, make a copy of Government Plat
Check of P/D index 12-27-89 KKC (Initial and date)
Overlap? ☐ yes ☒ no If yes: ☐ copy of exam(s) attached?
Type of Overlap? ☐ Add acres or uses to existing system
☐ Increase rate of flow or volume
☐ Other: _____

- Check of P/U index 12-27-89 KKC (Initial and date)
Overlap? ☐ yes ☒ no If yes: ☐ copy of water right(s) attached?
Type of Overlap? ☐ Increase rate of flow or volume
☐ Add P/D's
☐ Increase number of acres within tracts
☐ Other: _____

Aerial Photo

- Required? ☐ yes ☒ no If yes: ☐ copy attached?
Scheduling Letter sent? _____ (Initial and date)
☐ Appointment made and telephone conversation memo attached

B. After Conducting the Exam, the File Contains:

- ☐ Fully completed and signed Field Report Form
☐ Photographs of Point of Diversion and Place of Use

C. Review and Processing:

- Exam Completed 2-5-90 Kelly K. Christensen (Signature of examiner and date)
Exam Reviewed by Senior Water Resource Agent SFW 2/8/91 (Initial and date)
Exam Reviewed by Manager of Regional Office Don 2/22/91 (Initial and date)
Exam Date Entered in Computer ✓ at (Initial and date)
Exam sent to State Office 3-8-91 at (Initial and date)
Copy of Staff Analysis Sheet sent to Manager of Regional Office and Original
Refiled in White File _____ (Initial and date)

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES
BENEFICIAL USE FIELD REPORT

RECEIVED
MAR 13 1991

Department of Water Resources

A. GENERAL INFORMATION

- 1 Owner: BUREAU OF LAND MANAGEMENT Permit No. 57-7413
Current Address 3948 DEVELOPMENT AVE. Phone No. 334-9200
BOISE ID 83705
2 Accompanied by RAY MITCHELL EXAM DATE 1-12-90
Address _____ Phone No _____
Relationship to Permit Holder RANGE TECH
3 Source: SPRING tributary to SOUTH FORK CASTLE CREEK

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 ☐ 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 id as applicable. ☐ Alternative diagram attached

Scale: 1" = _____

- 2 ☒ Copy of U S G S. Quadrangle Attached ☐ Aerial Photo Attached
Showing location(s) of point(s) of diversion and (required for irrigation of 10 acres or more).
place(s) of use (required).
☐ Photo of Diversion and System Attached
(required for all but single household domestic groundwater, and stockwater).

System Description (continued)

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

THE SYSTEM IS A SPRING DEVELOPED VIA A HEADBOX BEING PIPED TO A TROUGH. (500 GAL CAPACITY).

THE SPRING IS LOCALLY KNOWN AS GRAVEL GIRTY SPRING WITHIN BLM PROJECT # 6531 UNDER THE CASTLE CREEK ALLOTMENT #0801. USE IS FOR 500 HEAD OF RANGE CATTLE AND MISC WILDLIFE.

PIPE SIZE USED IS 1/4" ^{GALV.} DIA FROM SPRING TO TROUGH.

☐ 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
	N/A				

*Code to correspond with No on map and aerial photo

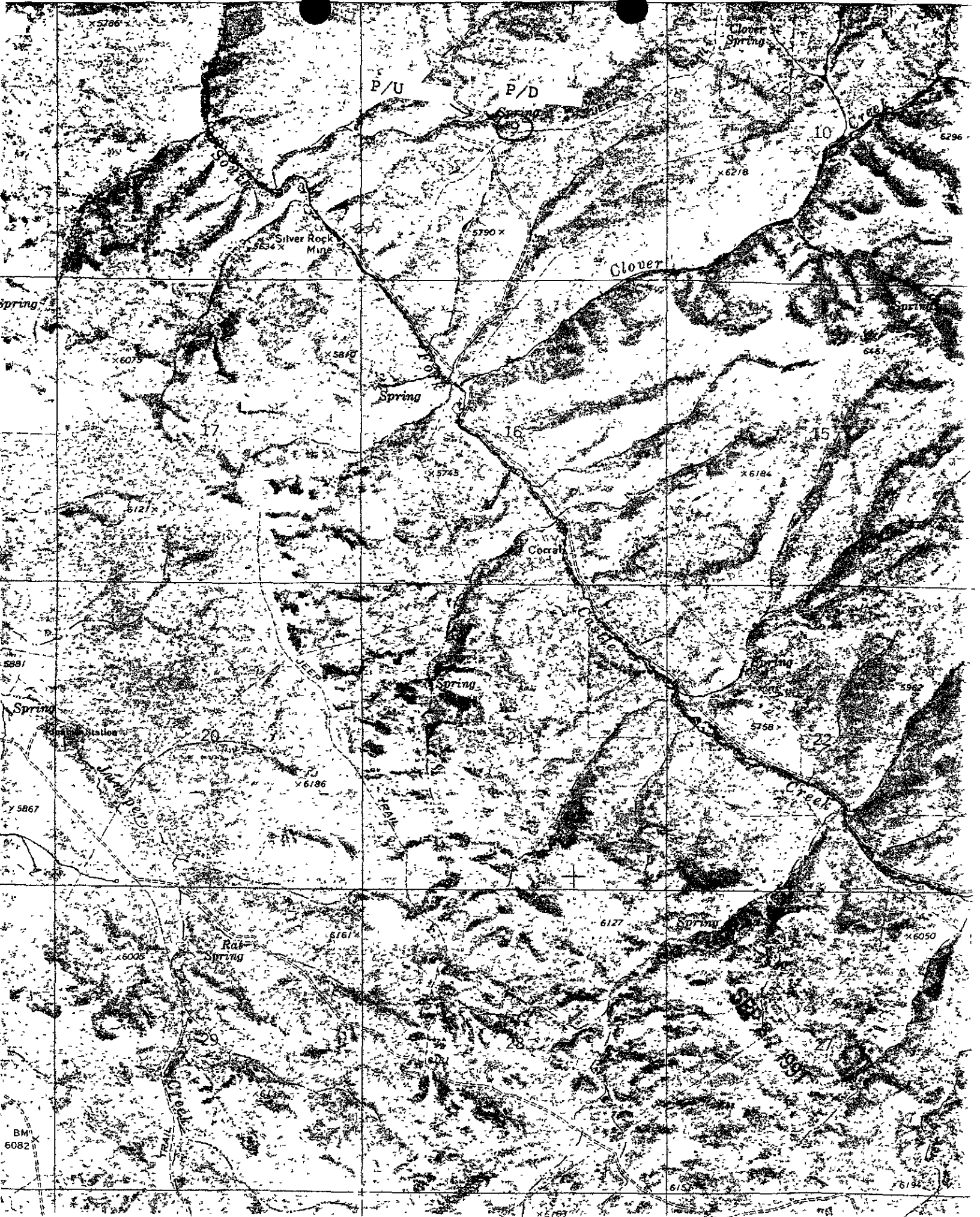
5 **Point(s) of Diversion:**

Ident. No.	Gov't. Lot	1/4	1/4	1/4	Sec.	Twp.	Rge.	County	Method of Determination/Remarks
		SE	SE	NW	9	8S	1W	DWYHKE	

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

Indicate Method of Determination

Twp.	Rge.	Sec.	NE 1/4				NW 1/4				SW 1/4				SE 1/4				Totals
			NE 1/4	NW 1/4	SW 1/4	SE 1/4	NE 1/4	NW 1/4	SW 1/4	SE 1/4	NE 1/4	NW 1/4	SW 1/4	SE 1/4	NE 1/4	NW 1/4	SW 1/4	SE 1/4	
8S	1W	9								5/11									



Do not use this space

D. FLOW MEASUREMENTS

☐ Additional Data Sheets Attached

1.

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

2. Measurements:

NONE MADE
SEE ATTACHMENT

E. FLOW CALCULATIONS

☒ Additional Computation Sheets Attached

1 Measured Method

2 Alternate Method for Checking Purposes:

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 0.01732 = _____ (6)

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

G. VOLUME CALCULATIONS

1 Volume Calculations for Irrigation:

$V_{IR} = (\text{Acres Irrigated}) \times (\text{Irrigation Requirement}) =$ _____

$V_{DR} = [\text{Diversion Rate (cfs)}] \times (\text{Days in Irrigation Season}) \times 1.9835 =$ _____

$V = \text{Smaller of } V_{IR} \text{ and } V_{DR} =$ _____

2 Volume Calculations for Other Uses

$0.05 \times 260 \times 1.9835 = 25.8 \text{ AFA}$
 $500 \text{ HEAD} \times 0.0134 \times \frac{260}{365} = 4.78 \text{ AFA}$

WILD LIFE THE SAME

H. REMARKS AND OVERLAP REVIEW ANALYSIS

NO OVERLAP FOUND

PERMIT IS FOR LIVESTOCK (SODHEAD)	@	0.12 CFS
WILDLIFE (MISC)	@	0.10 CFS
TOTAL		0.22 CFS
THEORETICAL CALCULATION	-	0.05 CFS RECOM.
LEGAL LIMIT FOR SODHEAD	-	0.12 CFS

I. RECOMMENDATIONS

1 Recommended Amounts

Beneficial Use	Period of Use		Rate of Diversion Q (cfs)	Annual Volume V (afa)
	From	To		
LIVESTOCK	3-15	11-30	0.05 CFS	4.8 AFA
WILDLIFE	1-1	12-31	0.05 CFS	4.8 AFA
Totals:			0.05 CFS	4.8 AFA

2. Recommended Amendments

- ☐ Change P.D. as reflected above ☐ Add P.D. as reflected above
☐ Change P.U. as reflected above ☐ Add P.U. as reflected above

☒ None

☐ Other

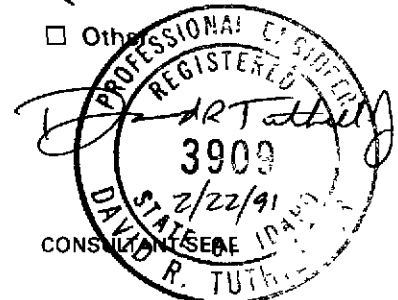
J. AUTHENTICATION

Field Examiner's Name KELLY K. CHRISTENSEN

Signature Kelly K. Christensen

Certification Date _____

Field Report Preparation Date 2-5-90



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

THEORETICAL FLOW CALCULATIONS:

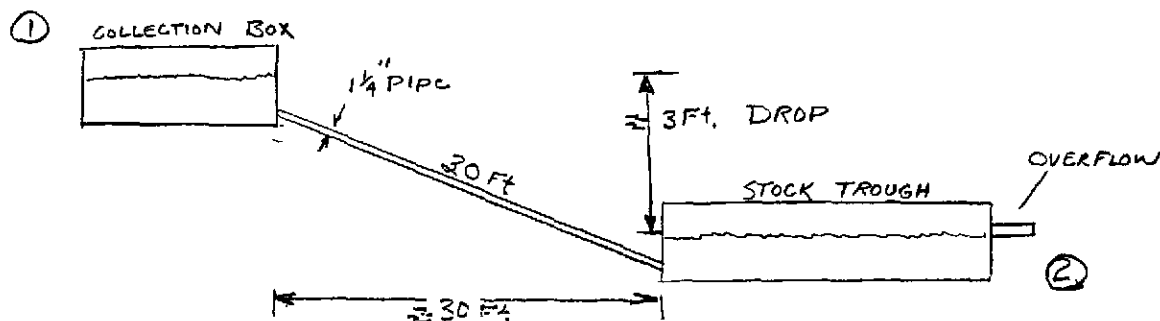
BLM SPRING COLLECTION BOX - STOCKWATER TROUGH SYSTEM

STANDARD SYSTEM: 1 1/4 in. galv. pipe

Distance from spring to trough - 10-30 Ft.

Pipe slope - 10% EST.

Spring will produce more than pipe will carry



$$\frac{V_1^2}{2g} + \frac{P_1}{\rho_1} + Z_1 = \frac{V_2^2}{2g} + \frac{P_2}{\rho_2} + Z_2 + h_L$$

$\downarrow 0$ $\downarrow 0$ $\downarrow 0$ $\downarrow 0$

Z = elevation

V = Velocity

g = accel of gravity

h_L = Pipe friction loss

$$Z_1 - Z_2 = \frac{V_2^2}{2g} + h_L$$

Darcy - Weisback Eq. $h_L = \frac{V^2}{2g} [f \frac{L}{D} + K_{loss}]$

f = resistance coef.

L = pipe length.

D = pipe dia

K = loss coef

g = 32.2 Ft/s²

$$h_L = \frac{V^2}{2g} [f (30 \text{ Ft} / .115 \text{ Ft}) + K]$$

$$K = 2(5) + 1.0 + 1.0$$

ENTRANCE EXPANSION Misc Fittings
ELBOWS

$$K = 3$$

$$h_L = \frac{V^2}{2g} [260.87 f + 3] 27.159$$

$$\text{Sub. } h_L = \frac{V^2}{2g} [260.87f + 3]$$

$$Z_1 - Z_2 = 3 \text{ Ft} = \frac{V^2}{2g} + \frac{V^2}{2g} [260.87f + 3]$$

$$3 \text{ Ft} = \frac{4V^2}{2g} + 260.87f \frac{V^2}{2g}$$

$$193.2 \text{ Ft}^2/s^2 = V^2 [4 + 260.87f]$$

USE ATTACHED MOODY DIAGRAM FOR SOLUTION

$$\frac{k_s}{D} = \frac{.0005 \text{ Ft}}{.115 \text{ Ft}} = .0043$$

$$\text{TRY } f = .032$$

$$V = 395 \text{ ft/s}$$

$$\text{Reynolds No} = \frac{VD}{\nu} = \frac{395 \text{ ft/s} (115 \text{ ft})}{.0000141 \text{ ft}^2/s} @ 50^\circ \text{F} = 3.23 \times 10^4$$

$$\therefore V = 395 \text{ ft/s}$$

$$\text{Pipe discharge } Q = V(\text{Area})$$

$$\text{Area} = \pi/4 D^2$$

$$\text{Area} = \pi/4 (.115)^2$$

$$\text{Area} = .0103 \text{ ft}^2$$

$$\text{Pipe discharge } Q = (395 \text{ ft/s})(.0103 \text{ ft}^2)$$

$$\underline{Q = .041 \text{ CFS}} = 18.41 \text{ gpm.}$$

→ ∴

RECOMMEND .05 CFS

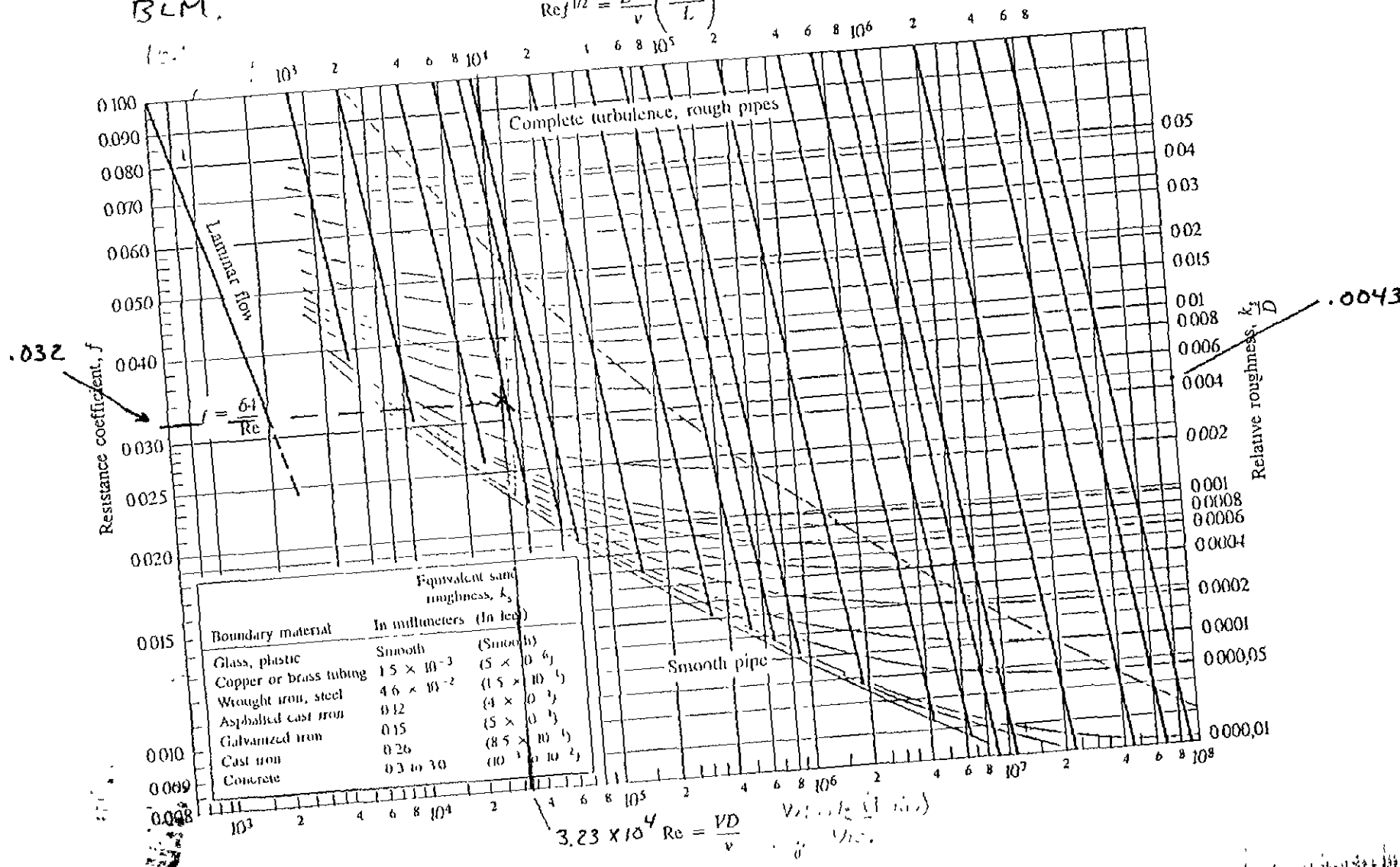
[DUE TO ASSUMPTIONS
PIPE SLOPE, LENGTH, ETC]

with permission from the
A S M.E.]

57-7413

BLM.

$$Re f^{1/2} = \frac{D^{3/2}}{v} \left(\frac{2gh_f}{L} \right)^{1/2}$$



MOODY DIAGRAM

FIGURE 3/3
Relativ
various
[After
Repru
from t

Assumptions made in determining the flow rate for licensing spring developments for BLM permits where the system is the standard development consisting of a spring box running to a stock tank.

Assumptions

Standard system Pipe used is 1 1/4 in. galvanized line
 The spring box is within 10 to 30 ft of the stock tank
 The fall on the pipe is .5 ft for each 5 ft of run
 The system is capable of producing more than the pipe can carry

Interpolation is required to determine the approximate flow rate as the only charts available are for 1 inch and 1 1/2 inch pipe.

from chart	1 1/2 in. -- 32.1 gpm	
	1 in. -- 11.5 gpm	-----11.5 gpm
difference	1/2 in -- 20.6 gpm	
		plus
dividing by 2--1/4 in	-- 10.3 gpm	-----10.3 gpm
		gives 21.8 gpm/448.8 = <u>0.049 cfs</u>

57-7913

FLOW RATE (GPM) FOR GRAVITY FLOOD SYSTEMS USING PVC PIPE

Vertical Drop (ft)	Inside Diameter: 1½ inches						
	L=50ft	L=100ft	L=200ft	L=300ft	L=500ft	L=1000ft	L=2000ft
1	13.7 (2.5)	9.9 (1.8)	7.1 (1.3)	5.6 (1.02)	4.2 (0.77)	2.9 (0.53)	2.0 (0.37)
5	32.1 (5.84)	23.4 (4.26)	16.5 (3.0)	13.2 (2.4)	10.1 (1.84)	7.0 (1.28)	4.8 (0.88)
10		33.8 (6.14)	23.8 (4.33)	19.2 (3.5)	14.7 (2.67)	10.1 (1.85)	7.0 (1.27)
15			29.5 (5.36)	23.9 (4.35)	18.2 (3.32)	12.6 (2.3)	8.7 (1.58)
20			34.5 (6.28)	27.9 (5.07)	21.3 (3.88)	14.7 (2.68)	10.1 (1.85)
25				31.5 (5.73)	24.1 (4.38)	16.6 (3.03)	11.5 (2.09)
30				34.8 (6.32)	26.6 (4.83)	18.3 (3.34)	12.7 (2.31)
40					31.0 (5.64)	21.4 (3.9)	14.8 (2.69)
50					35.0 (6.36)	24.2 (4.4)	16.6 (3.03)
65						27.9 (5.07)	19.2 (3.49)
80						31.2 (5.67)	21.5 (3.91)
100						35.2 (6.4)	24.3 (4.41)



State of Idaho

DEPARTMENT OF WATER RESOURCES

WESTERN REGION, 2735 Airport Way, Boise, Idaho 83705 • (208) 334-2190

CECIL D. ANDRUS
Governor

R. KEITH HIGGINSON
Director

November 19, 1988

57-7413
Boise District BLM
3948 Development Ave.
Boise, ID 83705

Dear Applicants(s):

We acknowledge receipt of your statement submitted as proof as beneficial use for the above-referenced permit.

Before a license can be issued, a field examination must be made by a representative of this Department. A field examiner will contact you to arrange to examine your system.

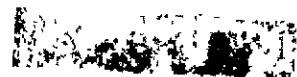
If you have any questions regarding the field examination, please contact this office.

Sincerely,

A handwritten signature in cursive script, appearing to read "Judy Pense".

Judy Pense
Secretary

/jdp



DEC 08 1988

1/88

PROOF OF BENEFICIAL USE

ANALYSIS SHEET

Permit No. 57-7413

Date: 10/5/88

General Considerations:

Y Name same as permit
Y Signature the same as permit holder
N Address change _____ If yes, prepare a data entry
N Proof received timely _____
Y Reinstated

Source of Water:

Y Surface water
 Groundwater
 1. well log in file
 2. drilling permit
 A. amount of drilling fee paid for proposed uses

Extent of Use and Rate of Diversion:

Y Rate of diversion appropriate for uses
Y Is rate or volume and fee appropriate?
Y Has permit holder indicated when water was first put to a beneficial use?

Measuring Device:

 Is a measuring device or access port required?
NTA Has one been installed?
 Waiver or modification of measuring device requested

Remarks:

Proof Acceptable
Reinstated

Y Priority Calculation:
Date proof received Sept. 10, '88 262
Date proof due Sept. 1, '88 - 244
No. of days late = 18
Priority date Mar 4, '83 + 63
NEW PRIORITY DATE March 22, '83 = 81

SEND FILES TO DATA ENTRY AND THEN TO MICROFILM

SEP 19 1988

For Office Use Only
Fee Received _____
Date _____
Receipt \$ _____
Receipt by _____
Reviewed by Yes
Sent to region _____

STATE OF IDAHO Department of Water Resources

DEPARTMENT OF WATER RESOURCES

PROOF OF BENEFICIAL USE

The Idaho Department of Water Resources will consider this form as a statement that the permit holder(s) has 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 or a completed field examination report prepared by a certified water right examiner who has been appointed by the department.

Permit No. 57-7413-

Name(s) of Permit Holder: Bureau of Land Management, Boise District

Post Office Address: 3948 Development Ave., Boise, Idaho, 83705
(Bruneau Resource Area) Telephone No. 334-9200

Source of Water: Gravel Girty Spring

Extent of Use:

Domestic _____ (number of households) Stockwater 500/Cattle (number and type of stock)

Irrigation _____ (acres) Other/Remark Wildlife

Total rate and/or volume for which proof is submitted .22 cfs _____ acre-feet

Show the date water was first diverted and beneficially used under this permit: 9-24-85

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

Fee enclosed \$ - 0 -
(See License Examination Fee Schedule)

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

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

(Name)

(Telephone Number)

(Address)

DEC 06 1988

The above information is my true statement of the extent to which the above numbered permit has been developed and I relinquish any undeveloped portion of the permit to the state of Idaho.

Date

Signature of Permit Holder (and title, if appropriate)

138047
CERTIFIED MAIL
June 30, 1988

U.S. DEPT. OF INTERIOR
BUREAU OF LAND MGMT.
IDAHO STATE OFFICE
3380 AMERICANA TERRACE
BOISE, ID 83706

PROOF DUE NOTICE

RE: Permit No. 57-7413

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 September 1, 1988. (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 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, or the permit will no longer be of any force nor effect.

Sincerely,

RITA FLECK
Secretary/Records Manager

Enclosures

DEC 6 1988



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

SEPTEMBER 1, 1985

DEAR PERMIT HOLDER:

ACCORDING TO OUR RECORDS, YOU ARE THE HOLDER OF A WATER PERMIT ON WHICH PROOF OF BENEFICIAL USE OF WATER WAS NOT SUBMITTED BEFORE JULY 1, 1985, WHICH INDICATES YOUR PROJECT IS NOT COMPLETE. THEREFORE, YOU NEED TO BE AWARE OF CHANGES IN IDAHO LAW, EFFECTIVE JULY 1, 1985, WHICH IMPACT ALL WATER PERMITS ISSUED BY THIS DEPARTMENT.

SPECIFICALLY, PURSUANT TO SECTION 42-203D, IDAHO CODE, THE DEPARTMENT MUST REVIEW ALL PERMITS FOR WHICH DEVELOPMENT OF WATER USE WAS NO COMPLETED ON OR BEFORE JULY 1, 1985, TO DETERMINE IF THEY MEET THE NEW REQUIREMENTS OF CHAPTER 2, TITLE 42, IDAHO CODE. RULES AND REGULATIONS GOVERNING THE RE-EVALUATION OF PERMITS ARE NOT YET FINALIZED. HOWEVER, IF YOU COMPLETED THE DEVELOPMENT UNDER YOUR PERMIT BEFORE JULY 1, 1985, YOU SHOULD SUBMIT A PROOF OF BENEFICIAL USE STATEMENT, STATING THAT THE PROJECT WAS COMPLETED BEFORE JULY 1, 1985 SO THAT YOUR PERMIT WILL NOT BE SUBJECT TO THE REVIEW REQUIREMENTS OF SECTION 42-203D, WHICH READS AS FOLLOWS:

42-203D. REVIEW OF PERMITS - OPPORTUNITY FOR HEARING. - (1)THE DEPARTMENT SHALL REVIEW ALL PERMITS ISSUED PRIOR TO THE EFFECTIVE DATE [JULY 1, 1985] OF THIS SECTION, EXCEPT TO THE EXTENT A PERMIT HAS BEEN PUT TO BENEFICIAL USE PRIOR TO JULY 1, 1985, TO DETERMINE WHETHER THEY COMPLY WITH THE PROVISIONS OF CHAPTER 2, TITLE 42, IDAHO CODE. IF THE DEPARTMENT FINDS THAT THE PROPOSED USE DOES NOT SATISFY THE CRITERIA OF CHAPTER 2, TITLE 42, IDAHO CODE, THEN THE DEPARTMENT SHALL EITHER CANCEL THE PERMIT OR IMPOSE THE CONDITIONS REQUIRED TO BRING THE PERMIT INTO COMPLIANCE WITH CHAPTER 2, TITLE 42, IDAHO CODE. IF THE DEPARTMENT FINDS THAT THE PERMIT SATISFIES THE CRITERIA ESTABLISHED IN CHAPTER 2, TITLE 42, IDAHO CODE, THEN THE DEPARTMENT SHALL ENTER AN ORDER CONTINUING THE PERMIT.

(2)THE DEPARTMENT SHALL PROVIDE AN OPPORTUNITY FOR HEARING IN ACCORDANCE WITH SECTION 42-1701A, IDAHO CODE, AND SECTIONS 67-5209 THROUGH 67-5215, IDAHO CODE, FOR EACH HOLDER OF A PERMIT THAT IS PROPOSED EITHER TO BE CANCELLED OR MADE SUBJECT TO NEW CONDITIONS.

YOU MAY OBTAIN PROOF OF BENEFICIAL USE FORMS FROM THE DEPARTMENT. IF YOU HAVE ANY QUESTIONS, PLEASE LET US KNOW.

SINCERELY,

L. GLEN SAXTON
CHIEF, OPERATIONS BUREAU





State of Idaho

DEPARTMENT OF WATER RESOURCES

STATE OFFICE, 450 W. State Street, Boise, Idaho

JOHN V. EVANS
Governor

A. KENNETH DURN
Director

Mailing address:
Statehouse
Boise, Idaho 83720
(208) 334-4440

August 3, 1984

RE: Application for Permit Nos. 51-7262/7264/7275/7276, 57-7405/
7406/7407/7408/7409/7410/7411/
7412/7413/7414/7418

U.S. Dept. of Interior
Bureau of Land Management
3380 Americana Terrace
Boise, ID 83706

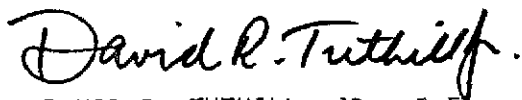
Gentlemen:

Enclosed are copies of your approved Applications for Permit. We direct your attention to the conditions of approval on the fourth pages.

The 1982 Idaho Legislature added a requirement that as a permit holder you must commence the excavation or construction of diverting works within one year of the date the permits were issued, and you must proceed diligently until the projects are completed. The enclosed blue cards must be completed and returned to this office as soon as you commence construction, no later than one year from the date the permits were approved.

We have enclosed a form entitled "Instructions for Proof of Beneficial Use". Please read the instructions carefully since you must take further action to develop these permits into licenses.

Sincerely,



DAVID R. TUTHILL, JR., P.E.
Supervisor, Water Allocation Section

DRT:sc

Enclosures

State of Idaho
Department of Water Resources

APPLICATION FOR PERMIT ANALYSIS SHEET

INITIAL REVIEW BY: 625 APPLICATION NUMBER: 57-7413

CHECK:

- ☒ 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.
☐ 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: _____ Map No. _____
☐ Yes ☒ No Other rights on same place of use. _____
☒ Yes ☐ No* In form for advertising.
Final date for protests: July 23 1984
☐ Yes ☐ No Protests received. If yes, record information on 4th page of application.

FINAL REGIONAL PROCESSING REVIEW:

- ☒ Affidavit of publication received. Date: 7/12/84
☒ Application published correctly. If not, record action taken: _____
☒ Fee amount, receipt date & number, recorded on application. 46/ ID-910-BP3-0003
☒ Publication dates and paper, recorded on application. Original signed 7/4 & 7/11/84
☒ 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? 57-C
3/4/83 Date of priority recommended.
Special conditions of approval or cover letter. _____

(26)

Hold for fee

By: DBS

Date: 7/27/84

STATE OFFICE REVIEW:

L17 26 05(57-C, Castle Creek)

- ☐ See attached sheet for more information.

By: EW

Date: 8-1-84

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						

SE-2413

U.S. DEPT. OF INTERIOR

BUREAU OF LAND MGMT., IDAHO STATE OFFICE, 3380 AMERICANA TERRACE,
BOISE, ID 83706

Source: GRAVEL GIRTY SPRING trib. to SINKS

Date Filed: 03/04/1983

Diversion Pt: SENW Sec 09 T 08S R 01W

Use: STOCKWATER	(0.12 CFS)
WILDLIFE	(0.10 CFS)

In: SENW Sec 09 T 08S R 01W